Interior Architecture Program
Ohio University

Drafting Overview

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Drafting Terminology

- Plan: properly called ‘plan section’.
- A horizontal view that is the result of ‘cutting’ through the object/space horizontally, to reveal what is below the cut.

- Section: usually, but not always, meaning ‘vertical section’. A vertical cut through an object or space to reveal the thicknesses of the objects that have been cut, such as walls in a building.

- Elevation: a straight on, frontal view of a surface, such as a chair, a wall, a guitar, et cetera. An elevation drawing only shows the surface characteristics of its subject
- Axonometric & Isometric: three dimensional images that convey the mass and some of the surface of an object or space.

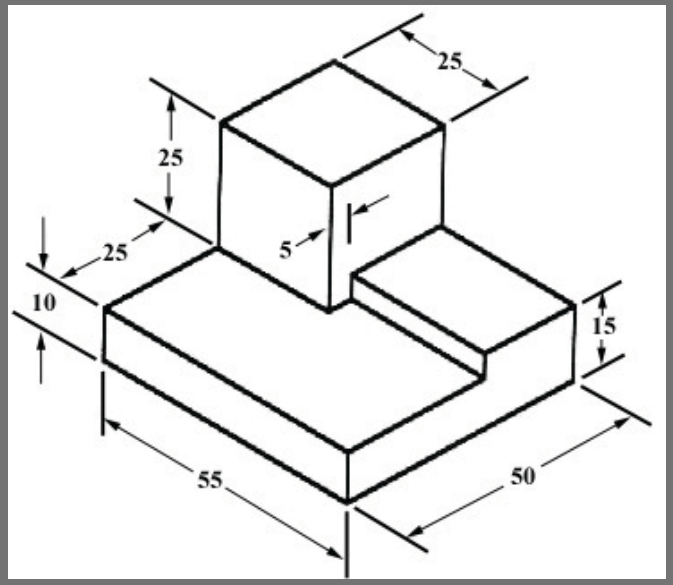
Scale

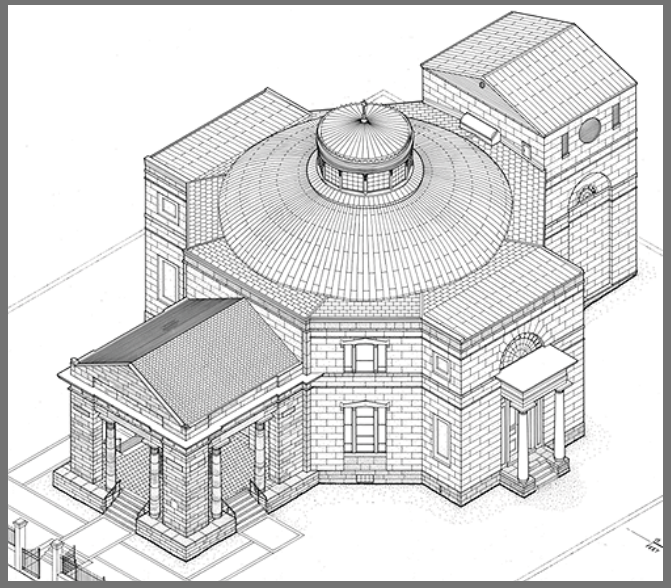
- What is a ***scale*** drawing?
- A scale is a ratio representing the size of an illustration or reproduction, especially a map or a model, in relation to the object it represents.
- It is a comparison of sizes.

- The purpose of creating scale drawings is to allow the drafter to create a drawing which is proportionately the same as the artifact it represents.

Isometric Projection

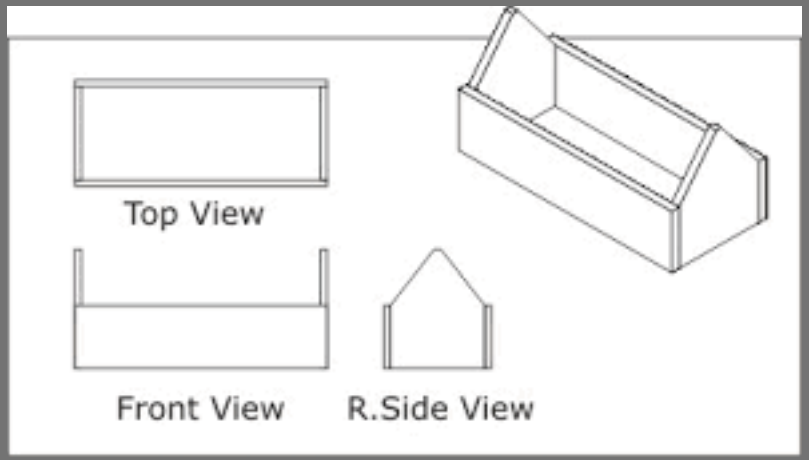
- Isometric drawing is drawn around three lines, or an isometric axis.
- The three lines are similar to the edges of a cube.
- The two base lines are drawn at an angle of 30 degrees.

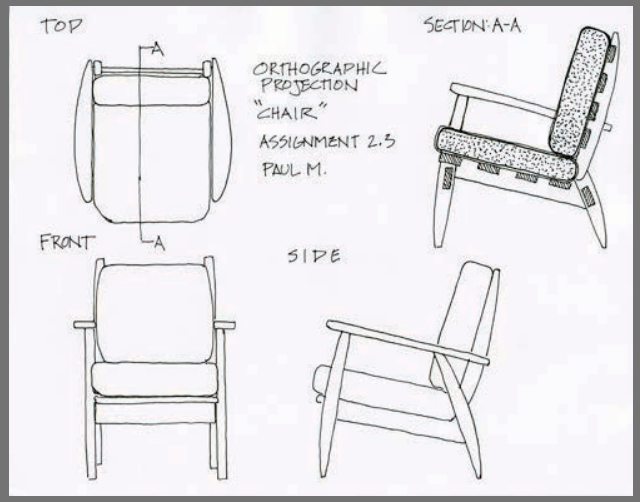




Orthographic Projection

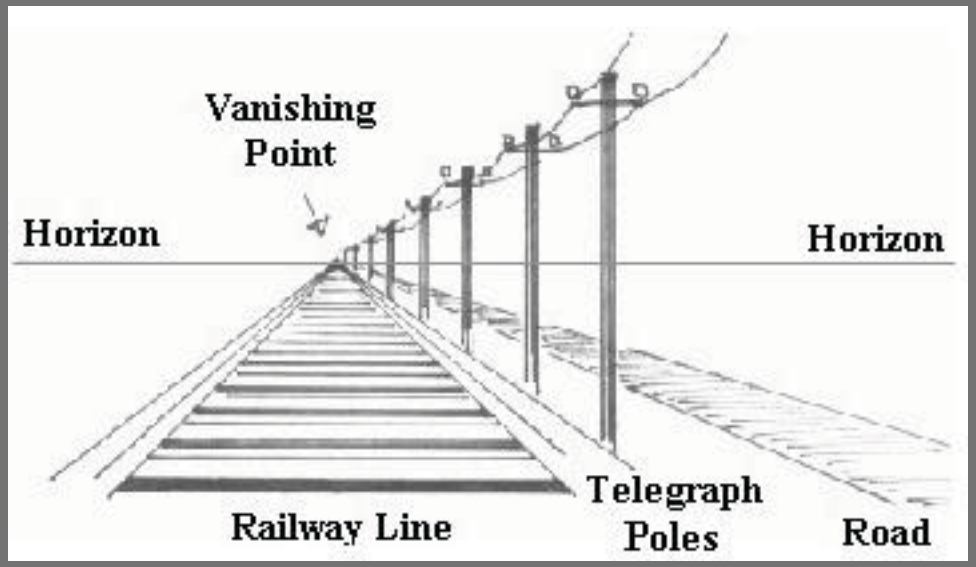
- This method of drawing takes any object and breaks it down into each of its sides.
- Imagine an object placed into a clear cube so you can isolate one of the sides at a time.



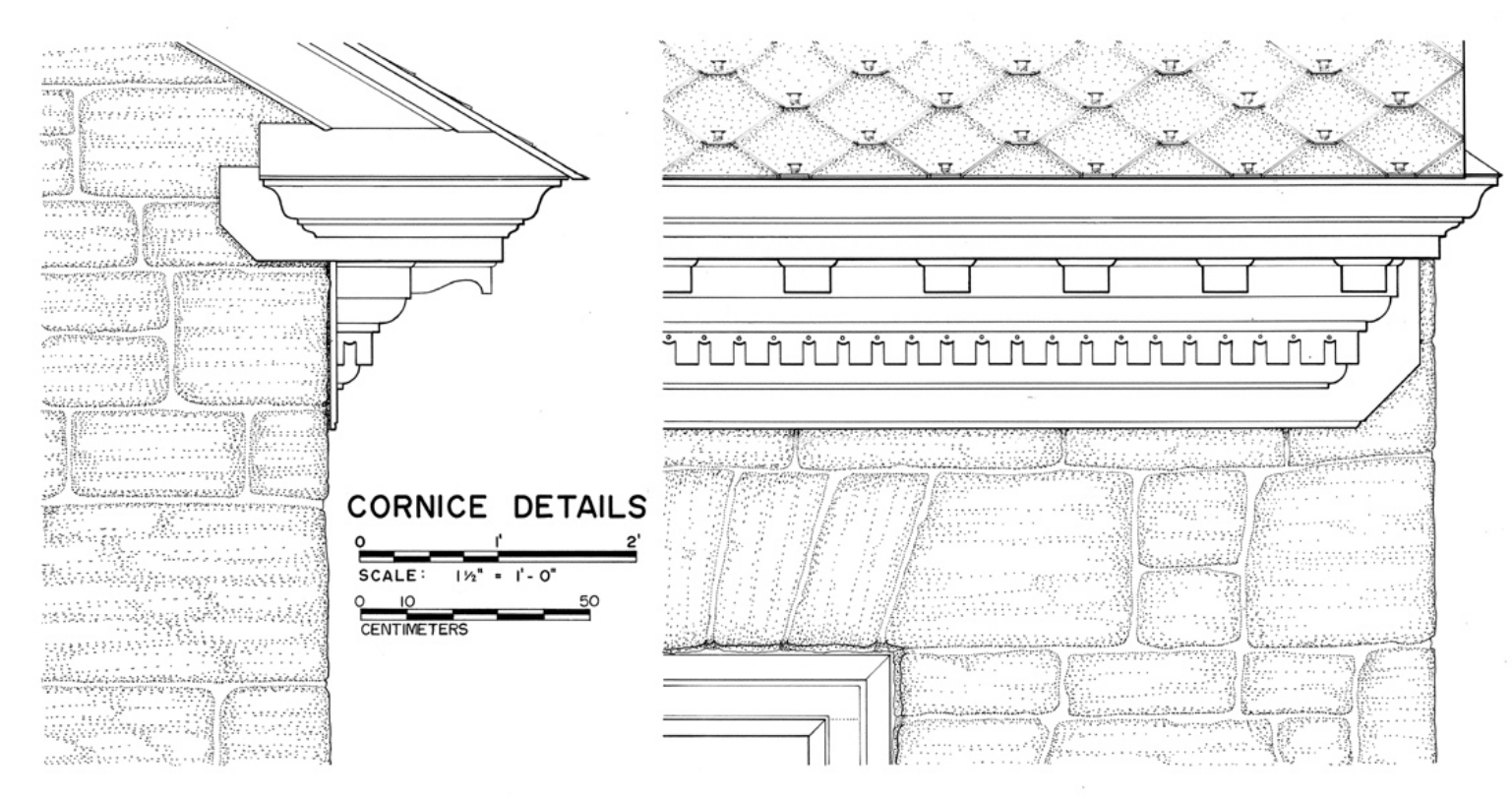


Perspective Drawing

- The object gets smaller the farther away it is.
- This is called ‘diminution.’
- The artist/draftsperson is free to choose 1,2 or 3 vanishing points on the horizon.

