Future
Connection
Transit
Expansion
Change

Gateway to Next

Generations
Growth
Development
Expansion

Caitlyn Christian
Architectural Engineering

Sarah Rose
Architecture

Hank Traxel
Architecture

Industrial Beginnings

Gable Galore

Brick Icon

Edmond Oklahoma

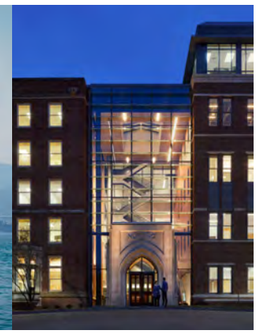
Boxcar Proportions

Structural Inspiration

Train Transportation

Expansion

Enlightenment



Validation

Future Development

Concept Narrative.

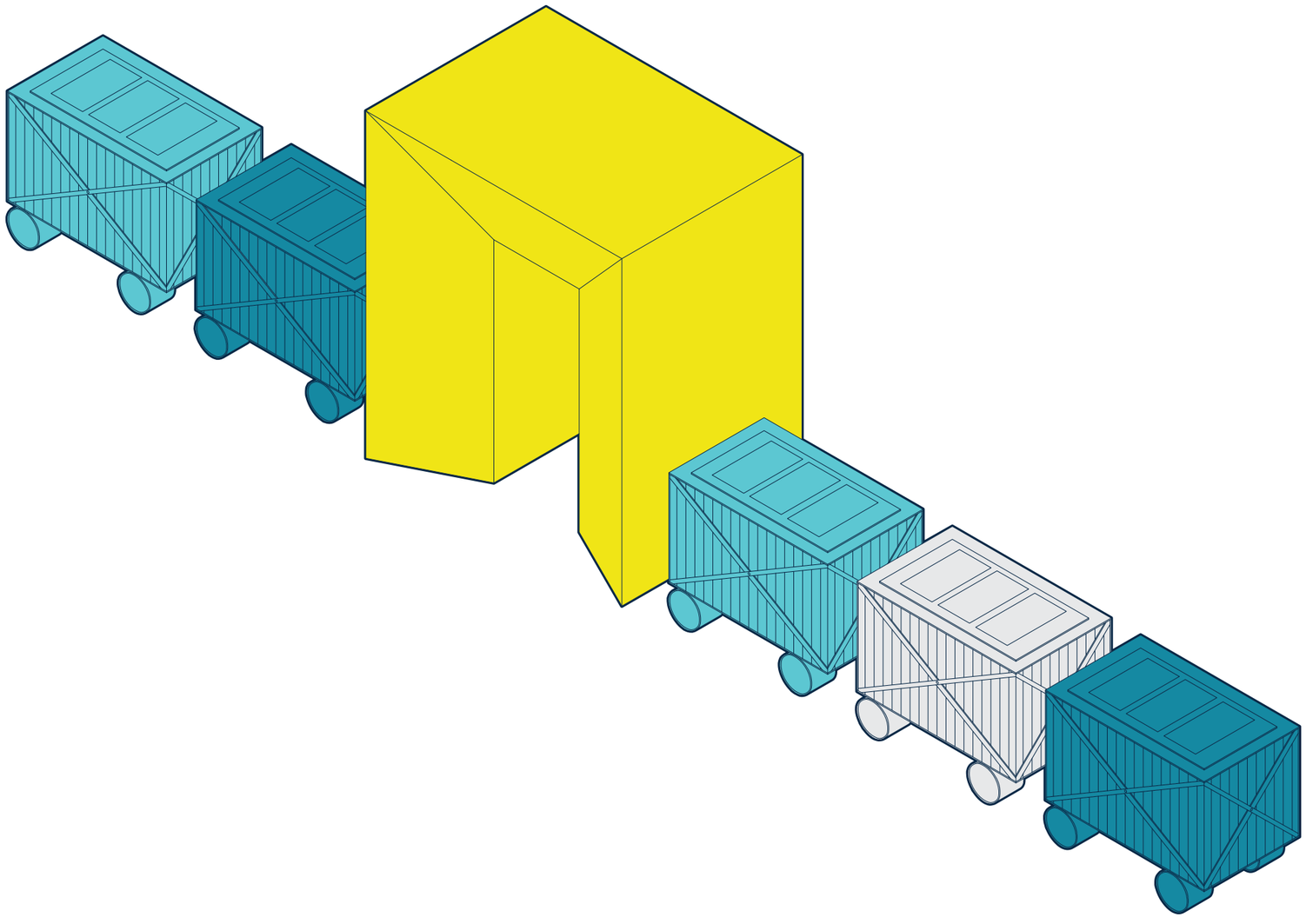
Created to break the familiarity, the gateway beacon challenges how the city of Edmond deals with the idea of future growth. Utilizing a mixture of modern day materials, like corrugated metal and polycarbonate glass, a familiar to Edmond gable structure is dissected by a brick masonry gateway. Passengers transition through the brick structure upon their entry or exit from the city of Edmond, representing what is next for their city.

The mobile hub takes what the citizens of Edmond know: Gable roofs, rhythm and patterns, brick masonry, and visually represent how they can be connected to the future development. Proportioned by box cars, the gable structure is split by the masonry gateway. Bringing people through what they know, and into what is next.

Conceptual Diagram.

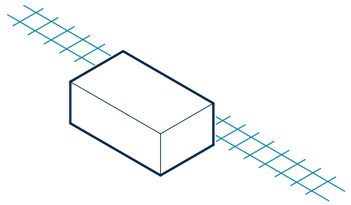
Box cars and gateways. Utilizing box car proportions to create a building massings, the gateway allows pedestrians to pass.

3.

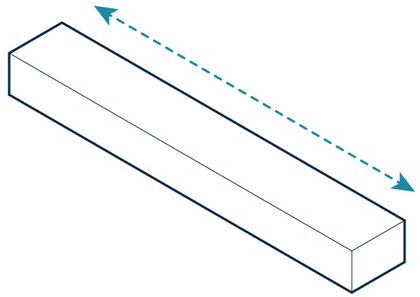


Massing Diagram.

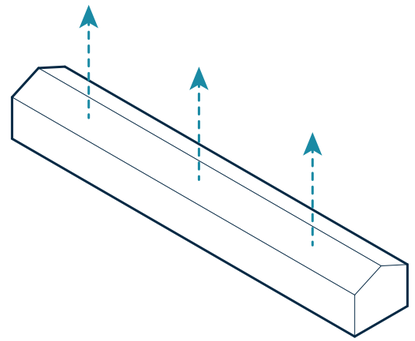
4.



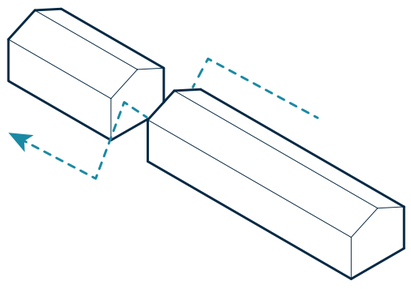
Boxcar proportions.



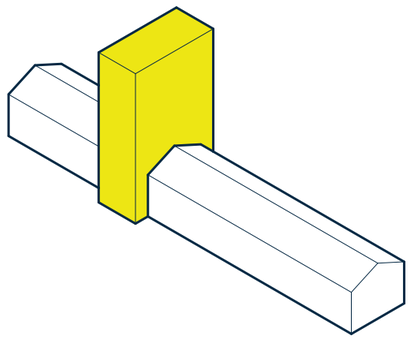
Addition of cars.



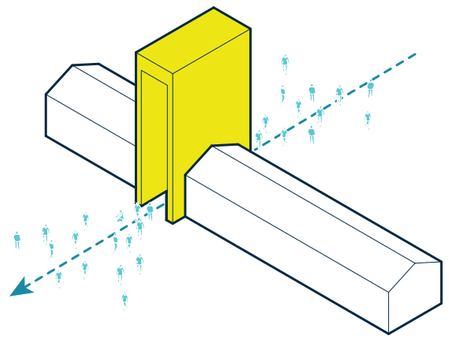
Addition of gable roof.



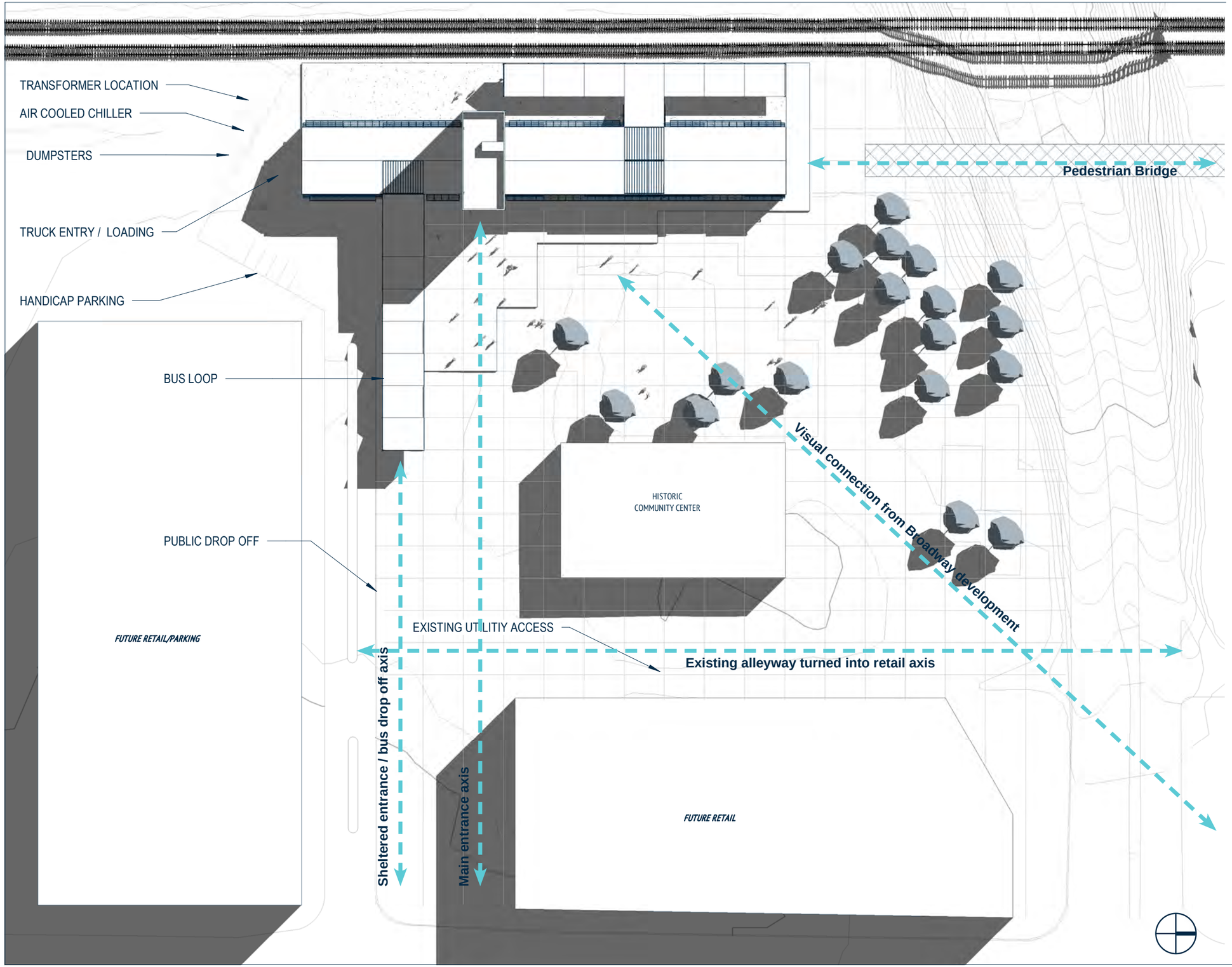
Split public and private.



Insertion of visual beacon.



Entrance Gateway.



Site Plan.

Goals:

Establish a dense urban path from the developed Broadway strip.

Add a pedestrian bridge to establish a new axis for the future housing developments.

Add visual ques to the main entrances/ pedestrian drop offs.

Aerial Image.

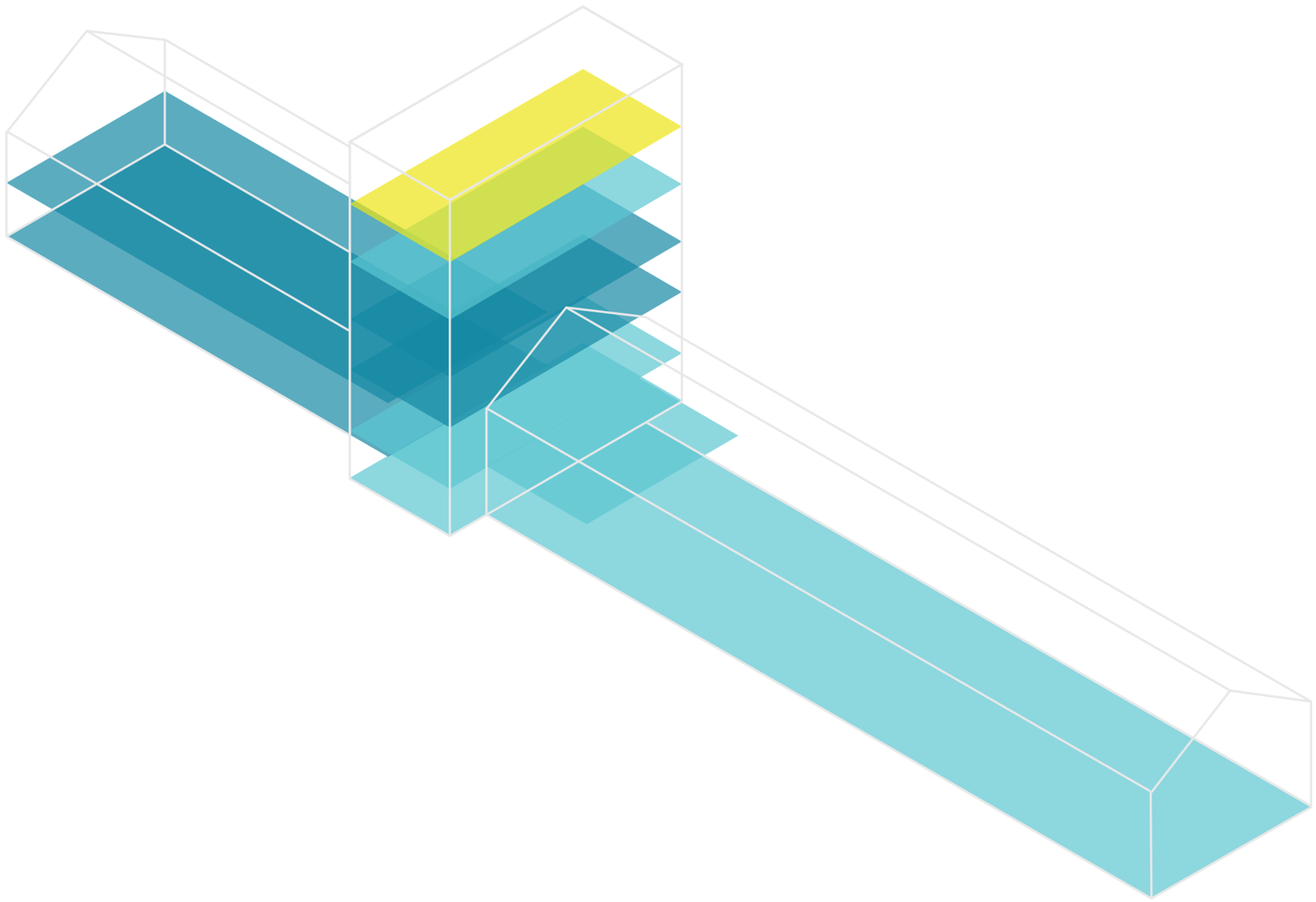
6.

