

DAMMON ENGINEERING, INC.

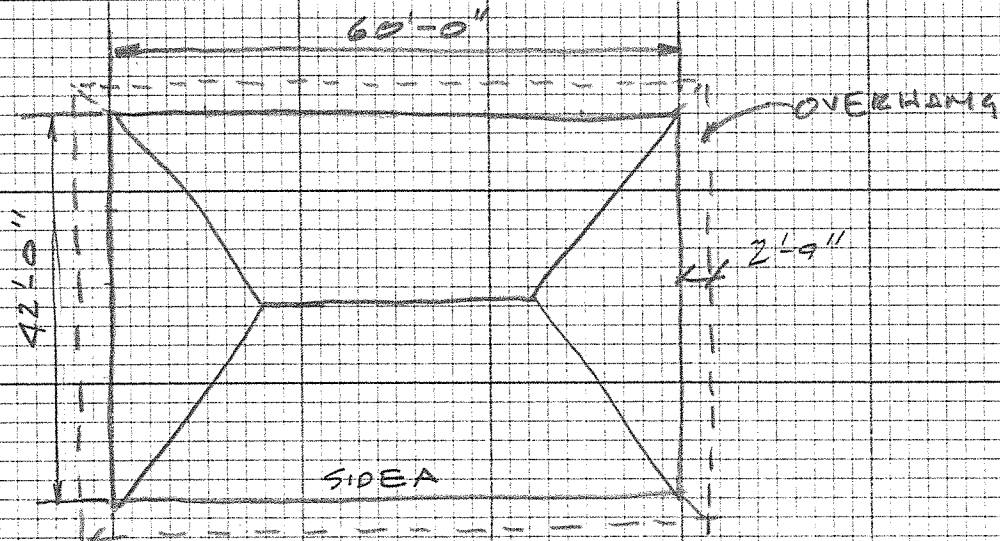
dammonengineering.com

2000 Old Spanish Trail, Ste 100
Slidell, Louisiana 70458
Office: (985) 649-5832

P.O. Box 2830
Slidell, Louisiana 70459
Fax: (985) 641-5950

WIND LOAD CALCULATIONS:

GIVEN: RESIDENTIAL 2 STORY
SLIDELL LA PALM LAKE
WOOD STUD
EAVE HT 18'-7"
ROOF SLOPE 4/12 = 18.4°
EXCLUDE PORCHES & DECKS



ASSUME: BLDG FULLY ENCLOSED

USE: ALTERNATE LOW RISE METHOD
ASCE 7-98 LOAD COMBINATION USED

GIVEN: WIND SPEED 95MPH
EXPOSURE B
IMPORTANCE II
 $K_z = .7$
 $K_{zt} = 1.00$
 $C_d = 1.85$

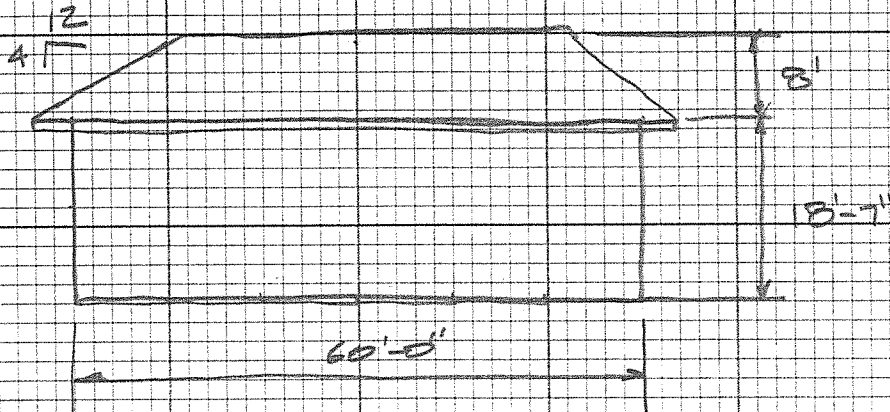
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FRONT ELEV

TOTAL ROOF HT	$18'-7" + 8'-0" = 26'-7"$
MEAN ROOF HT	$\frac{18'-7" + 26'-7"}{2} = 22'-7"$
ROOF ANGLE	$4/12 \tan^{-1}(4/12) = 18.43^\circ$

