

CMCE 1110 Construction Drawings
Professor Anderson

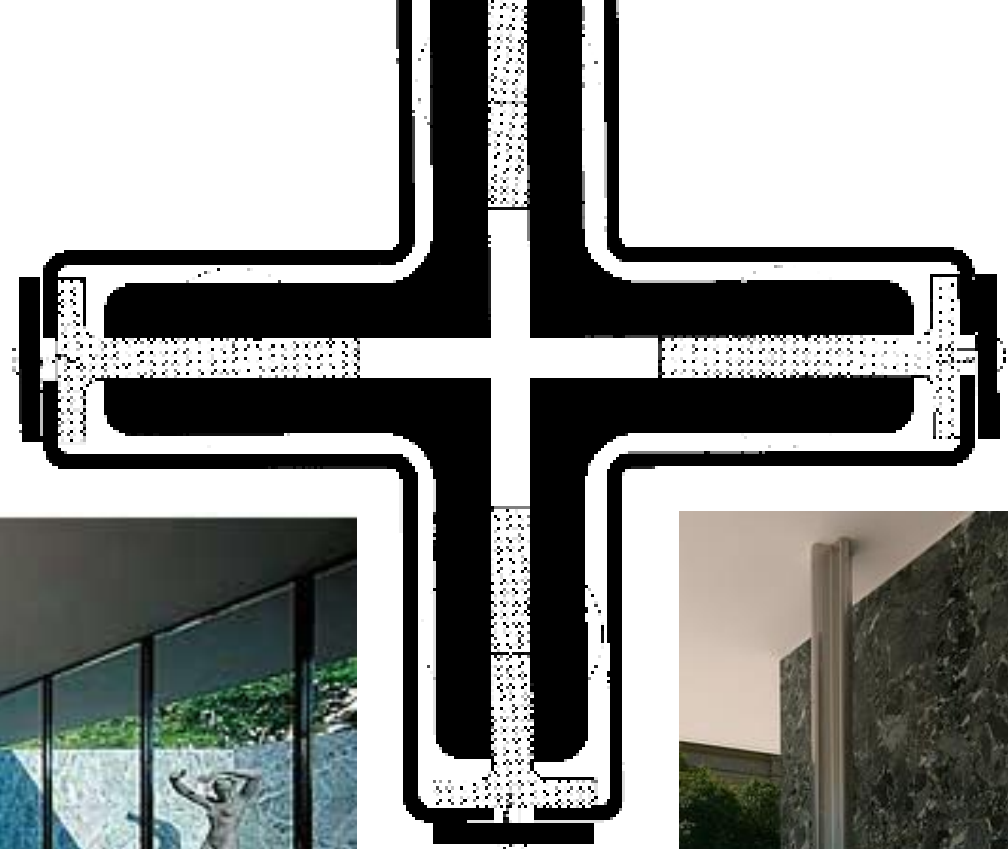
Lesson 9: Wall Sections And Details



Building Cuts, 1974, Gordon Matta-
Clark. Estate of Gordon Matta-
Clark/Artists Rights Society, New York

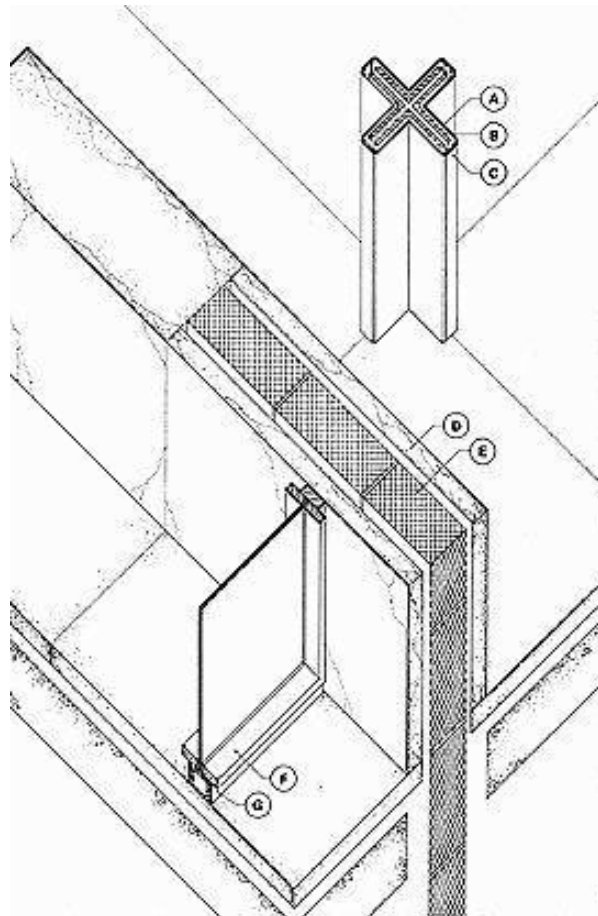
“God is in the details.”

Mies van der Rohe



Barcelona Pavilion





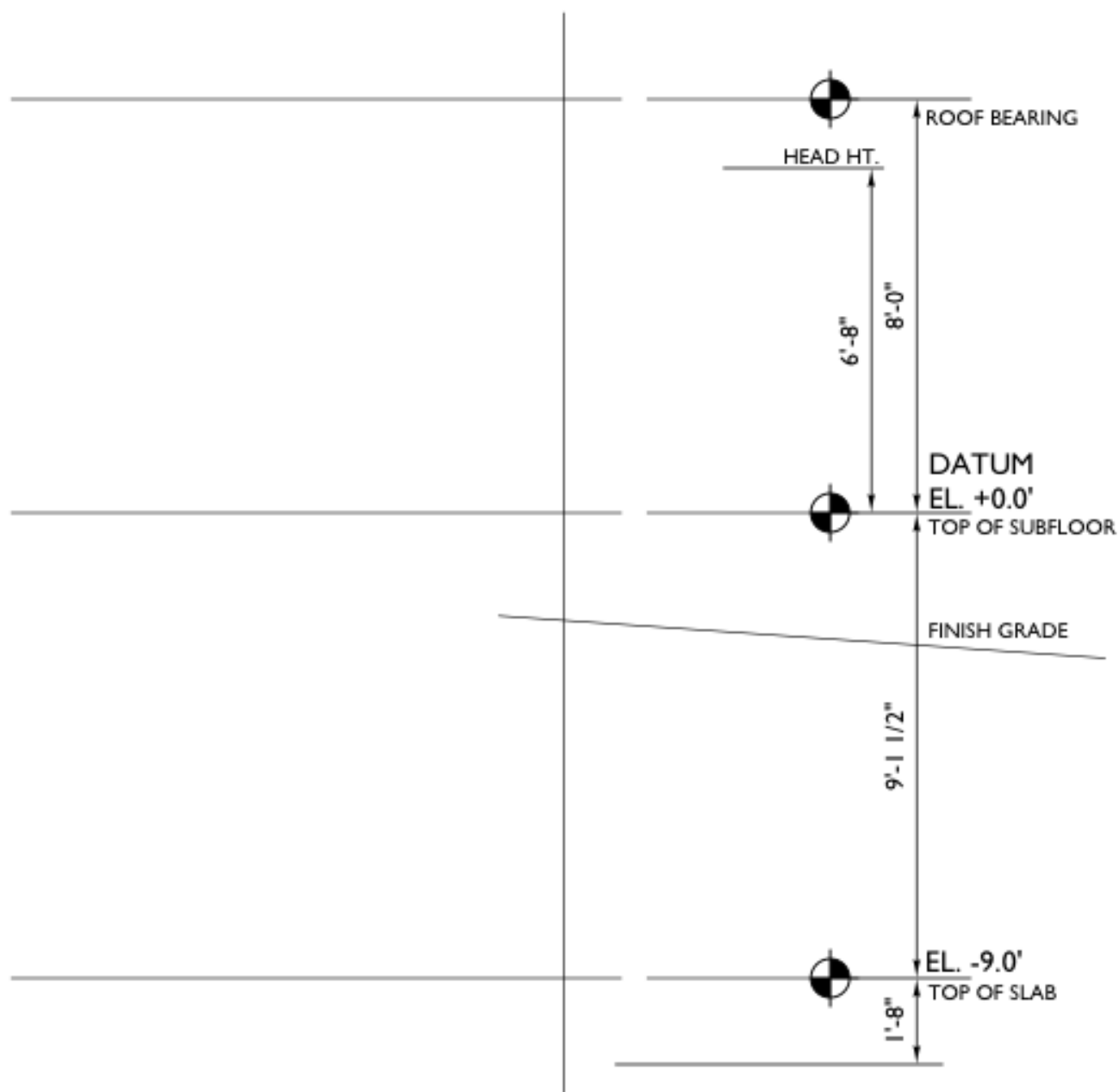
- A** Chrome-plated sheet-metal column cover.
- B** Structural column: four rolled steel angles bolted together.
- C** Chrome-plated sheet-metal cover, attached with machine screws (a rare example of exposed fasteners in Mies's work).
- D** Marble facing. The marble is made as thin as possible to reduce expense. Only the end pieces are solid, so the entire wall appears monolithic.
- E** Brick or concrete masonry-core wall.
- F** Bronze glass stop, attached to base with machine screws.
- G** Window-frame base, fabricated from two structural steel angles which are then clad with bronze sheets.

