

DRAWING KEYS:

- 01 4" thick concrete slab (reinforced)
- 02 Anchor bolts
- 03 10" concrete masonry units with vertical and horizontal reinforcing
- 04 Damp proofing
- 05 Gravel backfill
- 06 Undisturbed soil
- 07 Foundation drain
- 08 Cast-in-place concrete spread footing
- 09 Slab to wall isolation joint
- 10 Vapor barrier
- 11 Reinforcing steel for footing and wall
- 12 Gravel bed

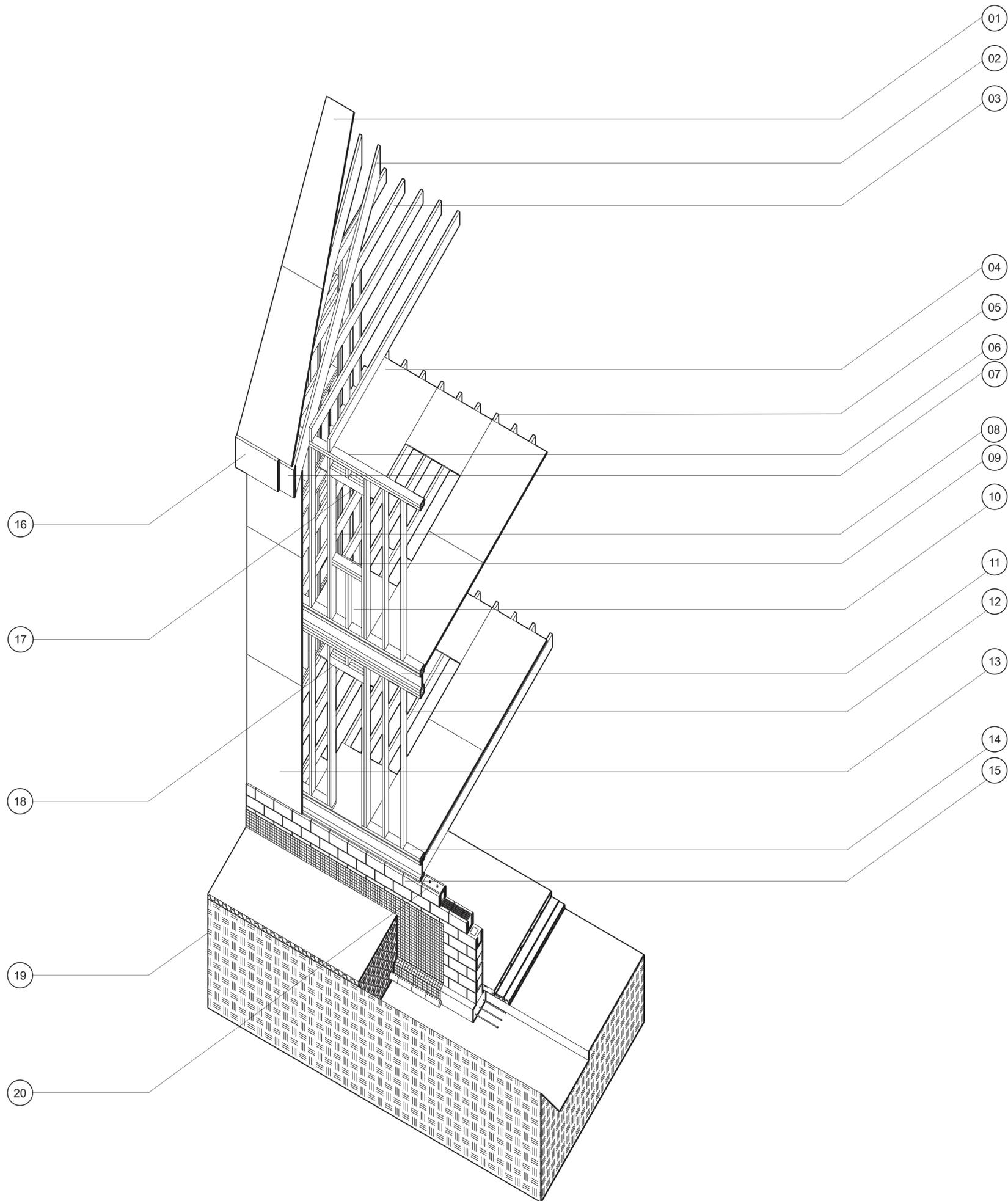
ASSIGNMENT #1
SCALE: 1/2" = 1'

