



## DIVISION OF BUILDING

240 Columbus Avenue

Sandusky, Ohio 44870

419.627.5940

[www.cityofsandusky.com](http://www.cityofsandusky.com)

This kit is to assist you with your project submittal and to ensure it is a success. The examples shown are for illustration purposes only. They are to be used to better understand what is needed for submittal for a residential application for plan approval. Below is the code sections relating to the submission of construction documents for residential projects.

### **Residential Code of Ohio**

**106.1.3 Information on construction documents.** Residential construction documents shall be dimensioned and drawn upon suitable material. Electronic media documents are permitted to be submitted and are approved by the residential building official. Construction documents shall be coordinated and of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code. Construction documents, adequate for the scope of the project, shall include information necessary to determine compliance with this code.

**1. Index.** An index of drawings located on the first sheet.

**2. Site plan.** A site plan showing a north orientation arrow, the size and location of new residential construction and all existing structures on the site, all property and interior lot line locations with setback and side yard dimensions and distances from buildings to lot lines, the locations of the nearest streets, the established street grades, the locations, types and sizes of all utility lines, the location of any fences, and the elevations of all proposed finished grades; and it shall be drawn in accordance with an accurate boundary line survey. In the case of demolition, the site plan shall show construction to be demolished and the location and size of existing structures and construction that are to remain on the site or plot. The residential building official is authorized to waive or modify the requirement for a site plan when the application for approval is for alteration or repair or when otherwise warranted.

**2.1 Residential buildings or structures located in flood hazard areas.** Construction documents submitted for residential buildings or structures located in communities with identified flood hazard areas, pursuant to section 1612, shall include the current FEMA "Flood Hazard Boundary Map" (FHBM), "Flood Insurance Rate Map" (FIRM) or "Flood Boundary Floodway Map" (FBFM) for the project location. The required site plan shall include building elevations using the same datum as the related flood hazard map. The owner shall be responsible for the compliance with local flood damage prevention regulations for additional critical elevation information for the project site. The elevation certification and dry flood proofing certification, when required for buildings or structures located in communities with identified flood hazard areas, shall be submitted to the residential building official.

**2.2 Site accessibility plan.** For structures of four or more dwellings, information in plan view and details shall be submitted indicating compliance with the accessibility provisions of this code for the exterior of the building in addition to any accessible features of the interior. When applicable, the plans shall include: the exterior accessible route between all facilities required to be connected; ramp locations and elevations along the exterior accessible route; number of and details for the required accessible van and car parking spaces and passenger loading areas; location and detail of required accessibility signage; grade/topographic elevations before and after proposed grading when site impracticality is intended to be applied.

**3. Floor plans.** Complete floor plans, including plans of full or partial basements and full or partial attics. Floor plans must show all relevant information such as door swings, stairs and ramps, windows, shafts, all portions of the means of egress, etc., and shall be sufficiently dimensioned to describe all relevant space sizes. Wall materials shall be described by cross-hatching (with explanatory key), by notation, or by other clearly understandable method. Spaces must be identified by how each space is intended to be used.

**4. Exterior wall envelope.** The exterior envelope shall be described in sufficient detail to determine compliance with this code and the referenced standards. Details or elevations shall be provided which describe floor to floor dimensions, flashing, intersections with dissimilar materials, corners, end details, control joints, intersections at roof, eaves, or parapets, means of drainage, water-resistive membrane, details around openings, location and type of vapor retarders, window and door "U"-values, and insulation location and "R"-values. The supporting documentation shall fully describe the exterior wall system, which was tested, where applicable, as well as the test procedure used.

**5. Sections.** Cross sections, wall sections, details including typical connections as required to fully describe the residential building construction showing wall, ceiling, floor and roof materials. Residential construction documents shall describe the exterior wall envelope in sufficient detail to determine compliance with this code.

**6. Structure.** Complete structural description of the residential building including size and location of all structural elements used in the design of the residential building and other data as required to fully describe the structural system.