WALL SECTION

CONVENTIONAL FRAMING ON REINFORCED CMU FOUNDATION

REGULATING LINES

- Floor elevations
- Bearing heights
- Exterior face of wall
- Finish grade



CONVENTIONAL FRAMING AND TIMBER

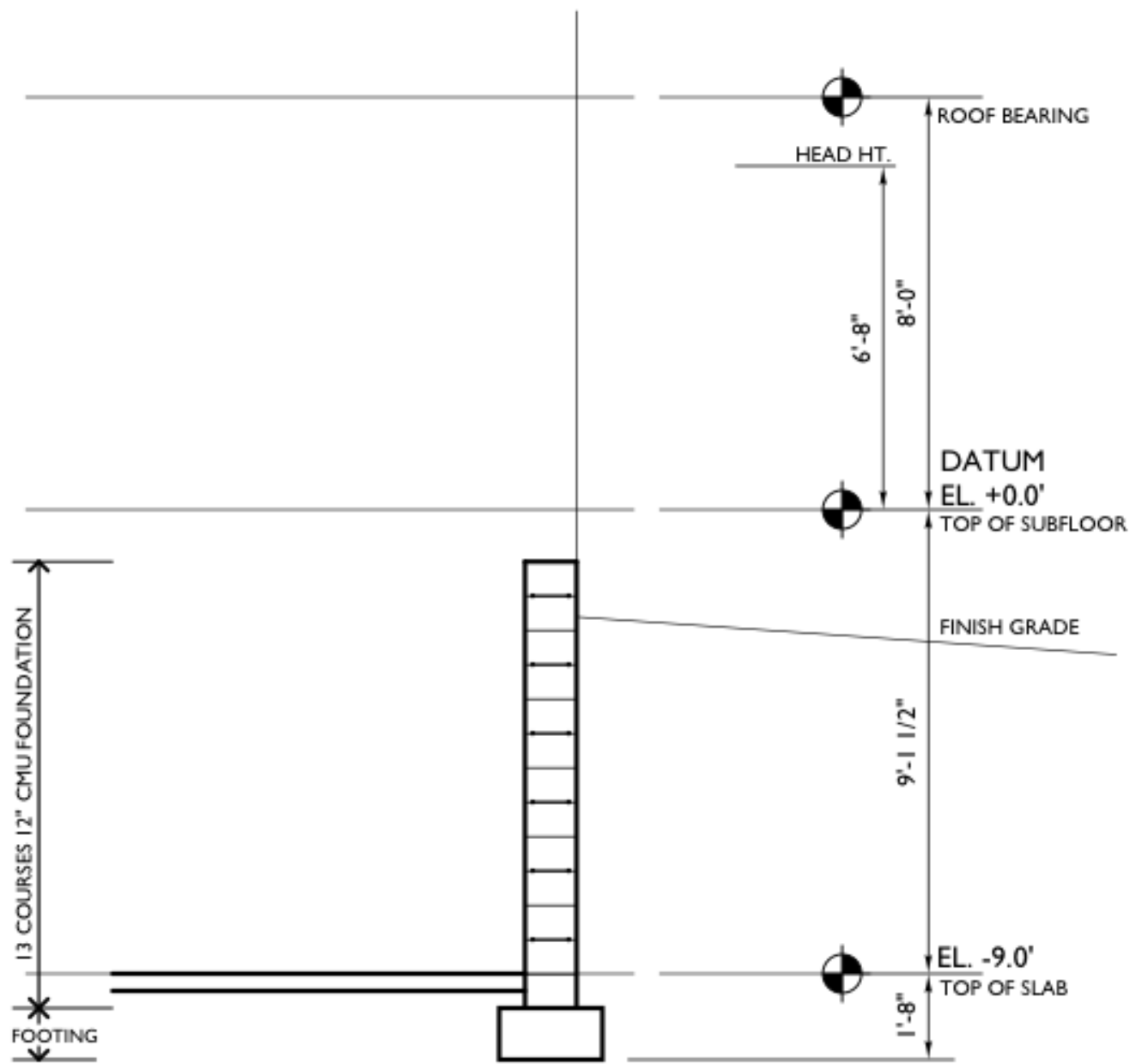
THE SEQUENCE OF THE DRAWING PROCESS FOLLOWS THE SEQUENCE OF CONSTRUCTION.



**WALL SECTION
CONVENTIONAL FRAMING**

FOUNDATION WALL & SLAB

- Foundation wall and slab
- Footing
- CMU coursing
- Horizontal joint reinforcement