MATERIALS & ASSEMBLY
FALL 2020

LINGHENG(TONY) TAO

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TYPICAL AXONOMETRIC ORIENTATION



DRAWING KEYS:

- 01 Roof Sheathing 5/8" thick
- 02 2x12 Roof Rafter 16" o.c.
- 03 2x10 Wood Joist 16" o.c.
- 04 4x8 Plywood Floor 5/8" thick
- 05 2x10 Wood Joist 16" o.c.
- 06 2x6 Double Top Plate
- 07 Header
- 08 2x6 Trimmer Stud
- 09 Rough Plate
- 10 2x6 Cripple Stud
- 11 14" Wood I-Joists
- 12 2x6 Wood Stud 16" o.c.
- 13 4x8 Exterior Wall Sheathing 5/8" thick
- 14 Sole Plate
- 15 Anchor Bolts
- 16 Fascia
- 17 2x6 Window Header
- 18 2x6 Door Header
- 19 Foundation
- 20 Sill Plates

SCALE: 1/4" = 1'

ASSIGNMENT #2

MATERIALS & ASSEMBLY
FALL 2020

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DRAWING KEY:

LNC (Local Neighborhood Commercial)

- Purpose

Preserve the small scale and diversity of neighborhood-serving commercial districts, while promoting the quality of life in adjacent residential areas.

Reduce the adverse impacts that are sometimes associated with residential developments.

- Standards

Lot Size	17,100 SF
Maximum Lot Coverage	90%
Maximum Floor Area Ratio	2:1
Minimum Lot Size	None
Minimum Lot Size Per Unit	None
Minimum Front Setback	None
Minimum Exterior Sideyard Setback	None
Minimum Interior Sideyard Setback	None
① Maximum Height	45ft. (not to exceed 3 stories)
Minimum Rear Setback	
- When adjacent to a way	20ft.
- When not adjacent to a way	None

R1A-H

(Single Unit Attached Residential-High Density)

- Purpose

Pittsburgh's overall character is defined to a great degree by its diverse and unique residential areas. The Urban Zoning Code's approach to residential zoning reflects this diversity by allowing very fine-grained adjustments in the range of zoning controls applied within and among neighborhoods.

The purpose of these controls is to encourage development and redevelopment while preserving the character of existing residential neighborhoods.

- Standards

Lot Size	18,600 SF
Maximum Lot Coverage	None
Maximum Floor Area Ratio	None
Minimum Lot Size	1,800 SF
Minimum Lot Size Per Unit	750 SF
Minimum Front Setback	15ft.
② Minimum Exterior Sideyard Setback	15ft.
Minimum Interior Sideyard Setback	5ft.
Maximum Height	40ft. (not to exceed 3 stories)
③ Minimum Rear Setback	15ft.



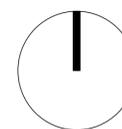
LNC

①

R1A-H

②

③



NORTH

ASSIGNMENT #5

[SHEET 1]

