

**GARFIELD HEIGHTS
GARAGE CONSTRUCTION REQUIREMENTS**

1. All exterior walls shall be supported on continuous solid or fully grouted masonry or concrete footings; twelve inch (12") wide footer. Footings shall extend to frost depth; frost depth is forty-two inches (42"). *Garages 600 SF or under do not require frost footing depth, footer must be 8" wide and 12" deep.* Garage floors shall be concrete with a minimum thickness of four inches and shall be placed on undisturbed earth or compacted granular fill. Wire mesh or fiber reinforcement shall be placed in the concrete. Top of foundation shall be at least 8 inches above grade. Curb width shall be a minimum of 4 inches.
2. Anchor bolts (which secure the garage framing to or under the foundation) shall be placed 12 inches from each corner and a maximum of six feet apart.
3. Garage framing studs shall not exceed 24 inches on center. Corners shall be constructed with double studs.
4. All openings shall have double studding (one full length stud and one jack stud).
5. Garage door headers shall be sized for the span with ½ inch flitch plate between. (Reversed gable garages shall have a one-quarter inch steel flitch plate sandwiched. Where the walls adjacent to the garage door are less than four feet wide, Narrow Wall Construction practices shall be employed per Chapter 602 of the Residential Code of Ohio.
6. Top plates shall be doubled and shall lap each other at corners to tie walls together.
7. Wind bracing shall be installed at all corners.. Diagonal bracing may be either notched into studding or may be surface-mounted on the interior side of the garage. It must extend into the top and bottom plates. If plywood sheathing is used, diagonal bracing may be omitted.
8. Roof rafters shall not exceed 24 inches on center. Collar ties , sized according to the length of span, may be 2 x 6 or 2 x 8 nominal lumber. shall be spaced four foot on center. Engineered trusses may be placed according to their manufacturing ratings.
9. Roof sheathing shall be a minimum one-half inch plywood and shall be an exterior grade type.
10. Roof covering may be asphalt shingles 240 pounds in weight and may be installed directly over sheathing. (Felt paper may be omitted for garage construction.)
11. Garages of all types shall have gutters with downspouts connected to the storm sewer.

403.1.1 Minimum size. Minimum sizes for concrete and masonry footings shall be as set forth in Table 403.1 and Figure 403.1(1). The footing width, W, shall be based on the load-bearing value of the soil in accordance with Table 401.4.1. Spread footings shall be at least 6 inches (152 mm) in thickness, T. Footing projections, P, shall be at least 2 inches (51 mm) and shall not exceed the thickness of the footing. The size of footings supporting piers and columns shall be based on the tributary load and allowable soil pressure in accordance with Table 401.4.1. Footings for wood foundations shall be in accordance with the details set forth in Section 403.2, and Figures 403.1(2) and 403.1(3).

**TABLE 403.1
MINIMUM WIDTH OF CONCRETE,
PRECAST OR MASONRY FOOTINGS (inches)^a**

	LOAD-BEARING VALUE OF SOIL (psf)			
	1,500	2,000	3,000	≥ 4,000
Conventional light-frame construction				
1-story	12	12	12	12
2-story	15	12	12	12
3-story	23	17	12	12
4-inch brick veneer over light frame or 8-inch hollow concrete masonry				
1-story	12	12	12	12
2-story	21	16	12	12
3-story	32	24	16	12
8-inch solid or fully grouted masonry				
1-story	16	12	12	12
2-story	29	21	14	12
3-story	42	32	21	16

For SI: 1 inch = 25.4 mm, 1 pound per square foot = 0.0479 kPa.

a. Where minimum footing width is 12 inches, use of a single wythe of solid or fully grouted 12-inch nominal concrete masonry units is permitted.

403.1.2 Continuous footing in Seismic Design Categories D₀, D₁ and D₂. Deleted.

403.1.3 Seismic reinforcing. Deleted.

403.1.3.1 Foundations with stemwalls. Foundations with stem walls shall have installed a minimum of one No. 4 bar within 12 inches (305 mm) of the top of the wall and one No. 4 bar located 3 inches (76 mm) to 4 inches (102 mm) from the bottom of the footing.

