

ARCHITECTURE PORTFOLIO

JESSICA RIGGS



CONTENT

Integrated Design 5

Comprehensive Design

Construction Systems 2

INTEGRATED DESIGN 5

This project was based on the city of Croswell Michigan and what it needed to connect the community with a mixed use building. This development will focus on creating community outreach through site design, specifically dividing the adjacent site, and the opportunity to create public plaza spaces will emerge and in return help centralize social gatherings.

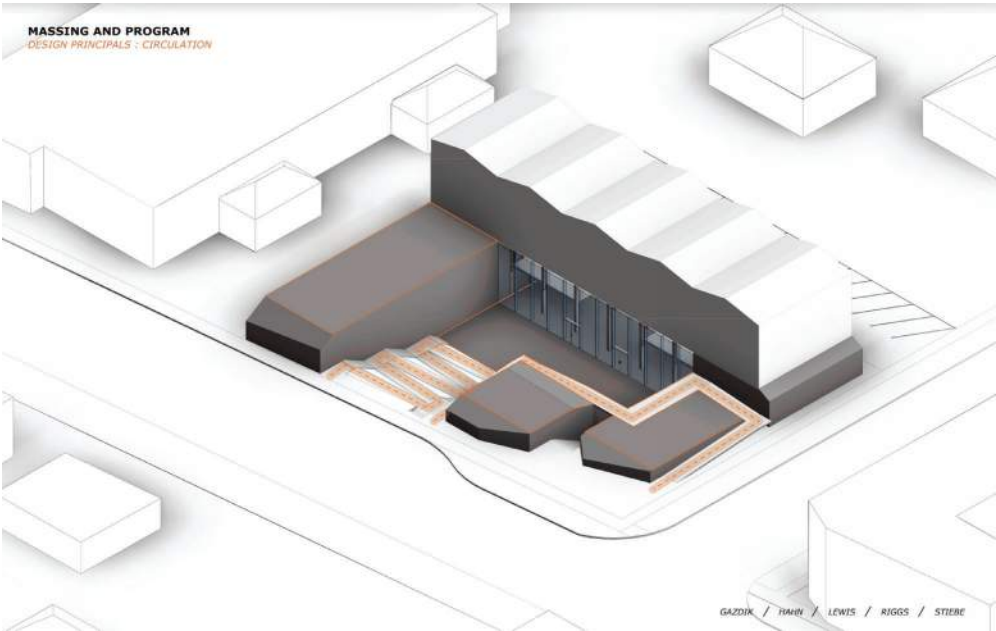
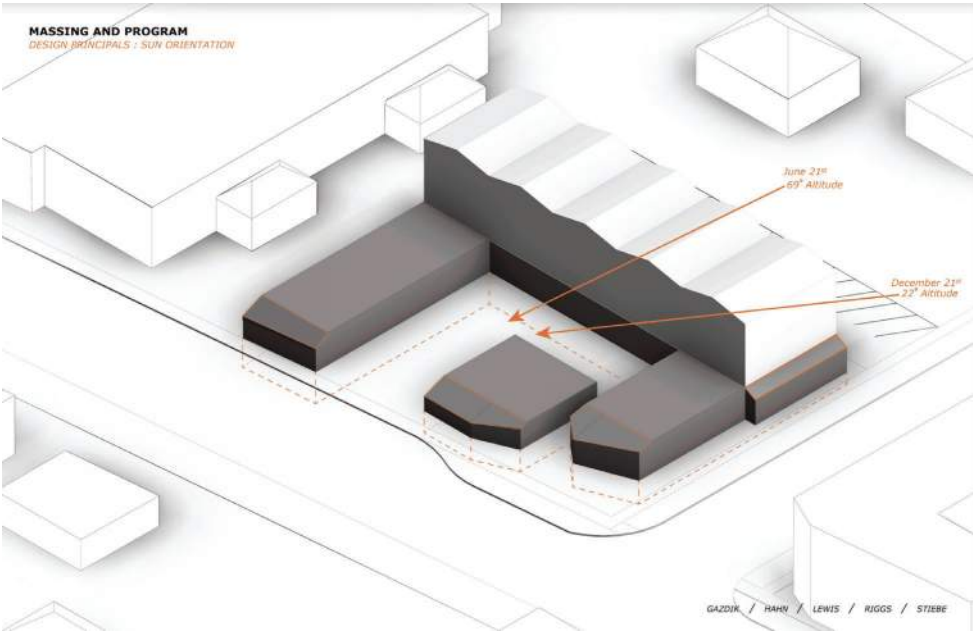
Fall 2020

Professor Scott Shall

*Team:
Courteney Gazdik
Nathan Stiebe
Jonathan Hahn
Jessica Riggs
Kayla Lewis*

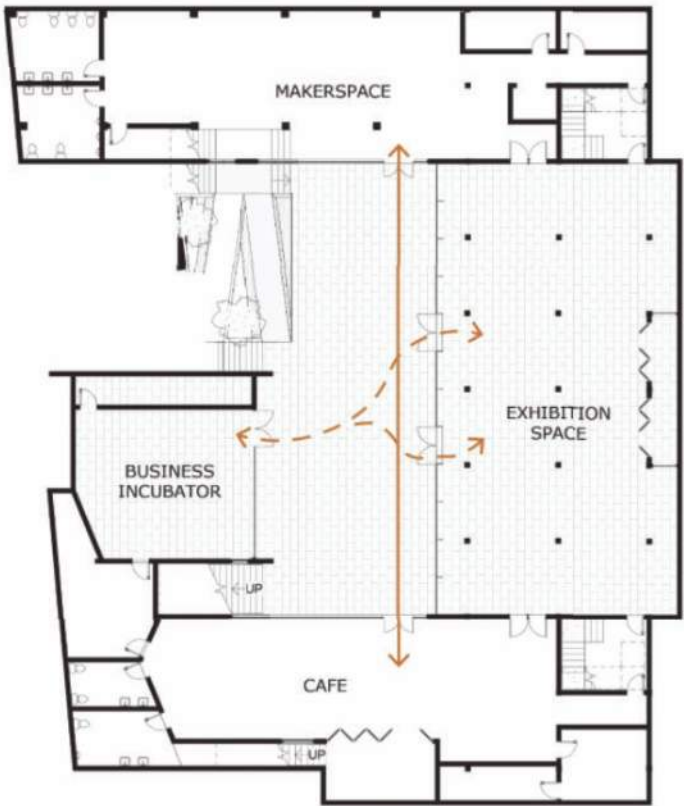
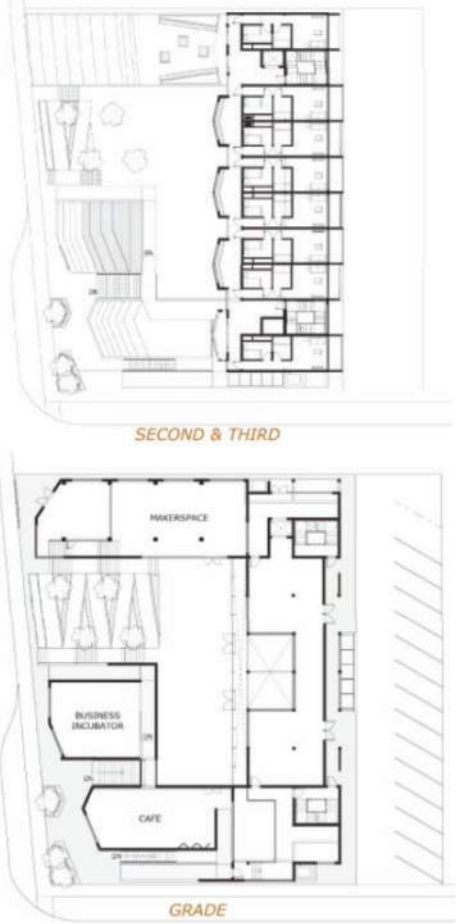


INTEGRATED DESIGN 5



MASSING AND PROGRAM

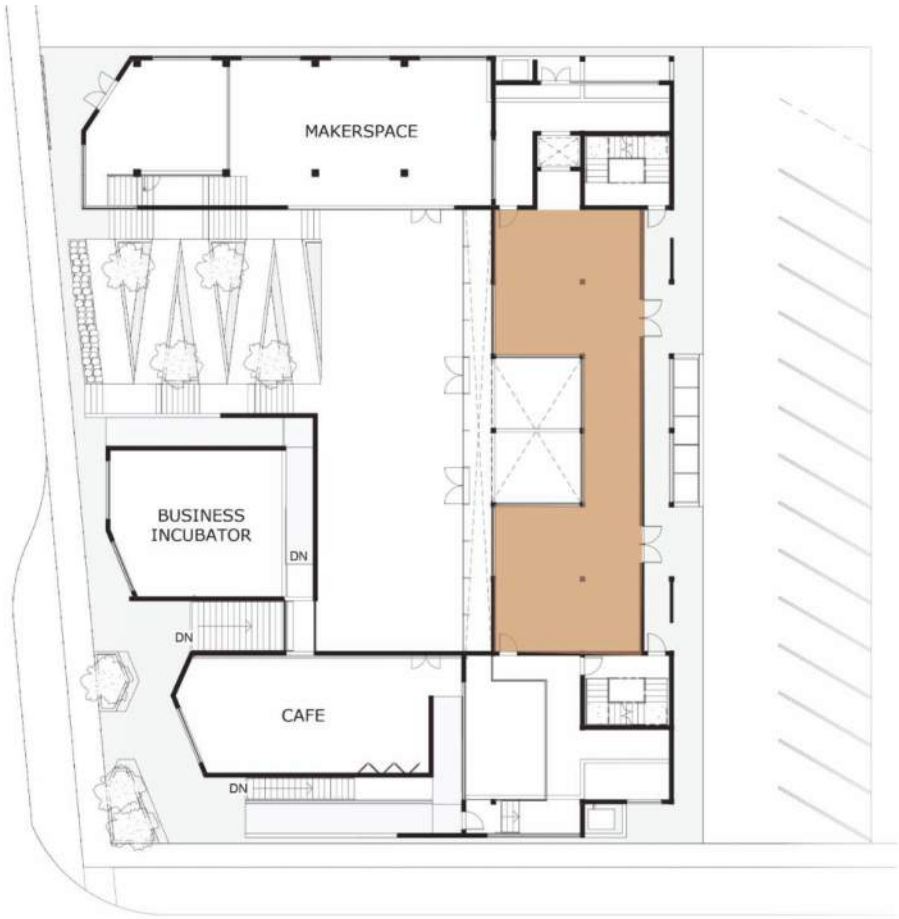
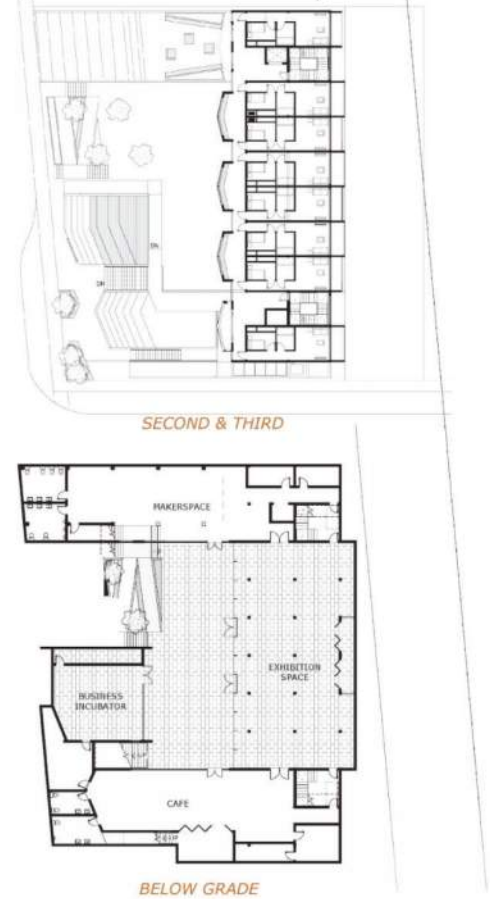
BELOW GRADE FLOOR PLAN



