

CITY OF SACRAMENTO

Permit No: 9805628

1231 I Street, Sacramento, CA 95814

Insp Area: 2

Site Address: 822 ROYAL GARDEN AV SAC

Sub-Type: RES

Parcel No: 0300073008

Housing (Y/N): N

CONTRACTOR

ZIMMERMAN ROOFING
3560 RAMONA AV
SACRAMENTO, CA

95826

OWNER

EASTMAN FRANKLIN P & RUTH D
822 ROYAL GARDEN AV
SACRAMENTO CA

95831

ARCHITECT

Nature of Work: T/O REROOF 31 SQS WITH 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 C39 License Number 557559 Date 6-22-98 Contractor Signature Lilly 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 herby authorize representative(s) of this city to enter upon the abovementioned property for inspection purposes.

Date 6-22-98 Applicant/Agent Signature Lilly 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 920002021

(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 6-22-98 Applicant Signature Lilly 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.

Paul Zacher-Structural Engineer
4701 Lakeside Way
Fair Oaks, CA 95628
TEL: 916.961.3960
FAX: 916.961.3960

June 16, 1998

Zimmerman Roofing
3560 Ramona Avenue
Sacramento, CA 95826
TEL: 916.454.3667
FAX: 916.455.3784
TEL (Jeff): 916.392.1971
FAX (Jeff): 916.392.6853
FAX (Framer) : 916.383.5308

ok
~~AT~~
6/22/98

Attn: Mr. Jeff Tucker,

re Job 98098: EASTMAN

Subject: Structural Investigation Report of the Roof for the Residence located at 822 Royal Garden Way, Sacramento, CA 95831.

As requested by Mr. Jeff Tucker, this is a report to determine what needs should be addressed to correct any structural deficiencies of the roof. Paul Zacher visited the site June 3, 1998. The investigation was made to determine the existing condition of the structure. All information, data and analysis contained within this report is based on the 1994 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: One.
Dimensions: Approximately 2000 square feet with a first story plate height of 8 feet.

CONSTRUCTION:

Roof:

The roof covering will consist of Pioneer Light Weight Shake Tile over 1/2" solid sheathing. The living area is conventionally framed with 2x4 rafters spaced at 24" on center with 2x6 purlins supported at no more than 6'-0" on center by 2x4 struts bearing on walls below. The garage area is framed with 2x4 rafters spaced at 24" on center and 2x6 cross ties spaced at 4'-0" on center.

CONCLUSIONS:

Roof:

The living and garage areas lack sufficient structural capacity for the applied live and dead loads.

RECOMMENDATIONS:

If any of the following recommendations do not correspond to actual field conditions, the engineer of record shall be notified for further investigation and evaluation before continuing work.

Living Area:

1. Where the minimum slope of the struts is less than 45 degrees from the horizontal add a 1/2" OSB gusset plate adjacent to each existing strut and rafter connection and attach it with 8d's at 6" on center at the edges. See details 1, 2 and 3.
2. Scab a 2x6 rafter adjacent to the existing 2x4 rafters where the span is greater than 8'-0" with 16d's @ 12" on center. See detail 1.

Garage Truss:

3. Scab a 1 3/4" x 11 7/8" microlam beam (or 2-2x12 DF#2) to the existing 2x6 crossies and nail both together with 16d's @ 12" oc staggered. The top of the microlam may be "clipped" as required where the rafters meet the bearing wall. See detail 1.

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 which 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>	
Pioneer Everwest Light Wt	7.00	psf
Roofing felt	0.30	psf
1x4 skip sht'g	1.09	psf
1/2" OSB/ plywood	1.50	psf
2x4 rafters @ 24" oc	<u>0.64</u>	psf
Load	10.5	psf
Roof Pitch Adjustment	<u>0.57</u>	psf
Total Load	11.1	psf

BEAM DESIGN FOR UNIFORM LOAD: 2x4

Values for DF Larch #2)

Width, b	1.5 inches
Depth, d	3.5 inches
Length of beam	8 feet
Dead load roof	11.5 psf
Live load roof	16 psf
Contributory width of roof load	2 feet
Dead load floor	0 psf
Live load floor	0 psf
Contributory width of floor load	0 feet
Dead load wall	0 plf
Live load defl ratio	240
Total load defl ratio	180
Total dead load	23 plf
Total live load	32 plf

Base design values:

Shear, F_v	95 psi
Bending, F_b	875 psi
Comp. perp. to grain, F_c	625 psi
Mod of Elasticity, E	1700000 psi
Load duration factor, C_d	1.25
Size Factor, C_f	1.50
Repetitive factor, C_r	1.15

