7407 SUN REIGN LANE #04/7420

O'Connor Freeman & Associates, Inc.

Structural Engineering Services

PLEZ MICROFILM

October 11, 2005

ISSUED
City of Sacramento
OCT 12 2005
NORTH PERMIT CENTER

Nicholas Gray
New Faze Development
3187 Del Paso Blvd.
Sacramento, CA 95815

Re: Revision to Floor Framing – Plan 7 – Sun Meadows
O'Connor Freeman Job Number: E030401

Dear Nicholas:

You recently contacted our office with a question regarding the framing of the floor of a Plan 7 at the Sun Meadows subdivision in Sacramento, California. We had previously addressed this issue as it related to Lot 13 with a letter dated September 24, 2004, but you requested that we broaden the letter to address all Plan 7s as they occur at the Sun Meadows subdivision. This letter is written to address this framing issue as it occurs on all Plan 7s.

Initially, Christian Knippen requested that we clarify the framing requirements of the support of the second floor at the entry of the house. After further discussion, we found that it was desired to change the first floor layout, revise the shear wall layout, as well as more clearly detail the support requirements for the second floor at the entry.

We reviewed the photos he emailed to our office and found that the second floor wall at the entry was not supported AT ALL. There will be no instance where the second floor wall will not be supported by either an aligned floor joist, a bearing wall below or a beam (either dropped or flush). We have added a detail at that location to more clearly show the framing requirements for the second floor wall. We have also adjusted all the framing plans to show that the front door has been moved 8" closer to the front of the house and more clearly show the extent of the tall wall framing at the stairs. Please review the attached exhibits for further reference. We have also attached the appropriate calculation sheets for the changes to the shear wall layout.

Make sure that the original stamped and signed copy of this letter are submitted to the Building Inspector or Building Department for review and approval. If you should have any further questions or comments please do not hesitate to call.

CITY OF SACRAMENTO PLANNING AND DEVELOPMENT DEPARTMENT BUILDING INSPECTION DIVISION

This set of plans and specifications must be kept on the job at all times and it is unlawful for any person to make 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.

REVISION 10/12/05 TMO

Sincerely,

Chris S. Campbell
Staff Engineer

Karl A. Freeman, P.E.
Registered Civil Engineer #50639

REGISTERED PROFESSIONAL ENGINEER
KARL A. FREEMAN
No. C50639
Exp. 9/30/07
CIVIL
STATE OF CALIFORNIA

Enclosures: drawing exhibits (5)
revised calculation pages (4)
cc: File

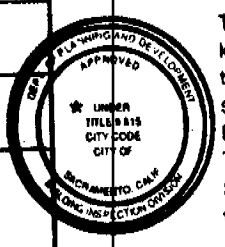
JOB COPY

7407 SUNREIGN LANE

Plan 7

REVISIONS	
DESCRIPTION	BY
A CLARIFICATION REVISIONS 7/13/04	CGL
B CLARIFICATION REVISIONS 7/30/04	MT
1 FIELD REVISION 8/28/04	CN
2 FIELD REVISION 9/24/04	NAH

