

CITY OF SACRAMENTO
1231 I Street, Sacramento, CA 95814

Permit No: 9908034
Insp Area: 4

Site Address: 23 CORKWOOD CT SAC
Parcel No: 225-0440-037

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

CONTRACTOR
THOMANI CONSTRUCTION

OWNER
DUGAN JR GEORGE A
23 CORKWOOD CT
SACRAMENTO CA 95833

ARCHITECT

Nature of Work: NEW 12 X 15 FT COVERED PATIO & REROOF W/ 30 YR DEM LAM COMP

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 15 License Number 617258 Date 7-22-99 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.

X Date 7-22-99 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.

____ 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 _____ 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 forthwith comply with those provisions.

X Date 7-22-99 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.

DATE OF REQUEST 7-22-99
BY _____

City of Sacramento Development Services Division
Planning and Zoning Information Request

Project Address: 23 COPKWOOD CT.

Assessor's Parcel Number: 225 0440 037

PREVIOUS USE _____

Current Land Use: SF Dwelling

Description of Request/Proposed Use: Patio Cover

IS THIS A CHANGE OF USE? NO

Zoning Designation: 297-122 - Jan front yard fence

Prior Applications for Project Site(P#,Z#,DRPB#): _____

Comments: Not visible from street - DR OK

lot coverage + setbacks - ok

Are There Any Planning Issues?: (Circle One) YES NO

* STAFF Site Plan Check Required? (Circle One) YES NO

* FIELD INSPECTION REQUIRED (CIRCLE ONE) ~~YES~~ NO

* Design Review/ Preservation Required?: (Circle One) YES NO

Planning Review by/Date: [Signature] 7-22-99

A list of items that must be reviewed by Planning is provided on the reverse side of this form.

MICRO FILM AFTER FINAL

Review 8/3/99 P.A.

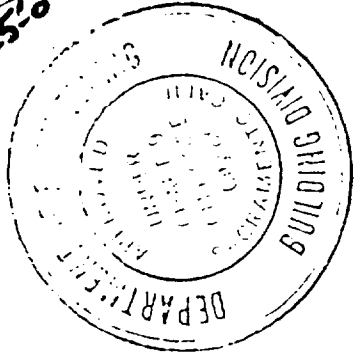
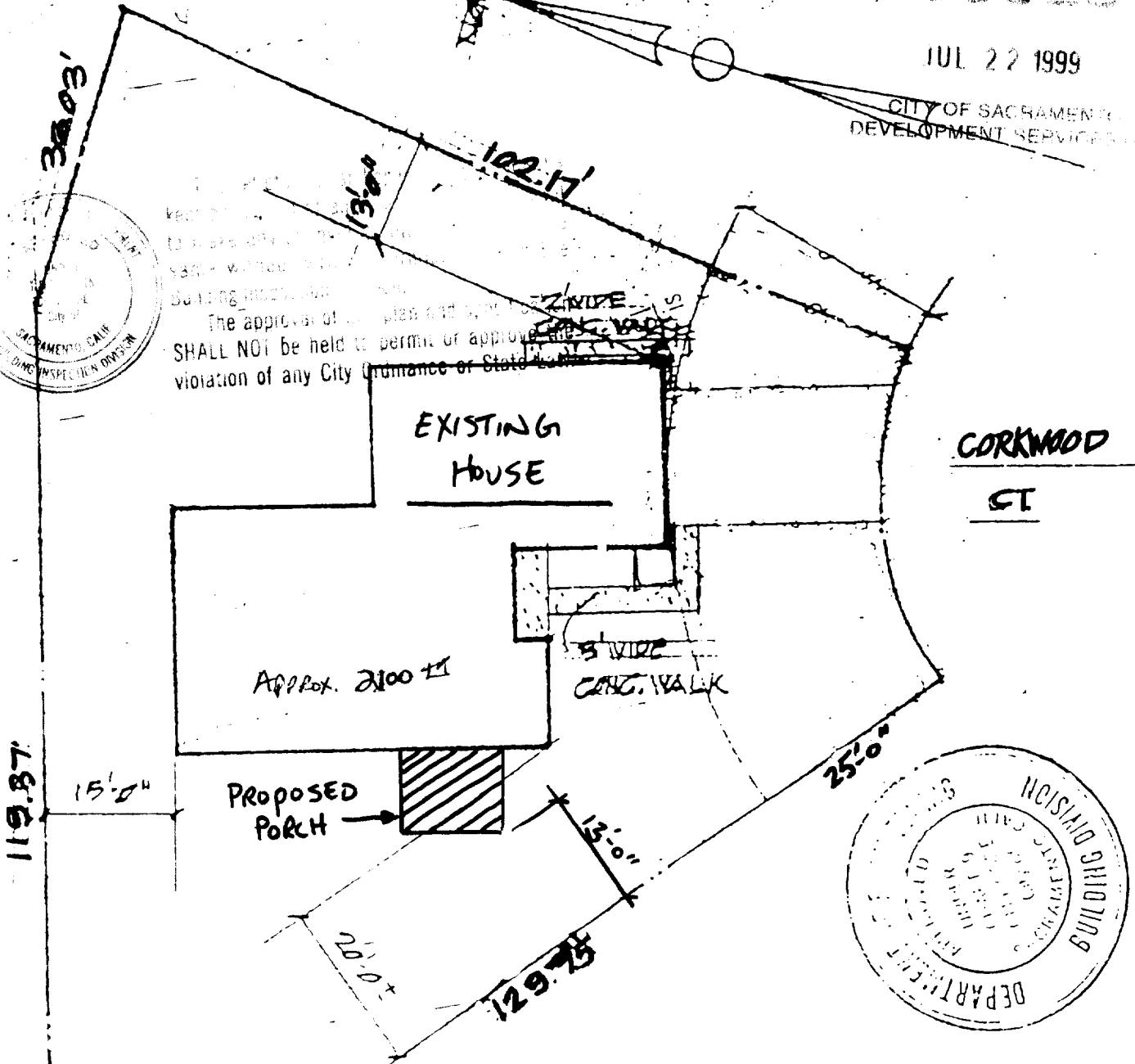
ISSUED

