CITY OF SACRAMENTO

Permit No: 9802693

1231 I Street, Sacramento, CA 95814

Insp Area: 2

Site Address: 1261 35TH AV SAC

Sub-Type: RES

Parcel No: 0240163010

Housing (Y/N): N

CONTRACTOR		***OWNER***		***ARCHITECT***
ZIMMERMAN ROOFING		RUTLAND WILLIAM/EVA		
3560 RAMONA AV		1261 35TH AV		
SACRAMENTO, CA	95826	SACRAMENTO CA	95822	
Phone: 916-454-3667		Phone:		Phone:

Nature of Work: REMOVE & REROOF 45 SQ. WITH LITEWEIGHT HACIENDA STYLE 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'sAddress_____

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 Law does not apply to an owner of property who builds or imporves thereon, and who does such work himself or herself or through his or 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 or 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.

Date_____ Applicant/Agent 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_____

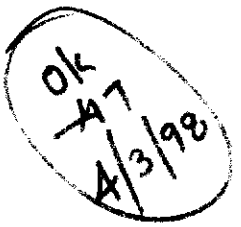
_____ (This section need not be completed if the permit is for $100 or less) I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California and agree that if I should become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

Date_____ Applicant 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.

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



March 23, 1998

Zimmerman Roofing
3560 Ramona Avenue
Sacramento, CA 95826
TEL: 916.454.3667
FAX: 916.455.3784

Attn.: Mr. Jeff Tucker,

re: Job 98024: RUTLAND

Subject: Structural Investigation Report of the Roof for the Residence located 1261 35th Avenue, Sacramento, CA.

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 March 11, 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 Hacienda Light Weight Tile over 1/2" solid sheathing. The living area is conventionally framed with 2x4 rafters spaced at 24" on center with 2x4 purlins supported at no more than 4'-0" on center by 2x4 struts bearing

on walls below. The back patio is constructed of 2x6 rafters spaced at 24" on center. 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. Add a 1/2" OSB gusset plate adjacent to each existing strut and rafter connection (4'-0" on center) and attach it with 8d's at 6" on center at the edges. See detail 2.
2. Provide additional 2x4 struts from the existing purlins to the bearing walls below. The maximum spacing between the new and existing struts shall not exceed 4'-0" on center. The unbraced length of the struts shall not exceed 8'-0" and the minimum slope of the struts shall not be less than 45 degrees from the horizontal.

Garage:

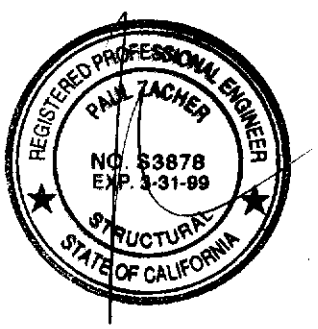
3. Scab a 1 3/4" x 11 7/8" microlam beam to the existing 2x6 crosstie with 16d's @ 12 " oc staggered. The support at the walls shall be a 2x8 x 16" long nailer attached to the double top plate with 16d's @ 2" oc staggered. The top of the microlam may be "clipped" as required where the rafters meet the bearing wall. See details 1, 3 and 4.

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

MATERIAL	WEIGHT	
Pioneer Hacienda Light Wt	5.60	psf
Roofing felt	0.30	psf
1/2" OSB/ plywood	1.50	psf
1x4 skip sht'g	1.09	psf
2x8 rafters @ 12" oc	1.32	psf
Load	9.8	psf
Roof Pitch Adjustment	0.53	psf
Total Load	10.3	psf

BEAM DESIGN FOR UNIFORM LOAD: RAFTER

(Values for DF Larch #2)

Width, b	1.5	inches	
Depth, d	3.5	inches	
Length of beam	8	feet	
Dead load roof	10.3	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		
Toal load defl ratio	180		
Total dead load	20.6	plf	
Total live load	32	plf	
Base design values:			
Shear, Fv	95	psi	
Bending, Fb	875	psi	
Comp. perp. to grain, Fc	625	psi	
Mod of Elasticity, E	1600000	psi	
Load duration factor, Cd	1.25		
Size Factor, Cf	1.50		
Repetitive factor, Cr	1.15		
Dead load reaction	82	lbs	
Live load reaction	128	lbs	
Total load reaction	210	lbs	
Allowable shear, Fv'	119	psi	Horizontal Shear OK
Actual shear, fv	56	psi	
Allowable bending, Fb'	1887	psi	Bending OK
Actual bending, fb	1649	psi	
Allowable live load defl	0.40	inches	Live Load Deflection OK
Actual live load defl	0.34	inches	
Allowable total load defl	0.53	inches	Beam Fails under Total Load Deflection
Actual total load defl	0.57	inches	OK - less than 1/16 inch over
Bearing length req'd	0.22	inches	