GAZDIK / HAHN / LEWIS / RIGGS / STIEBE

MASSING AND PROGRAM

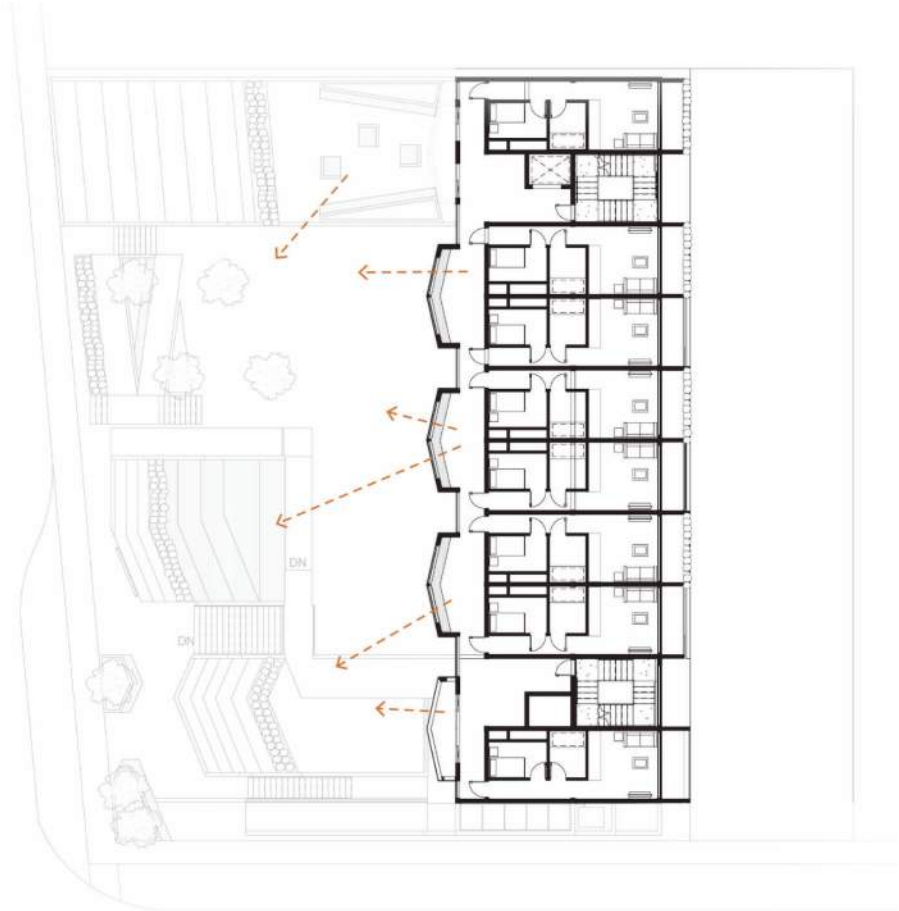
GRADE FLOOR PLAN



GAZDIK / HAHN / LEWIS / RIGGS / STIEBE

MASSING AND PROGRAM

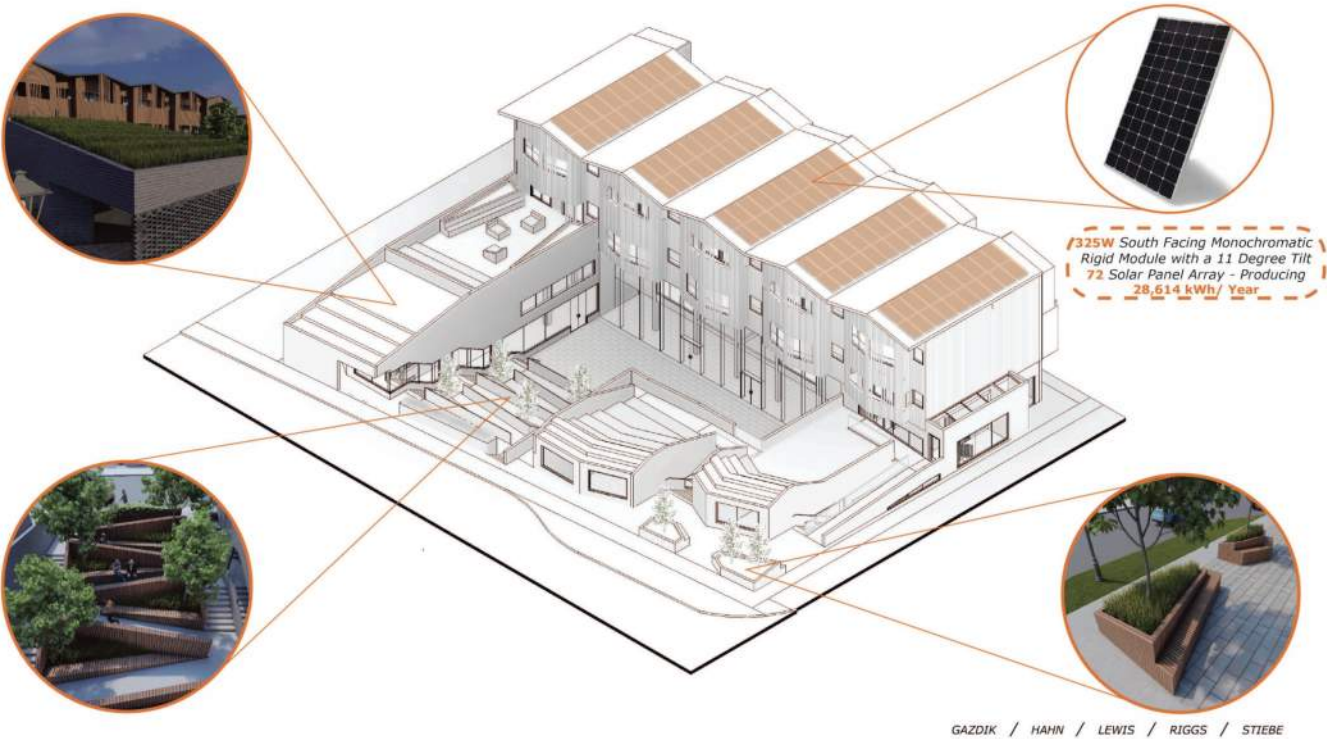
SECOND AND THIRD FLOOR PLAN



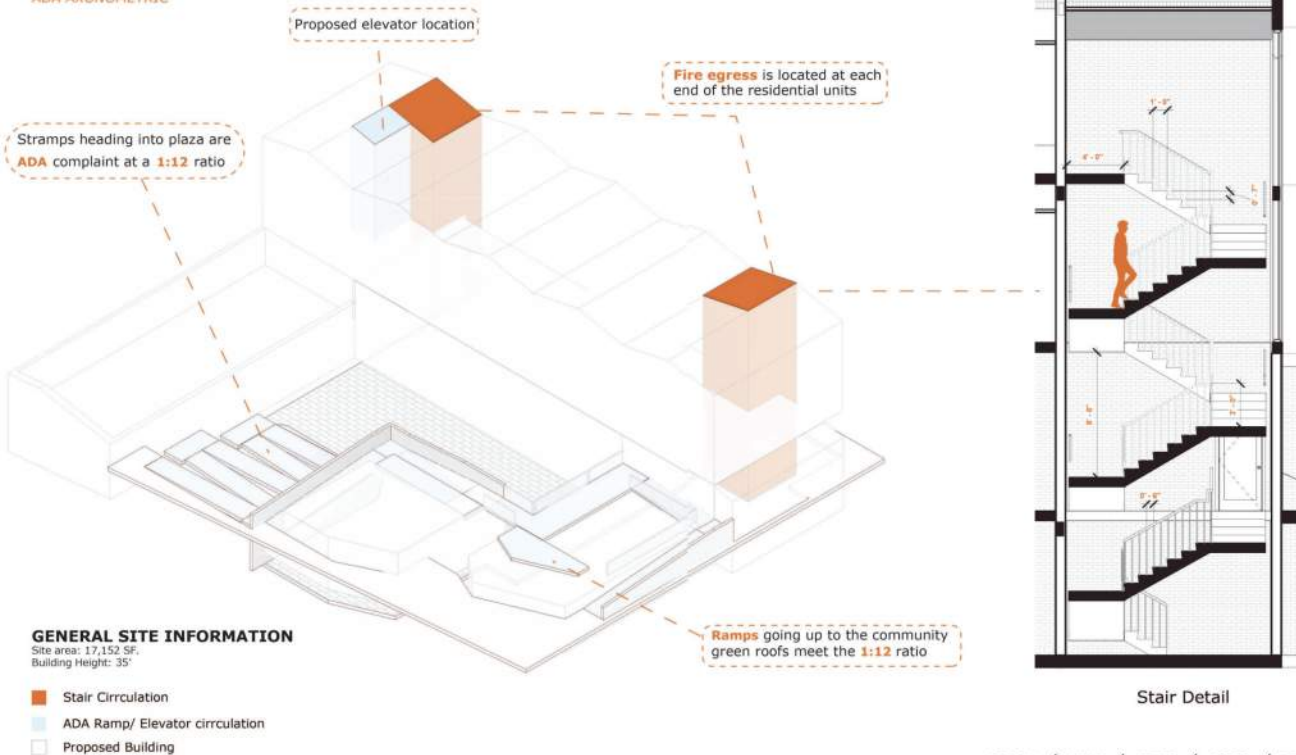
GAZDIK / HAHN / LEWIS / RIGGS / STIEBE



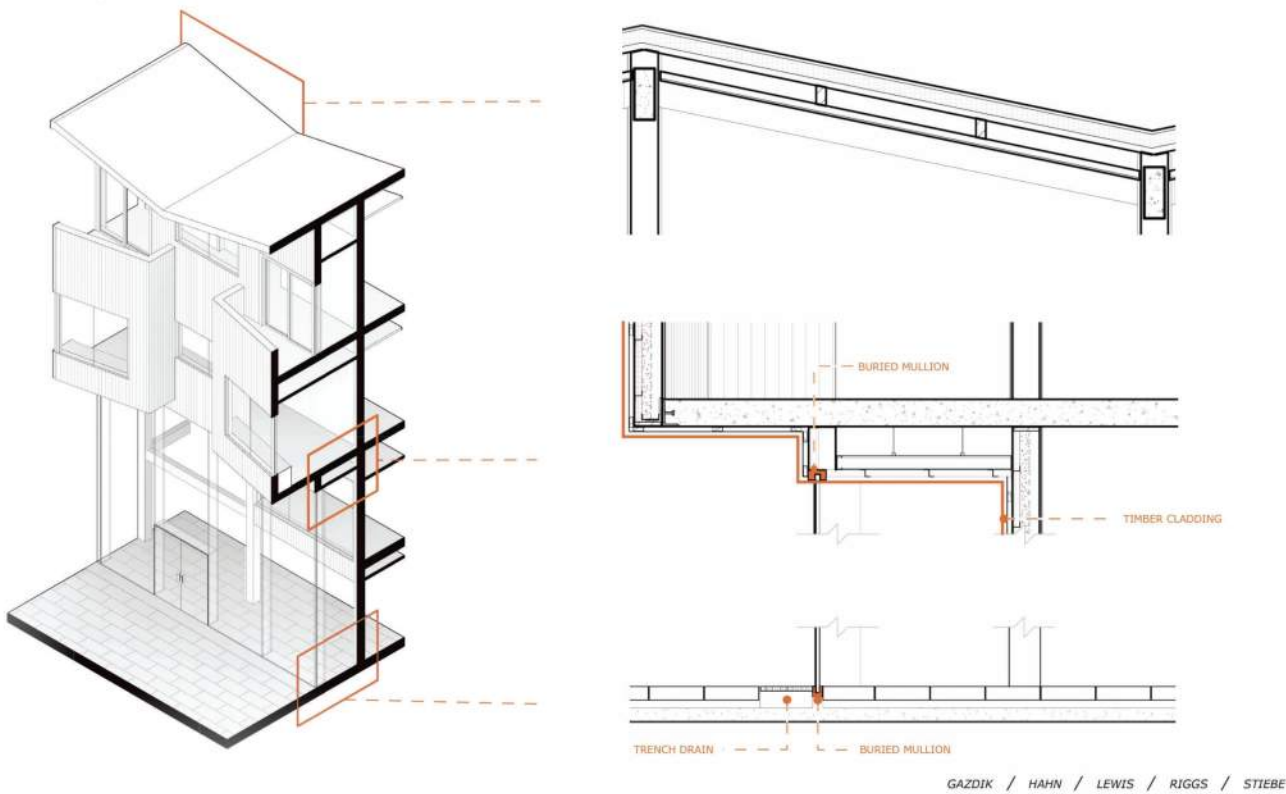
CONSTRUCTION, SUSTAINABILITY, AND ENVIRONMENTAL SYSTEMS : SUSTAINABILITY



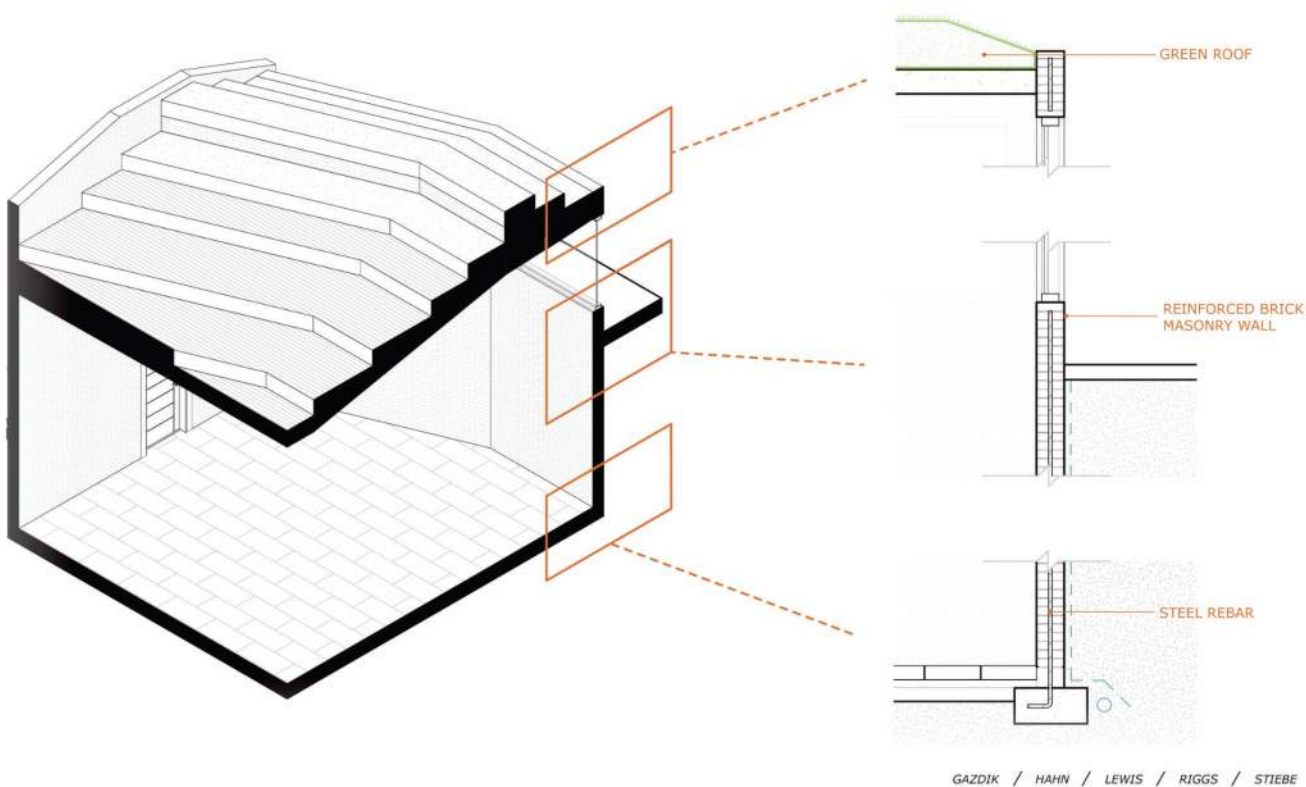
CONSTRUCTION ADA/CODE :
ADA AXONOMETRIC



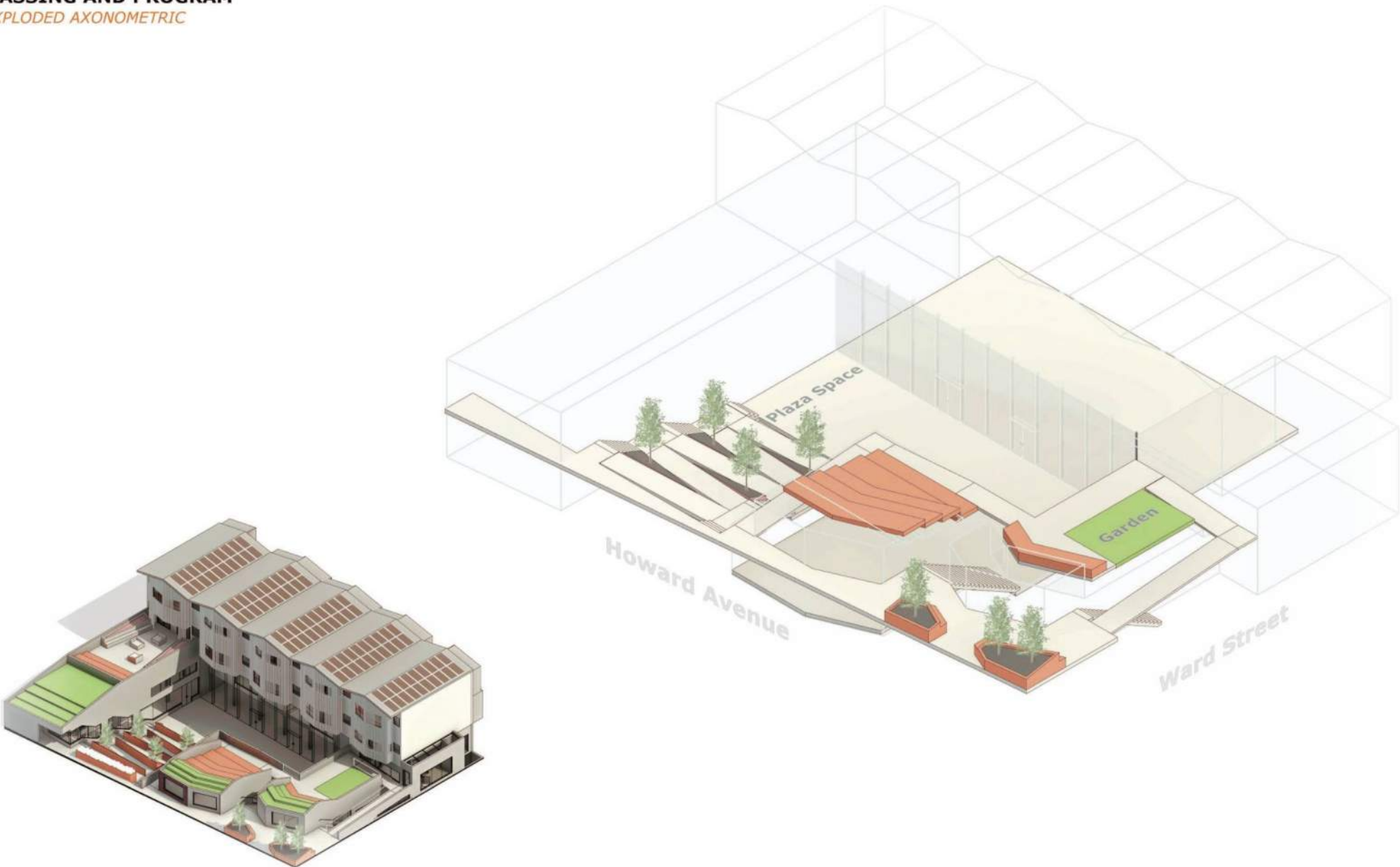
BUILDING ENVELOPE DETAILS
CURTAIN WALL / ROOF



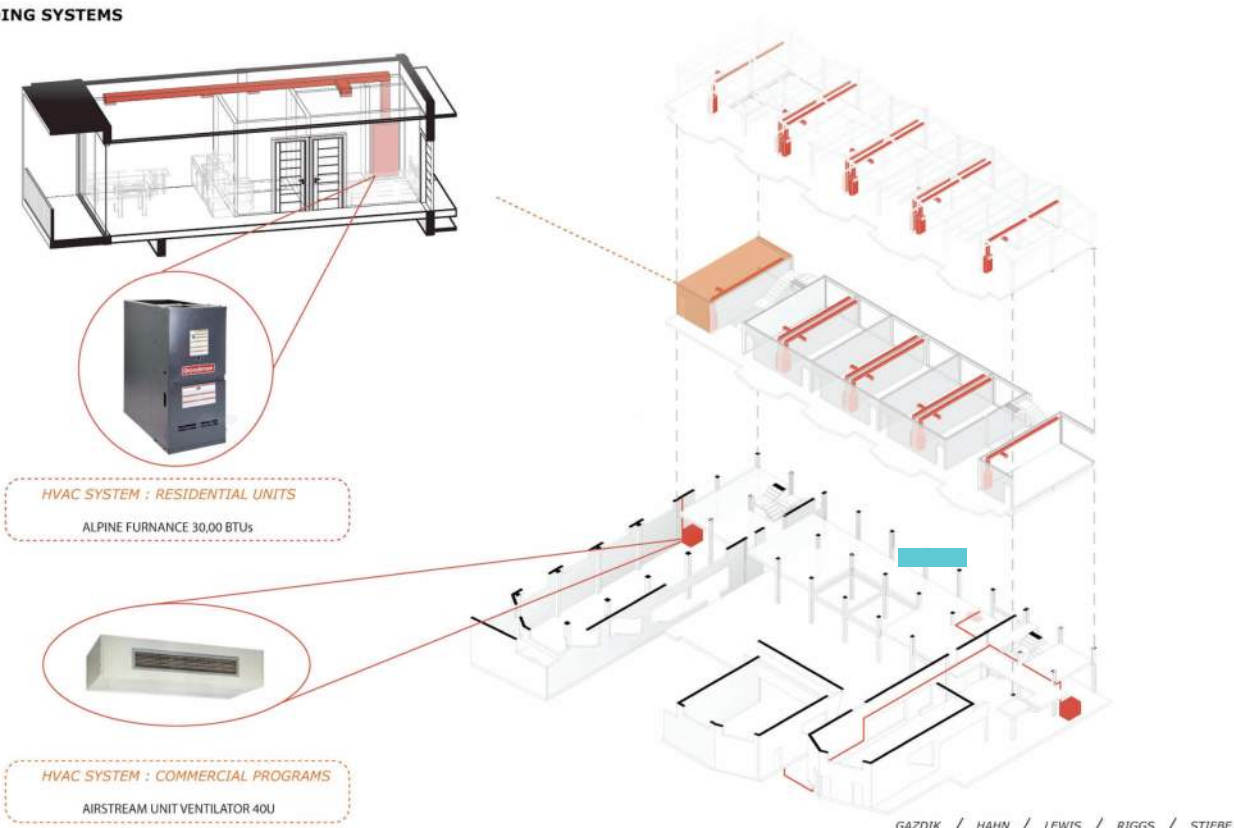
BUILDING ENVELOPE DETAILS
BRICK MASONRY WALL / GREEN ROOF



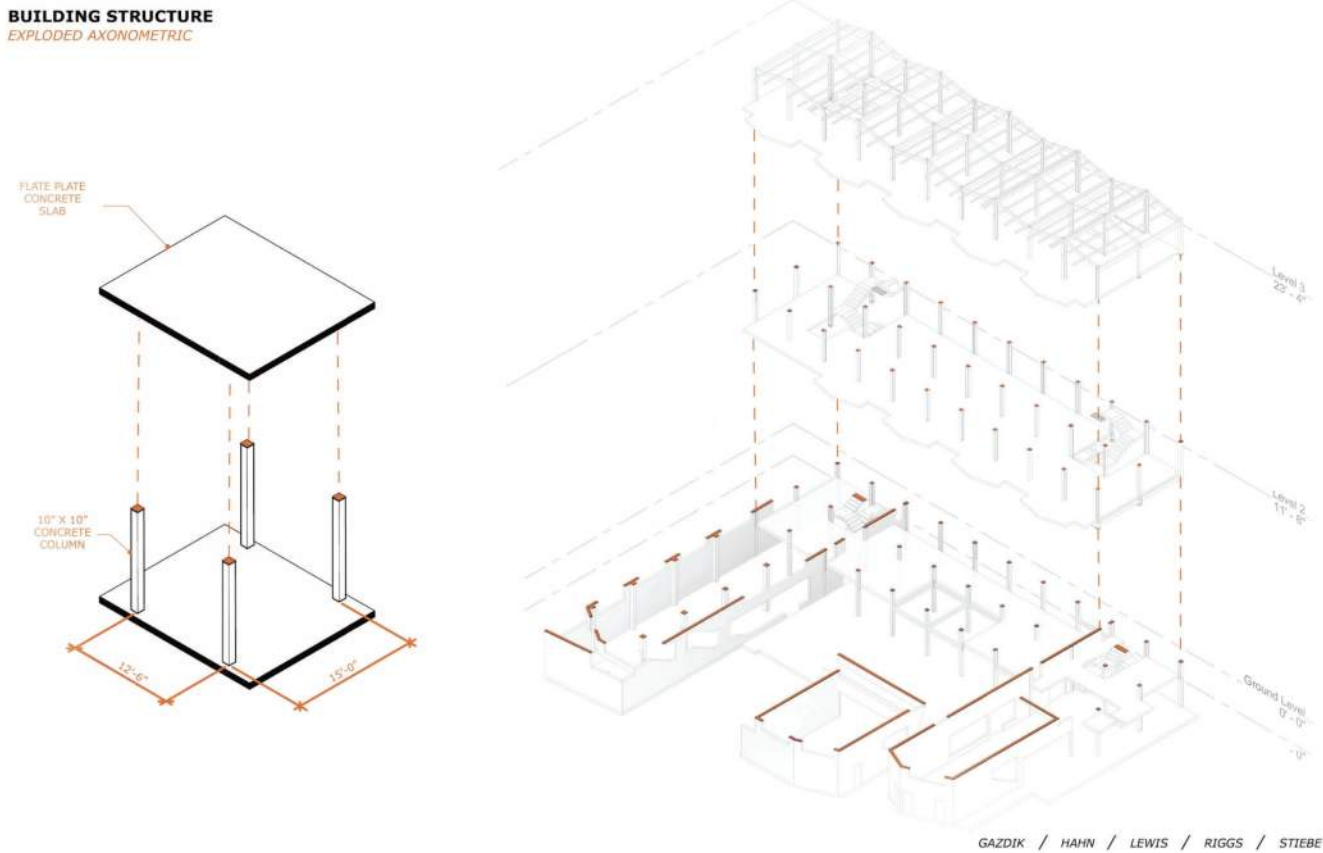
MASSING AND PROGRAM
EXPLODED AXONOMETRIC



BUILDING SYSTEMS
HVAC



BUILDING STRUCTURE
EXPLODED AXONOMETRIC



RECAP
TRIFECTA



COMPREHENSIVE DESIGN

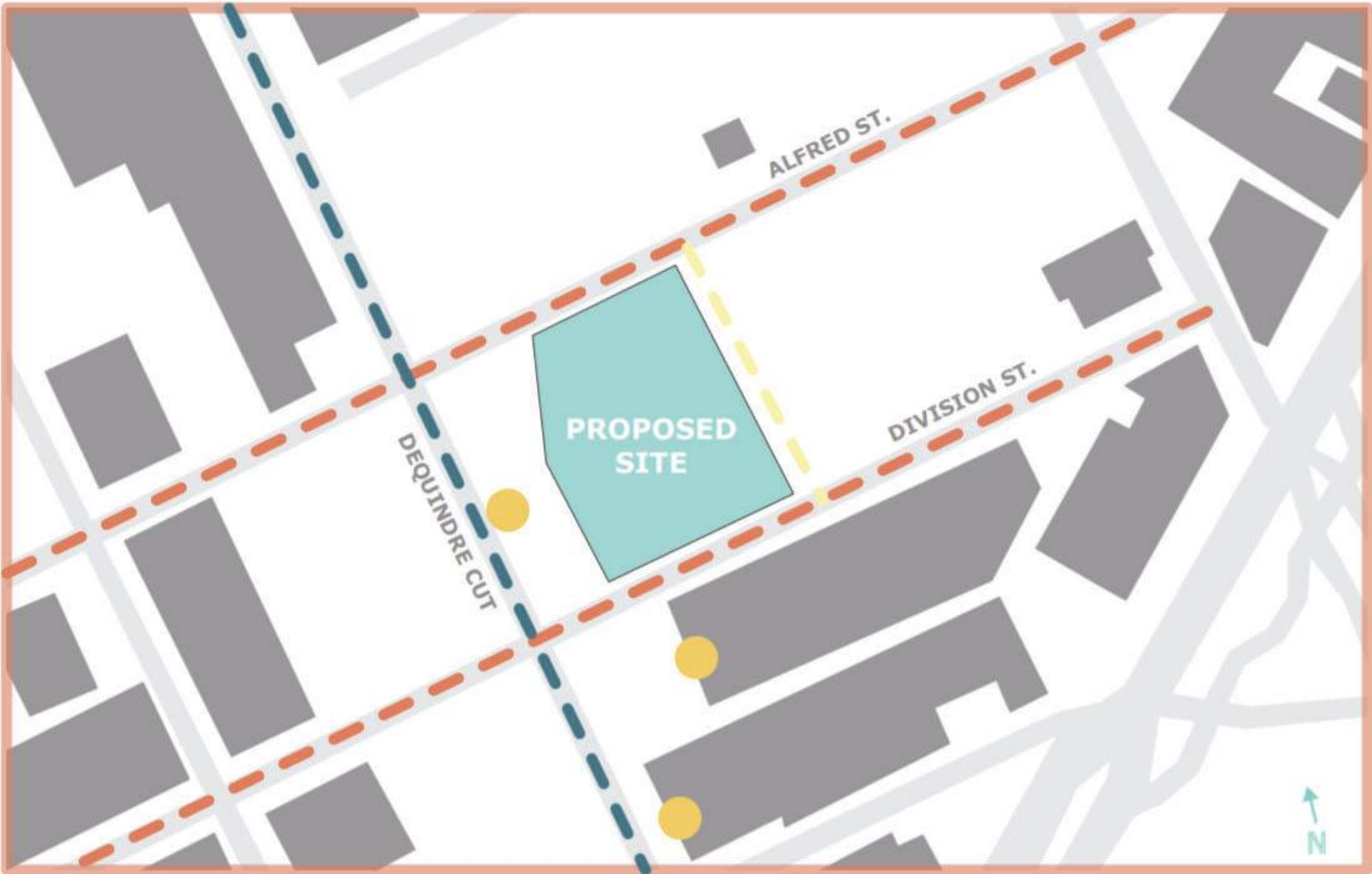
This project was based in Detroit right on the Dequindre cut. The drive for this project was to create a landmark within the site and connect the Community with this mixed used building. This area is unique and so is this building connecting everyone to the dequindre cut but is also Sustainable.

