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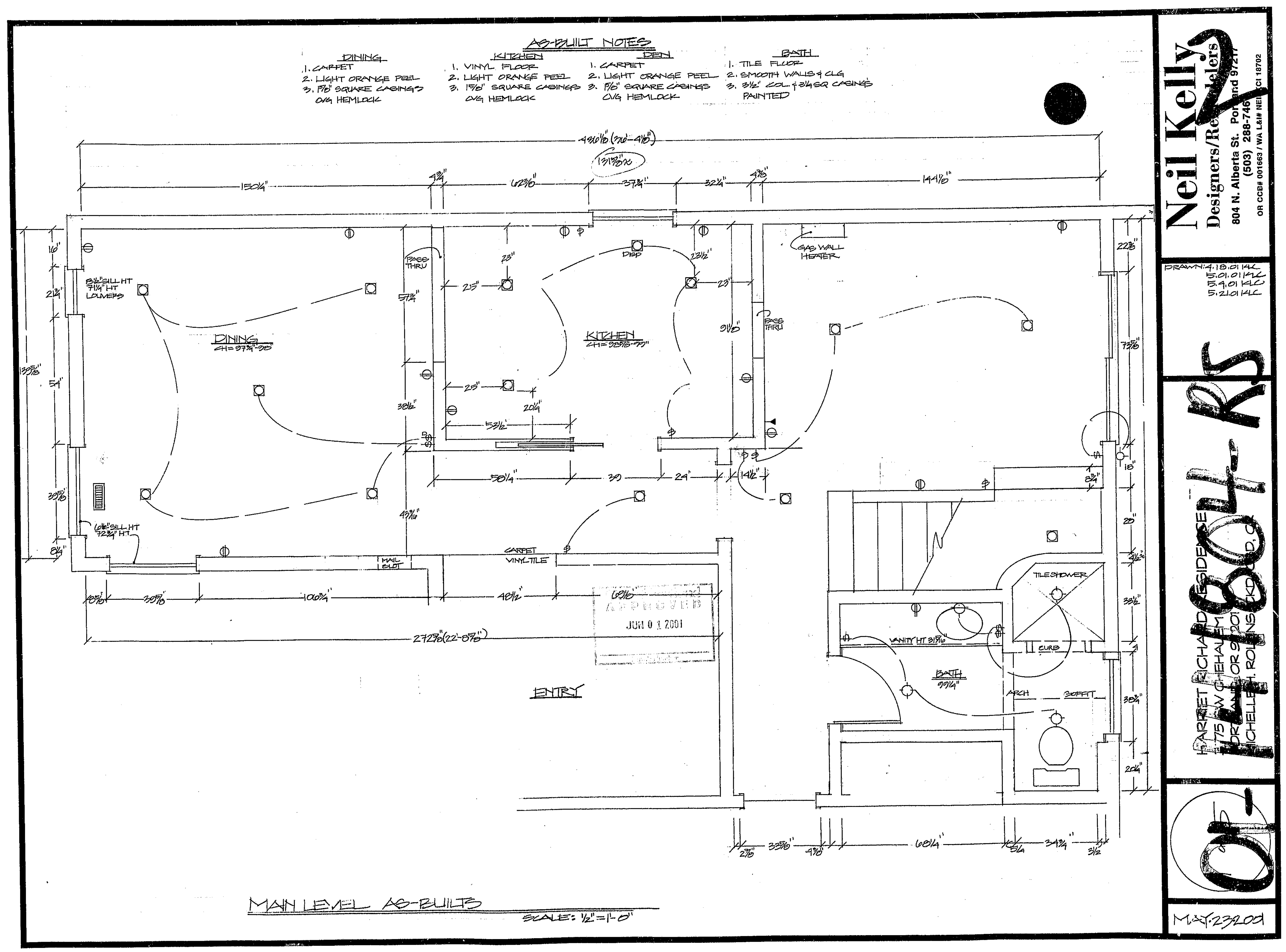

