Carpentry Level One

Introduction to Construction Drawings, Specifications, and Layout 27104-13

Objectives

List the types of drawings usually included in a set of plans and describe the information found on each type.

a. Identify the different types of lines used on construction drawings.

b. Identify selected architectural symbols commonly used to represent materials on plans.

c. Identify selected electrical, mechanical, and plumbing symbols commonly used on plans.

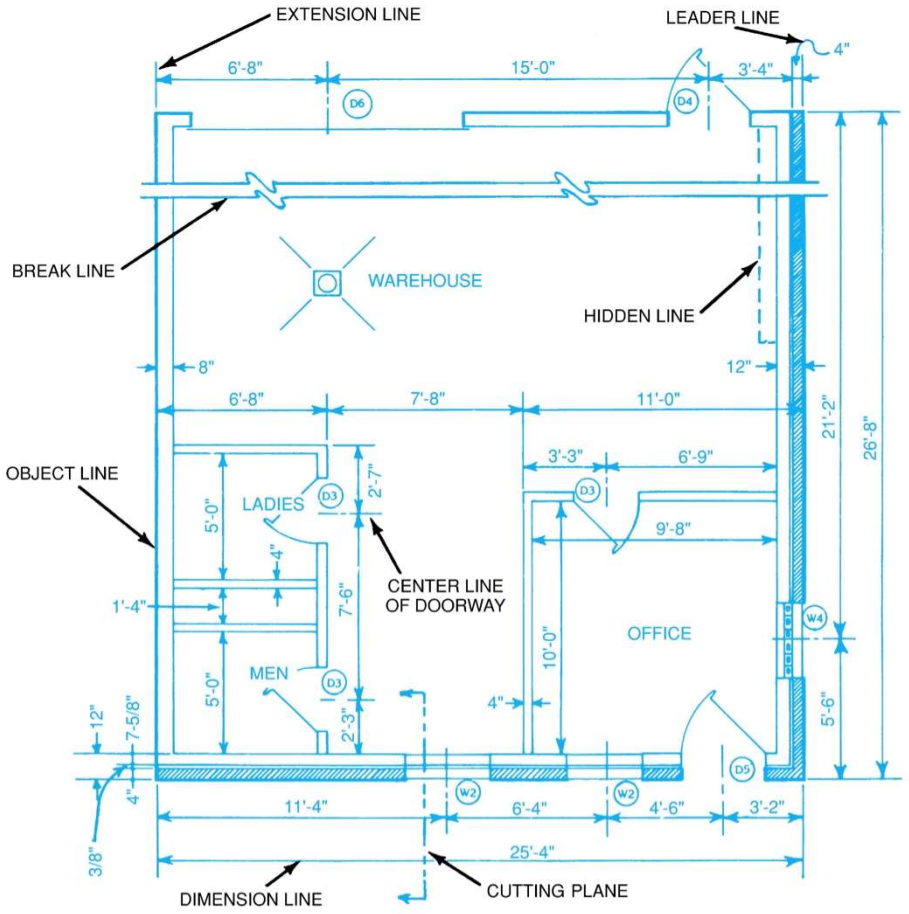
d. Identify selected abbreviations commonly used on plans.

Kickoff Activity

- Using the construction drawings provided, identify what information is readily understandable.

Section 1.0.0

- A special language of lines, symbols, abbreviations, and notes is used on construction drawings to deliver the architect's message as clearly and concisely as possible.



Section 1.1.0

- Common lines used on construction drawings:
  - Object line
  - Center line
  - Cutting plane line
  - Break line
  - Leader line
  - Dimension and extension lines
  - Hidden line
  - Phantom line
  - Stair indicator line
  - Contour lines

Section 1.1.0

- Identify each type of line with its definition.