Spring 2021

Professor Rachel Kowalczyk

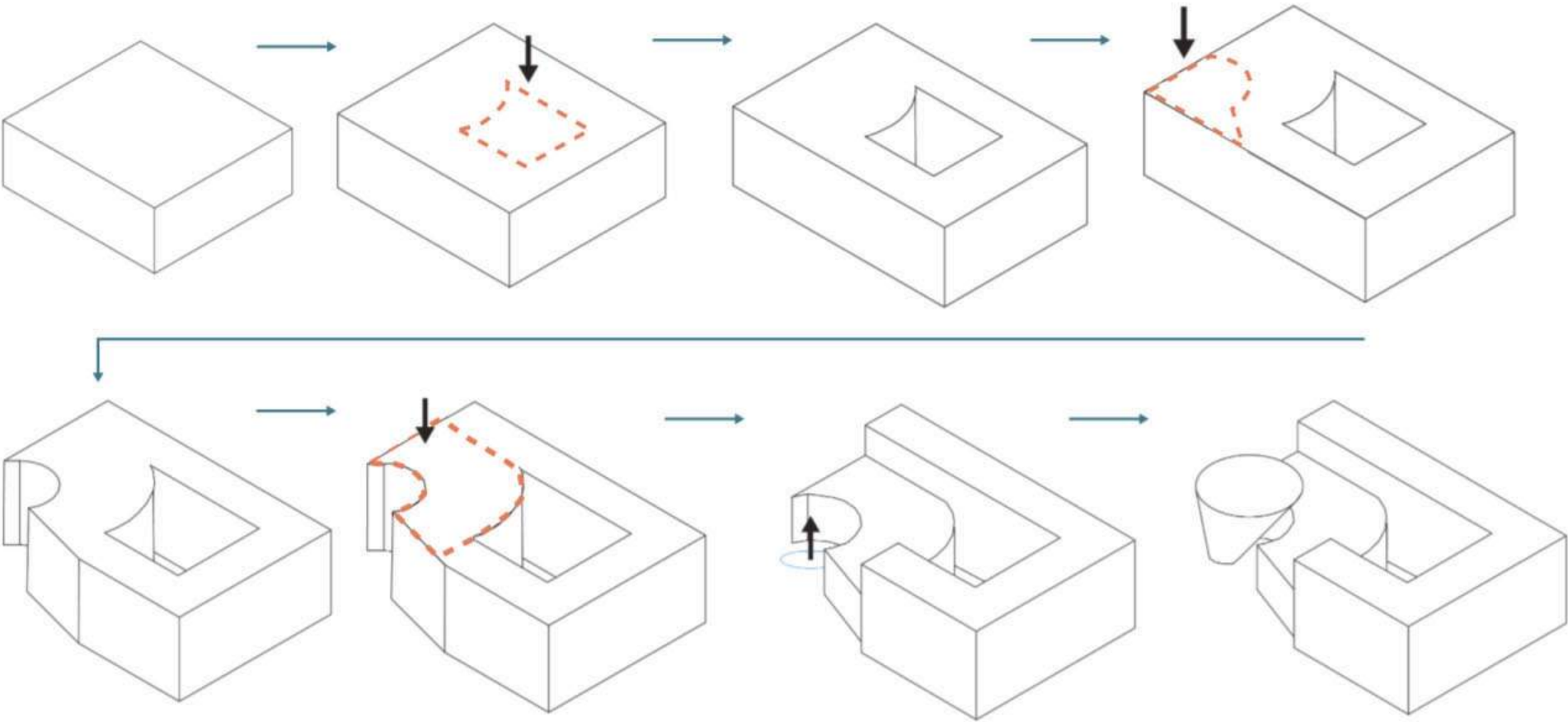


SITE ANALYSIS
DESIGN ANALYSIS



- EDGES**
- STREETS
 - CUT
 - PROPOSED CONNECTION
- CONNECTIONS**
- LINKAGES
- GOALS**
- CONNECT SITE TO DEQUINDRE CUT
 - EXPRESS EDGES OF SURROUNDING STREETS
 - CONNECT DIVISION ST. AND ALFRED ST. WITHIN SITE

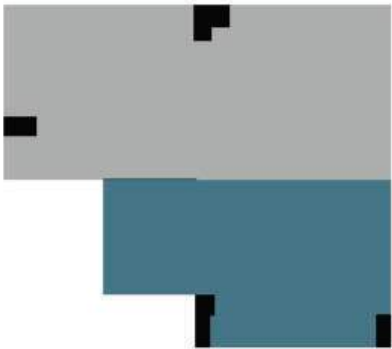
MASSING DIAGRAM
DESIGN ANALYSIS



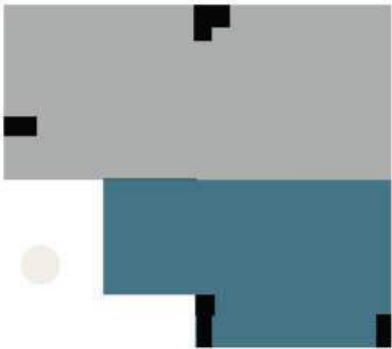
PROGRAM ANALYSIS

DESIGN ANALYSIS

- LEGEND
- RESIDENTIAL
 - EDUCATION
 - PARKING
 - EGRESS
 - GREEN SPACE
 - SOLAR PANELS
 - COMMUNITY
 - RETAIL
 - WELLNESS CENTER



LEVEL 1



LEVEL 2



LEVEL 3



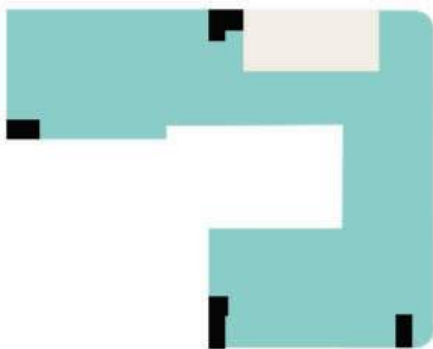
LEVEL 4



LEVEL 5



LEVEL 6



LEVEL 7



ROOF LEVEL



CLIMATE ANALYSIS

DESIGN ANALYSIS



-THE SHAPE OF THE BUILDING PROVIDES SHADE FROM THE SUMMER SUN WHILE IT ALSO BLOCKS OUT THE WINTER COOL BREEZE.

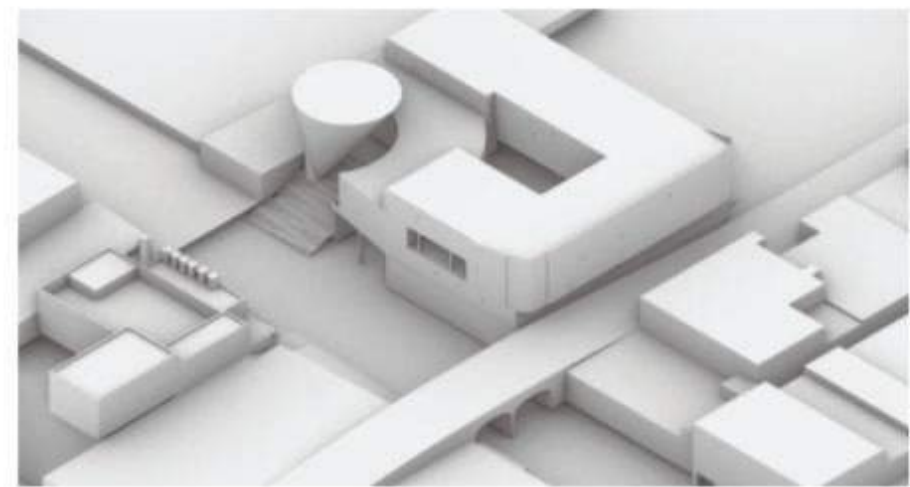
-THE SOLAR PANELS ARE PLACED ON THE SIDE WHERE THE SITE RECEIVES THE MOST SUN

-DURING RAIN WEATHER THERE IS A RAIN WATER COLLECTION

SITE PLAN

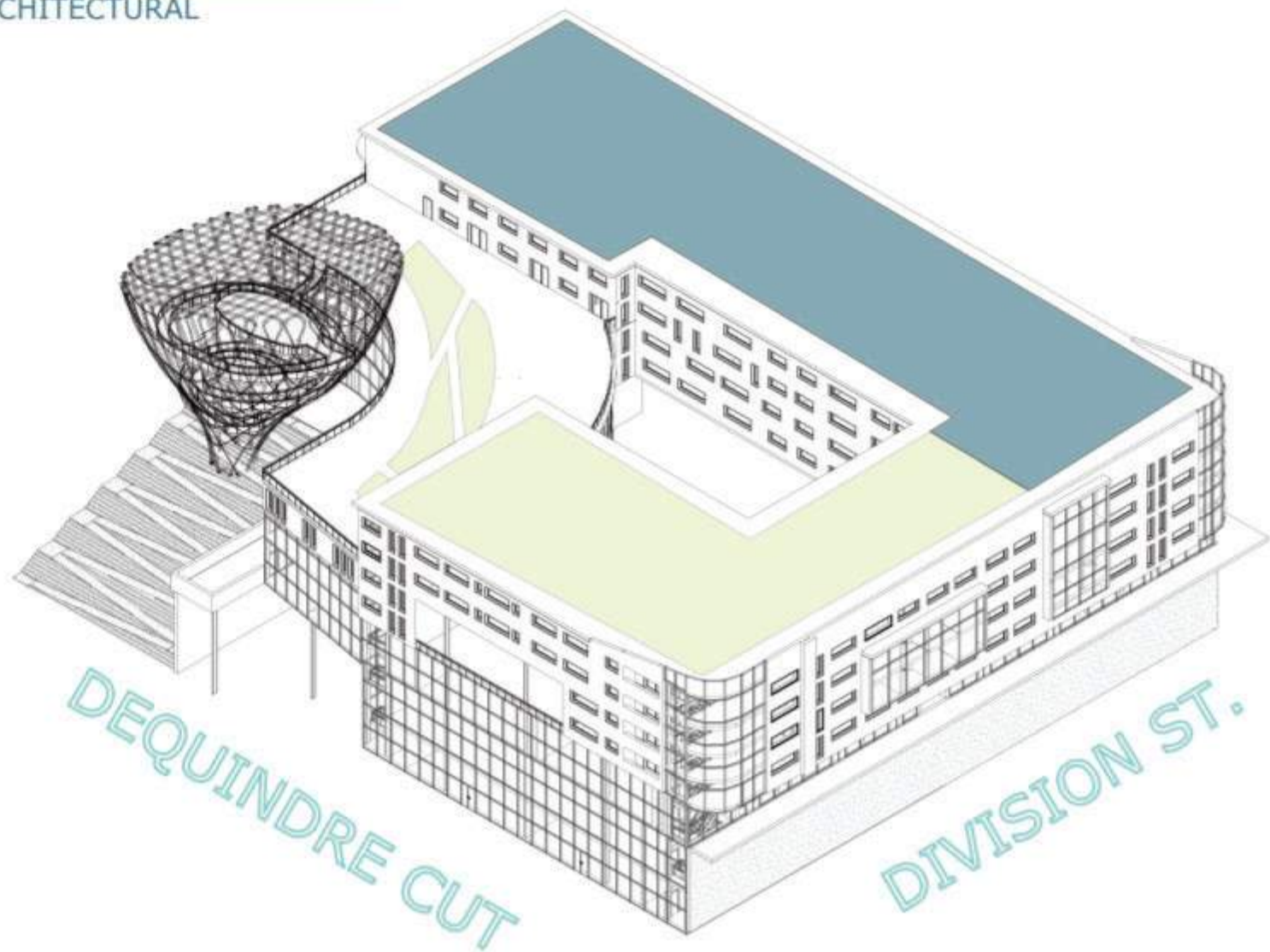
ARCHITECTURAL

THE BUILDING IS ADDRESSED BY THE EDGES OF THE SITE AND THE DRIVE OF CONNECTING THE PEOPLE WITH THE DEQUINDRE CUT. THE RESIDESNTS HAVE THEIR OWN COMMUNITY WITHIN THE CITY BY CREATING A SECLUDED COURTYARD WHERE THEY CAN ALSO EXPERSSTHERE ART WITH MURAL WALLS. THE LAND-MARK WILL DRAW PEOPLE IN FROM THE DEQUINDRE CUT WHILE MAKING THE SITE UNIQUE RATHER THAN SURROUNG BUILDINGS.