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MAY 17, 2001

HARRIET RICHARD RESIDENCE
3775 SW CHEHALEM
PORTLAND, OR 97201
MICHELLE H. ROLENS, CKD, CBD, CR

DRAWN: 4.27.01 MLL
5.4.01 MLL
5.10.01 MLL
5.11.01 MLL

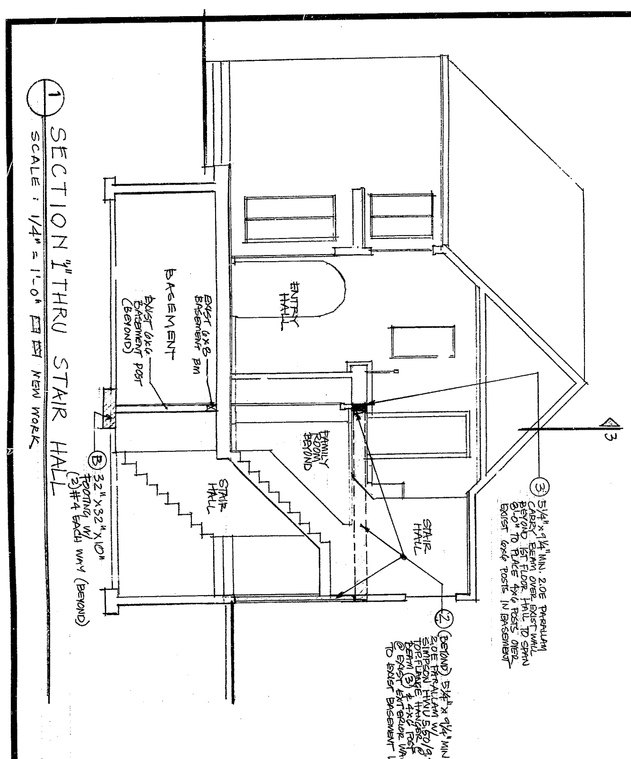
Neil Kelly
Designers/Remodelers
804 N. Alberta St. Portland 97217
(503) 288-7461
OR CCB# 00165 / WA L&I# NEILKCI 197O2

MAIN LEVEL REMODEL

SCALE: 1/4"=1'-0"

8 7

G 8



1 SECTION 1" THRU STAIR HALL
SCALE: 1/4" = 1'-0" FOR NEW WORK

MAY 24 2001

SECTIONS
OF

HARRIET RICHARD RESIDENCE
3775 SW CHEHALEM
PORTLAND, OR. 97201
MICHELLE H. RULENS, CKD, CBD, CR.

REGISTERED ARCHITECT
3598
RICHARD NEAL LISHNER
PORTLAND, OREGON
STATE OF OREGON

RICHARD NEAL LISHNER, A.I.A.

Neil Kelly
Designers/Remodelers
804 N. Alberta St. Portland 97217
(503) 288-7461
OR CCB# 001653 / WA LBI# NEILKCI 18702

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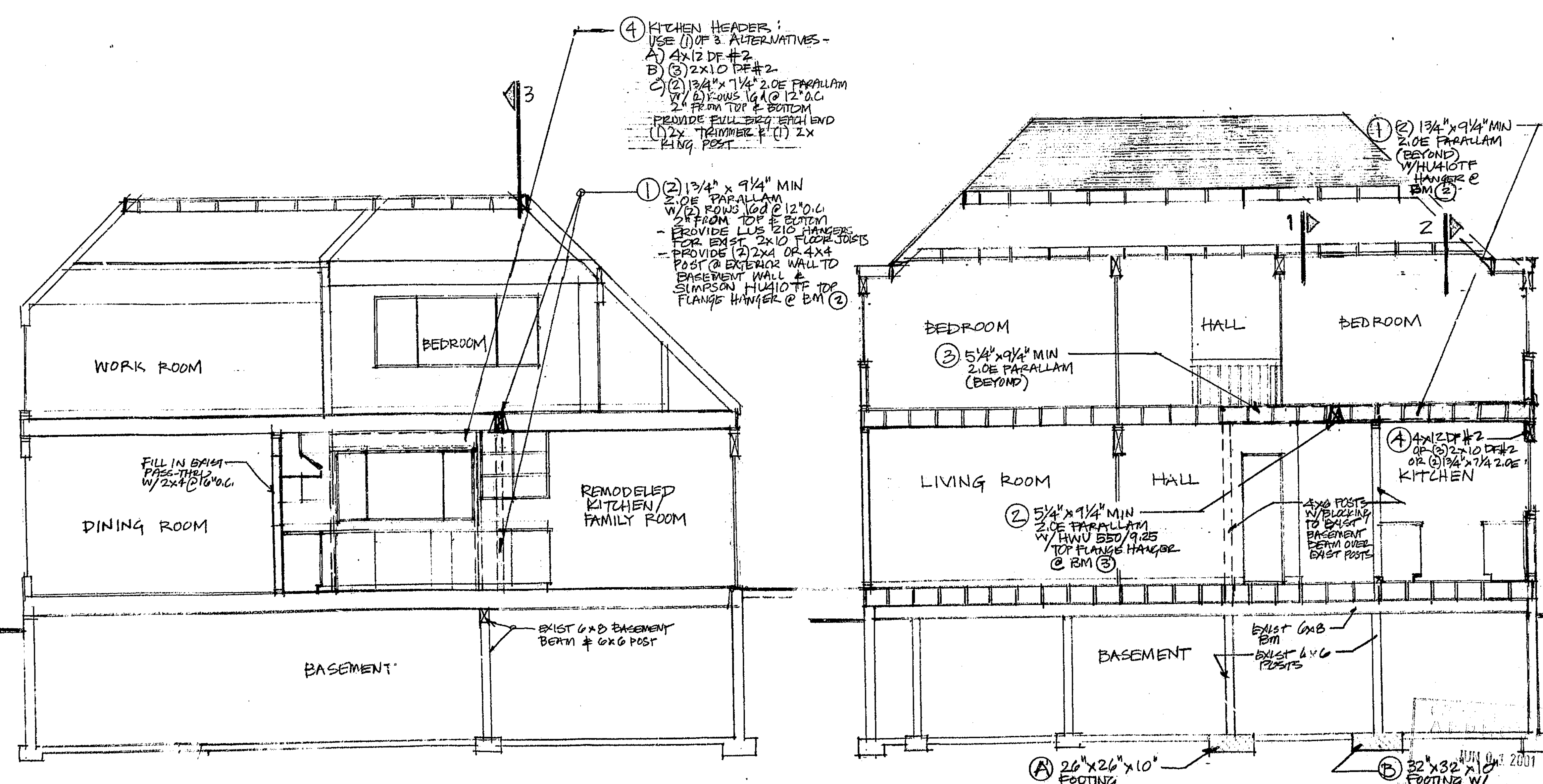
G7