Date	1/13/04
Scale (U.O.N.)	1/4"=1'-0"
Drawn	NAH
Job No.	E030401
Sheet	



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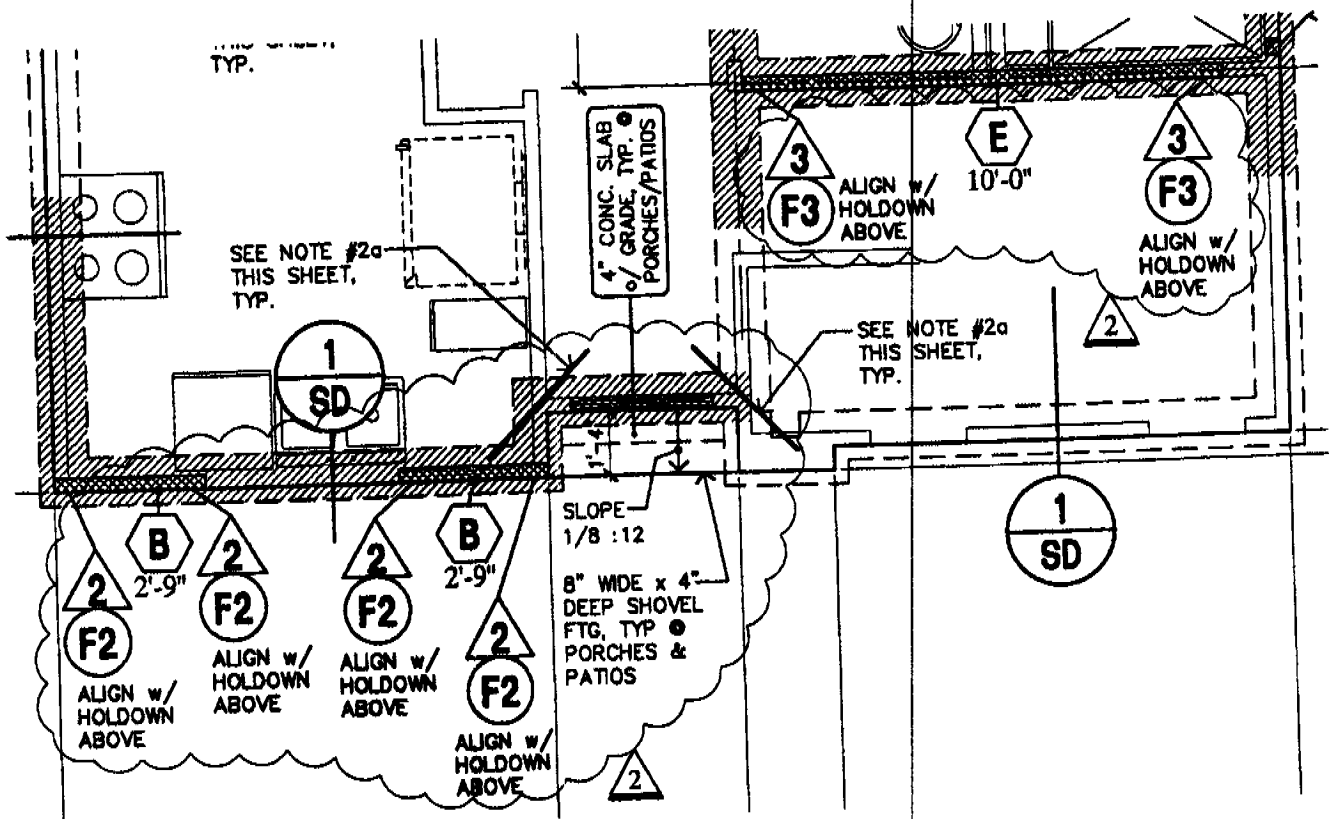
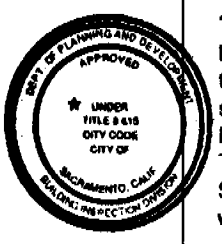
7407 SUNREIGN LANE

#0417420





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7407 SUN REIGN LN
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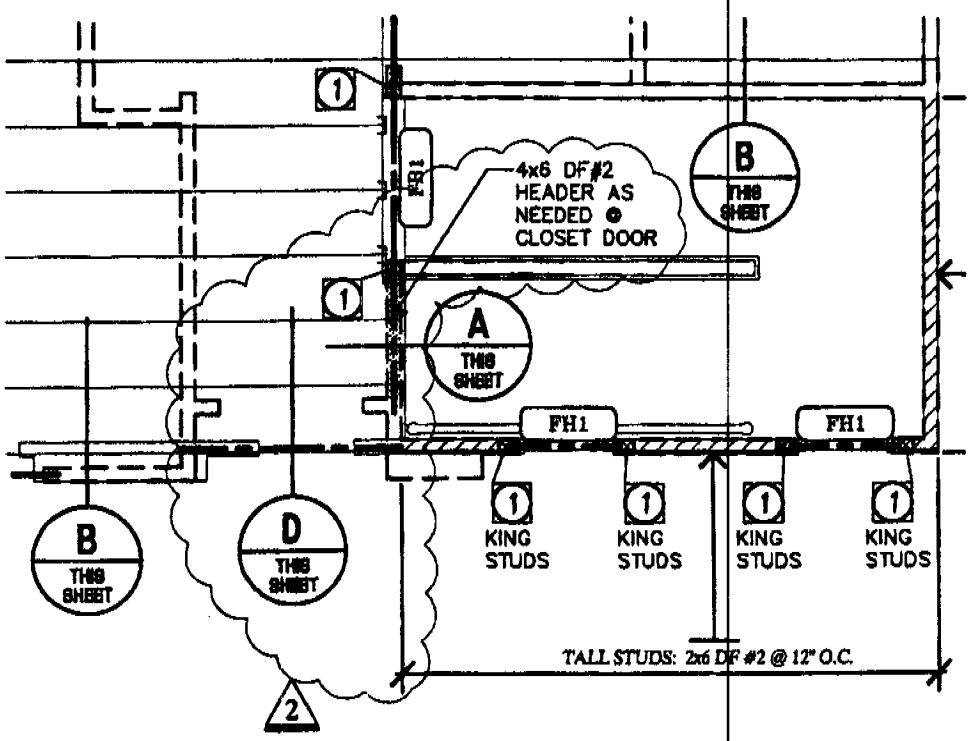