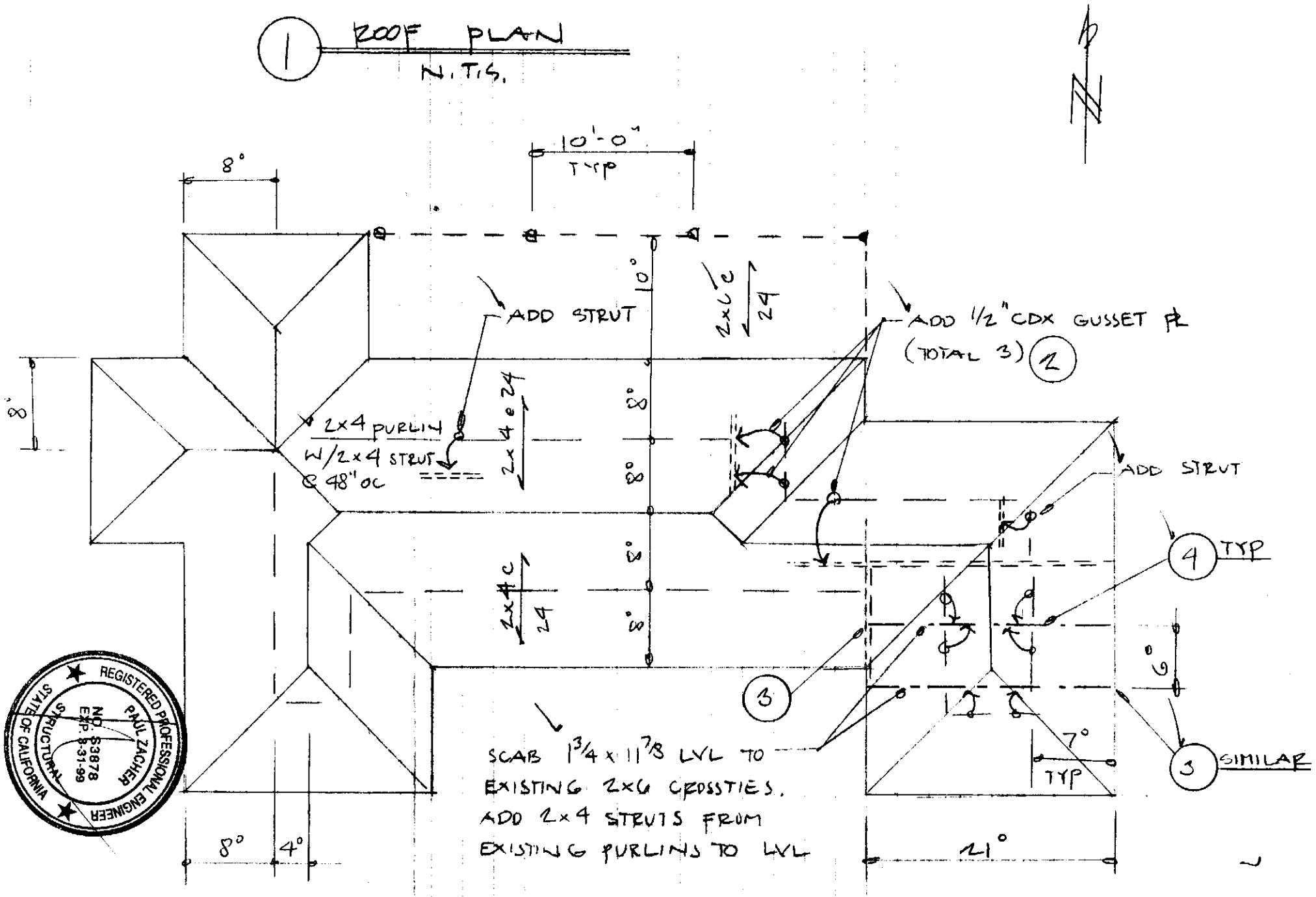
BEAM DESIGN FOR UNIFORM LOAD:

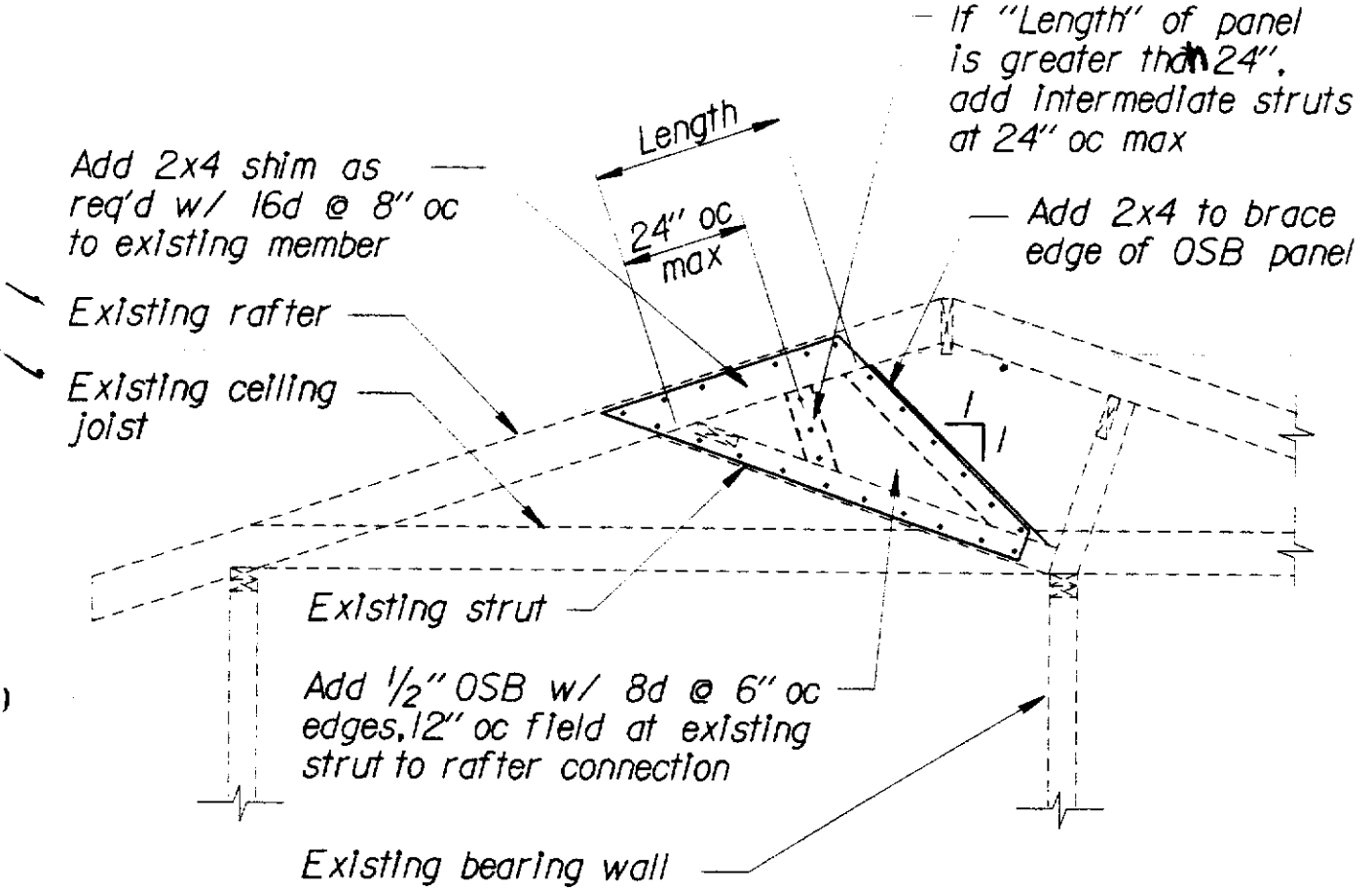
(Values for DF Larch #1)

