

CITY OF SACRAMENTO

1231 I Street, Sacramento, CA 95814

Permit No: 0509897

Insp Area: 2
Thos Bros: 316G7

Site Address: 14 TOPSAIL CT SAC
Parcel No: 030-0690-019

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

CONTRACTOR
CAL-VINTAGE ROOFING CO INC
11257 COLOMA RD, SUITE A-3
GOLD RIVER, CA 95670

OWNER
DALE BEN E
14 TOPSAIL CT
SACRAMENTO, CA 95831

ARCHITECT

Nature of Work: T/O INSTALL 7/16" OSB, 30 LB FELT & RE-INSTALL EXISTING 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.

X License Class C-39 License Number 826725 Date 7/7/2005 Contractor Signature D. Scott John

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 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.

X Date 7/7/2005 Applicant/Agent Signature D. Scott John

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.

X 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 COMPENSATION INS FUND Policy Number 285000236404 Exp Date 03/01/2006

(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.

X Date 7/7/2005 Applicant Signature D. Scott John

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.

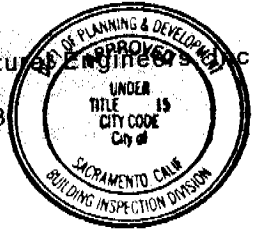
THIS PERMIT SHALL EXPIRE BY LIMITATION IF WORK IS NOT COMMENCED WITHIN 180 DAYS.

R

PREPARED BY: [illegible]

Dale

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



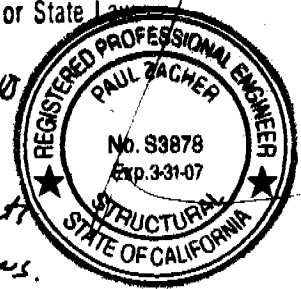
This set of plans and specifications must be kept on the job at all times and it is unlawful to make any changes or alterations from the same without written permission from the Building Inspection Division.

The approval of this plan and specification SHALL NOT be held to permit or approve the violation of any City Ordinance or State Law.

June 11, 2005

Cal-Vintage Roofing Co.
11257 Coloma Road, Suite A1
Gold River, CA 95670
TEL: (916) 635-8320; M: 919-6698
FAX: (916) 635-8329

Jim 2-7-7-05
site verify max tile wt 10.340
see pages 2, 20, 21, 22, 23, 24 for details
site verify all structural elements



Attn.: Mr. Pete Mazzuca, *do not cover prior to inspections.*

re: Job 2005224: DALE

Subject: Structural Investigation Report of the Roof for the Residence located at 14 Top Sail Court, Sacramento, CA 95831.

As requested by Mr. Pete Mazzuca, 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 1, 2005. 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 with 2001 CBC Title 24 Amendments.

The following is based on visual observations with no subsurface investigation being made.

DESCRIPTION:

- Type of Facility: Residence.
- Year Built: Estimated 1980's vintage.
- Occupancy: Residential.
- No. of Stories: One.
- Dimensions: Approximately 3000 square feet.

CONSTRUCTION:

Roof:
The roof covering will consist of a Standard Weight Concrete Tile over 7/16" solid sheathing. The roof structure is framed with pre-engineered wood trusses spaced at 24" on center.

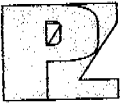
CONCLUSIONS:

Roof:
The roof structure currently lacks sufficient structural capacity for the applied live and dead loads. See "Recommendations" for location and repair to bring the roof structure up to the required capacity.

CITY COPY

1/24

Dale



Paul Zacher - Structural Engineers, Inc
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.

Roof Structure:

1. Shim the areas as required where the existing sags occur to provide an even contour at the roof level. See detail 1.
2. Scab a 2x4 DF#2 x 10'-0" long rafter to the top chord of the existing truss. See details 1 and 2.
3. Scab a 2x4 DF#2 x 10'-0" long rafter to the top chord of the existing truss. See details 1 and 3.

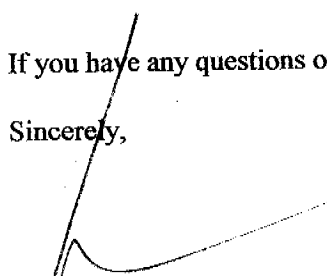
It shall be noted that small hairline cracking may occur at exterior stucco and interior gypboard finished walls that are load bearing or distributing roof strut loads. These cracks are a natural occurrence as the existing structure re-distributes the new roof weight. They are cosmetic in nature and 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

Job #: 05_224

Date: 06/11/2005

LOADING:

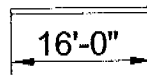
B1:

Dr = 17.9 psf x 5'-0" = 90 plf

Lr = 16.0 psf x 5'-0" = 80 plf

4x12 #2

90 / 80



Paul Zacher Structural Engr's, Inc.
 4701 Lakeside Way
 Fair Oaks, CA 95628

Title :
 Dsgnr:
 Description :

Job #
 Date: 3:48PM, 12 JUN 05

Scope :

Rev: 580006
 User: KW-0602844, Ver 5.8.0, 1-Dec-2003
 (c)1983-2003 ENERCALC Engineering Software

Timber Beam & Joist

Date.ecw:Calculations

Description RAFTERS AND BEAMS

Timber Member Information

Code Ref: 1997/2001 NDS, 2000/2003 IBC, 2003 NFPA 5000. Base allowables are user defined