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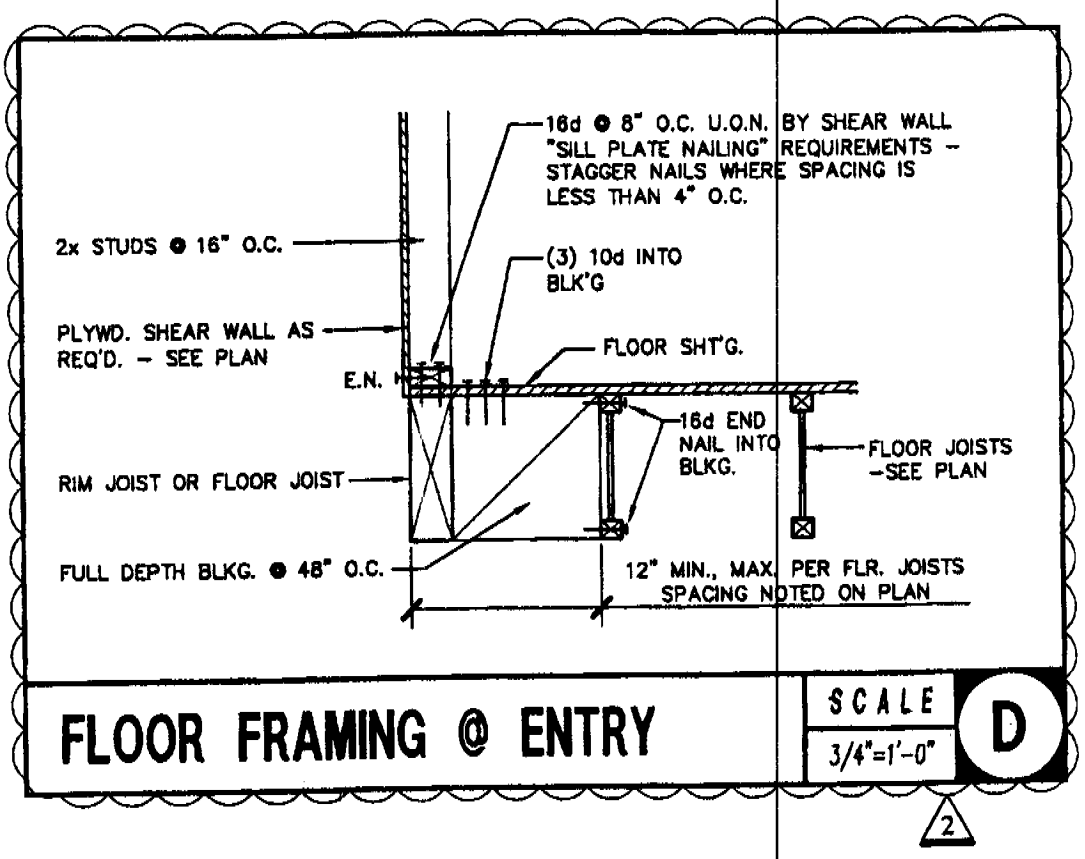
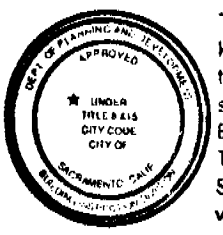