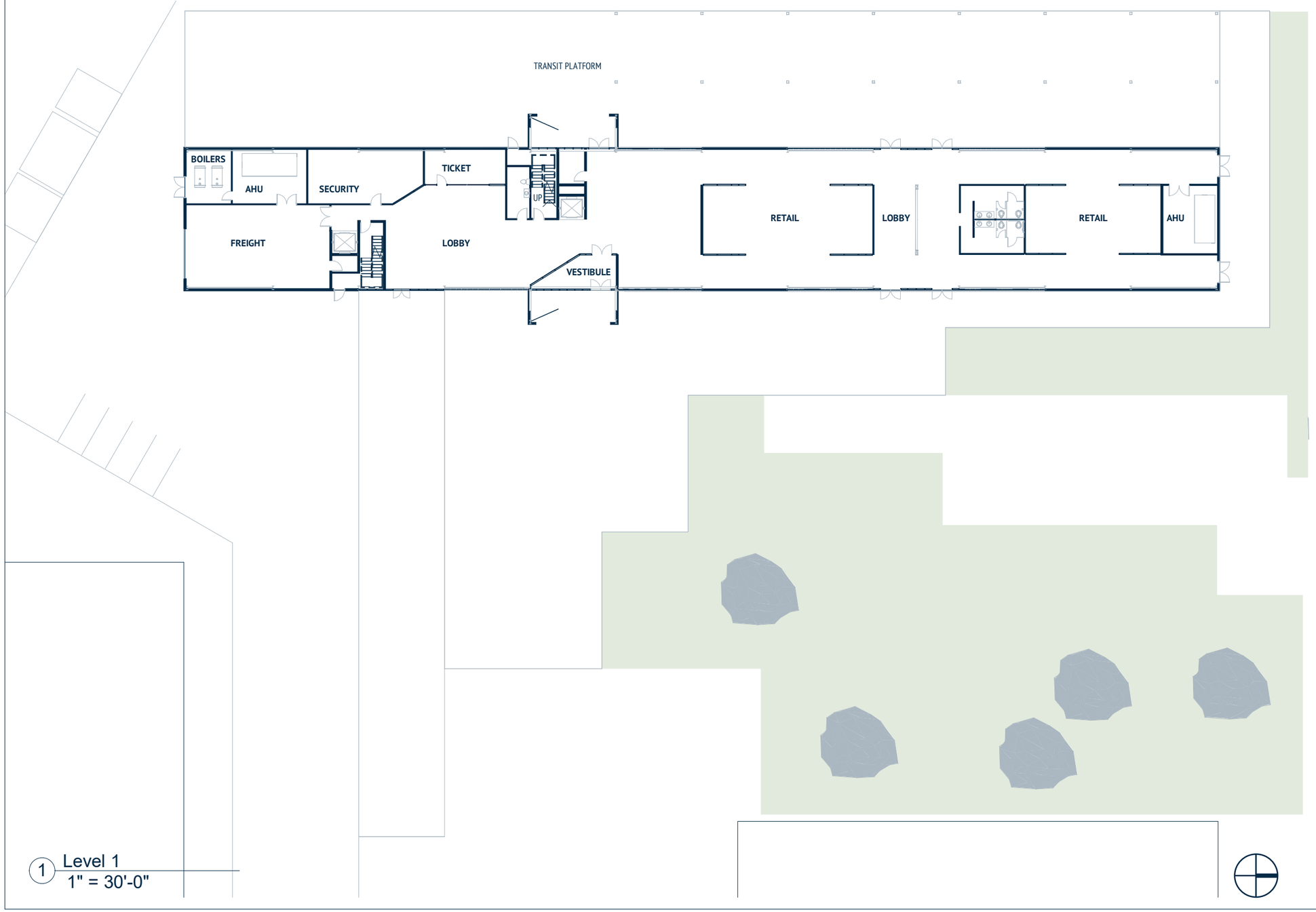
Public Vs Private Zones.

FACILITY

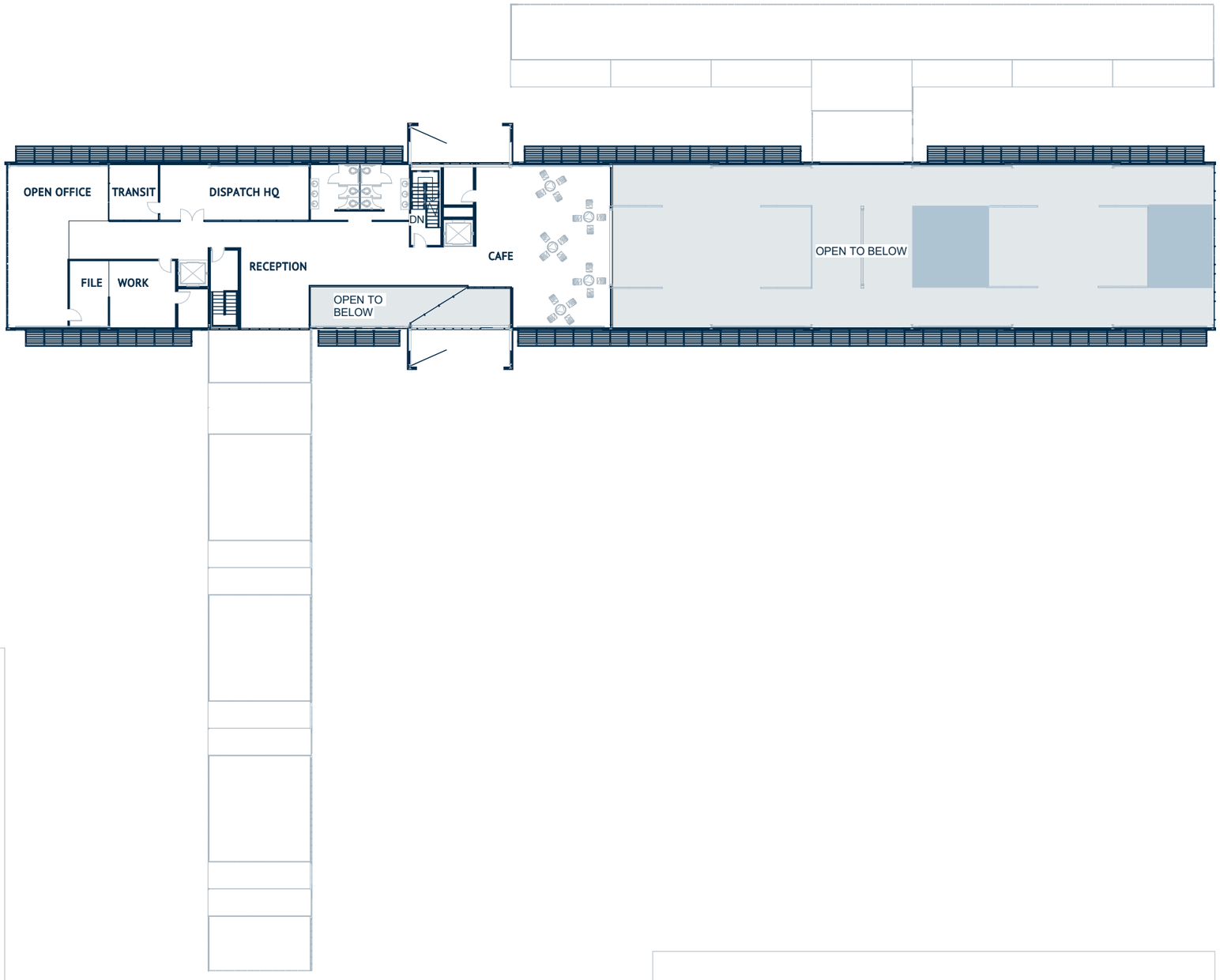
PUBLIC

PRIVATE

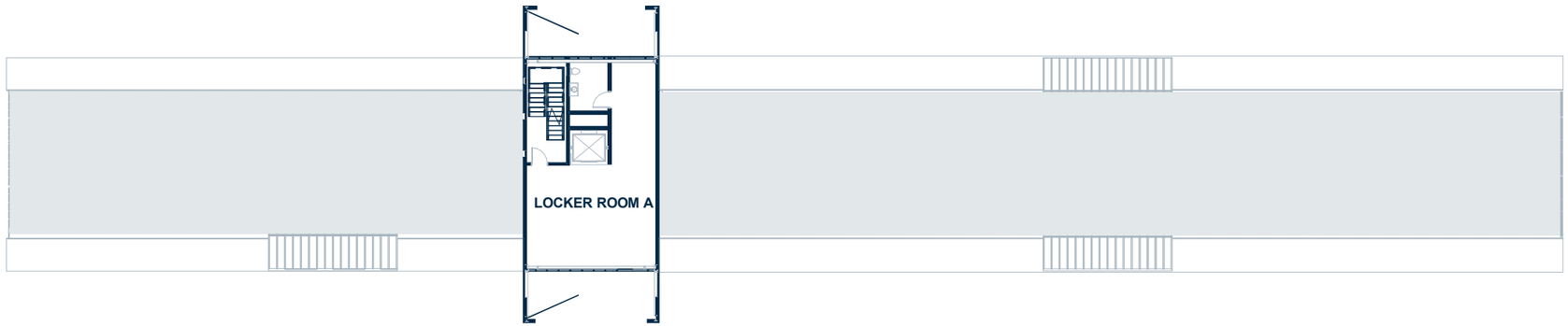




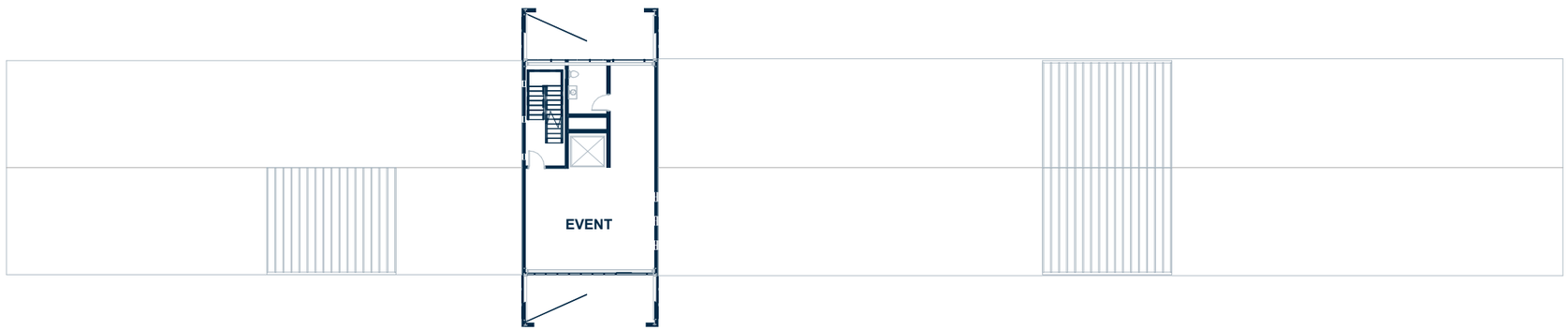
1 Level 1
1" = 30'-0"