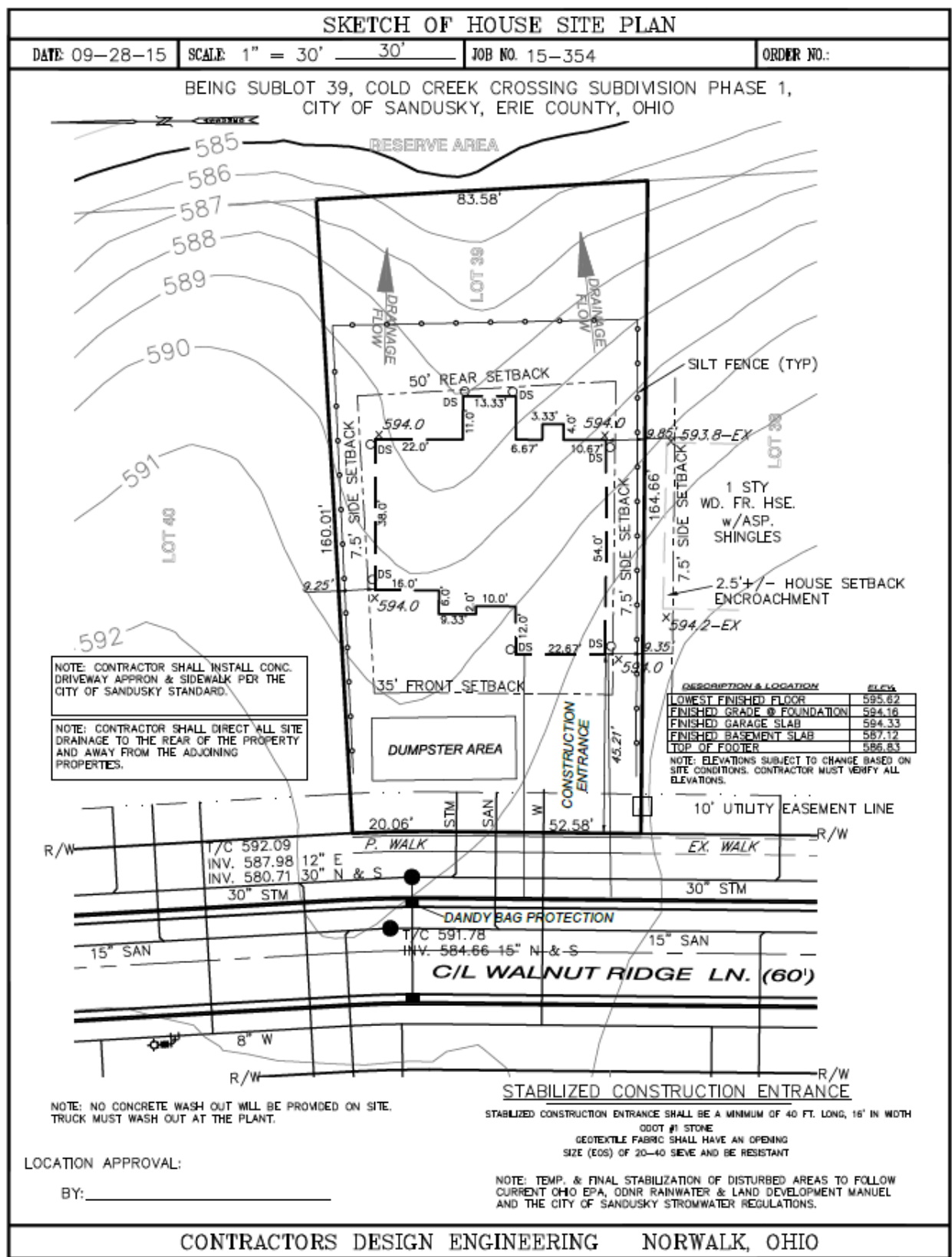
**7. Ratings.** The fire-resistance ratings of all structural elements as required by this code, data substantiating all required fire-resistance ratings including details showing how penetrations will be made for electrical, mechanical, plumbing, and communication conduits, pipes, and systems, and the materials and methods for maintaining the required structural integrity, fire-resistance rating, and firestopping.

**8. System descriptions.** Description of the mechanical, plumbing and electrical systems, including: materials; location and type of fixtures and equipment; materials, and sizes of all ductwork; location and type of heating, ventilation, air conditioning and other mechanical equipment; and all lighting and power equipment.

**9. Accessibility provisions.** When non-required accessibility components are intended to be installed, indicate whether the project will comply with Type A, Type B, Type C (Visitable), or Accessible units in ICC/ANSI A117.1 listed in Chapter 44 as pursuant to Section 320.1.

**10. Additional information.** Additional graphic or text information as may be reasonably required by the residential building official to allow the review of special or extraordinary construction methods or equipment.

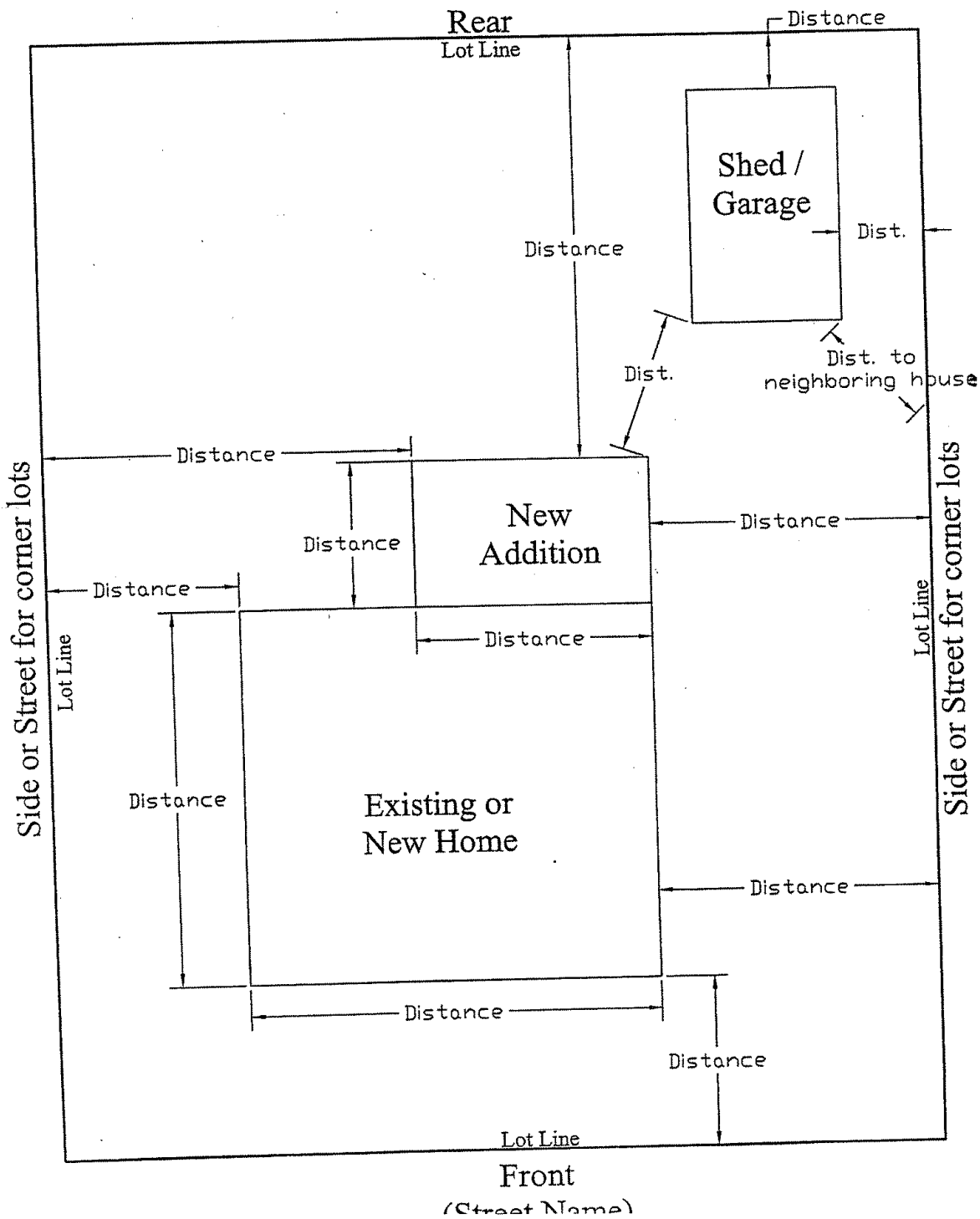
The Building Division staff is able to assist you through the submittal process. It is our policy to assist our citizens, due to the Ohio submittal system staff cannot specify products or recommend products, endorse construction methods and/or systems, recommend contractors or suppliers. Our duty is to remain neutral to all. In Ohio it is the responsibility of the owner to submit construction documents (plans and specifications) detailing how they intend to construct the building. It is the responsibility of the Building Division to evaluate the submitted construction documents for compliance with the Residential Code of Ohio (RCO). The reason for this is because of the vast number of products and systems used today. Our role is to evaluate how the products are assembled and determine code compliance. We can give guidance in the process, unfortunately we cannot tell you how to or what to do in most cases.



