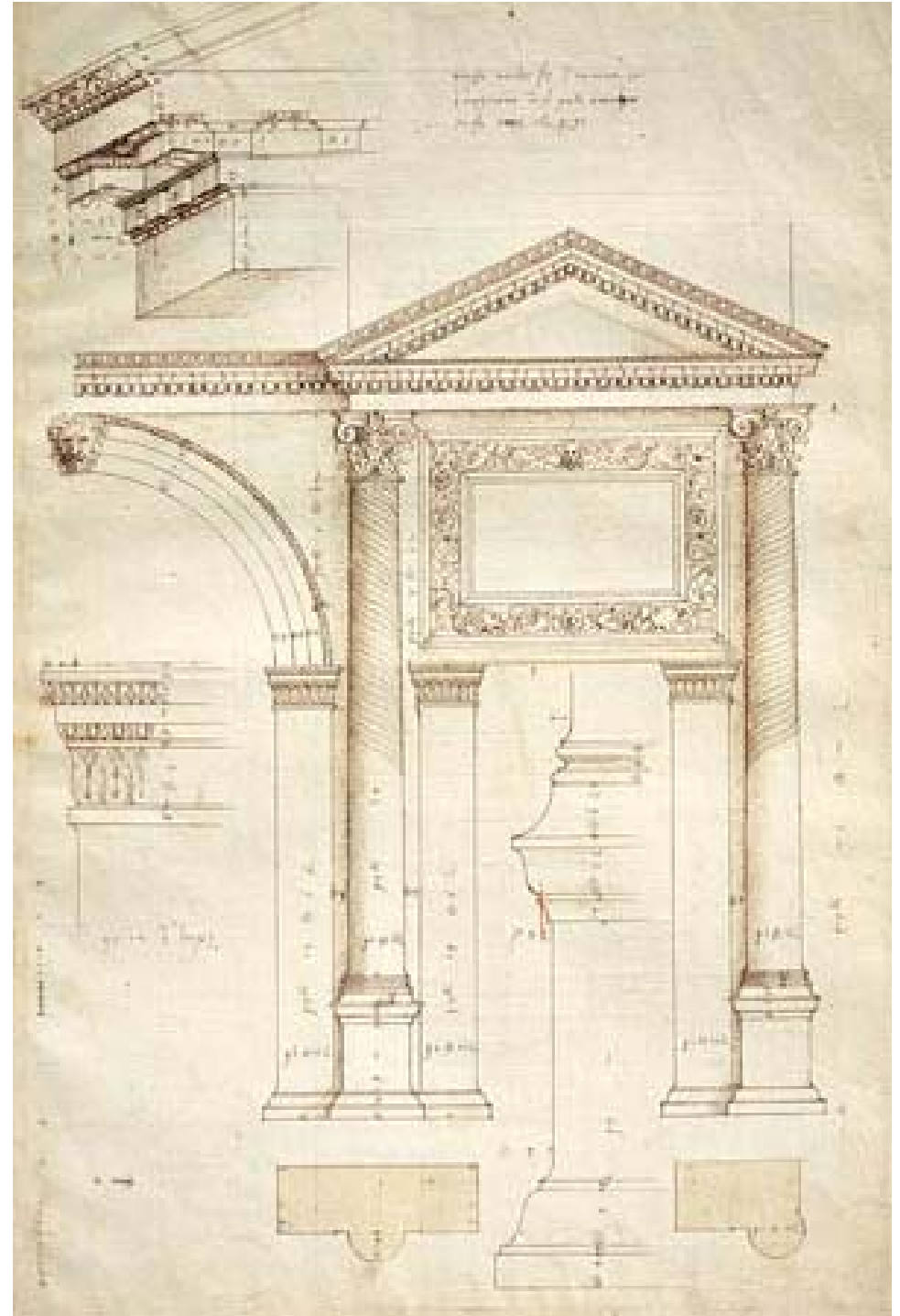


CMCE 1110 - Construction Drawings I  
Lesson 5: Scale Drawings  
Site Plan

Professor Anderson

[scaleofuniverse.com](http://scaleofuniverse.com)