JUL 22 1999

CITY OF SACRAMENTO
DEVELOPMENT SERVICES DIV.



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



Reviewed by Matt P. 7/22/99

→ Foot requires collar ties, or design
shown on last sheet, if substantially
constructed.

LOT NO. 15

WOOD CREEK UNIT NO. 1

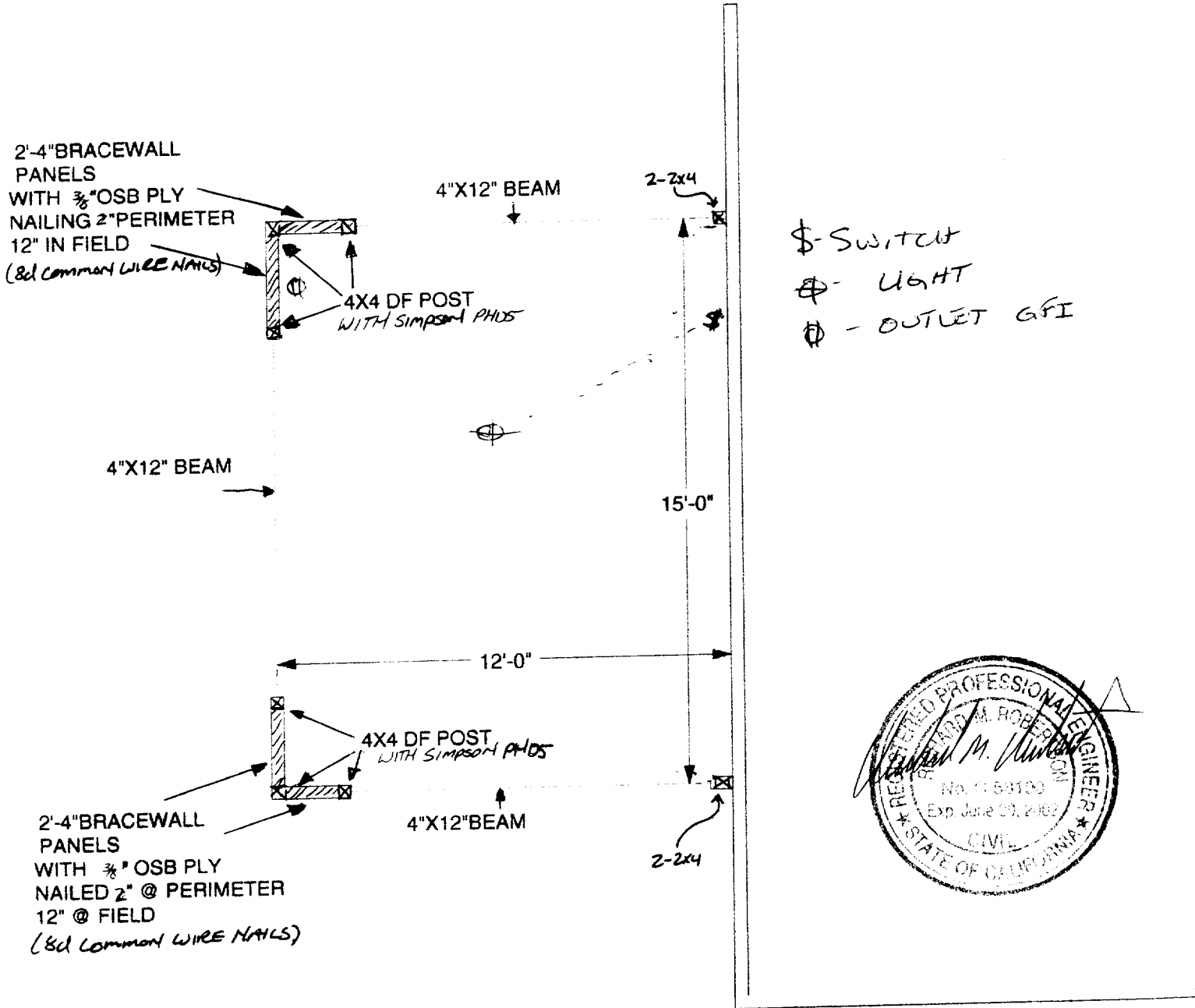
1" = 20'-0"