22.5833'

$$g = .00256 K_z K_{zt} K_d V^2 I$$

$$P = g(GC_{pf} + GC_{pu})$$

$$P = g_0(GC_{pf} - GC_{pu})$$

$$g = 13.75$$

$$GC_{pi} = \pm (1.8)$$

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DETERMINE EXTERNAL PRESSURE
COEFFICIENTS C_p

$$\text{ROOF NET DRAG } h/L = 22.533/60 = .376$$

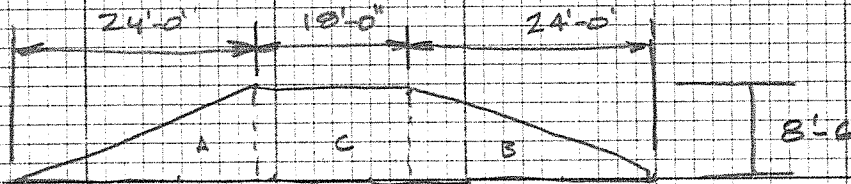
FIG. 6-3 EXTERNAL PRESSURE

$$13.75 (1.2(-.6)) = 11 \text{ PSF}$$

$$\text{WALL NET PRESSURE } L/B = 42/60 = .7$$

$$13.75 (.8 - (-.5)) = 17.875 \text{ PSF}$$

CALCULATE PROJECTED ROOF AREA



$$2 (24 \times 5) (8.5) + 18 \times 8.5 =$$
$$204 + 153 = 357 \text{ SF}$$

PROJECT AREA 2ND FLOOR



$$4' \times 60' = 240 \text{ SF}$$

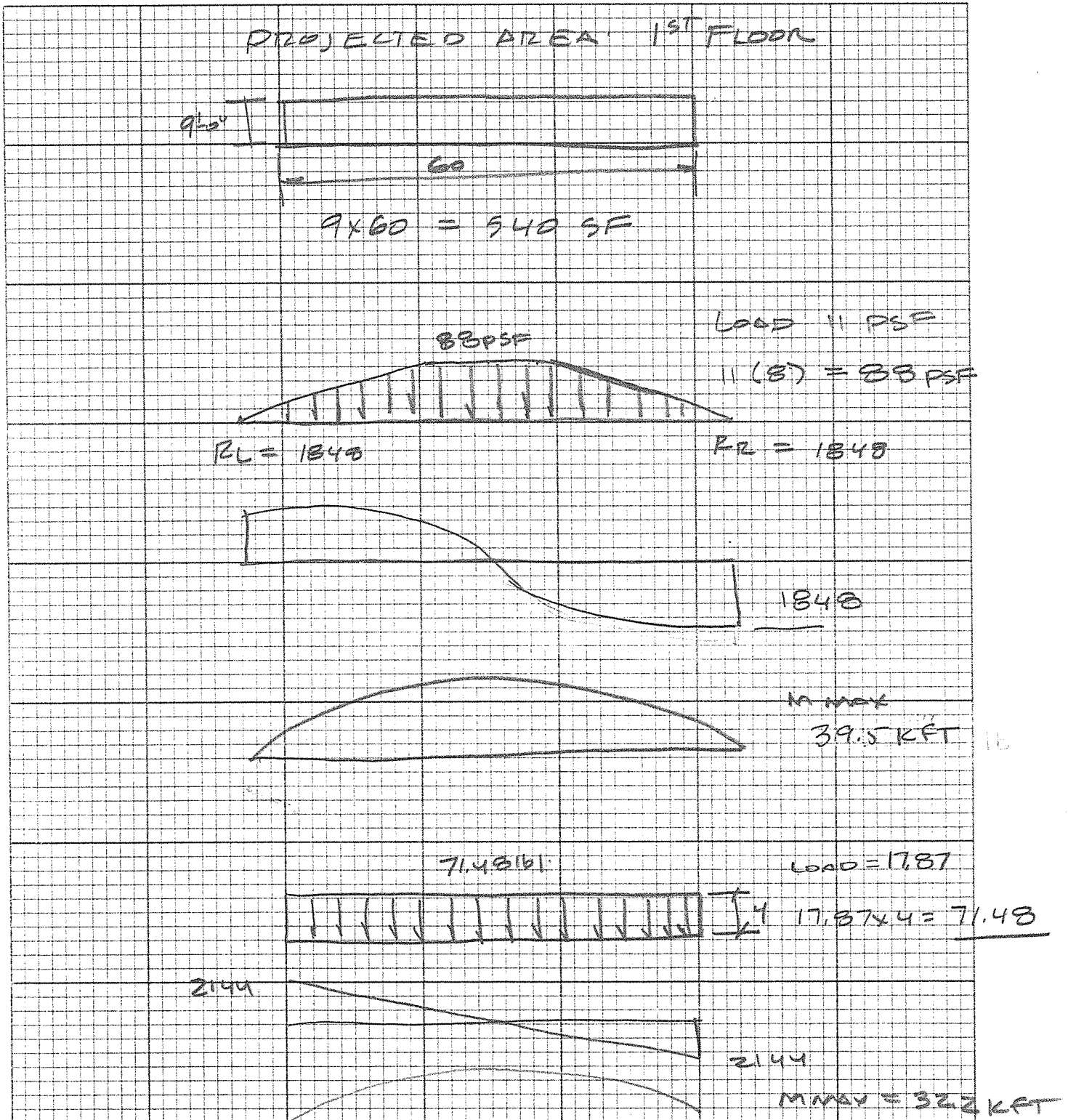
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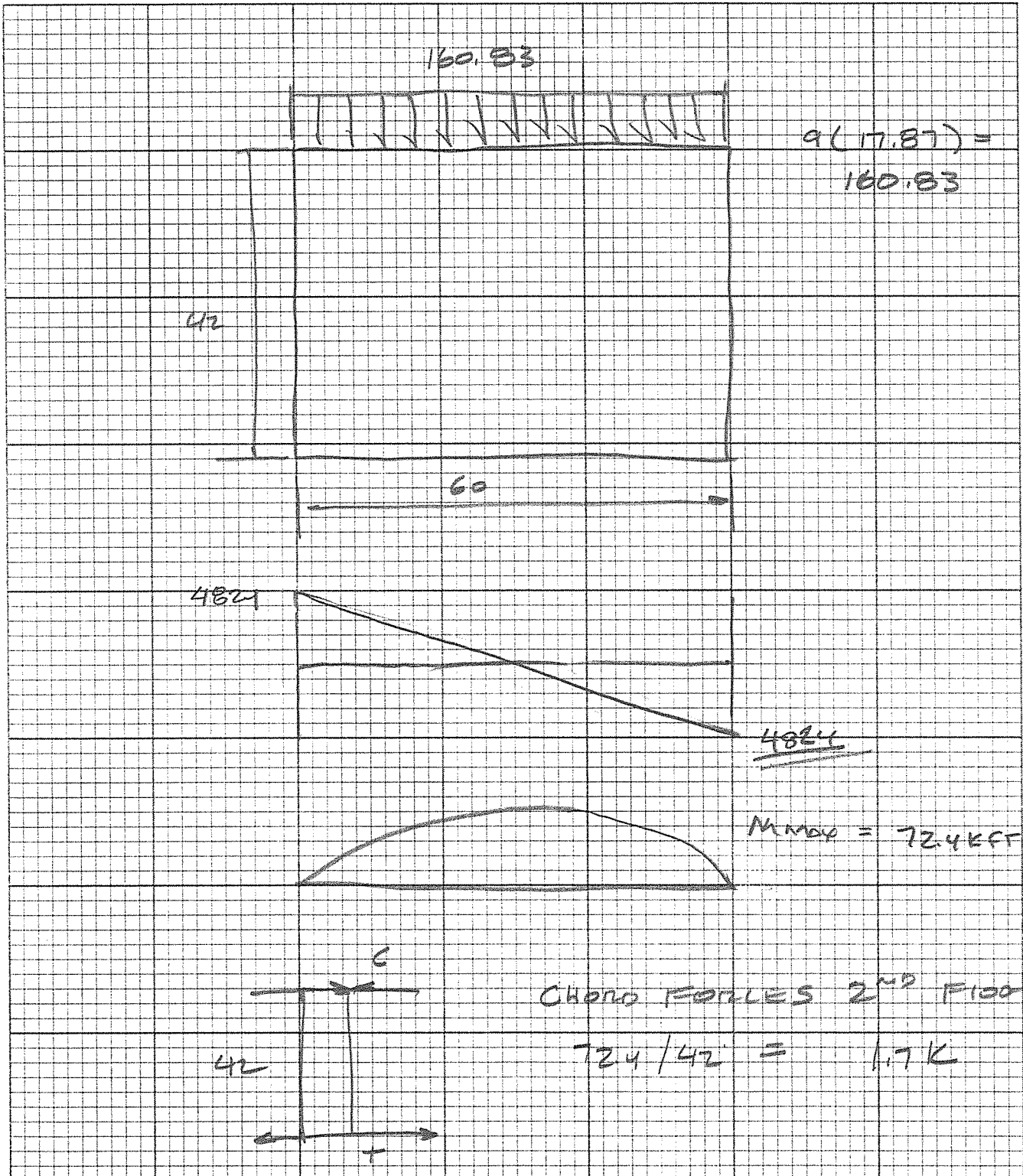
TOTAL SHEAR $2144 + 1848 = 3992$

