

Architecture II

Summer 2005

UNIT F: Sections and Details

Competency: 206.00

Draw wall sections and details.

Objective: 206.05

Describe the purpose and features of a wall section.

R1, pgs 701-738

R2, pgs 431-438

* A. Sectional drawings

1. Used to reveal the internal construction
2. Provide information concerning materials and assembly
3. Detail sections show specific parts of construction

B. Sectional basics

1. Cutting plane

- a. Edge of cutting plane is drawn as a line on the floor plan
 - 1) Heavy, dark line
 - 2) Coding includes two dashes
 - 3) Arrows indicate direction of sight
 - 4) Most often attached to a circle that identifies the section and its location within the drawing set
 - 5) Sometimes only the ends are shown to prevent interference with other information
 - i. Assumed to be a straight line between ends
 - ii. If offset, the bend (offset) is shown

b. A cutting plane extending fully across the short dimension of the structure defines a transverse section

c. A cutting plane extending fully across the long dimension of a structure defines a longitudinal section

* 2. Section lining (hatching)

- a. Features behind the cutting plane are not section, but are shown in proper position and scale
- b. Materials are defined by symbols (section lines)

- c. Commonly used symbols
 - 1) Brick
 - 2) Steel
 - 3) Insulation
 - 4) Earth
 - 5) Sand
 - 6) Gravel
 - 7) Concrete
 - 8) Concrete block
 - 9) Framing lumber
 - 10) Finish lumber
 - d. Hatching (section lining) is thinner than visible lines
3. Drawing scale
- a. Sections showing the entire building are drawn at small scales
 - 1) $\frac{1}{4}'' = 1'-0''$ are most common
 - 2) Small scales do not allow drawing much detail
 - * b. Break lines are used to reduce distances by removing repetitive information
 - 1) Used where construction does not change over a long distance
 - 2) Allows drawing large areas at readable scales (more detail)
 - 3) Long break lines have a center zigzag or looped connection
 - c. Scale selected for a Typical Wall Section should allow the details to be clearly shown while still fitting the available space
 - 1) $\frac{3}{4}'' = 1'-0''$
 - 2) $1'' = 1'-0''$
 - 3) $1-\frac{1}{2}'' = 1'-0''$
- * 4. Dimensions
- a. Show specific elevation numbers, distances, and sizes of building materials
 - b. Important dimensions are often included
 - 1) Floor to ceiling heights

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- 2) Crawl space vertical height
 - 3) Footing sizes
 - 4) Foundation wall thickness
 - 5) Roof overhang
 - 6) Roof slope
- c. The order of notes is to give number, size, and material description of various building elements
- 1) Ex: 2-2 x 4 DOUBLE TOP PLATE
 - 2) Leaders lead from the note to where the note applies

* C. Construction elements usually shown in a *Typical Wall Section*

1. Footing
2. Foundation
3. Drain tile and waterproofing as needed
4. Sill and sill anchoring system
5. Joists and Rim Joists
6. Subfloor
7. Underlayment
8. Sole plate
9. Wall stud
10. Double top plate
11. Wall sheathing material
12. Ceiling joist or truss
13. Rafter or truss
14. Fascia (if included)
15. Soffit (if included)
16. Lookouts and other soffits nailers
17. Drip edge
18. Building paper
19. Roof covering material
20. Insulation for walls, floors, ceilings
21. Interior and exterior wall finish materials and trim

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22. Metal straps (hurricane ties)

23. If the wall includes masonry veneer, the following additional elements are included

- a. Masonry wall ties
- b. Air space (cavity)
- c. Flashing
- d. Weep holes
- e. Drain Tile