		B1
Timber Section		4x12
Beam Width	in	3.500
Beam Depth	in	11.250
Le: Unbraced Length	ft	0.00
Timber Grade		Douglas Fir - Larch, No.2
Fb - Basic Allow	psi	875.0
Fv - Basic Allow	psi	95.0
Elastic Modulus	ksi	1,600.0
Load Duration Factor		1.250
Member Type		Sawn
Repetitive Status		No

Center Span Data

Span	ft	16.00
Dead Load	#/ft	90.00
Live Load	#/ft	80.00

Results Ratio = 0.7349

Mmax @ Center	in-k	65.28
@ X =	ft	8.00
fb : Actual	psi	884.2
Fb : Allowable	psi	1,203.1
Bending OK		
fv : Actual	psi	46.0
Fv : Allowable	psi	118.8
Shear OK		

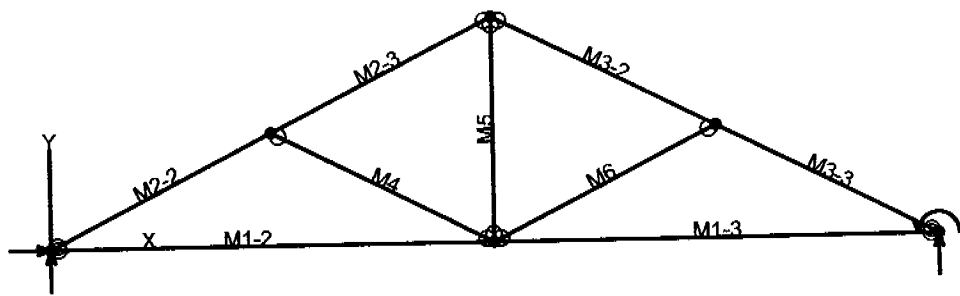
Reactions

@ Left End	DL	lbs	720.00
	LL	lbs	640.00
	Max. DL+LL	lbs	1,360.00
@ Right End	DL	lbs	720.00
	LL	lbs	640.00
	Max. DL+LL	lbs	1,360.00

Deflections

Deflection OK

Center DL Defl	in	-0.200
L/Defl Ratio		961.3
Center LL Defl	in	-0.178
L/Defl Ratio		1,081.5
Center Total Defl	in	-0.377
Location	ft	8.000
L/Defl Ratio		508.9



Truss 1

VisualAnalysis 4.00 Report

Company: Paul Zacher - Structural - Engineers Engineer: Paul Zacher
File: C:\Documents and Settings\Owner\Desktop\Dale05_224\Truss 1.vap

Nodes

Node	X ft	Y ft	Fix DX	Fix DY	Fix RZ
N1	0.00	0.00	Yes	Yes	No
N2	21.00	0.00	No	"	Yes
N3	10.50	5.25	"	No	No
N4	10.50	0.00	"	"	"
N5	5.25	2.63	"	"	"
N6	15.75	2.63	"	"	"

Member Elements

Member	Section	Material	Length ft
M1-2	SS2x4	Wood	10.50
M1-3	"	"	10.50
M2-2	"	"	5.87
M2-3	"	"	5.87
M3-2	"	"	5.87
M3-3	"	"	5.87
M4	"	"	5.87
M5	"	"	5.25
M6	"	"	5.87

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-	1800000.00	0.36	40.47

Load Combination Summary

Equation Case: UBC97 12.8a

Combination: 1D+1Lr

Contributing Cases & Source

Dead Load (Dead loads)

Roof Live Load (Roof Live loads)

Nodal Reactions

Node	Load Case	FX lb	FY lb	MZ lb-ft
N1	UBC97 12.8a	0.00	676.207	-NA-

Node	Load Case	FX lb	FY lb	MZ lb-ft
N2	"	-NA-	676.20	0.00

Member Results

Member	Fx lb	Vy lb	Mz lb-ft	Dx in	Dy in
M1-2	1057.29	-55.51	-108.79	0.01	-0.06
"	1057.29	-25.41	32.78	0.01	-0.12
"	1057.29	4.69	69.04	0.00	-0.13
"	1057.29	34.79	0.00	0.00	0.00
M1-3	1057.29	-34.79	0.00	0.03	0.00
"	1057.29	-4.69	69.04	0.02	-0.13
"	1057.29	25.41	32.78	0.02	-0.12
"	1057.29	55.51	-108.79	0.01	-0.06
M2-2	-1232.5	100.86	0.00	0.00	0.00
"	-1188.8	13.52	111.83	-0.00	-0.07
"	-1145.1	-73.82	52.84	-0.01	-0.08
"	-1101.5	-161.16	-176.96	-0.01	-0.06
M2-3	-859.76	161.16	-176.96	-0.01	-0.06
"	-816.09	73.82	52.84	-0.01	-0.10
"	-772.42	-13.52	111.83	-0.01	-0.11
"	-728.75	-100.86	0.00	-0.01	-0.06
M3-2	-859.76	-161.16	-176.96	0.03	-0.05
"	-816.09	-73.82	52.84	0.04	-0.09
"	-772.42	13.52	111.83	0.04	-0.10
"	-728.75	100.86	0.00	0.04	-0.05
M3-3	-1232.5	-100.86	0.00	0.03	0.01
"	-1188.8	-13.52	111.83	0.03	-0.06
"	-1145.1	73.82	52.84	0.03	-0.07
"	-1101.5	161.16	-176.96	0.03	-0.05
M4	-402.90	0.00	0.00	0.04	-0.05
"	-402.90	0.00	0.00	0.04	-0.05
"	-402.90	0.00	0.00	0.04	-0.05
"	-402.90	0.00	0.00	0.04	-0.04
M5	471.39	0.00	0.00	-0.06	-0.01
"	471.39	0.00	0.00	-0.06	-0.01
"	471.39	0.00	0.00	-0.06	-0.01
"	471.39	0.00	0.00	-0.06	-0.01
M6	-402.90	0.00	0.00	-0.02	-0.06
"	-402.90	0.00	0.00	-0.02	-0.06
"	-402.90	0.00	0.00	-0.02	-0.06
"	-402.90	0.00	0.00	-0.02	-0.06