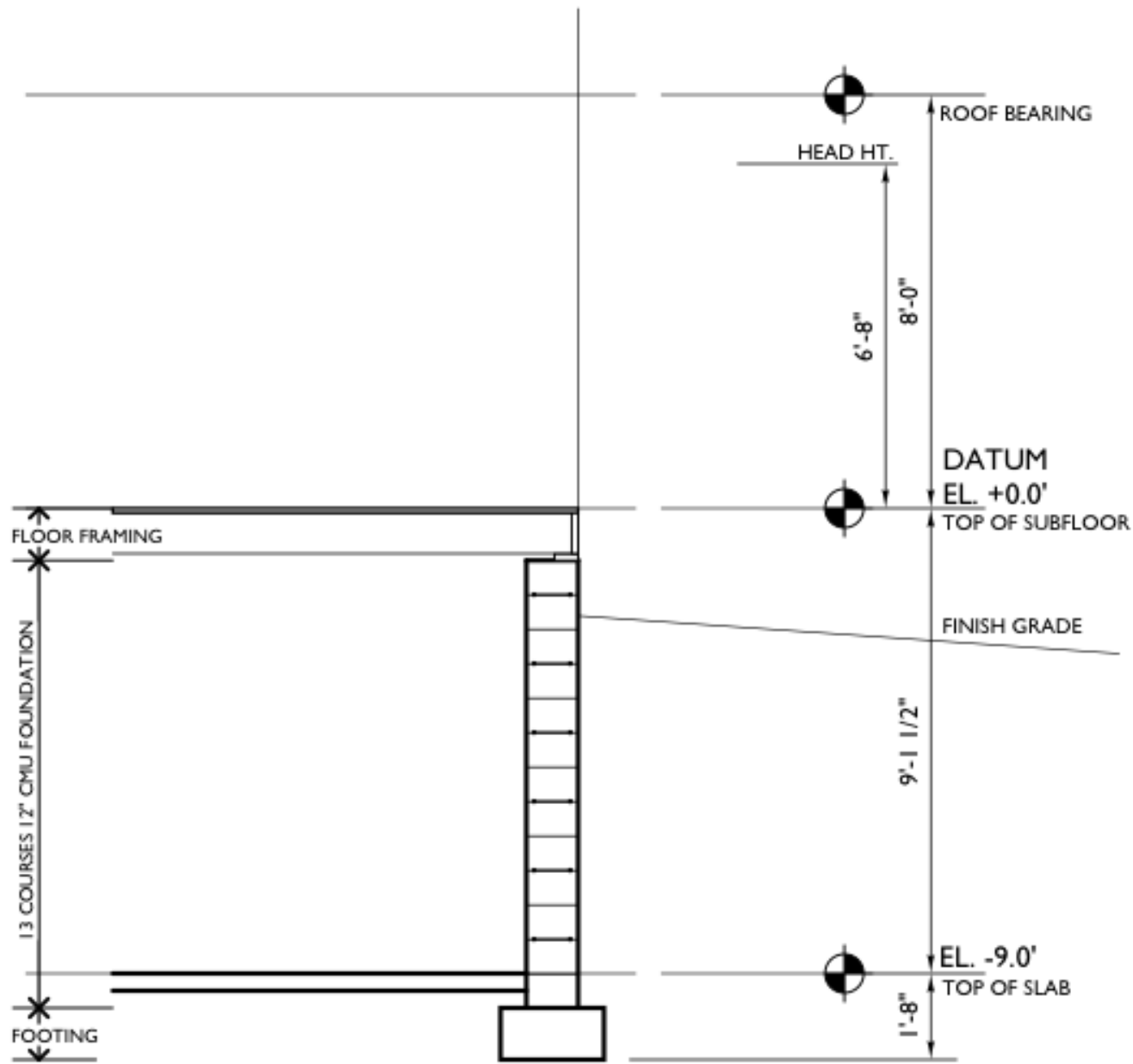
CONVENTIONAL FRAMING AND TIMBER



WALL SECTION
CONVENTIONAL FRAMING

FLOOR FRAMING

- 2x6 Bearing plate
- Floor joists
- Rim joist
- Floor sheathing



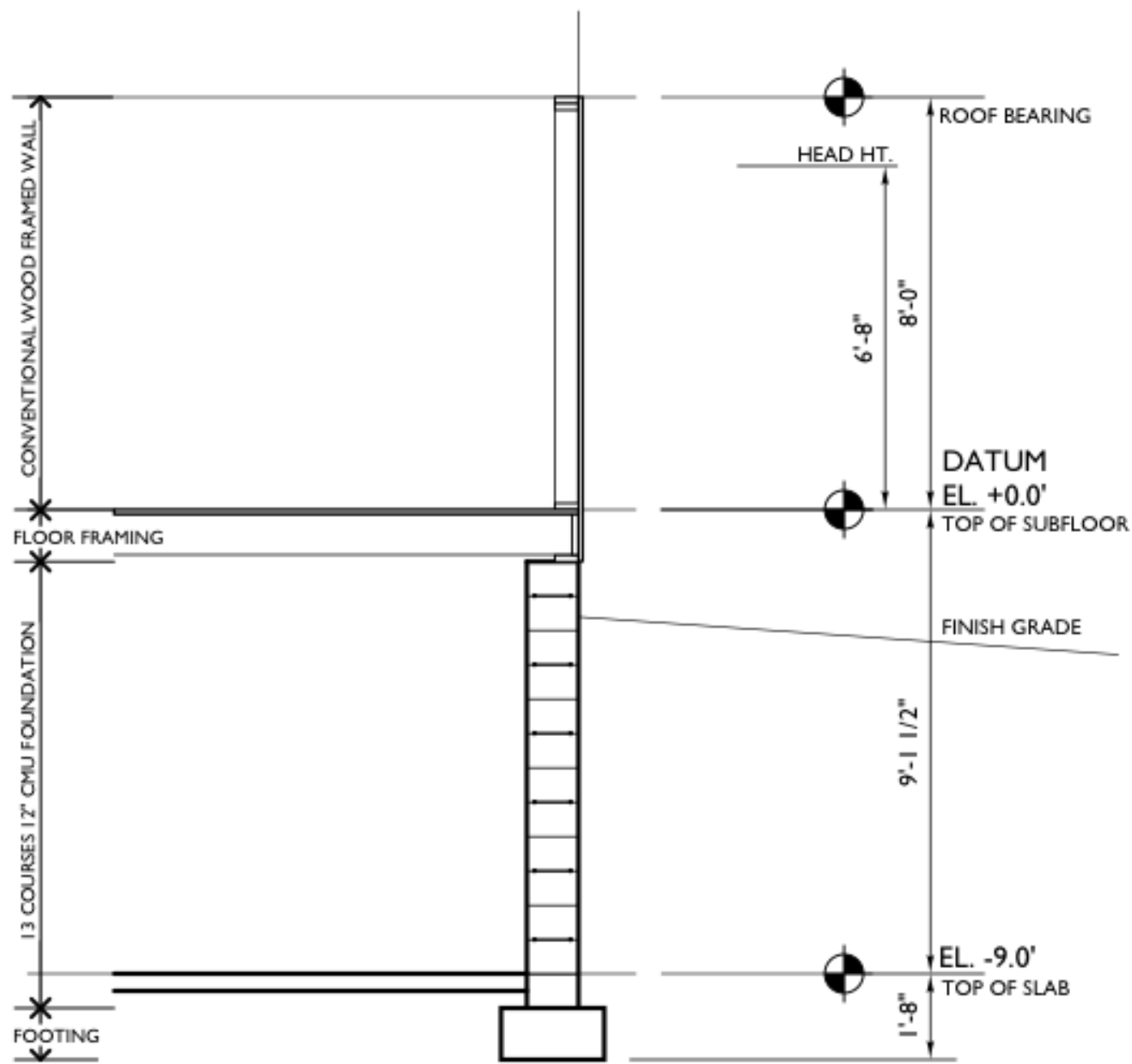
CONVENTIONAL FRAMING AND TIMBER

STEP
3

WALL SECTION
CONVENTIONAL FRAMING

WALL FRAMING

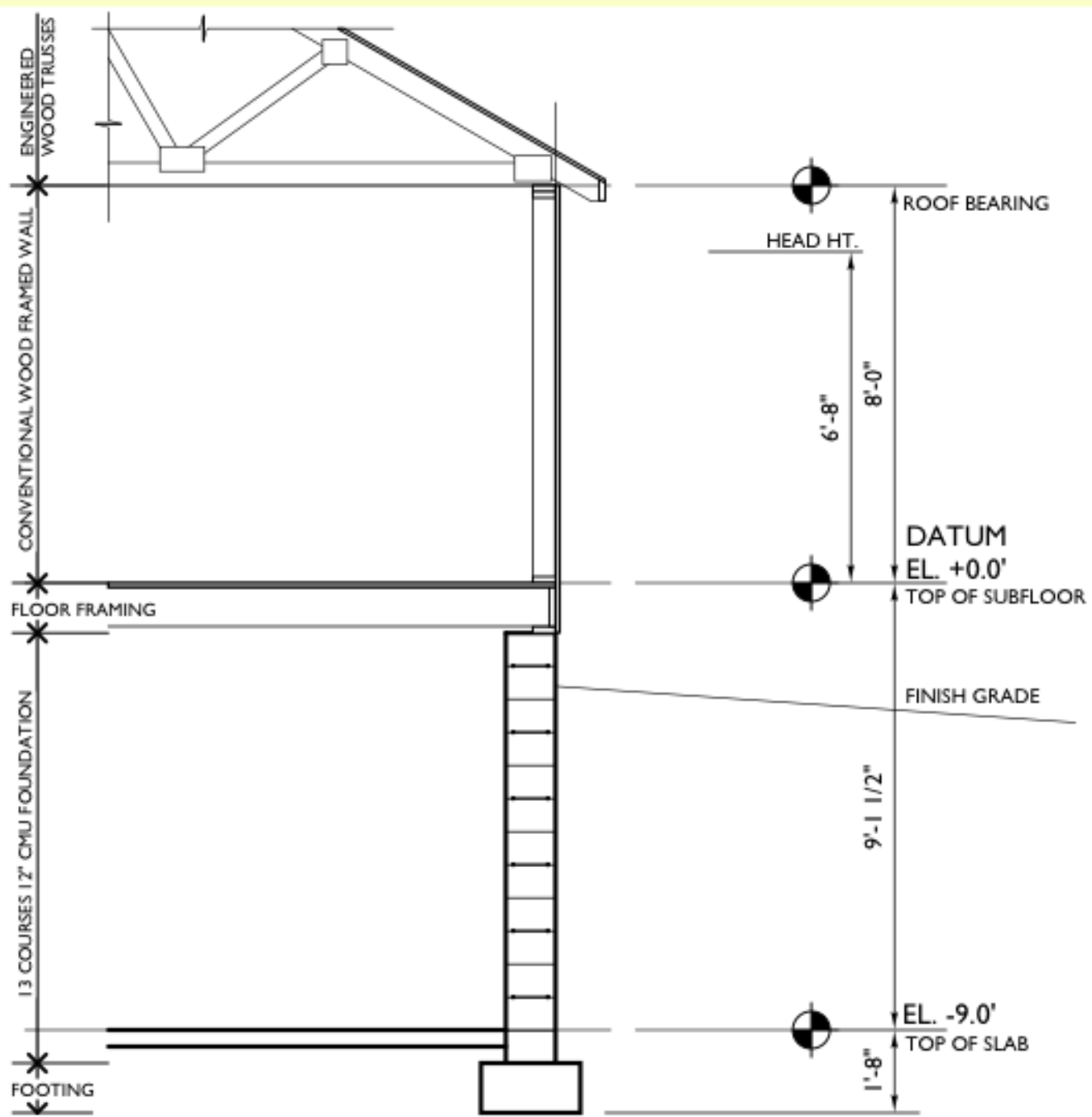
- 2x6 sill plate
- 2x6 wall studs
- Double 2x6 top plate
- Wall sheathing