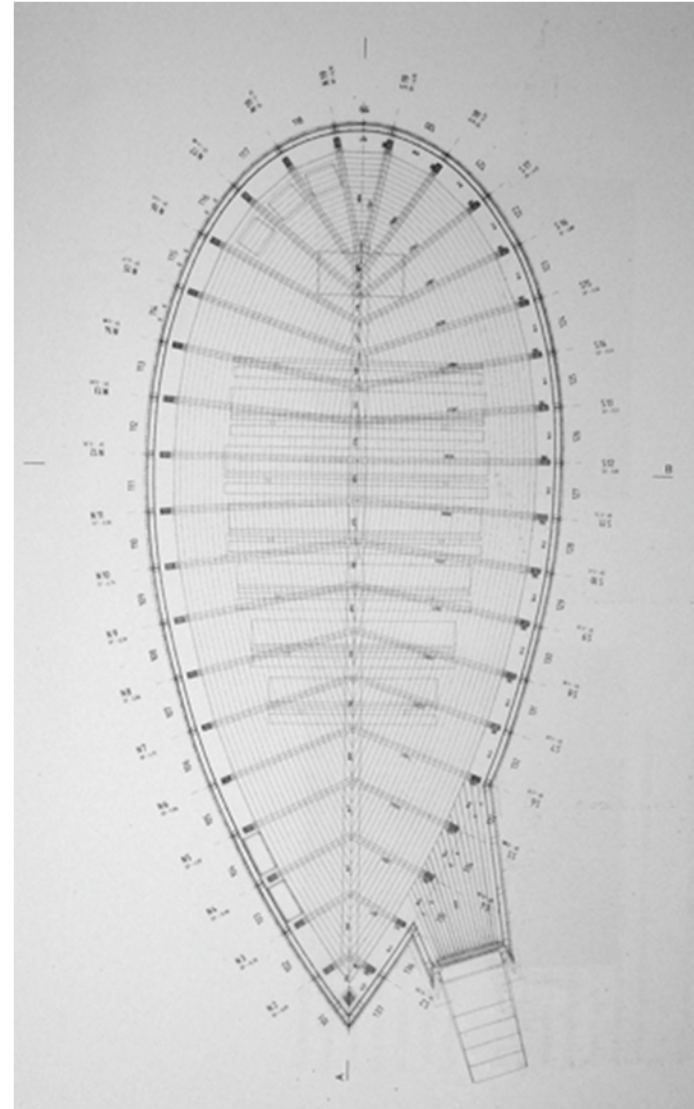
Andrea Palladio, Measured drawing of the Arch of Jupiter  
Ammon, Verona, ca. 1540