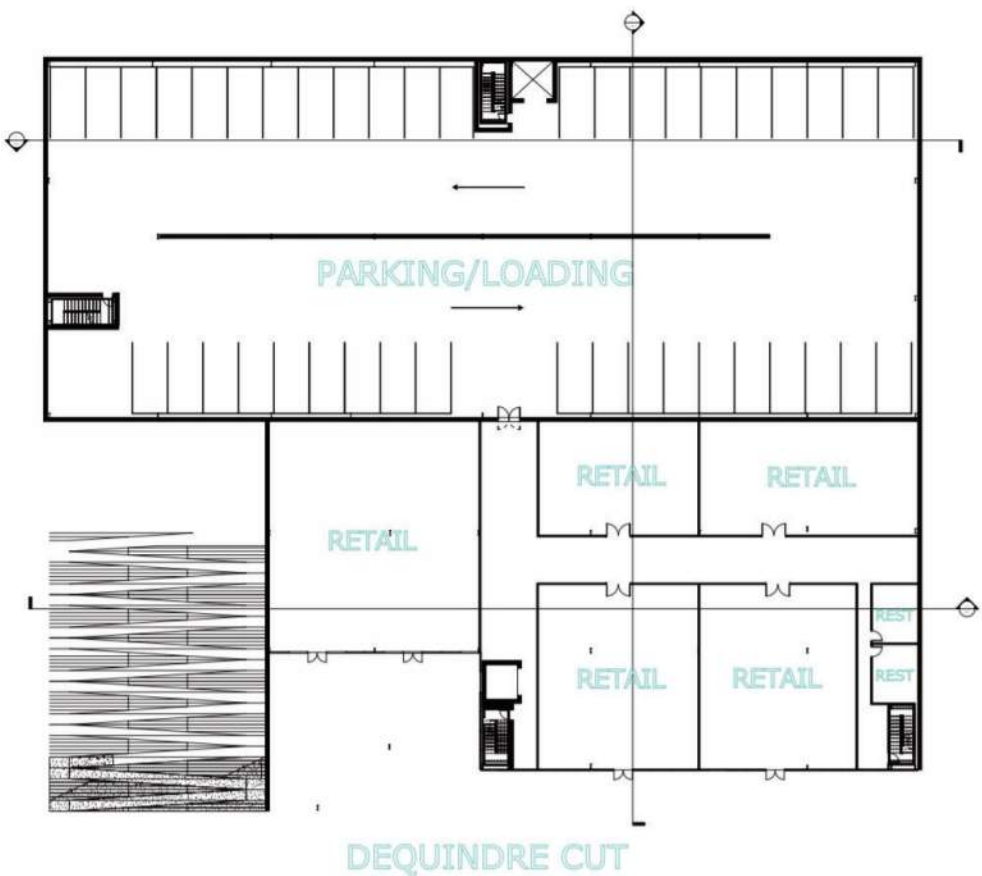
AXONOMETRIC

ARCHITECTURAL

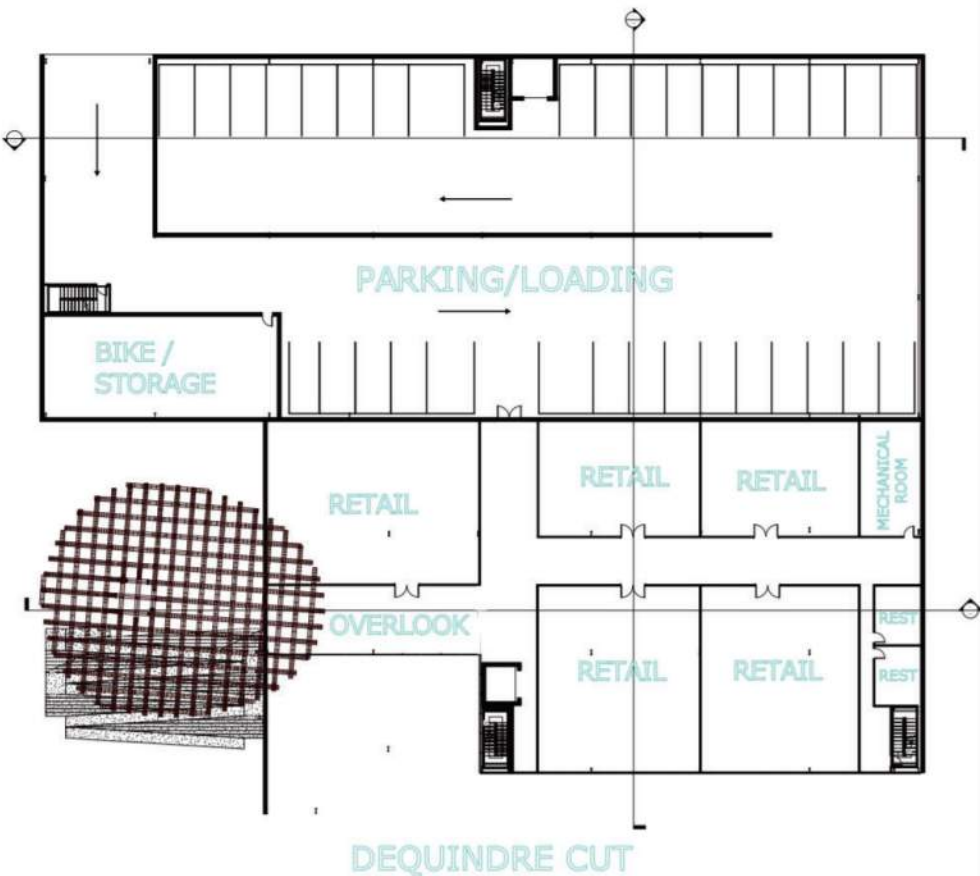


FLOOR PLANS

ARCHITECTURAL



LEVEL 1 - BELOW GRADE LEVEL 1

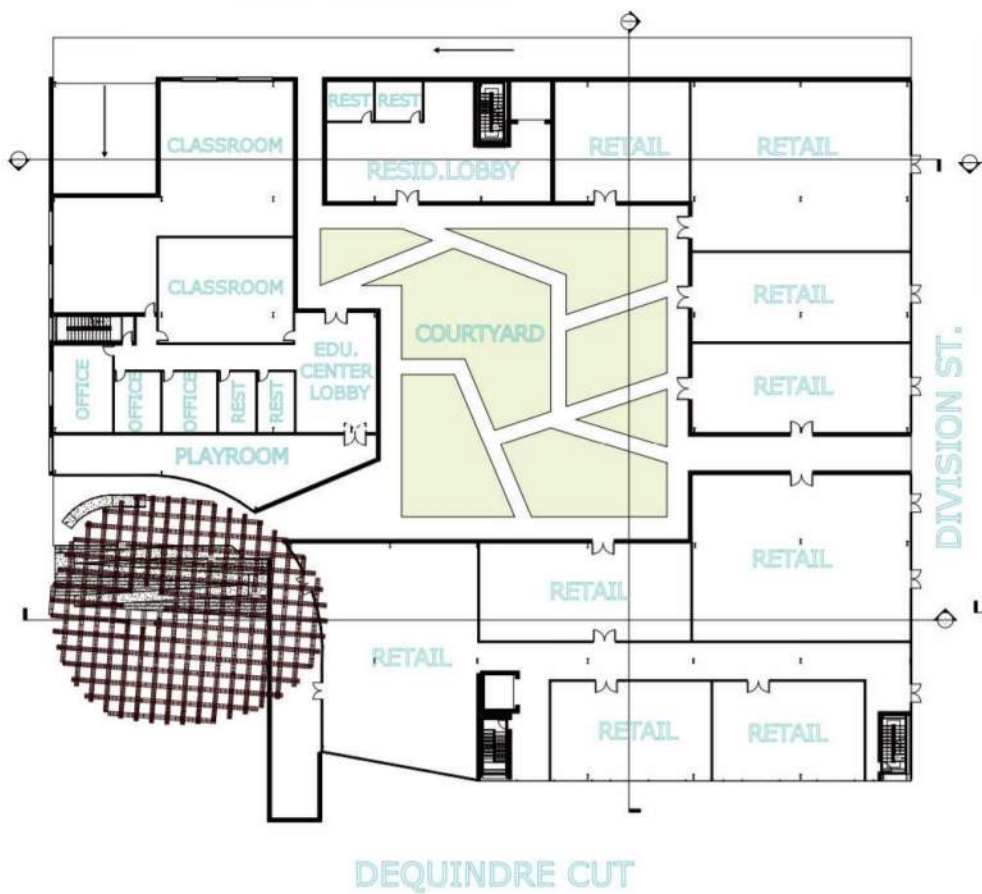


LEVEL 2 - BELOW GRADE LEVEL 2

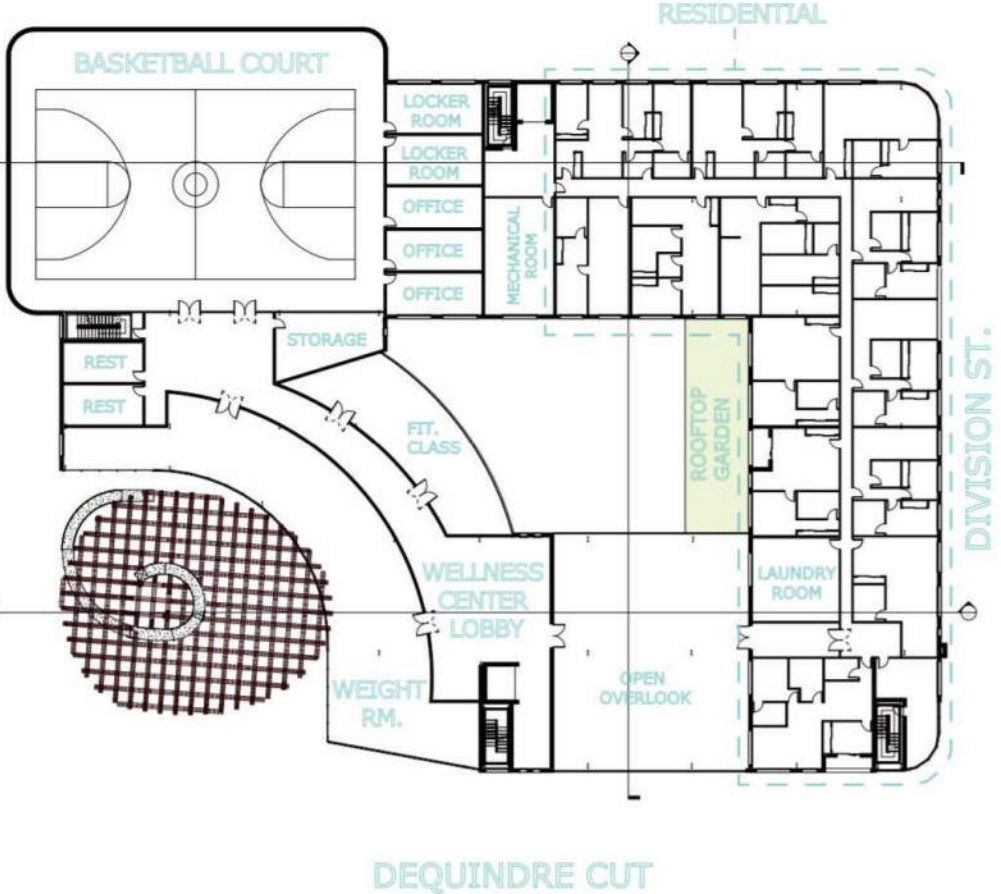


FLOOR PLANS

ARCHITECTURAL



LEVEL 3 - GRADE LEVEL



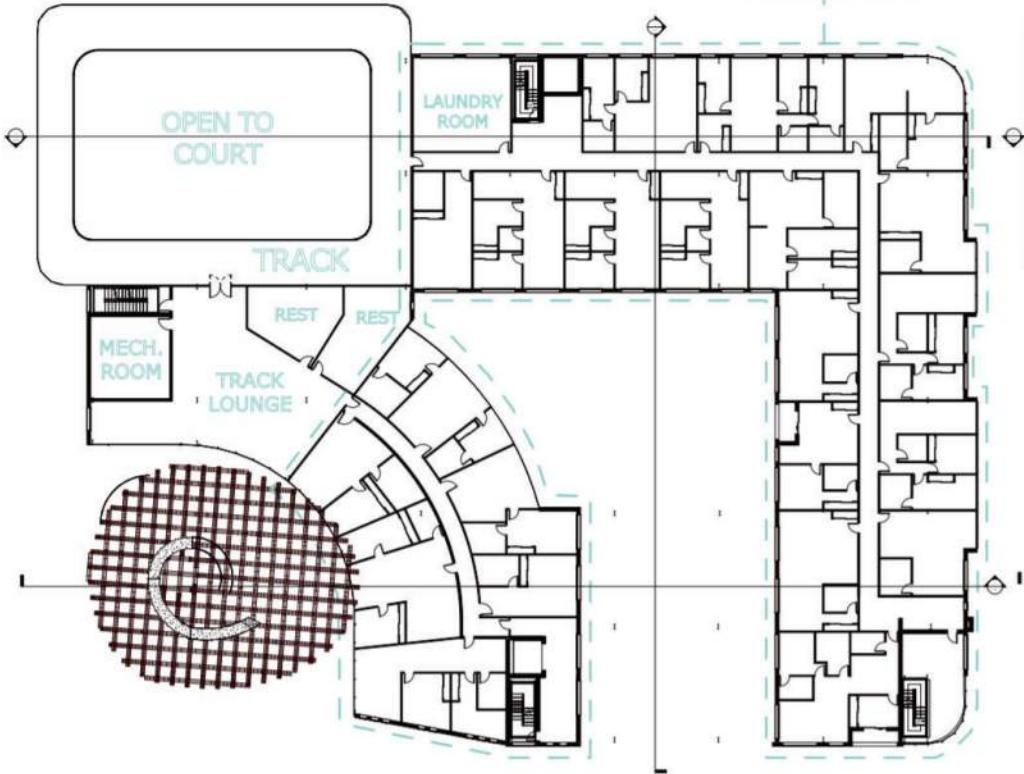
LEVEL 4 - ABOVE GRADE LEVEL 1



FLOOR PLANS

ARCHITECTURAL

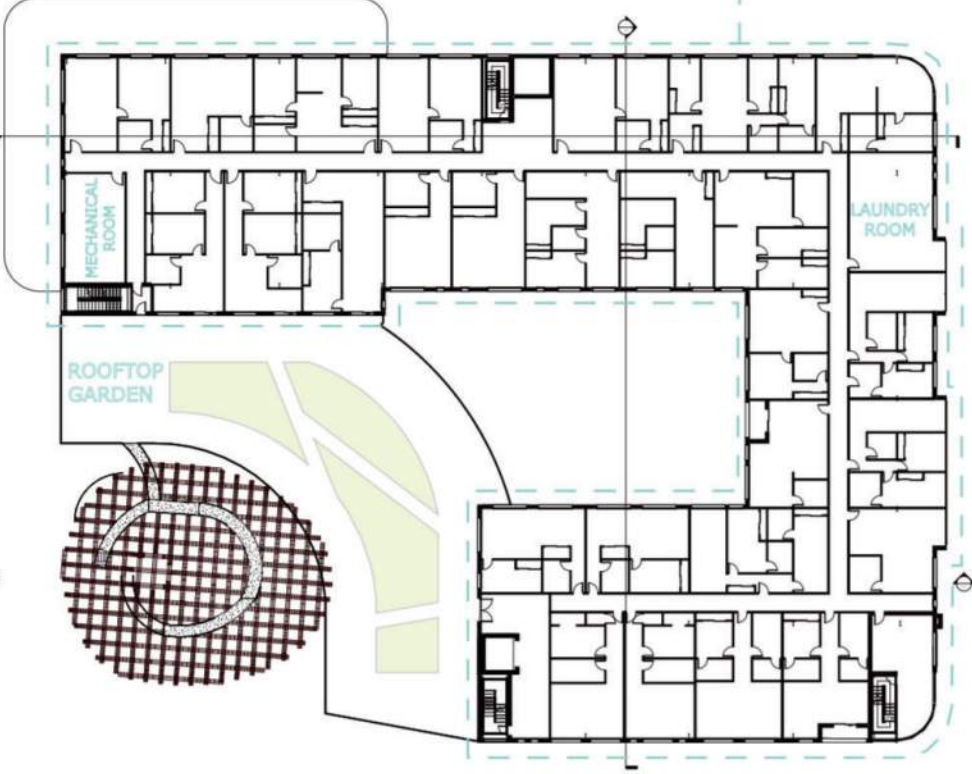
RESIDENTIAL



DEQUINDRE CUT

LEVEL 5 - ABOVE GRADE LEVEL 2

RESIDENTIAL



DEQUINDRE CUT

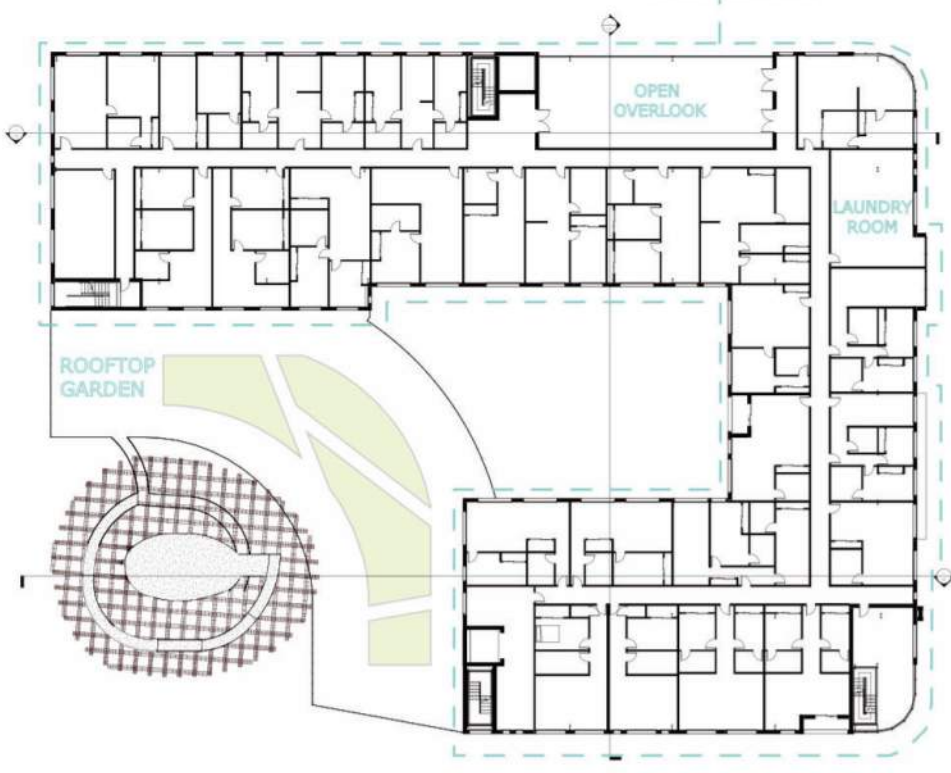
LEVEL 6 - ABOVE GRADE LEVEL 3



FLOOR PLANS

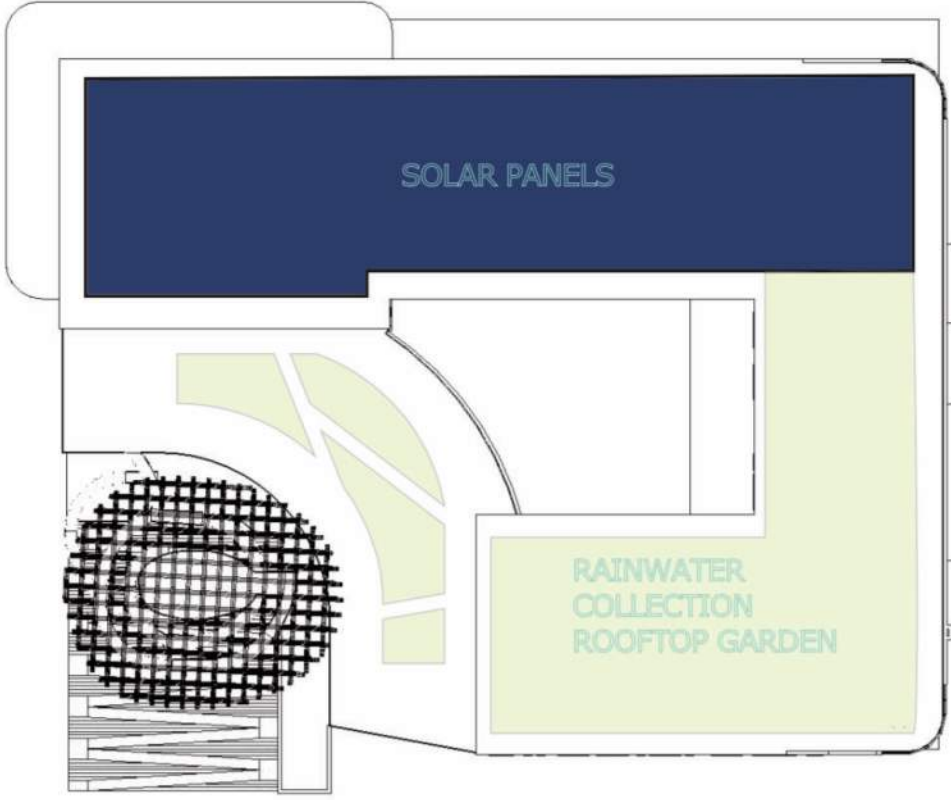
ARCHITECTURAL

RESIDENTIAL



DEQUINDRE CUT

LEVEL 7 - ABOVE GRADE LEVEL 3

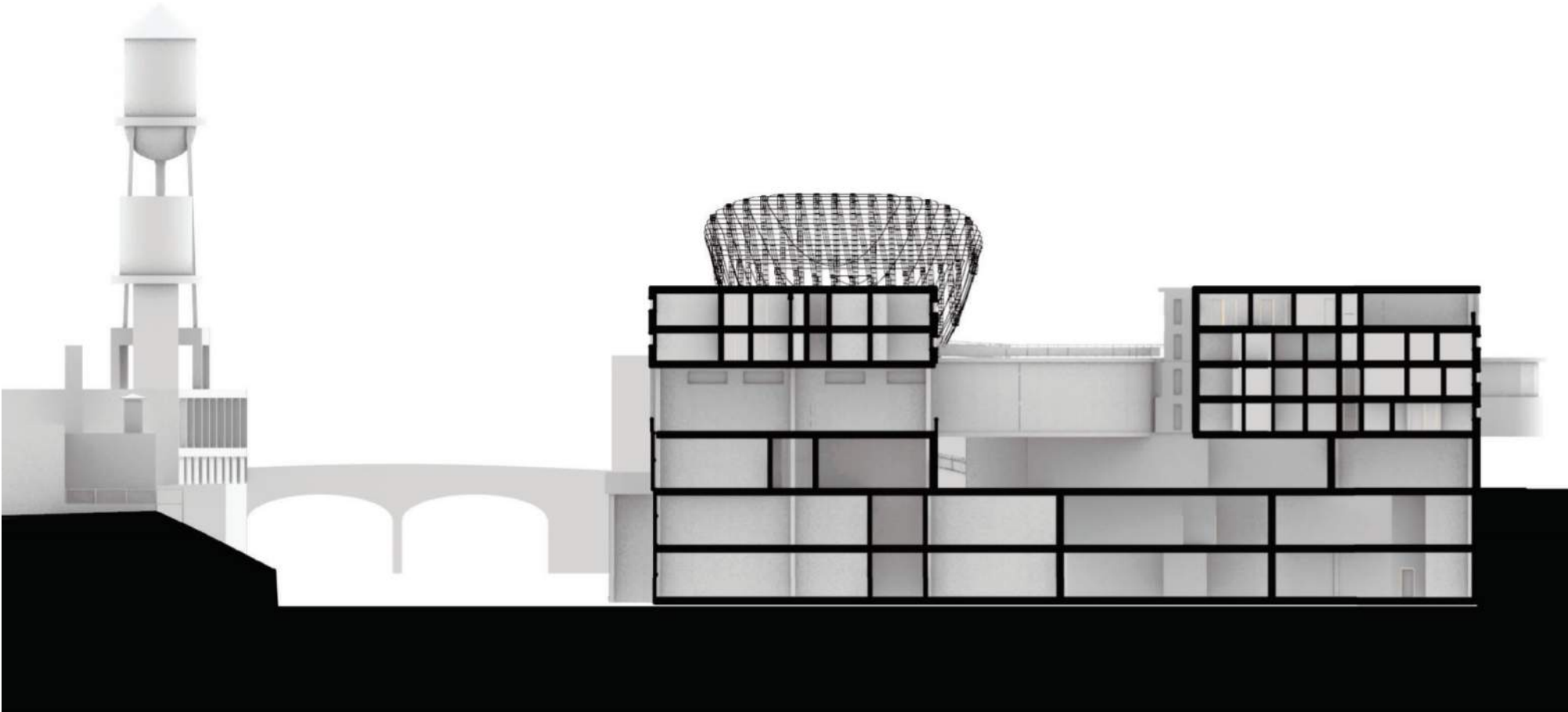
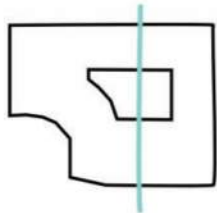


DEQUINDRE CUT

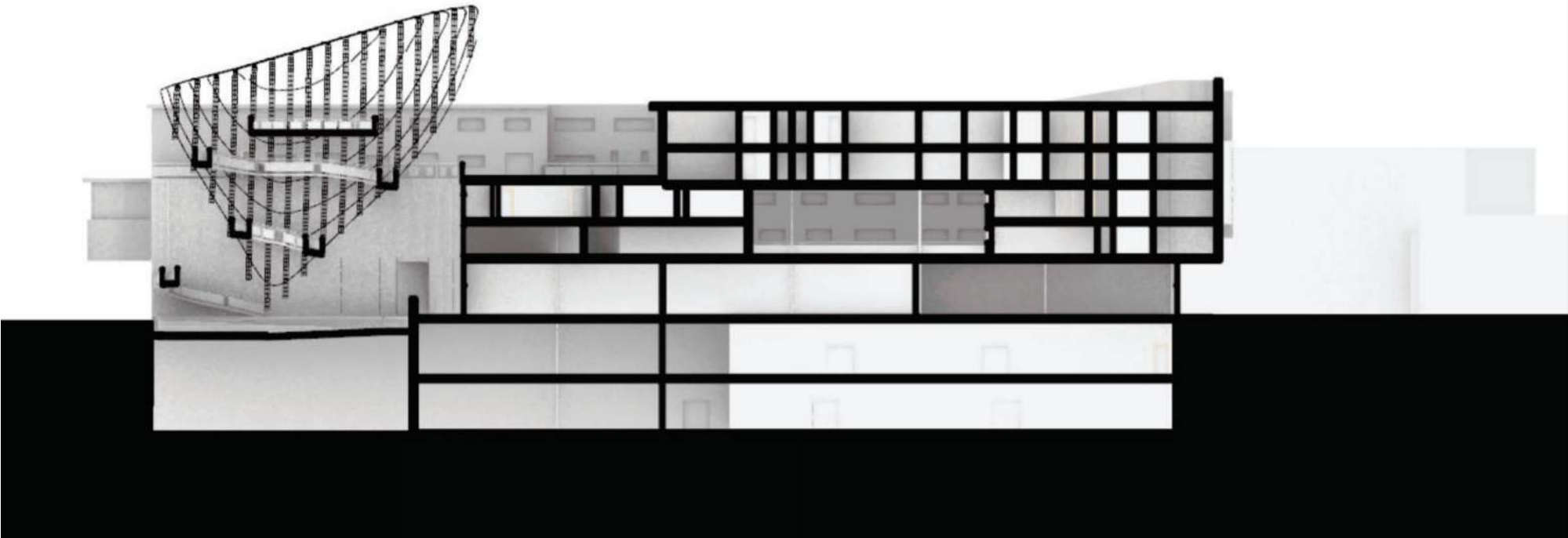
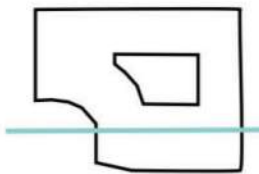
ROOF PLAN