Dead load reaction	92 lbs
Live load reaction	128 lbs
Total load reaction	220 lbs

Allowable shear, F_v'	119 psi
Actual shear, f_v	58 psi
Allowable bending, F_b'	1887 psi
Actual bending, f_b	1724 psi
Allowable live load defl	0.40 inches
Actual live load defl	0.32 inches
Allowable total load defl	0.53 inches
Actual total load defl	0.56 inches
Bearing length req'd	0.23 inches

Horizontal Shear OK

Bending OK

Live Load Deflection OK

Beam Fails under Total Load Deflection
OK, less than 1/32" over

BEAM DESIGN FOR UNIFORM LOAD: 2x6

(Values for DF Larch #2)

Width, b	1.5 inches
Depth, d	5.5 inches
Length of beam	12 feet
Dead load roof	11.5 psf
Live load roof	16 psf
Contributory width of roof load	2 feet
Dead load floor	0 psf
Live load floor	0 psf
Contributory width of floor load	0 feet
Dead load wall	0 plf
Live load defl ratio	240
Total load defl ratio	180
Total dead load	23 plf
Total live load	32 plf

Base design values:

Shear, F_v	95 psi
Bending, F_b	875 psi
Comp. perp. to grain, F_c	625 psi
Mod of Elasticity, E	1600000 psi
Load duration factor, C_d	1.25
Size Factor, C_f	1.30
Repetitive factor, C_r	1.15

Dead load reaction	138 lbs
Live load reaction	192 lbs
Total load reaction	330 lbs

Allowable shear, F_v'	119 psi
Actual shear, f_v	55 psi
Allowable bending, F_b'	1635 psi
Actual bending, f_b	1571 psi
Allowable live load defl	0.60 inches
Actual live load defl	0.45 inches
Allowable total load defl	0.80 inches
Actual total load defl	0.77 inches

Bearing length req'd	0.35 inches
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Horizontal Shear OK

Bending OK

Live Load Deflection OK

Total Load Deflection OK

BEAM DESIGN FOR POINT LOAD: 2-2x12

Width, b	3 inches
Depth, d	11.25 inches
Length of beam	20 feet
Dead load roof	11.5 psf
Live load roof	16 psf
Contributory width of roof load	14 feet
Contributory length of roof load	3.75 feet
Dead load floor	0 psf
Live load floor	0 psf
Contributory width of floor load	0 feet
Contributory length of roof load	0 feet
Dead load wall	0 plf
Live load defl ratio	240
Total load defl ratio	180
Total dead load	604 lbs
Total live load	840 lbs

Base design values:

Shear, F_v	95 psi
Bending, F_b	1000 psi
Comp. perp. to grain, F_c	625 psi
Mod of Elasticity, E	1700000 psi
Load duration factor, C_d	1.25
Size Factor, C_f	1.10

Dead load reaction	302 lbs
Live load reaction	420 lbs
Total load reaction	722 lbs