403.1.3.2 Slabs-on-ground with turned-down footings. Slabs on ground with turned down footings shall have a minimum of one No. 4 bar at the top and the bottom of the footing.

Exception: For slabs-on-ground cast monolithically with the footing, locating one No. 5 bar or two No. 4 bars in the middle third of the footing depth shall be

permitted as an alternative to placement at the footing top and bottom.

Where the slab is not cast monolithically with the footing, No. 3 or larger vertical dowels with standard hooks on each end shall be provided in accordance with Figure 403.1.3.2. Standard hooks shall comply with Section 611.5.4.5.

403.1.4 Minimum depth. All exterior footings shall be placed at least 12 inches (305 mm) below the undisturbed ground surface. Where applicable, the depth of footings shall also conform to Sections 403.1.4.1 through 403.1.4.2.

403.1.4.1 Frost protection. Except where otherwise protected from frost, foundation walls, piers and other permanent supports of buildings and structures shall be protected from frost by one or more of the following methods:

1. Extended below the frost line specified in Table 301.2.(1);
2. Constructing in accordance with Section 403.3;
3. Constructing in accordance with ASCE 32; or
4. Erected on solid rock.

Exceptions:

1. Protection of freestanding accessory structures with an area of 600 square feet (56 m²) or less, of light-frame construction, with an eave height of 10 feet (3048 mm) or less shall not be required.
2. Protection of freestanding accessory structures with an area of 400 square feet (37 m²) or less, of other than light-frame construction, with an eave height of 10 feet (3048 mm) or less shall not be required.
3. Decks not supported by a dwelling need not be provided with footings that extend below the frost line.

Footings shall not bear on frozen soil unless the frozen condition is permanent.

403.1.4.2 Seismic conditions. Deleted.

403.1.5 Slope. The top surface of footings shall be level. The bottom surface of footings shall not have a slope exceeding one unit vertical in 10 units horizontal (10-percent slope). Footings shall be stepped where it is necessary to change the elevation of the top surface of the footings or where the slope of the bottom surface of the footings will exceed one unit vertical in ten units horizontal (10-percent slope).

CHAPTER 1143
Accessory Uses in Residence Districts

1143.01 Permitted accessory uses; garages, parking.

1143.02 Signs; home occupations.

CROSS REFERENCES

Parking generally - see TRAF. Ch. 351
 Off-street parking - see TRAF. Ch. 353
 Accessory use defined - see P.& Z. 1121.02
 Residence districts - see P.& Z. Ch. 1133
 Use limitations - see P.& Z. 1145.01

1143.01 PERMITTED ACCESSORY USES; GARAGES, PARKING.

(a) Accessory Uses in Residential Districts: Requirements.

- (1) For the purpose of this section, any part of a building in which an automobile is kept shall be termed a garage.
- (2) For a single-family use district, and subject to the dimensional requirements contained in Section 1153.02(b), the maximum size of a garage shall be 528 square feet, but shall be no more than forty percent (40%) of rear yard, as defined in Section 1153.02(b). In the event a single-family residence has 8,000 square feet or more lot area, a garage for parking of three cars is permitted.
- (3) For a two-family use district, a three car garage is permitted, maximum area of same not to be more than 660 feet, provided that there is 2,000 square feet of lot area for each parking space. Garage may not be more than forty percent (40%) of rear yard as defined in Section 1153.02.
- (4) Private garages in a U3 District which includes condominiums, shall provide storage for at least one car. There shall also be an additional parking space in the open for each living unit. The driveway leading to each enclosed parking space shall not be considered as the other off-street parking facility.

(b) Rear and Side Yard Requirements.

- (1) With windows or other openings in sides adjacent to the lot lines, the distance from such lot lines shall be three feet.
- (2) With wood or unprotected steel frame, without openings, garage shall be one foot six inches from side lot line, and three feet from rear lot line.
- (3) Masonry walls without openings may be built on lot lines.