**Note: This type of detail is needed in floodplain applications.**

# Sample Plan View

(Looking Down from Above)



### How to draw a FLOOR PLAN for Alterations/Additions:

This is the easiest drawing to do and the one from which all your other drawings can be developed. It will show PERMANENT or STRUCTURAL elements of your new construction, including the following:

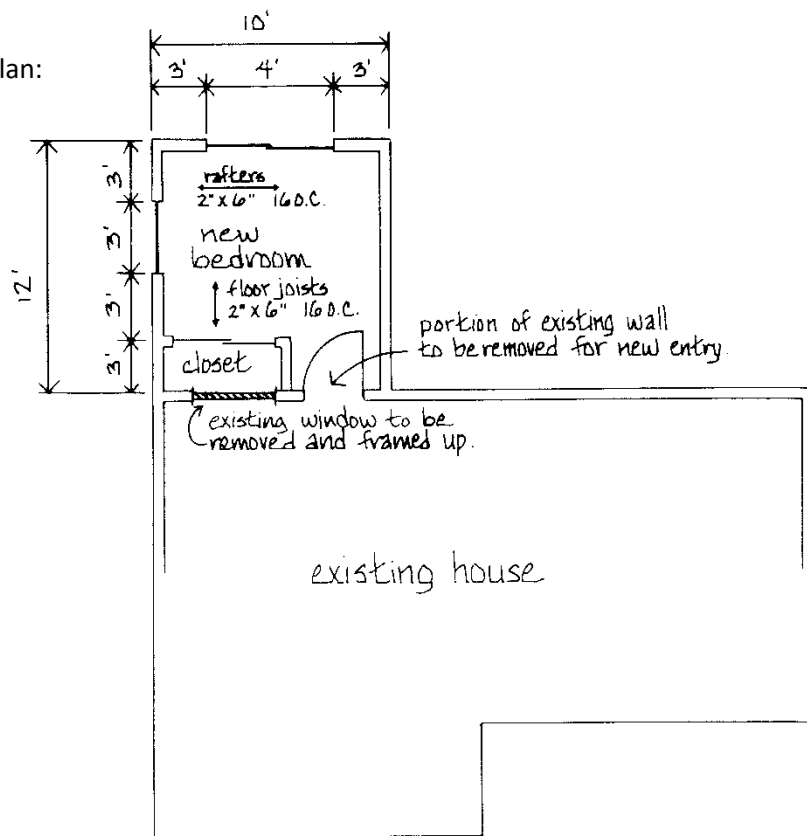
- ♦ width and shape of rooms, doors and windows
- ♦ big appliances like stoves
- ♦ plumbing fixtures like bathtubs and toilets
- ♦ mechanical equipment like heaters and ventilators
- ♦ electrical outlets and switches
- ♦ closets and built-in counters

You do not have to show movable objects like furniture – and you don't have to draw the entire house, but you should draw enough of the existing structure to indicate exactly where the new room or addition fits in – adjoining hallways, windows that will be blocked up, etc.

Walls can all be shown 6 inches thick even though they will vary in your real construction, Materials used should also be written neatly on the drawing (linoleum flooring, aluminum windows). Rooms should be labeled.