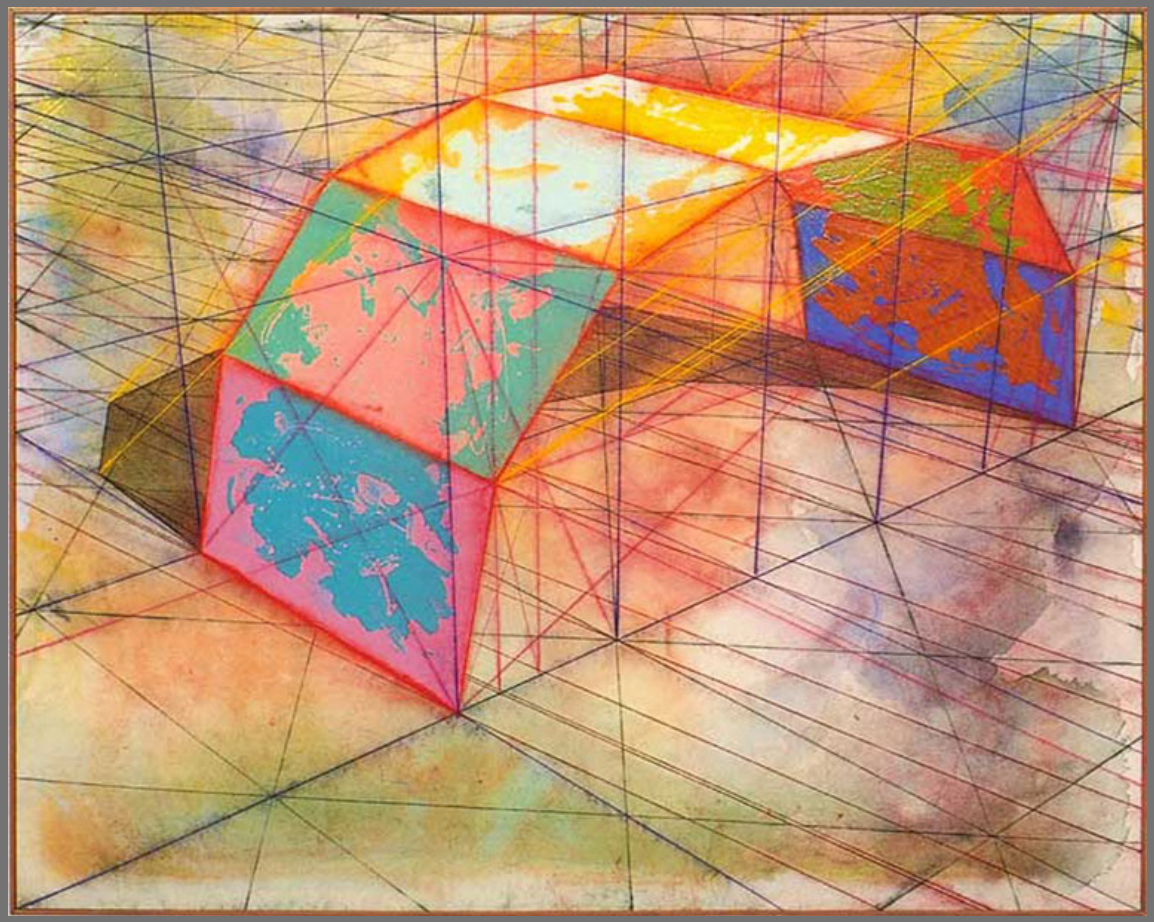


Elevation Drawings
showing the details of a cornice

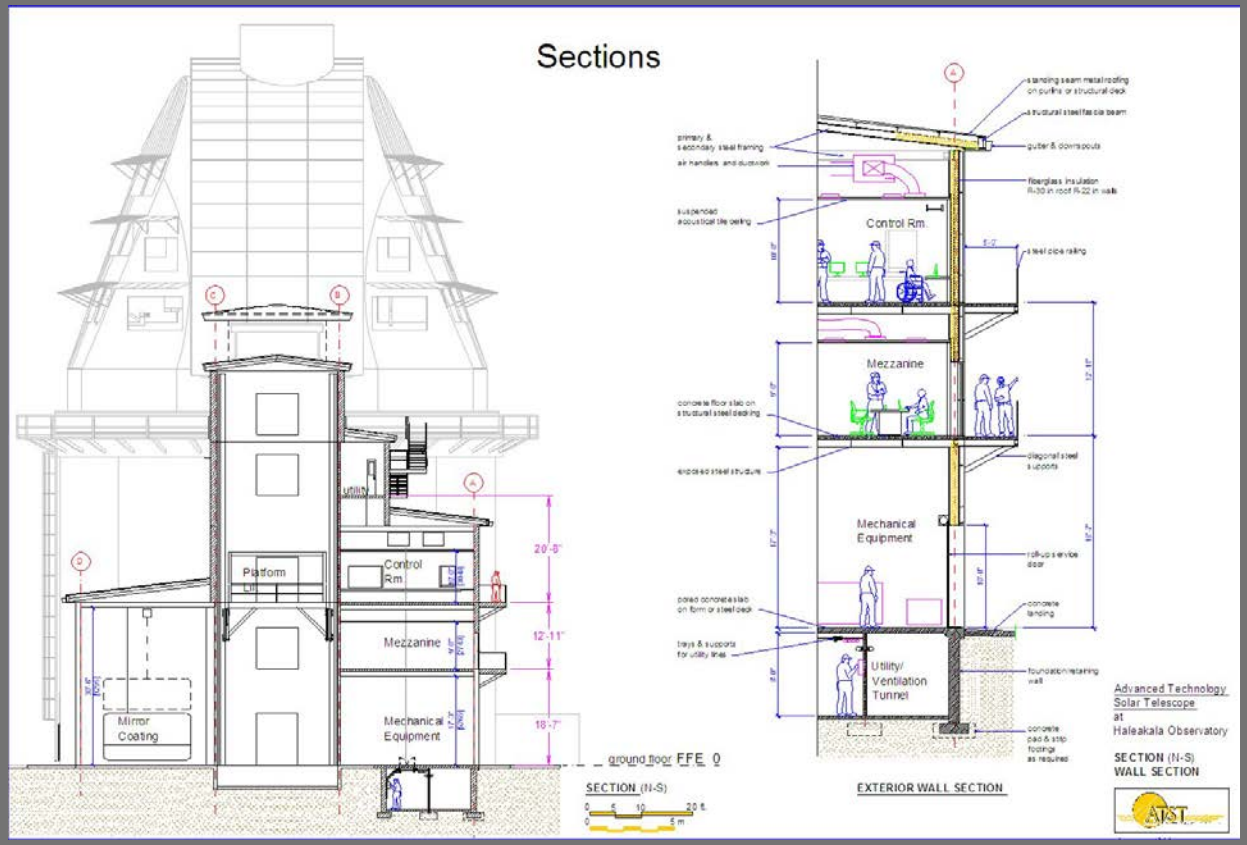


Drafting, and drafting tools, can be used to ‘sketch’

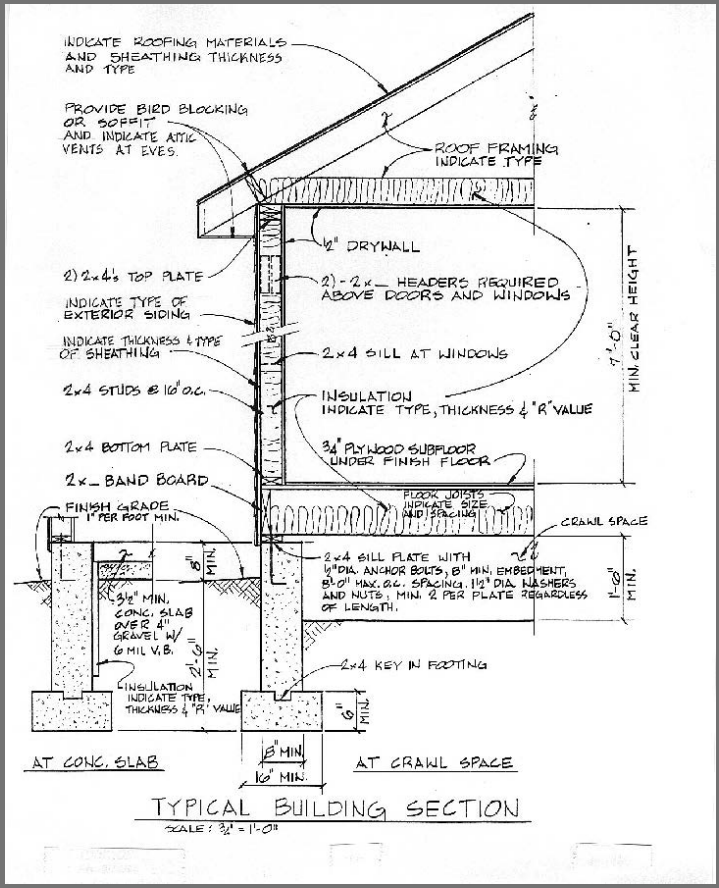
meaning, to draw quic kly



Vertical Sections
objects that are ‘cut’ are shown ‘poche’d’, or darkened in

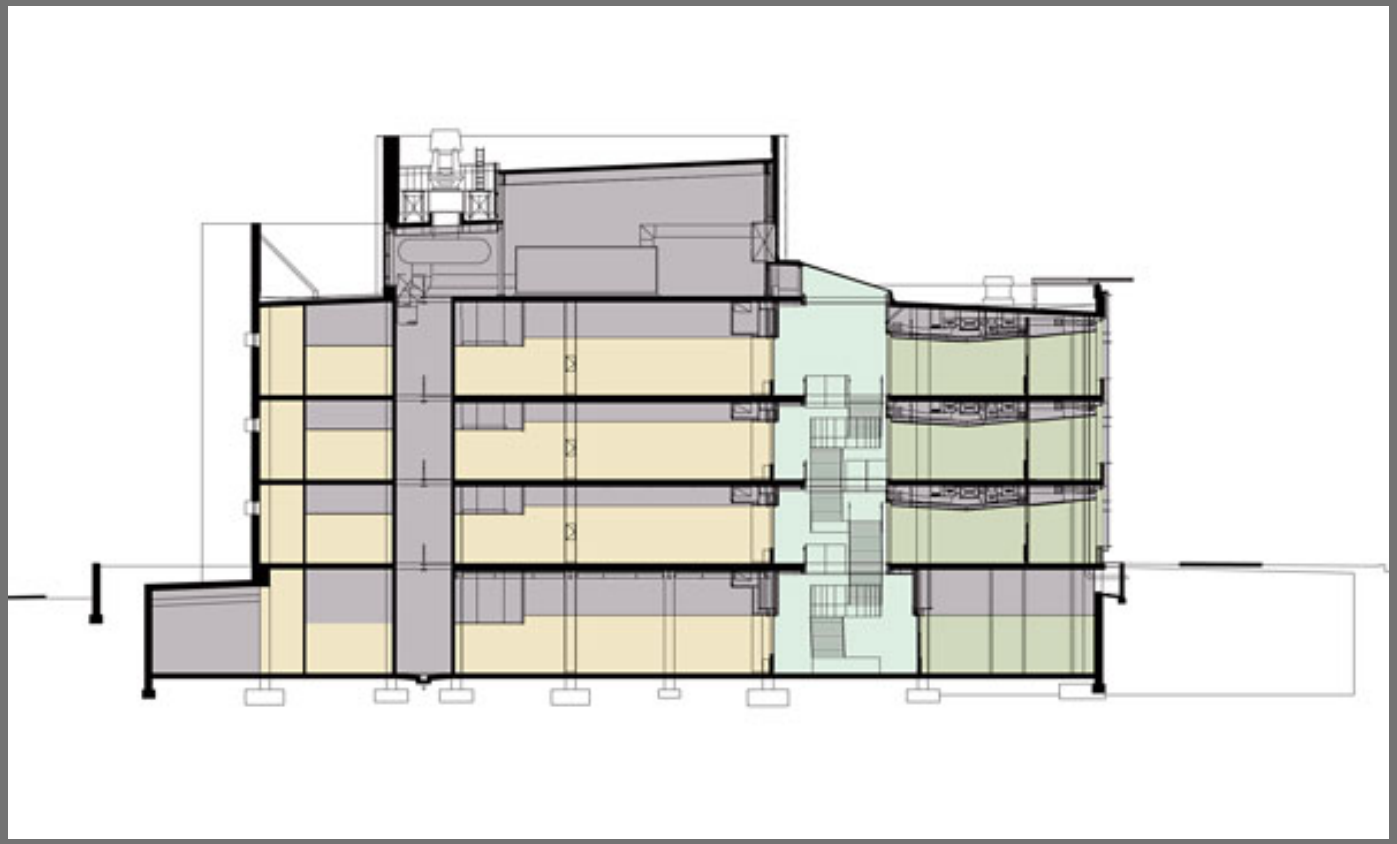


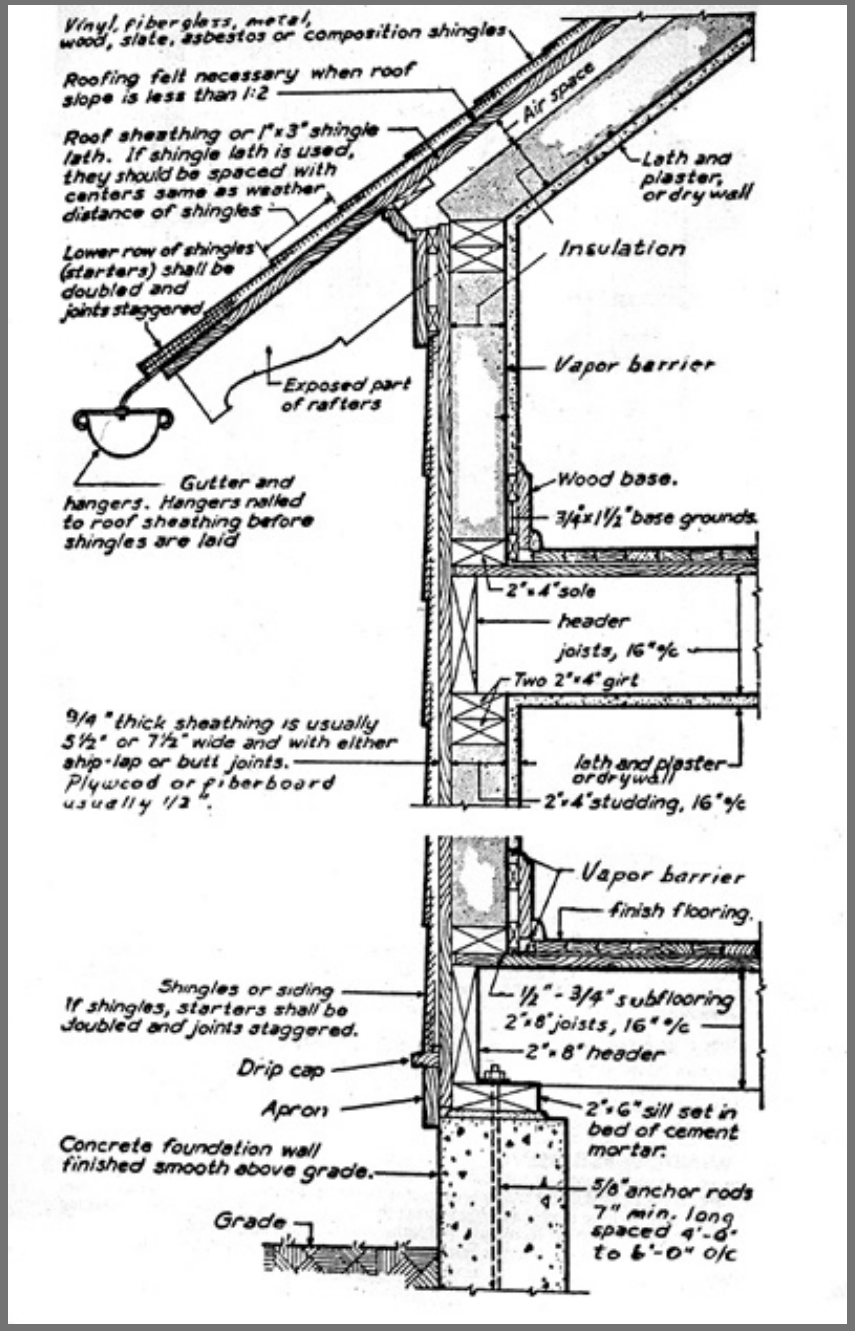
A vertical section through a typical house wall



Vertical section through a whole building

only objects that are ‘cut’ through are darkened; the other surfaces seen are in ‘elevation.’