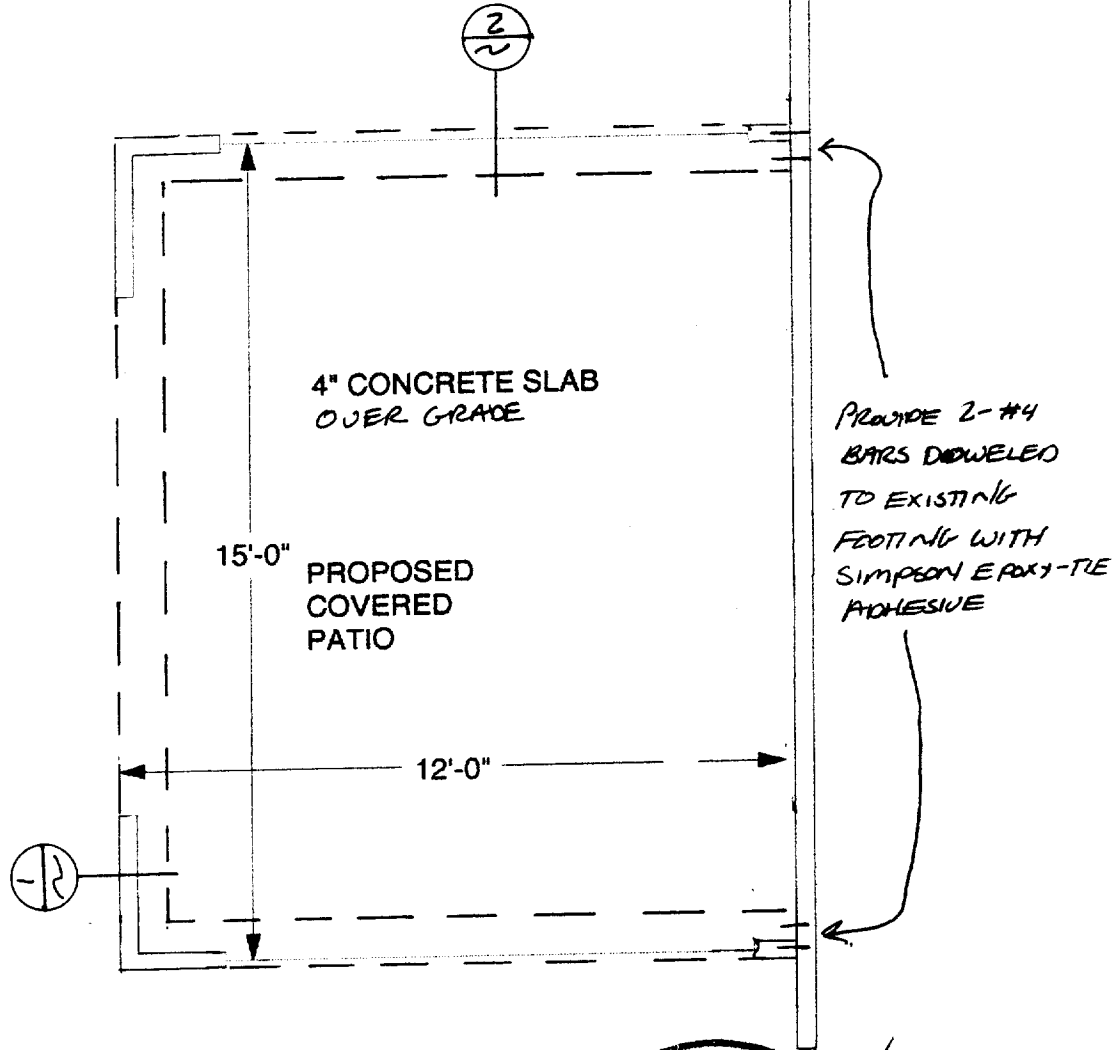
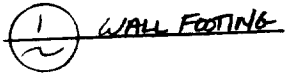
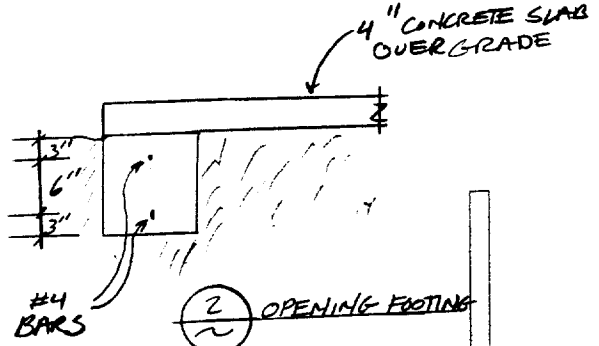
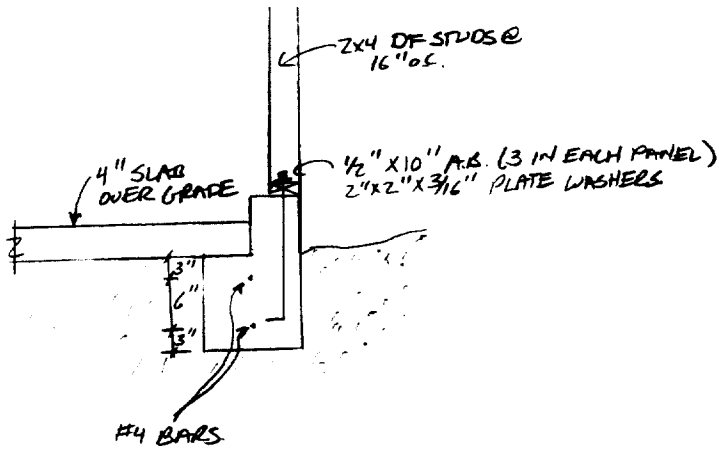
Engineering fees
address
etc.