COMPLIANT NOTIFICATION

PROVIDE ENGINEERING DATA IF TRUSSES ARE USED

PERMIT SUBMITTAL

GUTTERS DIRECTED TO A SEWER REQUIRE

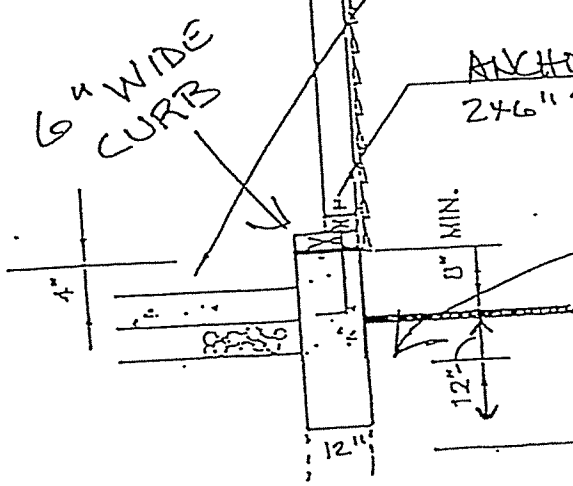
WALL OUT CONSTRUCTION MATERIALS & SPACING MAY DEPEND ON GARAGE SIZE

MINIMUM 2x4 STUDS 16" O.C. 4" THICK ON APPROVED BASE

ANCHOR BOLTS 6' O.C. & WITHIN 12" OF CORNER 2x6" PRESS. TREATED PLATE ON SEALER GARAGES OVER 400 SQ. FT. REQUIRE 36" DEEP FROST FOOTERS

FOOTING 12" DEEP X 12" WIDE MONOLITHIC W/ GARAGE SLAB FOR GARAGES 400 SQ. FT. OR LESS

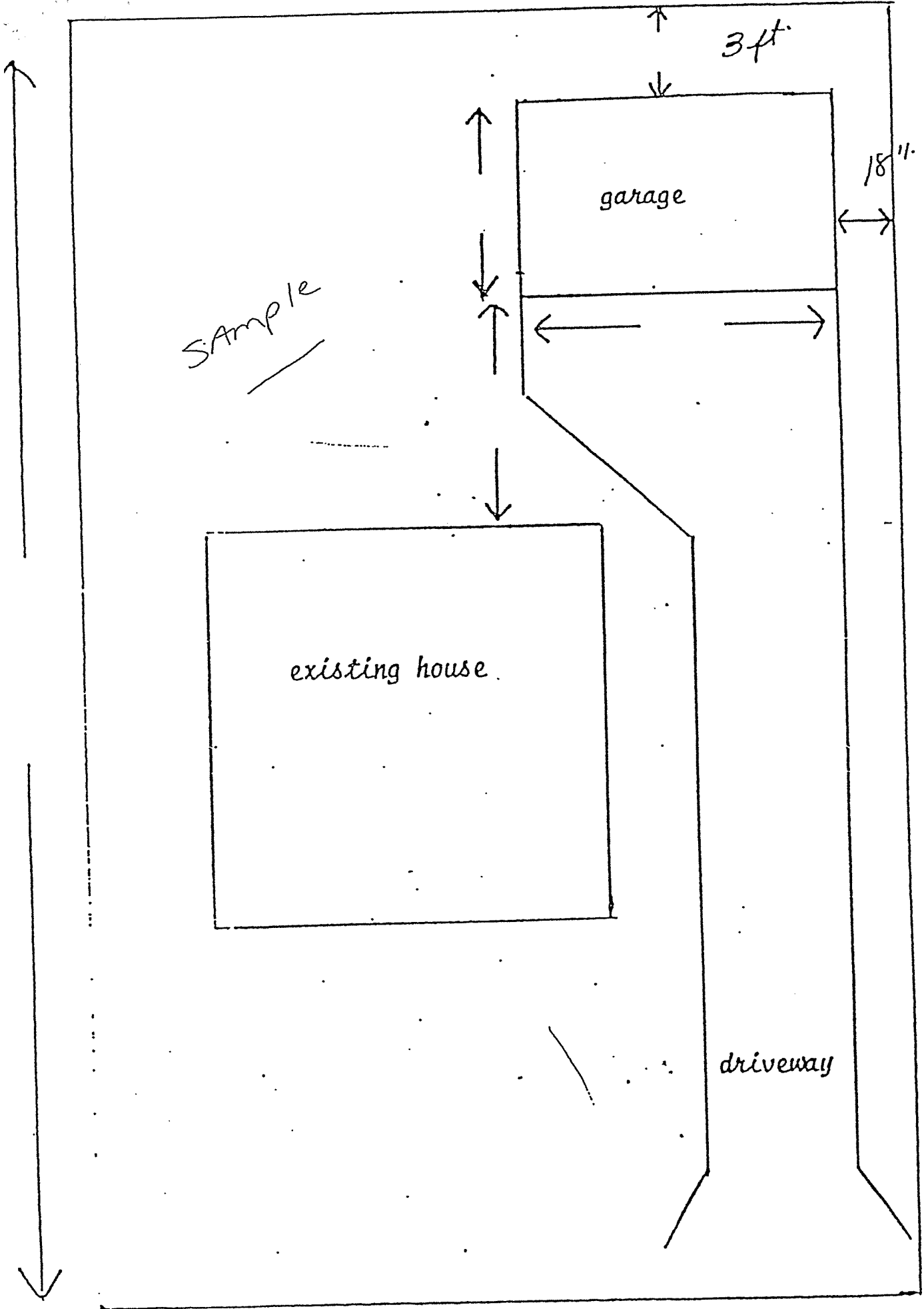
TRENCH FOOTER INTEGRAL TO SLAB POUR IN SINGLE LIFT, BOTTOM OF THICKENED SLAB 12" BELOW GRADE