2 SECTION "2" THRU KITCHEN / FAMILY ROOM
SCALE: 1/4" = 1'-0" ▭▭ NEW WORK

3 SECTION "3" THRU HALL & KITCHEN
SCALE: 1/4" = 1'-0" ▭▭ NEW WORK

Neil Kelly
Designers/Remodelers
804 N. Alberta St. Portland 97217
(503) 288-7461
OR CCB# 001663 / WA L&I# NEILKCI 18702

RICHARD NEAL LISHNER, A.I.A.

HARRIET RICHARD RESIDENCE
3775 SW CHEHALEM
PORTLAND, OR 97201
MICHELLE H. ROLENS, CKD, CBD, CR

SECTIONS
OF

MAY 24, 2001

8

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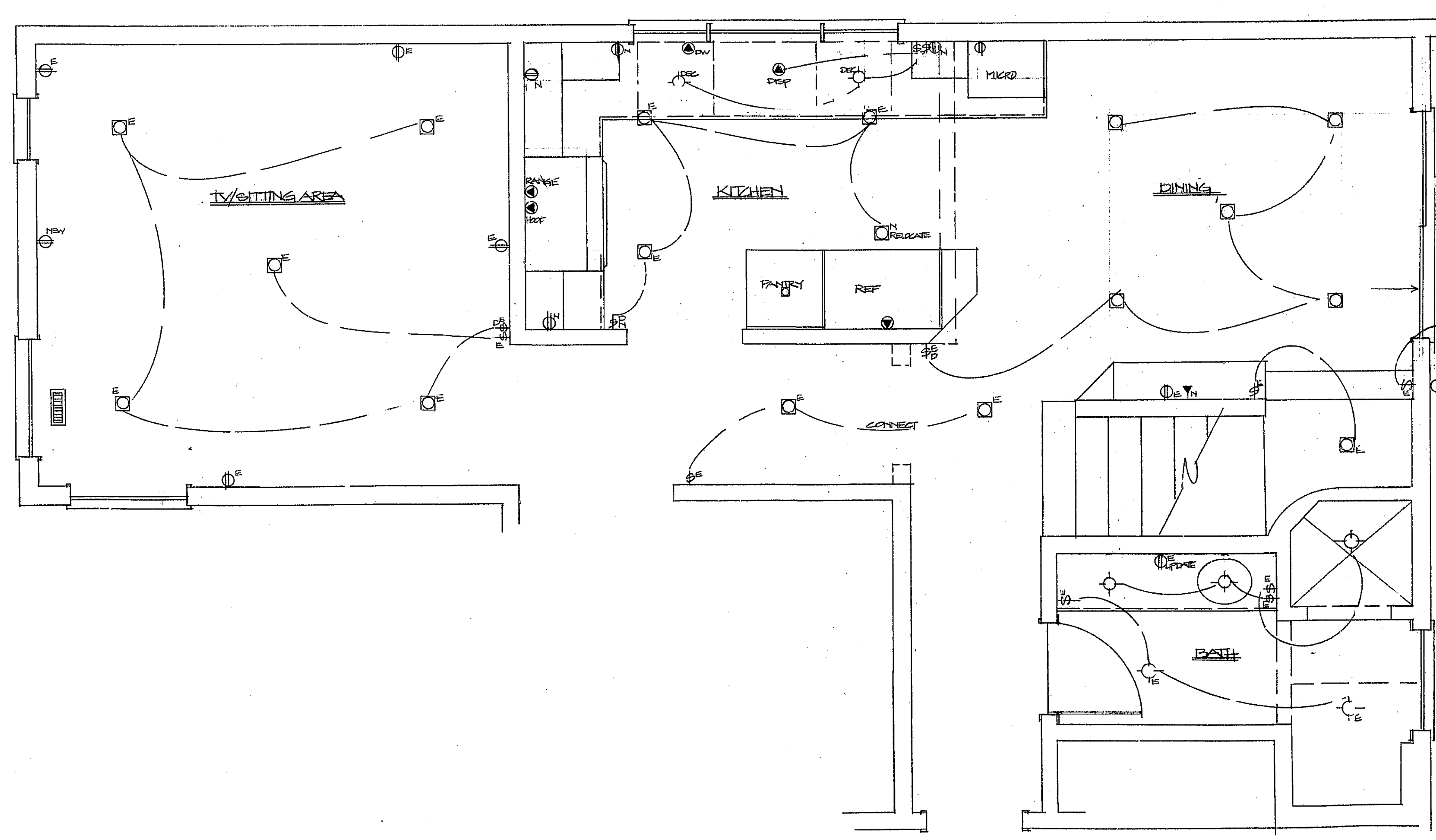