CONVENTIONAL FRAMING AND TIMBER

STEP
4

WALL SECTION
CONVENTIONAL FRAMING



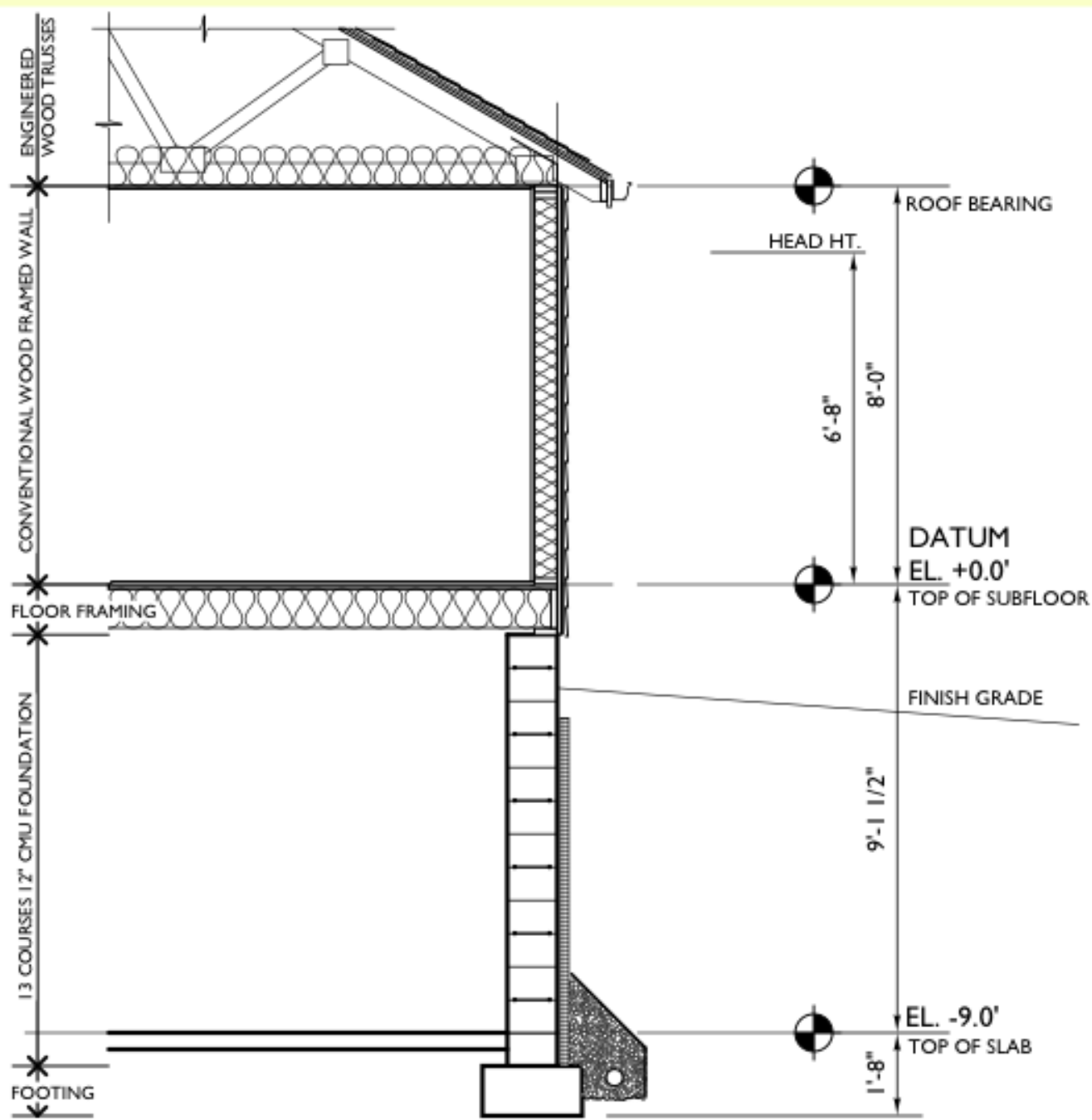
CONVENTIONAL FRAMING AND TIMBER

ROOF FRAMING

- Engineered trusses
- Roof sheathing



WALL SECTION
CONVENTIONAL FRAMING



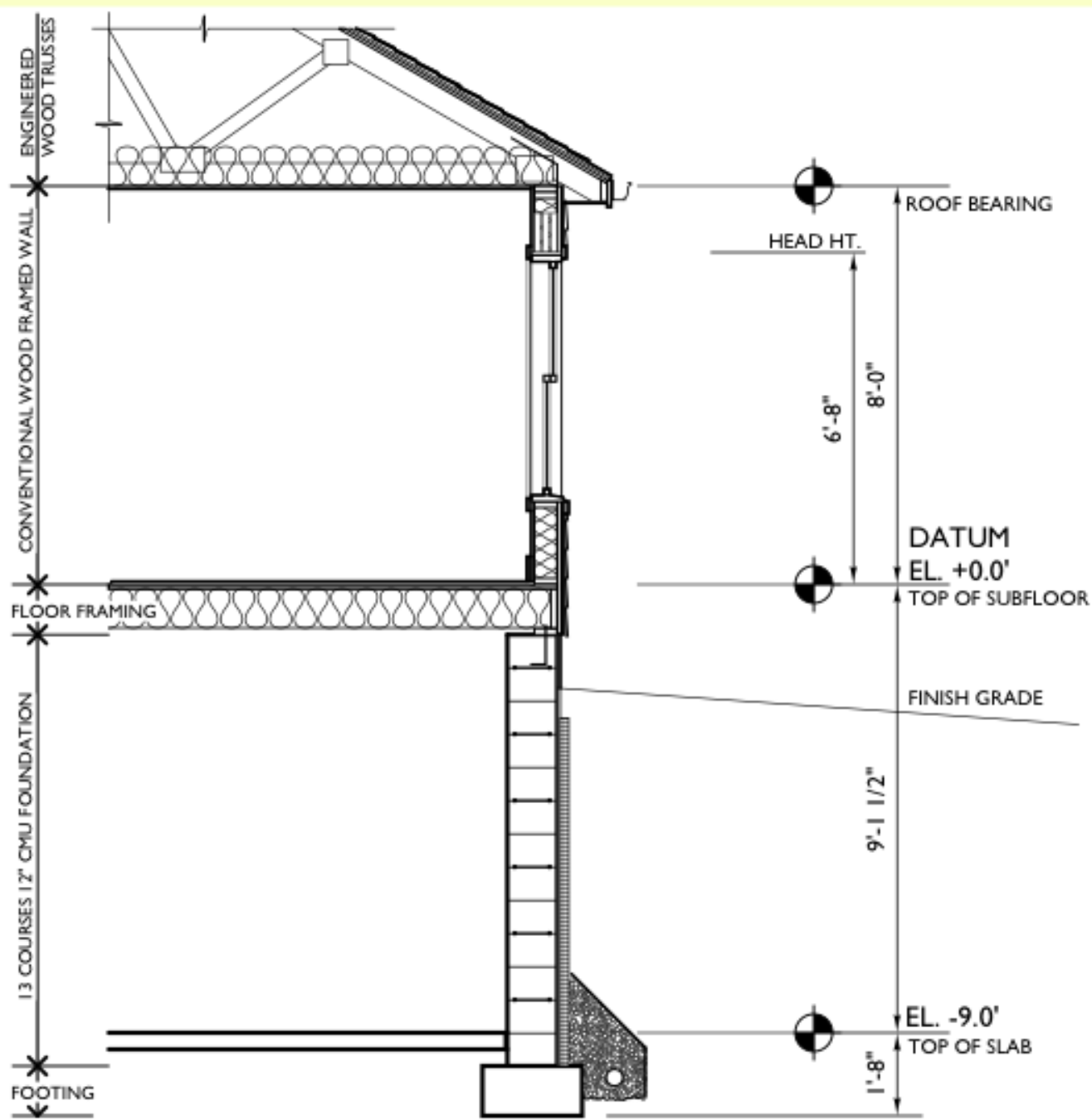
CONVENTIONAL FRAMING AND TIMBER

THERMAL & MOISTURE AND EXTERIOR FINISHES

- Foundation drain
- Drainage board
- Batt insulation
- Insulation baffle
- Building wrap
- Siding
- Building paper
- Roof shingles
- Fascia & gutter