WALL SECTION @ DETACHED GARAGE

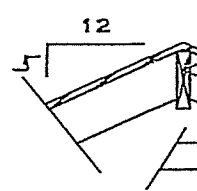
SCALE: 1/2" = 1'-0"

.1
.A5



SAMPLE

SNOW LOAD: 30LBS/SQFT
WIND LOAD: 20LBS/SQFT



- 2 X 8 RIDGE BOARD
- 1/2" OSB SHEATHING, 15LB FELT
30 year SHINGLE
- 2 X 4 COLLAR TIE @ 32" OC
- 2 X 6 RAFTERS @ 16" OC
- 2 X 6 CEILING JOIST @ 32" OC
- DOUBLE 2 X 4 TOP PLATE
- 2 X 6 FACIA BOARD
- Gutter ^{CONNECTED} directed to sewer

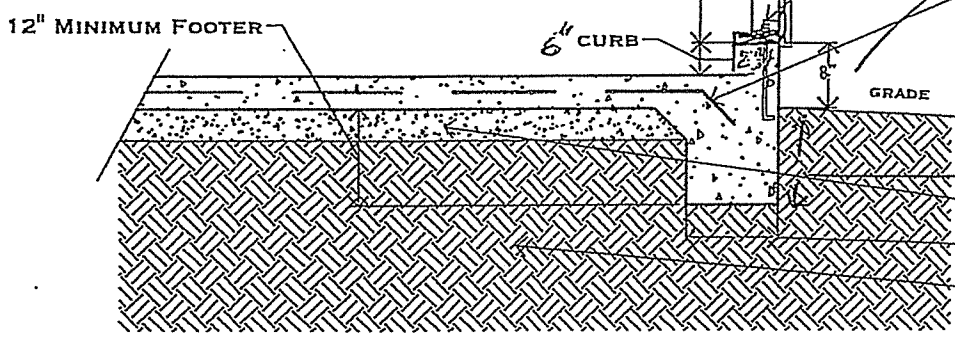
OVERHANG: 12"
Vinyl SIDING

- 1/2" OSB SHEATHING
- 2 X 4 STUDS @ 16" OC
- 2 X 6 CCA TREATED PLATE,
SILL SEAL ON CONCRETE FOOTER,
1/2" DIA. BOLT @ 6' OC,
12" FROM CORNERS