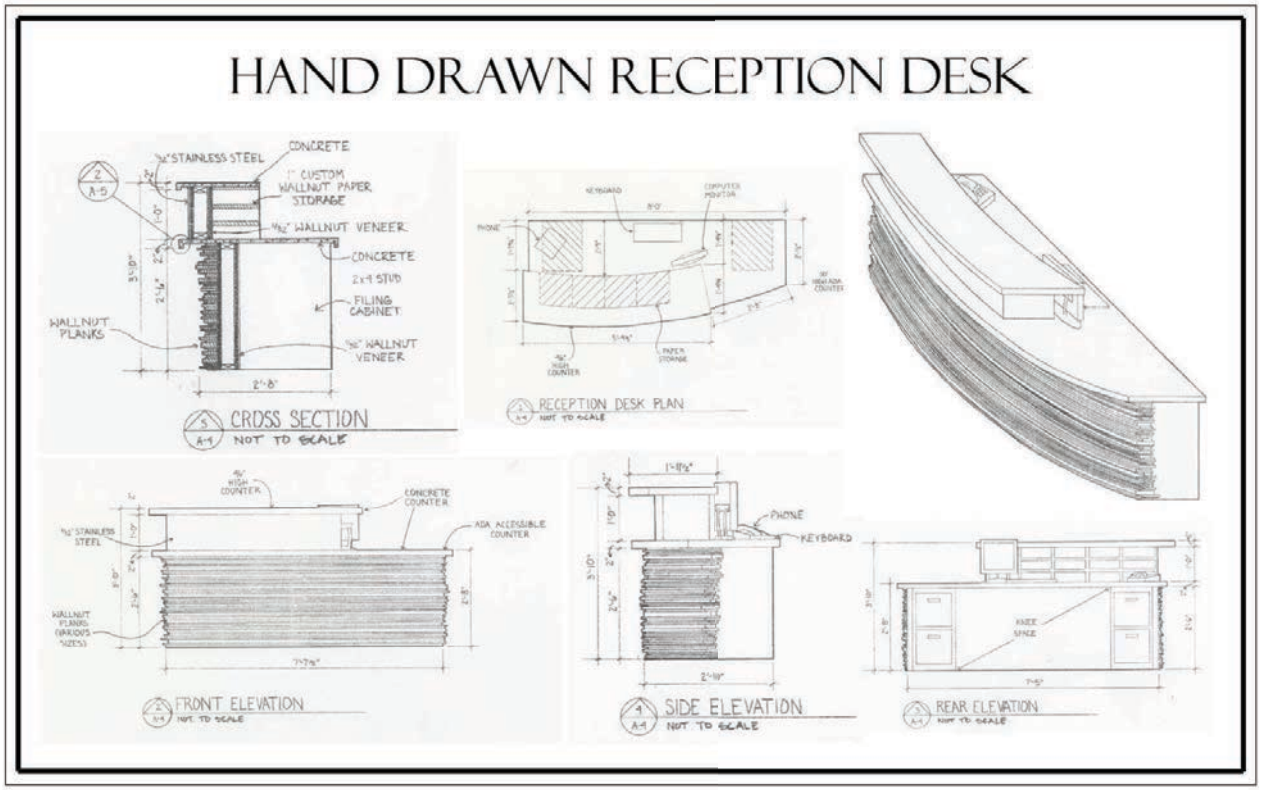



Vinyl, fiberglass, metal, wood, slate, asbestos or composition shingles
Roofing felt necessary when roof slope is less than 1:2
Roof sheathing or 1"x3" shingle lath. If shingle lath is used, they should be spaced with centers same as weather distance of shingles
Lower row of shingles (starters) shall be doubled and joints staggered
Air space
Lath and plaster, or dry wall
Insulation
Vapor barrier
Exposed part of rafters
Gutter and hangers. Hangers nailed to roof sheathing before shingles are laid
Wood base.
3/4"x1 1/2" base grounds
2"x4" sole
header
joists, 16" o/c
Two 2"x4" girt
9/4" thick sheathing is usually 5 1/2" or 7 1/2" wide and with either ship-lap or butt joints. Plywood or fiberboard usually 1/2".
lath and plaster or dry wall
2"x4" studding, 16" o/c
Vapor barrier
finish flooring.
Shingles or siding
If shingles, starters shall be doubled and joints staggered.
1/2" - 3/4" subflooring
2"x8" joists, 16" o/c
2"x8" header
Drip cap
Apron
2"x6" sill set in bed of cement mortar.
Concrete foundation wall finished smooth above grade.
5/8" anchor rods 7" min. long spaced 4'-0" to 6'-0" o/c
Grade

Sheet Layout Conventions

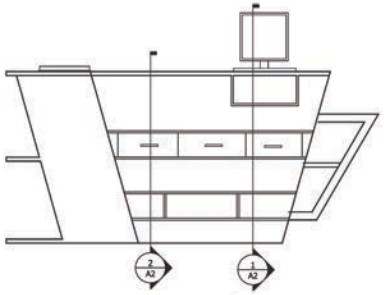
Individual drawing titles below the drawing

Block printing

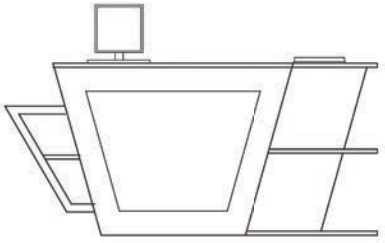


PLAN & ELEVATION & SECTIONS

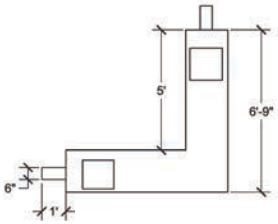
Nupur Shah
furniture Design Studio
Spring-2011
Project- Reception desk
NESAD



1 BACK ELEVATION
Scale: 1"= 1'-0"

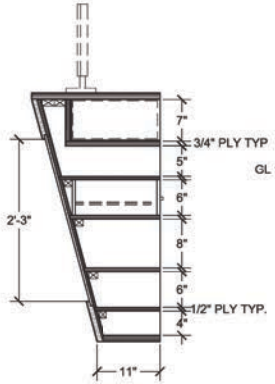


2 FRONT ELEVATION
Scale: 1"=1'-0"

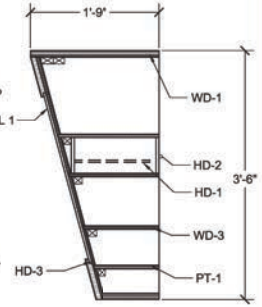


1 FLOOR PLAN-DESK
Scale: 1/2"=1'-0"

WD-1	MAPLE PLYWOOD 3/4" code-MP2
WD-2	MAPLE PLYWOOD 1/2" code- MP
GL-1	VARIA ECORESIN GLASS
PT-1	WHITE PAINT
HD-1	DRAWER SLIDER
HD-2	DRAWER HANDLES # 5274469
HD-3	GLASS SCREEN LATCHES # 616695