ELECTRICAL/MECHANICAL

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

Neil Kelly
Designers/Remodelers
804 N. Alberta St. Portland 97217
(503) 288-7461
OR CCB# 001663 / V A L&I# NEILKCI 18702

DRAWN 4.30.01 KLC
5.01.01 KLC
5.4.01 KLC

HARRIET RICHARD RESIDENCE
3775 SW CHEHALEM
PORTLAND, OR 97201
MICHELLE H. ROLENS, CKD, CBD, CR

MAY·21·2001

RS-01-141804

G

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CITY OF

PORTLAND, OREGON

OFFICE OF PLANNING AND DEVELOPMENT REVIEW
1900 SW 4th Ave, Suite 5000
Portland, OR 97201

MULTNOMAH COUNTY

RESIDENTIAL 1 & 2 FAMILY PERMIT

01-141804-000-00-RS

Site Address: 3775 SW CHEHALEM AVE
3775 CHEHALEM AVE

Issued: 6/1/01

PROJECT INFORMATION		Occ. Group	Const. Type
Single Family Dwelling	Alteration	R3	V-N

Project Description: KITCHEN REMODEL TO INCLUDE FLOOR REINFORCEMENT WITH NEW FOOTINGS

APPLICANT	NEIL KELLY *TIM MCINTOSH*	Phone (503) 335-9201
OWNER	HARRIET RICHARD	Phone
CONTRACTOR	NEIL KELLY CO INC	Phone

Project Details	
# of Fixtures	7
Code Edition (Year)	2000
Hoods, Type I/II/Res Kitchen/Hazmat	1
Zoning Enforcement Agency	Portland

Project Details	
1st Brnch circuit w/o svc or fdr	1
Each additional branch circuit	5
Water District	Portland Water Bure

PAID
JUN - 1 2001
CITY OF PORTLAND

BEFORE YOU DIG

ATTENTION: Oregon law requires you to follow rules adopted by the Oregon Utility Notification Center. Those rules are set forth in OAR 952-001-0010 through OAR 952-001-0090. You may obtain copies of the rules by calling the center. (Note: the telephone number for the Oregon Utility Notification Center is 1-800-332-2344).

CITY CONTACT

E-Mail:

Phone:

Fax: (503) 823-4172

INSPECTION REQUEST PHONE NUMBERS

Building/Trade Inspections - Call Before 6:00 AM: (503) 823-7000

TDD: (503) 823-6868

IVR Inspection Request Number: 2104450

CITY OF PORTLAND BUREAU OF BUILDINGS
PRELIMINARY - PROJECT INFORMATION

01-141804-RS

Building Address:	3775 SW CHEHALEM, PORTLAND, OR. 97201
Business Address (if different):	
Owner's Name:	HARRIET RICHARD
Applicant's Name:	NEIL KELLY (TIM MCMULLEN) Phone: 335-9210
Applicant's Address:	804 N. ALBERTA

Legal Description (essential for new construction on vacant land):		
Tax Lot:	Section:	Township Range:
Lot:	Block:	Addition:
Account Number: R -		
Current Land Use Review Files:		

Description of Work: KITCHEN REMODEL
W/ BEAMS & FOOTINGS.

Contractor: NEIL KELLY	
Contractor Number: 001663	Exist. Square Footage:
Valuation of Work: $50,000.00	New Square Footage:

Type of Work			
	New:	Addition:	Alteration:
	Repair:	Demolition:	Tenant Improvement:
	Other:		

Drain 6/01/01

PLEASE PROVIDE AS MUCH INFORMATION AS POSSIBLE

RICHARD RESIDENCE
KITCHEN & DINING ROOM
REMODELING.

REGISTERED ARCHITECT
3568
RICHARD NEAL LISHNER
PORTLAND, OREGON
STATE OF OREGON

BEAM #1 : KITCHEN PASSAGE
SPAN: 6'-0"
LOADS: FLOOR LOAD 11.5 (50) | 575 PLF | 460 PLF LL

INDIRECT LOADS FROM FLOOR JOISTS ABOVE:
ALL SPLIT BETWEEN KITCHEN/DINING ROOM WALL AND EXTERIOR WALL:

			LL
2ND FLOOR DORMER WALL	7 (10)	70	0
DORMER ROOF	1 (35)	35	25
DORMER ATTIC	1 (15)	15	10
BACK ROOF	10 (35)	350	250
		470 ÷ 2 = 235 PLF	285 ÷ 2 = 143

575
235
BM 10
820 PLF

$M = wl^2/8 = \frac{820(10)^2}{8} = 10{,}250$ FT#

460
143
603 PLF LL

$\frac{10250(12)}{2900} = 42.4$ ✓ (2) 1¾" x 9¼" = 53 ✓✓

$\frac{4100}{650} = \frac{6.31}{3.5} = 1.80$ Bay RATIO.