1 Level 2
1" = 30'-0"



1 Level 3
1" = 30'-0"



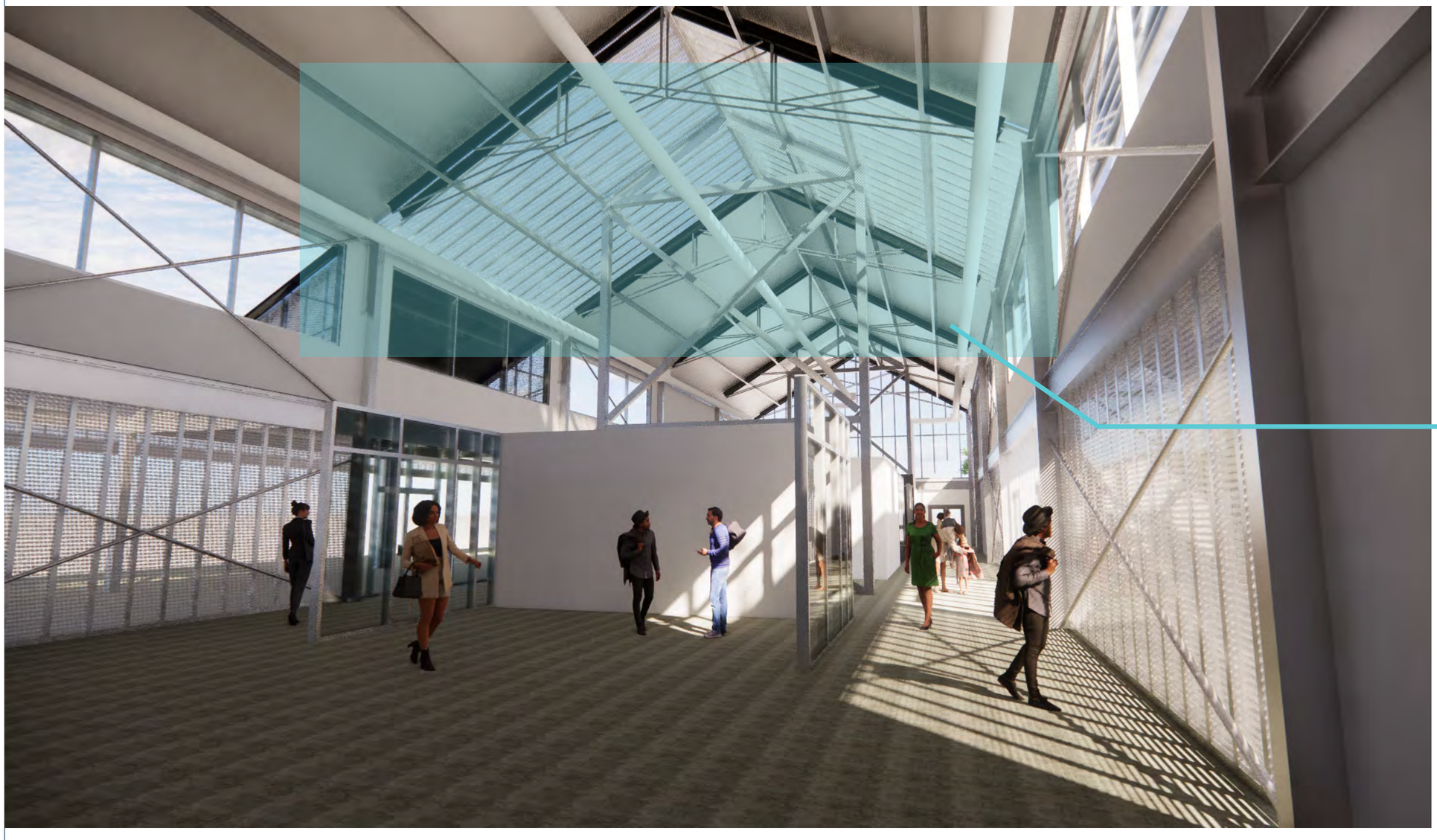
2 Level 5
1" = 30'-0"

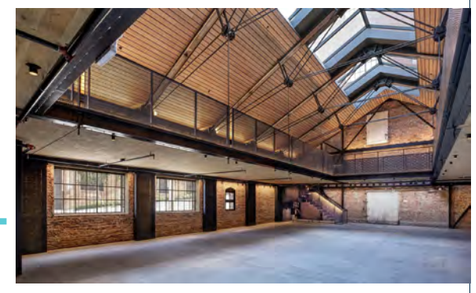
Interior Image.

11.

Interior Image.

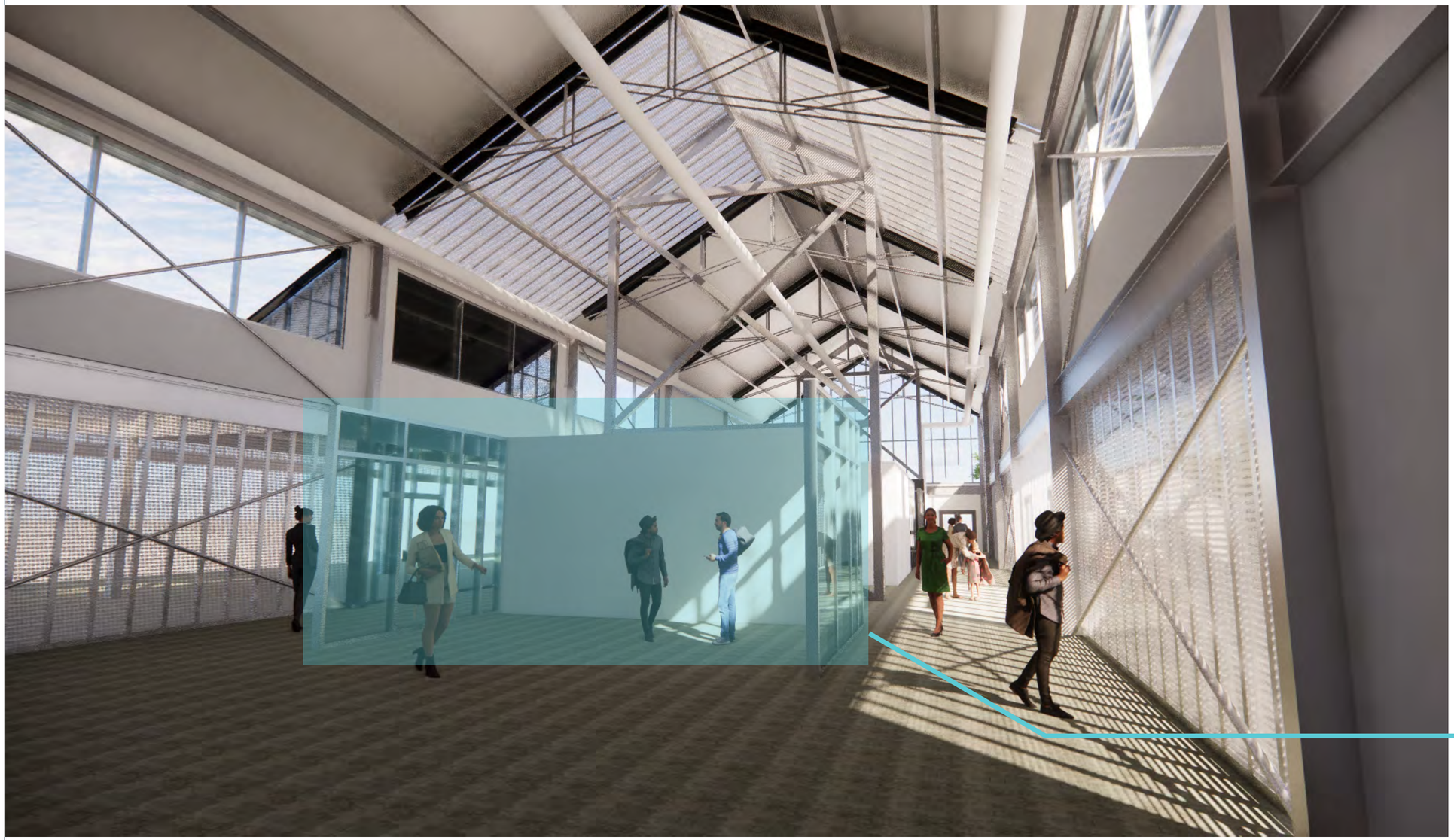
12.





Maclac Building, MWDL Architects

Interior Image.



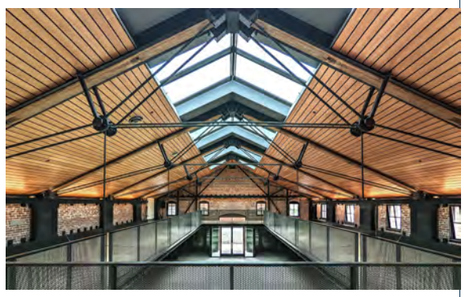
Walmart Grab’n Go

Puddel Design Translucent Kiosk

Interior Image.

Interior Image.

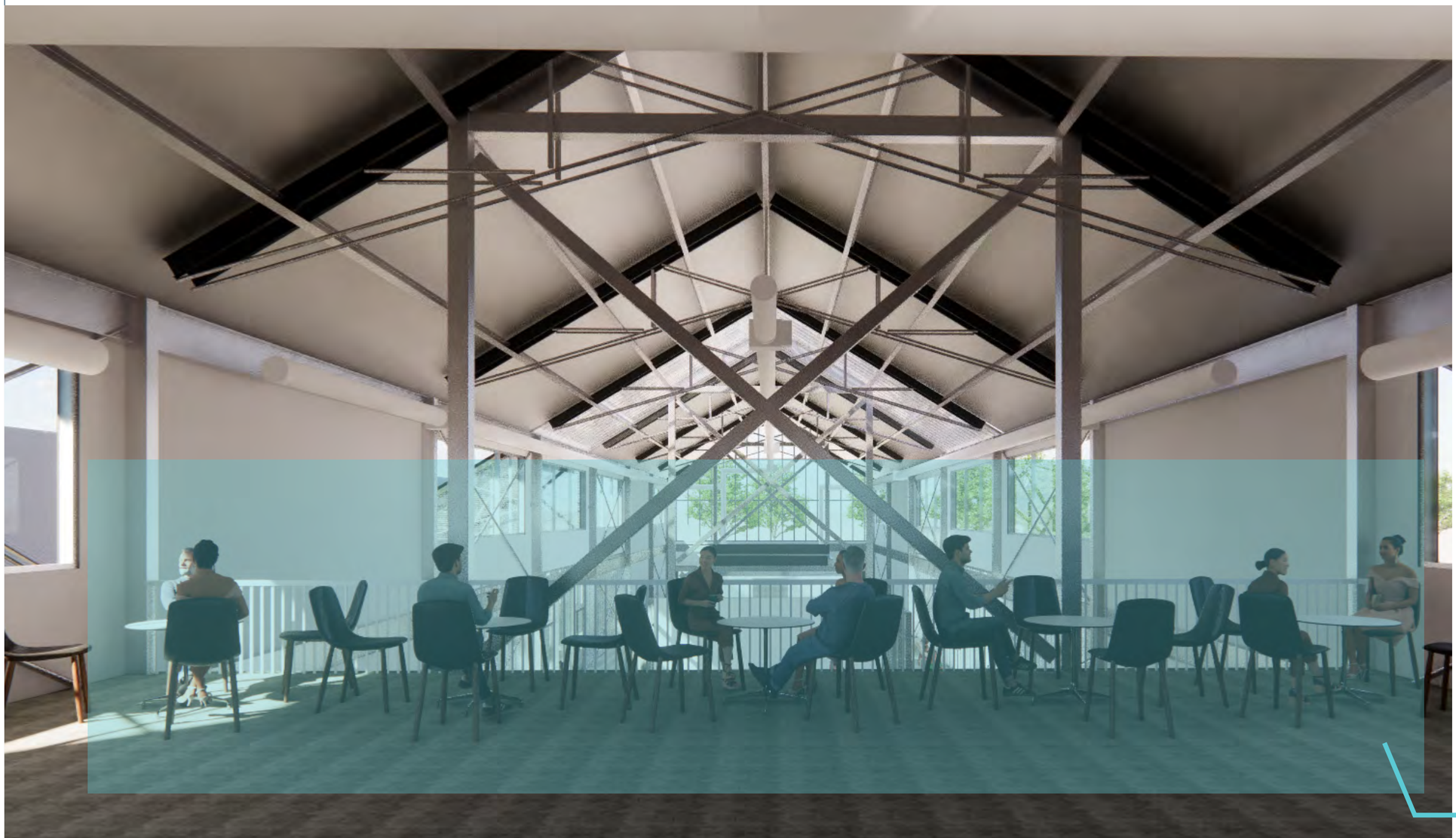
15.



Maclac Building, MWDL Architects

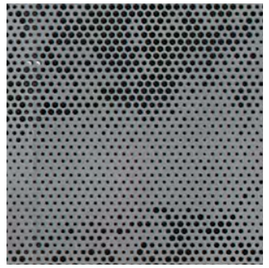
Interior Image.

16.



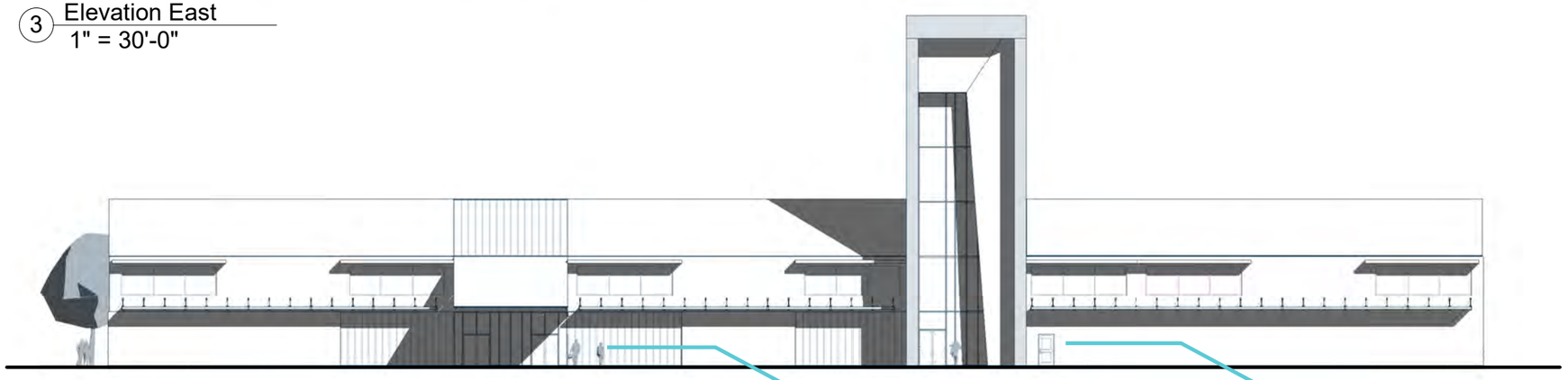
Madcoffee Monterrey, MX.