BENDING & COMP: TRUSS 1 - MEMBER 2-2

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

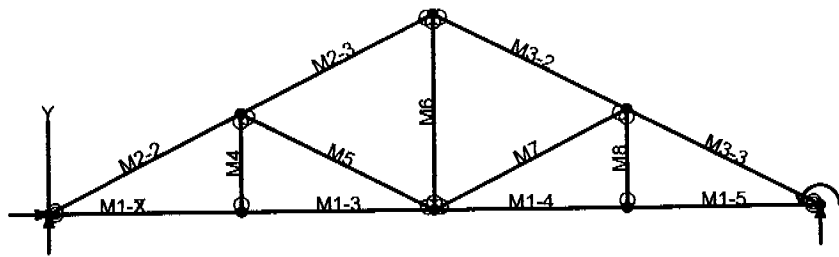
Grading:

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	5.87 feet
Max Axial Comp, C	1011 lbs
Max Reaction, R	161 lbs
Max Moment, M	176 ft-lbs
Max LL Deflection	0.03 inches
Max TL Deflection	0.06 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 =	1.16
fc =	193 psi
Fce =	1463 psi
Fc* =	2084 psi
F'c =	1166 psi
fb =	690 psi
F'b = Fb* =	2156 psi
Shear D/C ratio	0.39 < 1.0, Member OK
Interaction equation:	
(fc/F'c) ² +	
fb / (F'b(1-fc/Fce)) =	0.40 < 1.0, Member OK
Live Load defl ratio	0.10 < 1.0, Member OK
Total Load defl ratio	0.15 < 1.0, Member OK



Truss 2

VisualAnalysis 4.00 Report

Company: Paul Zacher - Structural - Engineers Engineer: Paul Zacher
File: C:\Documents and Settings\Owner\Desktop\Dale05_224\Truss 2.vap

Nodes

Node	X ft	Y ft	Fix	DX	Fix	DY	Fix	RZ
N1	0.00	0.00	Yes		Yes		No	
N2	31.00	0.00	No		"		Yes	
N3	15.50	7.75	"		No		No	
N4	7.75	0.00	"		"		"	
N5	15.50	0.00	"		"		"	
N6	23.25	0.00	"		"		"	
N7	7.75	3.88	"		"		"	
N8	23.25	3.88	"		"		"	

Member Elements

Member	Section	Material	Length ft
M1-2	SS2x4	Wood	7.75
M1-3	"	"	7.75
M1-4	"	"	7.75
M1-5	"	"	7.75
M2-2	"	"	8.66
M2-3	"	"	8.66
M3-2	"	"	8.66
M3-3	"	"	8.66
M4	"	"	3.88
M5	"	"	8.66
M6	"	"	7.75
M7	"	"	8.66
M8	"	"	3.88

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-	1800000.00	0.36	40.47

Load Combination Summary

Equation Case: UBC97 12.8a

Combination: 1D+1Lr

Contributing Cases & Source

Dead Load (Dead loads)

Roof Live Load (Roof Live loads)

Nodal Reactions

Node	Load Case	FX lb	FY lb	MZ lb-ft
N1	UBC97 12.8a	0.00	998.20	-NA-
N2	"	-NA-	998.20	0.00