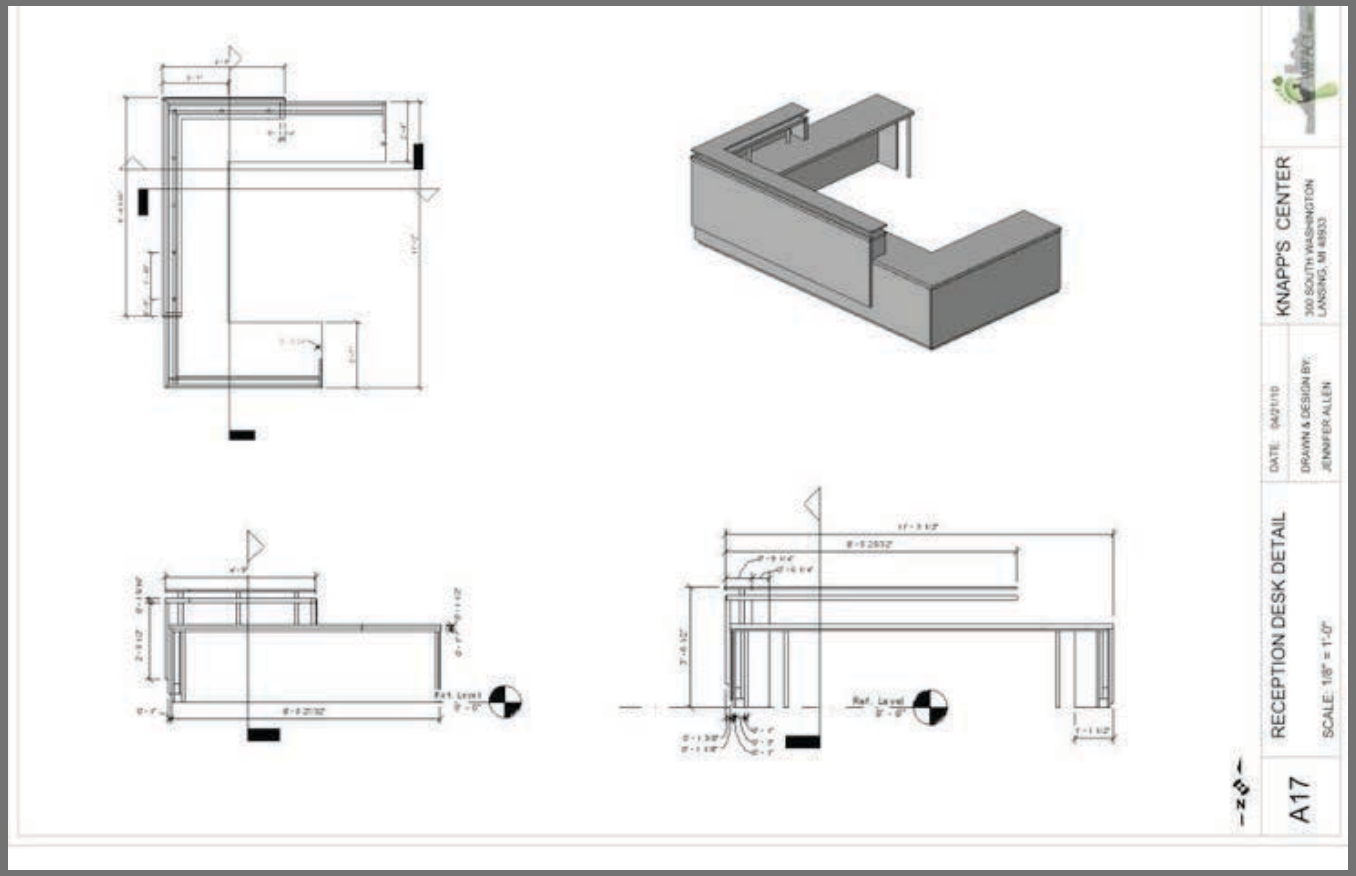


1 SECTION
Scale: 1 1/2" = 1'-0"

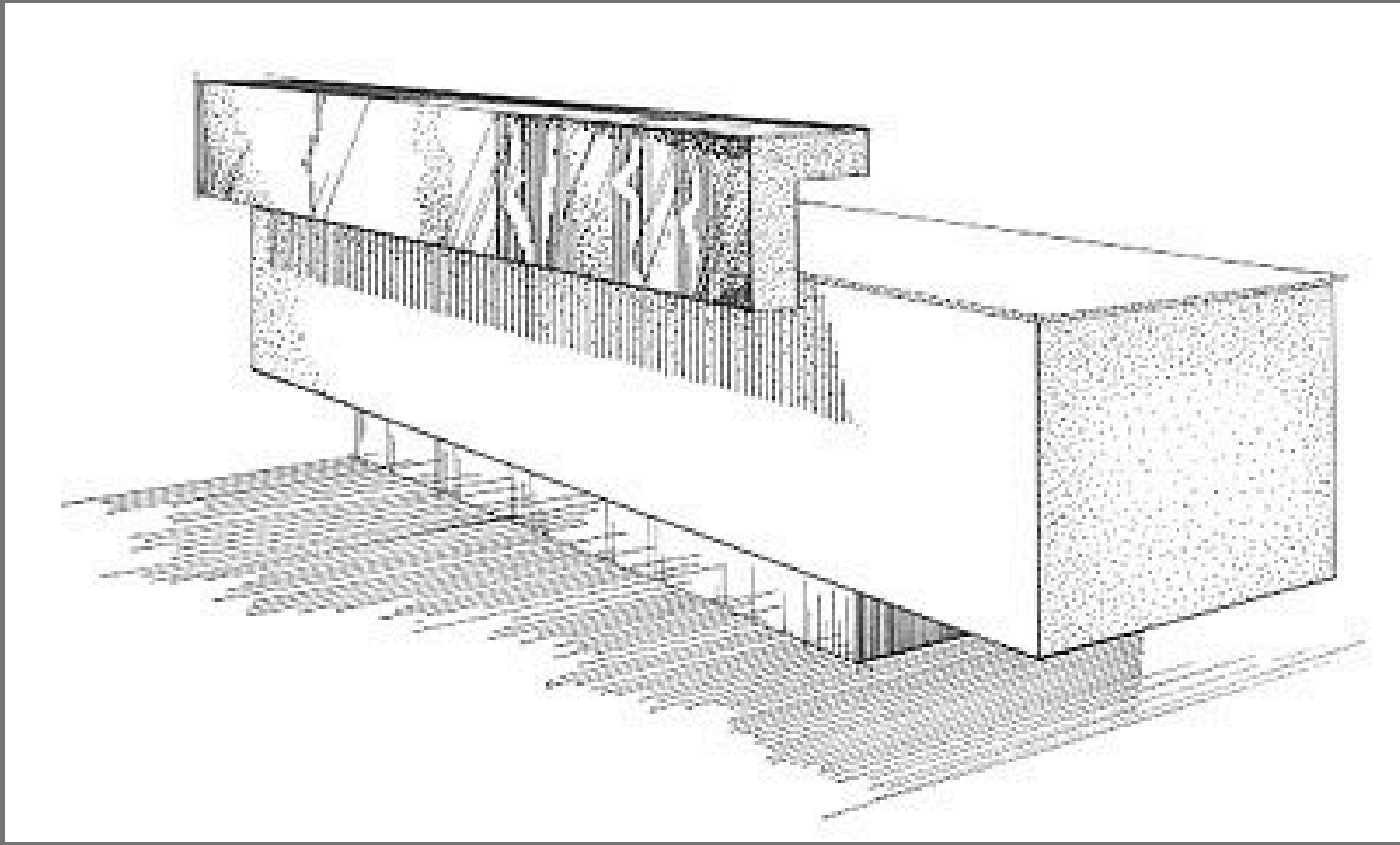


2 SECTION
Scale: 1 1/2" = 1'-0"

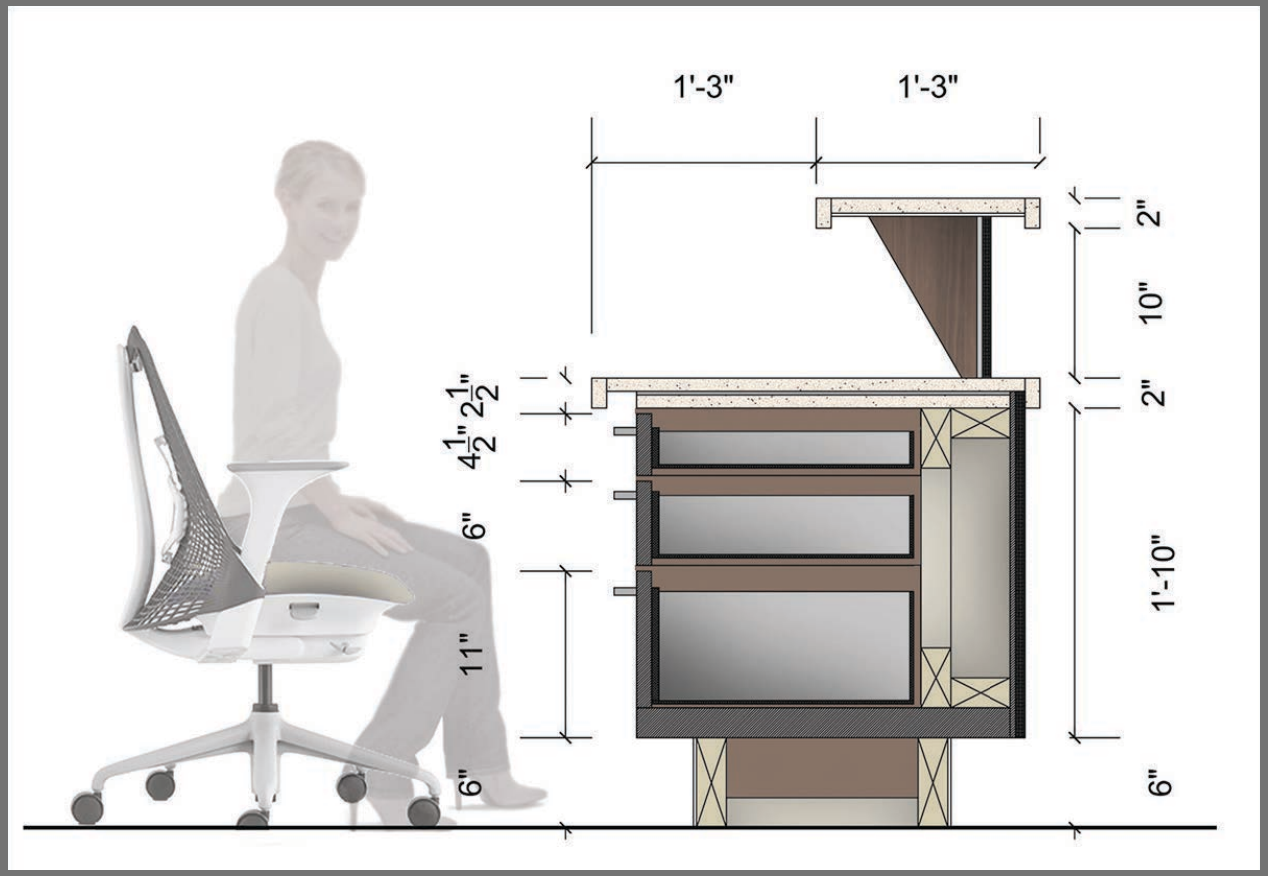
Plan, Section, Elevation, Perspective



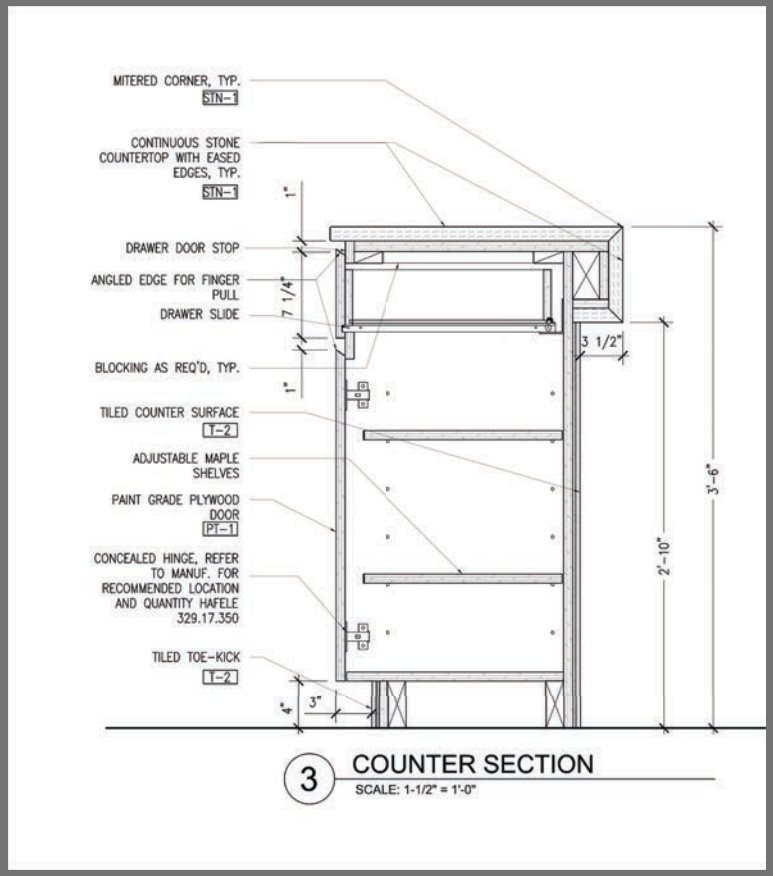
This is a schematic design image: it only shows what the desk looks like: a fabricator cannot build from this drawing.

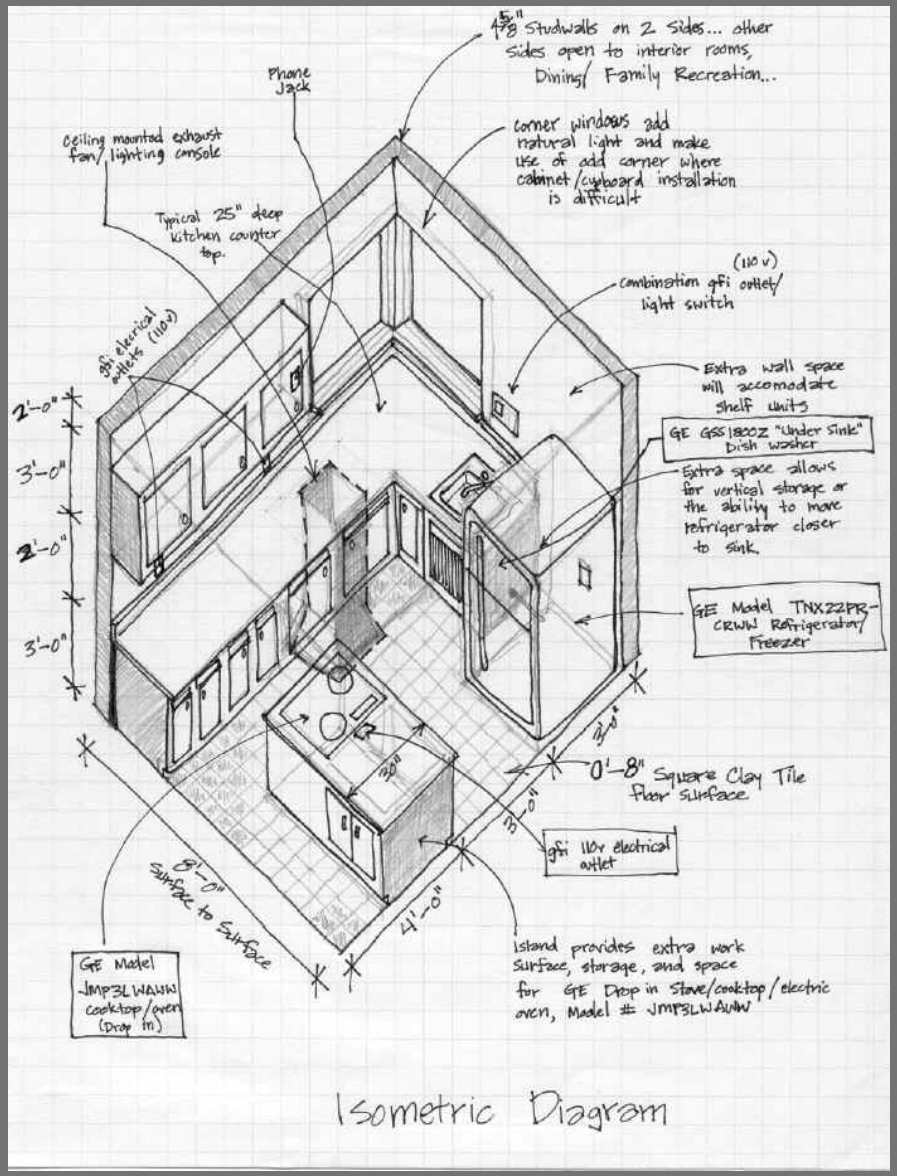


This image is becoming more specific about sizes and construction method.

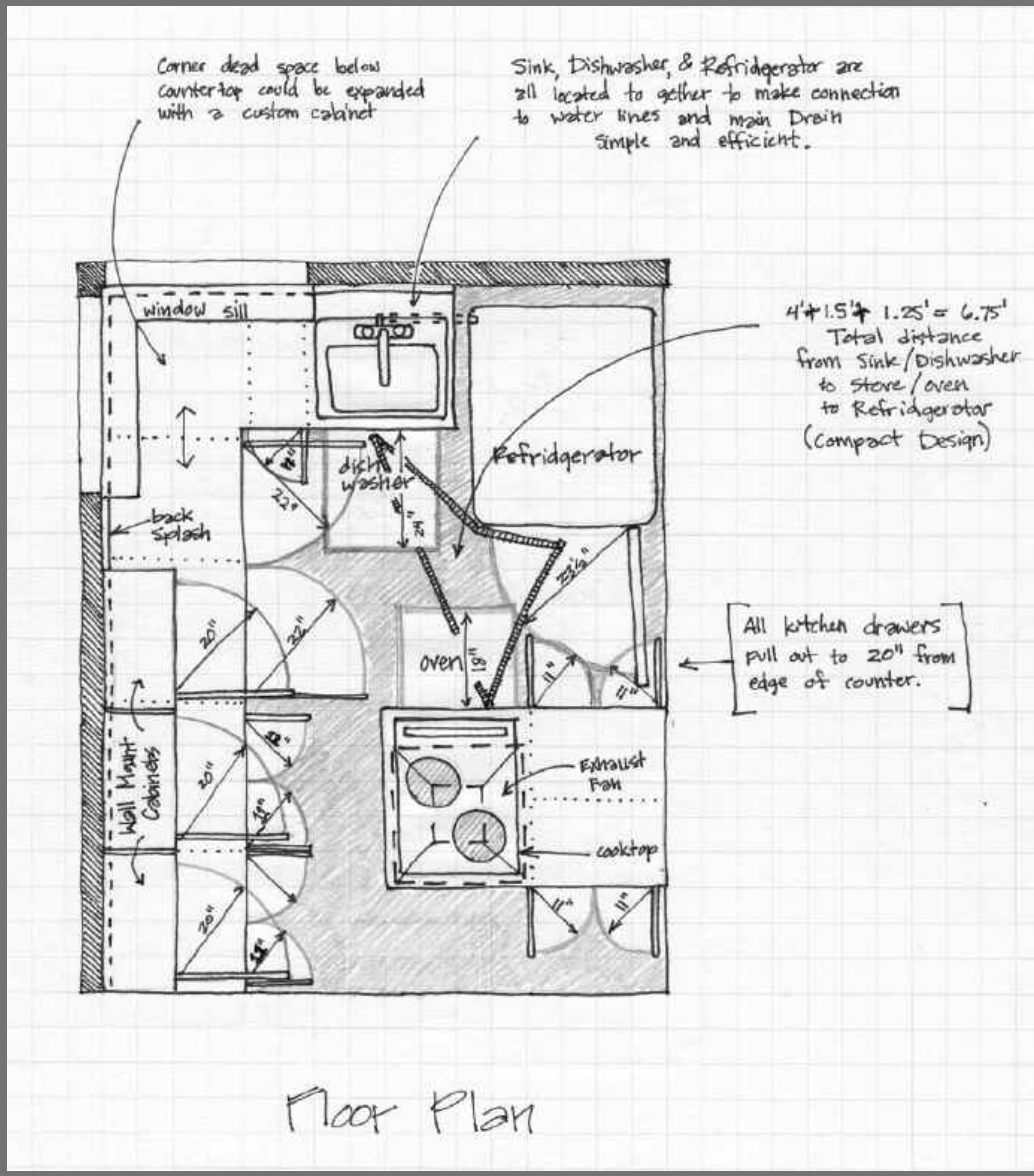


This image presents very specific dimensional and material information: a fabricator can build from this kind of drawing.