## SCALE:

A RATIO THAT COMPARES THE MEASUREMENTS USED IN THE DRAWINGS TO THE ACTUAL MEASUREMENTS

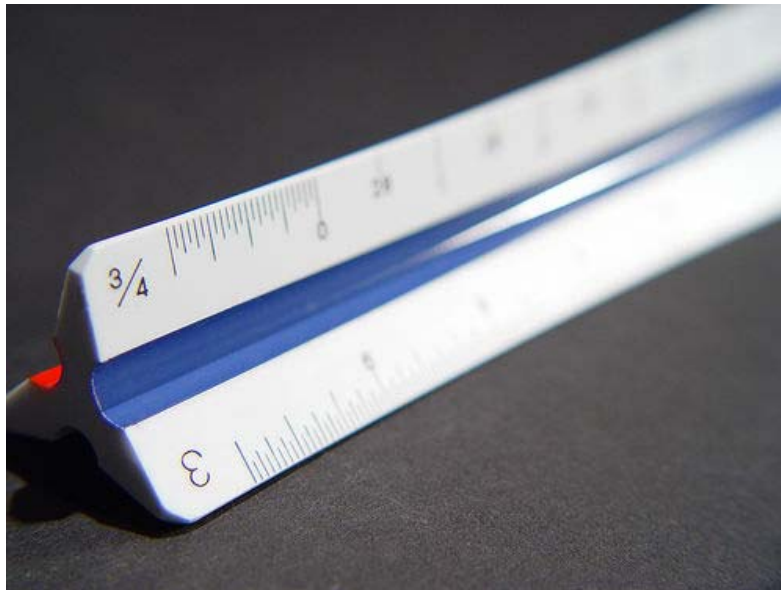


Saint Benedict Chapel, Sumvitg, Graubünden, Switzerland, 1988  
Photo by Helene Biner



# What is an Architect's scale?

- A triangular shaped instrument used for making or measuring scaled drawings such as blueprints or floor plans.

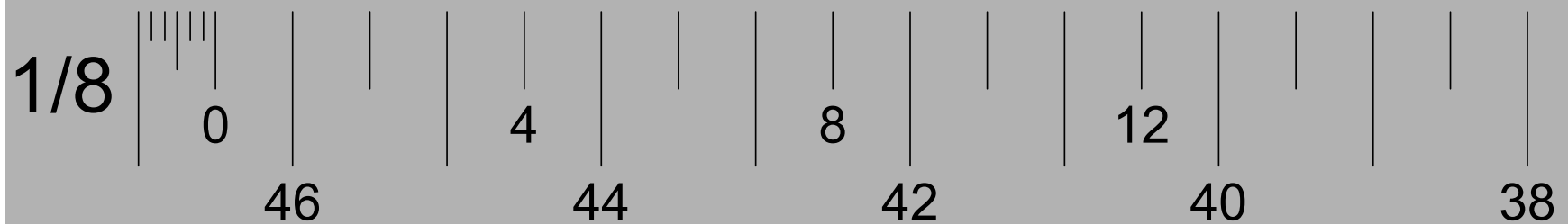


# What is an Architect's scale?

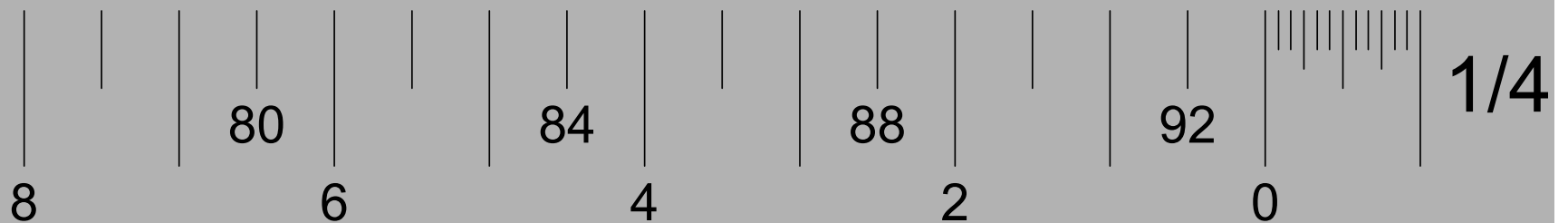
- The scale can be read from left to right and right to left.
- 1/8" scale would be read from left to right and the 1/4" scale would be read from right to left.