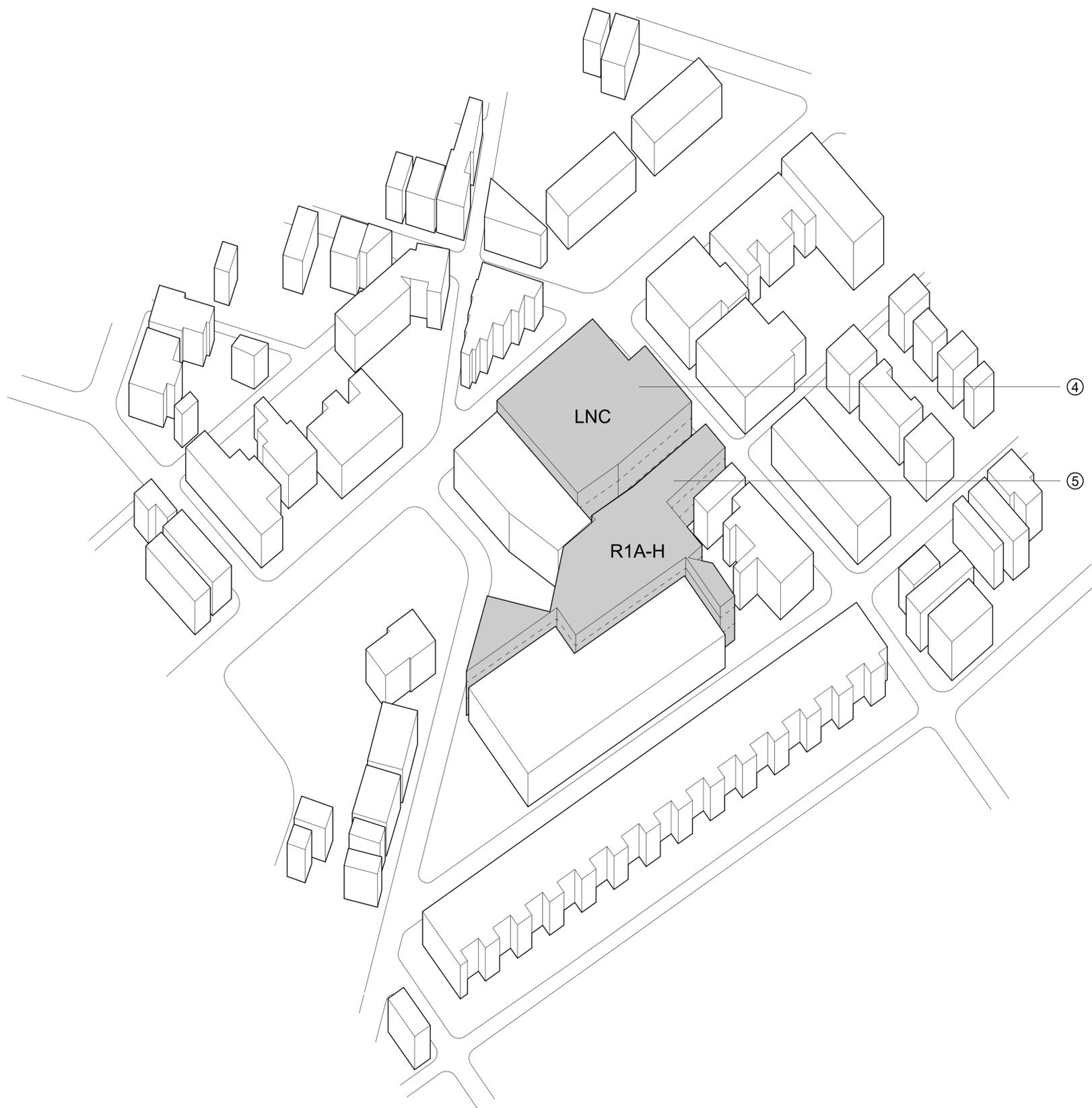
MATERIALS & ASSEMBLY

FALL 2020

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SCALE: 1/64" = 1' - 0"



DRAWING KEY:

LNC (Local Neighborhood Commercial)

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R1A-H

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⑤ Maximum Height	40ft. (not to exceed 3 stories)
Minimum Rear Setback	15ft.



SCALE: 1/64" = 1' - 0"