Width, b	3.5	inches	
Depth, d	9.25	inches	
Length of beam	10	feet	
Dead load roof	13.3	psf	
Live load roof	16	psf	
Contributory width of roof load	7	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	360		
Toal load defl ratio	240		
Total dead load	93.1	plf	
Total live load	112	plf	
Base design values:			
Shear, Fv	95	psi	
Bending, Fb	1000	psi	
Comp. perp. to grain, Fc	625	psi	
Mod of Elasticity, E	1700000	psi	
Load duration factor, Cd	1.25		
Size Factor, Cf	1.20		
Dead load reaction	466	lbs	
Live load reaction	560	lbs	
Total load reaction	1026	lbs	
Allowable shear, Fv'	119	psi	Horizontal Shear OK
Actual shear, fv	40	psi	
Allowable bending, Fb'	1500	psi	Bending OK
Actual bending, fb	616	psi	
Allowable live load defl	0.33	inches	Live Load Deflection OK
Actual live load defl	0.06	inches	
Allowable total load defl	0.50	inches	Total Load Deflection OK
Actual total load defl	0.12	inches	
Bearing length req'd	0.47	inches	

MICROLAM BEAM DESIGN FOR UNIFORM LOAD:

Width	1.75	inches	
Depth	11.875	inches	
Length of beam	21	feet	
Dead load roof	10.3	psf	
Live load roof	16	psf	
Contributory width of roof load	6	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		
Toal load defl ratio	180		
Total dead load	61.8	plf	
Total live load	96	plf	
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		
Volume factor, Cv	1.00		
Dead load reaction	649	lbs	
Live load reaction	1008	lbs	
Total load reaction	1657	lbs	
Allowable shear, Fv'	356	psi	Horizontal Shear OK
Actual shear, fv	108	psi	
Allowable bending, Fb'	3250	psi	Bending OK
Actual bending, fb	2538	psi	
Allowable live load defl	1.05	inches	~~Live Load Deflection~~ OK
Actual live load defl	0.96	inches	
Allowable total load defl	1.40	inches	Beam Fails under Total Load Deflection
Actual total load defl	1.57	inches	OK - less than 3/16 inch over
Bearing length req'd	1.26	inches	


1 ROOF PLAN
N.T.S.
10'-0" TYP
8'
8'
10°
2x4 @ 24
ADD STRUT
2x4 PURLIN W/2x4 STRUT @ 48" OC
2x4 @ 24
8°
8°
8°
2x4 @ 24
ADD 1/2" CDX GUSSET PL (TOTAL 3) 2
ADD STRUT
4 TYP
3
9°
7°
TYP
3 SIMILAR
SCAB 1 3/4 x 11 7/8 LVL TO EXISTING 2x6 CROSSTIES. ADD 2x4 STRUTS FROM EXISTING PURLINS TO LVL
8°
4°
21°
REGISTERED PROFESSIONAL ENGINEER
PAUL ZACHER
NO. S3878
EXP. 8-31-99
STRUCTURAL
STATE OF CALIFORNIA



2 GUSSET PLATE DETAIL

N.T.S.

1/2" = 1'-0"