THOMANI CONSTRUCTION

PROJECT LOCATION

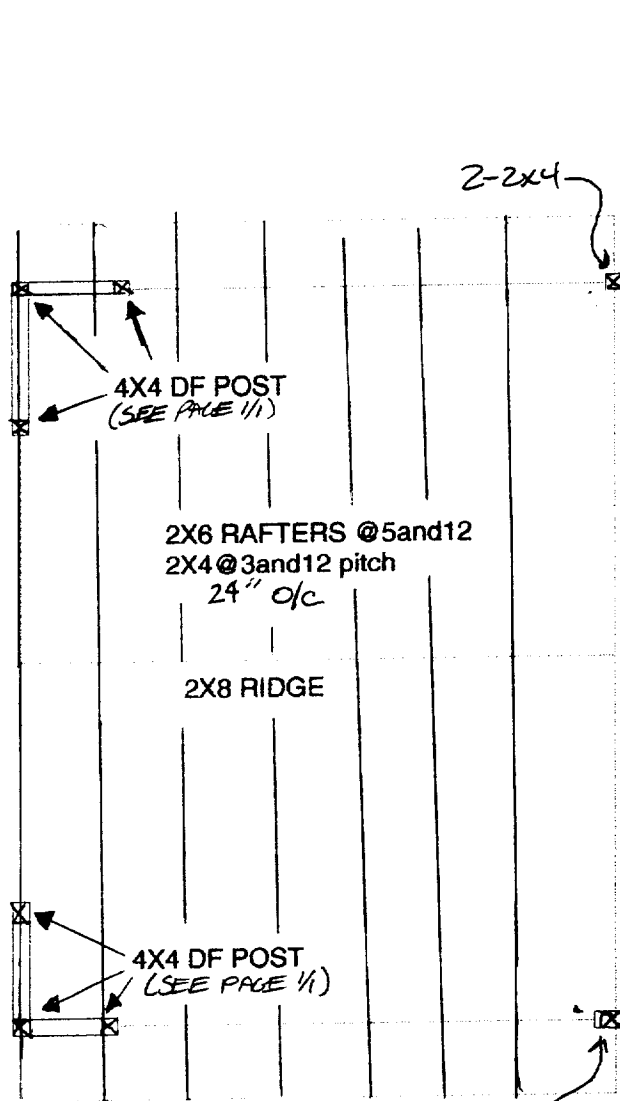
23 CORKWOOD CT.
SOUTH NATOMAS, CA





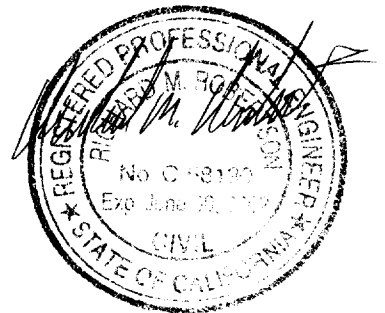
2'-4" BRACEWALL
PANELS
(SEE PAGE 1/1)