WALL SECTION
CONVENTIONAL FRAMING



DOORS AND WINDOWS & FINAL ELEMENTS

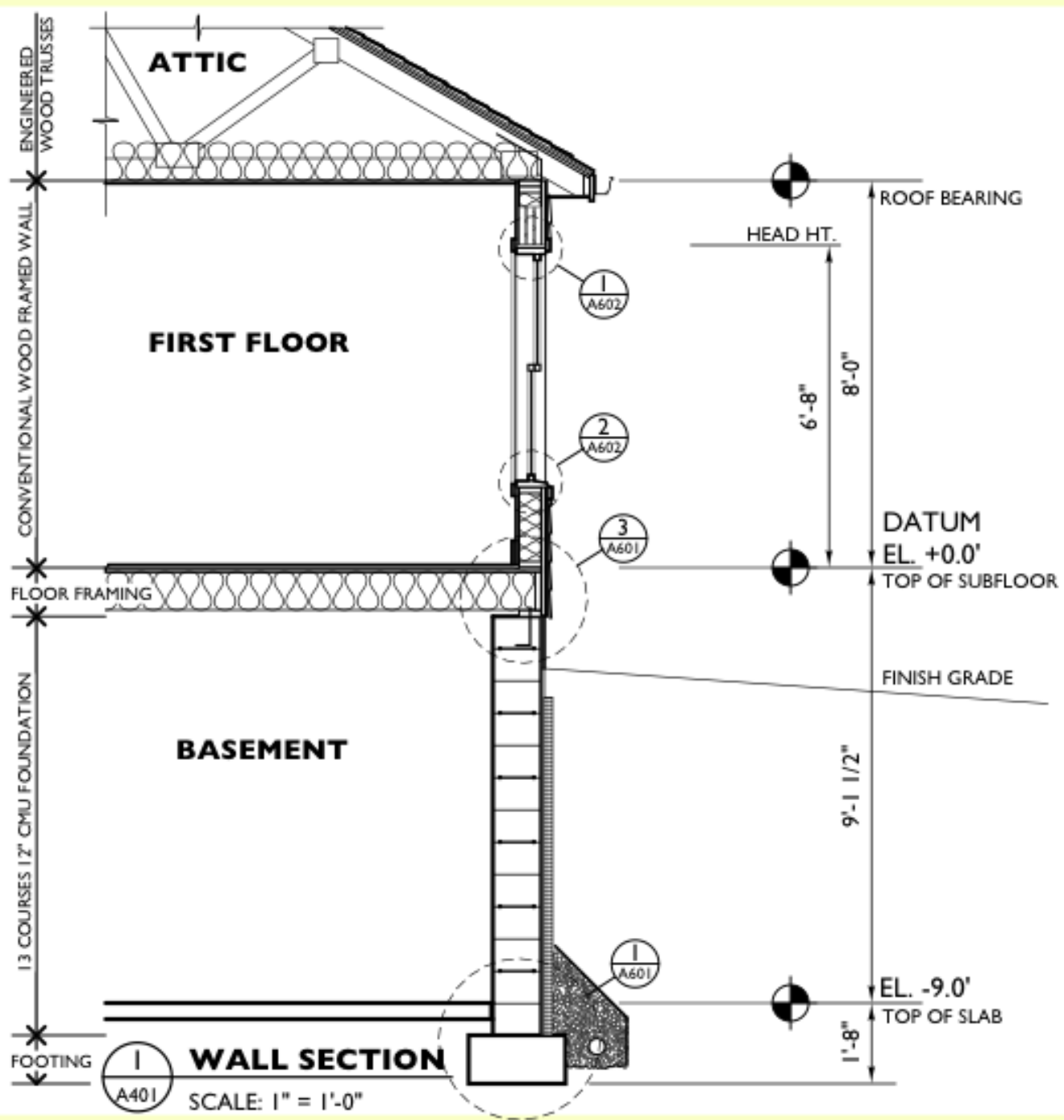
& FINAL ELEMENTS

- Window
- Soffit
- Delete construction lines

STEP
7

CONVENTIONAL FRAMING AND TIMBER

WALL SECTION
CONVENTIONAL FRAMING



COORDINATE

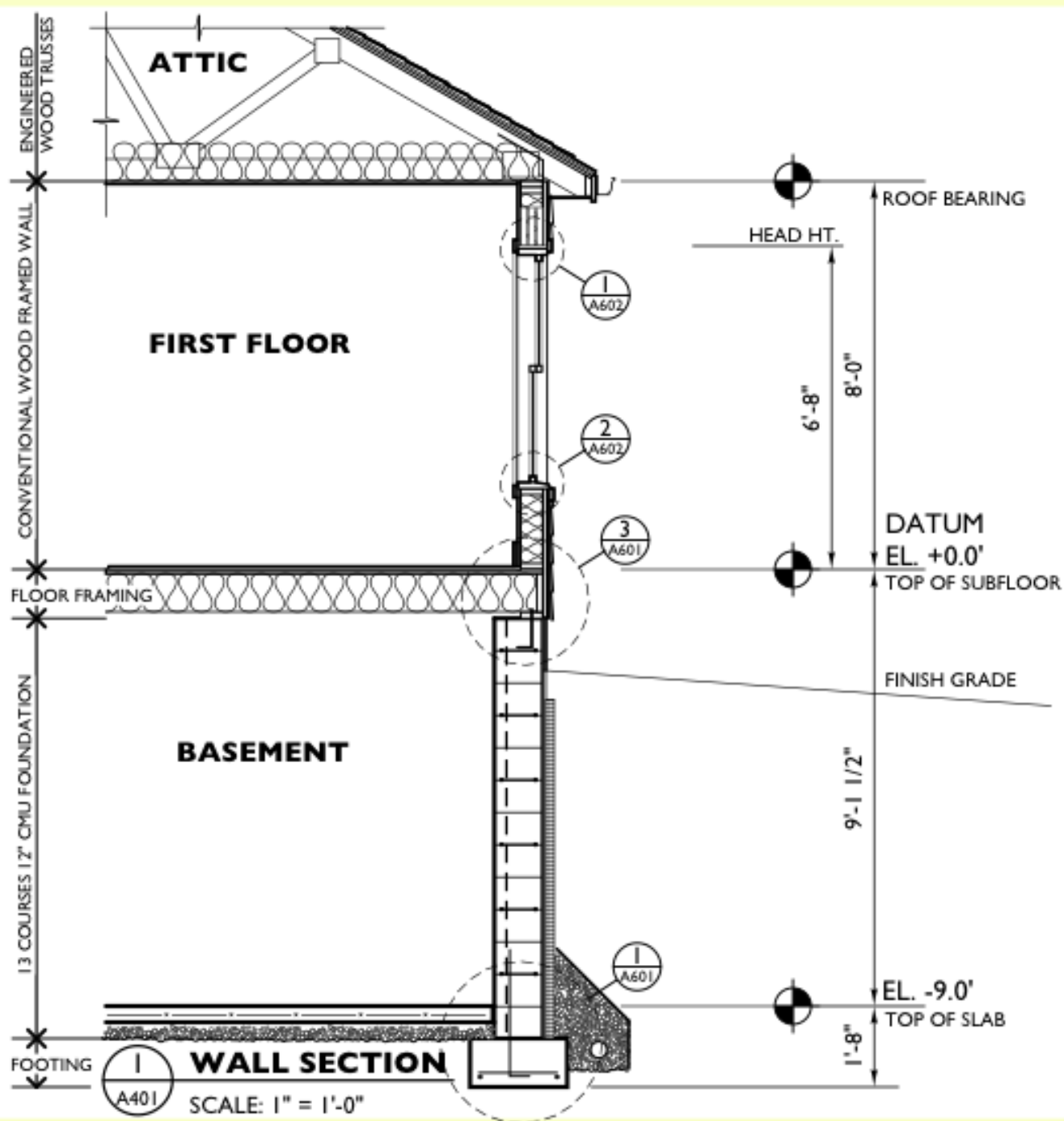
- Room identification
- Key details