ASSIGNMENT #5

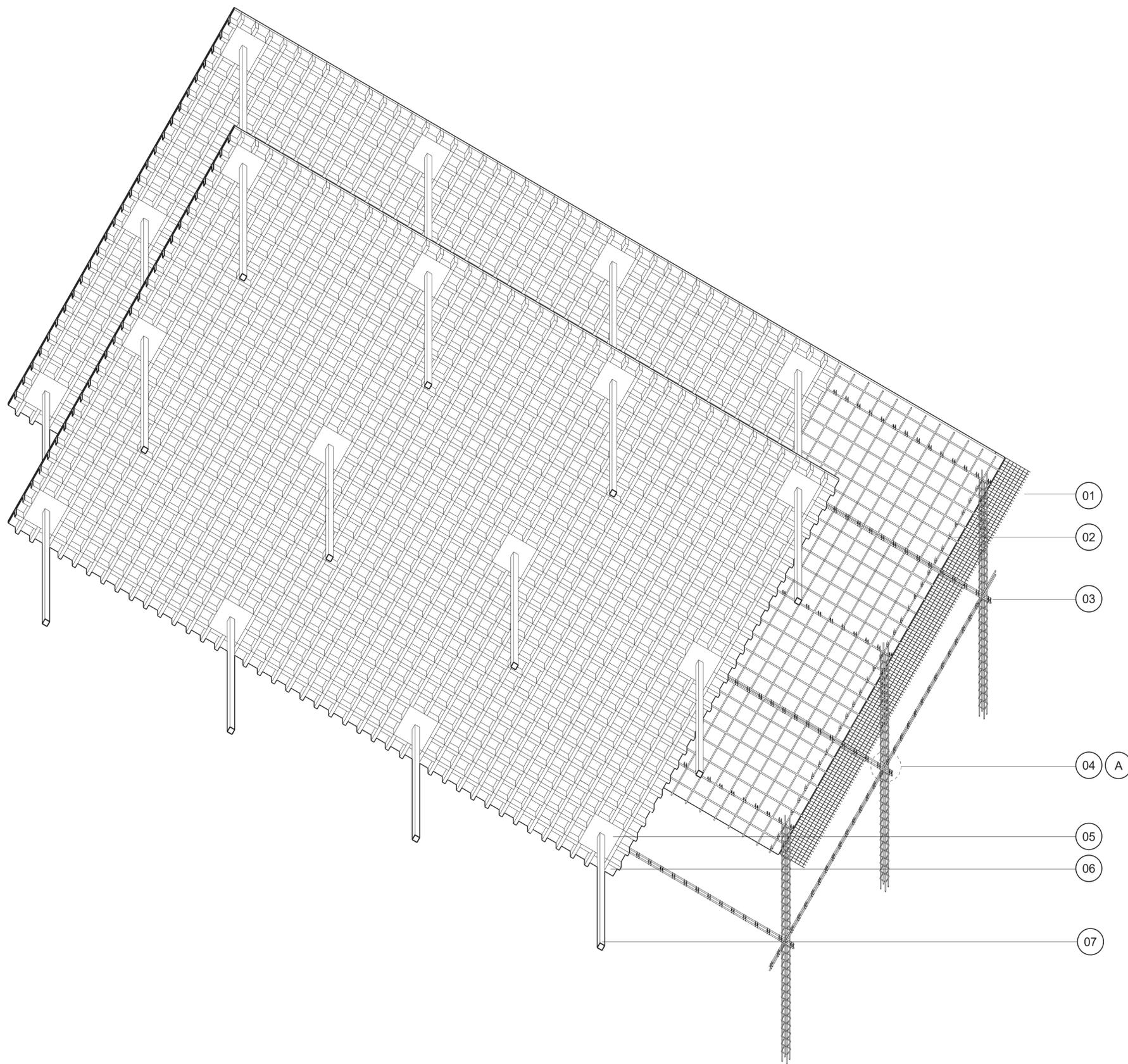
[SHEET 2]