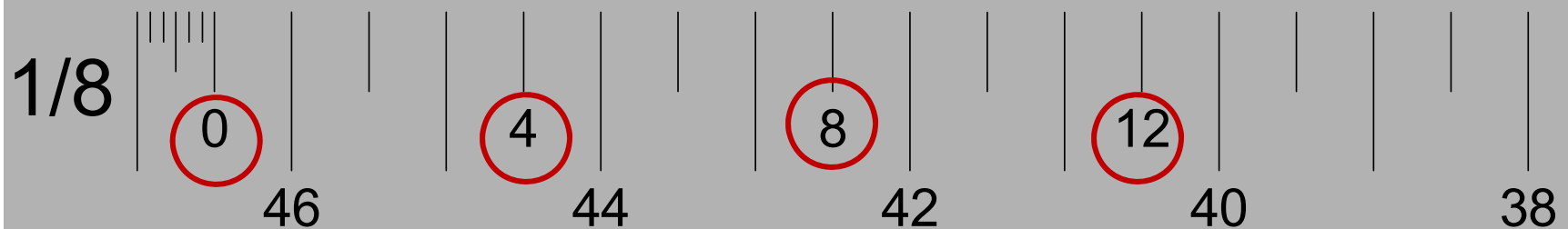
The left side begins with 1/8" scale ....



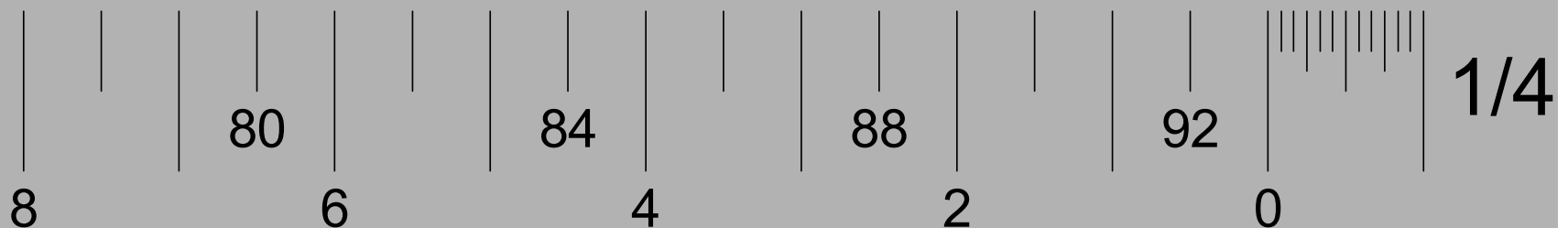
... and the right side begins with 1/4" scale



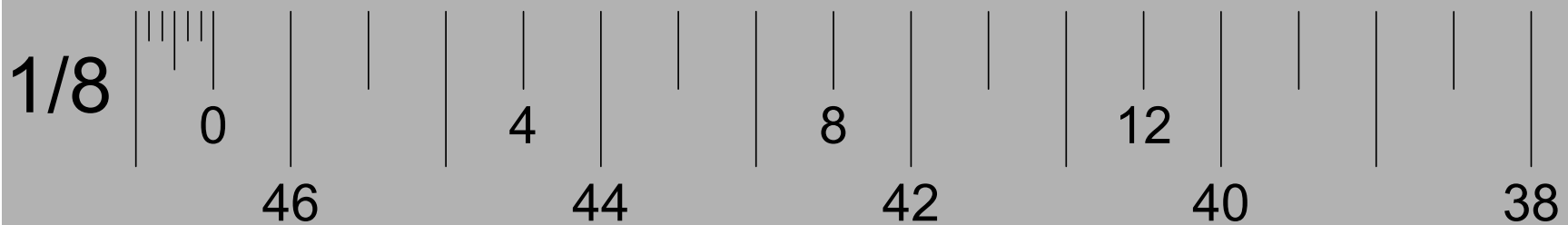
The left side begins with 1/8" scale ....