STEP

8

WALL SECTION
CONVENTIONAL FRAMING

CONVENTIONAL FRAMING AND TIMBER



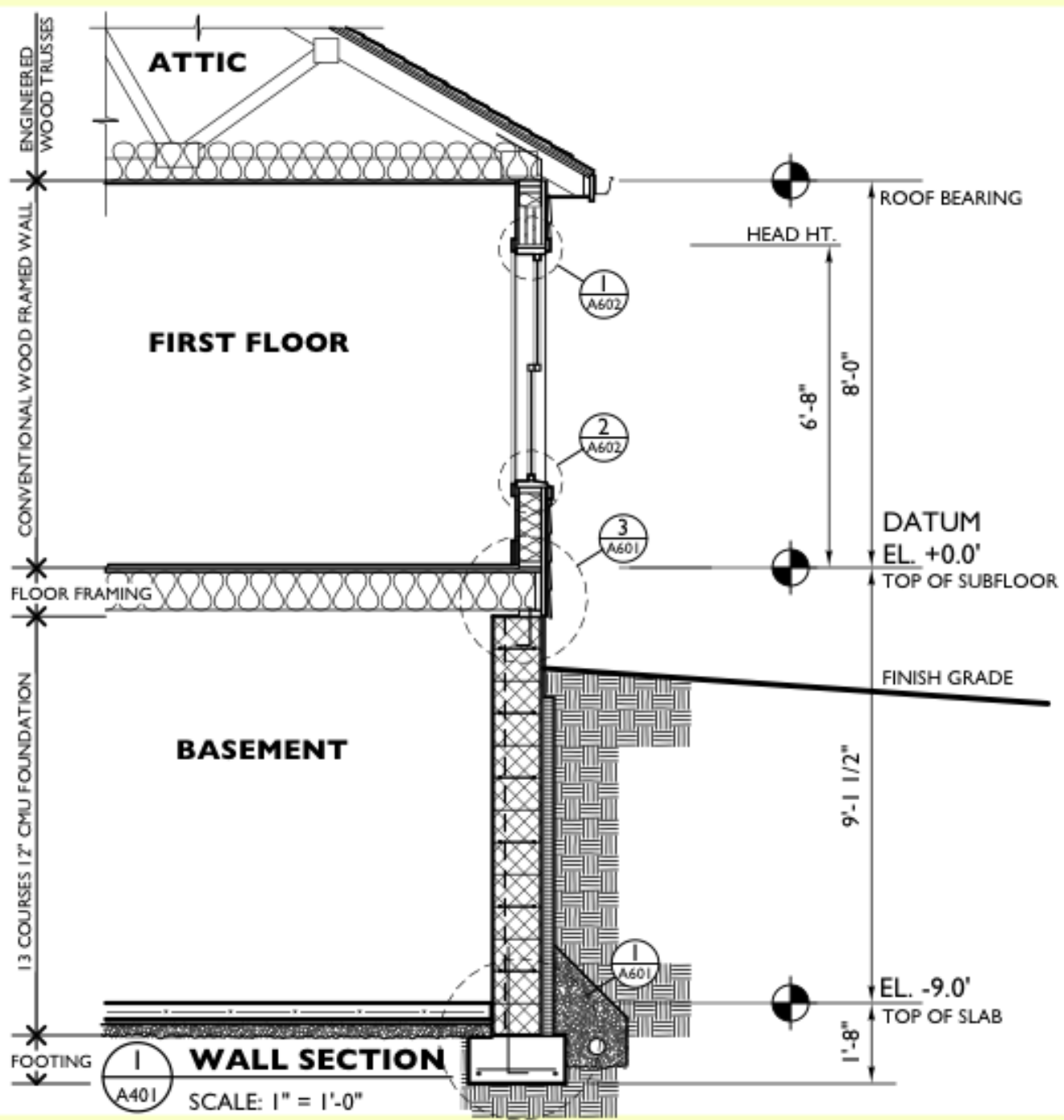
COORDINATE STRUCTURAL, MECHANICAL, PLUMBING, & ELECTRICAL

- Anchor bolts
- Wall reinforcement
- Footing reinforcement
- Slab reinforcement
- Vapor barrier & gravel
- Duct routing
- Mechanical equipment
- Electrical devices