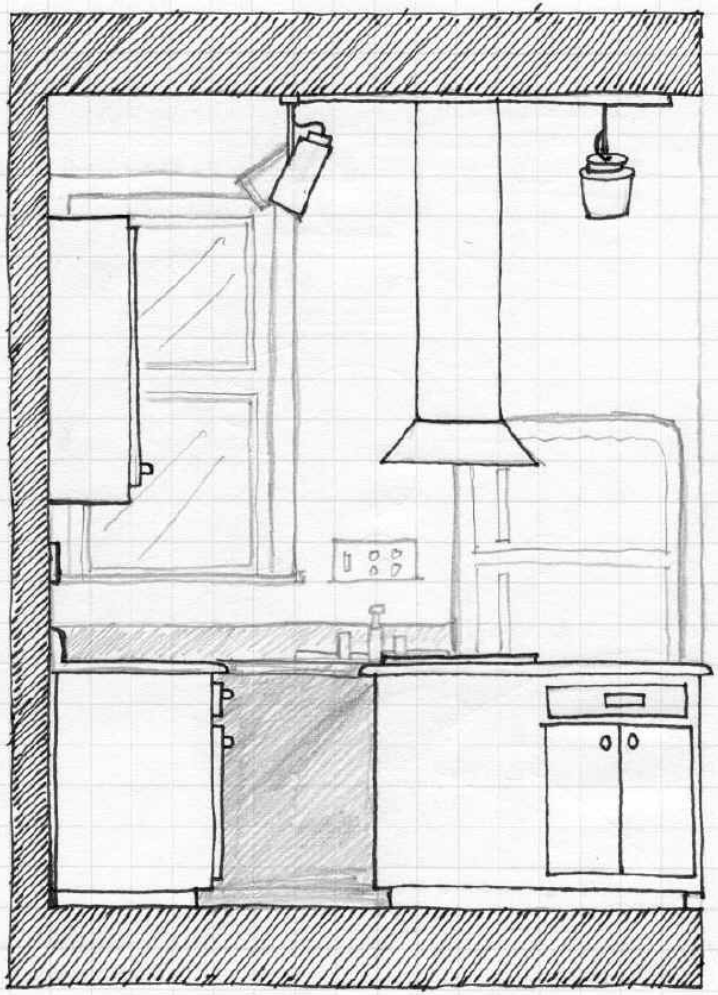




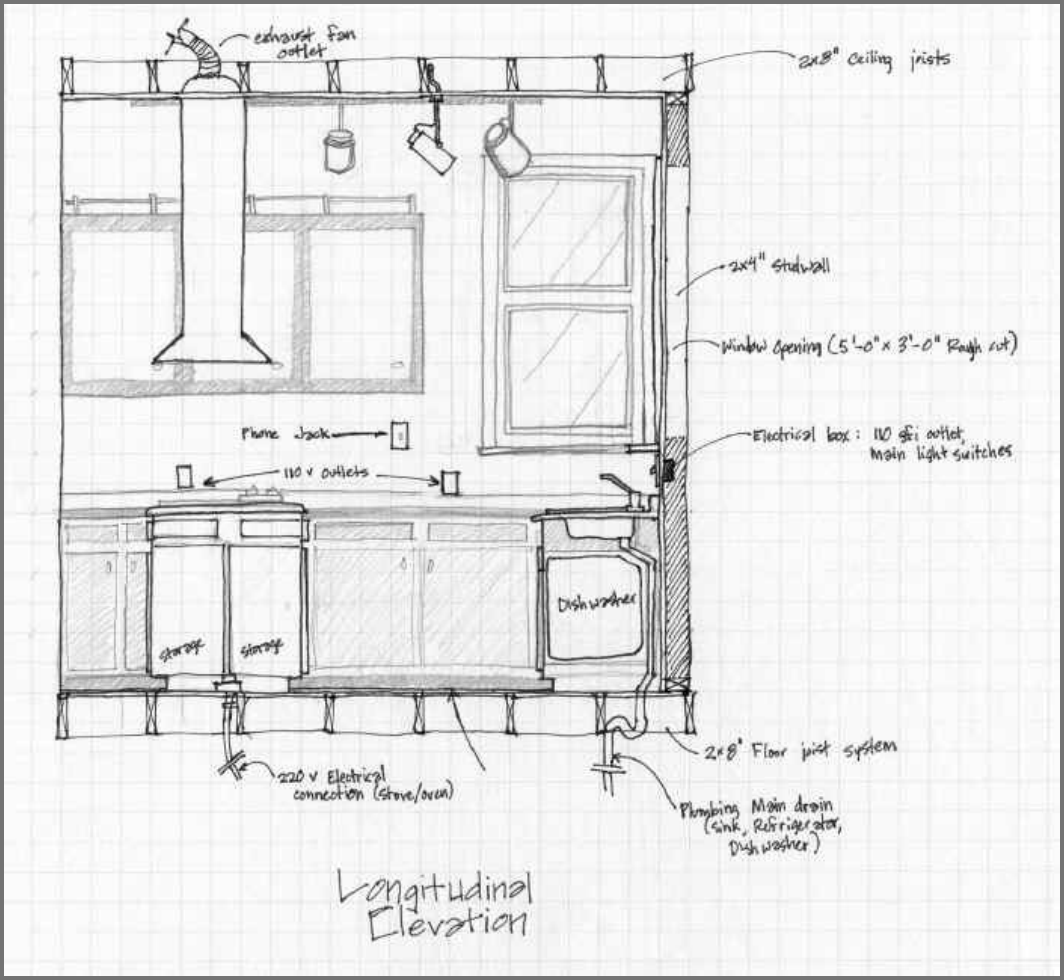
Isometric Diagram


Corner dead space below countertop could be expanded with a custom cabinet
Sink, Dishwasher, & Refridgerator are all located together to gether to make connection to water lines and main Drain simple and efficient.
window sill
dish washer
Refridgerator
4' + 1.5' + 1.25' = 6.75'
Total distance from Sink/Dishwasher to Stove/oven to Refridgerator (Compact Design)
back Splash
oven
All kitchen drawers pull out to 20" from edge of counter.
Wall Mount Cabinets
Exhaust Fan
cooktop
Floor Plan

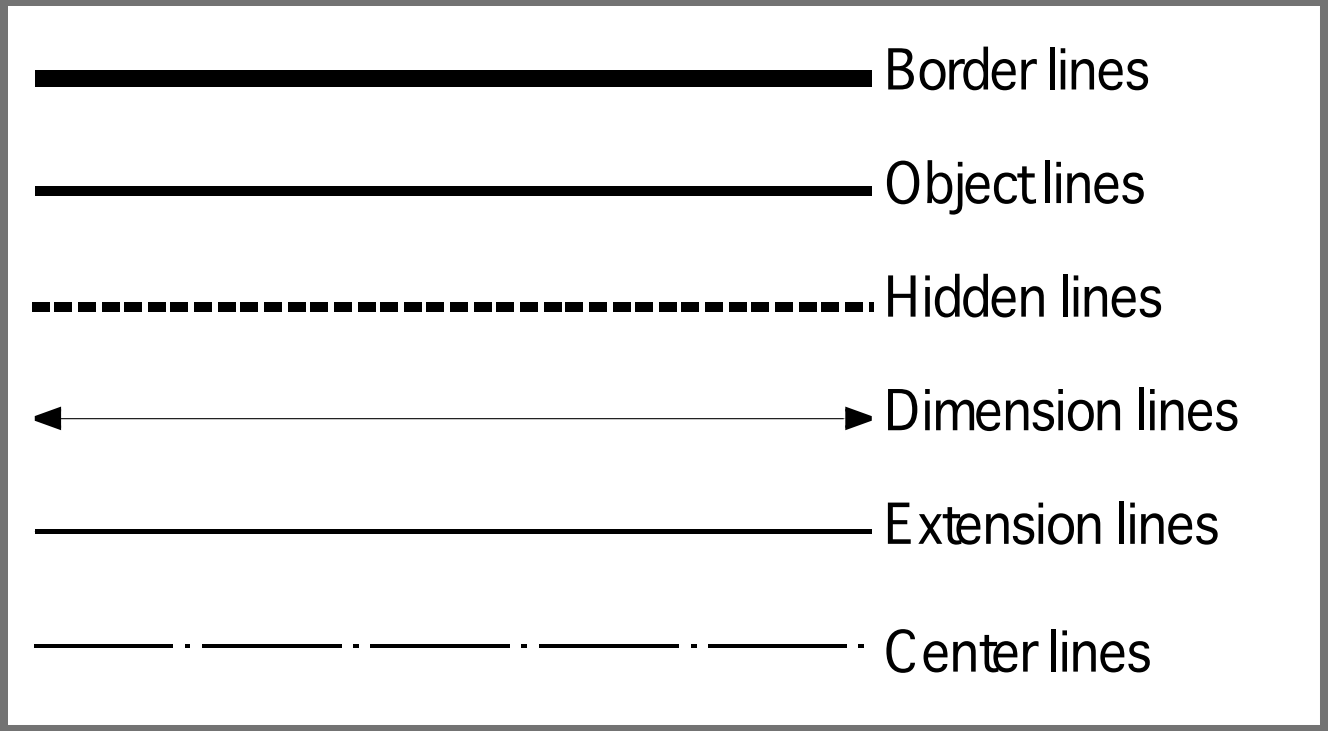
Latitudinal Section
Elevation



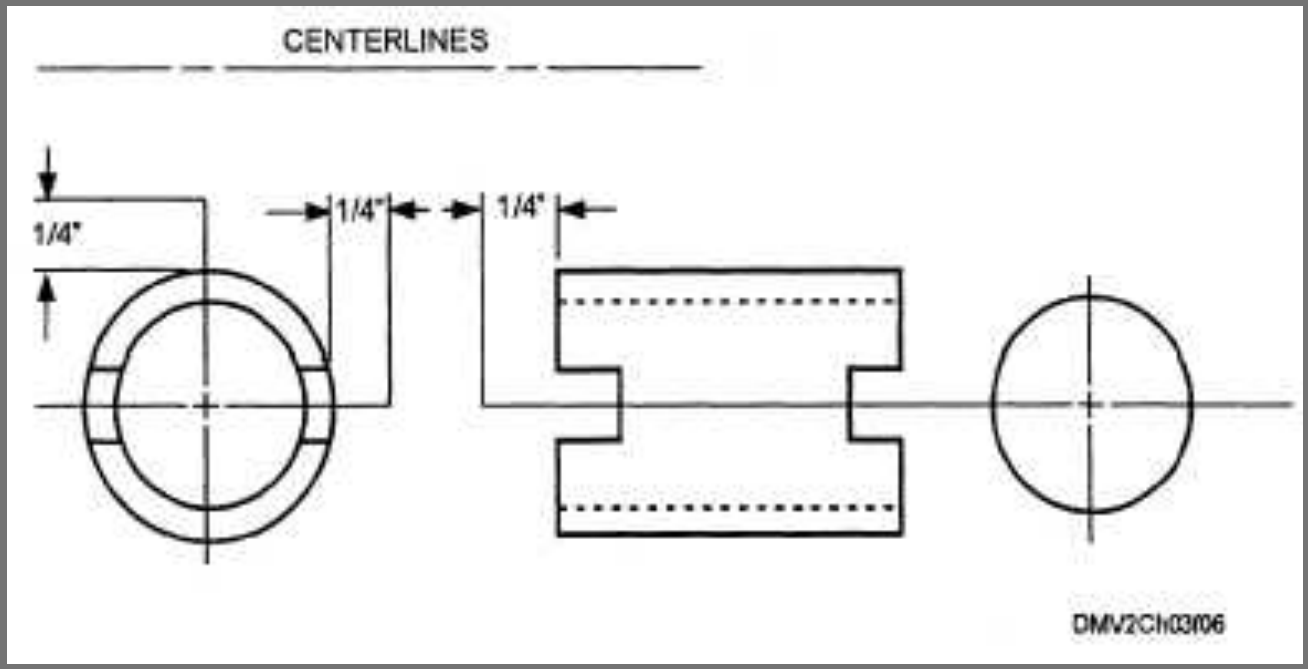
This drawing contains information in section and elevation