APPROVED
AS NOTED IN PLAN REVIEW
CITY OF GARFIELD HEIGHTS
BUILDING DEPARTMENT
William Deery
BUILDING COMMISSIONER
5/27/2015
DATE

8' 0"

- 4" CONCRETE SLAB WITH 6"x6"
W1.4 X W1.4 WIRE MESH
REINFORCEMENT



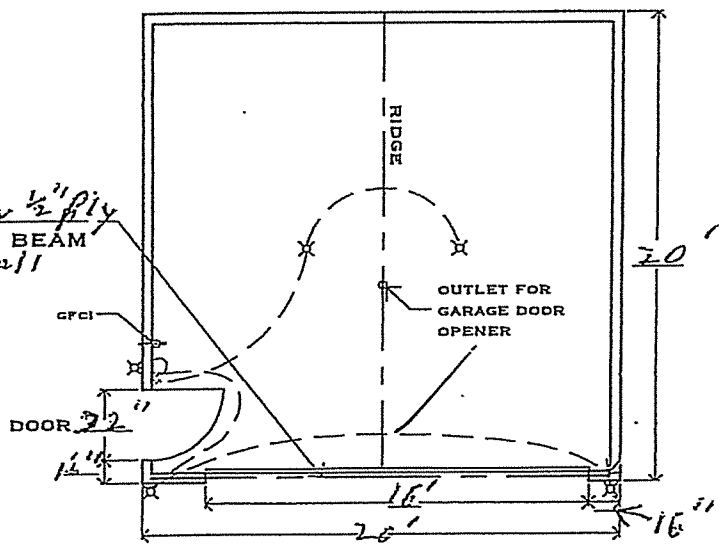
TYPICAL GARAGE SECTION

Owner Approval

HOMEOWNER:	ADDRESS: SAMPLE			
NOTE: Verify All Dimmensions in Field	Created:	Revised:	Not to Scale	Page of

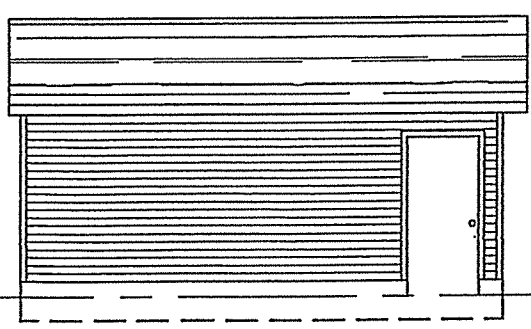
SAMPLE

2-2x12" w 1/2" ply
CONTINUOUS BEAM
wall to wall

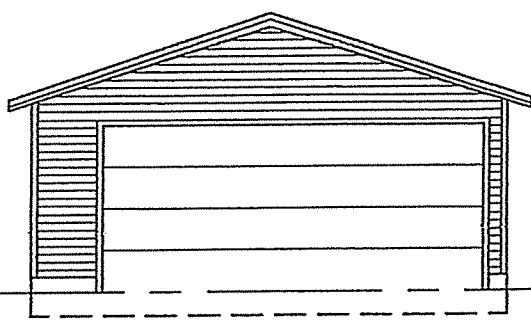


NOTE:

ALL ELECTRICAL
WORK TO BE DONE
PER CODE.