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CHECK ROOF DIAPHRAGM FORCES

ASSUME $1\frac{1}{2}/32$ w/ Bd @ 6" O.C. = 270

$$V = 3992 / 42 = 95 \text{ PLF}$$

$$270 > 95 \quad \underline{\underline{\text{OK}}}$$

CHECK 2ND FLOOR DIAPHRAGM FORCES

$$8816 / 42 = 209$$

USE $1\frac{1}{2}/32$ w/ Bd @ 6" O.C. = 310

$$310 > 209 \quad \underline{\underline{\text{OK}}}$$

CHECK SHEAR CAPACITY END WALL

ASSUME $1\frac{1}{2}/32$ Bd @ 6" O.C. = 280

ASSUME 50% OF WALL AVAILABLE FOR SHEAR

$$2^{\text{ND}} \text{ FR } 280(1.4)(24) = 9408 > 3992 \quad \text{OK}$$

$$1^{\text{ST}} \text{ FR } 280(1.4)(24) = 9408 > 8816 \quad \text{OK}$$

USE $1\frac{1}{2}/32$ Bd @ 6" O.C.

Notes: LEFT SIDE 2ND FLOOR SHALL BE FULL SHEATHED w/ $1\frac{1}{2}/32$ FOR THE FLOOR WIDTH

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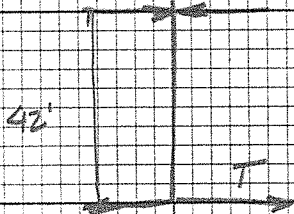
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TOTAL MOMENT