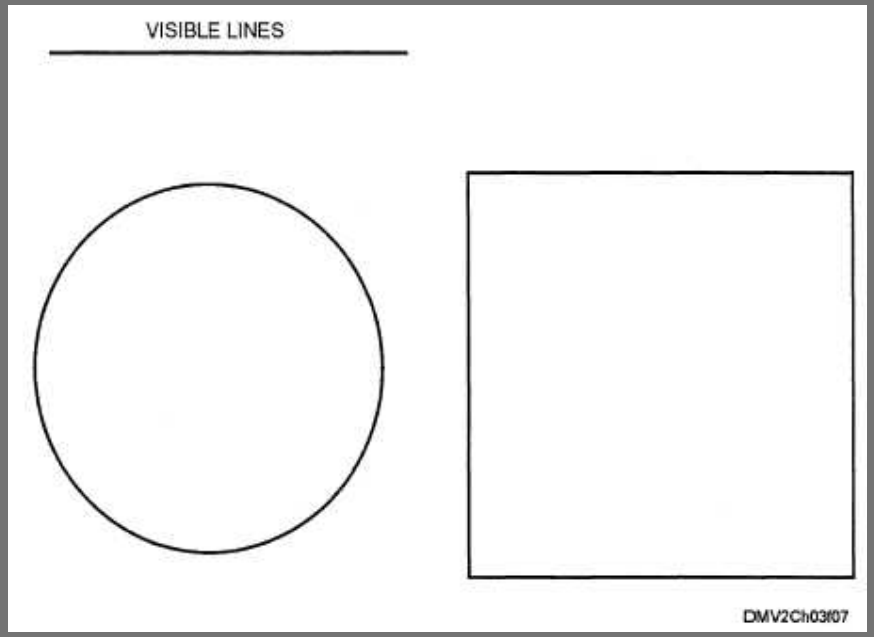
Line weight is very important in drafted drawings



Line configurations and the meanings assigned to these configurations are known as line conventions.

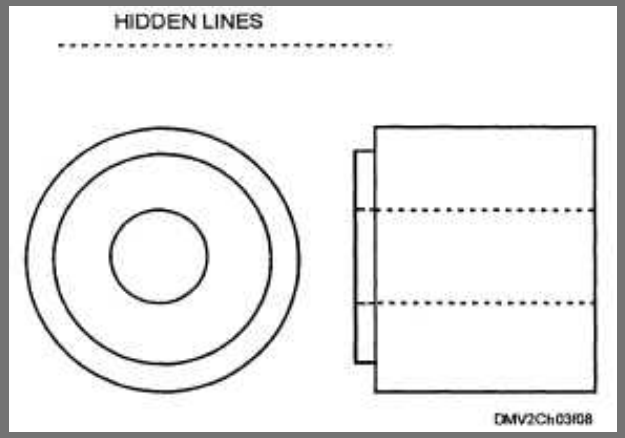


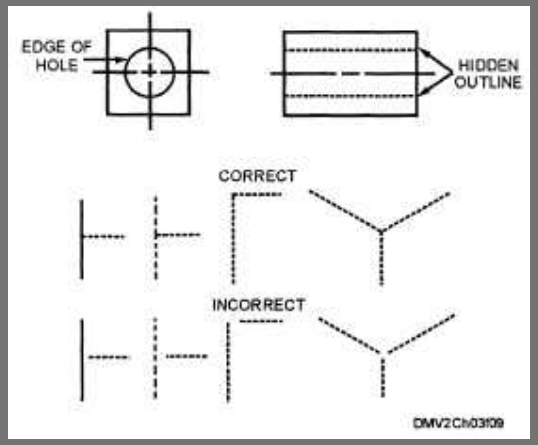
Any lines visible in a view that define edges or outlines of objects are drawn with lines referred to as visible lines. Visible lines are drawn as solid, thick lines. In drawings that do not have cutting planes, visible lines will be the thickest lines drawn.



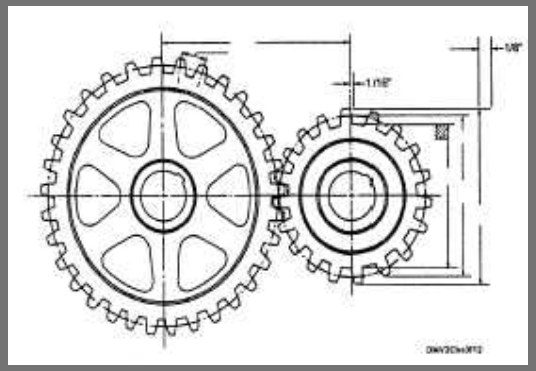
Lines not readily apparent in a view of an object are *hidden lines.* Hidden lines are evenly-spaced, short dashes that begin and end as a dash in contact with the line from which it starts and stops.The exception being when it is a continuation of an unbroken line.

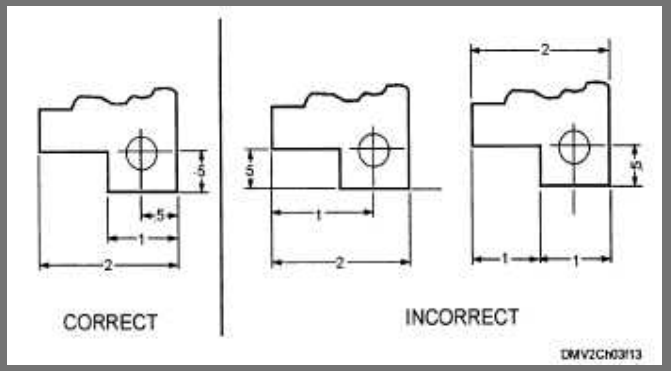
- Hidden lines that join visible lines or another hidden line must contact the line.





Extension lines are thin lines that extend from the object outline or point on the object to a place outside the image area. Extension lines define areas for dimensions. You should leave a 1/16" gap between the object outline or point on the object and the beginning of the extension line. Extension lines project 1/8" beyond the outermost dimension line. Extension and dimension lines are drawn at right angles to each other.

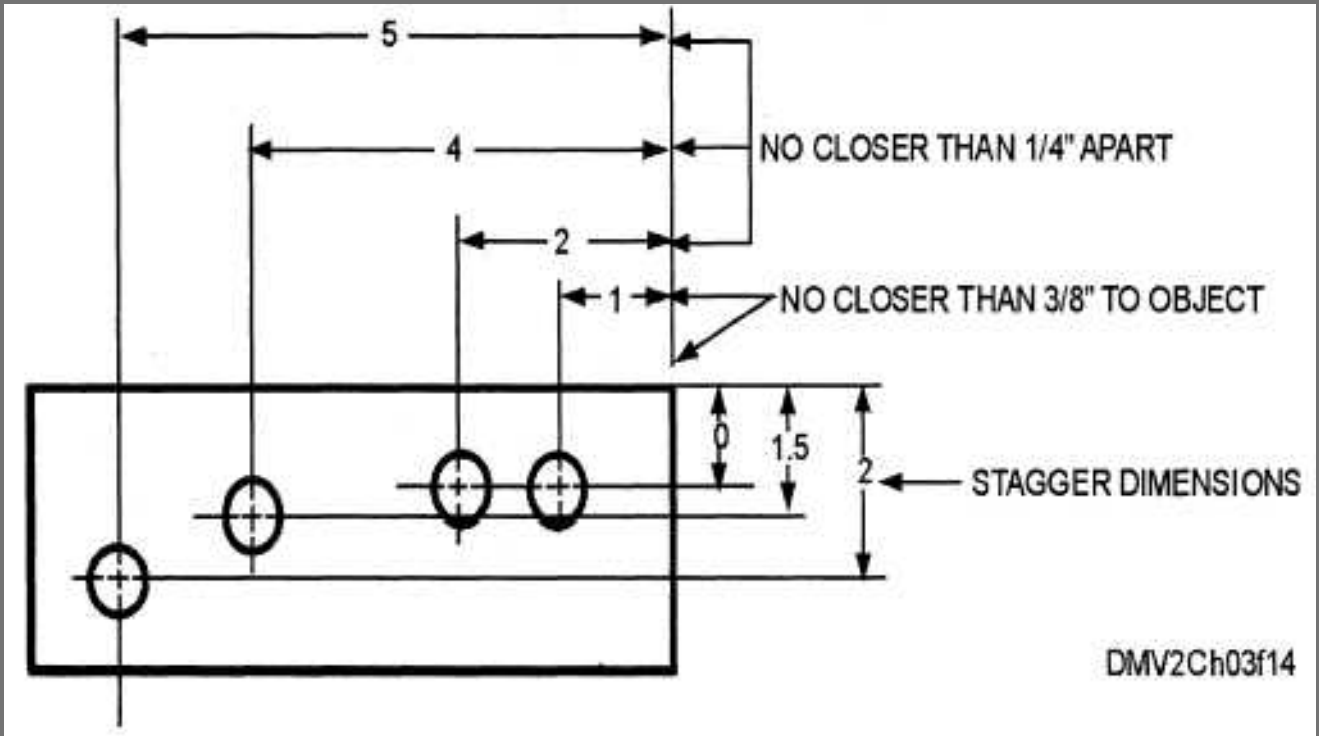




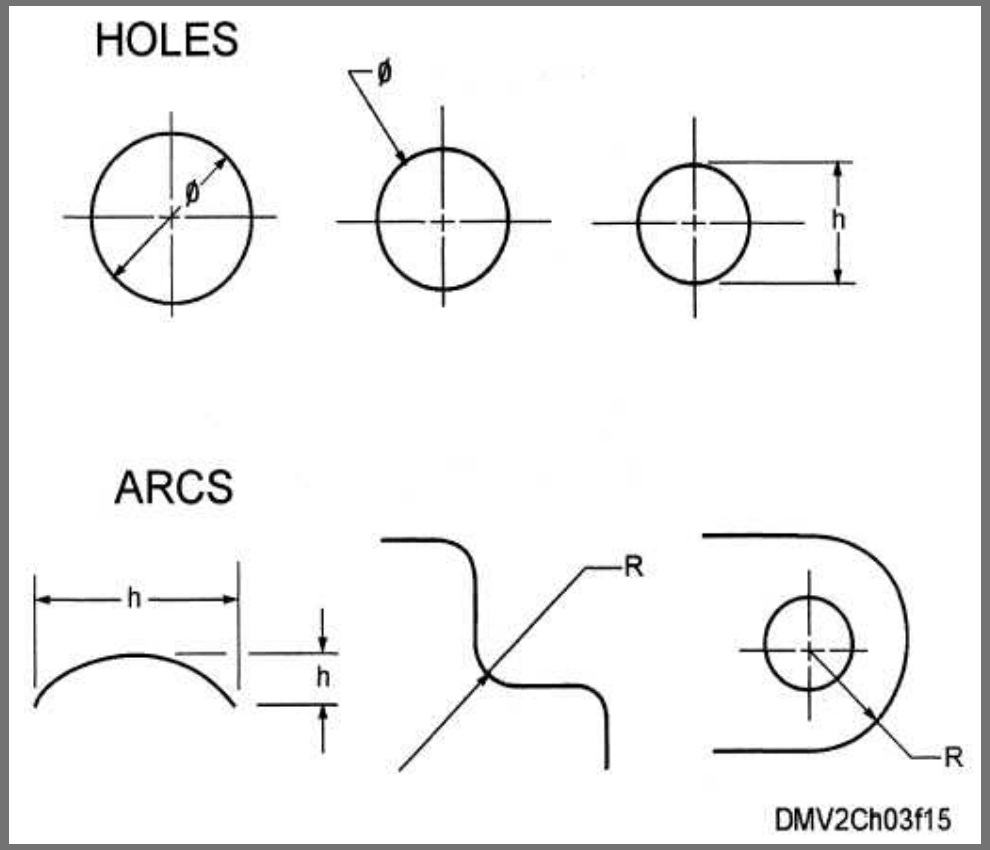
Dimension Lines

- Lines that define the parameters of a dimension are called dimension lines.
- Dimension lines are thin lines terminating in arrowheads.
- Place dimension lines no closer than 3/8" from the object outline.
- Parallel dimension lines should be a minimum of 1/4" apart.
- You may place parallel dimension lines more than 1/4" apart so long as the spacing between dimension lines is uniform throughout the drawing.
- Dimension lines are generally broken in the center of the line to provide a space for the dimension figure.
- Dimension figures for parallel dimension lines are staggered.