1. Center line
2. Contour line
3. Cutting plane line
4. Hidden line
5. Leader line
6. Object line
7. Phantom line

A. Connects a note or dimension to a related part of the drawing
B. Designates the center of an area or object
C. Indicates alternative positions of moving parts
D. Indicates an area that is being cut away and shown in a section view
E. Indicates an outline that is invisible to an observer
F. Shows the changes in elevation
G. Shows the main outline of a structure

Section 1.2.1

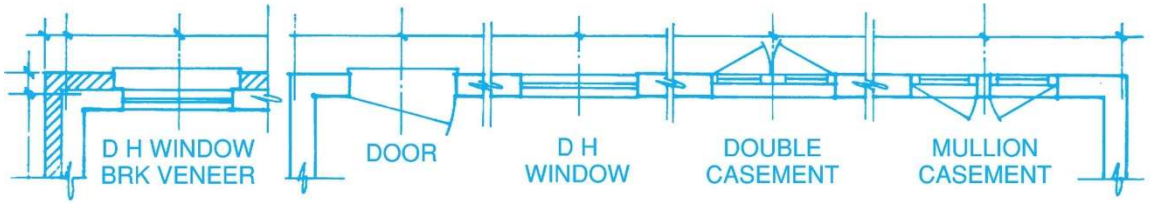
- Typically, materials are shown on drawings in two ways:
  1. As a plan view, where the material is presented as you would see it when looking down on it.
  2. As an elevation view or section view, where the symbol shows the material roughly as it would look when you are facing it.

Section 1.2.2

- Window and door are shown on drawings as either elevation or plan views.

DOOR TYPE	SYMBOL
SINGLE SWING	
SLIDER	
BIFOLD	
FRENCH	
ACCORDION	

WINDOW TYPE	SYMBOL
AWNING	
FIXED SASH	
DOUBLE HUNG	
CASEMENT	
HORIZONTAL SLIDER	



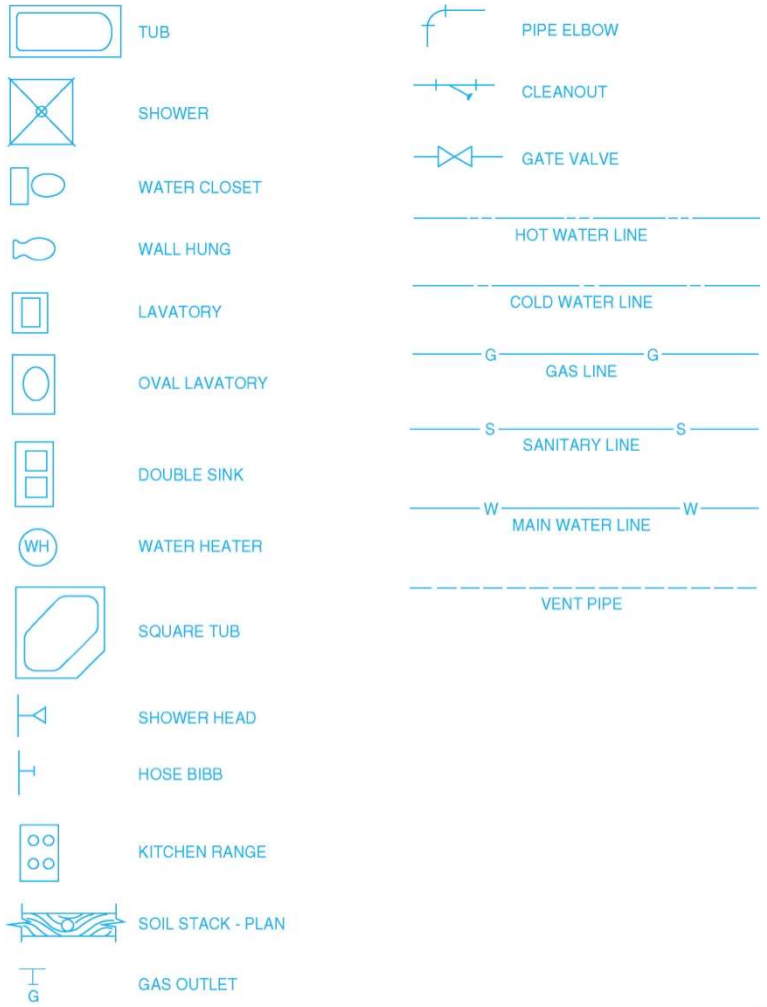
DOORS AND WINDOWS IN BRICK VENEER AND WOOD STUD WALLS

Section 1.3.1

- Electrical symbols indicate the location of outlets and switches and auxiliary hardware.