$$39.5 + 32.2 = 71.7 \text{ KFT}$$



ROOF DIAPHRAGM

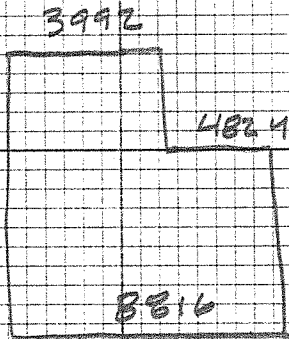
CHORD FORCE

$$C = T \quad 71.7 \text{ KE} / 42 = 1.7 \text{ K}$$

TOTAL SHEAR =

$$1848 + 2144 = 3992$$

SHEAR DIAGRAM FOR TWO STORY WALLS

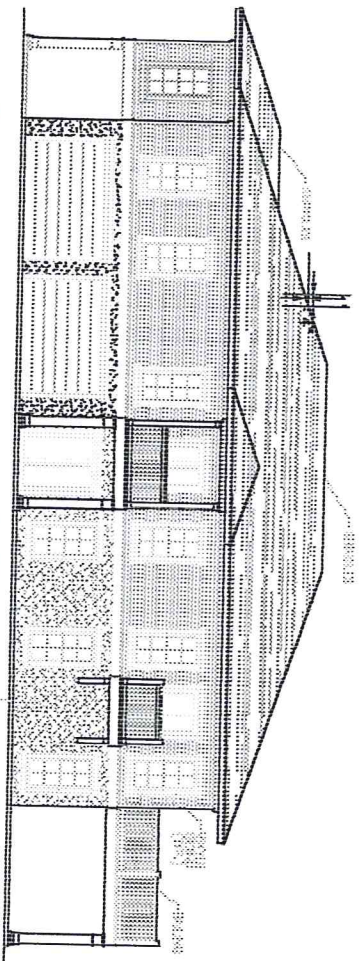


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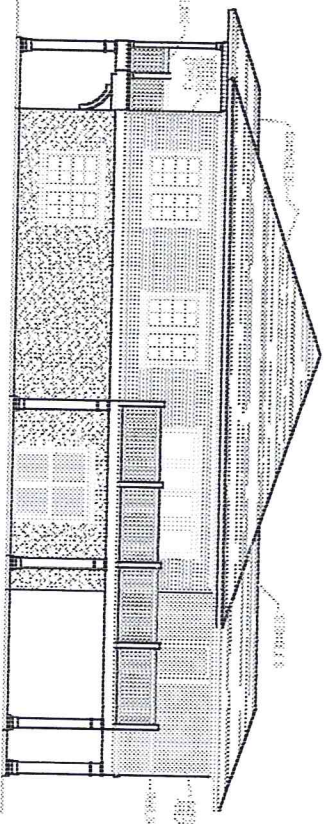
KUZZ
3040 PALM LAKE DRIVE
SUNBELT LA

218.4°

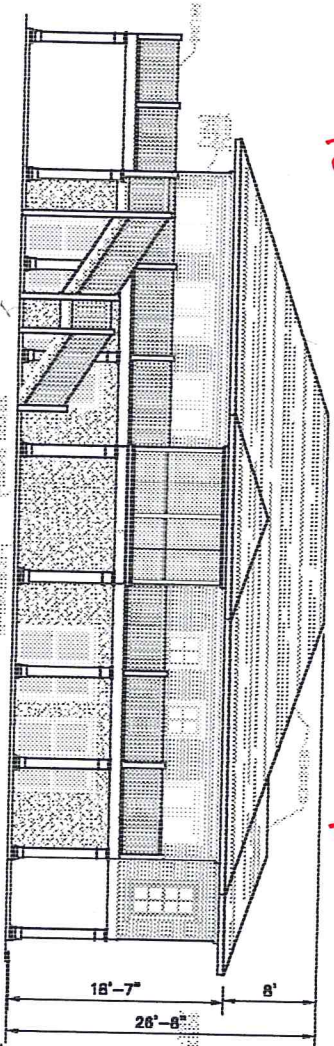
18.5833



Handwritten red dimension line with '60' written below it.