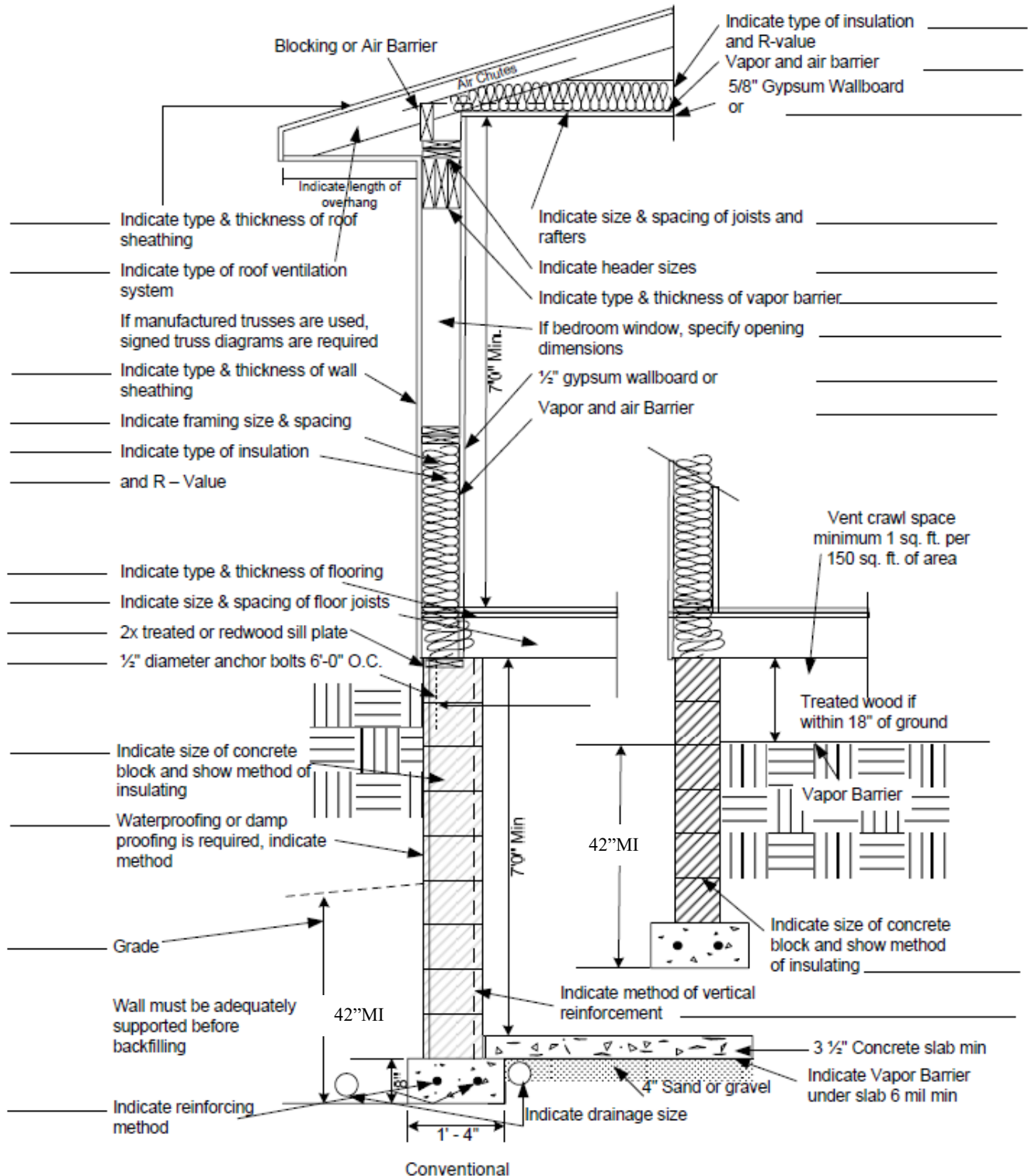
Simple plans can include framing information, one note on the plan can indicate the size and spacing of ceiling or floor joists, wall studs, roof rafters, primary beams or door and window headers. Be explicit about dimensions. You may know the exact size of your patio, but the inspector may not. By convention, the width of rooms is measured from the outside of the exterior wall to the center of the interior wall. Windows and doors are measured from the inside of the opening, not the outside of the frame.

Example of a floor plan:



FLOOR PLAN not to scale

# Wall Section Example

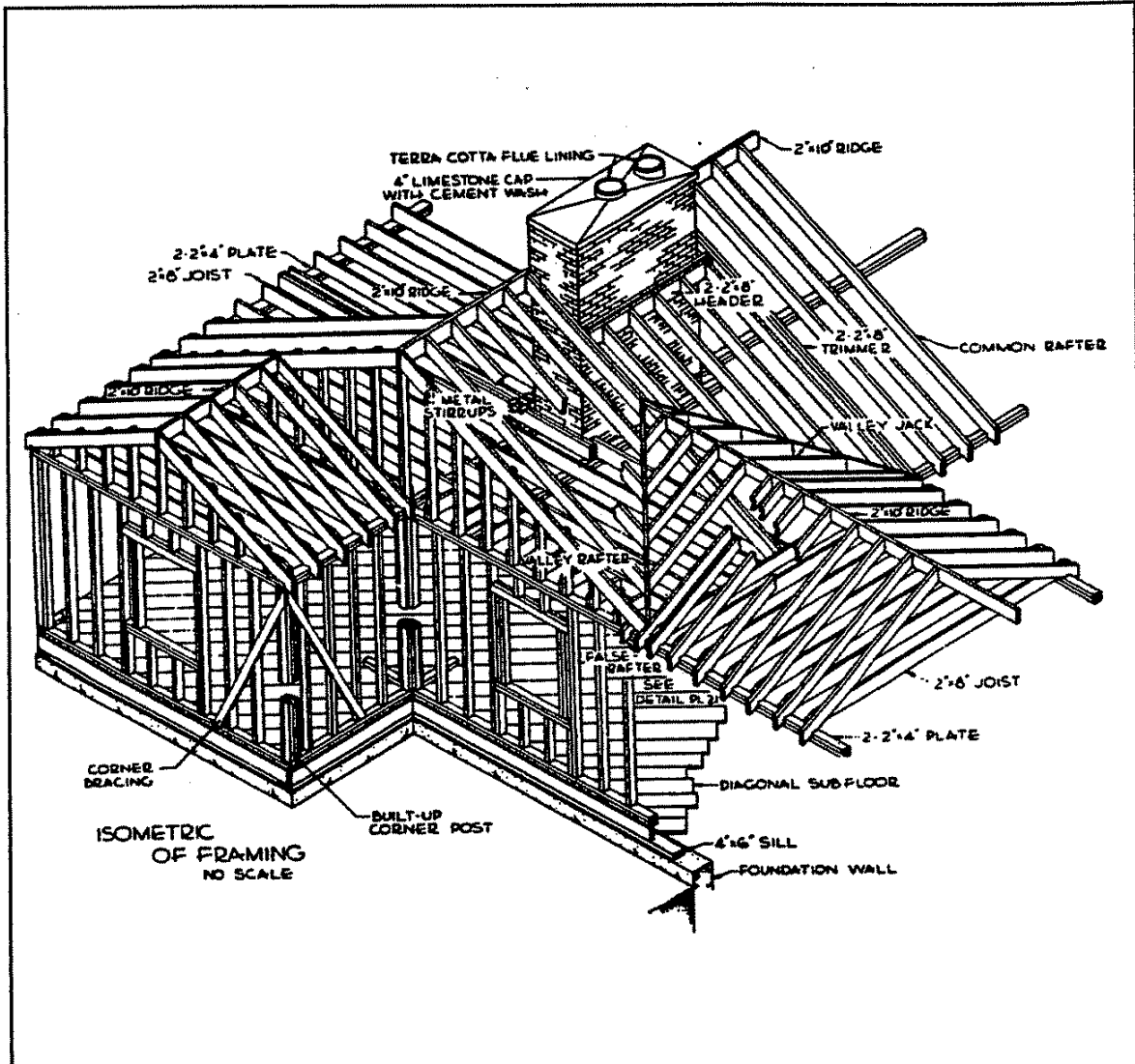


**Note: Minimum depth has increased to 42" for protection from frost upheave.**

# EXAMPLE

- **Isometric Drawings**

An isometric or perspective drawing provides a three-dimensional view of some part of the building, usually the plumbing system. There is no scale for an isometric drawing.