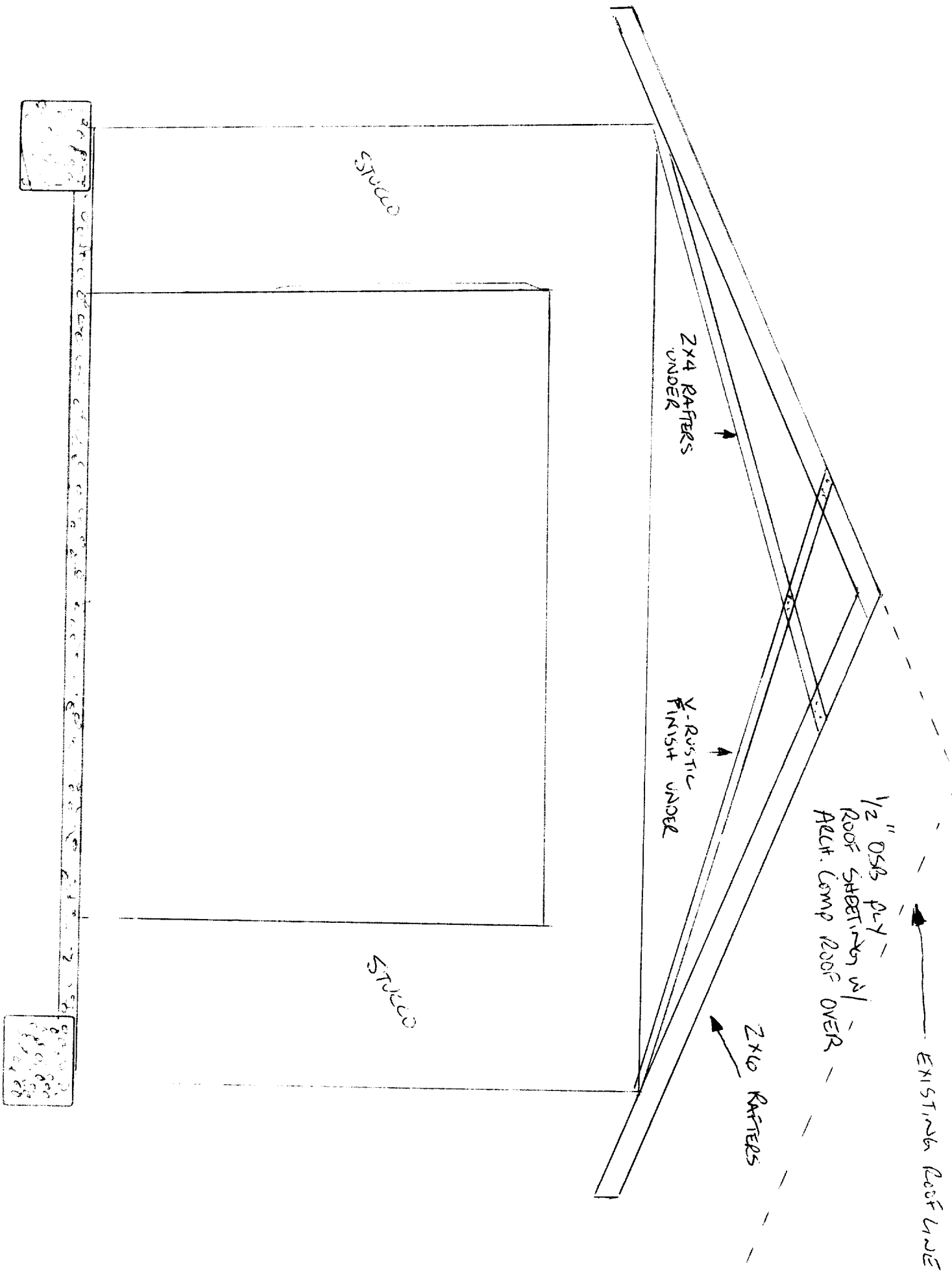
2-2x4



2'-4" BRACEWALL
PANELS
(SEE PAGE 1/1)

2-2x4





STUCCO

2x4 RAFTERS
UNDER

V-RUSTIC
FINISH UNDER

2x10 RAFTERS

1/2" OSB PLY
ROOF SHEETING w/
ALUM. COMP ROOF OVER

EXISTING ROOF LINE

STUCCO



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ISSUED

JUL 22 1999

STRUCTURAL CALCULATIONS

CITY OF SACRAMENTO
DEVELOPMENT SERVICES DIV

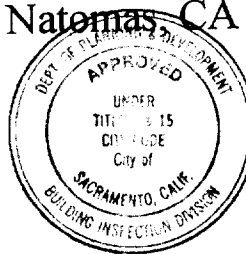
FOR

Thomani Construction

LOCATION: 23 Corkwood Ct., South Natomas, CA

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.

TOTAL PAGES:
DATE: July 20, 1999



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

- I. DESIGN CRITERIA AND ASSUMPTIONS
- II. BEAM CALCULATIONS
- III. COLUMN CALCULATIONS
- IV. LATERAL CALCULATIONS
- V. FOUNDATION CALCULATIONS

ENGINEER OF RECORD:



RICHARD M. ROBERTSON P.E.

ROBERTSON ENGINEERING

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I. DESIGN CRITERIA AND ASSUMPTIONS:

CODES:

UNIFORM BUILDING CODE, 1997
NATIONAL DESIGN SPECIFICATION, 1991
ACI 318-89

SOILS:

(NO REPORT)
ALLOWABLE FOUNDATION PRESSURE: 1,000 psf
ACTIVE: N/A
PASSIVE: 150 pcf
CONCRETE/SOIL FRICTION FACTOR: 0.25

FOUNDATION:

CONCRETE:

$$F_c = 2,500 \text{ psi}$$

STEEL:

$$F_y = 60,000 \text{ psi}$$

GRAVITY LOADS:

Roof T.C.:	16 psf Live Load	(1.25 Load Duration Factor)
	14 psf Dead Load	
Roof B.C.:	7 psf Dead Load	
	10 psf Live Load	(Non-Concurrent)

LATERAL LOADS:

Wind:

Basic Wind Speed: 80 mph
Exposure: B1.