$f_v = 3V/2bd = 3\left(\frac{820(10)}{2}\right)/2(3.5)(9.5) = 12{,}300/64.75 = 189.9$ ✓ $f_v = 285$ W

$\Delta = 5wL^3/384EI = \frac{5(820)(10)(10\times12)^3}{384(2.0)(290)} = \frac{7.08\times10^{10}}{127\times10^{6}} = .600" < L/240 = .500"$

TRY LL REDUCTION
LIVE LOADS: 603 PLF LL. $\frac{5.21\times10^{10}}{1.77\times10^{8}} = .294" < L/360 = .333"$ ✓

SO USE (2) 1¾" x 9½" 2.0E PARALLAMS CUT DOWN AS REQUIRED TO FIT INTO EXIST 2x10 FLOOR SYSTEM (MINIMUM 9¼")
PROVIDE (2) ROWS 16d @ 12" O.C., 2" FROM TOP & BOTTOM
PROVIDE (2) 2x4 OR 4x4 POST @ R2 EXTERIOR WALL
PROVIDE SIMPSON HANGER @ BM #2 : HU410TF TOP FLANGE HANGER

CITY OF PORTLAND APPROVED NOV 02 2001 BUREAU OF BUILDINGS

RICHARD RESIDENCE
05/10/01

DRAWN BY
RICHARD
NEAL
LISHNER
AIA

Neil Kelly
Designers/Remodelers
503-288-NEIL

BEAM #2: DINING ROOM BEAM @ STAIR

SPAN: 13'-6"

LOADS:			LL
FLOOR	.67(50)	34	17
EXT WALL	8(10)	80	0
ROOF UPPER	1(35)	35	25
ROOF LOWER	1(35)	35	25
ATTIC	1(15)	15	10
BM		21	9
		220 PLF	87 PLF LL
		93	
		37	
		350 PLF	
		240	
		590 TOTAL	

PT LOADS: @ 6:

			LL
1.5	UPPER ROOF 6(35)	210	150
	FORMER ROOF 3.25(35)	114	81
	INT WALL 7(7)	49 49	0
	FORMER ATTIC 3.25(15)	49	35
		422	269

1.5(422) = 633#

$\frac{633(8)(6)(7.5)}{(13.5)^3}$ = 93 PLF

396# LL

58 PLF LL

PT LOAD @ 7:

				LL
1.5	FLOOR	3(50)	150	120
	SOFFIT	1(15)	15	10
			165	130 ×1.15 = 195

1.5(165) = 248#

$\frac{248(8)(7)(6.5)}{(13.5)^3}$ = 37 PLF

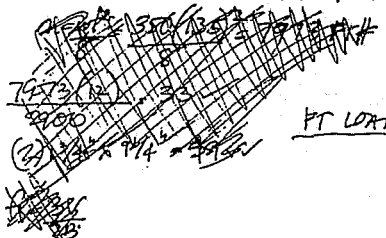
29 PLF LL

PT LOAD @ 1.5 BM BM 1 R1 : 9100#

3015# LL

$\frac{4100(8)(1.5)(12)}{(13.5)^3}$ = 240 PLF

176 PLF LL



$M = \frac{wl^2}{8} = \frac{590(13.5)^2}{8}$ = 13440 FT#

$\frac{13441(12)}{2900}$ = 55.6 / (3) 1¾ × 9¼" = 74.8 √√

$fv = \frac{3V}{2bd} = 3\left(\frac{220(13.5)}{2} + \frac{633(7.5)}{13.5} + \frac{248(6.5)}{13.5} + \frac{4100(12)}{13.5}\right) \le 16800$

$\frac{2(5.25)(9.25)}{2(5.25)(9.25)} \le 97.125$

= 173 √ fv = 285 √√

$\Delta = \frac{5WL^3}{384EI} = \frac{5(590)(13.5)(13.5\times12)^3}{384(2.0)(345)} = \frac{1.69\times10^{11}}{2.65\times10^{11}}$ = .638" < $\frac{L}{240}$ = .675" √√

TRY LIVE LOAD REDUCTION

1) 87
2) 58
3) 27
4) 176

350 PLF LIVE LOAD

$\frac{1.00\times10^{11}}{2.65\times10^{11}}$ = .377" < $\frac{L}{360}$ = .450" √√

PROVIDE SIMPSON U1001 TOP FLANGE HANGER @ R1 (BM 3) HWU5.50/9.25

SO USE: 5¼" × 9½" 2.0E PARALLAM CUT DOWN TO FIT IN 2x16 FLOOR SYSTEM TO MIN 7¼" W/ 4×6 POST IN EXTERIOR WALL @ R2 (HWU SIMPSON DOUBLE HANGER OR EQUIVALENT)

RICHARD RESIDENCE

05/10/01

DRAWN BY
RICHARD
NEIL
LISHNER
AIA

Neil Kelly
Designers/Remodelers
503-288-NEIL

BEAM # 3: HALL BEAM

SPAN: 8'-0"