LEFT SIDE ELEVATION

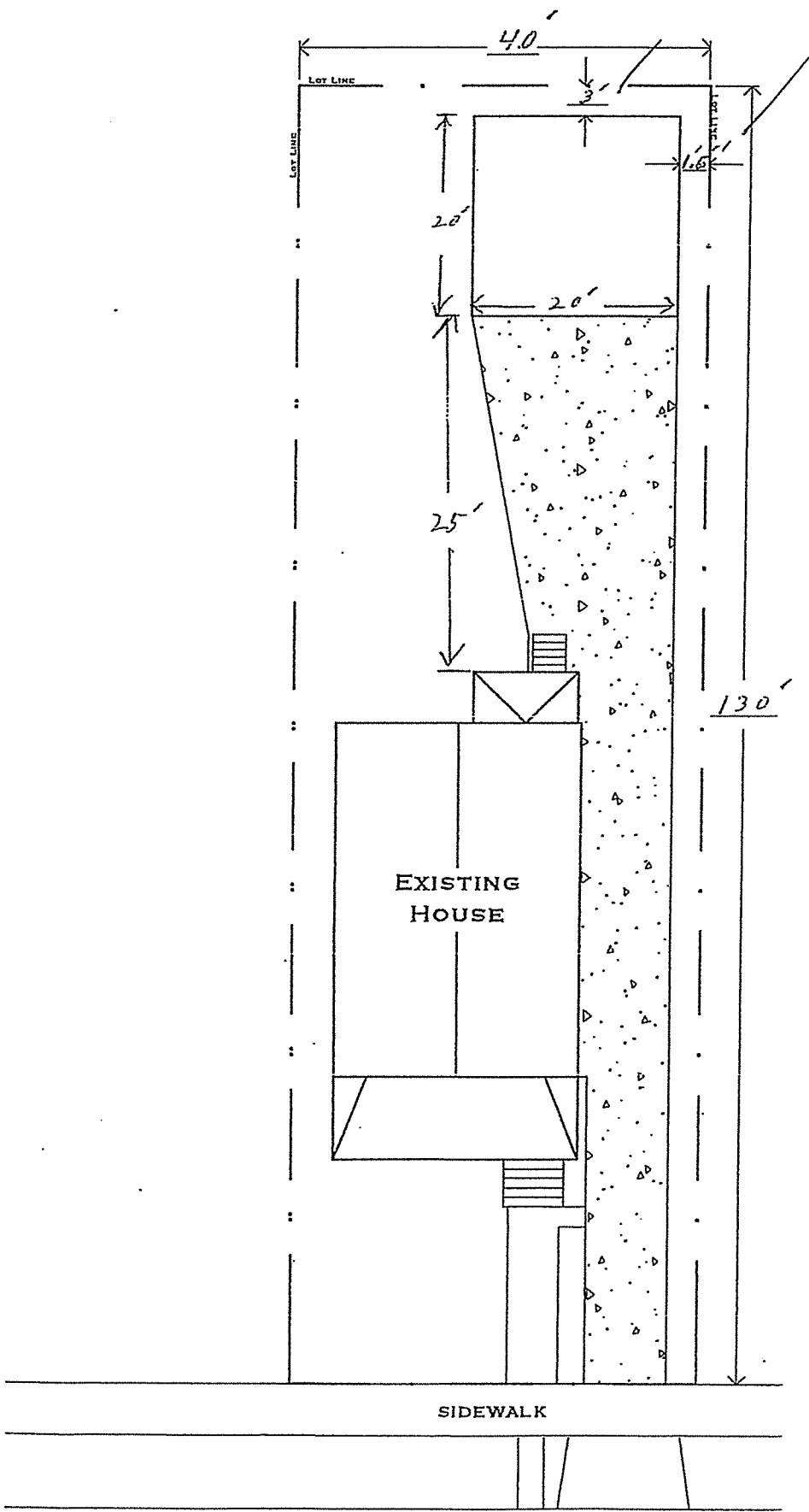


FRONT ELEVATION

MAN DOOR ON LEFT SIDE

Owner Approval

HOMEOWNER:	ADDRESS: <u>Sample</u>		
NOTE: Verify All Dimensions in Field	Created:	Revised:	Not to Scale Page of



— Example site Plan —

Owner Approval