MATERIALS & ASSEMBLY

FALL 2020

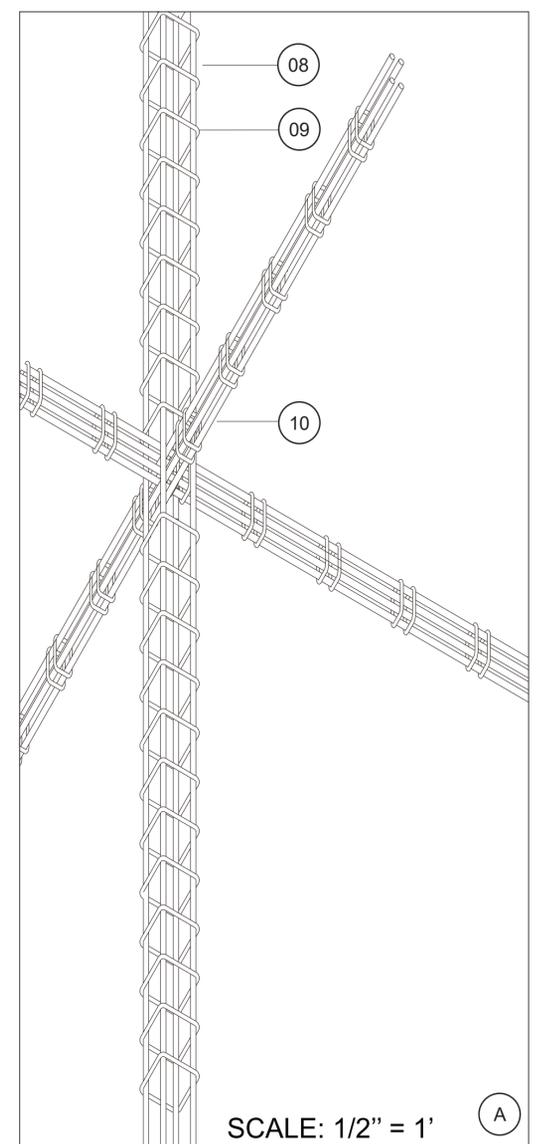
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DRAWING KEYS:

- 01 Welded wire mesh reinforcing
- 02 Tensile reinforcing bars at waffles
- 03 Reinforcing bars at the slab
- 04 Reinforcing transition between the column and beam or column and column head