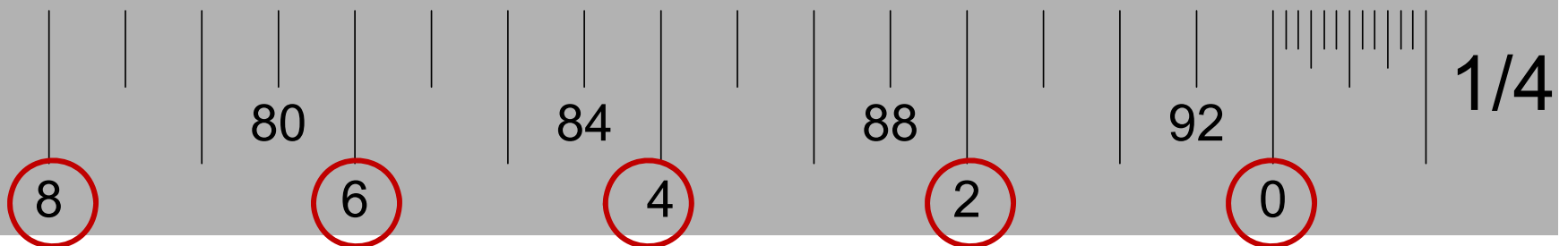
**Look at the 1/8" scale and read from left to right.  
The upper numbers represent feet.**



The left side begins with 1/8" scale ....



**Look at the 1/4" scale and read from right to left.  
The lower numbers represent feet.**



# What does “drawn to scale” mean?

- On a scaled drawing, a small measurement is used to represent a large measurement.
- For example, one-fourth inch ( $\frac{1}{4}$ " ) on the plan may represent one foot (1') in the real world.



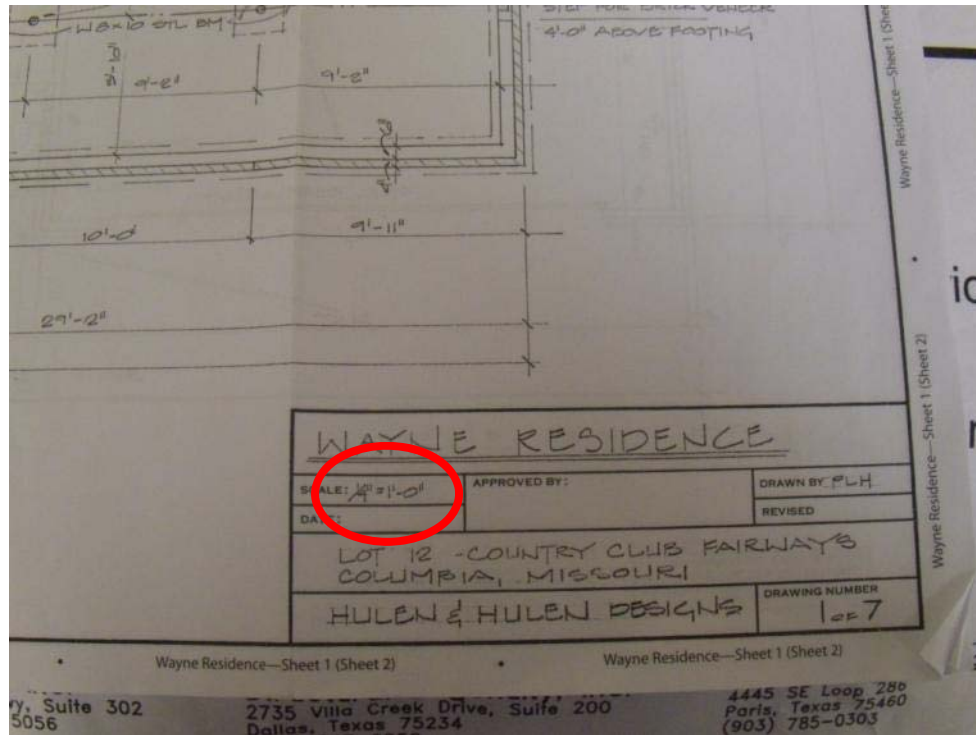
# What does “drawn to scale” mean?

- Floor plans for residential structures are usually drawn at  $\frac{1}{4}'' = 1'$ .
- Commercial buildings may be drawn at  $\frac{1}{8}'' = 1'$  if they are too large to fit on the desired sheet size at  $\frac{1}{4}'' = 1'$ .