Dimension Lines



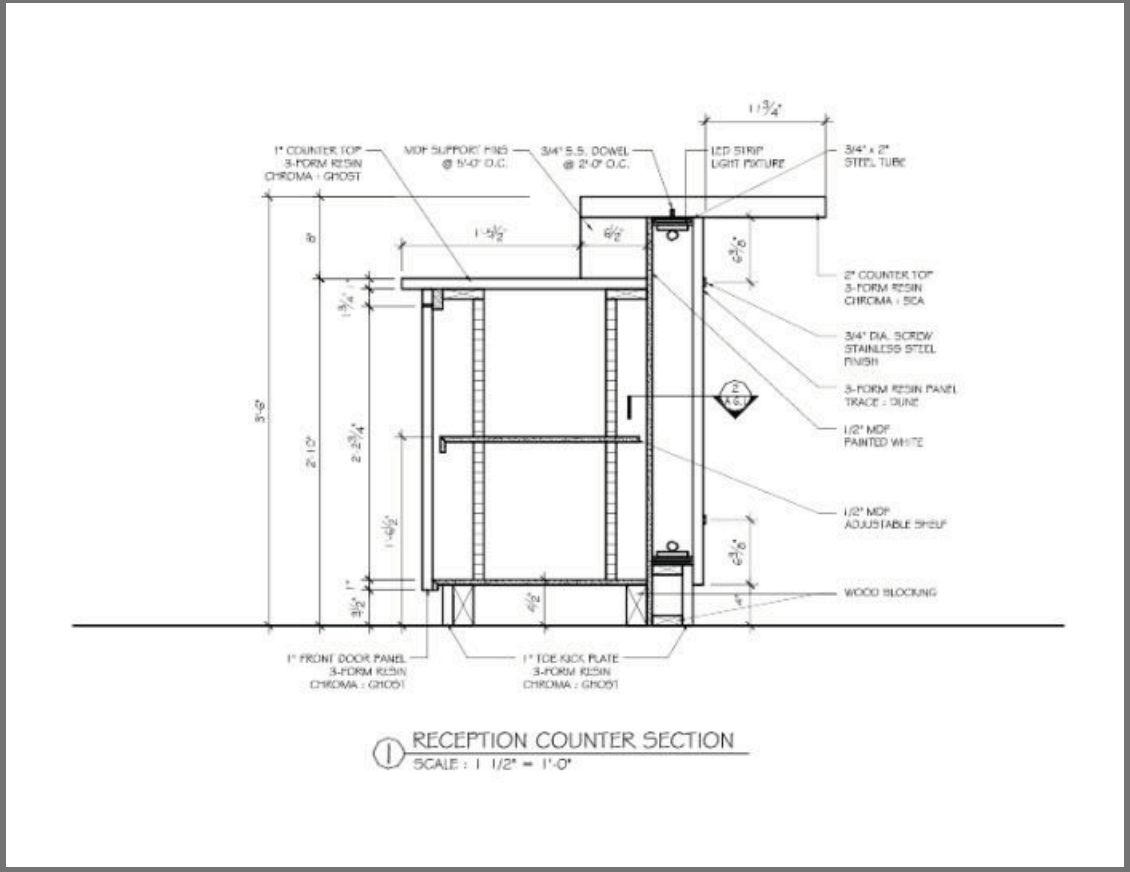
When indicating the radius of an arc or circle, place the arrowhead at the end of the dimension line that touches the object outline. The end of the dimension line terminates at the centerline of the arc or circle.



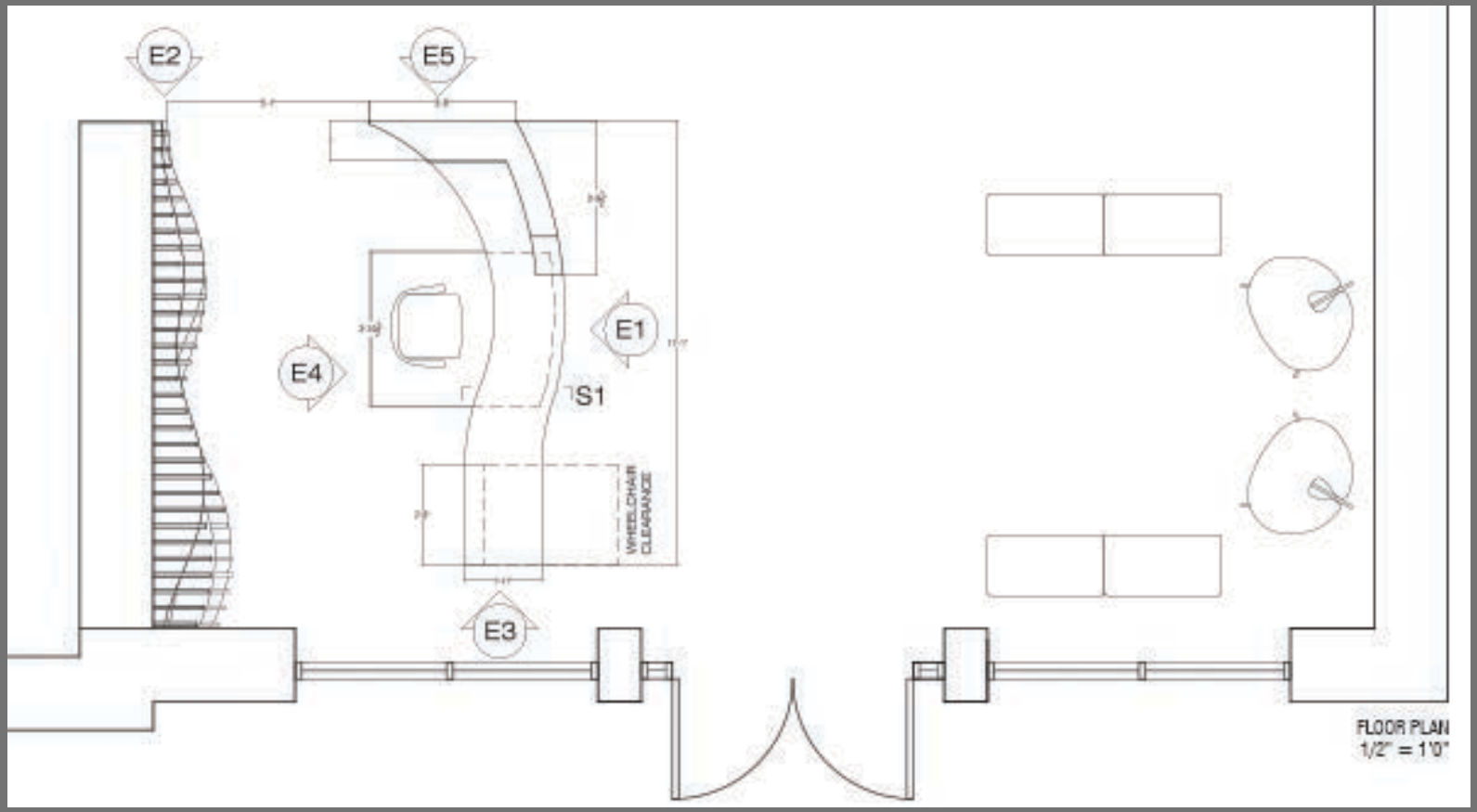
Showing where a section is cut in a drawing

- Cutting plane lines, together with arrowheads and letters, make up the cutting plane indications.
- Arrowheads at the end of cutting plane lines indicate the direction from which you view the section.
- The cutting plane may be a simple, continuous plane, or it may be offset to show the interior detail to better advantage. Identify all cutting plane indications by the use of reference letters placed at the point of the arrowheads.
- Where a change in the direction of the cutting plane is not clear, place reference letters at each change of direction.
- Where more than one sectional view appears on a drawing, letter the cutting plane indications alphabetically preceded by the word SECTION or abbreviation SECT.
- Place the title directly under the section drawing. If you exhaust the single letter alphabet, use multiples of letters.

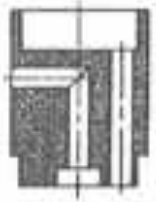
A Section cut is indicated by the triangular marker



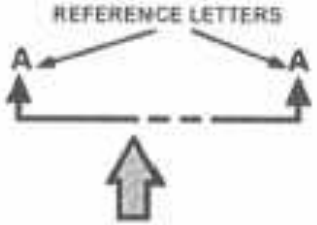
The markers indicate that elevation drawings of the surface pointed to have been drawn.



SIMPLE CUTTING PLANE SECTION VIEWS AN
CUTTING PLANE INDICATIONS

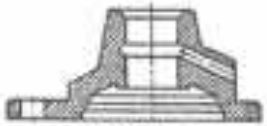


SECTION A-A



DIRECTION FROM WHICH YOU
VIEW SECTION

OFFSET CUTTING PLANE SECTION VIEWS

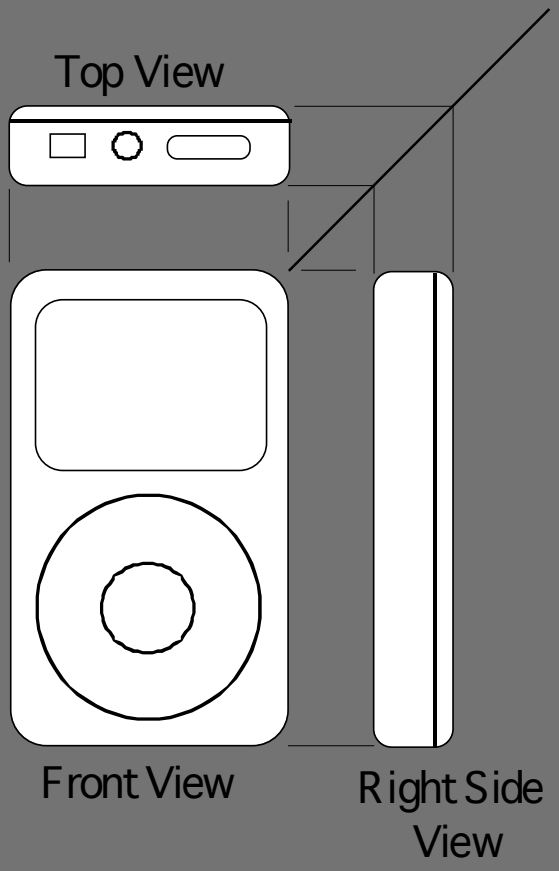


SECTION A-A

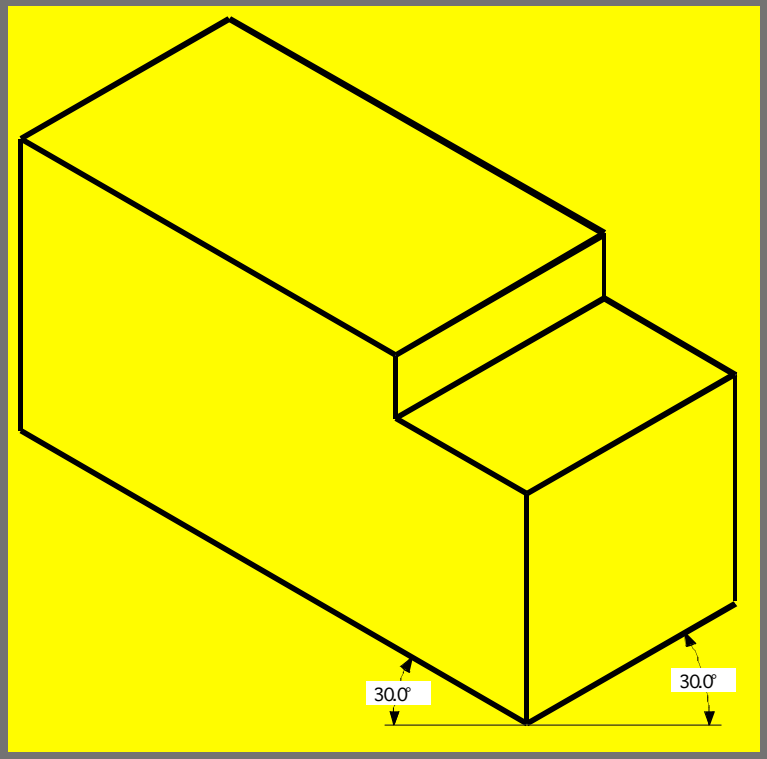
DIRECTION FROM WHICH YOU
VIEW SECTION

DMV2CH0922

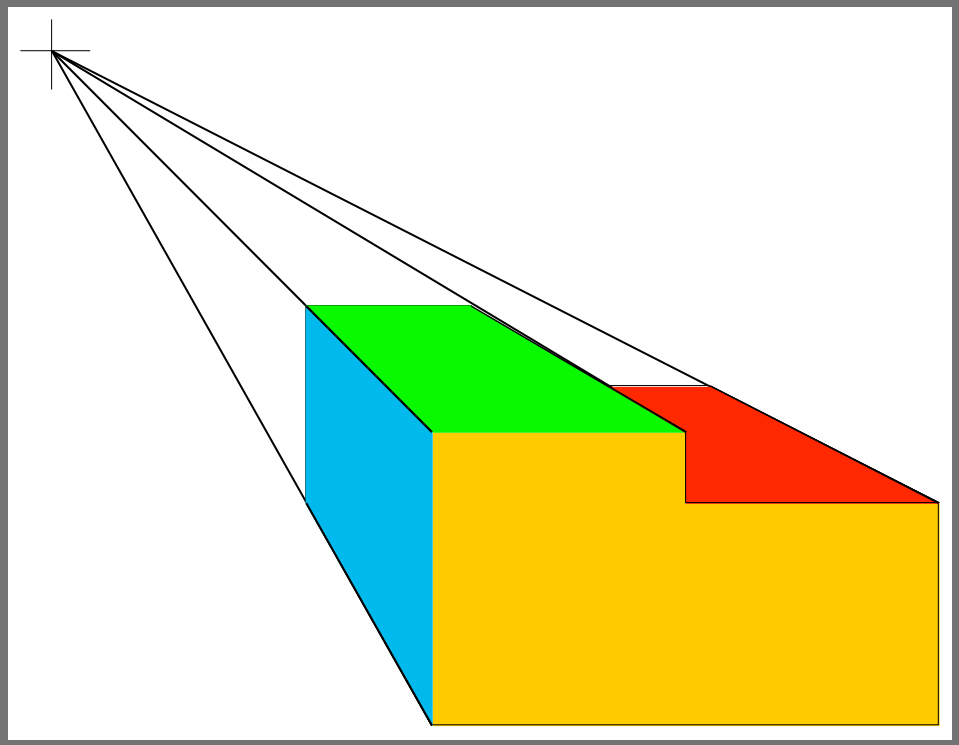
This is a set of three orthographic drawings