FLOOR FRAMING @ ENTRY

SCALE 3/4"=1'-0"

D

2



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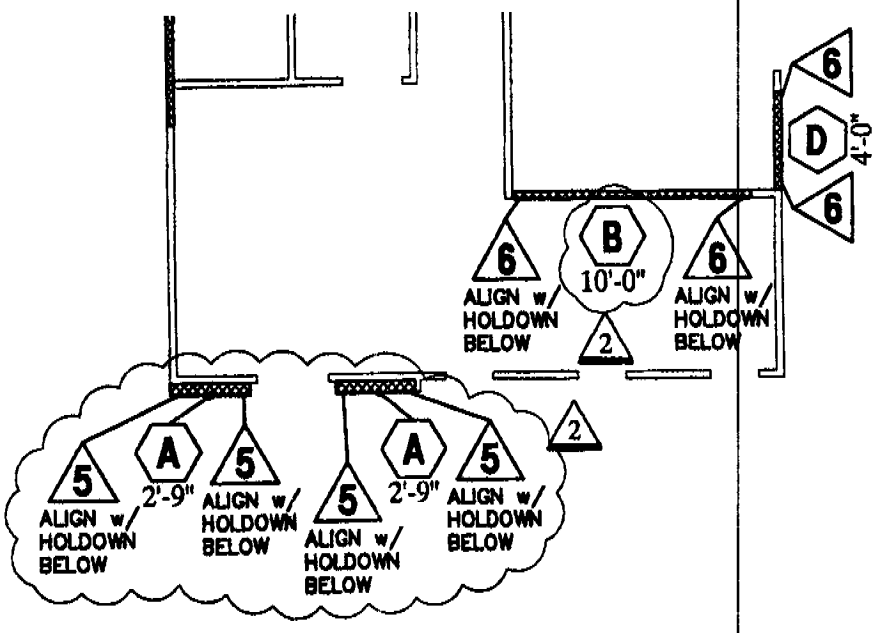

SECOND FLOOR SHEAR WALL PLAN

DEPT. OF PLANNING AND DEVELOPMENT
APPROVED
UNDER TITLE 8 & 15 CITY CODE CITY OF SACRAMENTO CALIF.
BUILDING INSPECTION DIVISION

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#04/7420

O'Connor Freeman & Associates

Structural Engineering Services

225 30th Street, Suite 201, Sacramento, CA 95816 Phone: (916) 441-5721 Fax: (916) 441-5697

Date		Sheet 22	Of
Job#	By USC	Revised 09/23/04	

Line 22

Seismic Governs: V, # = 3114

Load Determination

Seismic Case #3	T.W., ft =	31.0 /2+	0.0	=	15.5	Wind Case #3	T.W., ft = 31.0 /2+ 0.0 = 15.5
	w, plf:	190	Trib. V, # =		2945		w, plf: 192 Trib. V, # = 2976
Seismic Load From Line ___ Above						Wind Load From Line ___ Above	
Other Seismic Load						Other Wind Load	

Wall DL, psf	Wall Ht.	Length, ft.	↕ ht, ft. ↕	↕V, # ↕		↑ ht, ft. ↑	↑V, # ↑
8	8.00	0.00	4.00	0			
15	8.00	12.00	4.00	169			
^ In Plane Wall Trib. Loading ^			Seis. Fac./1.4=	0.117			

Total Wind Load, # =	2976
Total Seismic Load, # =	3114

Shear Analysis & Overturning Moments

Panel #	1	2	3	4	5	6	7	8	9
Length, ft.	10.00								
Panel Ht., ft.	8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Seis. Load, #	3113.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wind Load, #	2976.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
O.T.M., ft.-#	24235	0	0	0	0	0	0	0	0
☑ Use DF Shear Values?			f_v, plf =	311	OK	3/8" one side w/ 8d @ 4:12 (No 3x)			
			Allow. Shear, plf =	350					

*Panel heights shown above are used for calculations only; does not necessarily apply to height:width ratio determination.