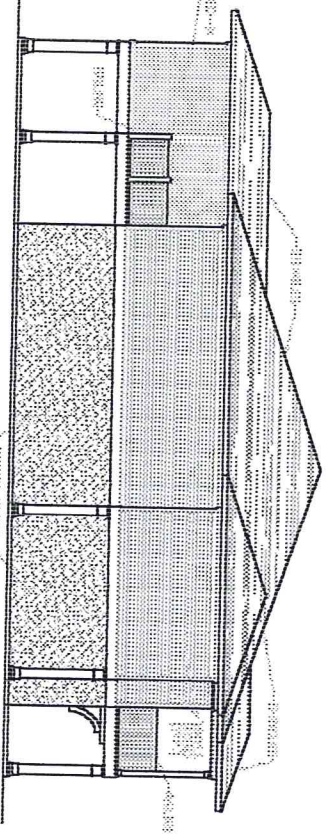


Vertical text label: FLOOR PLAN



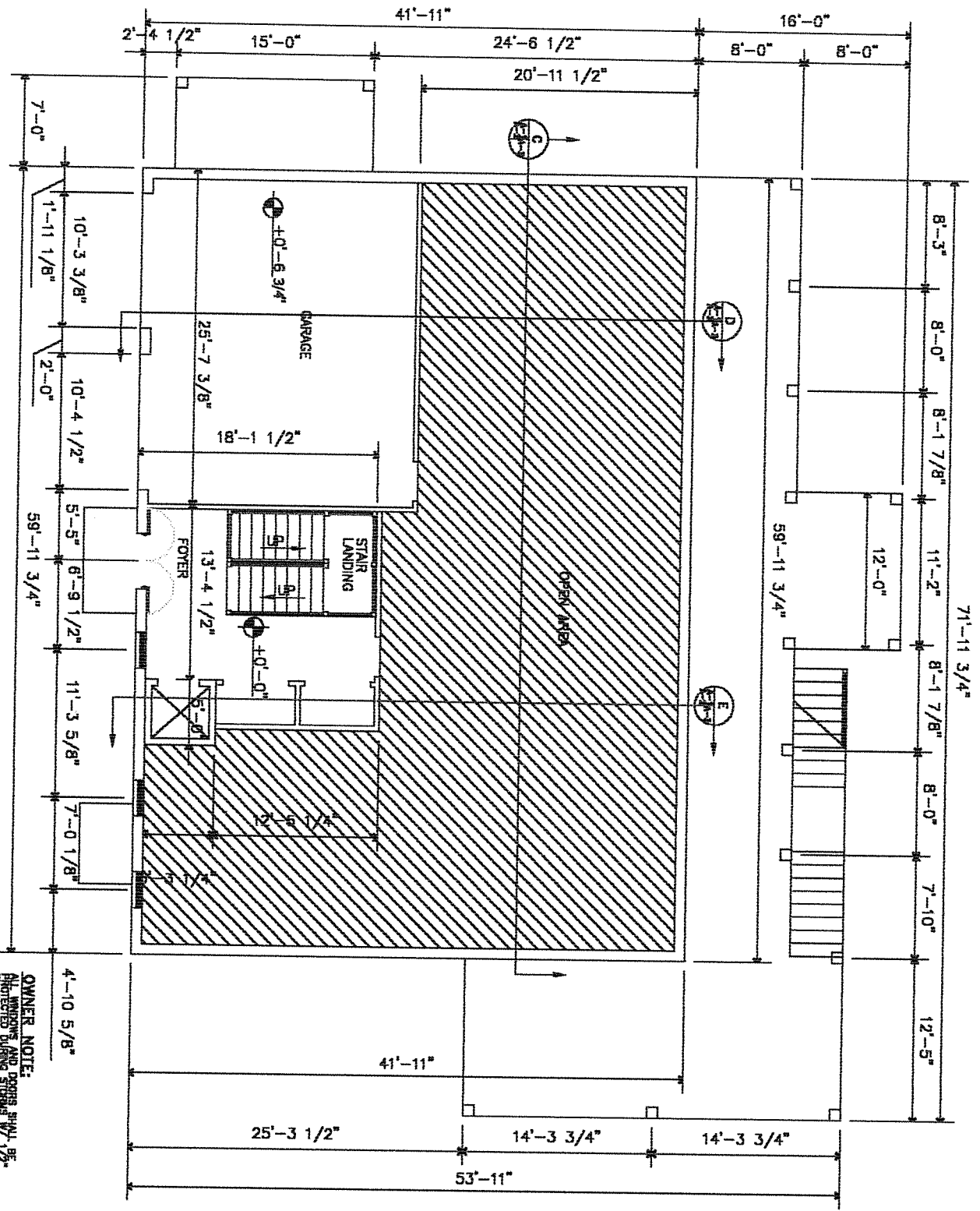
18'-7"
8"
26'-8"

Vertical text label: FLOOR PLAN



Handwritten red dimension line with '42' written below it.

Handwritten red number '42'.



FIRST FLOOR PLAN
SCALE: 1/4"=1'-0"

LEGEND

- EXISTING WALL TO BE REMOVED
- EXISTING WALL TO REMAIN
- NEW WALL
- NEW 2" x 4" STUD WALL 13' x 4 1/2"
- NEW 2" x 4" STUD WALL 13' x 4 1/2"
- NEW 2" x 4" STUD WALL 13' x 4 1/2"
- NEW 2" x 4" STUD WALL 13' x 4 1/2"
- NEW VENT THROUGH WALL

OWNER NOTE:
ALL WINDOWS AND DOORS SHALL BE PROTECTED DURING STRIKE BY 1/2" PLYWOOD.