Perforated Metal Panels



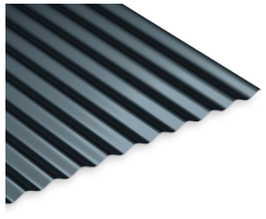
Brick Masonry Cladding

3 Elevation East
1" = 30'-0"



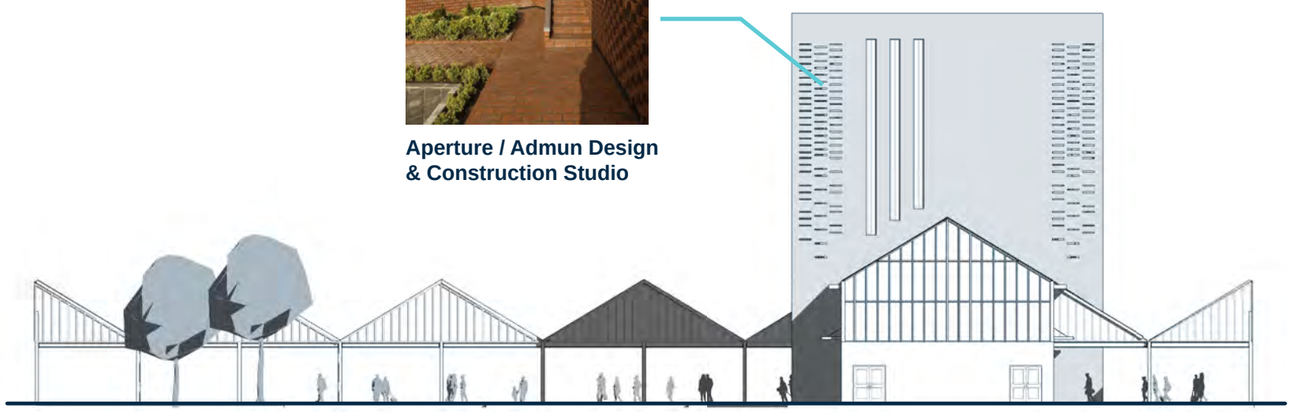
4 Elevation West
1" = 30'-0"

Polycarbonate Glass



Corrugated Metal

Aperture / Admun Design
& Construction Studio



1 Elevation North
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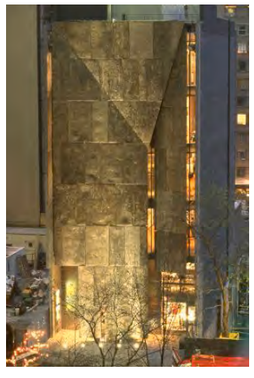
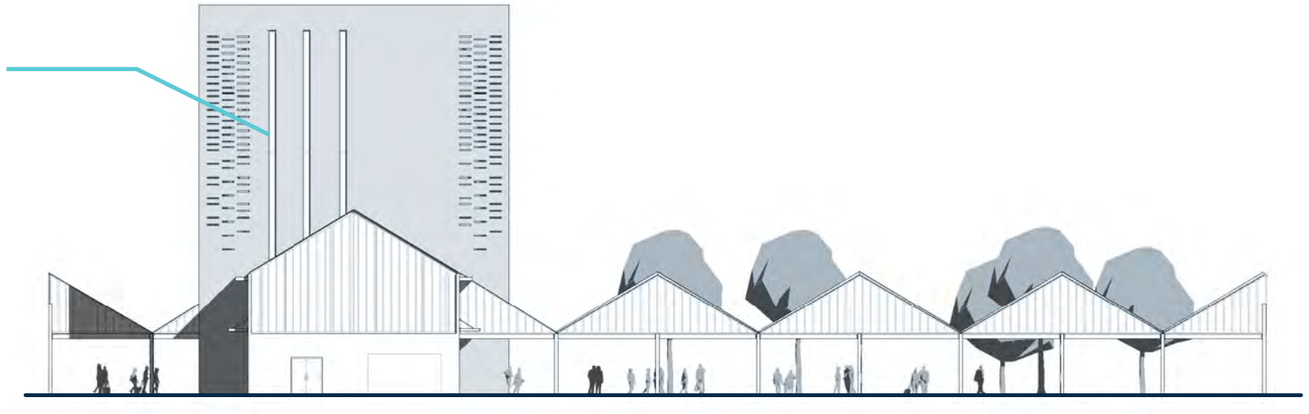
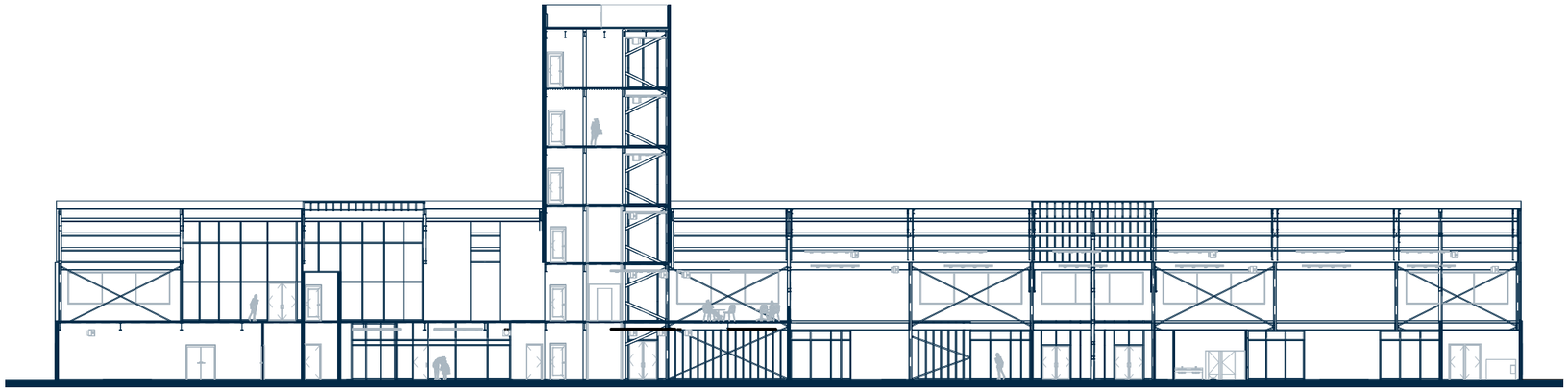


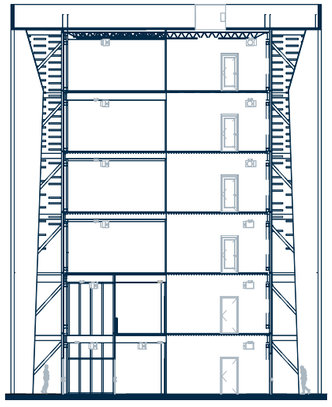
American Folk Art Museum



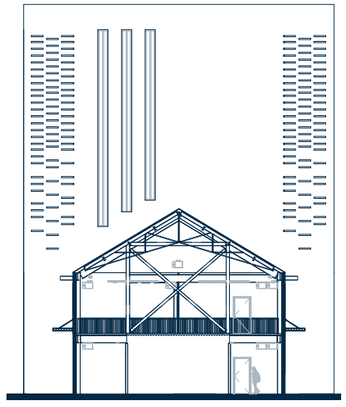
2 Elevation South
1" = 30'-0"



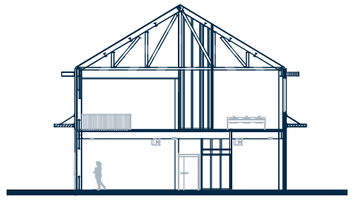
2 Longitudinal Section - clean
1" = 30'-0"



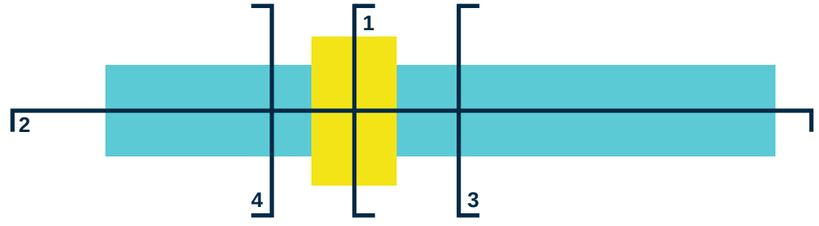
3 Tower Section
1" = 30'-0"



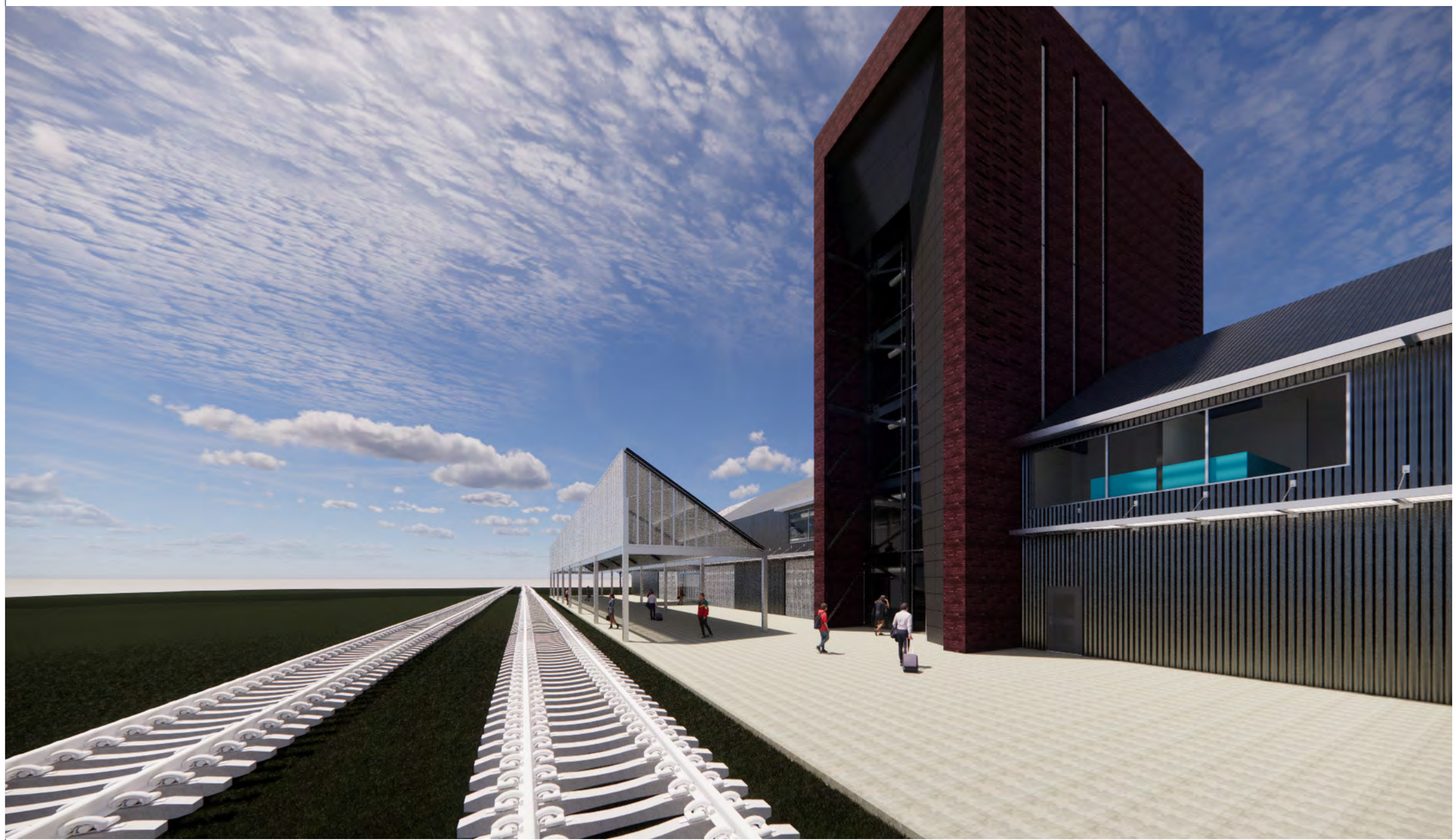
1 Section south
1" = 30'-0"

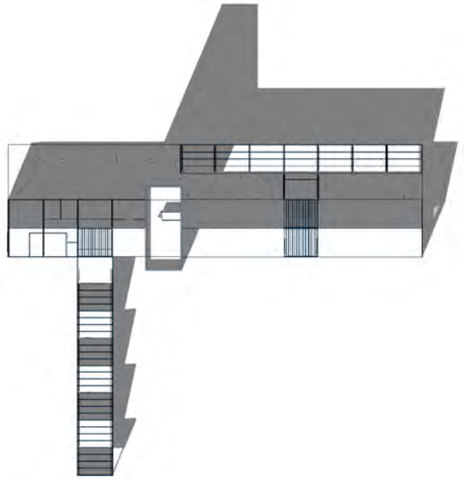


4 Section 3
1" = 30'-0"

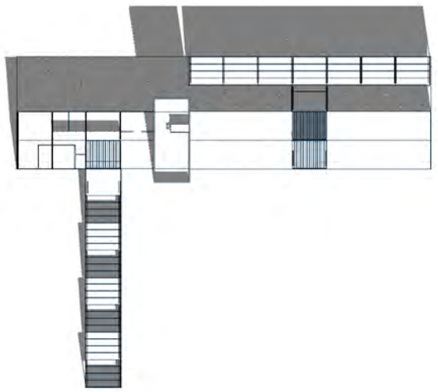


Exterior Images.