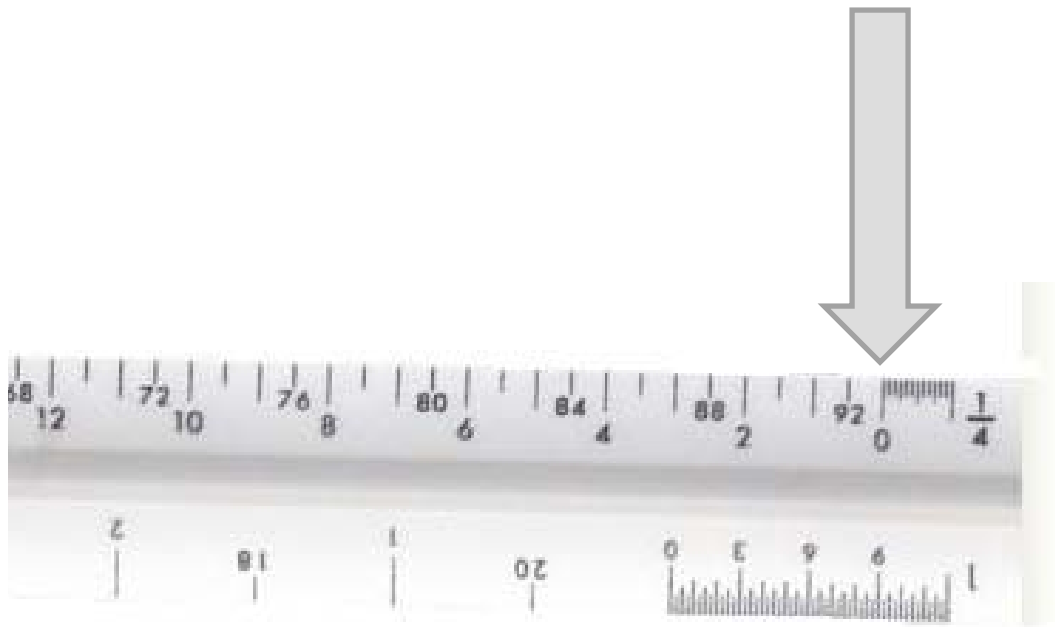
# Step 2

Find the matching number on the architect's scale.



## Step 3

Place the scale on the print. Place the mark above the zero at the beginning of the line to be measured.



# Step 4

Use the scale to draw

- To draw your own prints, determine the length of the object to be drawn, then scale it down accordingly using the architect's scale.
- For example, using the  $1/4'' = 1'$  example, a wall 20 feet in length would become  $20/4$  or 5 inches on the blueprint.

# Dimensioning

## Guidelines:

1. Make dimensions easy to read.  
Keep the reader's needs in mind

**Extension Lines:** thin lines drawn from a feature requiring a dimension, but do not touch the feature

- Begin extension line ( $\frac{1}{2}$  text height) away from the feature
- Extend beyond dimension line (text height)