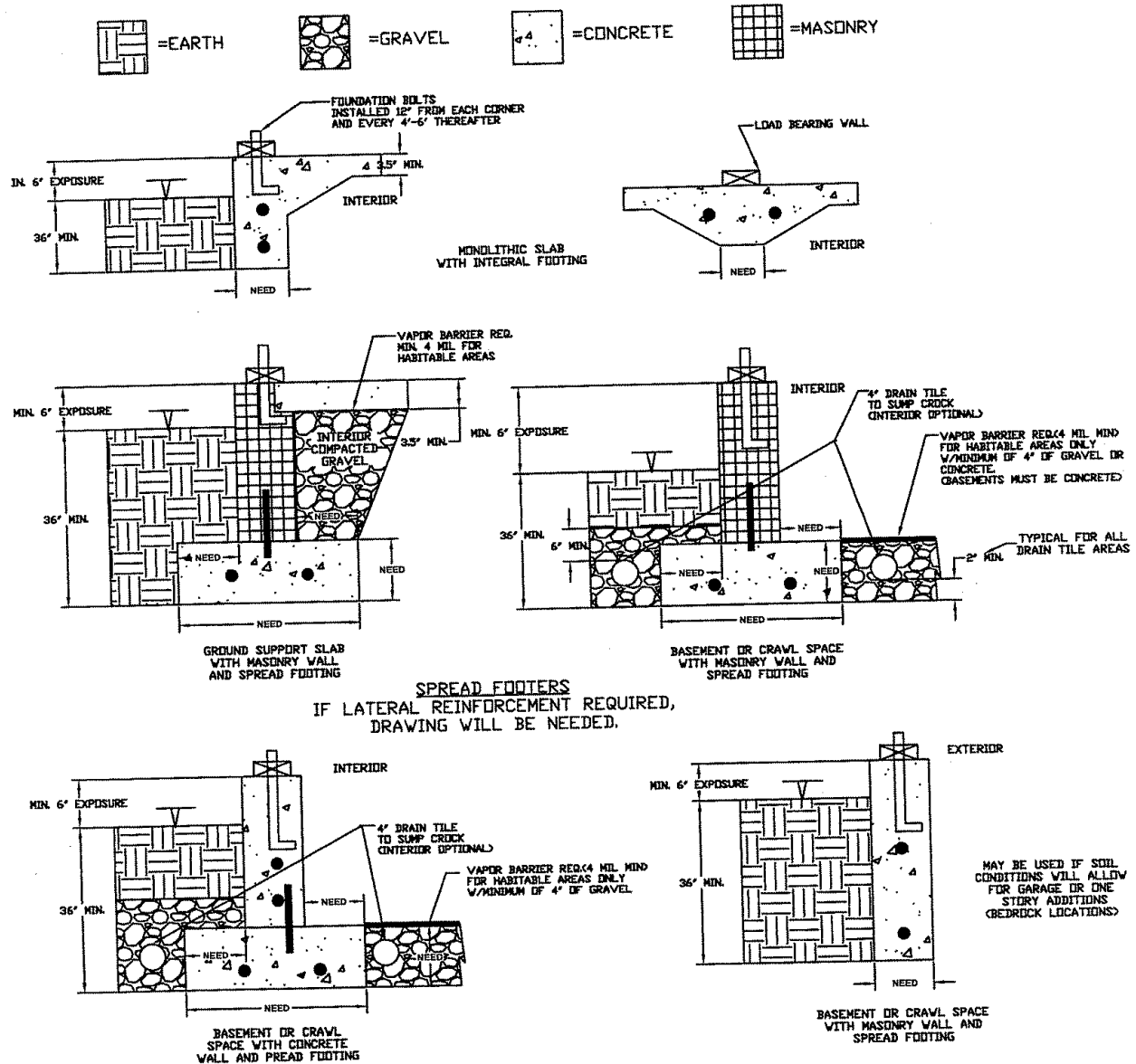


Isometric Drawing of Building Framing  
Figure 2-13





# CITY OF SANDUSKY FOOTER DETAIL REQUIREMENTS

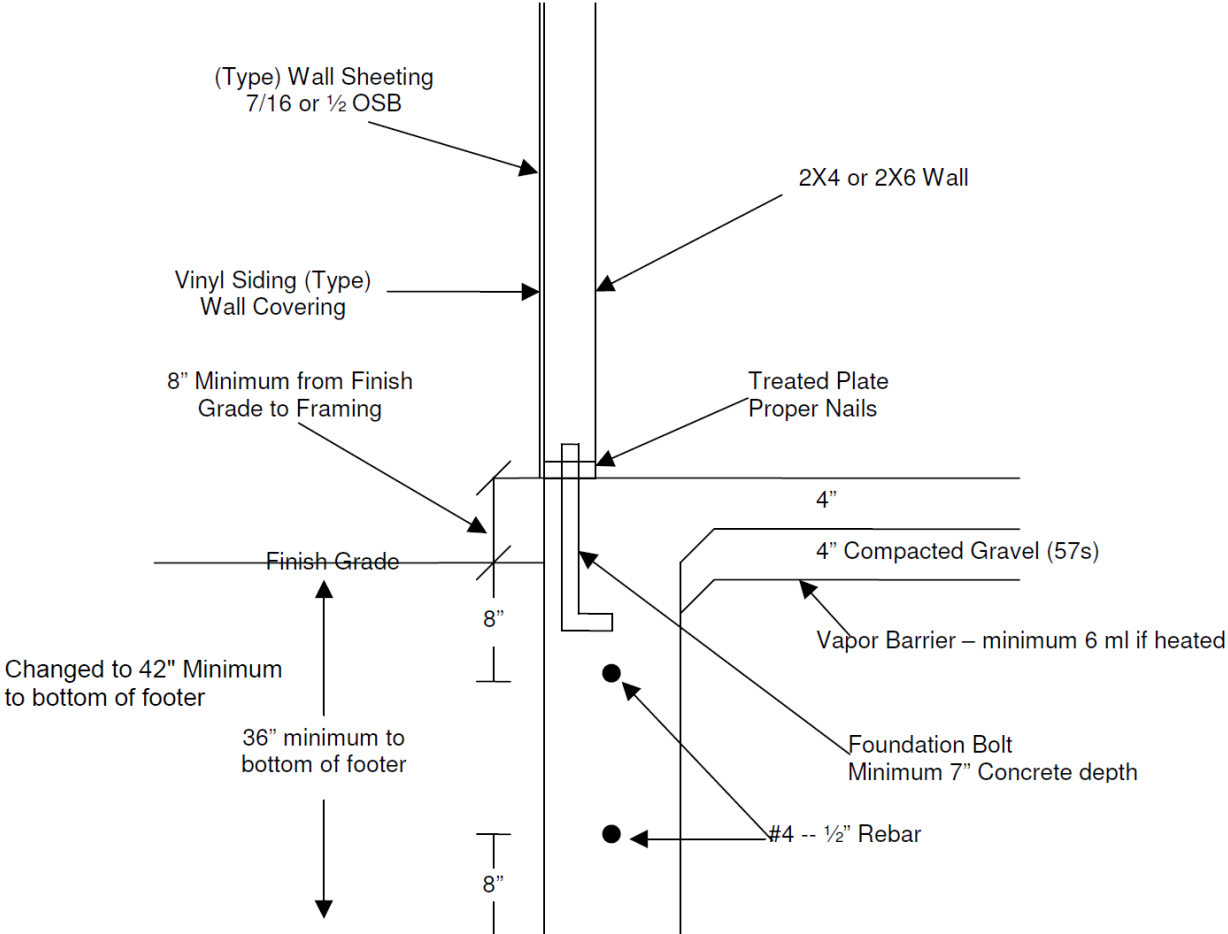


**NOTES:**

1. REBAR TO BE PLACED ACCORDINGLY. (MIN. #4 = 1/2") VERTICAL REBAR SHOULD BE PLACED SAME AS FOUNDATION BOLTS.
2. HORIZONTAL REBAR IN CONCRETE WALLS SHOULD BE PLACED 16" OR 18" ON CENTER.
3. CONCRETE WALLS MUST BE PINNED TO FOOTER OR HAVE A GROOVE IN FOOTER TO INTERLOCK W/MORTAR AS BLOCK IS LAYED.
4. MUST HAVE 6" MIN. TO BOTTOM OF

**Note: Minimum depth has increased to 42" for protection from frost upheave.**

## Monolithic Foundation – Mostly used for Garages



## Example Only

**Note: Minimum depth has increased to 42" for protection from frost upheave.**

- **Foundation Plan**  
Foundation construction, basement floor construction, wall openings and unexcavated areas are shown on the foundation plan.