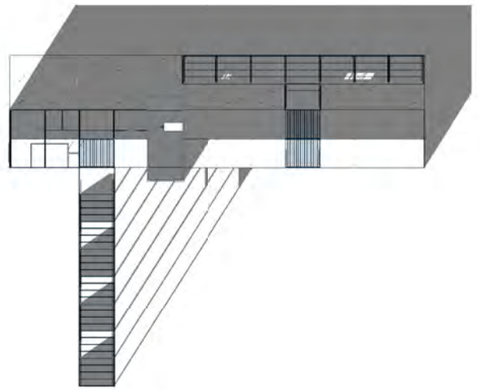




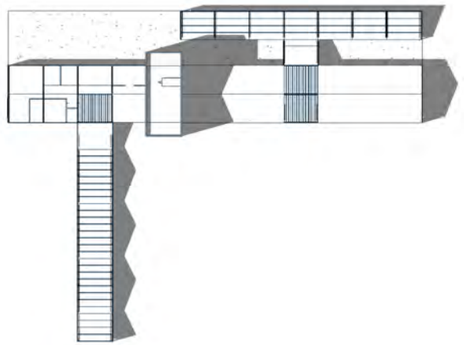
A1 Sun - 8 am - Equinox



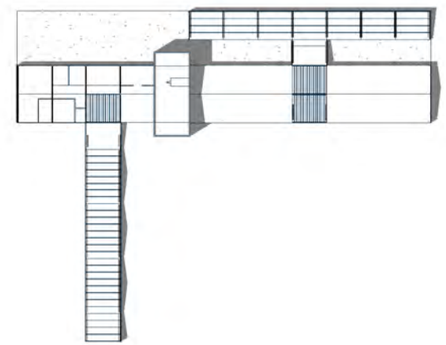
B1 Sun - 8 am - Summer



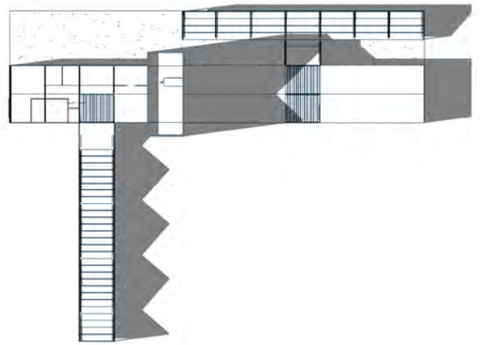
C1 Sun - 8 am - Winter



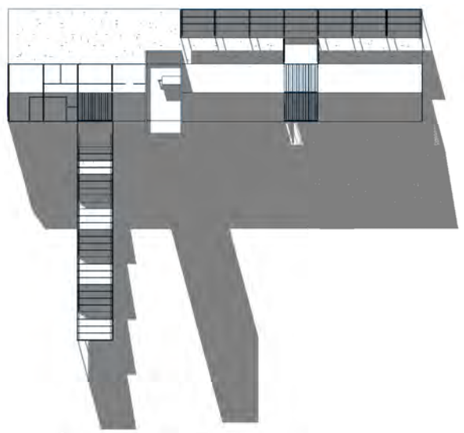
A2 Sun - Noon - Equinox



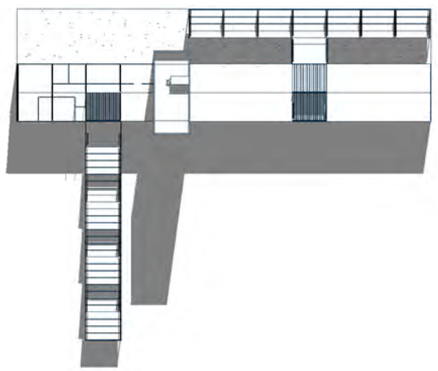
B2 Sun - Noon - Summer



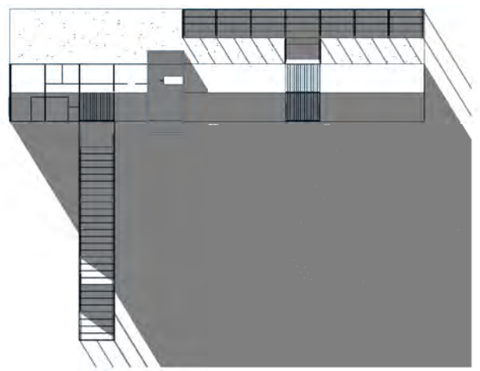
C2 Sun - Noon - Winter



A3 Sun - 5 pm - Equinox



B3 Sun - 5 pm - Summer



C3 Sun - 5 pm - Winter

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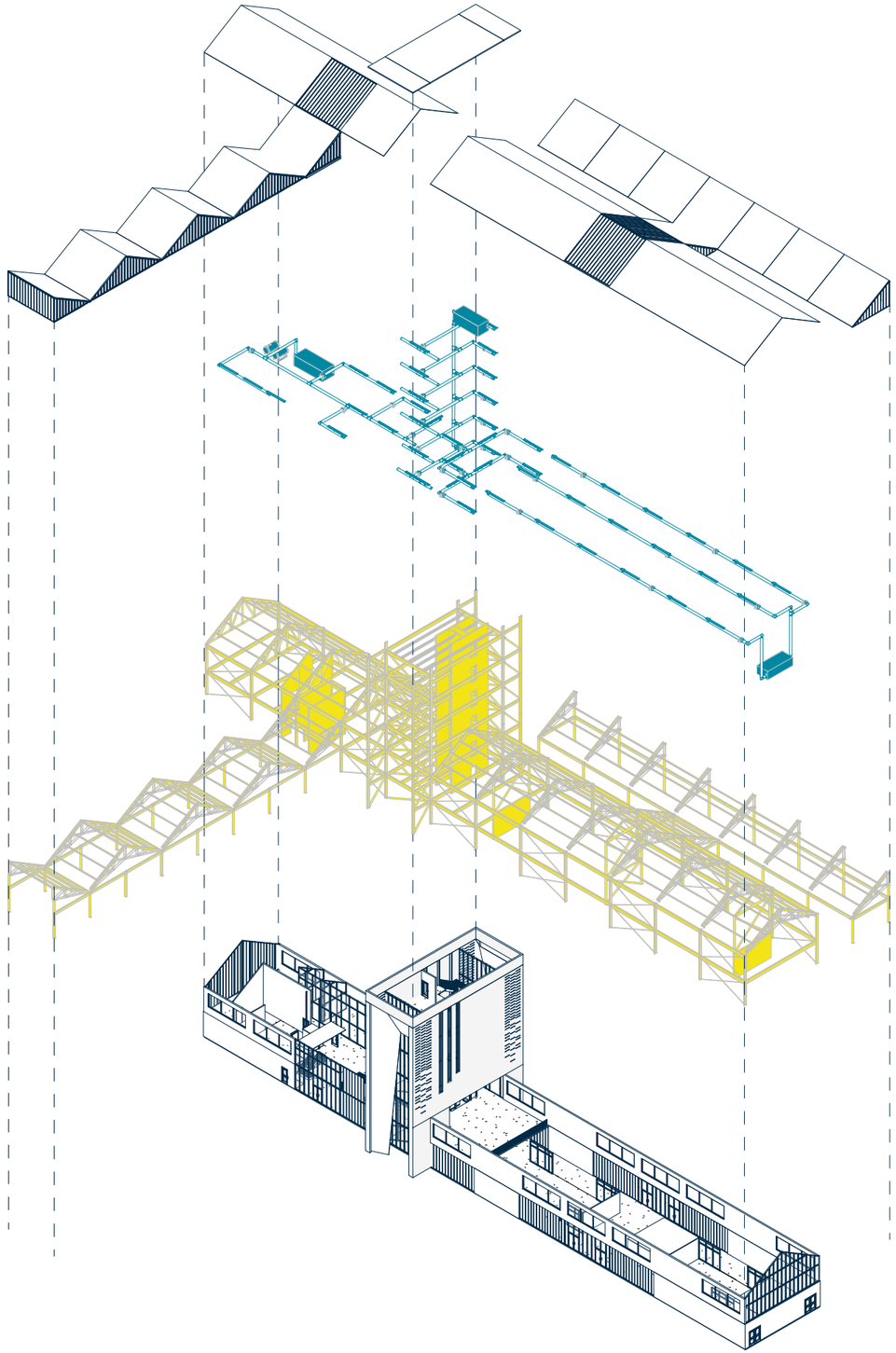
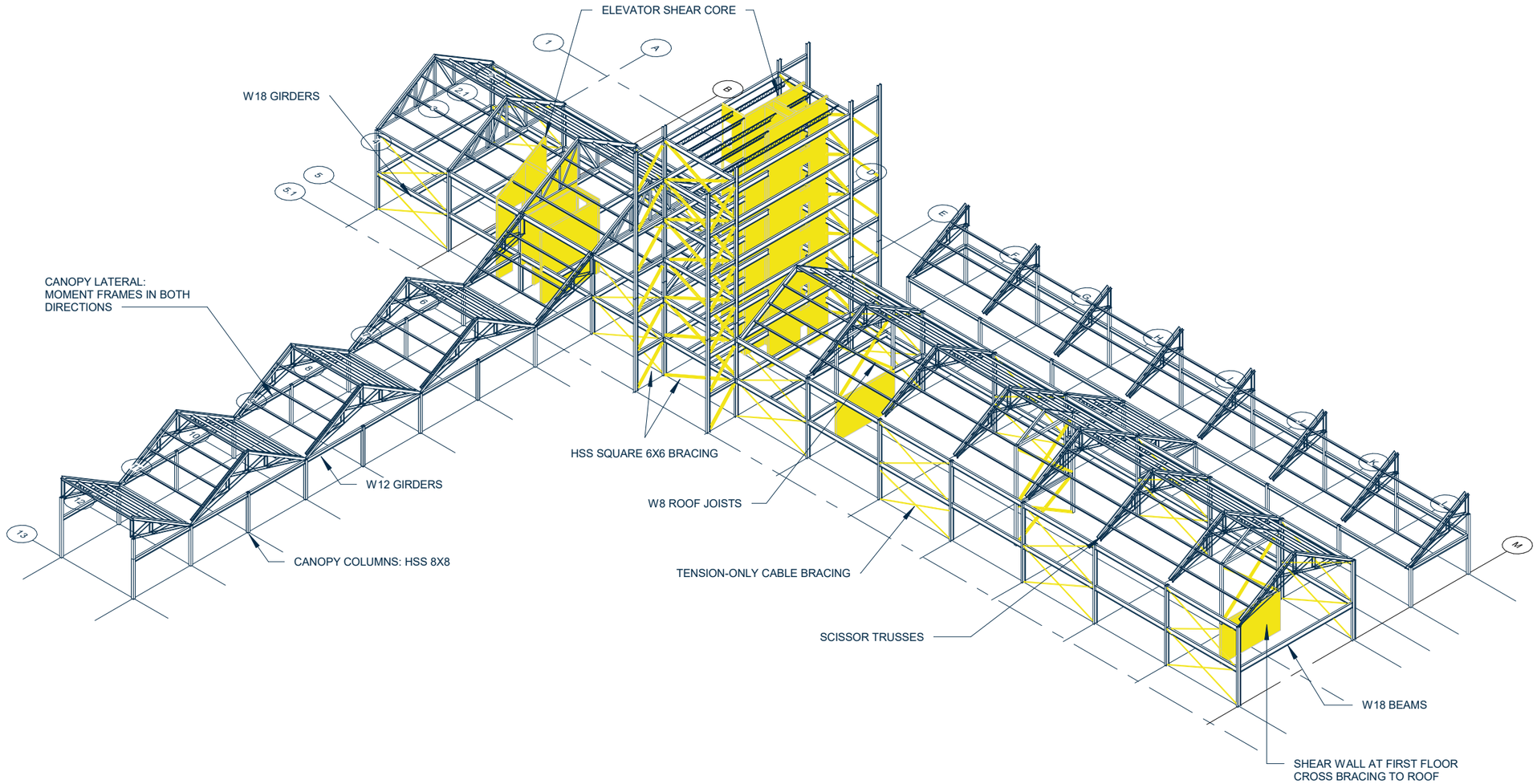




Structural Design Option 1.

STRUTURAL SYSTEMS NARRATIVE

The new terminal building will be a beacon of prominence for the citizens of Edmond and guide newcomers to the transportation hub. The team wanted to focus on an early historic look that was inspired by covered bridges, the proportions of a box car, and the industrial aesthetic of trains. Due to this concept and desired aesthetic, steel was chosen as the structural material for this project.

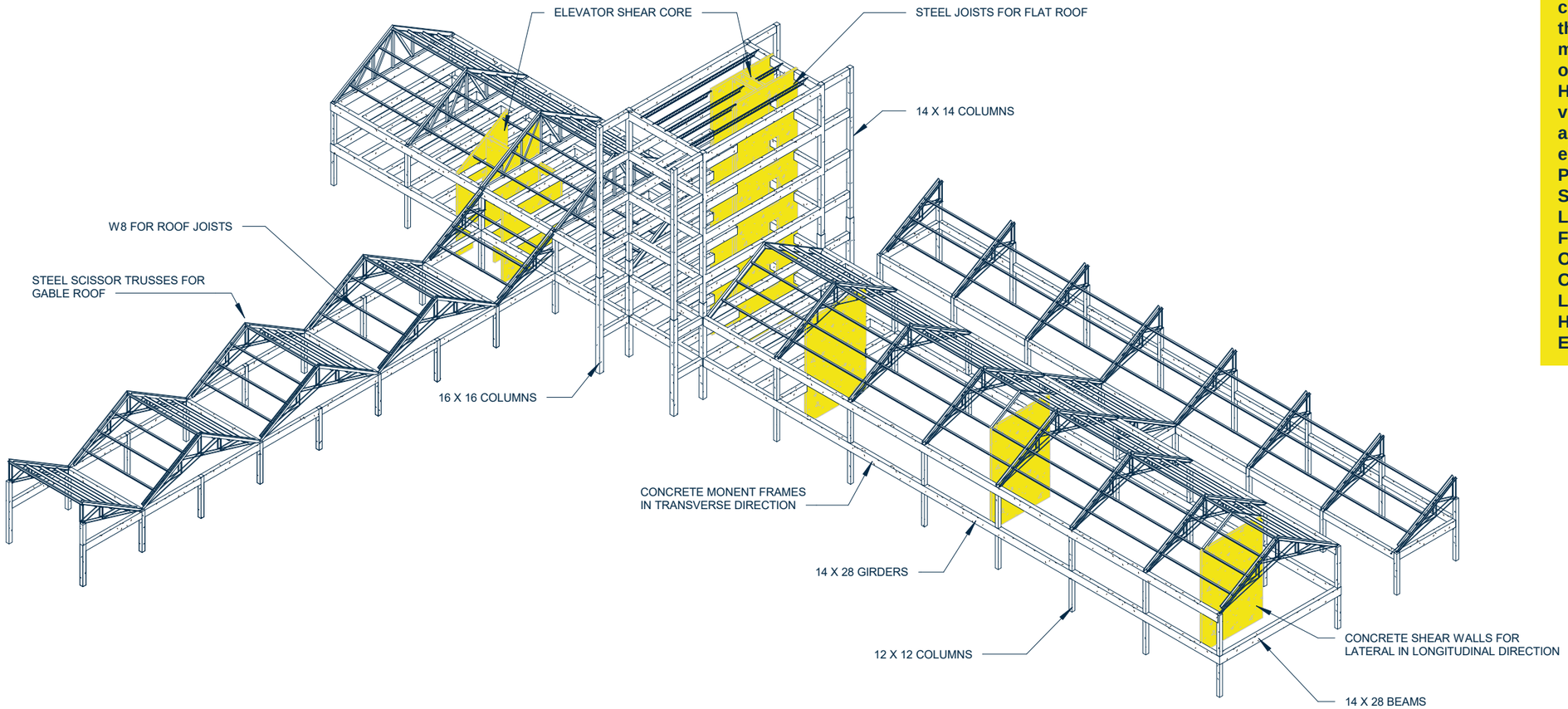
The terminal building itself contains a platform, retail spaces, and a 6-story tower. This building also is connected to an open-air pedestrian bridge that will cross 2nd street and be parallel to the railroad tracks. The terminal building will use a steel composite system in a typical post-and-beam fashion. The roof will be a gable and utilize steel scissor trusses to support the roof load.