			LL	
LOADS: FLOOR	8(50)	400	320	PT LOAD @ 6 BM 2 RI: 5600#
ROOF	6(35)	210	150	$\frac{5600(8)(6)(2)}{(8)^3}$ = 1050 PLF
DORMER ROOF	6(35)	210	150	
INT WALL	7(7)	49	0	
ATTIC	12(15)	180	120	
BM		21	0	
		1070	740 PLF LL	$m = \frac{wl^2}{8} = \frac{2120(8)^2}{8}$ = 16960 FT#
		1050		
		2120 PLF		$\frac{16960(12)}{2900} = 70.18$ ✓

$f_b = \frac{3V}{2bd} = \frac{3\left(\frac{1070(8)}{2} + \frac{5600(6)}{8}\right)}{2(5.25)(9.25)} = \frac{25,140}{97.125} = 261.9$ ✓ $f_b = 285$ ✓✓

$5\frac{1}{4}" \times 9\frac{1}{4} = 74.8$ ✓✓

$\Delta = \frac{5WL^3}{384EI} = \frac{5(2120)(8)(8\times12)^3}{384(2.0)(345)} = \frac{7.50\times10^{10}}{2.65\times10^{11}} = .283" < \frac{L}{360} = .267"$ ✗

$.283" < \frac{L}{240} = .400"$ ✓✓

TRY LL REDUCTION

1) 740 PLF LL

2) $\left[\frac{87(13.5)}{2} + \frac{396(7.5)}{13.5} + \frac{195(6.5)}{13.5} + \frac{3015(12)}{13.5}\right] = \frac{3581(8)(6)(2)}{(8)^3}$ = 671 PLF LL

587 220 94 2680

740
671
1411 PLF LL

$\frac{4.99\times10^{10}}{2.65\times10^{11}} = .188" < \frac{L}{360} = .267"$ ✓✓

SO USE $5\frac{1}{4}" \times 9\frac{1}{2}"$ 2.0E PARALLAM CUT DOWN TO $9\frac{1}{4}"$ MINIMUM W/ 4x6 POST FULL BRG (CAN SLIM TO $5\frac{1}{4}"$) EACH END. CARRY BEAM OVER EXIST HALL WALL TO BEAM ON BASEMENT POST BELOW WITH 4x6 POST IN ST FLOOR WALL AS WELL.

REACTIONS: R1: 4480#
R2: 680#

BABO = 13 = 2.48" BRG
650 5.25" 2680

RICHARD RESIDENCE
05/10/01

DRAWN BY
RICHARD
NEIL
LISHNER
AIA

Neil Kelly
Designers/Remodelers
503-288-NEIL

FOOTING A: BM 3 R1 : 5680#

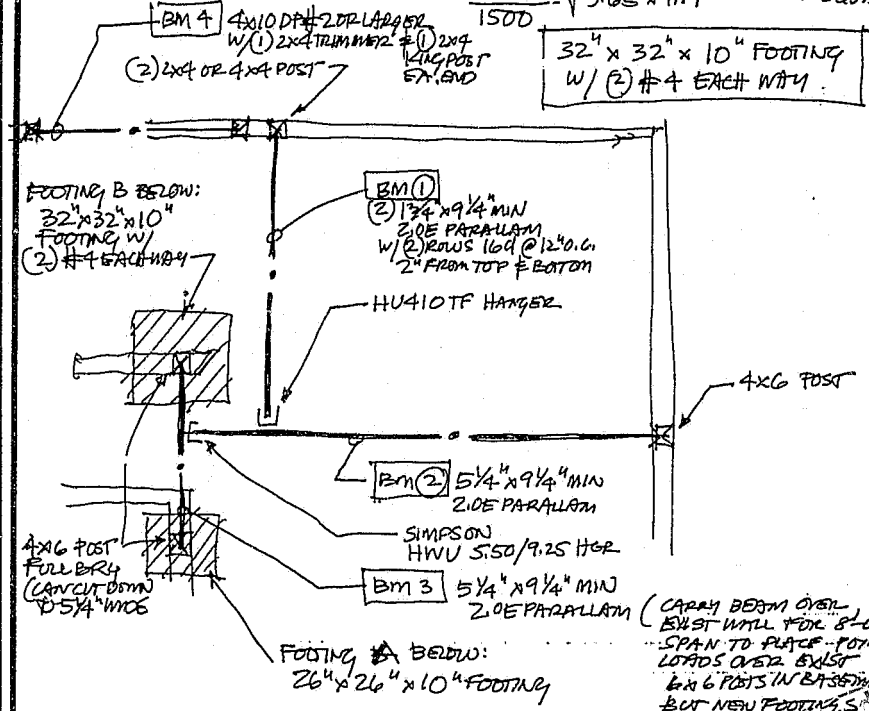
5680/1500 = √3.79 × 1.17 = 2.10' SQUARE

26" x 26" x 10" FOOTING

FOOTING B: BM 3 R2 8480#

8480/1500 = √5.65 × 1.17 = 2.57' SQUARE

32" x 32" x 10" FOOTING W/ (2) #4 EACH WAY



(CARRY BEAM OVER EXIST WALL FOR 8'-0" SPAN TO PLACE POINT LOADS OVER EXIST 6x6 POSTS IN BASEMENT BUT NEW FOOTINGS REQUIRED!)