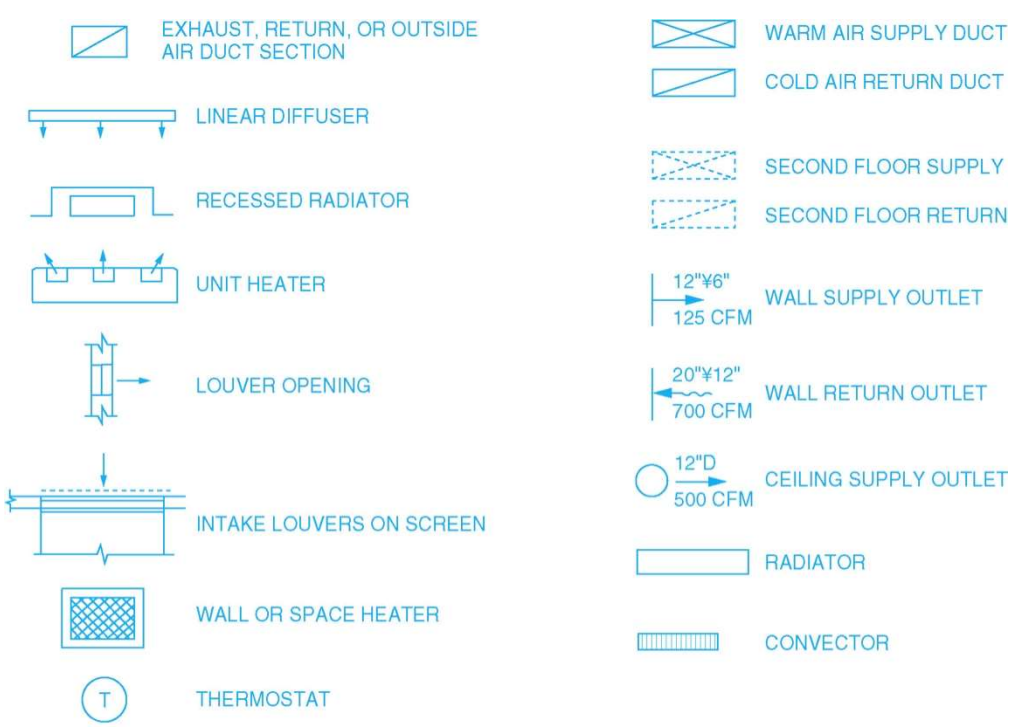
Section 1.3.2

- Plumbing symbols indicate the hardware and fixtures required.
- Floor plans usually indicate only where the different fixtures should be located and plumbed.



Section 1.3.3

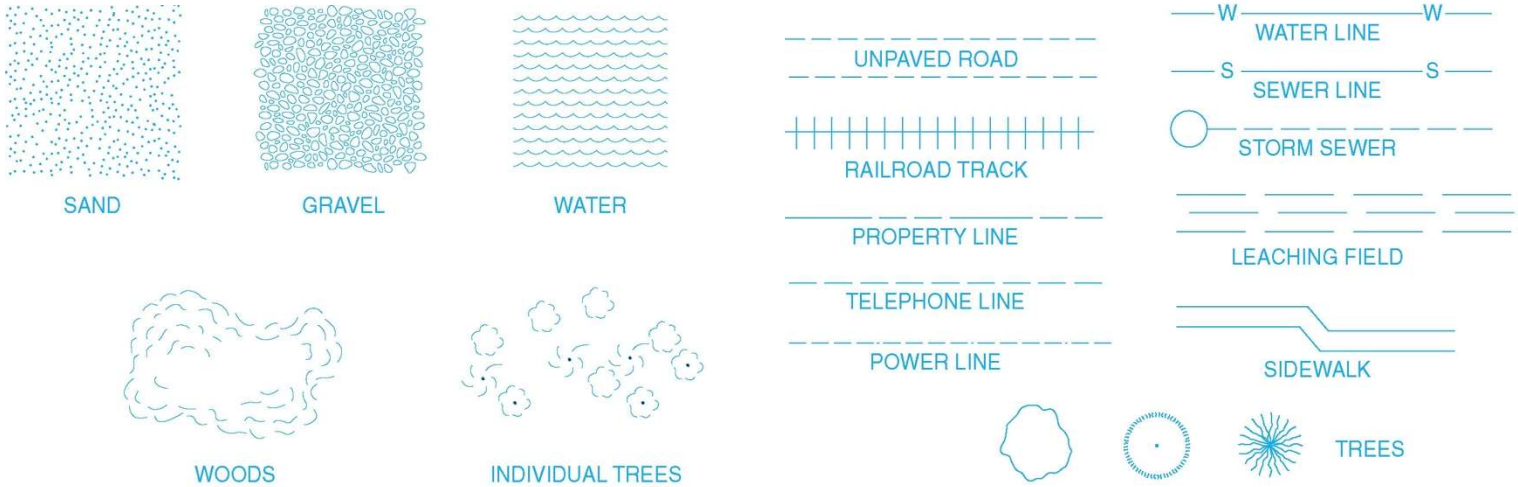
- The location and types of HVAC equipment are shown on construction drawings.