The pedestrian bridge will utilize a steel truss to support the weight of it across the 100’ span. This truss will be floor-to-ceiling, which is about 15 feet.

The site also has a canopy structure that shades and covers a sidewalk that leads up to the building. This structure also has a gable roof and will utilize the same steel scissor truss.

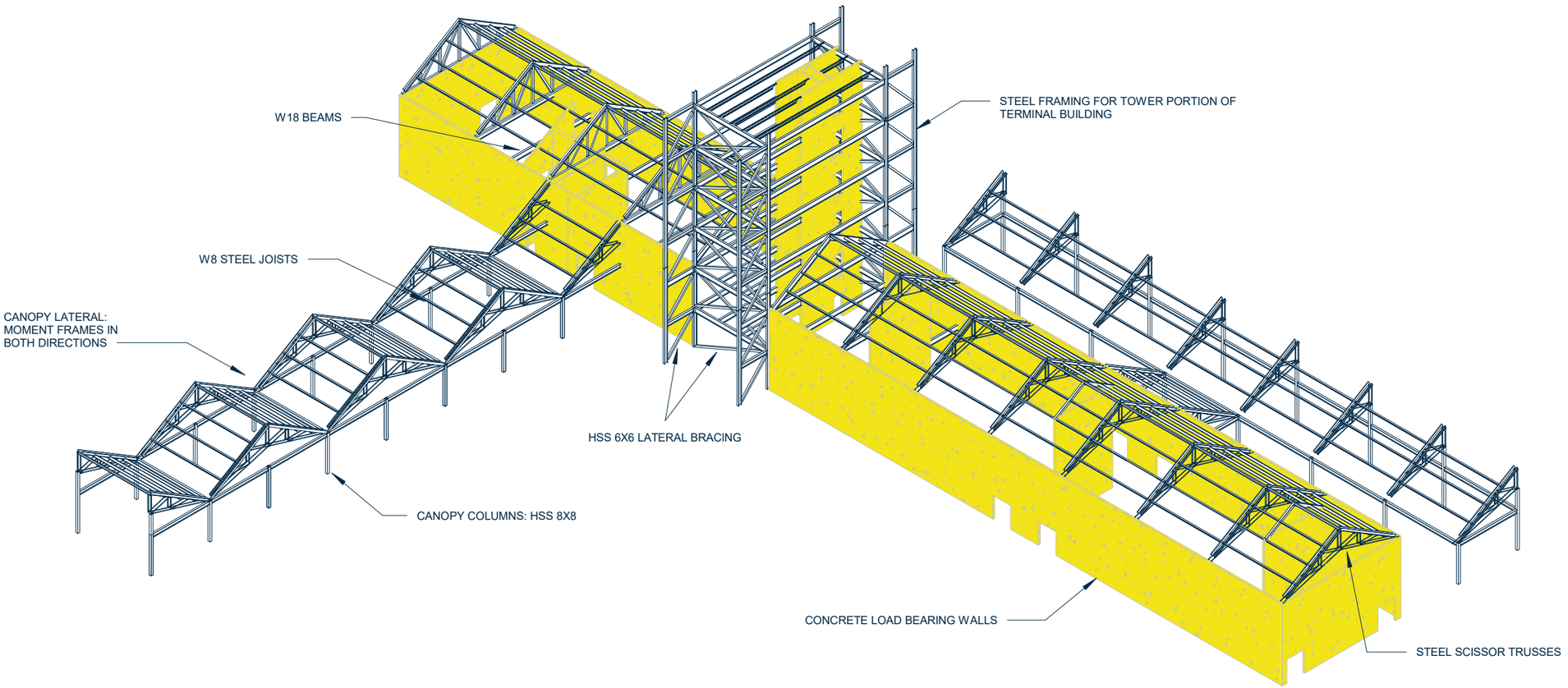
The lateral systems of the building are mostly steel braces. In the longitudinal direction, the braces are pushed to the edges of the building and are exposed. They are tension only cable braces. The braces in the transverse direction will have a shear wall for the first wall and then steel brace members on top of this wall. These steel members will connect to the roof to bring down the lateral force from that diaphragm. The lateral system in the tower is the shear core that contains the elevator and mechanical chase. Plus, there are steel braces that are flush to the brick walls on either side of the curtainwall.

Pros:
Lightweight
Long-Span
Allows for Views
Short Construction Time
Cons:
Expensive
Need for Lateral Bracing which could ruin Views
Specifics:
5” Total Concrete Slab with Composite Deck
W18 Beams and Girders
Steel Scissor Trusses
W12 Columns



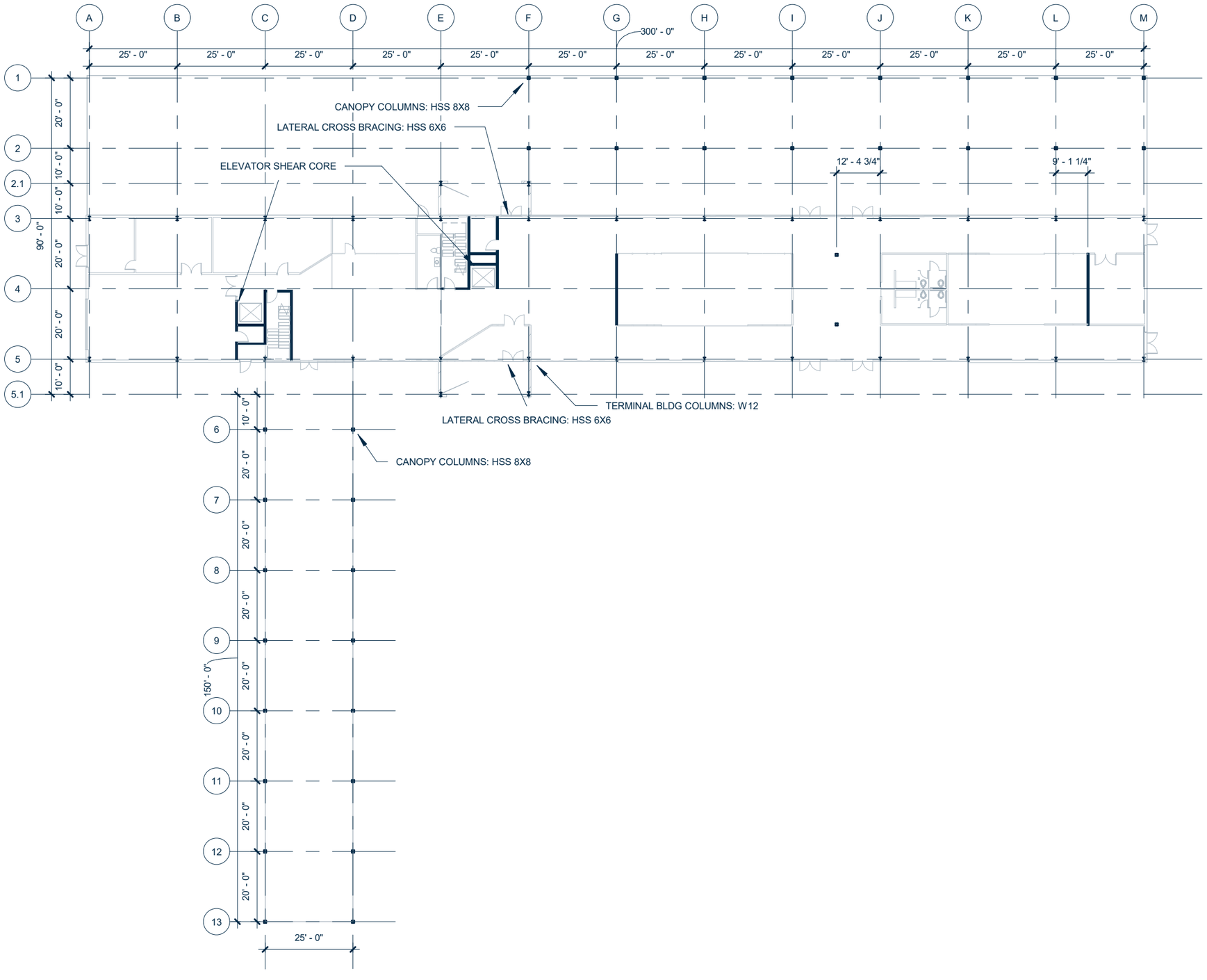
Structural Design Option 2.

STRUCTURAL SYSTEM #2 – CONCRETE FRAMING AND STEEL ROOF
Due to the gable roofs in the design, the steel roof lends itself to a better choice. The trusses allow for structure to be exposed and to reduce the overall weight of the structure. The building and framing for the floors could be framed in concrete. Due to the long spans, the concrete members become very deep in the longitudinal direction and the girders must meet that for reinforcement. The overall weight of the structure increases. However, concrete does allow for open views because it is inherently sturdier and can be used as moment frames in either directions.
Pros:
Sturdy
Long Lasting
Fire Resistant
Open Views
Cons:
Long Construction Time
Heavy Materiality
Expensive Labor



Structural Design Option 3.

STRUCTURAL SYSTEM #3 – STEEL FRAMING AND LOAD BEARING WALLS
The team explored the option to frame the building with concrete load bearing walls and steel members. The structure being exposed is important to the design and so steel framing members are a good choice for the roof. The concrete load bearing walls allows for double use as the lateral systems as well as the gravity system. However, this structural system reduces the view out to the platform greatly and reduces the amount of light into the terminal hub. This system did not accommodate the design in the way it was needed to.
Pros:
Sturdy
Long Lasting
Fire Resistant
Long Spans
Cons:
Long Construction Time
Expensive Labor
Little to No View