ledger.xls

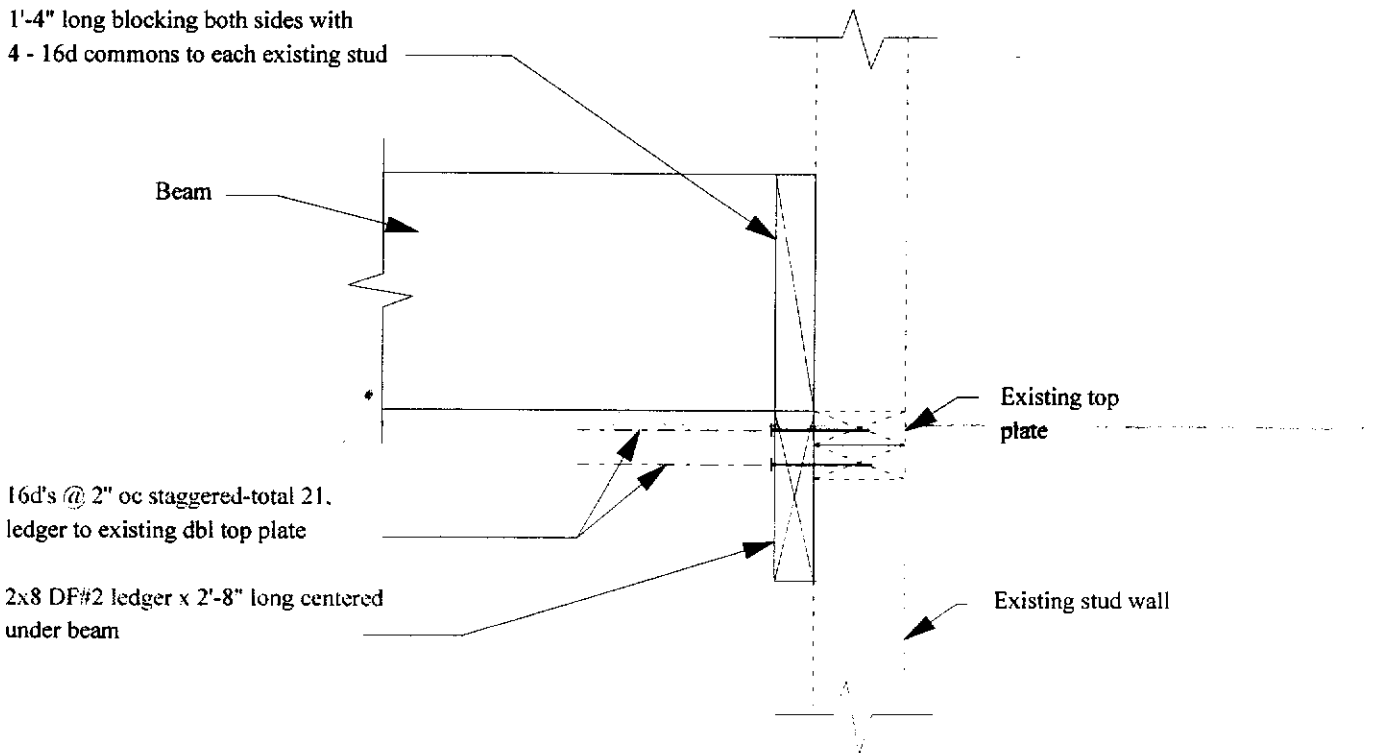
LEDGER DESIGN:

WOOD TO WOOD CONNECTION: Ledger to double top plate

Assumptions:

1. Point load from beam is equally distributed to each supporting stud.
2. Allowable foundation pressure is 1000 plf.

Ledger width, b	1.5	inches	
Ledger depth, d	7.25	inches	
Maximum reaction	1657	lbs	
Base design values:			
Shear, Fv	95	psi	
Bending, Fb	875	psi	
Comp. perp. to grain, Fc	625	psi	
Mod of elasticity, E	1600000	psi	
Load duration factor, Cd	1.25		
Size factor, Cf	1.20		
Allowable shear, Fv'	119	psi	Horizontal Shear OK
Actual shear, fv	61	psi	
Allowable bending, Fb'	1313	psi	Bending OK
Actual bending, fb	125	psi	
Length of ledger required	1.657	feet	
Length of ledger used	2.67	feet	
Number of nails required	21	16d sinkers ledger to top plate	



3 DETAIL
N.T.S.

REGISTERED PROFESSIONAL ENGINEER
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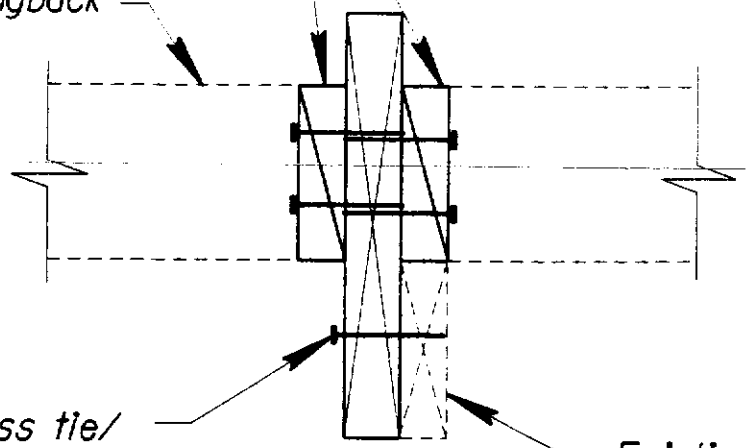

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4 BEAM DETAIL

N.T.S.

1" = 1'-0"