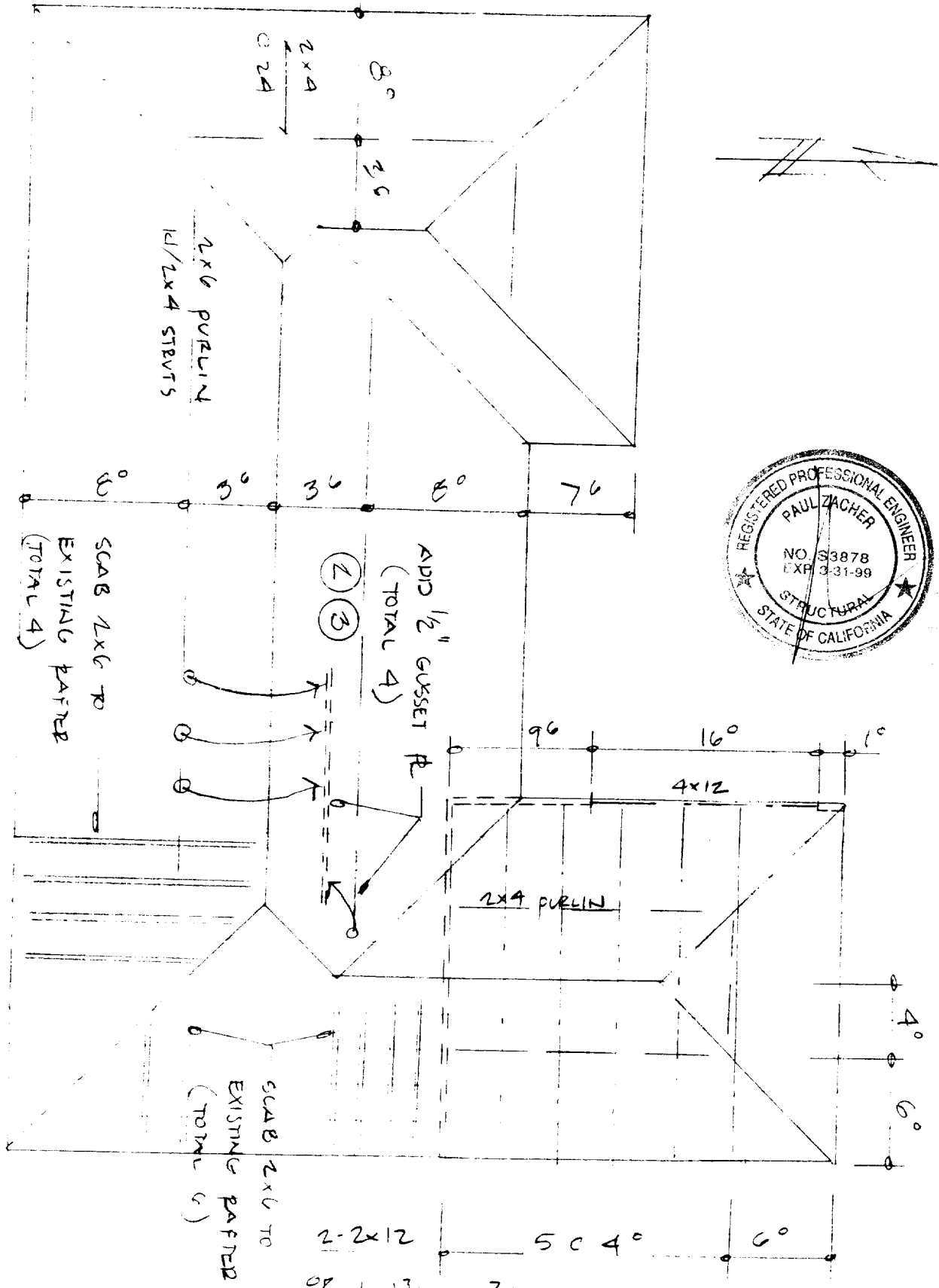
Allowable shear, F_v'	119 psi	Horizontal Shear OK
Actual shear, f_v	32 psi	
Allowable bending, F_b'	1375 psi	Bending OK
Actual bending, f_b	1369 psi	
Allowable live load defl	1.00 inches	Live Load Deflection OK
Actual live load defl	0.40 inches	
Allowable total load defl	1.33 inches	Total Load Deflection OK
Actual total load defl	0.69 inches	

Bearing length req'd	0.39 inches
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BEAM DESIGN FOR POINT LOAD:

Width, b	1.75 inches	
Depth, d	11.875 inches	
Length of beam	20 feet	
Dead load roof	11.5 psf	
Live load roof	16 psf	
Contributory width of roof load	14 feet	
Contributory length of roof load	4 feet	
Dead load floor	0 psf	
Live load floor	0 psf	
Contributory width of floor load	0 feet	
Contributory length of roof load	0 feet	
Dead load wall	0 plf	
Live load defl ratio	240	
Total load defl ratio	180	
Total dead load	644 lbs	
Total live load	896 lbs	
Base design values:		
Shear, Fv	285 psi	
Bending, Fb	2600 psi	
Comp. perp. to grain, Fc	750 psi	
Mod of Elasticity, E	1800000 psi	
Load duration factor, Cd	1.25	
Size Factor, Cf	1.00	
Dead load reaction	322 lbs	
Live load reaction	448 lbs	
Total load reaction	770 lbs	
Allowable shear, Fv'	356 psi	Horizontal Shear OK
Actual shear, fv	56 psi	
Allowable bending, Fb'	3250 psi	Bending OK
Actual bending, fb	2247 psi	
Allowable live load defl	1.00 inches	Live Load Deflection OK
Actual live load defl	0.59 inches	
Allowable total load defl	1.33 inches	Total Load Deflection OK
Actual total load defl	1.01 inches	
Bearing length req'd	0.59 inches	

1 RUMF PLAN
NTS



2-2x12 5'0" 4'0" 6'0"
 OR 1-1 3/4 x 11 7/8 LVL SCABBED TO
 CROSSIES W/16d @ 12" OC.