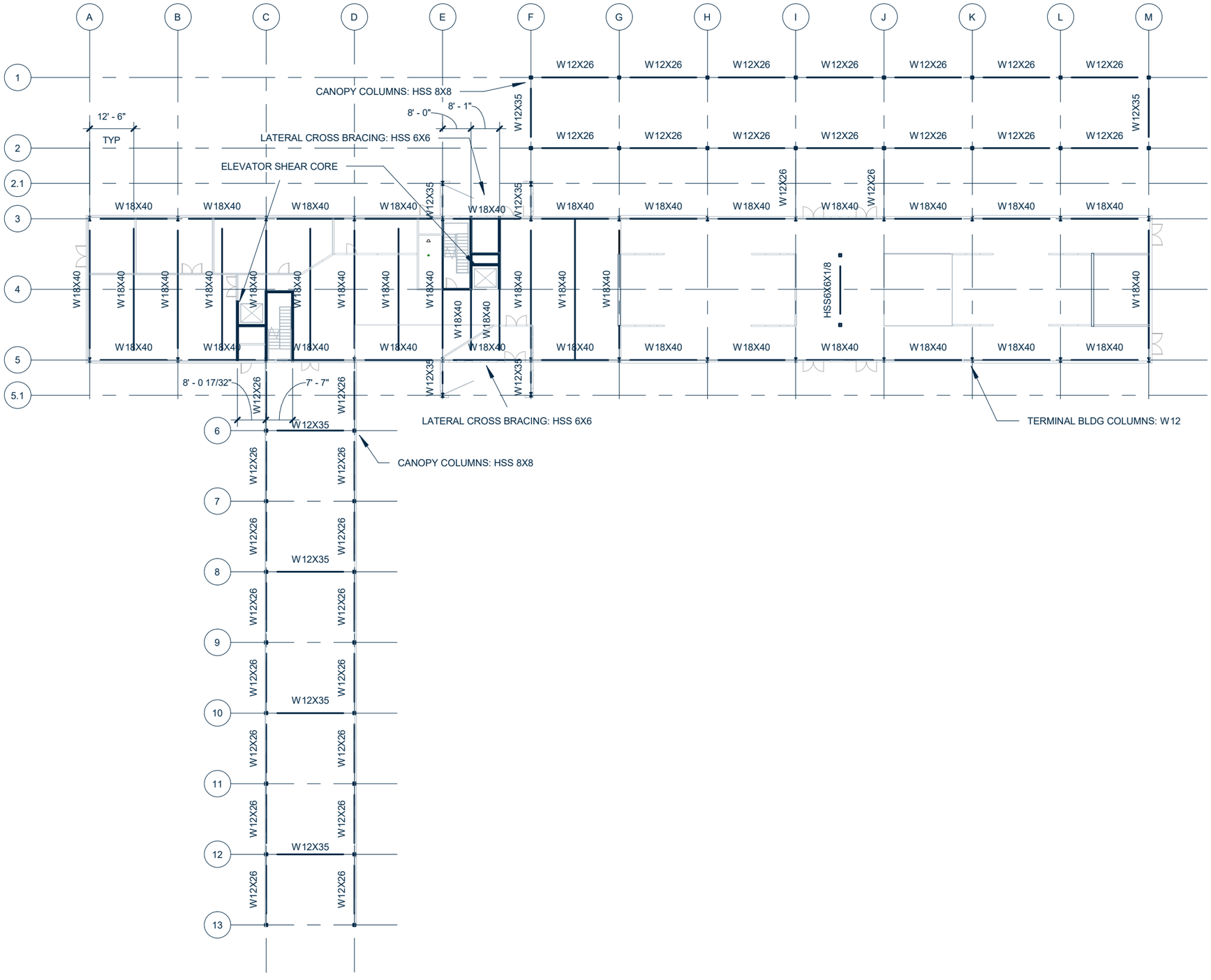


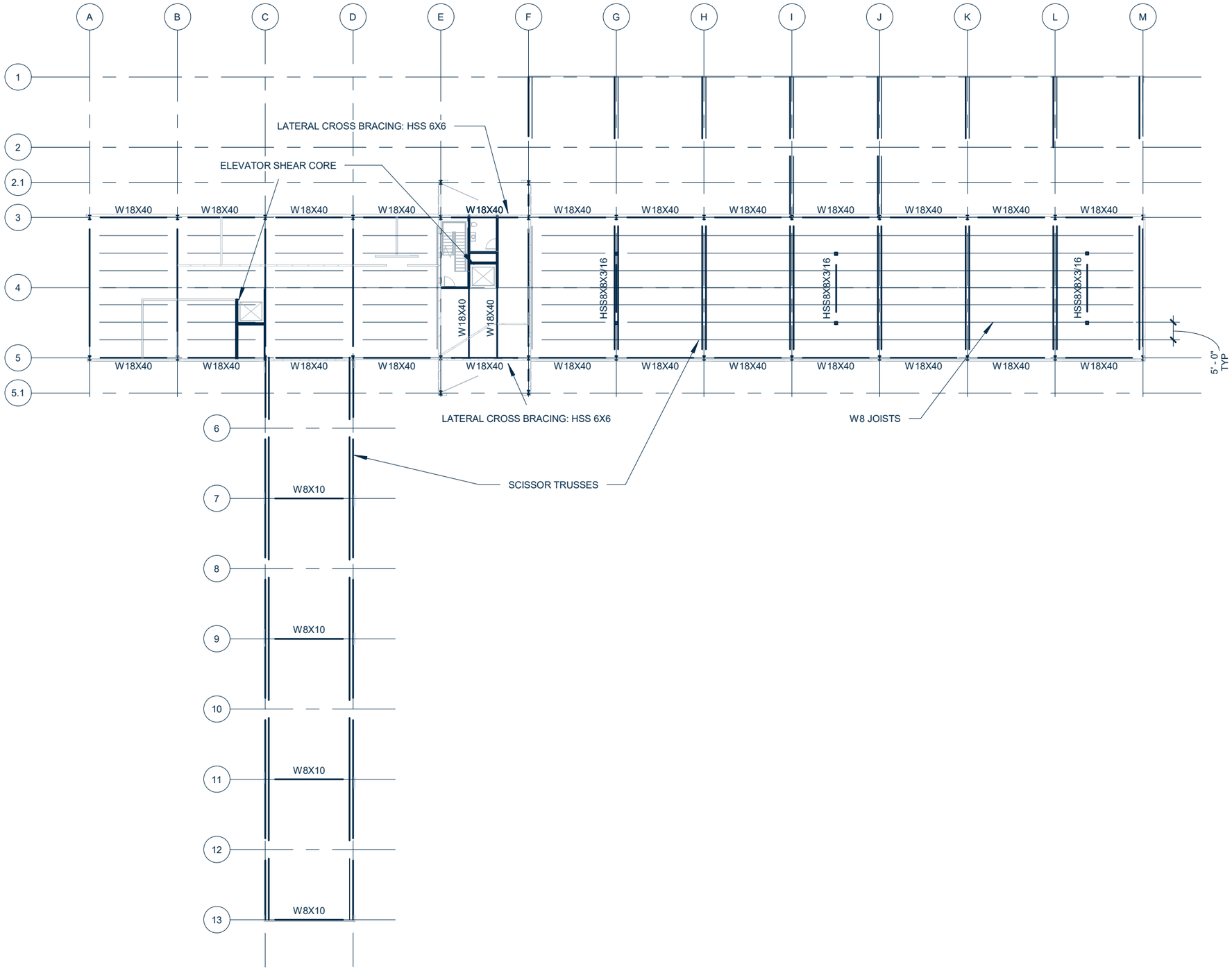
Structural Grid.

FOUNDATION SYSTEMS NARRATIVE
Due to the use of a one-way steel structural system, a drilled pier foundation will be more useful in this project. The drilled piers will need to be cast-in-place concrete that hits sandstone at about 18’-0” (or deeper, if needed) below the ground surface. The building walls will be placed on grade beams and in turn, those grade beams will be supported by a series of piers. According to the geotechnical report, the drilled piers must:
o Penetrate sandstone at least 3’-0”
o Diameter must be at least 18”
o Aspect ratio (length / diameter) must be between 3 and 30
o The clear spacing between indiviual piers must be 3 diameters or more
o Have adequate reinforcement and the reinforcement must extend into the grade beams and/or pier caps
Net End Bearing Capacity: 40,000 psf
Factor of Safety: 3.0
Skin Friction Capacity: 1,500 psf Factor of Safety: 3.0

The concrete slab-on-grade should be a minimum of 4” in lightly loaded areas and can be up to 6” in heavily loaded areas. There should be 4” of granular base placed over the subgrade. Control joints should be provided in each direction at a spacing no larger than 18’.

Structural Grid.

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2
2.1
3
4
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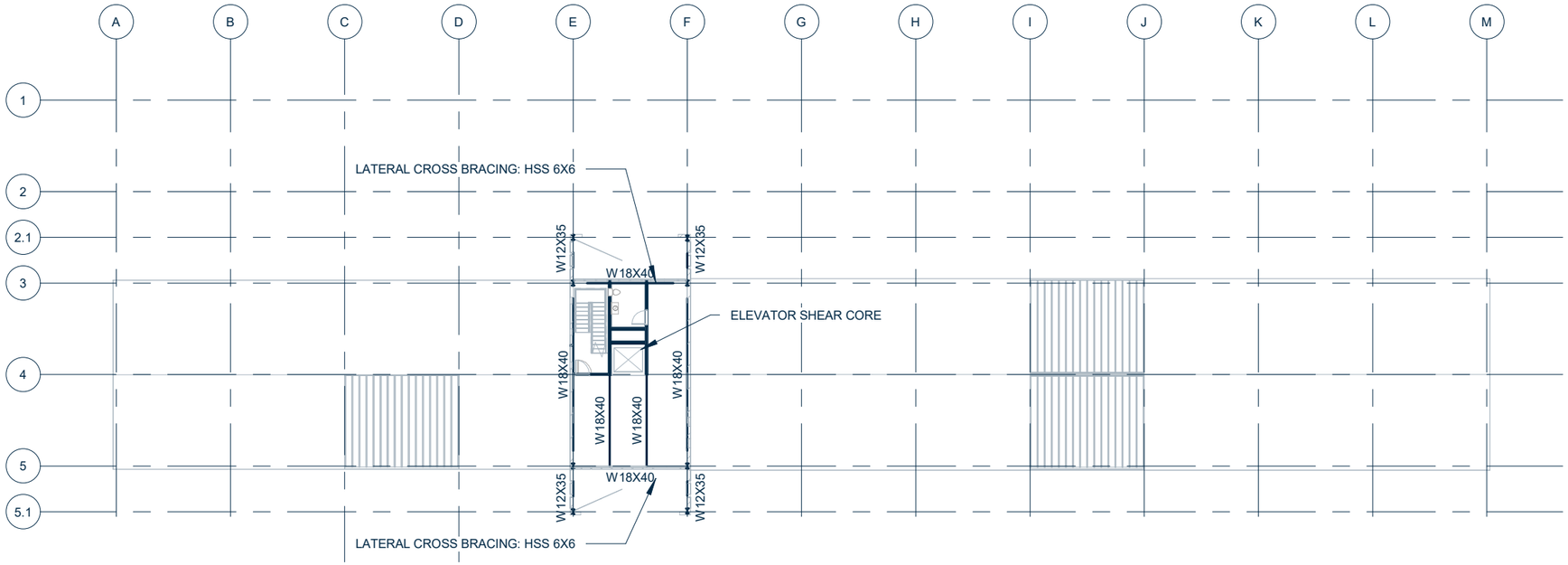
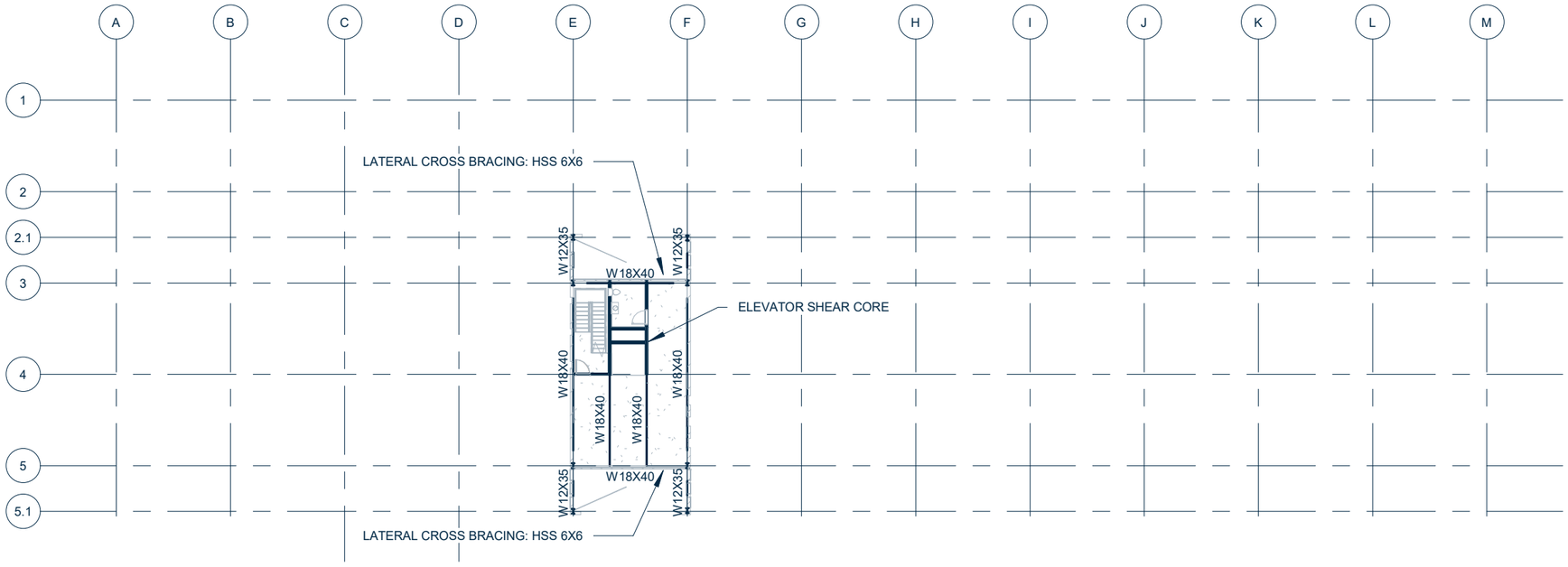
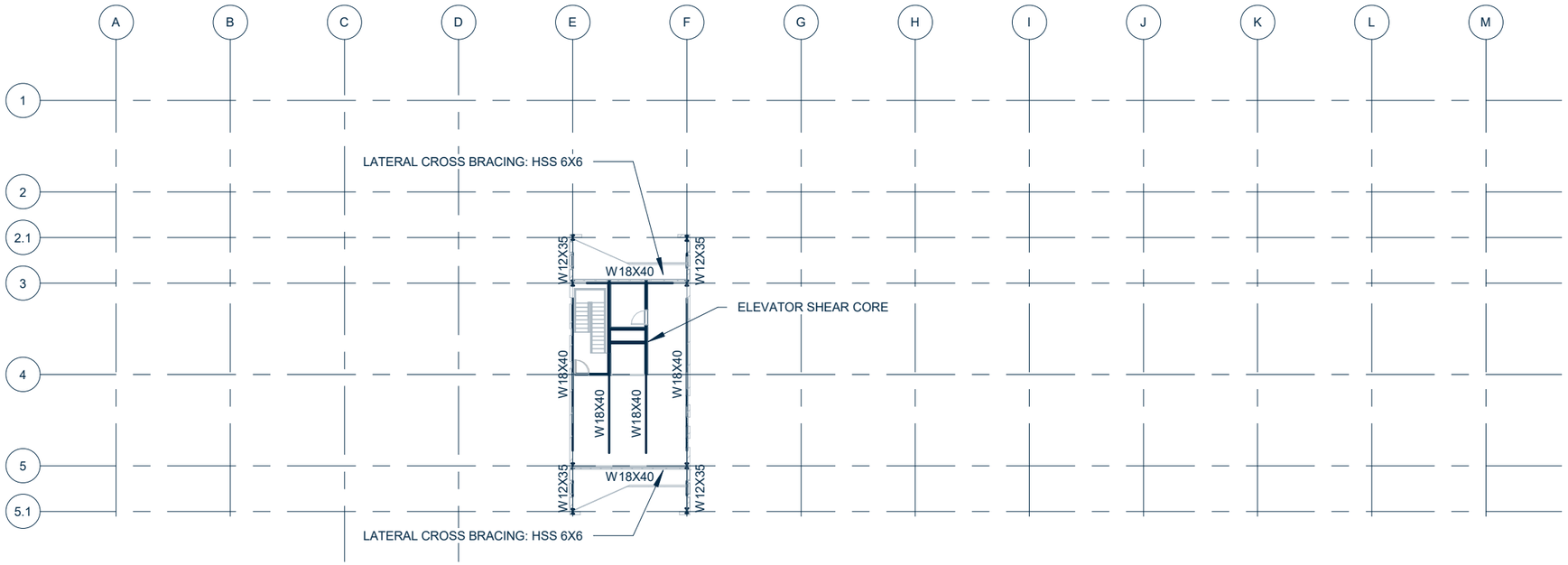
5.1
6
7
8
9
10
11
12
13
LATERAL CROSS BRACING: HSS 6X6
ELEVATOR SHEAR CORE
W18X40
HSS8X8X3/16
W8X10
SCISSOR TRUSSES
W8 JOISTS
5' - 0" TYP

Structural Grid.