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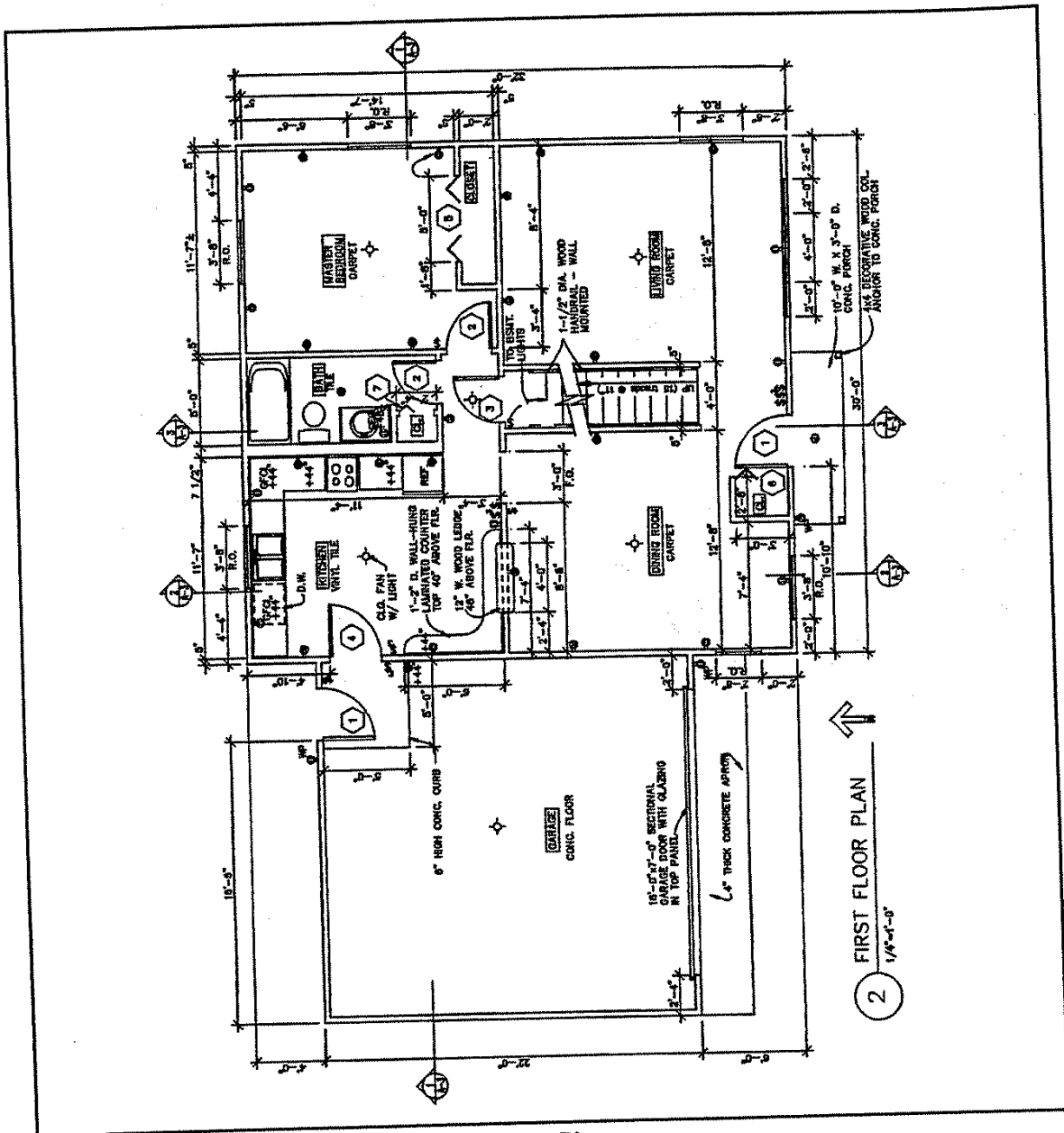


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# EXAMPLE

- **Floor Plan**

A floor plan shows the layout and dimensions of the rooms in the proposed construction. Types and thickness of wall partitions can also be determined.



Floor Plan  
Figure 2-8

### ● Elevation View

[illegible]

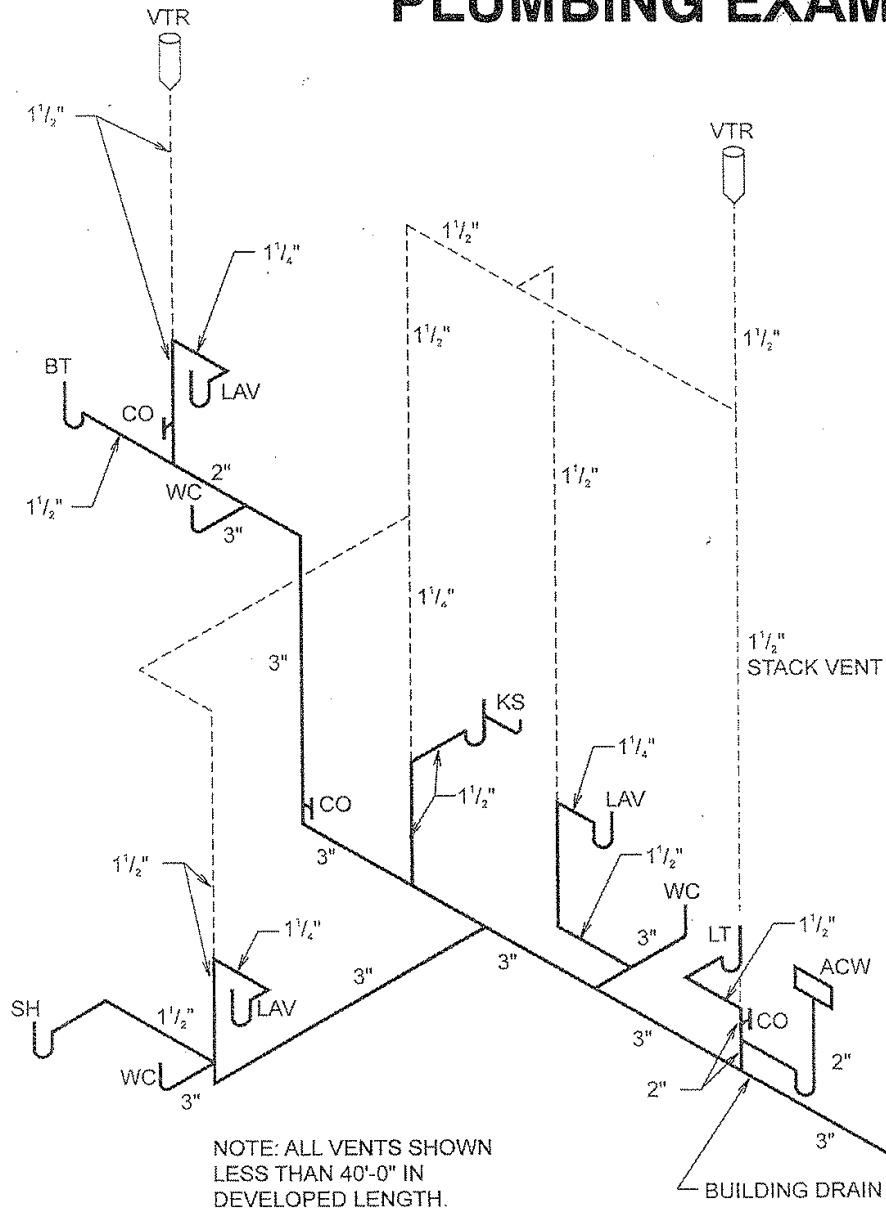
**Front Exterior Elevation View**  
**Figure 2-10**