SECTION CUT
ARCHITECTURAL



SECTION CUT
ARCHITECTURAL



PERSPECTIVE VIEW

ARCHITECTURAL



PERSPECTIVE VIEW

ARCHITECTURAL

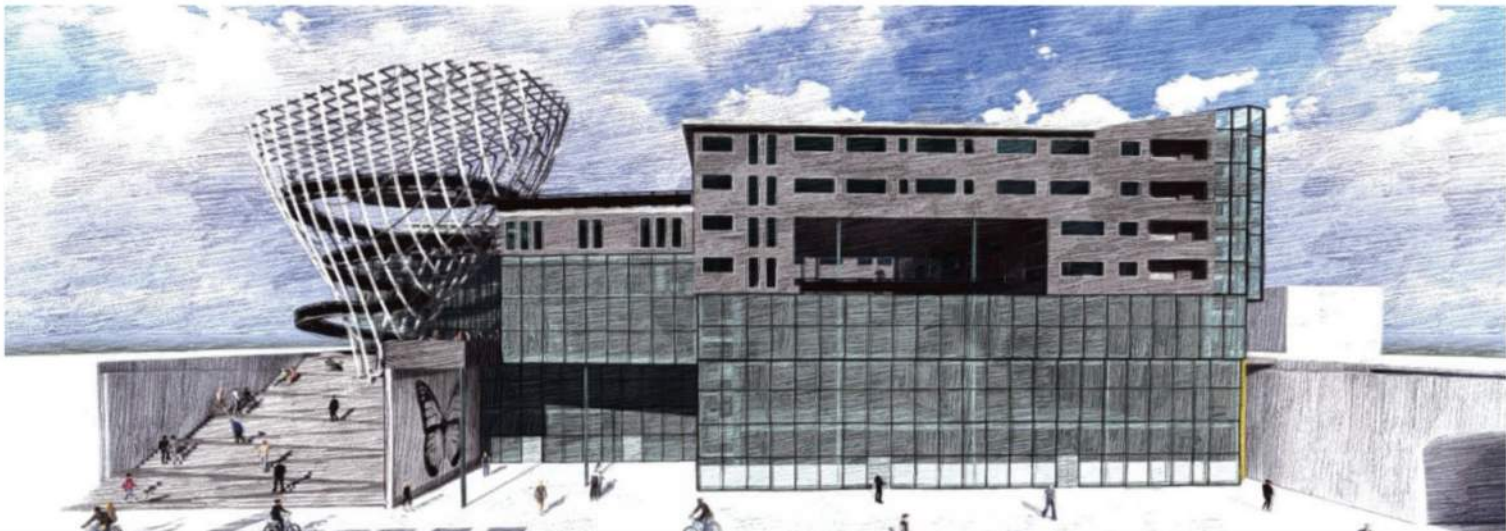


PERSPECTIVE ELEVATIONS

ARCHITECTURAL



EAST



WEST

PERSPECTIVE ELEVATION

ARCHITECTURAL



NORTH



SOUTH

PERSPECTIVE VIEW
ARCHITECTURAL



PERSPECTIVE VIEW
ARCHITECTURAL



PERSPECTIVE VIEW

ARCHITECTURAL



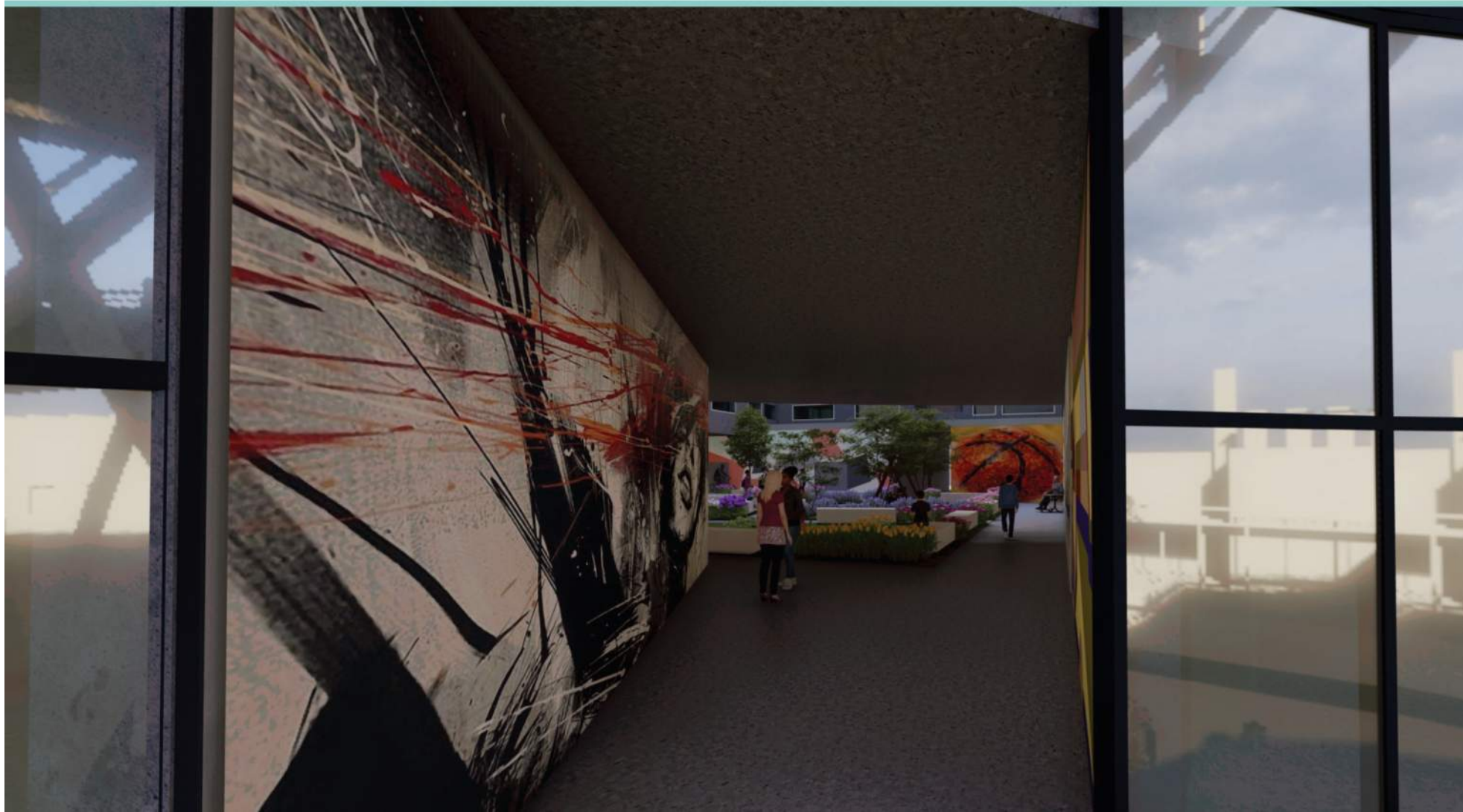
PERSPECTIVE VIEW

ARCHITECTURAL



PERSPECTIVE VIEW

ARCHITECTURAL



PERSPECTIVE VIEW

ARCHITECTURAL



MATERIALS

TECHNICAL

FIBERGLASS CONCRETE



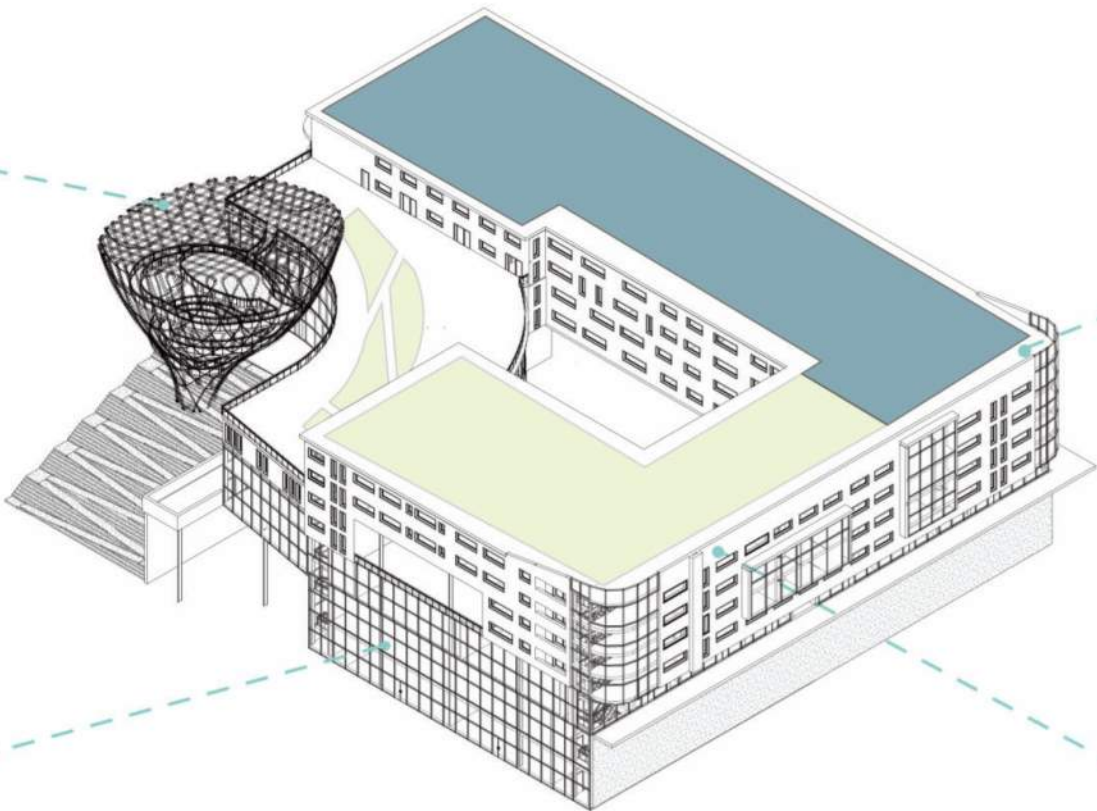
CONCRETE



STOREFRONT GLASS



FIBER REINFORCED CONCRETE PANEL



SUSTAINABILITY

TECHNICAL

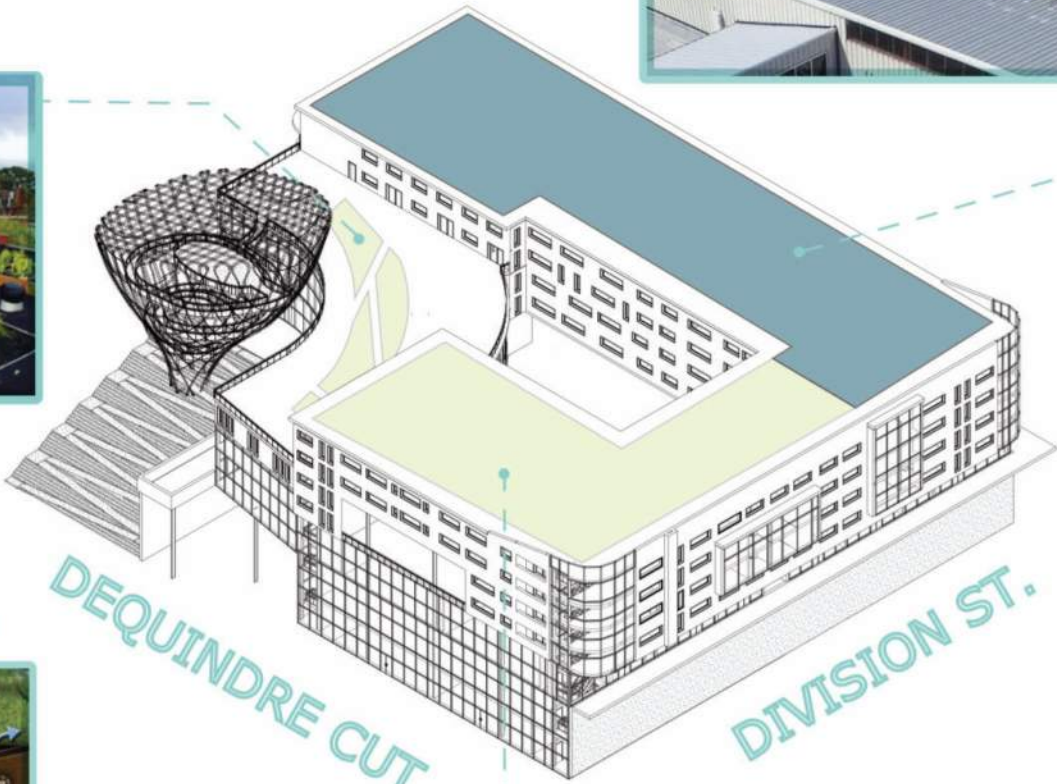
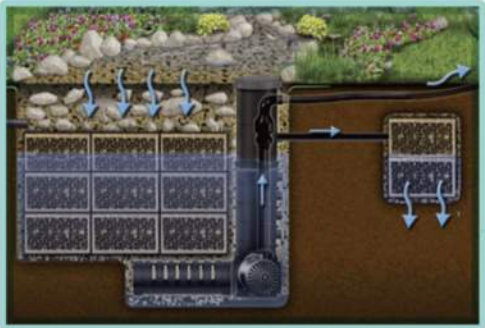
GREEN ROOF



SOLAR PANELS

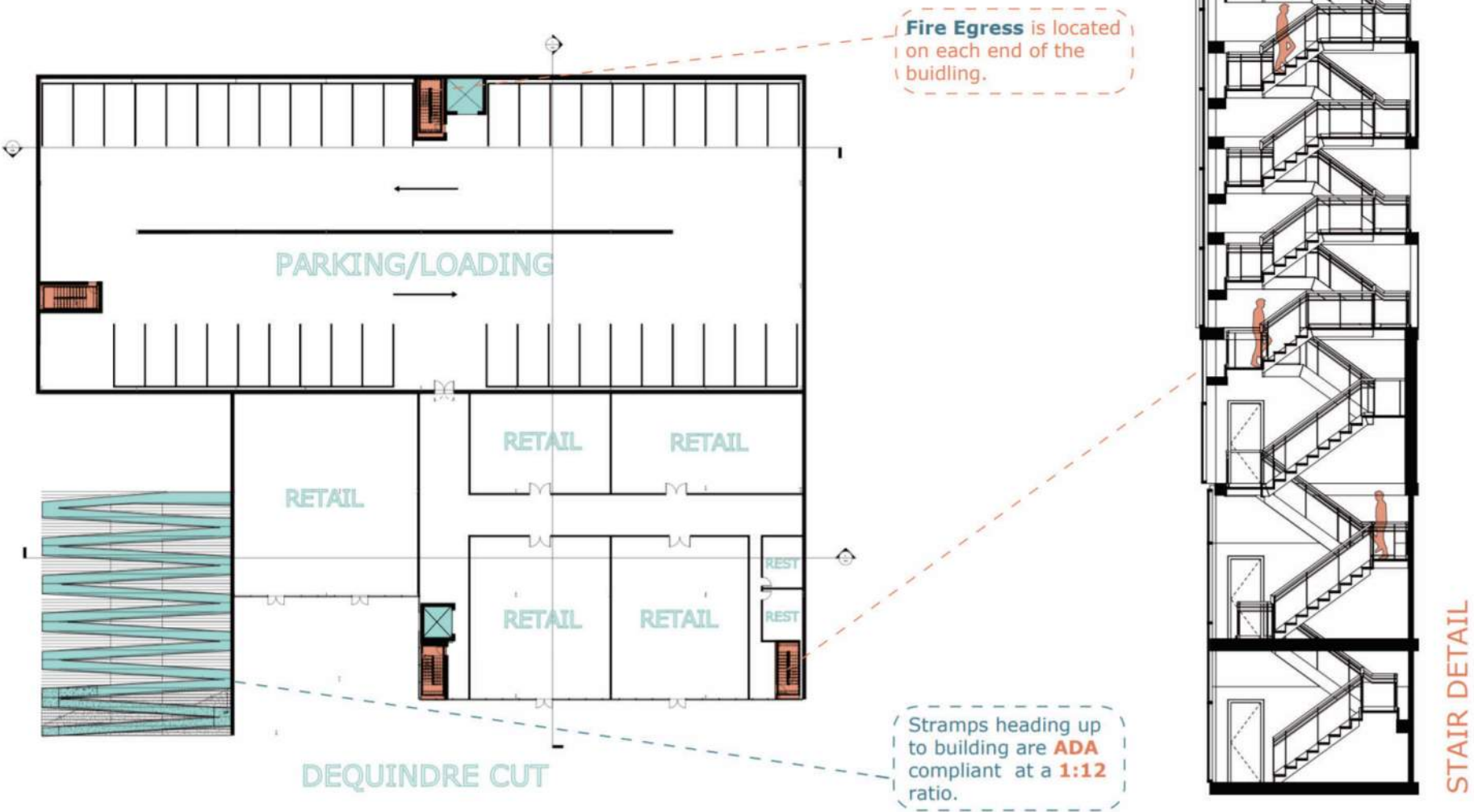


RAIN WATER COLLECTION



ADA / EGRESS

TECHNICAL

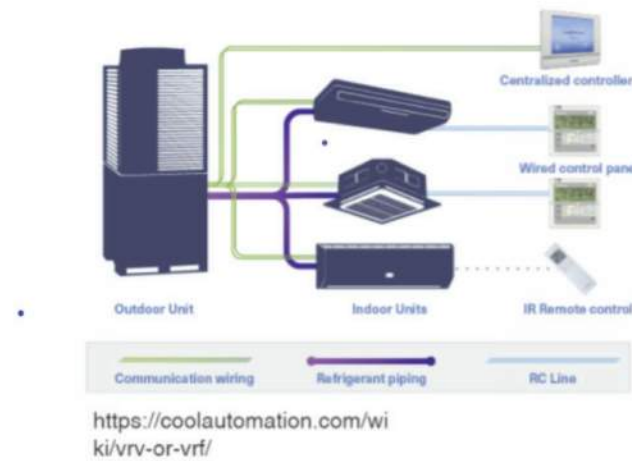


LEVEL 1 - BELOW GRADE LEVEL 1

HVAC

TECHNICAL

Variable Refridgerant Flow



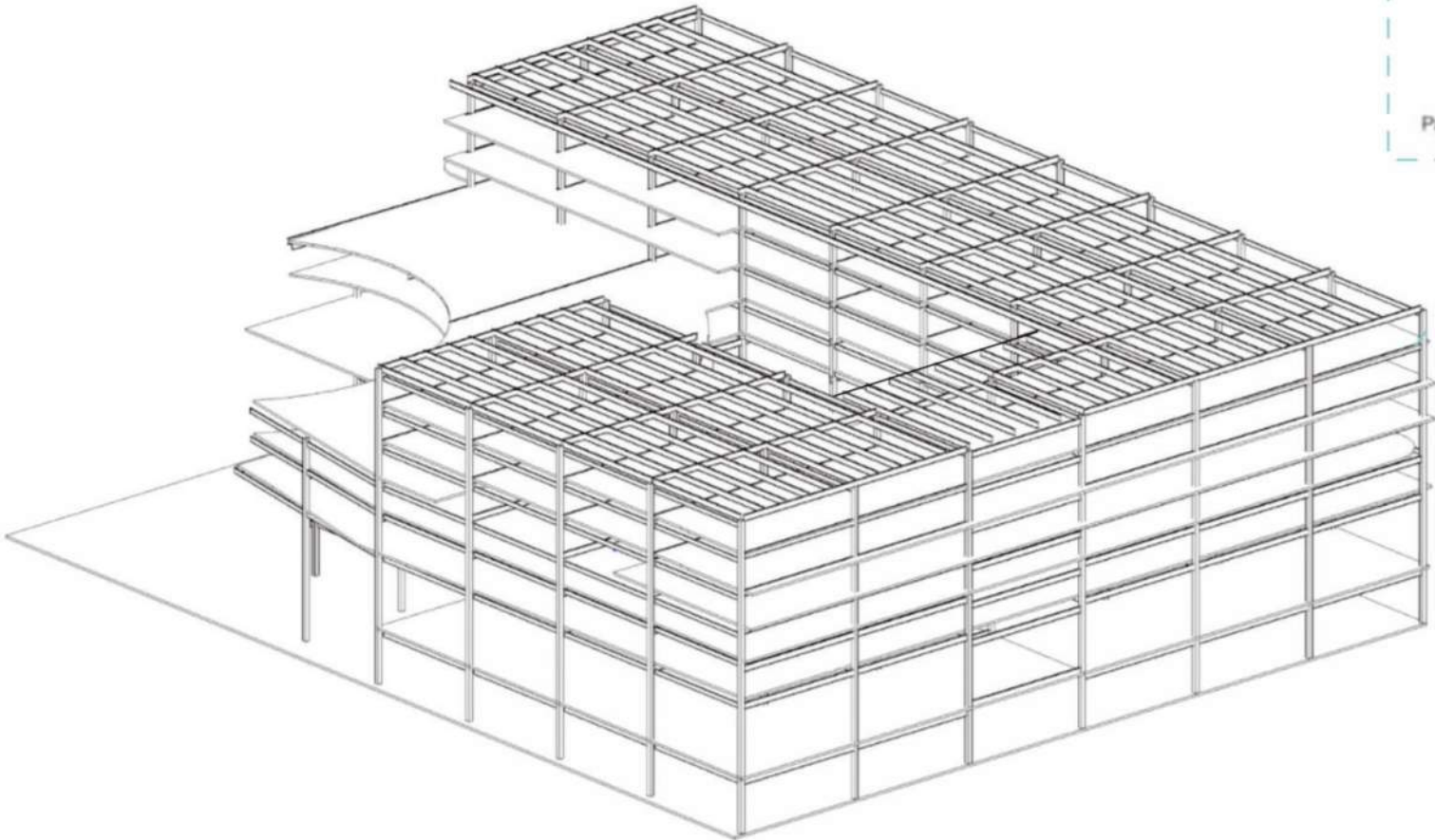
LEGEND

- HEATING
- COOLING

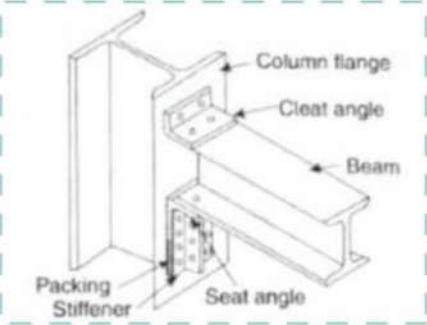


LEVEL 6 - ABOVE GRADE LEVEL 3

AXONOMETRIC
TECHNICAL

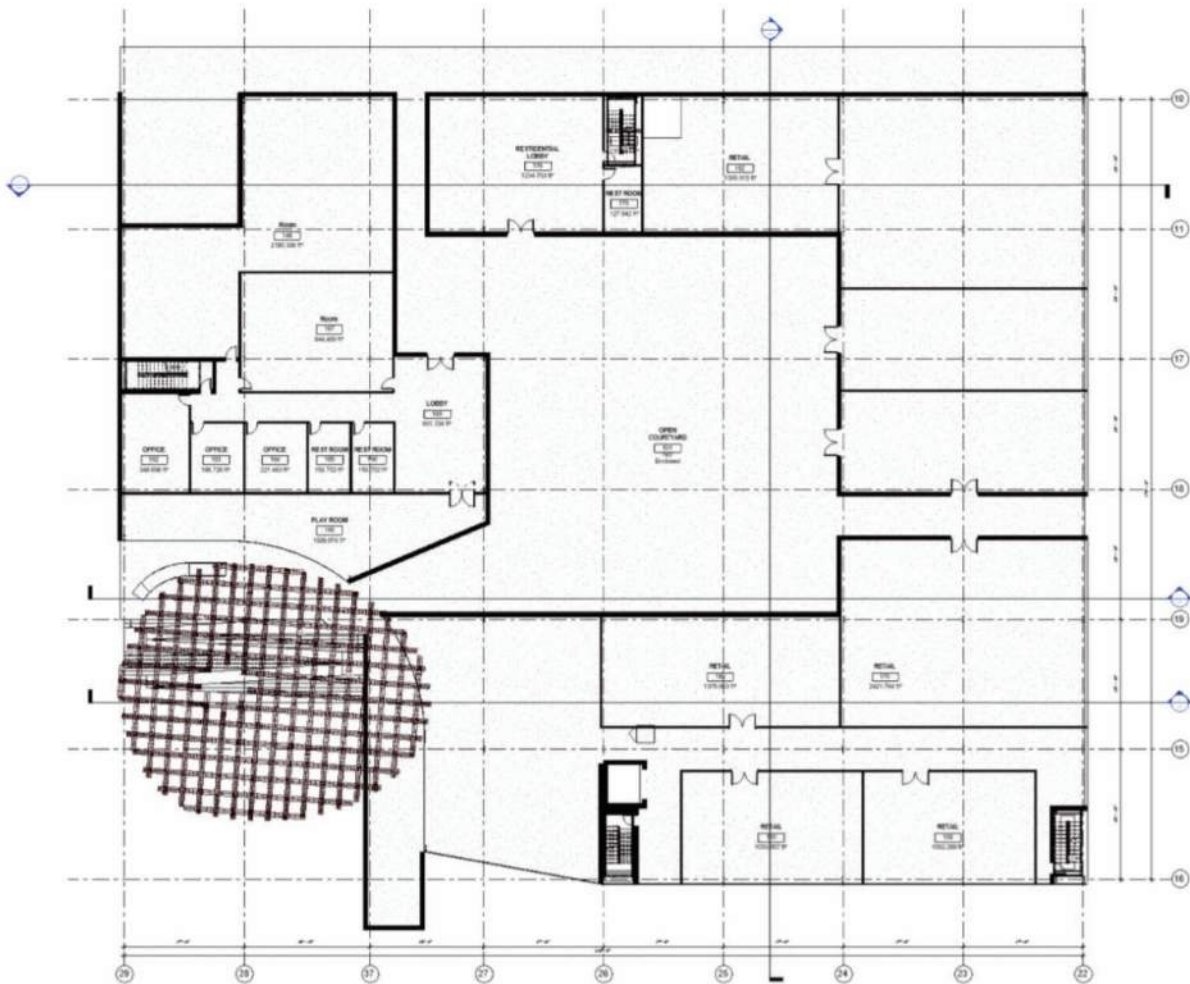


CONNECTIONS



MEMBERS:
COLUMNS -W14x22
BEAM- -W16x26
GIRDER -W12x24
SECONDARY -W12x14

FLOOR FRAMING PLAN
TECHNICAL



THE STRUCTURE IS COMPOSED OF STEEL WIDE FANGE COULMNS 14x22 AND ARE SPACED APART 29'-10" AND 27'-6"

CONSTRUCTION TYPE

- B. Types I and II fire-resistive
- -noncombustible materials (concrete, masonry, steel)
- -substantial fire-resistance ratings (up to 3 hrs)

differences:

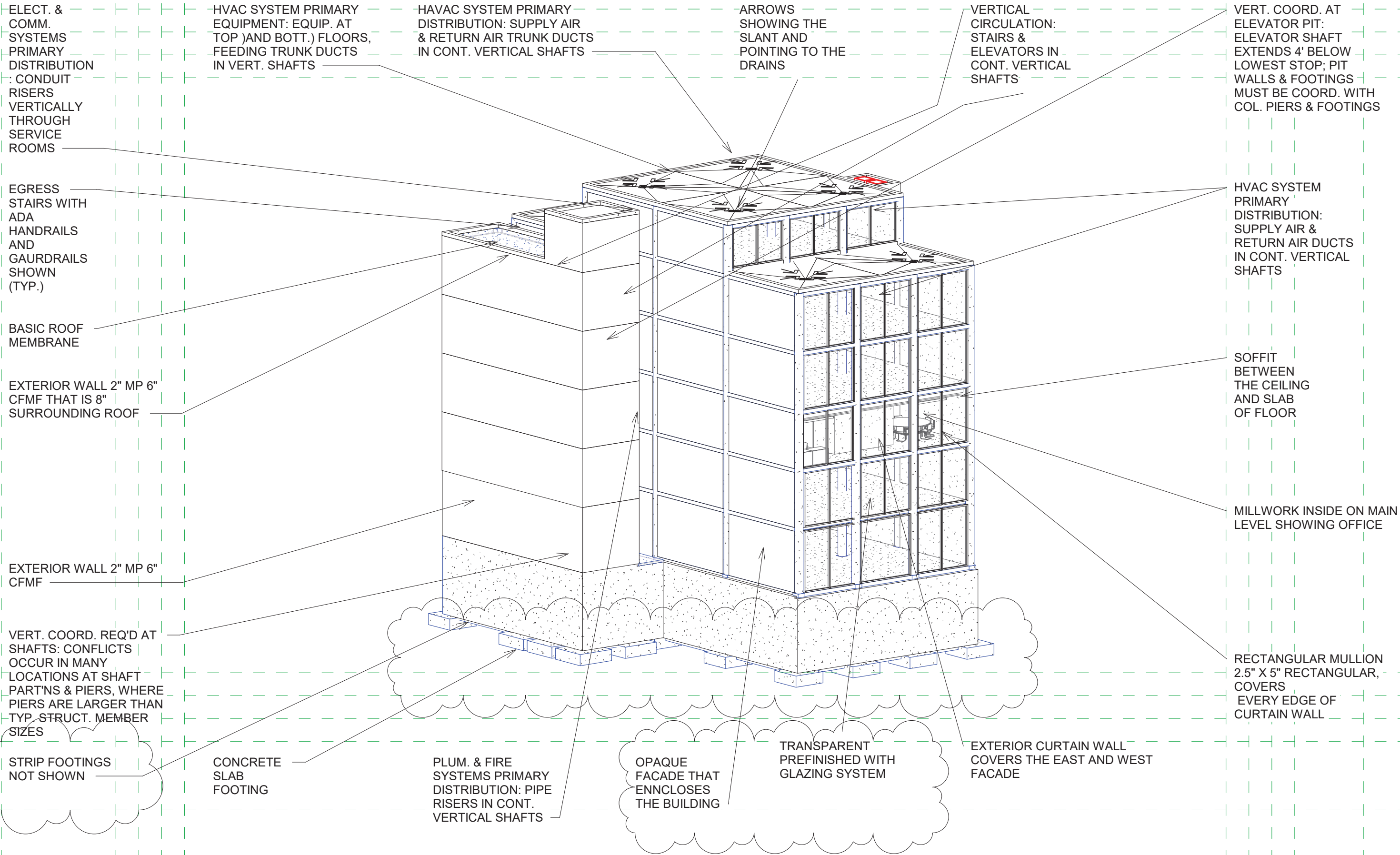
- -type I — fewer height or area limits, but 2-3 hr. fire-resistance for structure;
- type II — substantially lower height limits; other limits on floor area and number of stories;
- less fire resistance required for type II structures means less cost.