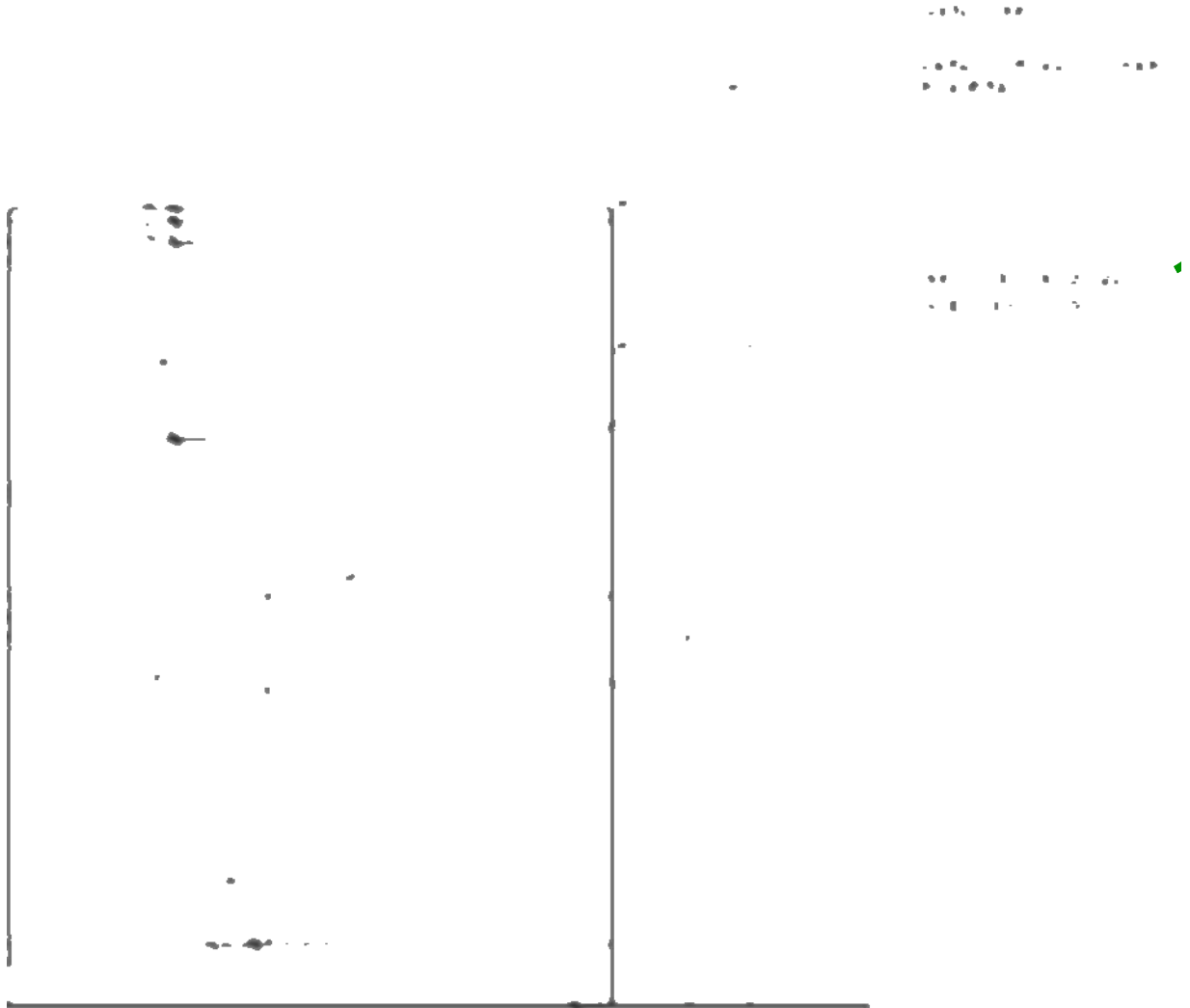
**Dimension Lines:** thin lines with arrow or tick at each end indicating exact extremities of the feature

- Numerical dimension is centered above ( $\frac{1}{2}$  text height) the dimension line
- Place dimensions for obvious association with their features, typically outside the view