Member Results

Member	Fx lb	Vy lb	Mz lb-ft	Dx in	Dy in
M1-2	1610.66	-38.00	-36.20	0.02	-0.13
"	1610.66	-15.78	33.24	0.01	-0.13
"	1610.66	6.44	45.30	0.01	-0.09
"	1610.66	28.65	0.00	0.00	0.00
M1-3	1610.66	-34.34	-44.03	0.03	-0.14
"	1610.66	-12.12	15.95	0.03	-0.15
"	1610.66	10.10	18.56	0.02	-0.15
"	1610.66	32.31	-36.20	0.02	-0.13
M1-4	1610.66	-32.31	-36.20	0.05	-0.13
"	1610.66	-10.10	18.56	0.04	-0.15
"	1610.66	12.12	15.95	0.04	-0.15
"	1610.66	34.34	-44.03	0.03	-0.14
M1-5	1610.66	-28.65	0.00	0.06	0.00
"	1610.66	-6.44	45.30	0.06	-0.09
"	1610.66	15.78	33.24	0.05	-0.13
"	1610.66	38.00	-36.20	0.05	-0.13
M2-2	-1874.2	146.88	0.00	0.00	0.00
"	-1809.7	17.95	237.89	-0.01	-0.29
"	-1745.2	-110.98	103.54	-0.01	-0.27
"	-1680.8	-239.91	-403.05	-0.02	-0.14
M2-3	-1242.3	239.91	-403.05	-0.02	-0.14
"	-1177.8	110.98	103.54	-0.02	-0.31
"	-1113.4	-17.95	237.89	-0.03	-0.38
"	-1048.9	-146.88	0.00	-0.03	-0.14
M3-2	-1242.3	-239.91	-403.05	0.08	-0.11
"	-1177.8	-110.98	103.54	0.08	-0.28
"	-1113.4	17.95	237.89	0.08	-0.35
"	-1048.9	146.88	0.00	0.09	-0.11
M3-3	-1874.2	-146.88	0.00	0.06	0.03
"	-1809.7	-17.95	237.89	0.06	-0.26
"	-1745.2	110.98	103.54	0.07	-0.24
"	-1680.8	239.91	-403.05	0.08	-0.11
M4	70.31	0.00	0.00	0.13	0.02
"	70.31	0.00	0.00	0.13	0.03
"	70.31	0.00	0.00	0.13	0.04
"	70.31	0.00	0.00	0.13	0.04
M5	-678.39	0.00	0.00	0.09	-0.11
"	-678.39	0.00	0.00	0.09	-0.11
"	-678.39	0.00	0.00	0.10	-0.10
"	-678.39	0.00	0.00	0.10	-0.10
M6	675.45	0.00	0.00	-0.14	-0.03
"	675.45	0.00	0.00	-0.14	-0.03
"	675.45	0.00	0.00	-0.14	-0.03
"	675.45	0.00	0.00	-0.14	-0.03
M7	-678.39	0.00	0.00	-0.04	-0.14
"	-678.39	0.00	0.00	-0.04	-0.14
"	-678.39	0.00	0.00	-0.04	-0.13
"	-678.39	0.00	0.00	-0.04	-0.13
M8	70.31	0.00	0.00	0.13	0.02
"	70.31	0.00	0.00	0.13	0.03
"	70.31	0.00	0.00	0.13	0.04
"	70.31	0.00	0.00	0.13	0.05

BENDING & COMP: TRUSS 2 - MEMBER 2-2

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

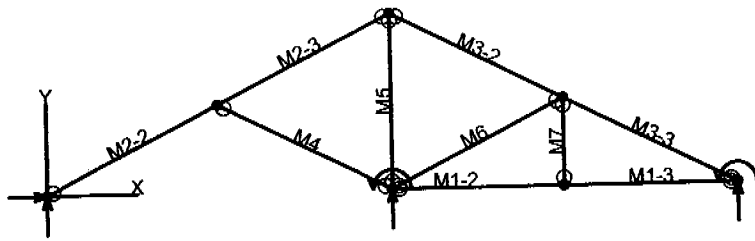
Grading:

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	3 inches
Depth, d	3.5 inches
Length	8.66 feet
Max Axial Comp, C	1680 lbs
Max Reaction, R	239 lbs
Max Moment, M	403 ft-lbs
Max LL Deflection	0.07 inches
Max TL Deflection	0.14 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 =	1.24
fc =	160 psi
Fce=	716 psi
Fc*=	2084 psi
F'c=	656 psi
fb=	790 psi
F'b=Fb*=	2156 psi
Shear D/C ratio	0.29 < 1.0, Member OK
Interaction equation:	
(fc/F'c)^2 +	
fb / (F'b(1-fc/Fce)) =	0.53 < 1.0, Member OK
Live Load defl ratio	0.16 < 1.0, Member OK
Total Load defl ratio	0.24 < 1.0, Member OK



Truss 3

VisualAnalysis 4.00 Report

Company: Paul Zacher - Structural - Engineers Engineer: Paul Zacher
 File: C:\Documents and Settings\Owner\Desktop\Dale05_224\Truss 3.vap

Nodes

Node	X ft	Y ft	Fix	DX Fix	DY Fix	RZ Fix
N1	0.00	0.00	Yes	Yes	No	
N2	31.00	0.00	No	"	Yes	
N3	15.50	7.75	"	No	No	
N4	15.50	0.00	"	Yes	Yes	
N5	23.25	0.00	"	No	No	
N6	7.75	3.88	"	"	"	
N7	23.25	3.88	"	"	"	

Member Elements

Member	Section	Material	Length ft
M1-2	SS2x4	Wood	7.75
M1-3	"	"	7.75
M2-2	SS2x8	"	8.66
M2-3	"	"	8.66
M3-2	SS2x4	"	8.66
M3-3	"	"	8.66
M4	"	"	8.66
M5	"	"	7.75
M6	"	"	8.66
M7	"	"	3.88

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
"	SS2x8	10.88	47.63	13.14	13.14

Material Properties

Material	Strength psi	Elasticity psi	Poisson	Density lb/ft ³
Wood	-NA-	1800000.00	0.36	40.47

Load Combination Summary

Equation Case: UBC97 12.8a

Combination: 1D+1Lr

Contributing Cases & Source

Dead Load (Dead loads)

Roof Live Load (Roof Live loads)

Nodal Reactions

Node	Load Case	FX	FY	MZ
			15	

		lb	lb	lb-ft
N1	UBC97 12.8a	0.00	168.10	-NA-
N2	"	-NA-	218.08	0.00
N4	"	-NA-	1543.57	0.00