**WALL SECTION
CONVENTIONAL FRAMING**

CONVENTIONAL FRAMING AND TIMBER

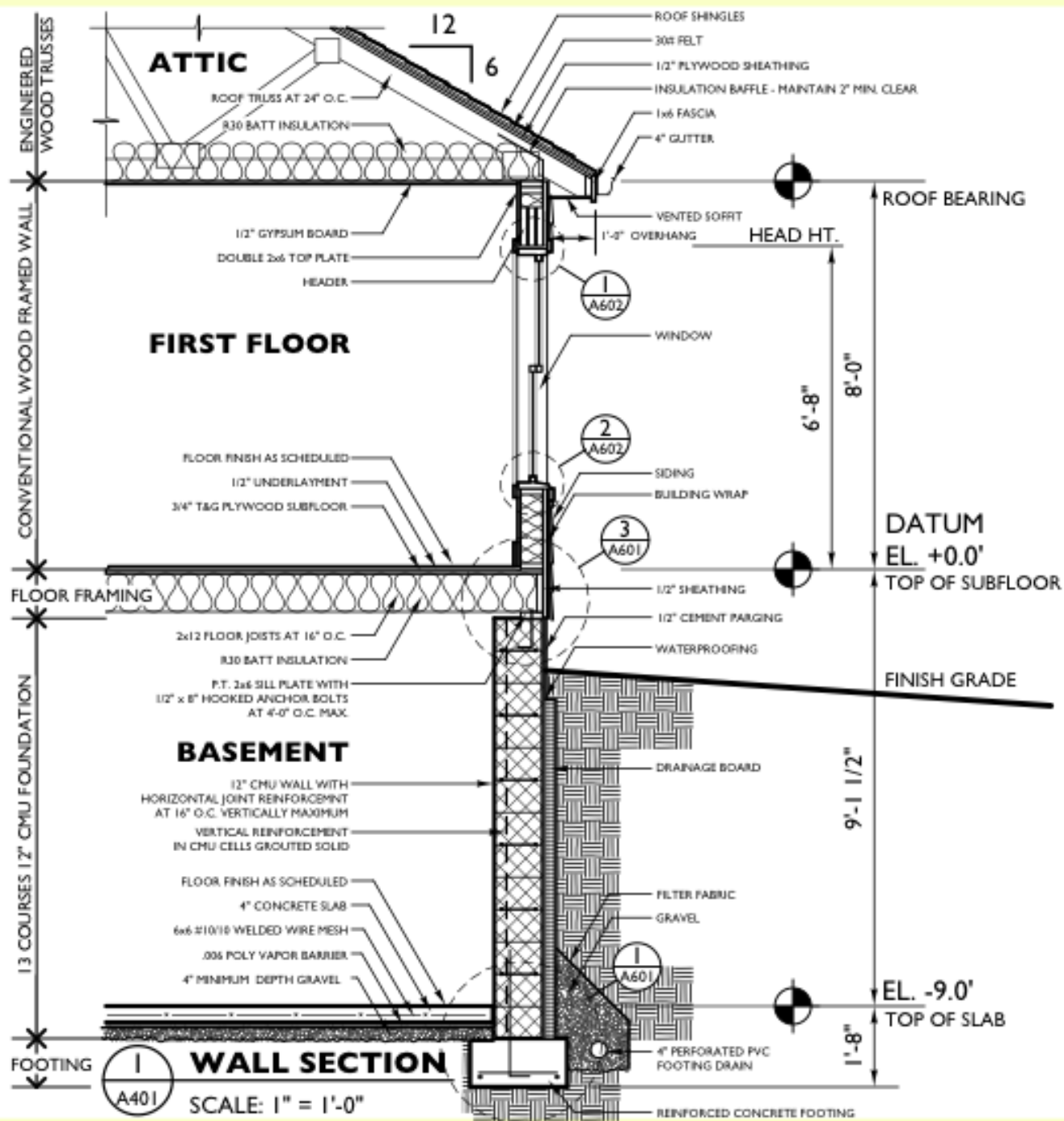


COMPLETE DRAWING

- Add material indications
- Emphasize cut edges

STEP
10

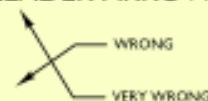
WALL SECTION
CONVENTIONAL FRAMING



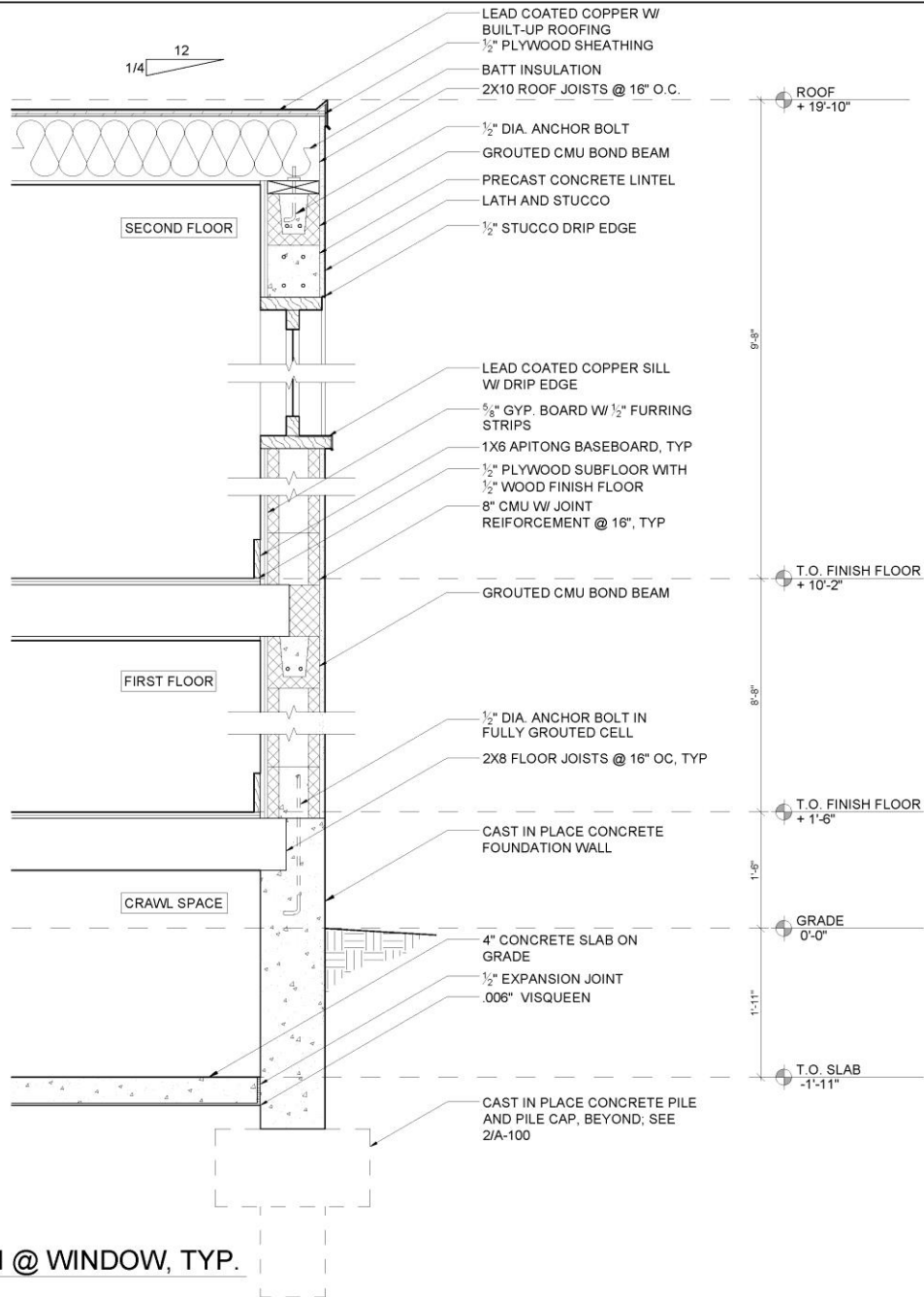
FINAL ANNOTATION

- Identify primary materials
- Indicate roof slope
- Dimension overhangs

DO NOT CROSS LEADER ARROWS



WALL SECTION CONVENTIONAL FRAMING



1 SECTION @ WINDOW, TYP.
1" = 1'-0"

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

NOTES:

**NEW YORK CITY
COLLEGE OF
TECHNOLOGY**

DRAWN BY:
YOUR NAME

DATE:

SCALE:

**WALL
SECTION**

A-500

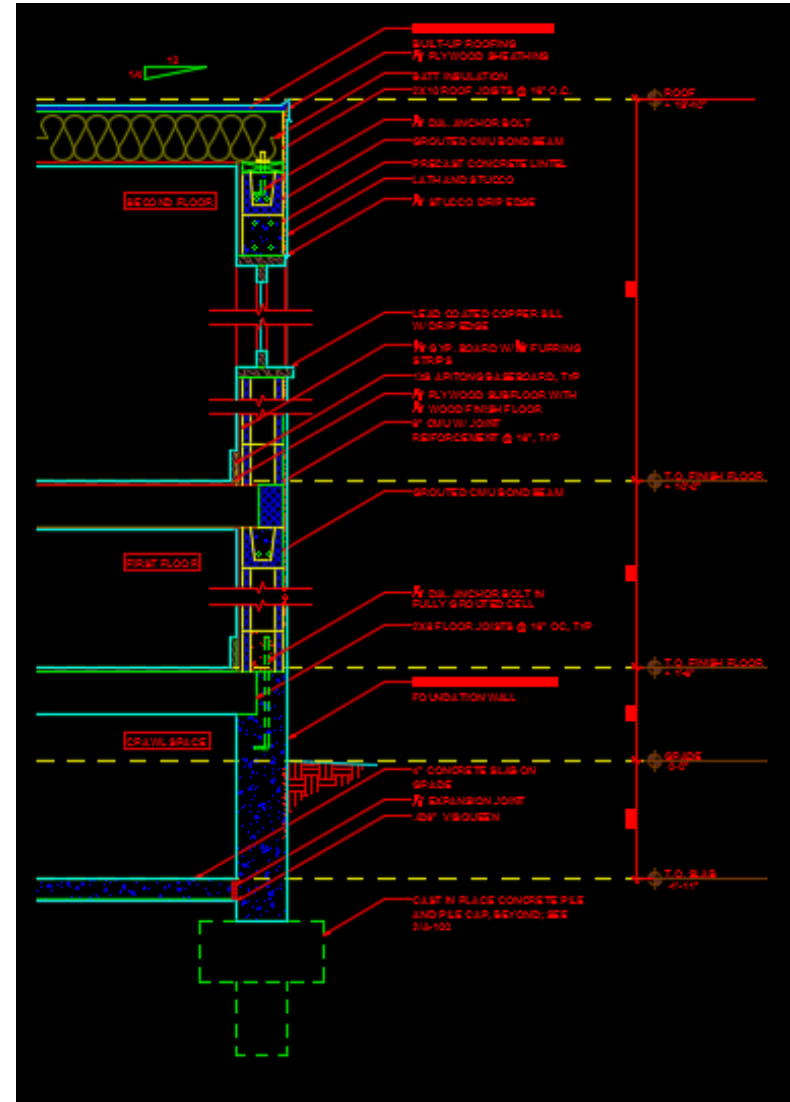
Autocad Techniques

- Rotate
- P-Line

Tools you have learned:

- Mirror
- Stretch
- Array
- Divide
- Distance
- Measure
- Leaders
- Notes
- Hatch
- Line and X-Lines
- Offset
- Extend/Trim
- Fillet
- Copy/Paste

- Ortho Mode and Polar Tracking
- Object Snap
- Layers and Color Styles
- Line-types
- Dimensioning
- Paper Space vs Model Space
- Viewports
- Arc
- Ellipse
- Blocks



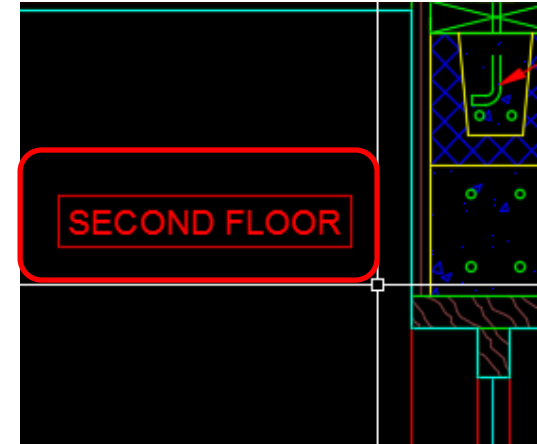
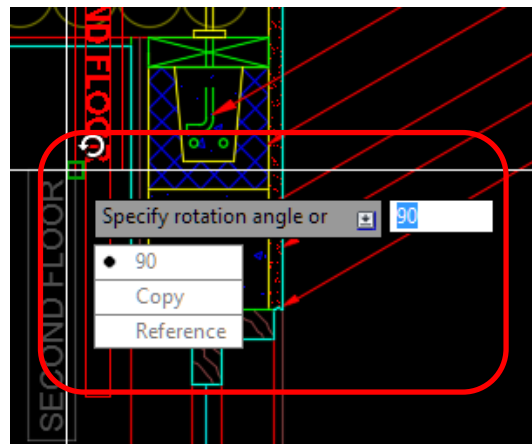
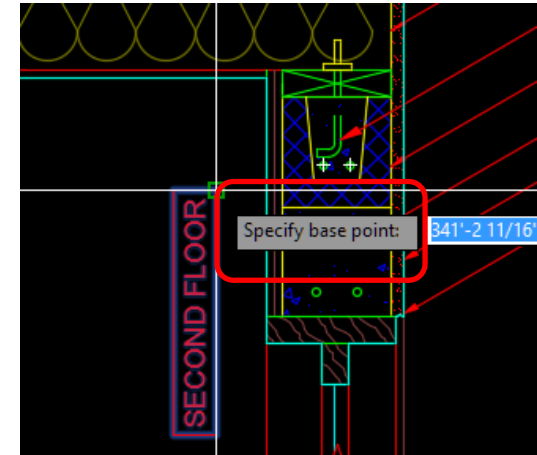
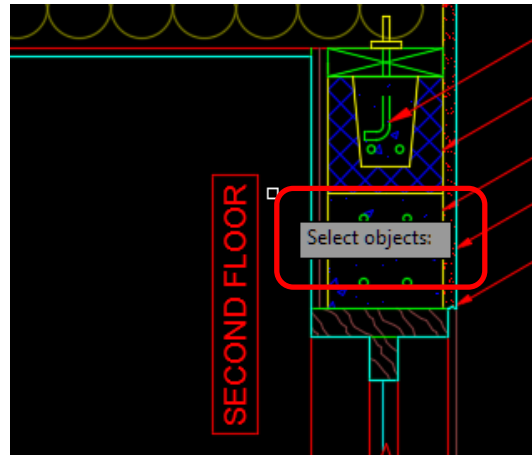
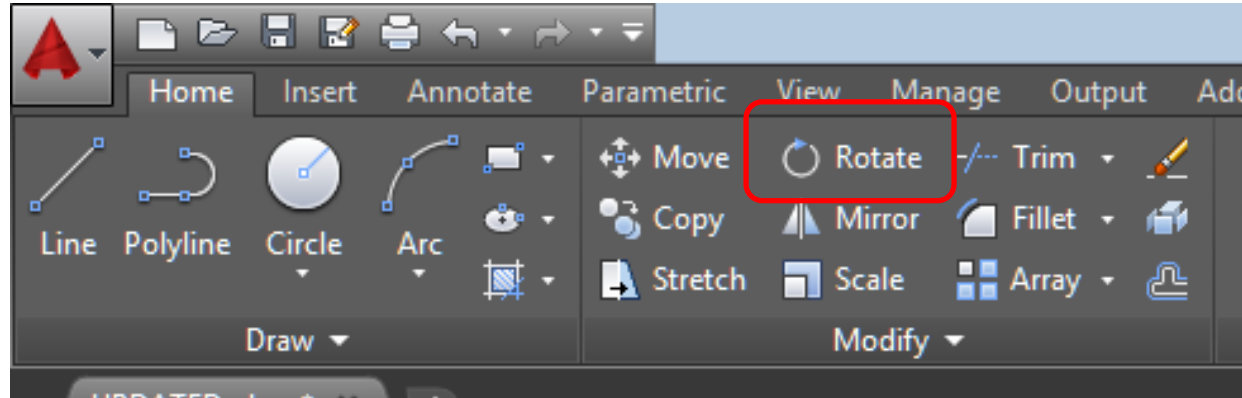
Rotate

You can *rotate* an object about a base point.

Activate: Home tab, Modify subtab or type "ro"

Resources:

<https://knowledge.autodesk.com/support/autocad/learn-explore/caas/CloudHelp/cloudhelp/2015/ENU/AutoCAD-Core/files/GUID-9DB2CB8C-7FB7-45A4-83A7-82FFC53FC7E1-htm.html>



Polyline

A *polyline* is a connected sequence of line segments created as a single object. You can create straight line segments, arc segments, or a combination of the two. This allows you greater editing flexibility than for single lines.

Activate: Home tab, Draw subtab or type “pl”

Resources: <https://knowledge.autodesk.com/support/autocad/learn-explore/caas/CloudHelp/cloudhelp/2015/ENU/AutoCAD-Core/files/GUID-392BF13C-D9E7-47A8-8E07-435296332279-htm.html>