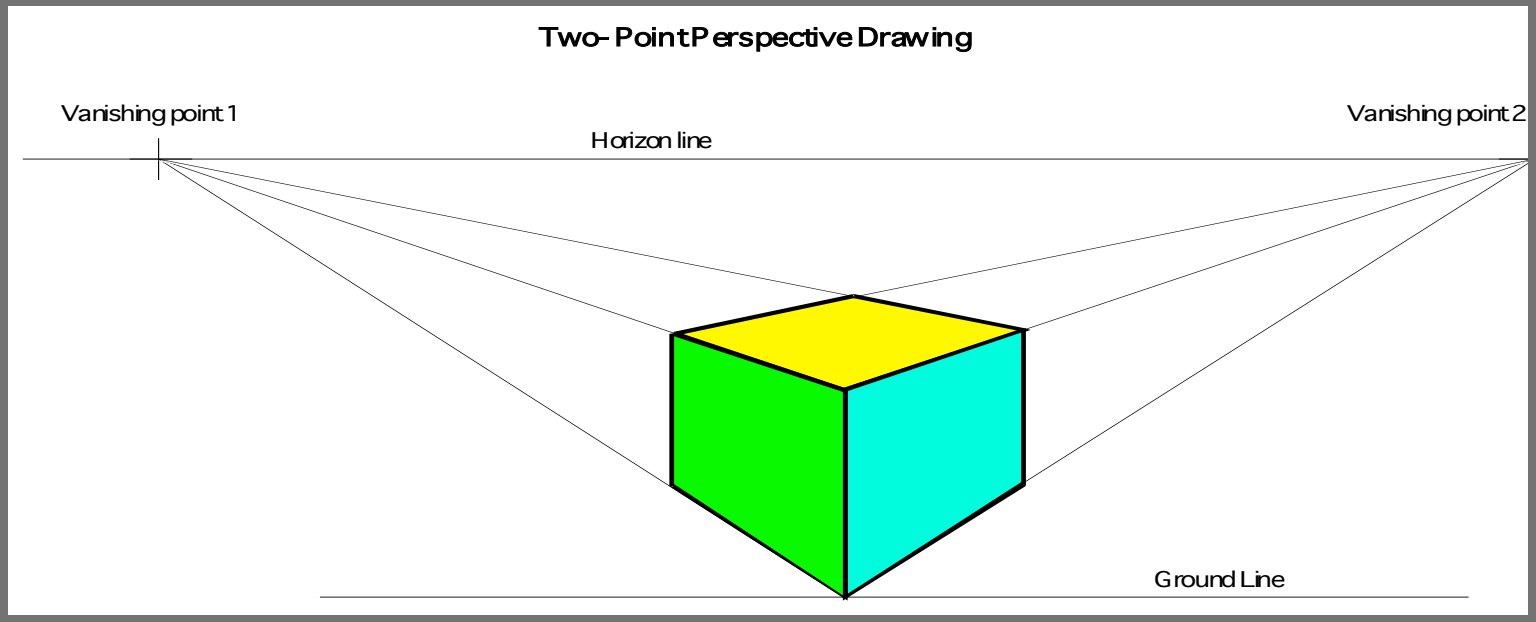
Isometric drawing:
oriented at 30 degrees off of horizontal: parallel lines remain parallel



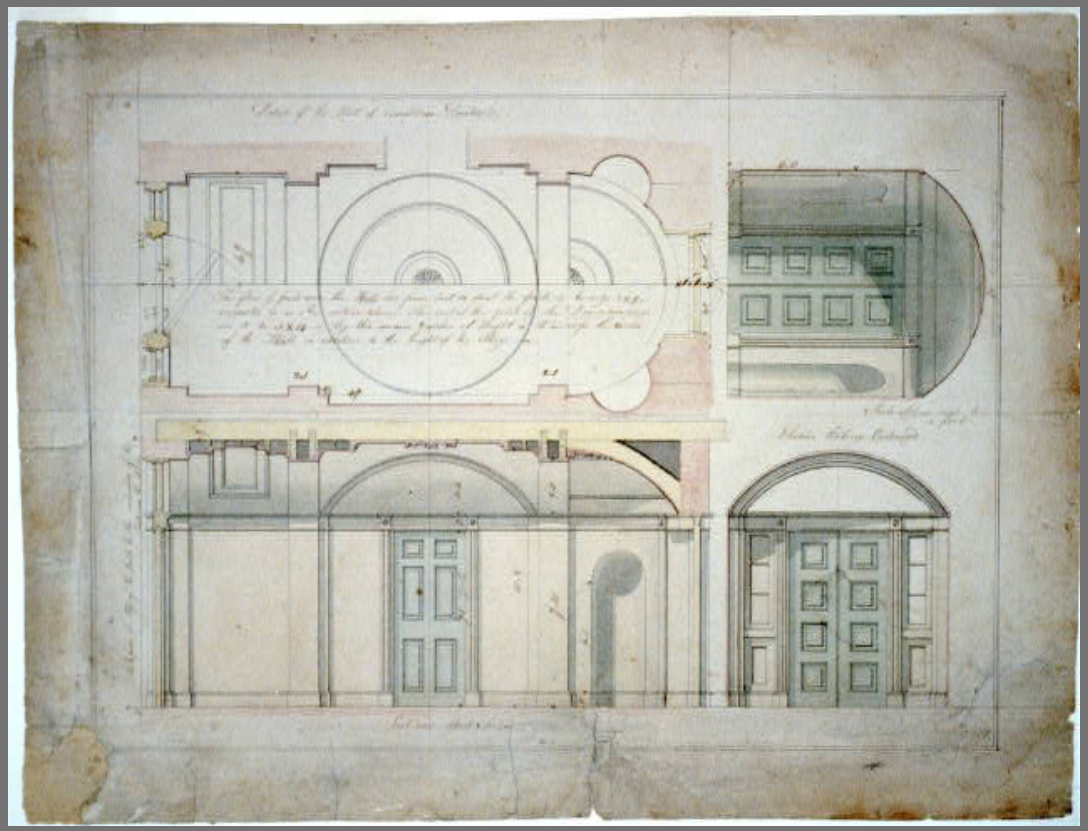
One Point Perspective



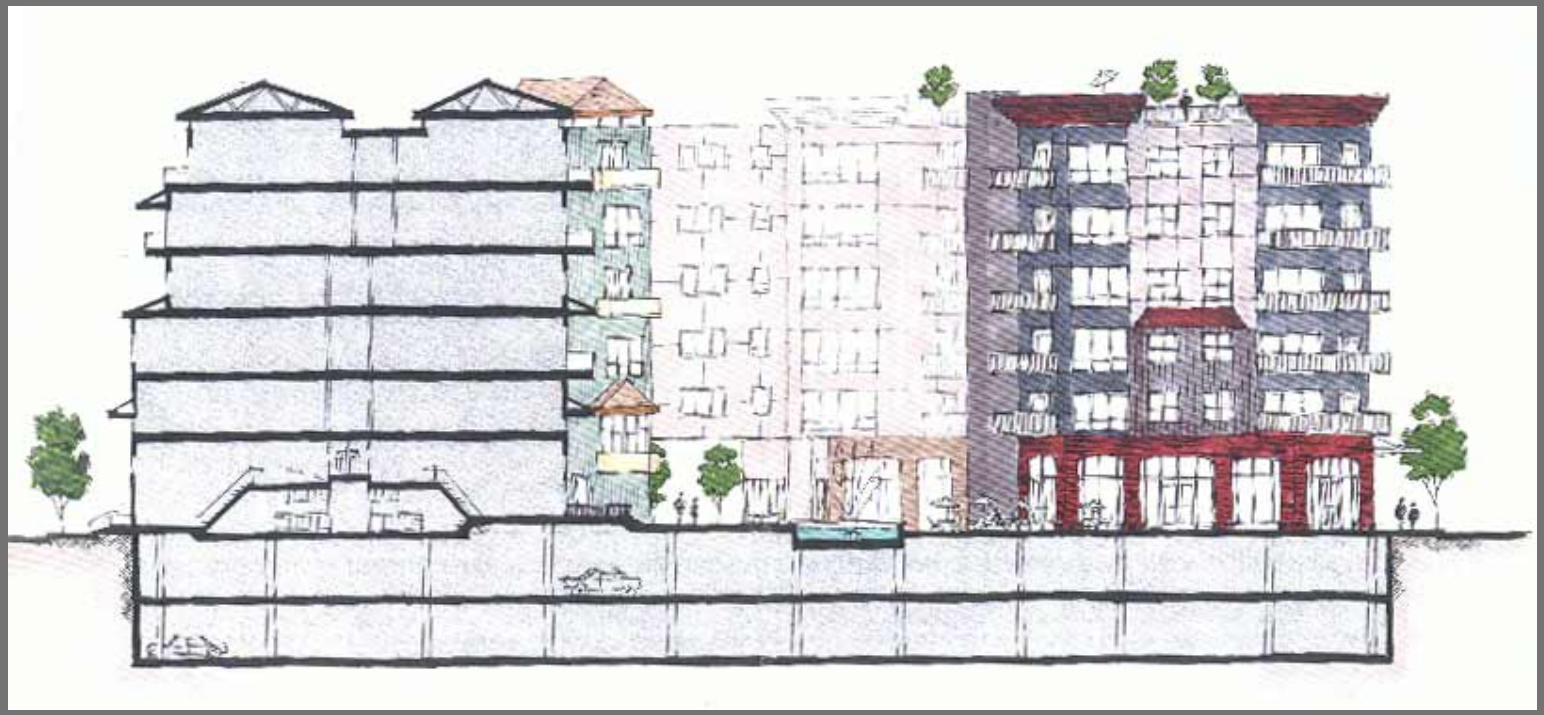
Two Point Perspective



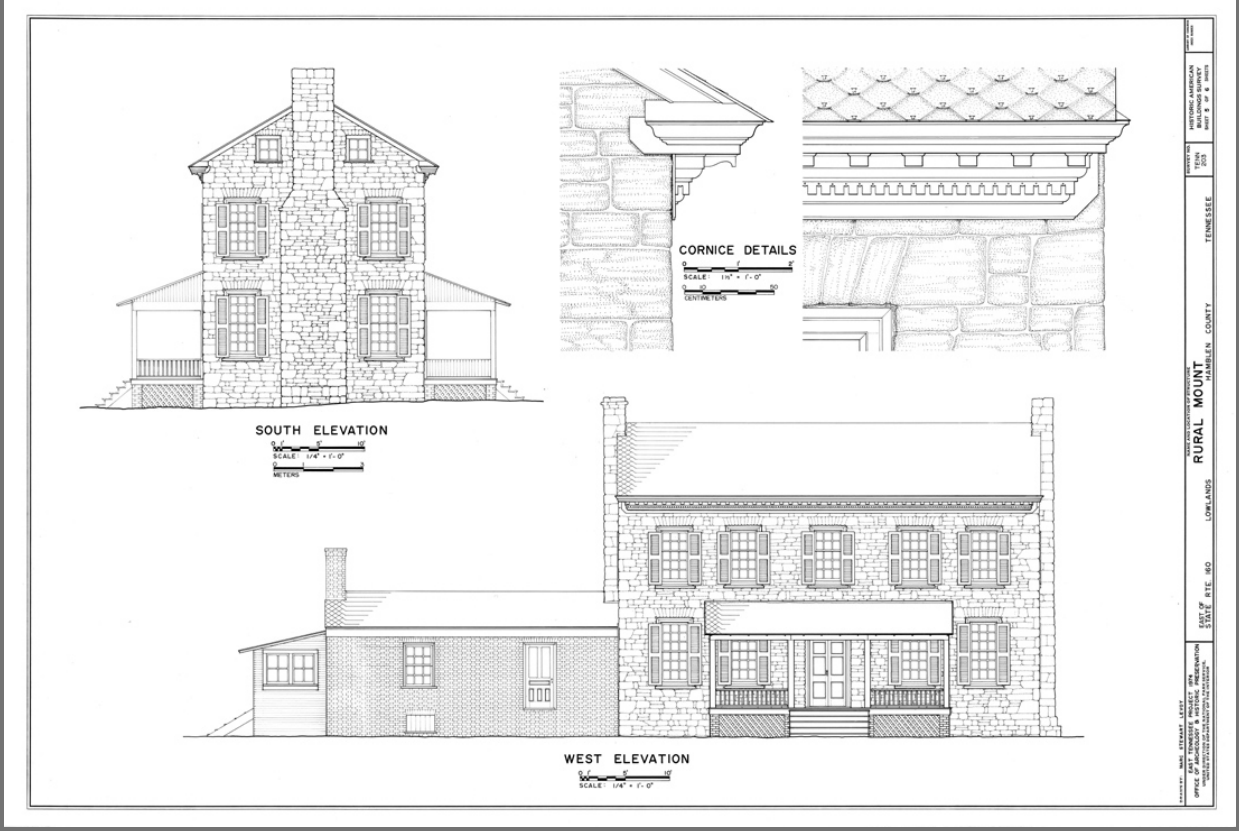
This sheet contains a plan with elevations that are aligned with the plan



A vertical section that also contains elevation images of the building facades on the right



Elevation drawings at different scales



A traditional drafting table with a parallel bar. The parallel bar is connected to the table using one continuous looped wire that allows the bar to move up and down, providing an edge that is straight, and parallel.

Traditional drafting tables

A traditional lead holder: my preferred drafting pencil

Typical drafting tools:

eraser, compass, lead holder, lead pointer,extra leads, french curve erasing shield, 30/60 triangle, 45 degree triangle, protractor, architect's scale