Seismic:

Seismic Zone: 3
Importance Factor: 1.0



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II. BEAM CALCULATIONS:

MAXIMUM RAFTER SPANS PER GIVEN LOADING

ROOF LIVE LOAD(psf): 20
 ROOF DEAD LOAD(psf): 14
 LOAD DURATION INCREAS: 1.15
 LIVE LOAD DEFLECTION CRITERIA(L/?): 240
 DEAD LOAD DEFLECTION CRITERIA(L/?): 180

DESIGN ASSUMPTIONS:
 DOUGLASS FIR-LARCH NO. 2

Fb 875 psi
 Fc 625 psi
 Fv 96 psi
 E 1,600,000 psi

DOUGLASS FIR-LARCH STANDARD

Fb 550psi
 Fc 625 psi
 Fv 96 psi
 E 1,400,000 psi

SPACING	MAXIMUM ALLOWABLE LENGTH(FT)							
	2X4	DF	2X4	2X6	2X8	2X10	2X12	2X14
	STD.		DF NO.2	DF NO.2	DF NO.2	DF NO.2	DF NO.2	DF NO.2
12"	7.5		9.1	13.9	17.6	21.5	25.0	27.9
16"	6.5		8.2	12.1	15.3	18.7	21.6	24.2
19.2"	6.0		7.5	11.0	13.9	17.0	19.8	22.1
24"	5.3		6.7	9.8	12.5	15.2	17.7	19.7

SPACING	MINIMUM SEAT CUT REQUIREMENTS(INCHES)							
	2X4	DF	2X4	2X6	2X8	2X10	2X12	2X14
	STD.		DF NO.2	DF NO.2	DF NO.2	DF NO.2	DF NO.2	DF NO.2
12"	2/16		3/16	4/16	5/16	6/16	7/16	8/16
16"	3/16		3/16	5/16	6/16	7/16	8/16	9/16
19.2"	3/16		3/16	5/16	6/16	8/16	9/16	10/16
24"	3/16		4/16	6/16	7/16	9/16	10/16	11/16



NOTE. THESE CALCULATIONS ARE NOT VALID UNLESS ALL PAGES ARE SIGNED AND SEALED

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ALL WINDOW AND DOOR HEADERS WERE SIZED USING THE FOLLOWING TABLE (UNO)

4X SAWN LUMBER LENGTH/LOAD TABLE

MAXIMUM ALLOWABLE LOAD FOR THE LENGTH AND SIZE OF HEADER GIVEN

DESIGN ASSUMPTIONS
 DOUGLAS FIR-LARCH NO.2

Fb 875 psi
 Fv 95 psi
 Fc 625 psi

ADJUSTMENT FACTORS

LOAD DURATION: 1.15
 SIZE FACTOR: 1.3(4X8), 1.2(4X10)
 1.1(4X12), 1.0(4X14)

SHEAR STRESS FACTOR: 1.00

NOTES:
 BASED ON NDS-91 DESIGN VALUES
 DEFLECTION CRITERIA: L/360(TOTAL LOAD)

LENGTH (FT)	ALLOWABLE LOAD(PLF)				# OF TRIMMER STUDS AT BEARING POINTS			
	4X8	4X10	4X12	4X14	4X8	4X10	4X12	4X14
4	924	1,179	1,434	1,721	1	1	1	2
4.5	821	1,048	1,275	1,530	1	1	1	2
5	739	943	1,147	1,377	1	1	1	2
5.5	672	857	1,043	1,251	1	1	1	2
6	616	786	956	1,147	1	1	1	2
6.5	569	726	882	1,059	1	1	1	2
7	528	674	819	983	1	1	1	2
7.5	475	629	765	918	1	1	1	2
8	418	589	717	860	1	1	1	2
8.5	370	555	675	810	1	1	1	2
9	330	496	637	765	1	1	1	2
9.5	296	445	604	725	1	1	1	2
10	263	402	545	688	1	1	1	2
10.5	227	364	494	647	1	1	1	2
11	198	332	450	589	1	1	1	1
11.5	173	304	412	539	1	1	1	1
12	152	279	378	495	1	1	1	1
12.5	135	257	349	456	1	1	1	1
13	120	238	322	422	1	1	1	1
13.5	107	220	299	391	1	1	1	1
14	96	199	278	364	1	1	1	1
14.5	86	179	259	339	1	1	1	1
15	78	162	242	317	1	1	1	1
15.5	71	147	227	297	1	1	1	1
16	64	134	213	279	1	1	1	1
16.5	59	122	200	262	1	1	1	1
17	54	111	189	247	1	1	1	1



NOTE THESE CALCULATIONS ARE NOT VALID UNLESS ALL PAGES ARE SIGNED AND SEALED

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III. COLUMN CALCULATIONS:

ALLOWABLE LOADS PER UNBRACED LENGTH OF COLUMN

NOTES:

MULTIPLE 2X MEMBERS NAILED WITH 16d SINKERS AT 4" O.C.

LOAD DURATION FACTOR = 1.0

SIZE FACTOR USES IN 4X MEMBER CALCULATIONS.

CALCULATIONS BASED ON AXIAL LOADS ONLY.