Adequate descriptions of electrical, plumbing, or mechanical systems are essential to assuring that the project can be built safely and will meet electrical, energy, and sanitary requirements in Ohio law. This description may take the form of a drawing, isometric, written description, table, schedule, specification, or any other form or method of adequately describing the proposed work and the systems that are a critical part of the building's service equipment. Narrative descriptions, graphic, or other pictorial documents could also be submitted.

The system descriptions must include:

- **Mechanical:** Equipment Type/Size, Location of Equipment, Type of Fuel, Heat Gain/Loss, Square Footage of Conditioned Space, Duct Size (Supply/Return), Equipment Efficiency Ratings
- **Electrical:** Service Size (General Loads, HVAC Loads, Total Loads), Panel Location in Dwelling, Size of Service Entry Cable, Location of Service (Overhead, Underground)
- **Plumbing:** Fixture Locations and Venting

## PLUMBING EXAMPLE



For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

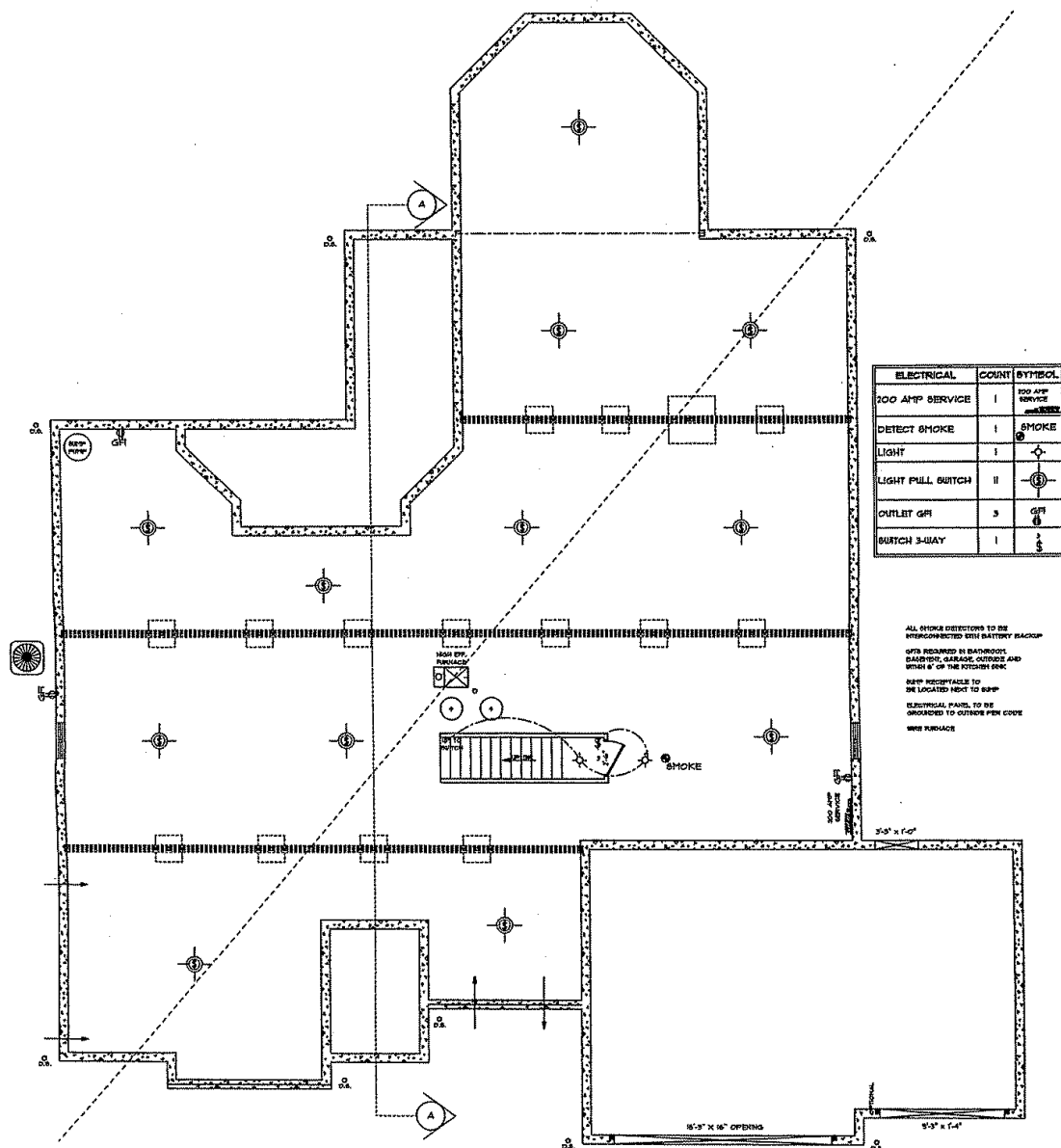
Figure 916.2(3)  
VENT SIZING

# ELECTRICAL EXAMPLE

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# ELECTRICAL EXAMPLE