*NOTE: SHORTER BM 3 ALTERNATIVES A AND B 1' SHORTER BM 2 W/ EXTRA POST STILL REQUIRE NEW FOOTINGS. NO BASEMENT, SO WHY DO THEM?

SCHEMATIC STRUCTURAL PLAN

RICHARD RESIDENCE
05/10/01

DRAWN BY
RICHARD NEIL LISHNER AIA

Neil Kelly
Designers/Remodelers
503-288-NEIL

BEAM 4: KITCHEN HEADER

SPAN: 7'-6"

LOADS:			
FLOOR	.67	(50)	34
EXTWALL	7	(10)	70
DORMER ROOF	3	(35)	105
ROH	1	(35)	35
ATTIC	7	(15)	105
BM			11
			360 PLF

$\frac{360(7.5)^2}{8} = 2531$ FT #

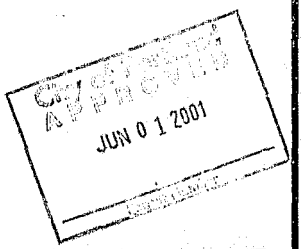
$\frac{2531(12)}{963} = 31.5$ 4x10 DF#2=49 KV

$fv = \frac{3V}{2BD} = \frac{3\left(\frac{360(7.5)}{2}\right)^{1350}}{2(3.5)(9.25)} = \frac{4050}{64.75} = 62.5V$ $fv = 95$ KV

$\Delta = \frac{5WL^3}{384EI} = \frac{5(360)(7.5)(7.5\times12)^3}{384(1.6)(230)} = \frac{9.84\times10^9}{1.42\times10^{11}} = .069" < \frac{L}{360} = .250"$ V.

SO USE 4x10 DF#2 OR LARGER W/ (1) 2x4 TRIMMER & (1) 2x4 KING STUD EACH END

$\frac{1350}{625} = \frac{2.16}{3.5} = .617"$ BRG REQD.



RICHARD RESIDENCE

05/10/01

DRAWN BY RICHARD NEIL LISAMEN ATA

Neil Kelly
Designers/Remodelers
503-288-NEIL

BEAM 3 ALTERNATIVE

SPAN: 5'-6"

LOADS: SAME AS BM 3

			LL
FLOOR	8	(50) 400	320
ROOF	6	(35) 210	150
DORMER	6	(35) 210	150
INT WALL	7	(7) 49	0
ATTIC	12	(15) 180	120
BM		21	0
		1070	240 LL
		1885	1205
		2955 PLF	1945 PLF LL

PT LOAD @ 3.5 BM 2R1: 5600#

$\frac{5600(8)(3.5)(2)}{(5.5)^3} = 1885$ PLF

LL $\frac{3581(8)(3.5)(2)}{(5.5)^3} = 1205$ PLF LL

$M = \frac{wl^2}{8} = \frac{2955(5.5)^2}{8} = 11{,}174$ FT# $\frac{11{,}174(12)}{2900} = 46.2$ 3½x9¼=49 √√

$f_v = \frac{3V}{2bd} = 3\left(\frac{1070\left(\frac{5.5}{2}\right) + 5660\left(\frac{3.5}{5.5}\right)}{2(3.5)(9.25)}\right) = \frac{19521}{64.75} = 301.4$ (2943, 3564, 6507)

TRY LOAD REDUCTION $1070\left(\frac{9.25}{12}\right) = 825$ $\frac{6507}{825}$

$5682(3) = \frac{17046}{64.75} = 263.2$ √√

$f_v = 285$ √

$\Delta = \frac{5WL^3}{384EI} = \frac{5(2955)(5.5)(5.5\times12)^3}{384(2.0)(230)} = \frac{2.34\times10^{10}}{1.77\times10^{11}} = .132" < \frac{L}{360} = .183"$ √√

SO IF SPAN IS CUT TO 5'-6" CAN USE 3½" x 9½" 2.0E PARALLAM CUT DOWN TO 9¼" MINIMUM W/ 4x4 POST EACH END. CARRY BEAM OVER EXIST HALL WALL TO PLACE NEW BASEMENT POST ALIGNED W/ BASEMENT SPLIT WALL. PROVIDE 4X4 POST IN 1ST FLOOR WALL AS USED

$\frac{6507}{650} = \frac{1001}{3.5} = 286"$ BRG REQ'D.