CALCULATIONS BASED ON BUCKLING IN THE 4 X AND 6 X DIRECTION ONLY. COLUMN ASSUMED TO BE BRACED IN OPPOSITE DIRECTION.

LENGTH	(2) 2X4 DF STUD	(3) 2X4 DF STUD	4X4 DF NO. 2	4X6 DF NO. 2	4X8 DF NO. 2
8'	4,850	7,275	6,900	10,850	14,200
9'	4,025	6,050	5,625	8,850	11,575
10'	3,375	5,050	4,655	7,315	9,625

LENGTH	(2) 2X6 DF STUD	(3) 2X6 DF STUD	6X4 DF NO. 2	6X6 DF NO 2	6X8 DF NO. 2
8'	12,150	18,225	19,900	31,275	40,150
9'	11,200	16,825	17,650	27,725	35,800
10'	10,175	15,275	15,450	24,275	31,500
11'	9,125	13,700	13,450	21,150	27,550
12'	8,150	12,225	11,725	18,425	24,075
13'	7,225	10,850	10,250	16,125	21,100
14'	6,425	9,650	9,000	14,175	18,575
15'	5,725	8,600	7,975	12,525	16,425



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IV. LATERAL CALCULATIONS:

CHECK FRONT-BACK DIRECTION

CHECK SEISMIC: AT THE HOUSE (F-B)

BASE SHEAR:

$$Z = 0.3 \quad I = 1.0 \quad W_{px} = (15)(24)(28) = 10,080 \text{ lbs}$$

$$V = \frac{2.5C_a I}{R} = \frac{(2.5) \cdot (0.36) \cdot (1.0)}{5.5} \cdot 10,080 = 1,649 \text{ lbs}$$

CHECK WIND: FOR THE HOUSE (METHOD #2) (F-B)

$$P_{1s} = (0.62) \times (1.3) \times (16.4) \times (1.0) = 13.2 \text{ psf}$$
$$P_{2s} = (0.72) \times (1.3) \times (16.4) \times (1.0) = 15.4 \text{ psf}$$

$$P_{1o} = (0.67) \times (1.3) \times (16.4) \times (1.0) = 14.3 \text{ psf}$$
$$P_{3o} = (0.76) \times (1.3) \times (16.4) \times (1.0) = 16.2 \text{ psf}$$

SHEAR LINE	DESCRIPTION	TRIBUTARY AREA (SQ. - FT.)	SHEAR (LB)
1	LEFT SIDE OF ADDITION	87(13.5)	1,148
2	RIGHT SIDE OF ADDITION	87(13.5)	1,148

CHECK LEFT-RIGHT DIRECTION

CHECK SEISMIC: AT THE HOUSE (L-R)

BASE SHEAR:

$$Z = 0.3 \quad I = 1.0 \quad W_{px} = (15)(24)(28) = 10,080 \text{ lbs}$$

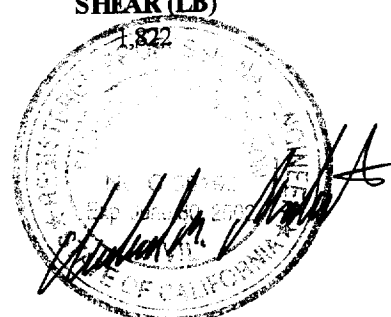
$$V = \frac{2.5C_a I}{R} = \frac{(2.5) \cdot (0.36) \cdot (1.0)}{5.5} \cdot 10,080 = 1,649 \text{ lbs}$$

CHECK WIND: (METHOD #2) (L-R)

$$P_{1s} = (0.62) \times (1.3) \times (16.4) \times (1.0) = 13.2 \text{ psf}$$
$$P_{2s} = (0.72) \times (1.3) \times (16.4) \times (1.0) = 15.4 \text{ psf}$$

$$P_{1o} = (0.67) \times (1.3) \times (16.4) \times (1.0) = 14.3 \text{ psf}$$
$$P_{3o} = (0.76) \times (1.3) \times (16.4) \times (1.0) = 16.2 \text{ psf}$$

SHEAR LINE	DESCRIPTION	TRIBUTARY AREA (SQ. - FT.)	SHEAR (LB)
3	FRONT OF ADDITON	138(13.5)	1,822



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SHEAR WALL CALCULATIONS:

WALL	DESCRIPTION	LATERAL LOAD	LENGTH (FT)	SHEAR V (PLF)	SHEAR WALL TYPE
1	LEFT SIDE OF ADDITION	1,148	2.33	492.7	P4
2	RIGHT SIDE OF ADDITION	1,148	2.33	492.7	P4
3	FRONT OF ADDITION	1,822	4.667	390.4	P3

RELIABILITY/REDUNDANCY CALCULATION FOR THE FRONT-BACK DIRECTION:

$$r_i = 825 * 10 / 2.33 / 1,649 = 2.14$$

FOR THE LEFT RIGHT DIRECTION:

$$r_i = 825 * 10 / 2.33 / 1,649 = 2.14$$

$$\rho = 2 - \frac{20}{r_{\max} \sqrt{A_B}} = 2 - \frac{20}{2.14 \sqrt{180}} = 1.30$$