CONSTRUCTION SYSTEMS 2

This course focuses on principles of sustainable construction assemblies based on performance and environmental impact. Course content will engage criteria for defining appropriate building structure and enclosure systems in response to variables of geography, climate, thermal performance, and energy resources. Course content also includes building service systems and application of life safety systems through egress, accessibility, and code compliance. Students develop construction drawings, models, and outline specifications to demonstrate ability and understanding of the course content and objectives

Spring 2020

Professor Eric Ward



ELECT. & COMM. SYSTEMS PRIMARY DISTRIBUTION : CONDUIT RISERS VERTICALLY THROUGH SERVICE ROOMS

HVAC SYSTEM PRIMARY EQUIPMENT: EQUIP. AT TOP (AND BOTT.) FLOORS, FEEDING TRUNK DUCTS IN VERT. SHAFTS

HAVAC SYSTEM PRIMARY DISTRIBUTION: SUPPLY AIR & RETURN AIR TRUNK DUCTS IN CONT. VERTICAL SHAFTS

ARROWS SHOWING THE SLANT AND POINTING TO THE DRAINS

VERTICAL CIRCULATION: STAIRS & ELEVATORS IN CONT. VERTICAL SHAFTS

VERT. COORD. AT ELEVATOR PIT: ELEVATOR SHAFT EXTENDS 4' BELOW LOWEST STOP; PIT WALLS & FOOTINGS MUST BE COORD. WITH COL. PIERS & FOOTINGS

EGRESS STAIRS WITH ADA HANDRAILS AND GAURDRAILS SHOWN (TYP.)

BASIC ROOF MEMBRANE

EXTERIOR WALL 2" MP 6" CFMF THAT IS 8" SURROUNDING ROOF

HVAC SYSTEM PRIMARY DISTRIBUTION: SUPPLY AIR & RETURN AIR DUCTS IN CONT. VERTICAL SHAFTS

SOFFIT BETWEEN THE CEILING AND SLAB OF FLOOR

EXTERIOR WALL 2" MP 6" CFMF

MILLWORK INSIDE ON MAIN LEVEL SHOWING OFFICE

VERT. COORD. REQ'D AT SHAFTS: CONFLICTS OCCUR IN MANY LOCATIONS AT SHAFT PART'NS & PIERS, WHERE PIERS ARE LARGER THAN TYP. STRUCT. MEMBER SIZES

STRIP FOOTINGS NOT SHOWN

CONCRETE SLAB FOOTING

PLUM. & FIRE SYSTEMS PRIMARY DISTRIBUTION: PIPE RISERS IN CONT. VERTICAL SHAFTS

OPAQUE FACADE THAT ENNCLOSES THE BUILDING

TRANSPARENT PREFINISHED WITH GLAZING SYSTEM

EXTERIOR CURTAIN WALL COVERS THE EAST AND WEST FACADE

RECTANGULAR MULLION 2.5" X 5" RECTANGULAR, COVERS EVERY EDGE OF CURTAIN WALL

HVAC SYSTEM PRIMARY EQUIPMENT: EQUIP. AT TOP (AND BOTT.) FLOORS, FEEDING TRUNK DUCTS IN VERT. SHAFTS

HAVAC SYSTEM PRIMARY DISTRIBUTION: SUPPLY AIR & RETURN AIR TRUNK DUCTS IN CONT. VERTICAL SHAFTS

ARROWS SHOWING THE SLANT AND POINTING TO THE DRAINS

BASIC ROOF MEMBRANE

VERTICAL CIRCULATION: STAIRS & ELEVATORS IN CONT. VERTICAL SHAFTS

elevator door

ELECT. & COMM. SYSTEMS PRIMARY DISTRIBUTION : CONDUIT RISERS VERTICALLY THROUGH SERVICE ROOMS

EXTERIOR CURTAIN WALL COVERS THE EAST AND WEST FACADE

SOFFIT BETWEEN THE CEILING AND SLAB OF FLOOR

MILLWORK INSIDE ON MAIN LEVEL SHOWING OFFICE

RECTANGULAR MULLION 2.5" X 5" RECTANGULAR, COVERS EVERY EDGE OF CURTAIN WALL

1 SW view enclosure

STRIP FOOTING NOT SHOWN

VERT. COORD. REQ'D AT SHAFTS: CONFLICTS OCCUR IN MANY LOCATIONS AT SHAFT PART'NS & PIERS, WHERE PIERS ARE LARGER THAN TYP. STRUCT. MEMBER SIZES

CONCRETE SLAB FOOTING

PLUM. & FIRE SYSTEMS PRIMARY DISTRIBUTION: PIPE RISERS IN CONT. VERTICAL SHAFTS

EXTERIOR WALL 2" MP 6" CFMF THAT IS 8" SURROUNDING ROOF

EGRESS STAIRS WITH ADA HANDRAILS AND GAURDRAILS SHOWN (TYP.)

EXTERIOR WALL 2" MP 6" CFMF

VERT. COORD. AT ELEVATOR PIT: ELEVATOR SHAFT EXTENDS 4' BELOW LOWEST STOP; PIT WALLS & FOOTINGS MUST BE COORD. WITH COL. PIERS & FOOTINGS
HVAC SYSTEM PRIMARY DISTRIBUTION: SUPPLY AIR & RETURN AIR DUCTS IN CONT. VERTICAL SHAFTS

LTU CoAD ARC 2323

Construction Systems 2

Jessica Riggs, Spring 2020

Project Source

London Com/Red bldg.
London, England

Michael Hopkins

Sheet Issued

02/20/20

Sheet Title

3D UNDERLAY SW
ENCLOSURE
SYSTEMS

A004

FOUNDATION
SYSTEMS:

AT INADEQUATE
SOILS: C.I.P. REINF.
CONCRETE GRADE
AND BEAMS (NOT
SHOWN CFOR
CLARITY

CONCRETE SPREAD
FOOTINGS (SIZES VARY)

SUB-GRADE WALLS
C.I.P. RIENF. CONCRETE

LOWEST LEVEL SLAB
CONCRETE SLAB ON
GRADE

VERTICAL SUPPORT
FRAMING: CONCRETE
COLUMNS

STAIR LAYOUTS
DIFFER BASED ON
FLOOR TO FLOOR
HEIGHT

BASIC STAIR RISER
TREAD LAYOUT SHOWN
ONLY, REFER TO
SECTIONS & ENLARGED
PLANS FOR OTHER STAIR
COMPONENTS

1 Level 0
1/8" = 1'-0"

STRIP FOOTINGS NOT SHOWN

HALLWAY TO EXIT

ELEVATOR PIT: ELEVATOR SHAFT
EXTENDS 4' BELOW LOWEAT STOP

REFER TO ENLARGED
CORE PLANS FOR PARTITION
AND STRUCTURE COORD. NOTES

LTU CoAD ARC 2323

Project Source
London Com/Red bldg.
London, England
Michael Hopkins

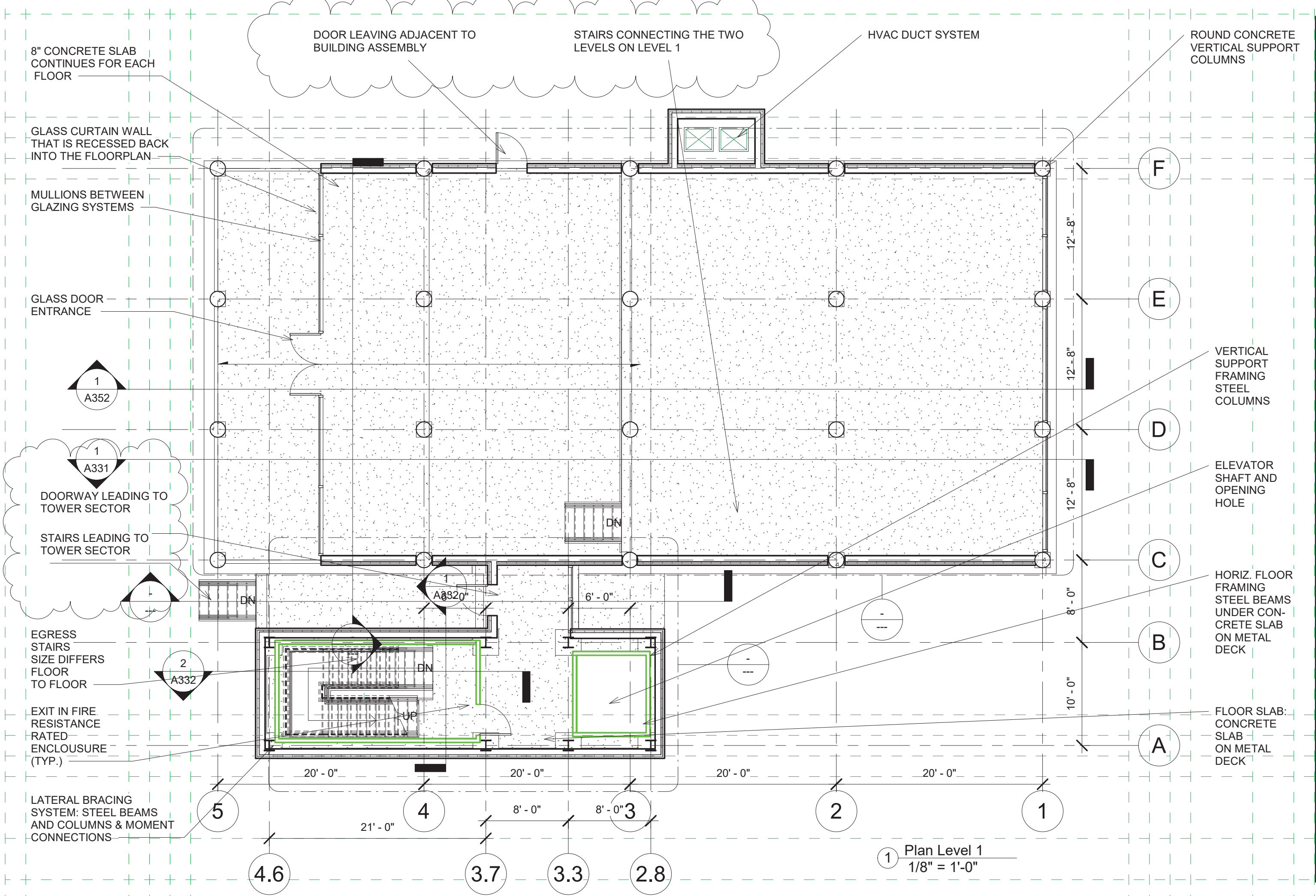
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02/19/20

Sheet Title
PLAN LEVEL 0
OVERALL BLW
GRADE LVL

A100

Construction Systems 2

Jessica Riggs, Spring 2020



LTU CoAD ARC 2323

Project Source
London Com/Red bldg.
London, England
Micheal Hopkins

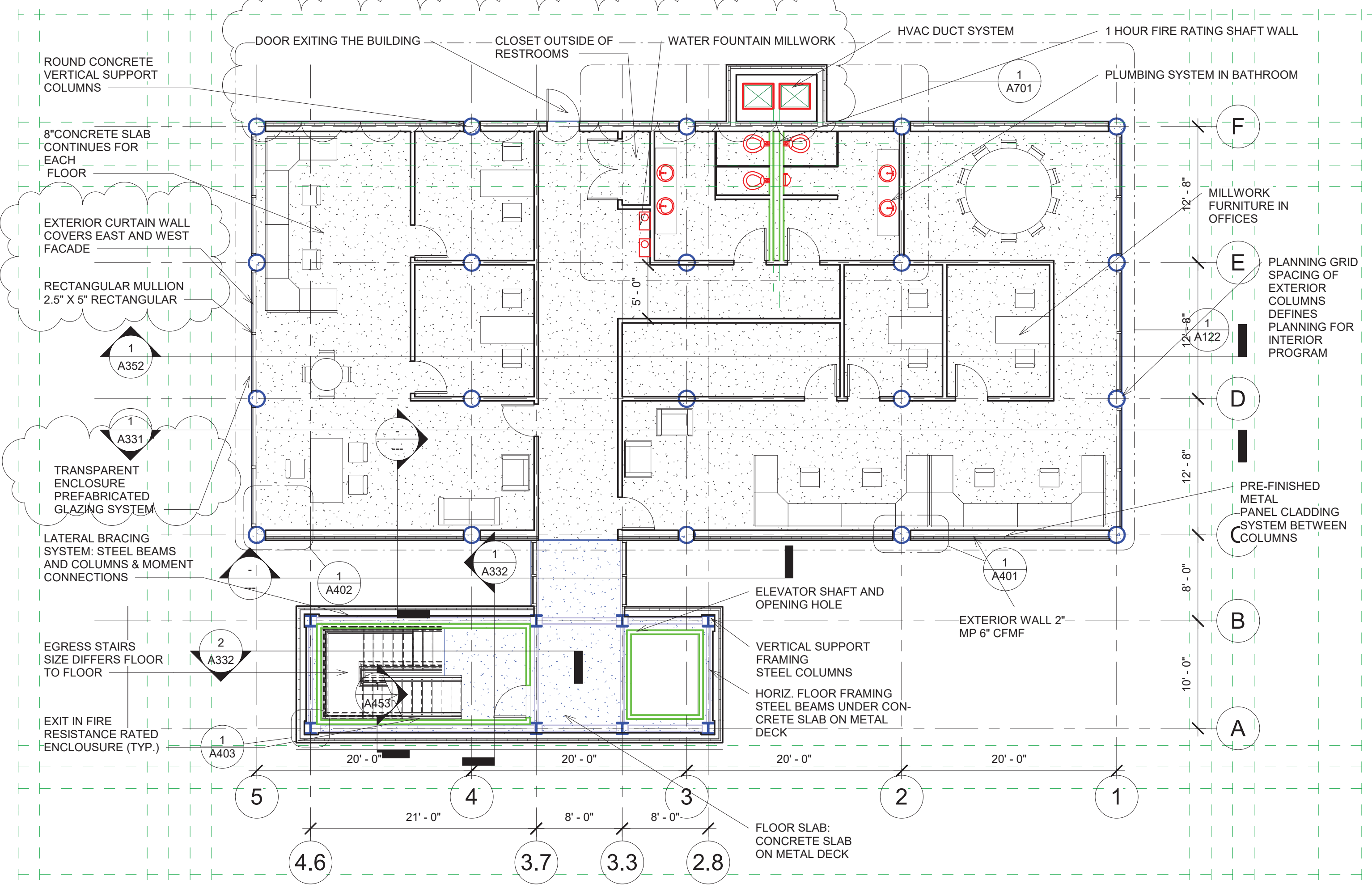
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1.2.2020

Sheet Title
PLAN LEVEL 1
OVERALL GRADE
LEVEL

A110

Construction Systems 2
Jessica Riggs

1 Plan Level 1
1/8" = 1'-0"



1 Level 3
1/8" = 1'-0"

LTU CoAD ARC 2323

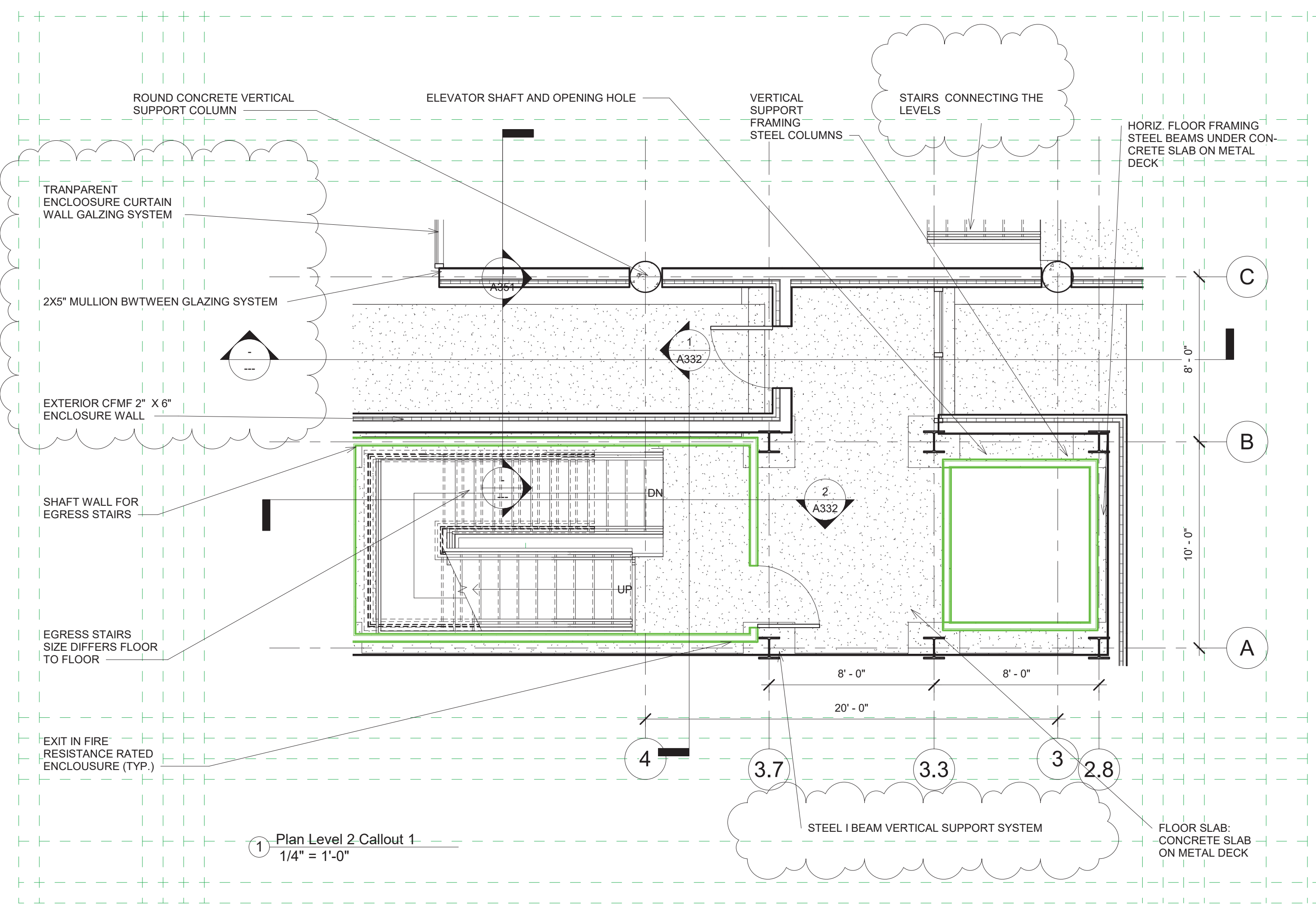
Project Source
London Com/Red bldg.
London, England
Michael Hopkins