REACTIONS: R1: 4979
R2: 6507

ALT FOOTING A: $\frac{4977}{1500} = \sqrt{3.32\times1.17} = 1.97$' SQUARE — 24" x 24" x 10" FOOTING

ALT FOOTING B UNDER NEW 6X6 POST $\frac{6507}{1500} \sqrt{4.34\times1.17} = 2.25$ SQUARE — 28" x 28" x 10" FOOTING

RECEIVED
APR 01 2002
JUN 01 2001

RICHARD RESIDENCE
05/10/01

DRAWN BY
RICHARD NERZ
LISHMAN
A.A

Neil Kelly
Designers/Remodelers
503-288-NEIL

BEAM 2A : ALTERNATIVE BEAM W/ POST @ STAIR WALL

SPAN: 5'-0"

LOADS:

FLOOR	.67	(50)	34
EXT WALL	8	(10)	80
ROOF UPPER	1	(35)	35
ROOF LOWER	1	(35)	35
ATTIC	1	(15)	15
BM			21
			220 PLF

PLOAD @ 1.5 BM 1 R1: 4100 #

$\frac{4100(8)(1.5)(3.5)}{(5)^3} = 1378$ PLF

1378

1598 PLF

$\frac{1598(5)^2}{8} = 4994$ FT #

$\frac{4994(12)}{2900} = 20.6$ ✓ ~~25 KSI~~

$3\frac{1}{2}" \times 9\frac{1}{4} = 49$ √√

$f_v = \frac{3V}{2bd} = 3\left(\frac{\overset{550}{220(5)}}{2} + \frac{\overset{2870}{4100(3.5)}}{5}\right)\Big/ 2(3.5)(9.25) = \overset{3420}{\frac{10260}{64.75}} = 158$ ✓ $f_v = 285$ √√

$\Delta = \frac{5wL^3}{384EI} = \frac{5(1598)(5)(5\times12)^3}{384(2.0)(230)} = \frac{863\times10^9}{1.77\times10^{11}} = .049" < \frac{L}{360} = .167"$ √√

SO BEAM 2A, AT 5'-0" SPAN CAN BE
JUST $3\frac{1}{2}" \times 9\frac{1}{2}"$ 2.0E PARALLAM
CUT DOWN TO FIT IN 2x10 FLOOR,
MIN $9\frac{1}{4}"$ W/ 4x4 POST @ R2 @ STAIR WALL
PROVIDE SIMPSON HUS410TF TOP FLANGE HANGER @ BM 3 (R1)

R1: 3420 R2: 1780 #

$\frac{1780}{650} = \frac{2.74}{3.5} = .78"$ BRG REQ'D.

RICHARD RESIDENCE
05/10/01

DRAWN BY
RICHARD
NEAL
LUSTHOFF
AIA

Neil Kelly
Designers/Remodelers
503-288-NEIL

BM # 3A : ALTERNATIVE WITH ~~BEAM~~ 2A

SPAN: 8'-0"

LOADS:

FLOOR	8(50)	400
ROOF	6(35)	210
FORMER ROOF	6(35)	210
INT WALL	7(7)	49
ATTIC	12(15)	180
BM		21
		1070
		641
		1711 PLF

PT LOAD @ 6 BM 2R1 : 3420#

$\frac{3420(8)(6)(2)}{(8)^3} = 641$ PLF

$\frac{1711(8)^2}{8} = 13688$ FT#

$\frac{13688(12)}{2900} = 56.64$ ✓

$5\frac{1}{4}" \times 9\frac{1}{4}" = 74.8$ ✓✓

NO REAL POINT, BM 3A IS SAME SIZE AS BM 3 SO LETS TRY IT WITH 5'-6" SPAN

PT LOAD @ 3.5 BM 2AR1 3420#

$\frac{3420(8)(3.5)(2)}{(5.5)^3} = 1151$ PLF

1070 PLF
1151
2221 PLF

$\frac{2221(5.5)^2}{8} = 8398$ FT# $\frac{8398(12)}{2900} = 34.8$ $5\frac{1}{2}" \times 9\frac{1}{4}" = 99$ ✓✓

$fv = \frac{3V}{2bd} = 3\left(\frac{\overbrace{1070(5.5)}^{2943}}{2} + \frac{\overbrace{3420(3.5)}^{1243}}{5.5}\right) \Big/ 2(3.5)(9.25) = \frac{5719}{64.75} = 237$ ✓ $fv = 285$ ✓✓

2176

WILL BE ALRIGHT SINCE BM 3 ALTERNATIVE WAS OK W/ 2955 PLF WE ONLY HAVE 2221 PLF

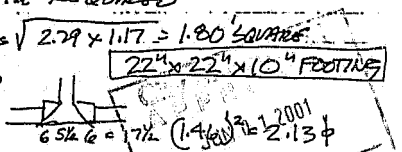
BUT ALTERNATE FOOTINGS WILL STILL BE REQUIRED

R1: 4187
R2: 5119

ALT FTG A: $\frac{4187}{1500} = \sqrt{2.79 \times 1.17} = 1.80$ SQUARE

22" x 22" x 10" FOOTING

COULD EXIST 14" x 14" x 6"± WORK?
2.79 ϕ REQUIRED
2.13 ϕ EXIST ✗ NO GOOD
NEED NEW 22" x 22" x 10" FOOTING



SINCE WE NEED NEW FOOTINGS ANYWAY, LETS ABANDON THIS EFFORT.

RICHARD RESIDENCE
05/10/01

DRAWN BY
RICHARD
NEAL
LISHNER
AIA

Neil Kelly
Designers/Remodelers
503-288-NEIL