SHEAR WALL CALCULATIONS: (ADJUSTED)

FOR THE LEFT AND RIGHT SIDE OF THE ADDITION, WIND STILL CONTROLS

WALL	DESCRIPTION	LATERAL LOAD	LENGTH (FT)	SHEAR V (PLF)	SHEAR WALL TYPE
3	FRONT OF ADDITION	2,144	4.667	459.4	P4

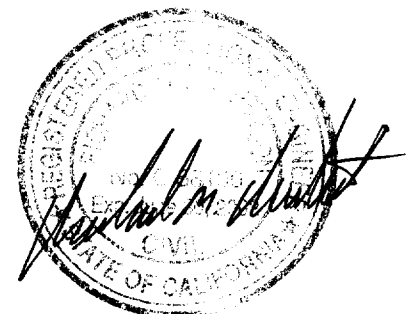
CHECK DIAPHRAGM ROTATION:

FOR THE SIDE WALLS:

$$2144 * 6 / 15 = 858 \text{ LB.}$$

HOLDOWN CALCULATIONS:

WALL	MOMENT	DEAD LOAD COUNTER MOMENT	HOLDOWN LOAD	HOLDOWN
1	9,184	NONE	3,942	PHD5/SSTB24
2	9,184	NONE	3,942	PHD5/SSTB24
3	17,152	NONE	3,675	PHD5/SSTB24



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SHEAR WALL BOLT CALCULATIONS

FOR 1/2" DIA. BOLTS IN CONCRETE:

$$t_s = 1\frac{1}{2}" \quad \text{LET } t_m = 2 \cdot t_s = 3"$$

FROM UBC TABLE 23-III-J $Z = 610 \text{ LBS} \times 1.33 = 811.3 \text{ LBS}$

LOOKING AT UBC TABLE 19-E FOR ALLOWABLE SHEAR IN CONCRETE. BY OBSERVATION:

$$Z = 811.3 \text{ CONTROLS}$$

USE 1/2" DIAMETER BOLT EMBEDDED A MIN. OF 7" INTO CONCRETE. SPACED AT 6'-0" O.C. FOR ALL PLATES EXCEPT AT SHEAR WALLS. FOR SHEAR WALLS FOLLOW THE SCHEDULE BELOW.

SHEAR WALLS:

SHEAR WALL TYPE	SHEAR	PANEL THICKNESS	NAIL SIZE	NAIL SPACING (perimeter)	BOLT SPACING
P1	220	3/8"	8d COMMON	6" O.C.	3'-6" (16d Sinker Nails at 4" o.c.)
P2	320	3/8"	8d COMMON	4" O.C.	2'-6" (16d Sinker Nails at 3" o.c.)
P3*	410	3/8"	8d COMMON	3" O.C.	10" (1 row 16d Sinker Nails at 3" o.c.)
P4*	530	3/8"	8d COMMON	2" O.C.	9" (1 row 16d Sinker Nails at 3" o.c.)
P5*	770	15/32"	10d COMMON	2" O.C.	12" (1 row 16d Sinker Nails at 3" o.c.)

* Requires 3 in. nominal framing members at adjoining panel edges.

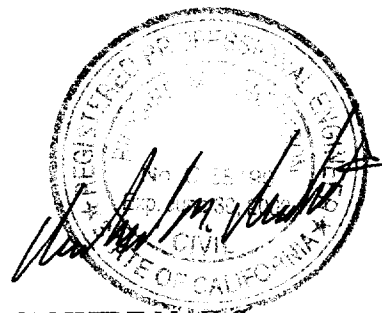
NOTE: Nail spacing shown above are for perimeter nailing only field nailing is 12" o.c. for all shear walls.

DIAPHRAGM CALCULATIONS

DIAPHRAGM SHEAR:

WORST CASE:

$$V = \frac{2,600}{21} = 124 \text{ lbs}$$



UNBLOCKED 15/32" PLYWOOD OR OSB DIAPHRAGM OK, USE 8d COMMON WIRE NAILS AT 6" O.C. FOR BOUNDARY EDGES AND 8d COMMON WIRE NAILS AT 12" O.C. FIELD.

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CHORD SPLICES:

$$M_d = \frac{W \cdot L^2}{8} = \frac{(153) \cdot (15)^2}{8} = 2,152 \text{ FT-LB}$$

$$T = \frac{M_d}{b} = \frac{2,152}{12} = 180 \text{ LB}$$

$$N = \frac{180}{(70.4) \cdot (1.33)} = 4 \text{ NAILS}$$

NAILS AT CHORD SPLICE TO BE 16d SINKER NAILS
GREEN LUMBER MAY BE USED FOR FRAMING MEMBERS.

V. FOUNDATION CALCULATIONS:

CONTINUOUS FOOTINGS

ALL EXTERIOR WALL LOADS ARE WITHIN ALLOWABLE BEARING PRESSURES. THEREFORE, THE STANDARD WALL FOOTING MAY BE 12" x 12" PER UBC-97 TABLE 18-I-C