Extend purlin as req'd

Length

Existing rafters

24" oc
max

Add 2x4 to brace edge of panel

Add 1/2" OSB panel w/ 3d @ 6" oc edges, 12" oc field at strut to purlin connection

Existing purlin

If "Length" of panel is greater than 24", add intermediate struts at 24" oc max

Existing bearing wall

Existing strut

NOTE:

Add 2x4 shims as req'd w/ 16d @ 8" oc to existing member

2

GUSSET PLATE DETAIL



Add 2x4 shim as req'd w/ 16d @ 8" oc to existing member

Existing rafter

Existing ceiling joist

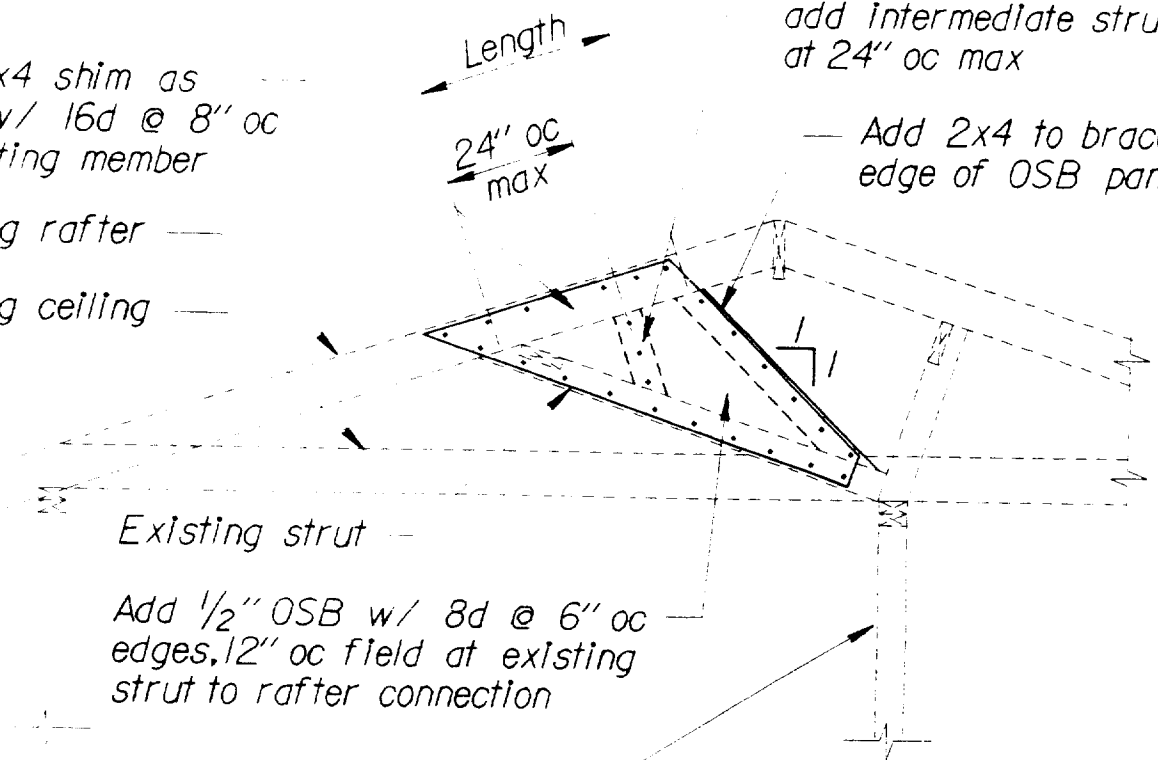
Existing strut

Add 1/2" OSB w/ 8d @ 6" oc edges, 12" oc field at existing strut to rafter connection

Existing bearing wall

If "Length" of panel is greater than 24", add intermediate struts at 24" oc max

Add 2x4 to brace edge of OSB panel



3

GUSSET PLATE DETAIL

1/2" = 1'-0"



DEPARTMENT OF
PLANNING AND DEVELOPMENT

CITY OF SACRAMENTO
CALIFORNIA

1231 I STREET
ROOM 200
SACRAMENTO, CA
95814-2998

Permit Service
916-264-7619
FAX 916-264-7046

Eastmans at

222 Royal Garden, 95831

TILE ROOF WORKSHEET

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

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

BRAND AND MODEL OF TILE Pioneer Lightweight Shale

TILE WEIGHT PER SQUARE 730

WEIGHT OF ROOF SYSTEM PER SQUARE 180

TOTAL WEIGHT OF ROOF SYSTEM 910

DOES TOTAL WEIGHT OF ROOF SYSTEM EXCEED 750# PER SQUARE? YES NO

ROOF SLOPE 4/12

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

see engineering report