R.M. Factor =	0.67	Roof DL, psf:	23	Floor DL, psf:	10	Wall DL, psf:	10	[Other DL], psf:	0

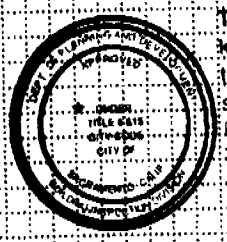
Overturning Analysis

CASE "A" **Distances measured in feet from left end of shear wall, typ. Override L= O.T. Length= 10.00

Panel #('s): 1

Unif. Loads	START, ft.	END, ft.	Roof T.W.	Floor T.W.	Wall T.W.	Other Load T.W.	w (DL), plf	R.M. Left	R.M. Right
w1 (DL)	0.00	10.00			8.00		80	4000	4000
w2 (DL)							0	0	0
(UP) Pt. Lds	Loc., ft	P (UP), #	O.T.M. Left	O.T.M. Right	(DN) Pt. Lds	Location, ft.	P (DL), #	R.M. Left	R.M. Right
P1 (UP)			0	0	P1 (DL)			0	0
P2 (UP)			0	0	P2 (DL)			0	0

O.T. SUMMARY	O.T.M., ft.-#	O.T.M. From Pt. Loads	Factored R.M., ft.-#	Uplift Forces at Ends of Shear Wall, #		OK	Holdown:	(2) CS16
About Left End of Wall	24235	0	2667	2157	At Right End of Wall		Capacity:	3300
About Right End of Wall		0	2667	2157	At Left End of Wall		Notes:	L as req'd (28) 8d per strap



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7407 SUNRISE LANE
041742O

O'Connor Freeman & Associates

Structural Engineering Services

225 30th Street, Suite 201, Sacramento, CA 95816 Phone: (916) 441-6721 Fax: (916) 441-5697

Date		Sheet 23	Of
Job#	By CSC	Revised 09/23/04	

Line 23

Seismic Governs: V, # = 1078

Load Determination

Seismic Case #3	T.W., ft =	7.5	/2 +	0.0	=	3.8	Wind Case #3	T.W., ft =	7.5 /2 + 0.0 = 3.8	
	w, plf:	190	Trib. V, # =	713				w, plf:	192	Trib. V, # = 720
	Seismic Load From Line ___ Above							Wind Load From Line ___ Above		
	Other Seismic Load							Other Wind Load		

Wall DL, psf	Wall Ht.	Length, ft.	↕ ht, ft. ↕	↕V, # ↕	↑ ht, ft. ↑	↑ V, # ↑
8	8.00	0.00	4.00	0		
15	8.00	26.00	4.00	365		
^ In Plane Wall Trib. Loading ^		Seis. Fac./1.4=		0.117		

Total Wind Load, # =	**720**
Total Seismic Load, # =	**1078**

Shear Analysis & Overturning Moments

Panel #	1	2	3	4	5	6	7	8	9
Length, ft.	2.75	2.75							
Panel Ht., ft.	8.00	8.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Seis. Load, #	*539.0*	*539.0*	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wind Load, #	360.0	360.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
O.T.M., ft.-#	3581	3581	0	0	0	0	0	0	0

☑ Use DF Shear Values? — f_v, plf = 196 — Allow. Shear, plf = 260 — OK — **3/8" one side w/ 8d @ 6:12**

*Panel heights shown above are used for calculations only; does not necessarily apply to height:width ratio determination

R.M. Factor =	0.67	Roof DL, psf:	23	Floor DL, psf:	10	Wall DL, psf:	10	[Other DL], psf:	0

CASE "A" — **Distances measured in feet from left end of shear wall, typ. — Override L= — O.T.Length= 2.75

Overturning Analysis

Panel #('s): 1

Unif. Loads	START, ft.	END, ft.	Roof T.W.	Floor T.W.	Wall T.W.	Other Load T.W.	w (DL), plf	R.M. Left	R.M. Right
w1 (DL)	0.00	2.75			8.00		80	302.5	302.5
w2 (DL)							0	0	0

(UP) Pt. Lds	Loc., ft	P (UP), #	O.T.M. Left	O.T.M. Right	*(DN) Pt. Lds*	Location, ft.	P (DL), #:	R.M. Left	R.M. Right
P1 (UP)			0	0	P1 (DL)			0	0
P2 (UP)			0	0	P2 (DL)			0	0