- 05 Solid column head (eliminate pans)
- 06 Concrete columns (8" x 8")
- 07 Waffle slab (pans in 2' module)
- 08 Vertical reinforcement bar (Ø 5/8")
- 09 Lateral Ties (Ø 3/8")
- 10 Dowels tie column to supported slab



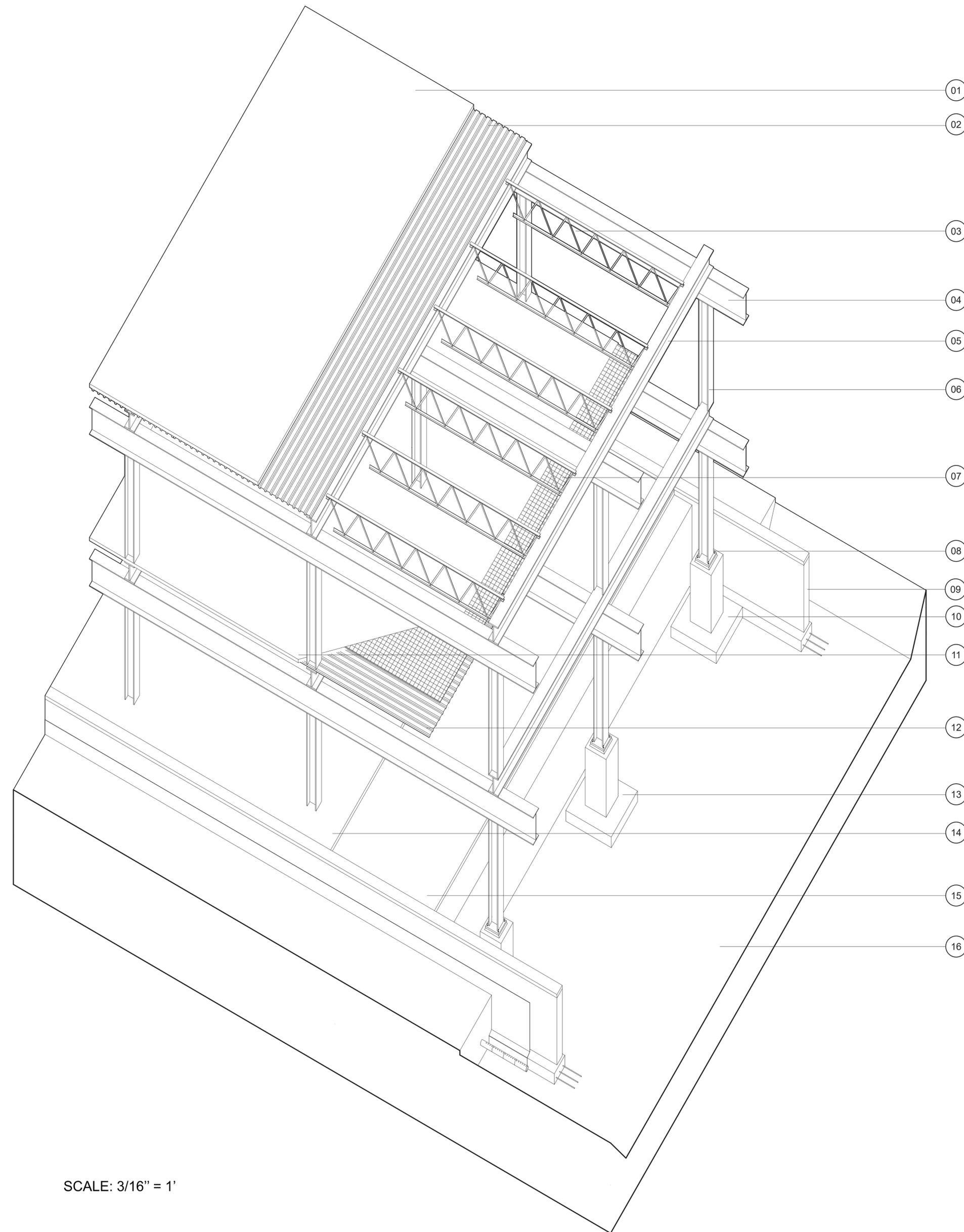
SCALE: 1/8" = 1'