- Symbols are also used to show the direction of movement of the hot and cold air in the system.

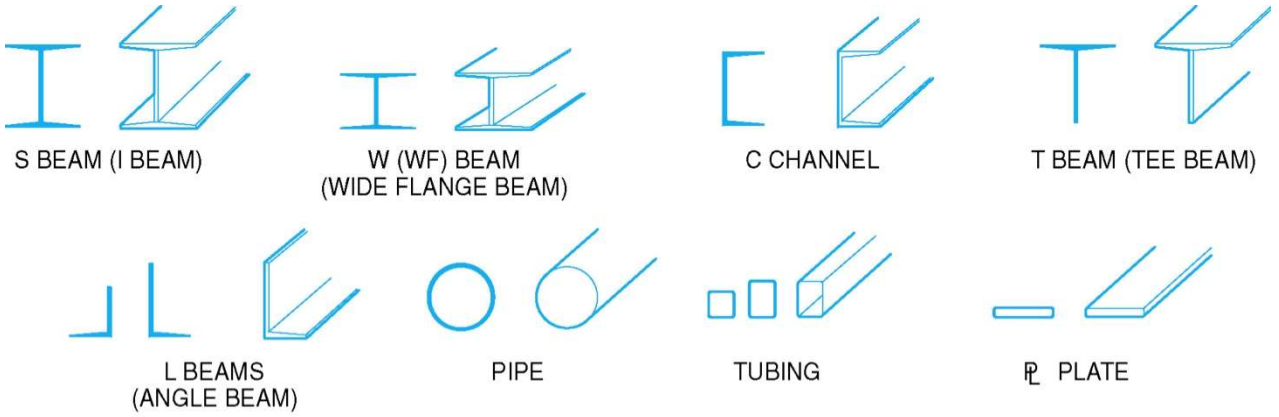
Section 1.3.4

- Site plans show the position and sizes of all relevant structures on the site as well as the features of the terrain.
- A good site plan will include a legend of the symbols used.



Section 1.3.5

- Structural steel shapes have a system of identification by the use of symbols.



Section 1.3.6

- Symbols for welding and their method of use are defined in the *American National Standard ANSI/AWS A2.4-2012.*
  - Weld symbol—used to indicate the type of welding to be performed
  - Welding symbol—made up of as many as eight elements that are used together to provide exact welding instructions

Section 1.4.0

- Practices for using abbreviations on drawings
  - Typically capitalized
  - Periods are used when abbreviations look like a whole word
  - Are the same whether they are singular or plural
  - Several terms have the same abbreviations and can only be identified from the context in which they are found
  - Many are similar

Wrap Up

The class will be divided into groups for a modified game of PICTIONARY® with the symbols commonly found on construction drawings. The first team to 10 points wins the game.

Next Lesson: Plan View Drawings, Part Two
Review Section 1.5.0