O.T. SUMMARY	O.T.M., ft.-#	O.T.M. From Pt. Loads	Factored R.M., ft.-#	Uplift Forces at Ends of Shear Wall, #		
About Left End of Wall	3581	0	202	1229	At Right End of Wall	OK
About Right End of Wall		0	202	1229	At Left End of Wall	

Holdown:	CS16
Capacity:	1650
Notes:	L as req'd (28) 8d

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#0417420

O'Connor Freeman & Associates

Structural Engineering Services

225 30th Street, Suite 201, Sacramento, CA 95816 Phone: (916) 441-5721 Fax: (916) 441-5697

Date		Sheet 29	Of
Job#	By CSL	Revised 09/23/04	

Line 12

Wind Governs: V, # = 5858

Load Determination

Seismic Case #3	T.W., ft =	30.5	/2 +	0.0	=	15.3	Wind Case #3	T.W., ft =	30.5 /2 + 0.0 = 15.3
	w, plf	140	Trib. V, # =			2135		w, plf: 189	Trib. V, # = 2882
Seismic Load From Line 22 Above				18.00		3114	Wind Load From Line 22 Above		18.00 2976
Other Seismic Load							Other Wind Load		

Wall DL, psf	Wall Ht.	Length, ft.	↕ ht, ft. ↕	↕V, # ↕
8	9.00	18.00	4.50	152
15	9.00	23.00	4.50	364
^ In Plane Wall Trib. Loading ^			Seis. Fac./1.4=	0.117

↑ ht, ft. ↑	↑ V, # ↑

Total Wind Load, # =	5858
Total Seismic Load, # =	5764

Shear Analysis & Overturning Moments

Panel #	1	2	3	4	5	6	7	8	9
Length, ft.	10.00								
Panel Ht., ft.	9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Seis. Load, #	5764.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wind Load, #	5858.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
O.T.M., ft.-#	79508	0	0	0	0	0	0	0	0

☑ Use DF Shear Values?

f_v, plf = 586 — OK — 3/8" one side w/ 8d @ 2:12

Allow. Shear, plf = 600

*Panel heights shown above are used for calculations only; does not necessarily apply to height:width ratio determination

R.M. Factor =	0.67	Roof DL, psf:	23	Floor DL, psf:	10	Wall DL, psf:	10	Other DL, psf:	0

**Distances measured in feet from left end of shear wall, typ. Override L= O.T. Length= 10.00

Overturning Analysis

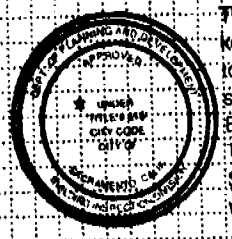
CASE "A"

Panel #('s): 1

Unif. Loads	START, ft.	END, ft.	Roof T.W.	Floor T.W.	Wall T.W.	Other Load T.W.	w (DL), plf	R.M. Left	R.M. Right
w1 (DL)	0.00	10.00			9.00		90	4500	4500
w2 (DL)							0	0	0
(UP) Pt. Lds	Loc., ft	P (UP), #	O.T.M. Left	O.T.M. Right	(DN) Pt. Lds	Location, ft.	P (DL), #	R.M. Left	R.M. Right
P1 (UP)			0	0	P1 (DL)			0	0
P2 (UP)			0	0	P2 (DL)			0	0

O.T. SUMMARY	O.T.M., ft.-#	O.T.M. From Pt. Loads	Factored R.M., ft.-#	Uplift Forces at Ends of Shear Wall, #		
About Left End of Wall	79508	0	3000	7651	At Right End of Wall	OK
About Right End of Wall		0	3000	7651	At Left End of Wall	

Holdown:	HDQ8-SDS3
Capacity:	8325
Notes:	(20) 1/4"x3" SDS



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7407 Sunrise Lane
#0417420

O'Connor Freeman & Associates
Structural Engineering Services
225 30th Street, Suite 201, Sacramento, CA 95816 Phone: (916) 441-5721 Fax: (916) 441-5687