ASSIGNMENT #4

MATERIALS & ASSEMBLY
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DRAWING KEYS:

- 01 Rigid Foam
- 02 Steel Roof Decking
- 03 Open-Web Steel Joist Frame
- 04 Primary Girders
- 05 Secondary Beams
- 06 Steel Columns 10" x 10" (W10x45)
- 07 Welded Wire Mesh Reinforcing
- 08 Anchor Bolts
- 09 Cast-in-place Foundation Wall with Reinforcing
- 10 Cast-in-place Footing with Reinforcing Piers for the Steel Columns with Reinforcing
- 11 Concrete Topping
- 12 Steel Floor Decking
- 13 Isolation Footing with Reinforcing
- 14 Reinforced Concrete Slab
- 15 Vapor Barrier
- 16 Foundation System

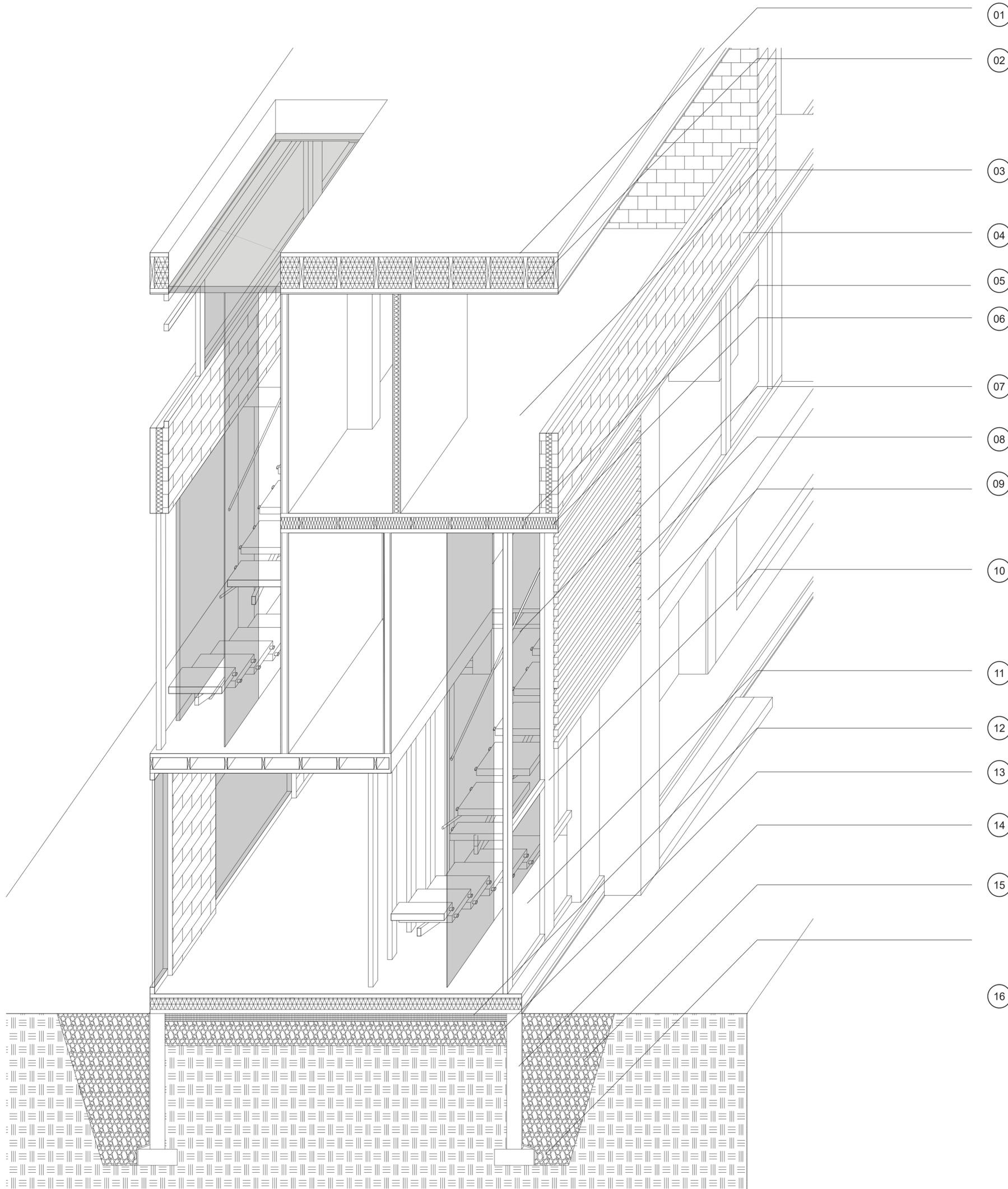
ASSIGNMENT #5

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SCALE: 3/16" = 1'



OCCUPANCY TYPE:

This shared visual artists studio for both families is defined as Group R-3 occupancy by understanding IBC 310.5 Small Assembly Space -- A room with no more than 2 dwelling units, congregate nontransient living facilities fewer than 16 occupants, and congregate transient living facilities should be classified as Group R-3 House.

CONSTRUCTION TYPE:

A building of limited height to three stories, noncombustible insulation, roof panels, brick exterior and timber frame interior would be Type-II construction.

By reading table 504.4, buildings of Group R-3 occupancy and Type-II B construction with NS(no automatic sprinkler system) has allowable number stories of 3. Current design is 3 stories with each lower than 9 ft, thus satisfies the requirements.

By reading table 506.2, buildings of Group R-3 occupancy and Type-II B construction with NS (no automatic sprinkler system) has allowable area of 23,000 square feet. Current design floor area is about 500 square feet, thus satisfies the requirements.

DRAWING KEYS:

- 01 Roof Metal Coping
- 02 Roof Insulation
- 03 5/8" Thick Plywood Floor
- 04 Concrete Masonry Exterior Wall
- 05 2 x 10 Floor Framing
- 06 Insulation
- 07 Glass Panel
- 08 Custom Wood Screen
- 09 Wood Column
- 10 Non Structural Steel Frame
- 11 Concrete Slab On Grade
- 12 Foam Insulation
- 13 Gravel Bed
- 14 Foundation Wall
- 15 Gravel Fill
- 16 Foundation System

ASSIGNMENT #6

MATERIALS & ASSEMBLY
FALL 2020

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SCALE: 3/8" = 1'