Member Results

Member	Fx lb	Vy lb	Mz lb-ft	Dx in	Dy in
M1-2	60.80	-41.27	-61.58	0.02	-0.01
"	60.80	-19.05	16.32	0.02	-0.03
"	60.80	3.16	36.84	0.02	-0.03
"	60.80	25.38	0.00	0.02	0.00
M1-3	60.80	-25.38	0.00	0.02	0.00
"	60.80	-3.16	36.84	0.02	-0.03
"	60.80	19.05	16.32	0.02	-0.03
"	60.80	41.27	-61.58	0.02	-0.01
M2-2	-75.18	150.35	0.00	0.00	0.00
"	-10.71	21.42	247.91	-0.00	-0.04
"	53.76	-107.51	123.58	-0.00	-0.04
"	118.22	-236.44	-372.99	0.00	-0.03
M2-3	510.15	236.44	-372.99	0.00	-0.03
"	574.61	107.51	123.58	0.00	-0.05
"	639.08	-21.42	247.91	0.00	-0.05
"	703.54	-150.35	0.00	0.00	-0.01
M3-2	507.56	-241.62	-417.86	0.02	-0.00
"	572.02	-112.69	93.67	0.02	-0.17
"	636.49	16.24	232.95	0.01	-0.24
"	700.96	145.17	0.00	0.01	-0.00
M3-3	-140.56	-145.17	0.00	0.02	0.01
"	-76.09	-16.24	232.95	0.02	-0.23
"	-11.63	112.69	93.67	0.02	-0.16
"	52.84	241.62	-417.86	0.02	-0.00
M4	-643.27	-29.81	0.00	0.02	0.01
"	-633.34	-9.94	57.37	0.02	-0.08
"	-623.40	9.94	57.37	0.02	-0.09
"	-613.47	29.81	0.00	0.02	-0.02
M5	-892.44	0.00	0.00	-0.01	-0.01
"	-892.44	0.00	0.00	-0.01	-0.01
"	-892.44	0.00	0.00	0.00	-0.02
"	-892.44	0.00	0.00	-0.00	-0.01
M6	-696.34	0.00	0.00	0.01	-0.02
"	-696.34	0.00	0.00	0.01	-0.01
"	-696.34	0.00	0.00	0.01	-0.01
"	-696.34	0.00	0.00	0.02	-0.01
M7	82.54	0.00	0.00	0.01	0.01
"	82.54	0.00	0.00	0.01	0.02
"	82.54	0.00	0.00	0.01	0.02
"	82.54	0.00	0.00	0.01	0.02

BENDING & COMP: TRUSS 3 - MEMBER 3-2

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

Grading:

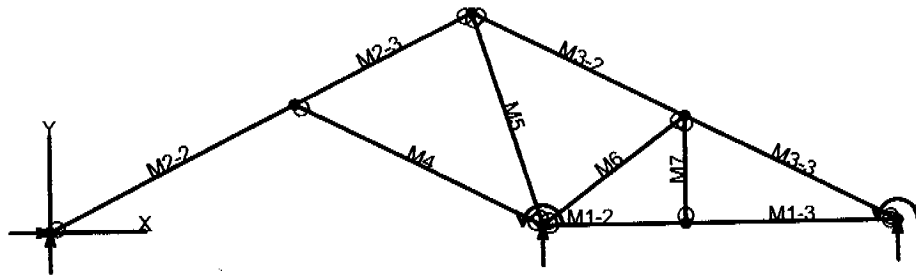
2x or 4x

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	8.66 feet
Max Axial Comp, C	507 lbs
Max Reaction, R	241 lbs
Max Moment, M	417 ft-lbs
Max LL Deflection	0.01 inches
Max TL Deflection	0.01 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 =	1.24
fc =	97 psi
Fce =	716 psi
Fc* =	2084 psi
F'c =	656 psi
fb =	1634 psi
F'b = Fb* =	2156 psi
Shear D/C ratio	0.58 < 1.0, Member OK
Interaction equation:	
(fc/F'c) ² +	
fb / (F'b(1-fc/Fce)) =	0.90 < 1.0, Member OK
Live Load defl ratio	0.02 < 1.0, Member OK
Total Load defl ratio	0.02 < 1.0, Member OK



Truss 4

VisualAnalysis 4.00 Report

Company: Paul Zacher - Structural - Engineers Engineer: Paul Zacher
File: C:\Documents and Settings\Owner\Desktop\Dale05_224\Truss 4.vap

Nodes

Node	X ft	Y ft	Fix DX	Fix DY	Fix RZ
N1	31.00	0.00	No	Yes	Yes
N2	0.00	0.00	Yes	"	No
N3	15.50	7.75	No	No	"
N4	18.00	0.00	"	Yes	Yes
N5	23.25	0.00	"	No	No
N6	9.00	4.50	"	"	"
N7	23.25	3.88	"	"	"

Member Elements

Member	Section	Material	Length ft
M1-2	SS2x4	Wood	5.25
M1-3	"	"	7.75
M2-2	"	"	10.06
M2-3	"	"	7.27
M3-2	"	"	8.66
M3-3	"	"	8.66
M4	"	"	10.06
M5	"	"	8.14
M6	"	"	6.53
M7	"	"	3.88