Sheet Issued
01/27/20

Sheet Title
PLAN LEVEL 2
OVERALL UPPER
LEVEL

A120

Construction Systems 2
Jessica Riggs, Spring 2020



1 Plan Level 2 Callout 1
1/4" = 1'-0"

LTU CoAD ARC 2323

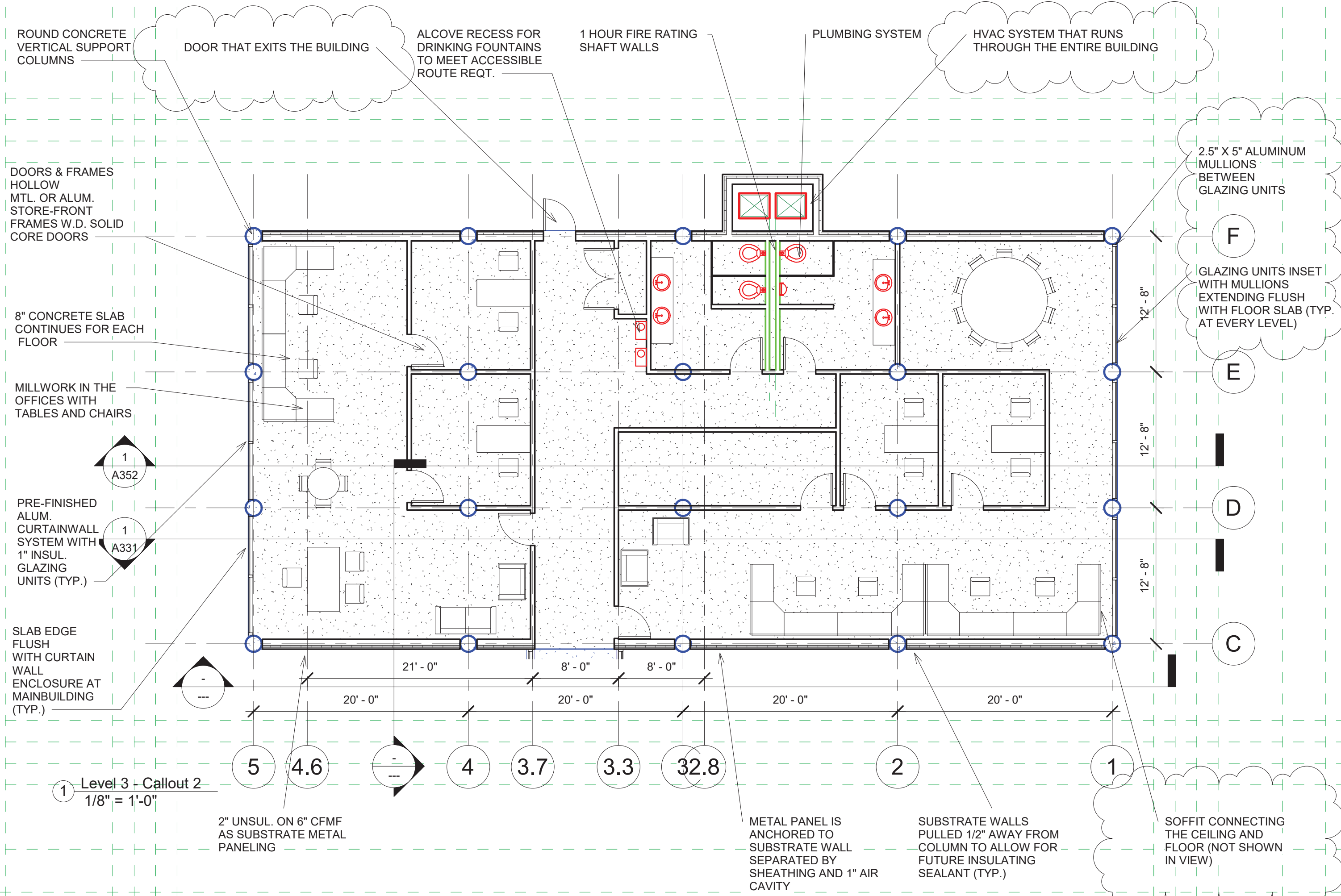
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London, England
Michael Hopkins

Sheet Issued
01/27/20

Sheet Title
PLAN LEVEL 2
SECTOR 1
TOWER

Construction Systems 2
Jessica Riqaas Spring 2020

A121



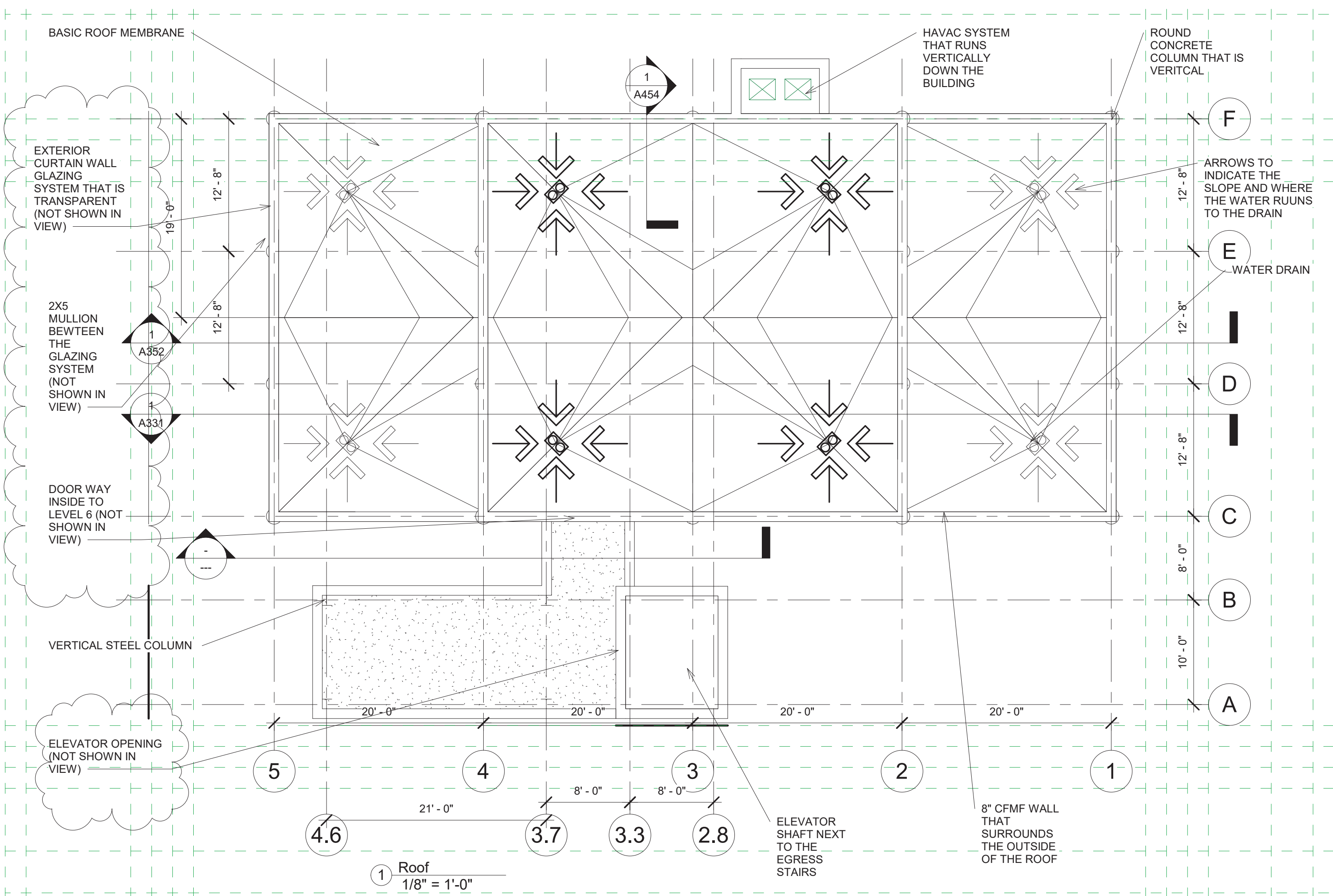
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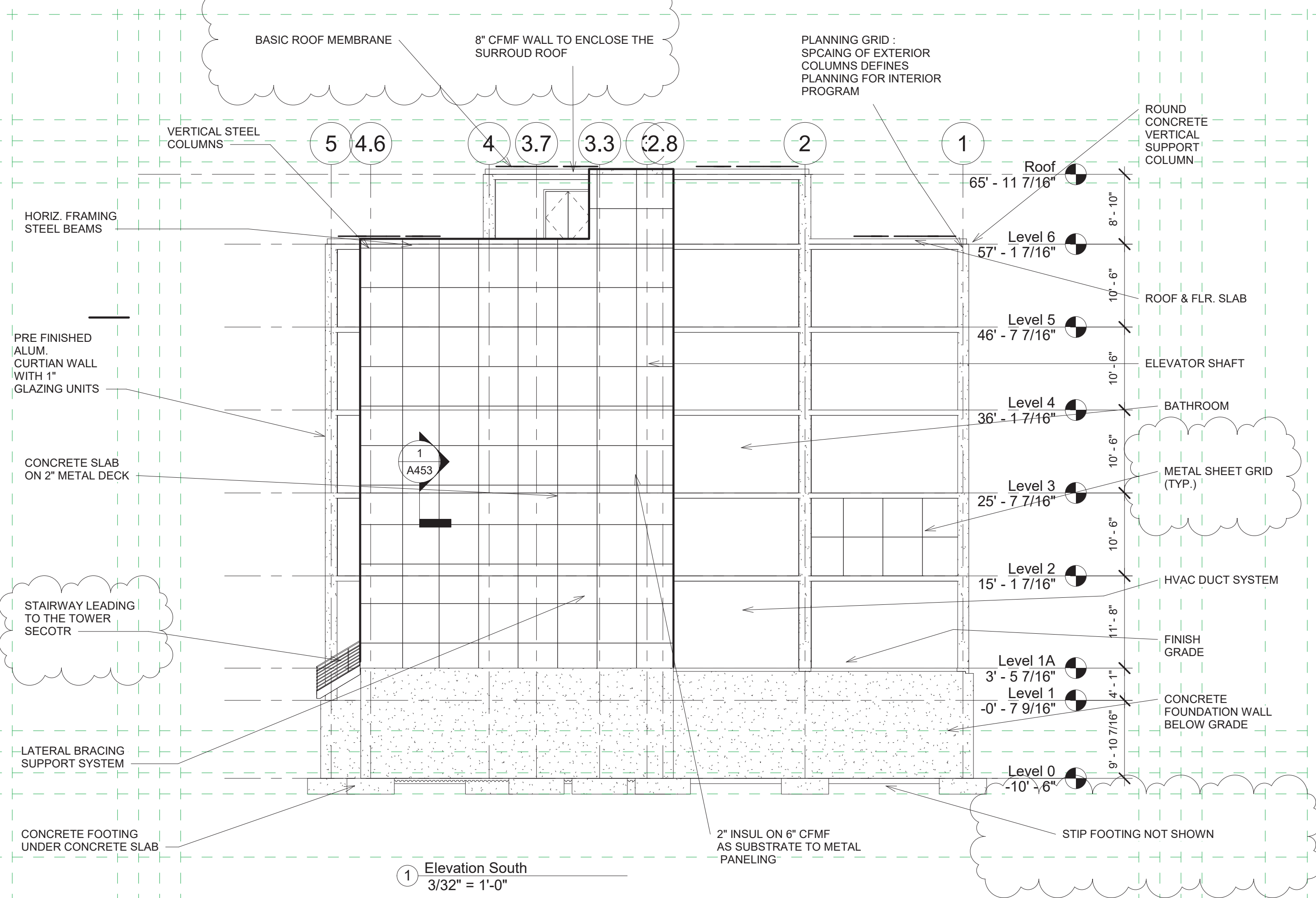
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London, England
Michael Hopkins

Sheet Issued
01/27/20

Sheet Title
PLAN LEVEL 2
SECTOR CORE

A122





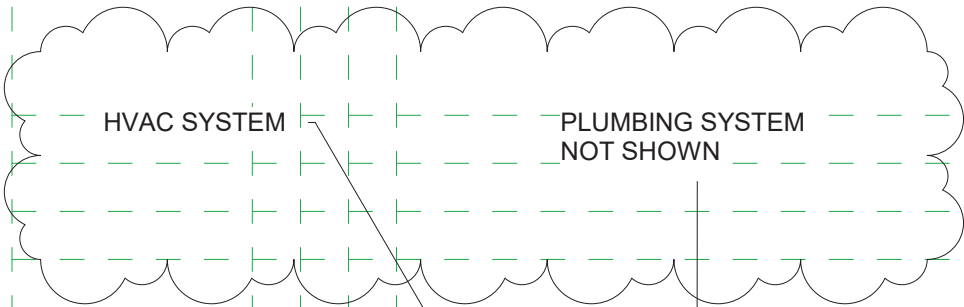
1 Elevation South
3/32" = 1'-0"

LTU CoAD ARC 2323

Project Source
London Com/Red bldg.
London, England
Michael Hopkins

Sheet Issued
01/27/20

Sheet Title
ELEVATION
SOUTH OVERALL
A302



HORIZONTAL FLOOR AND ROOF
FRAMING REINF. CONC. ON
METAL DECK AT STAIRWELL
CORE

VERTICAL SUPPORT: STEEL
COLUMNS (TYP.) EXCEPT AT
STAIRWELL CORE

PRE-FINISHED ALUM.
CURTAINWALL SYSTEM
WITH
1" INSUL. GLAZING UNITS
(TYP.)

2.5" X5" MULLIONS
BETWEEN GLAZING UNITS

SLAB EDGE FLUSH WITH
CURTAIN WALL ENCLOSURE
AT MAIN BUILDING (YUP.)

8" CONCRETE SLAB

VERTICAL SUPPORT
CONCRETE COLUMNS

Level 3
25' - 7 7/16"

Level 2
15' - 1 7/16"

Level 1A
3' - 5 7/16"

Level 1
-0' - 7 9/16"

HORIZONTAL FLOOR AND ROOF
FRAMING REINF. CONC. ON
METAL DECK AT STAIRWELL
CORE

1 310
1/8" = 1'-0"

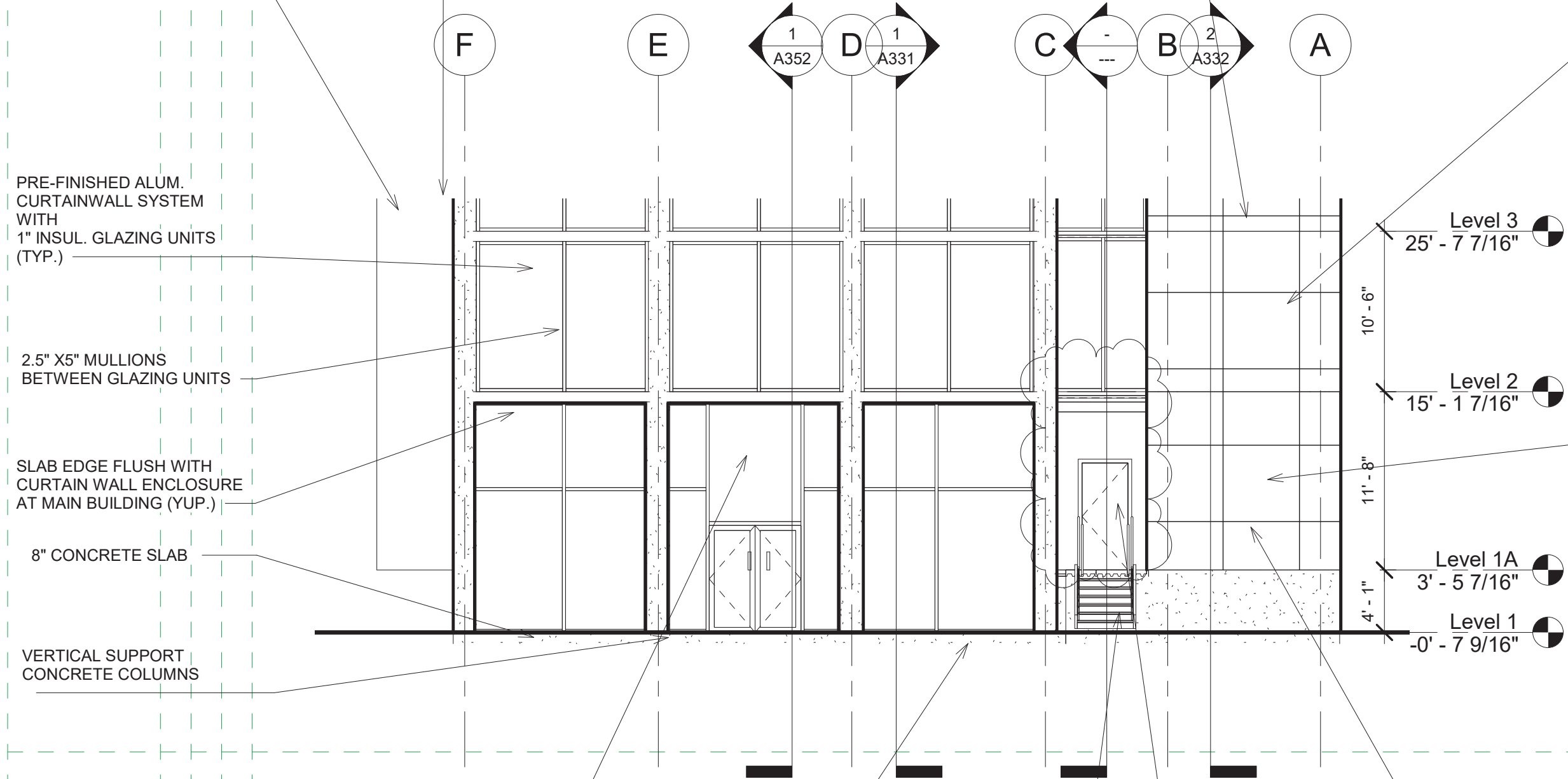
MULLION NOT SHOWN

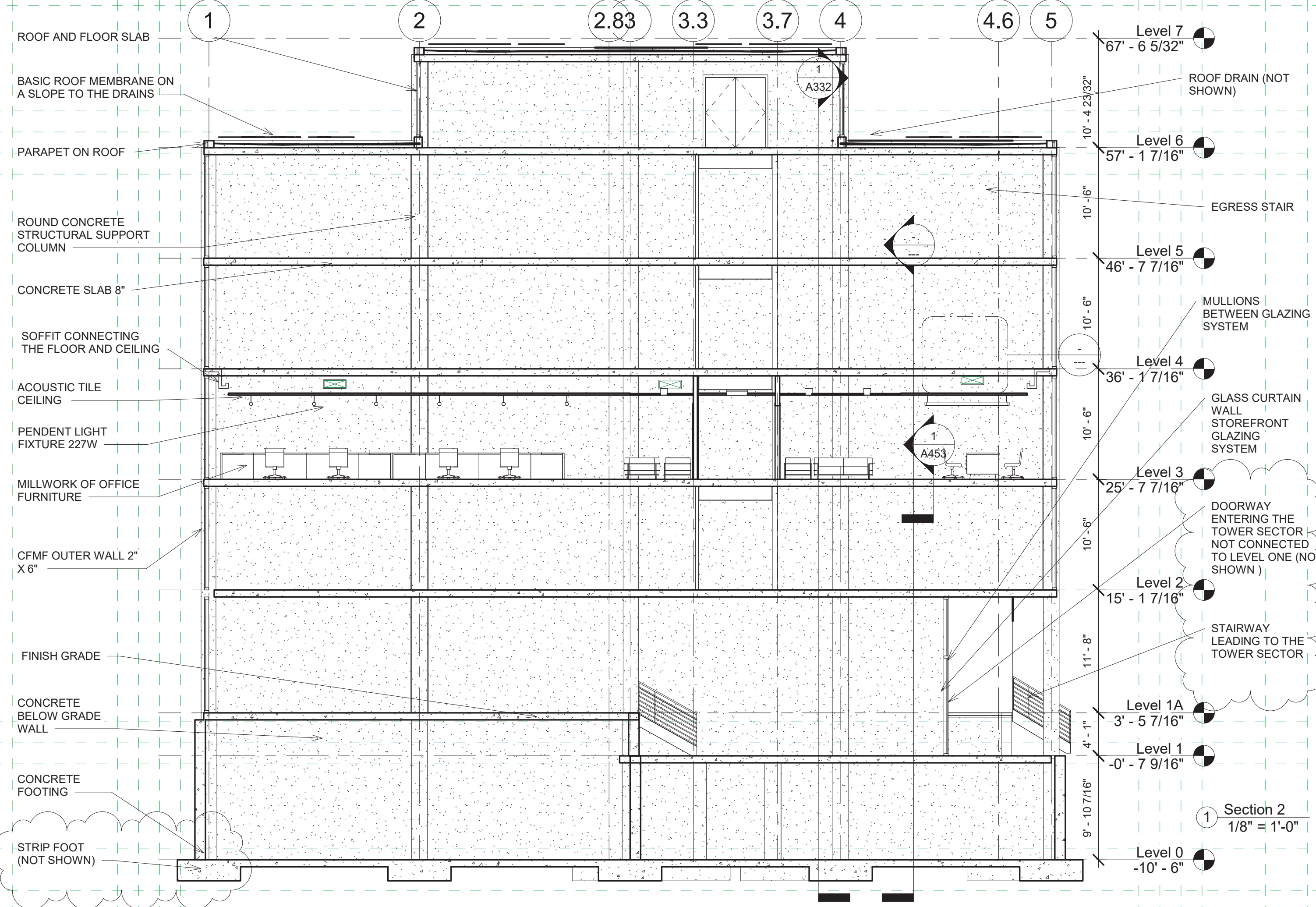
STRIP FOOTING NOT
SHOWN

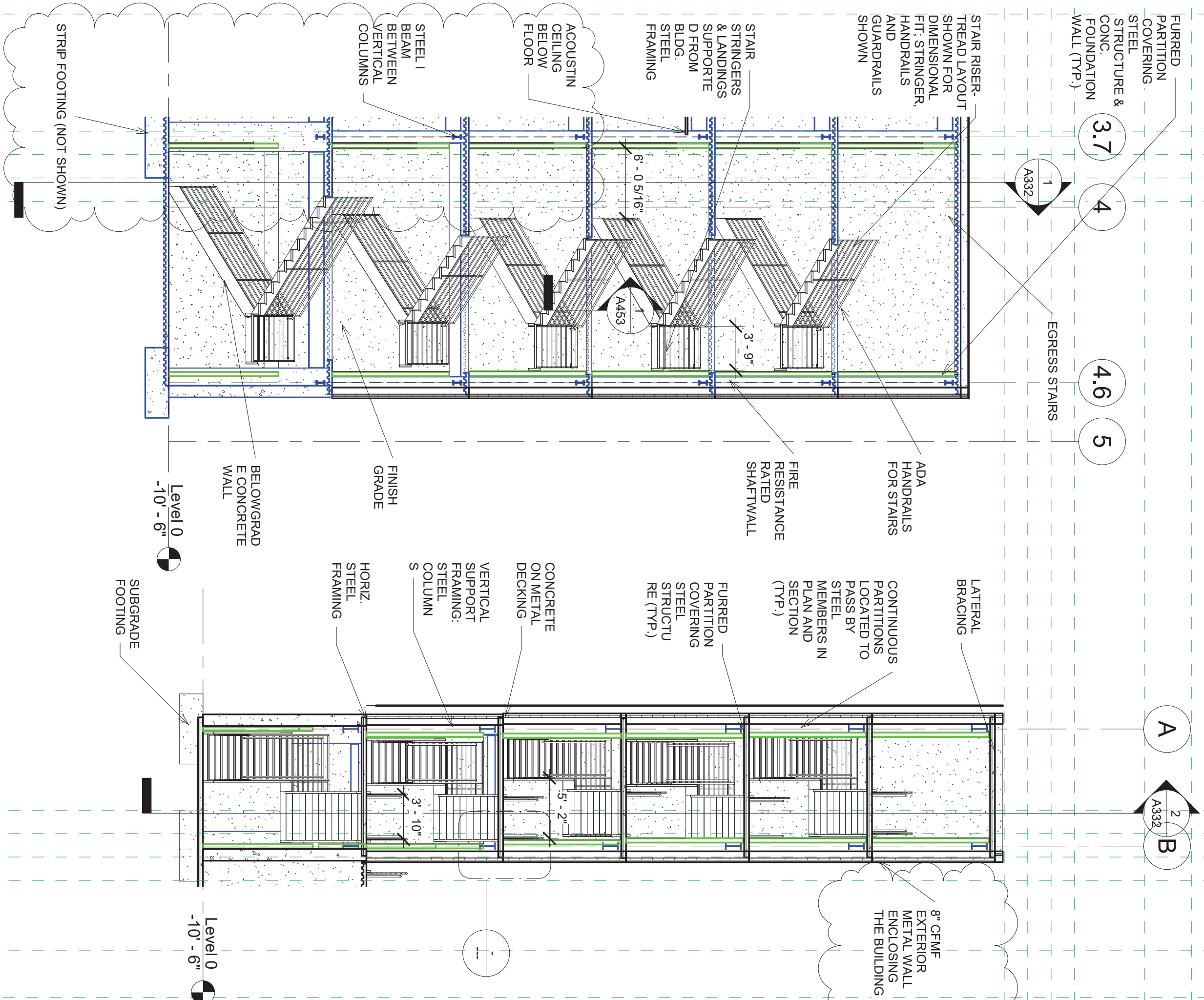
STAIRWAY LEADING TO
THE TOWER SECTOR

DOOR ENTERING THE
TOWER SECTOR NOT
CONNECTED TO LEVEL 1

SQUARE METAL
PANEL SYSTEM
(TYP.)