2. Line up dimensions in a series
3. Do not duplicate dimensions

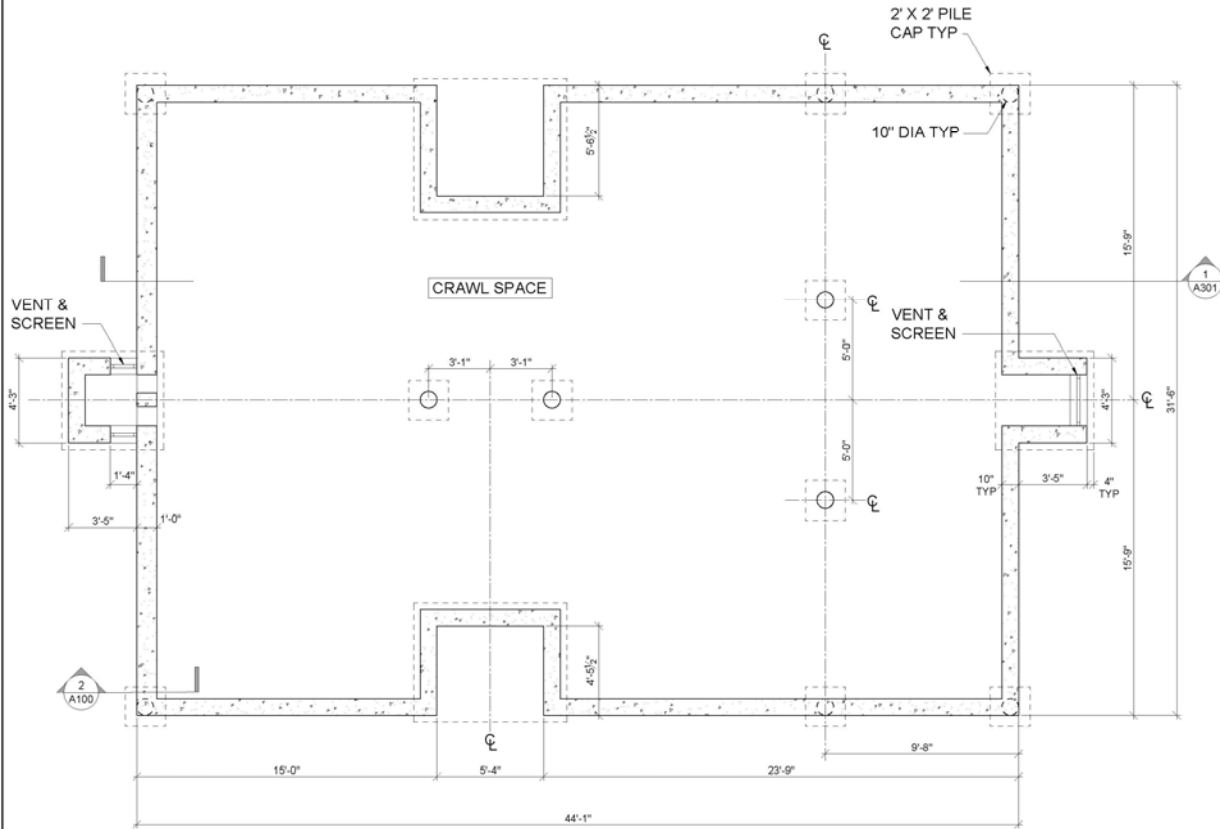
## Note Guidelines:

1. Use arrow to identify feature, touching
2. Use guidelines to align all leader bends and stops
3. Angle of leader to be uniform throughout the drawing
4. Use guidelines for lettering of notes

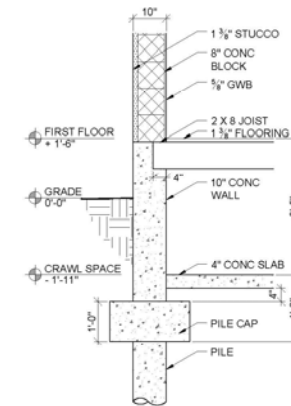


**ESHERICK HOUSE**  
 204 SUNRISE LANE  
 PHILADELPHIA, PA 19118  
 LOUIS KAHN, 1961

NOTES:



**1 CELLAR PLAN**  
 1/2" = 1'-0"



**2 FOUNDATION DTL**  
 1/2" = 1'-0"

**NEW YORK CITY  
 COLLEGE OF  
 TECHNOLOGY**

DRAWN BY:  
 YOUR NAME

DATE:

SCALE: AS NOTED

**CELLAR PLAN  
 & DETAIL**

**A-100**

PLOT SCALE: 1" = 1'-0"  
YOUR DWG SHALL BE  
DRAFTED AT 1/2" = 1'-0"