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-	1800000.00	0.36	40.47

Load Combination Summary

Equation Case: UBC97 12.8a

Combination: 1D+1Lr

Contributing Cases & Source

Dead Load (Dead loads)

Roof Live Load (Roof Live loads)

Nodal Reactions

Node	Load Case	FX lb	FY lb	MZ lb-ft
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N1	UBC97 12.8a	-NA-	-23.39	0.00
N2	"	0.00	202.34	-NA-
N4	"	-NA-	1740.05	0.00

Member Results

Member	Fx lb	Vy lb	Mz lb-ft	Dx in	Dy in
M1-2	-423.01	-32.59	-52.55	0.05	0.01
"	-423.01	-17.54	-8.71	0.05	0.01
"	-423.01	-2.49	8.81	0.06	0.00
"	-423.01	12.56	0.00	0.06	0.00
M1-3	-423.01	-26.54	0.00	0.05	0.00
"	-423.01	-4.33	39.85	0.05	-0.03
"	-423.01	17.89	22.33	0.05	-0.02
"	-423.01	40.11	-52.55	0.05	0.01
M2-2	-90.49	180.97	0.00	0.00	0.00
"	-15.62	31.25	355.71	-0.00	-0.56
"	59.24	-118.48	209.42	-0.00	-0.48
"	134.10	-268.21	-438.88	0.00	-0.07
M2-3	545.47	222.60	-438.88	0.00	-0.07
"	599.54	114.46	-30.74	0.00	-0.05
"	653.61	6.32	115.55	0.00	-0.09
"	707.68	-101.81	0.00	0.01	-0.03
M3-2	906.66	-242.28	-423.57	0.04	0.03
"	971.13	-113.35	89.86	0.03	-0.15
"	1035.59	15.58	231.05	0.03	-0.23
"	1100.06	144.51	0.00	0.03	-0.01
M3-3	400.68	-144.51	0.00	0.04	0.02
"	465.14	-15.58	231.05	0.04	-0.21
"	529.61	113.35	89.86	0.04	-0.13
"	594.08	242.28	-423.57	0.04	0.03
M4	-674.08	-34.61	0.00	0.05	0.03
"	-662.54	-11.54	77.37	0.05	-0.14
"	-651.00	11.54	77.37	0.06	-0.16
"	-639.46	34.61	0.00	0.06	-0.04
M5	-1080.9	0.00	0.00	-0.03	-0.01
"	-1080.9	0.00	0.00	-0.02	-0.05
"	-1080.9	0.00	0.00	-0.02	-0.04
"	-1080.9	0.00	0.00	-0.02	-0.02
M6	-616.83	0.00	0.00	0.04	-0.03
"	-616.83	0.00	0.00	0.04	-0.03
"	-616.83	0.00	0.00	0.04	-0.02
"	-616.83	0.00	0.00	0.05	-0.03
M7	72.69	0.00	0.00	-0.01	0.05
"	72.69	0.00	0.00	-0.01	0.05
"	72.69	0.00	0.00	-0.01	0.05
"	72.69	0.00	0.00	-0.01	0.05

BENDING & COMP: TRUSS 4 - MEMBER 3-2

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

Grading:

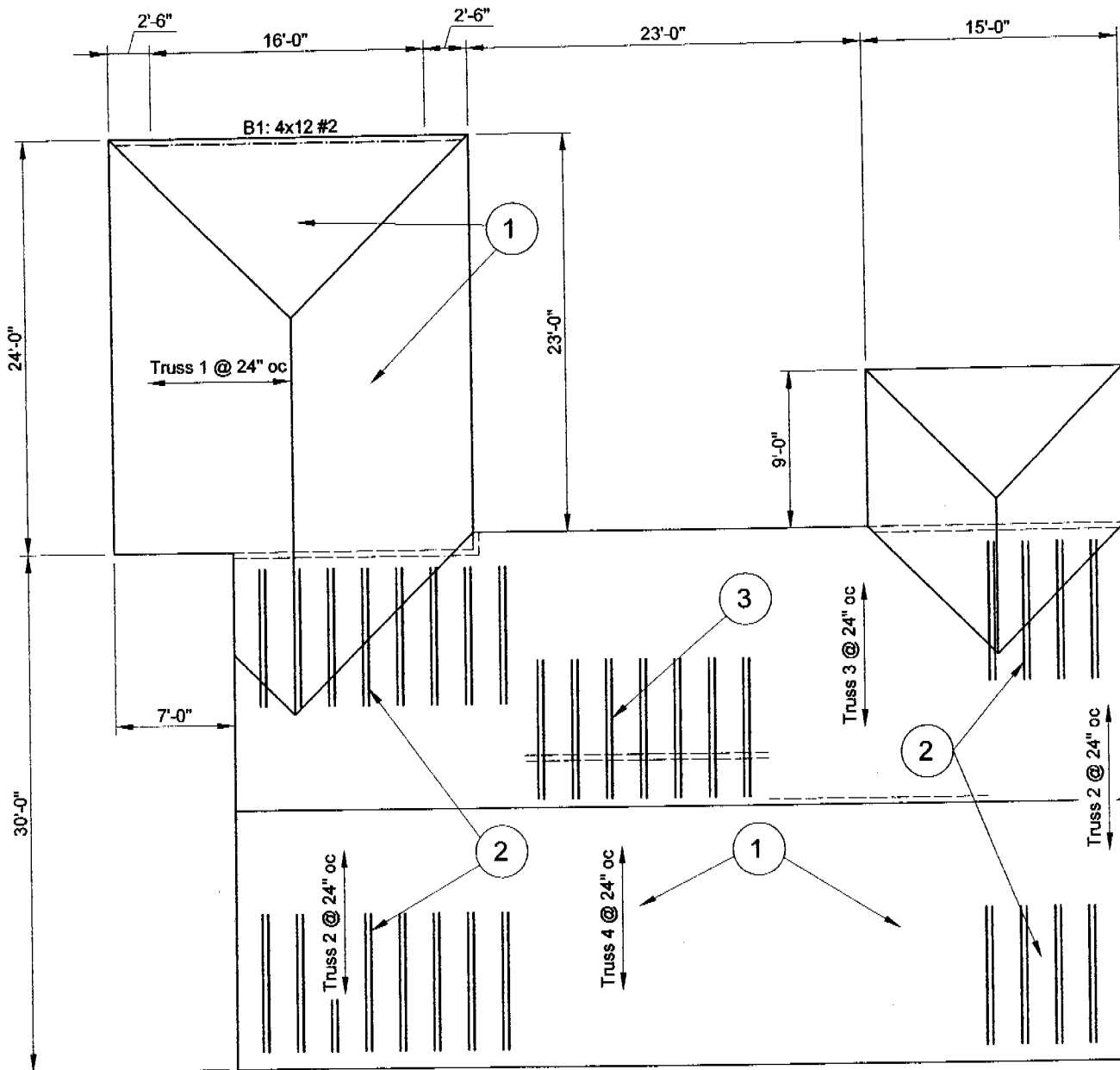
2x or 4x

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	3 inches
Depth, d	3.5 inches
Length	8.66 feet
Max Axial Comp, C	906 lbs
Max Reaction, R	242 lbs
Max Moment, M	423 ft-lbs
Max LL Deflection	0.02 inches
Max TL Deflection	0.03 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 =	1.24
fc =	86 psi
Fce=	716 psi
Fc*=	2084 psi
F'c=	656 psi
fb=	829 psi
F'b=Fb*=	2156 psi
Shear D/C ratio	0.29 < 1.0, Member OK
Interaction equation:	
(fc/F'c) ² +	
fb/ (F'b(1-fc/Fce)) =	0.45 < 1.0, Member OK
Live Load defl ratio	0.05 < 1.0, Member OK
Total Load defl ratio	0.05 < 1.0, Member OK

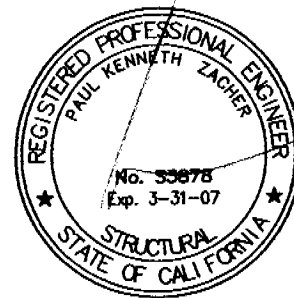


FRAMING NOTES:

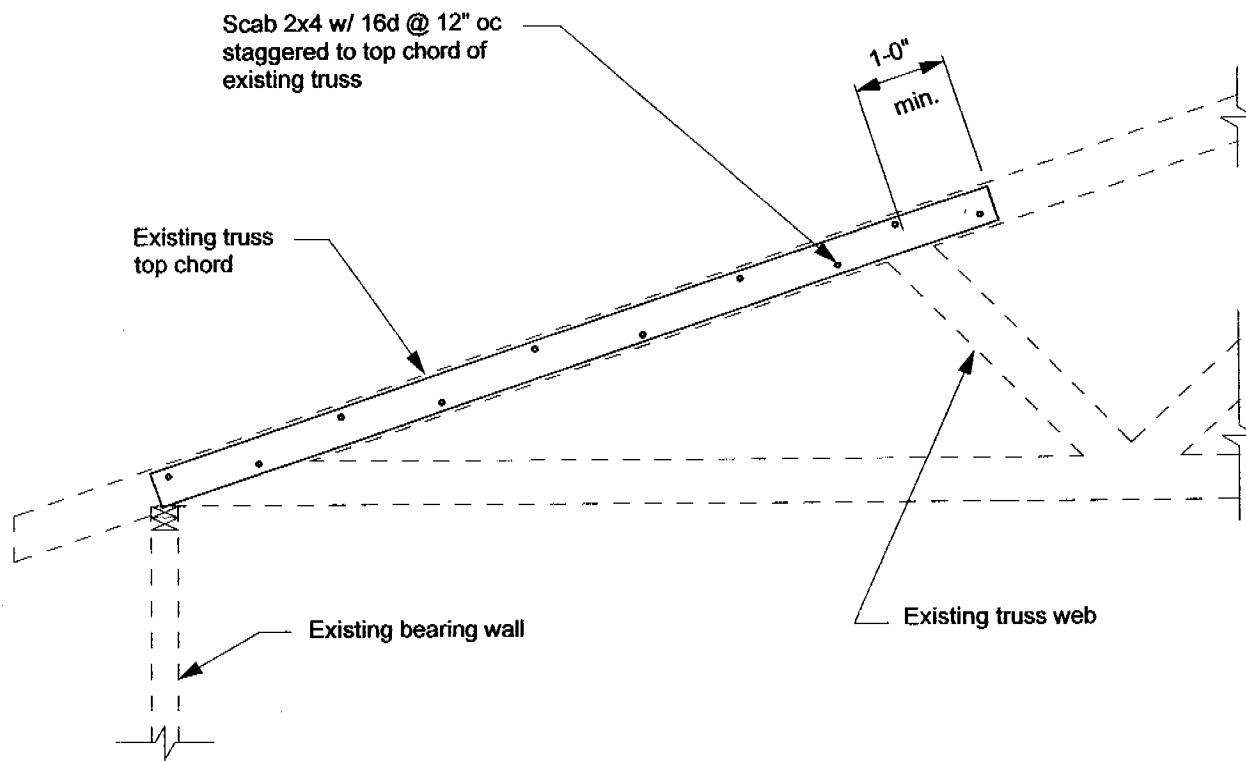
1. Shim the areas as required where the existing sags occur to provide an even contour at the roof level .
2. Scab a 2x4 DF#2 x 10'-0" long rafter to the top chord of the existing truss #2 (total 24). See detail 2.
3. Scab a 2x4 DF#2 x 10'-0" long rafter to the top chord of the existing truss #4 (total 7). See detail 3.