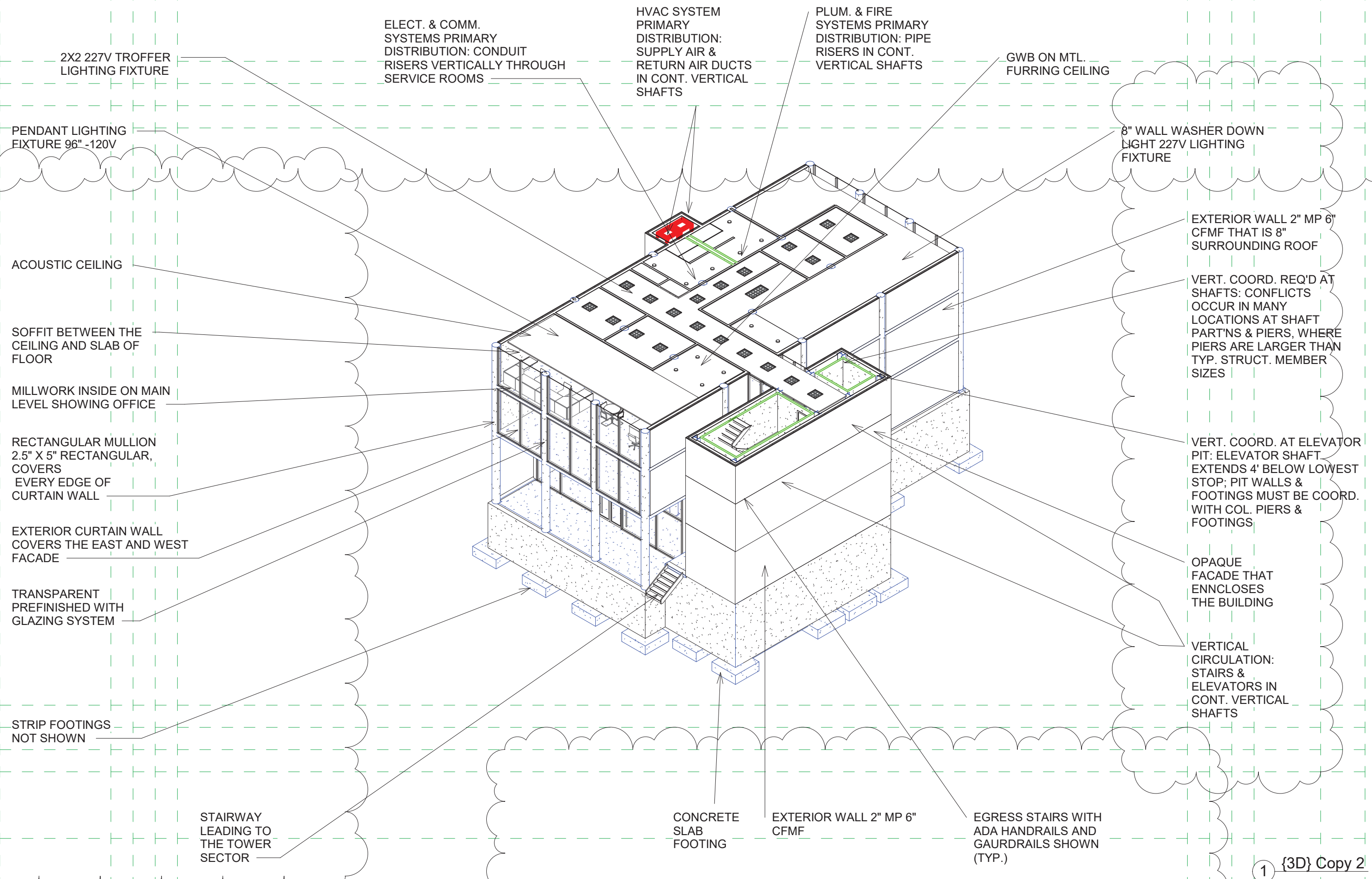






2 side stairs section
1/8" = 1'-0"

1 Section 3
1/8" = 1'-0"



2X2 227V TROFFER
LIGHTING FIXTURE

PENDANT LIGHTING
FIXTURE 96" -120V

ACOUSTIC CEILING

SOFFIT BETWEEN THE
CEILING AND SLAB OF
FLOOR

MILLWORK INSIDE ON MAIN
LEVEL SHOWING OFFICE

RECTANGULAR MULLION
2.5" X 5" RECTANGULAR,
COVERS
EVERY EDGE OF
CURTAIN WALL

EXTERIOR CURTAIN WALL
COVERS THE EAST AND WEST
FACADE

TRANSPARENT
PREFINISHED WITH
GLAZING SYSTEM

STRIP FOOTINGS
NOT SHOWN

STAIRWAY
LEADING TO
THE TOWER
SECTOR

ELECT. & COMM.
SYSTEMS PRIMARY
DISTRIBUTION: CONDUIT
RISERS VERTICALLY THROUGH
SERVICE ROOMS

HVAC SYSTEM
PRIMARY
DISTRIBUTION:
SUPPLY AIR &
RETURN AIR DUCTS
IN CONT. VERTICAL
SHAFTS

PLUM. & FIRE
SYSTEMS PRIMARY
DISTRIBUTION: PIPE
RISERS IN CONT.
VERTICAL SHAFTS

GWB ON MTL.
FURRING CEILING

8" WALL WASHER DOWN
LIGHT 227V LIGHTING
FIXTURE

EXTERIOR WALL 2" MP 6"
CFMF THAT IS 8"
SURROUNDING ROOF

VERT. COORD. REQ'D AT
SHAFTS: CONFLICTS
OCCUR IN MANY
LOCATIONS AT SHAFT
PART'NS & PIERS, WHERE
PIERS ARE LARGER THAN
TYP. STRUCT. MEMBER
SIZES

VERT. COORD. AT ELEVATOR
PIT: ELEVATOR SHAFT
EXTENDS 4' BELOW LOWEST
STOP; PIT WALLS &
FOOTINGS MUST BE COORD.
WITH COL. PIERS &
FOOTINGS

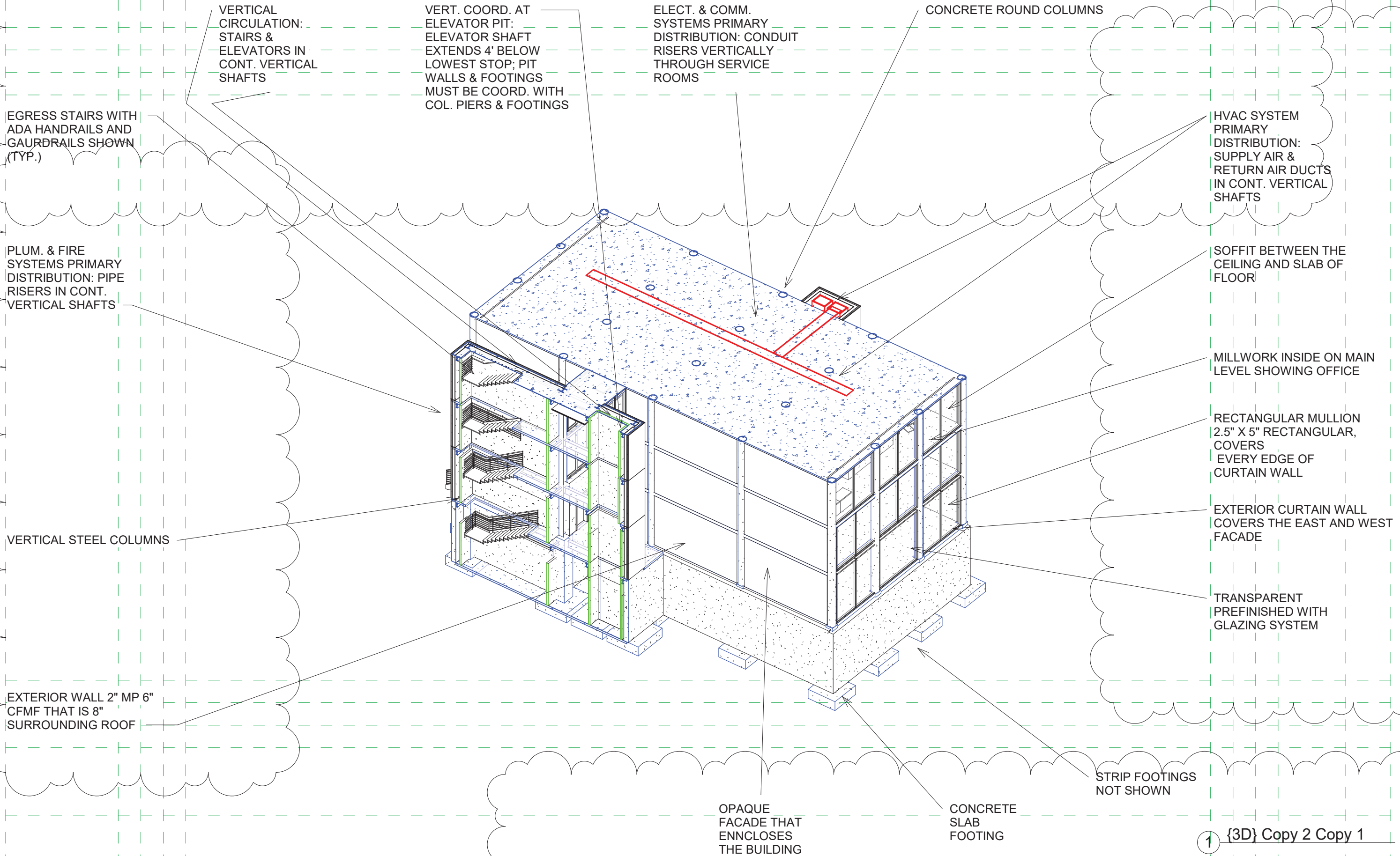
OPAQUE
FACADE THAT
ENNCLOSES
THE BUILDING

VERTICAL
CIRCULATION:
STAIRS &
ELEVATORS IN
CONT. VERTICAL
SHAFTS

CONCRETE
SLAB
FOOTING

EXTERIOR WALL 2" MP 6"
CFMF

EGRESS STAIRS WITH
ADA HANDRAILS AND
GAURDRAILS SHOWN
(TYP.)



Sheet Title

3D BLDG SCTN 2

Sheet Issued

02/19/20

Project Source

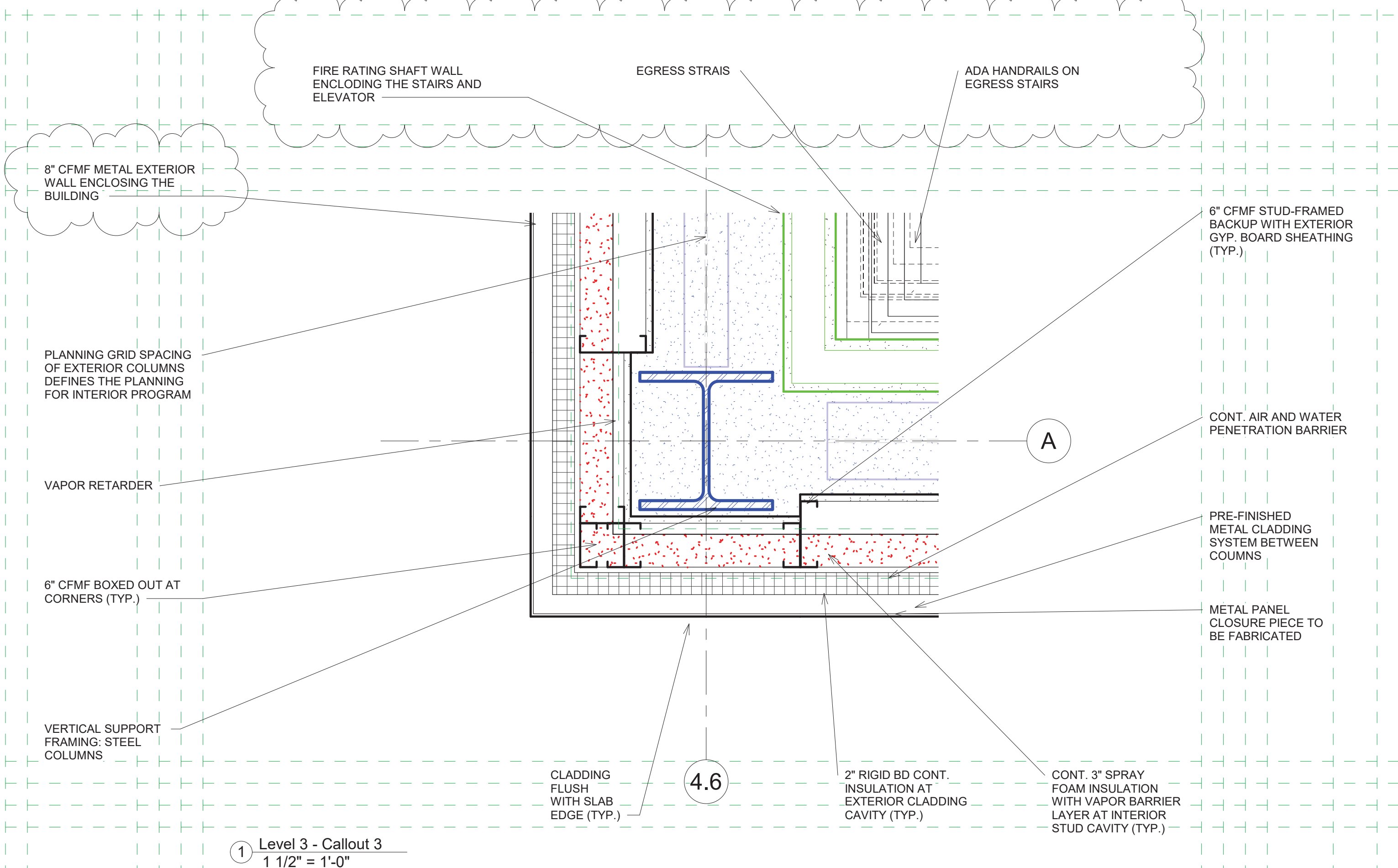
London Com/Red bldg.
London, England
Michael Hopkins

LTV CoAD/ARC 2323

Construction Systems 2
Jessica Riggs, Spring 2020

1 {3D} Copy 2 Copy 1

A334



FIRE RATING SHAFT WALL
ENCLOSING THE STAIRS AND
ELEVATOR

EGRESS STRAIS

ADA HANDRAILS ON
EGRESS STAIRS

8" CFMF METAL EXTERIOR
WALL ENCLOSING THE
BUILDING

6" CFMF STUD-FRAMED
BACKUP WITH EXTERIOR
GYP. BOARD SHEATHING
(TYP.)

PLANNING GRID SPACING
OF EXTERIOR COLUMNS
DEFINES THE PLANNING
FOR INTERIOR PROGRAM

VAPOR RETARDER

6" CFMF BOXED OUT AT
CORNERS (TYP.)

VERTICAL SUPPORT
FRAMING: STEEL
COLUMNS

CONT. AIR AND WATER
PENETRATION BARRIER

PRE-FINISHED
METAL CLADDING
SYSTEM BETWEEN
COLUMNS

METAL PANEL
CLOSURE PIECE TO
BE FABRICATED

CLADDING
FLUSH
WITH SLAB
EDGE (TYP.)

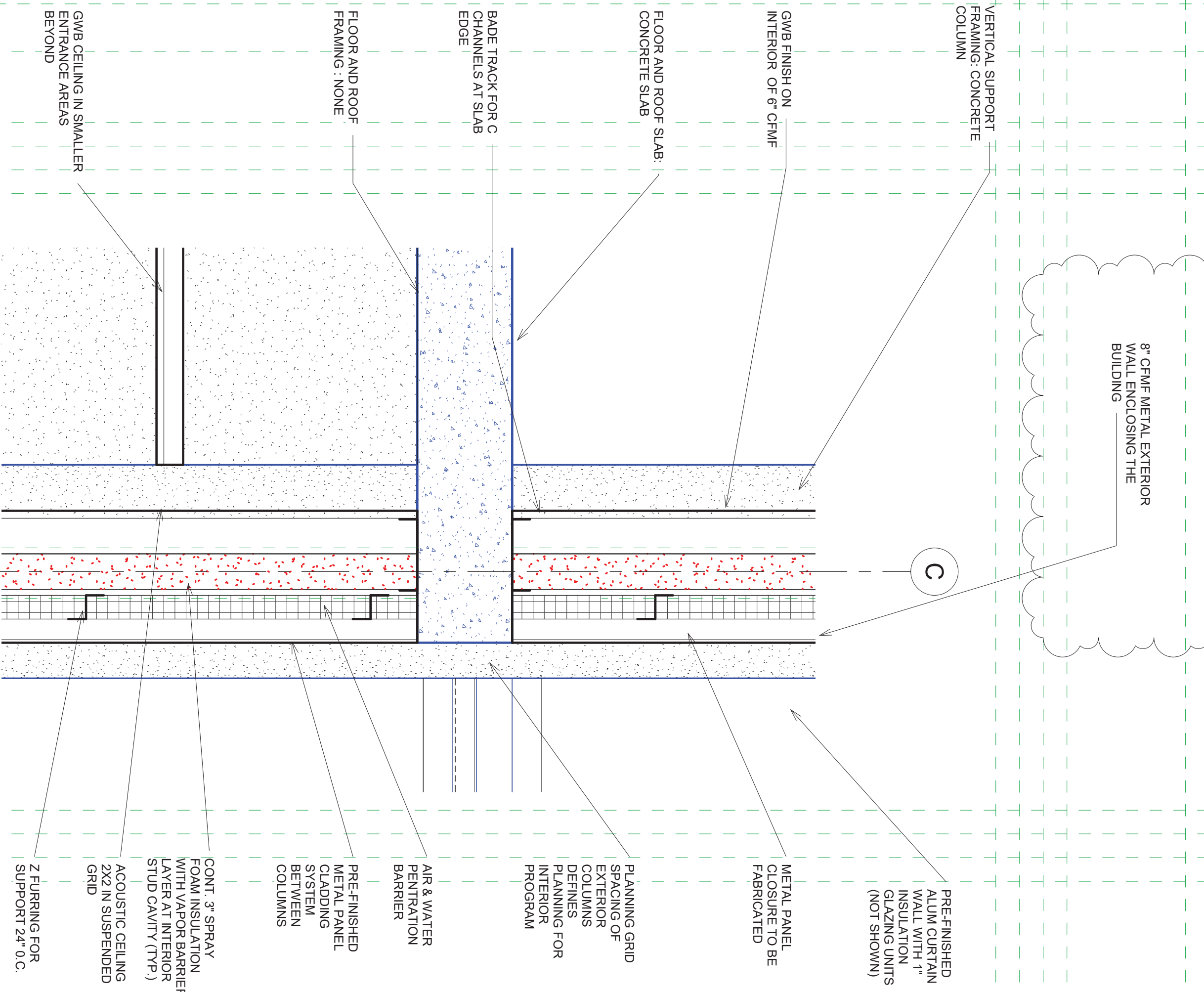
2" RIGID BD CONT.
INSULATION AT
EXTERIOR CLADDING
CAVITY (TYP.)

CONT. 3" SPRAY
FOAM INSULATION
WITH VAPOR BARRIER
LAYER AT INTERIOR
STUD CAVITY (TYP.)

1 Level 3 - Callout 3
1 1/2" = 1'-0"

4.6

A



1 Wall Section - A451
1 1/2" = 1'-0"