Date		Sheet 30	Of
Job #	By CSC	Revised 09/23/04	

Line 13

Seismic Governs: V, # = 2014

Load Determination

Seismic Case #3	T.W., ft =	7.5	/2 +	0.0	=	3.8	
	w, plf:	140	Trib. V, # =			525	
Seismic Load From Line 23 Above				18.00		1078	
Other Seismic Load							
Wall DL, psf	Wall Ht.	Length, ft.	↕ ht, ft. ↕		↕ V, # ↕		
8	9.00	0.00	4.50		0		
15	9.00	26.00	4.50		411		
^ In Plane Wall Trib. Loading ^			Seis. Fac./1.4=		0.117		

Wind	T.W., ft =	7.5	/2 +	0.0	=	3.8			
	w, plf:	189	Trib. V, # =			709			
Wind Load From Line 23 Above				18.00		720			
Other Wind Load									
				↑ ht, ft. ↑		↑ V, # ↑			

Total Wind Load, # =	1429
Total Seismic Load, # =	2014

Shear Analysis & Overturning Moments

Panel #	1	2	3	4	5	6	7	8	9
Length, ft.	2.75	2.75							
Panel Ht., ft.	9.00	9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Seis. Load, #	1007.1	1007.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wind Load, #	714.4	714.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
O.T.M., ft.-#	12990	12990	0	0	0	0	0	0	0

☑ Use DF Shear Values? — f_v, plf = 366 — Allow. Shear, plf = 350 — WITHIN 5% OK

3/8" one side w/ 8d @ 4:12 (No 3x)

*Panel heights shown above are used for calculations only; does not necessarily apply to height:width ratio determination.

R.M. Factor =	0.67	Roof DL, psf:	23	Floor DL, psf:	10	Wall DL, psf:	10	[Other DL], psf:	0

Overturning Analysis

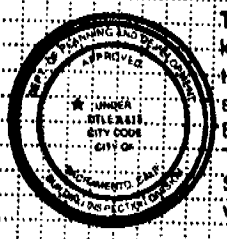
CASE "A" — **Distances measured in feet from left end of shear wall, typ. — Override L = — O.T. Length = 2.75

Panel #('s): 1

Unif. Loads	START, ft.	END, ft.	Roof T.W.	Floor T.W.	Wall T.W.	Other Load T.W.	w (DL), plf	R.M. Left	R.M. Right
w1 (DL)	0.00	2.75	2.00	0.50	9.00		141	533.15625	533.15625
w2 (DL)							0	0	0
(UP) Pt. Lds	Loc., ft	P (UP), #	O.T.M. Left	O.T.M. Right	*(DN) Pt. Lds*	Location, ft.	P (DL), #	R.M. Left	R.M. Right
P1 (UP)			0	0	P1 (DL)			0	0
P2 (UP)			0	0	P2 (DL)			0	0

O.T. SUMMARY	O.T.M., ft.-#	O.T.M. From Pt. Loads	Factored R.M., ft.-#	Uplift Forces at Ends of Shear Wall, #		
About Left End of Wall	12990	0	355	4594	At Right End of Wall	OK
About Right End of Wall		0	355	4594	At Left End of Wall	

Holdown:	PHD5
Capacity:	4685
Notes:	(14) 1/4"x3" SDS



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#0417420

O'Connor Freeman & Associates, Inc.

Structural Engineering Services

Post-it® Fax Note 7671 | Date 5.24.06 | # of pages ▶ 2
To Lawrence Loera | From Karl Freeman
Co./Dept. New Faze | Co. OFA
Phone # 871-4140 | Phone # 441-5721
Fax # 399-9570 | Fax # 441-5697

May 24, 2006

Lawrence Loera
New Faze Development
3187 Del Paso Blvd.
Sacramento, CA 95815

Re: Shear Wall Penetrations: All Plans - Sun Meadows
O'Connor Freeman Job Number: E030401

Dear Lawrence:

You contacted our office regarding a vent that was installed within shear wall on one of the plans within the Sun Meadows subdivision in Sacramento, California. The vent measured approximately 14 ½-inches in width with a 12-inch maximum height and you wanted to know the engineering fix for cutting into the shear wall in order to install this vent. We have come across this situation several times and have developed a method of reinforcing small openings within a shear wall. Essentially, the Framer will need to install blocking above and below the opening and strap this new blocking with a CS16 strap. This strapping is not required for smaller openings. However, larger openings will need to be addressed separately on a case by case basis. See the attached detail for reference and review.