NOTES:

- A. This is a reroof project. The new roofing material shall be a Standard Weight Concrete Tile. The tile shall weigh less than or equal to 10.3 psf.
- B. All framing members including rafters, purlins, joists and beams are existing unless otherwise noted in the framing notes above.
- C. All structural wood members that were observed appear to be in sound condition and without structural defect.



1 ROOF PLAN - DALE
Not to Scale

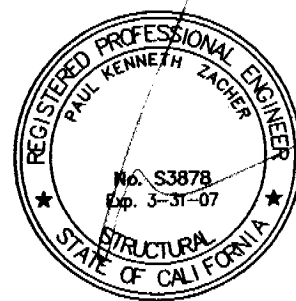


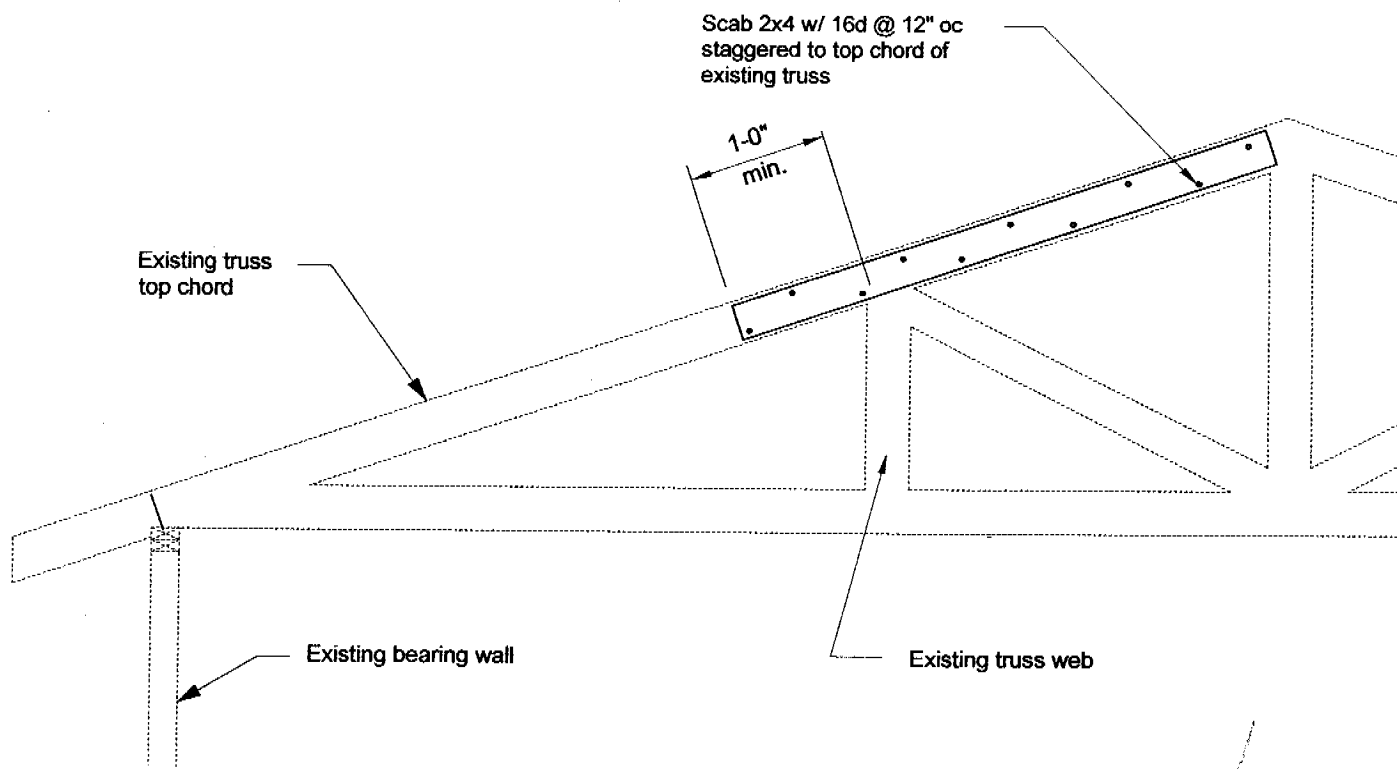
2

TRUSS REINFORCEMENT DETAIL

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

23





3

TRUSS REINFORCEMENT DETAIL

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

24