Make sure the two original wet stamped and signed copies of this letter are submitted to the Building Inspector or Building Department for review and approval. If you should have any further questions or comments please do not hesitate to call.

Sincerely,
O'Connor Freeman & Associates, Inc.

Karl A. Freeman, P.E.
Registered Civil Engineer #50639

PLEZ
MICROFILM

Enclosure: Shear Wall Penetrations Detail
cc: File

7407 SUN REIGN LANE #0417420

NOTES:

1) HOLES UP TO 4-1/2" SQ. DO NOT REQUIRE BLK'G. & E.N.

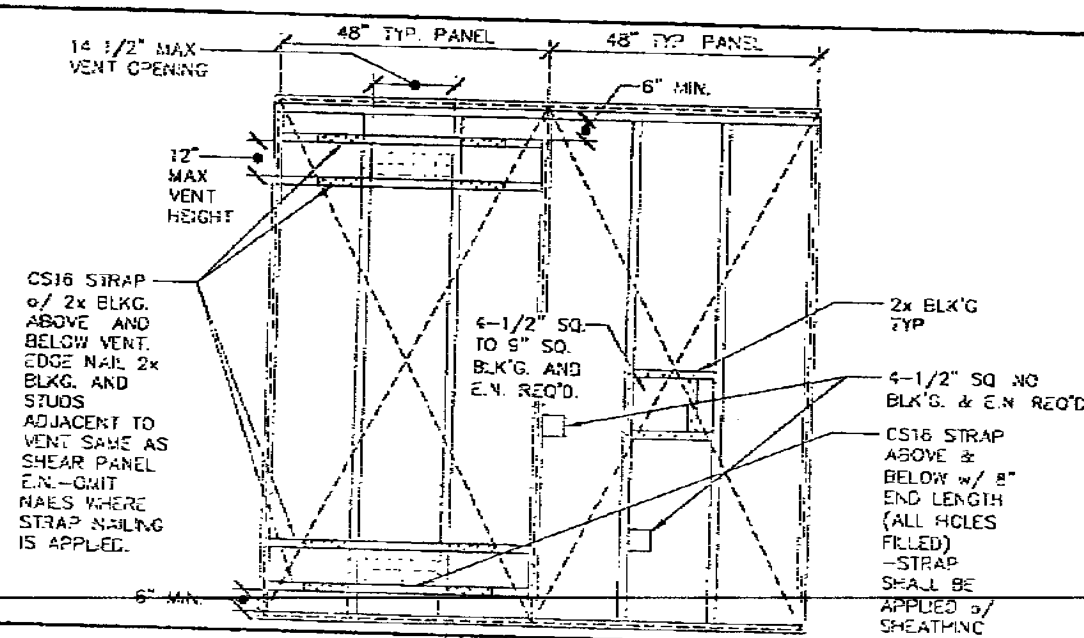
2) HOLES FROM 4-1/2" SQ. TO 9" SQ. REQUIRE BLK'G. & E.N.

3) HOLES LARGER THAN 9" SQ. ARE NOT ALLOWED, UNLESS NOTED ON PLAN. ONLY ONE 9" SQUARE HOLE ALLOWED PER 4'-0" LENGTH OF SHEAR WALL. EXCEPTION: (2) VENTS ALIGNED IN THE SAME STUD BAY AS SHOWN ARE ALLOWED FOR EACH 8'-0" OF SHEAR WALL. IF SHEAR WALL IS LESS THAN 8'-0" LONG AND VENTS ARE DESIRED CONTACT ENGINEER.

4) HOLE SIZE INCLUDES THE LENGTH OF THE OVERCUT.

5) MAX. ACCUMULATED LENGTH OF OPENINGS SHALL NOT EXCEED 20 PERCENT OF THE SHEAR WALL LENGTH.

6) RECOMMEND CIRCULAR BORED HOLES OR RADIUS CORNER CUTS (TO REDUCE STRESS CONCENTRATIONS). OVERCUTS NOT ALLOWED



SHEAR WALL PENETRATIONS

SCALE NTS

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