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L
M
1
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2.1
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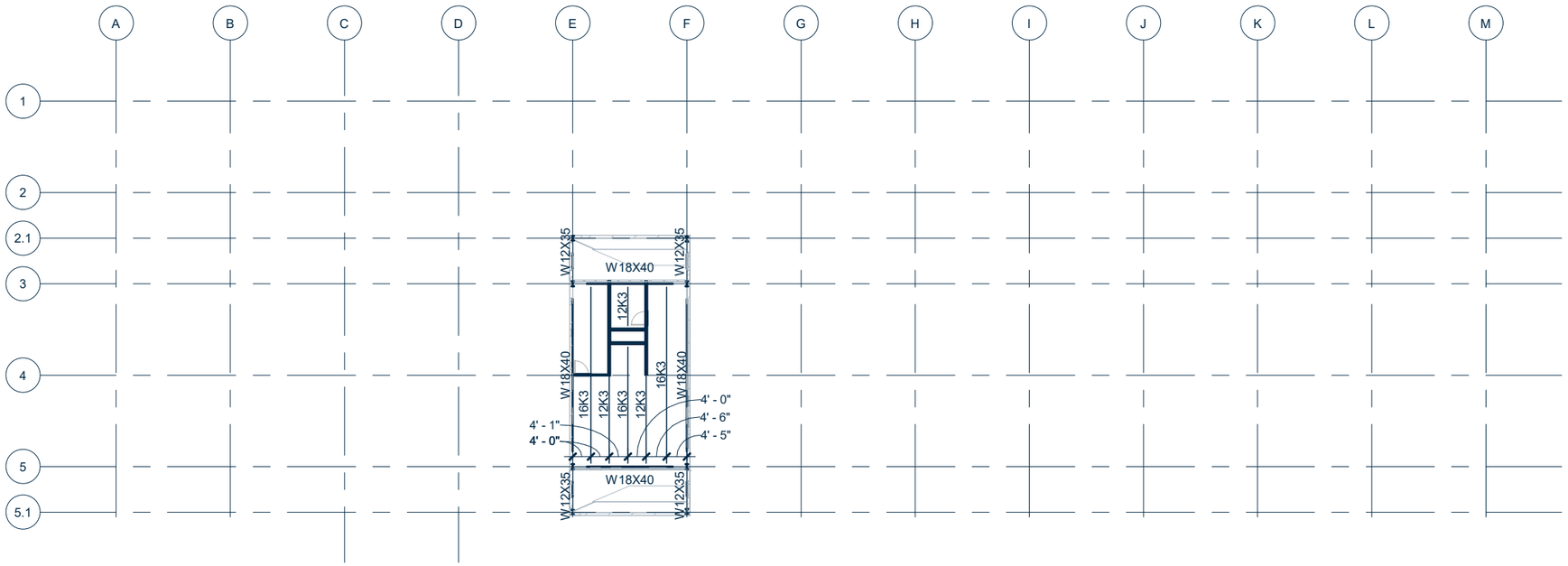
4
5
5.1
LATERAL CROSS BRACING: HSS 6X6
W12X35
W18X40
ELEVATOR SHEAR CORE
W18X40
W18X40
W18X40
W18X40
W12X35
W18X40
W12X35
LATERAL CROSS BRACING: HSS 6X6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2.1
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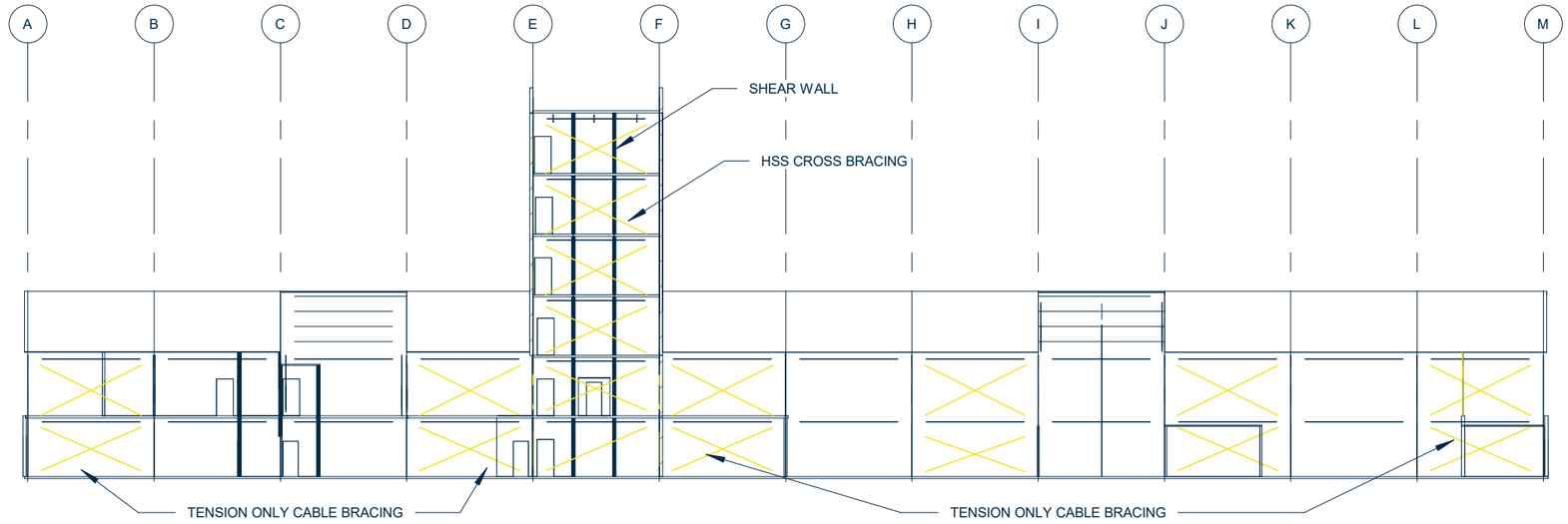
5.1
W12X35
W18X40
W12X35
12K3
W18X40
16K3
12K3
16K3
12K3
16K3
W18X40
4' - 0"
4' - 6"
4' - 5"
4' - 1"
4' - 0"
W12X35
W18X40
W12X35


A
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C
D
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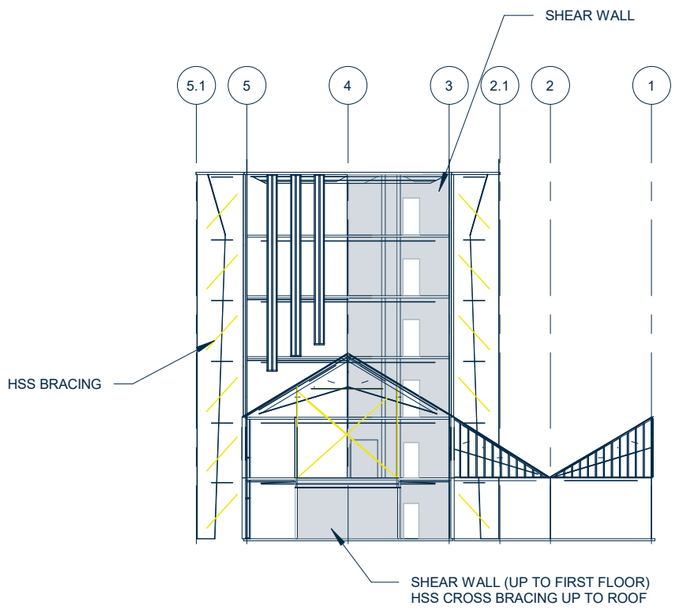
J
K
L
M
SHEAR WALL
HSS CROSS BRACING
TENSION ONLY CABLE BRACING
TENSION ONLY CABLE BRACING


SHEAR WALL
5.1
5
4
3
2.1
2
1
HSS BRACING
SHEAR WALL (UP TO FIRST FLOOR)
HSS CROSS BRACING UP TO ROOF

DESIGN NARRATIVE - PLANNING EFFICIENCY

Dissecting the program, public and private began to inform where the spaces were placed throughout the building. The first level remains mostly public space, but having some private designated together. The second level is reverse, it remains mostly private with a small amount of public designated closely together.

First Level contains:
- Main ticket office and lobby space blended
- Main retail shops also blended into lobby space
- North side almost entirely waiting public space to be interacted with retail and lobby
- South side almost entirely private, back-of-house spaces such as freight and security
- A single restroom near ticket office and main lobby
- A multi-person restroom on the north side near main public space area

Second Level contains:
- Main transit offices and dispatch offices
- Cafe for transition and waiting time between trains
- Restrooms to serve both cafe and offices

Tower Levels contains:
- Level 3 and 4 hold the individual driver locker rooms
- Level 5, being the tallest space in Edmond, serves as a VIP event space that can be rented out by the public
- Level 6 is completely shaded from the outside, therefore it acts as storage and an attic space for offices and retail

AIA Framework for Design Excellence

Design for economy

Good design adds value for owners, occupants, community, and planet, regardless of project size and budget.

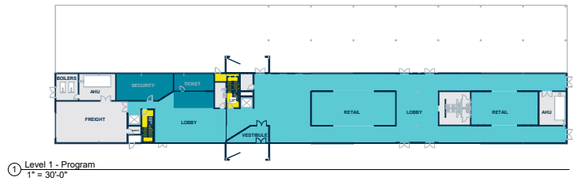
CIRCULATION
PUBLIC
SERVICE
TRANSIT SERVICE

Room Schedule

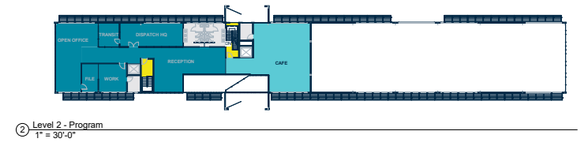
z	Name	Level	Department	Area	Program
28	STAIRS	Level 1	CIRCULATION	184 SF	
32	STAIRS	Level 1	CIRCULATION	135 SF	
37	STAIRS	Level 2	CIRCULATION	152 SF	
38	STAIRS	Level 2	CIRCULATION	134 SF	
40	STAIRS	Level 3	CIRCULATION	156 SF	
41	STAIRS	Level 4	CIRCULATION	157 SF	
42	STAIRS	Level 5	CIRCULATION	157 SF	
43	STAIRS	Level 6	CIRCULATION	157 SF	
1	RETAIL	Level 1	PUBLIC	791 SF	2000 SF
2	RETAIL	Level 1	PUBLIC	1016 SF	2000 SF
9	VESTIBULE	Level 1	PUBLIC	190 SF	300 SF
18	LOBBY	Level 1	PUBLIC	1083 SF	5000 SF
21	LOBBY	Level 1	PUBLIC	5145 SF	5000 SF
33	CAFE	Level 2	PUBLIC	1453 SF	1000 SF
36	EVENT	Level 5	PUBLIC	688 SF	675 SF
6	AHU	Level 1	SERVICE	314 SF	
13	AHU	Level 1	SERVICE	340 SF	
14	BOILERS	Level 1	SERVICE	206 SF	
15	FREIGHT	Level 1	SERVICE	1019 SF	1000 SF
17	ELECT.	Level 1	SERVICE	35 SF	
29	TOILET	Level 2	SERVICE	165 SF	
30	TOILET	Level 2	SERVICE	165 SF	
39	ELECT.	Level 2	SERVICE	72 SF	
44	STORAGE	Level 6	SERVICE	690 SF	
45	ELEV.	Level 2	SERVICE	48 SF	
46	ELEV.	Level 2	SERVICE	49 SF	
47	ELEV.	Level 3	SERVICE	51 SF	
48	ELEV.	Level 4	SERVICE	51 SF	
49	ELEV.	Level 5	SERVICE	51 SF	
50	ELEV.	Level 6	SERVICE	49 SF	

Room Schedule

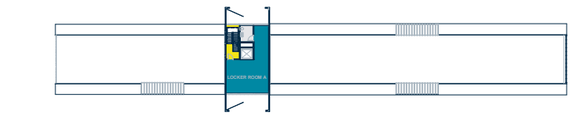
z	Name	Level	Department	Area	Program
41	STORAGE	Level 1	SERVICE	77 SF	
42	STOR.	Level 2	SERVICE	77 SF	
43	TOILET	Level 3	SERVICE	77 SF	
44	TOILET	Level 4	SERVICE	77 SF	
45	TOILET	Level 5	SERVICE	77 SF	
47	TOILET	Level 6	SERVICE	77 SF	
53	TOILET	Level 1	SERVICE	99 SF	
54	TOILET	Level 1	SERVICE	179 SF	
55	TOILET	Level 1	SERVICE	177 SF	
11	TICKET	Level 1	TRANSIT SERVICE	243 SF	600 SF
12	SECURITY	Level 1	TRANSIT SERVICE	507 SF	600 SF
23	OPEN OFFICE	Level 2	TRANSIT SERVICE	759 SF	600 SF
24	TRANSIT	Level 2	TRANSIT SERVICE	175 SF	150 SF
25	FILE	Level 2	TRANSIT SERVICE	162 SF	200 SF
26	WORK	Level 2	TRANSIT SERVICE	274 SF	200 SF
27	DISPATCH HQ	Level 2	TRANSIT SERVICE	522 SF	400 SF
31	RECEPTION	Level 2	TRANSIT SERVICE	1255 SF	200 SF
34	LOCKER ROOM A	Level 3	TRANSIT SERVICE	686 SF	600 SF
35	LOCKER ROOM 2	Level 4	TRANSIT SERVICE	687 SF	600 SF
56	TICKET	Level 1	TRANSIT SERVICE	237 SF	600 SF



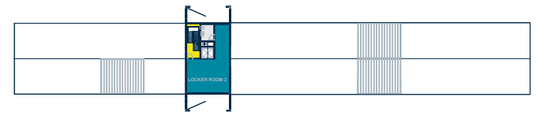
1 Level 1 - Program
1" = 30'-0"



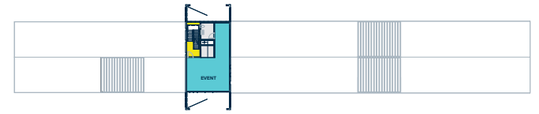
2 Level 2 - Program
1" = 30'-0"



3 Level 3 - Program
1" = 30'-0"



1 Level 4 - Program
1" = 30'-0"



2 Level 5 - Program
1" = 30'-0"

3 Level 6 -Program
1" = 30'-0"

DESIGN NARRATIVE - CARBON FOOTPRINT

Our building at code compliant standards meets the EUI mark, but has room to be improved. However, once our systems of choice are implemented the EUI becomes decreased, making our building more efficient. Specifically choosing to use ground source heat pumps creates a more efficient system.

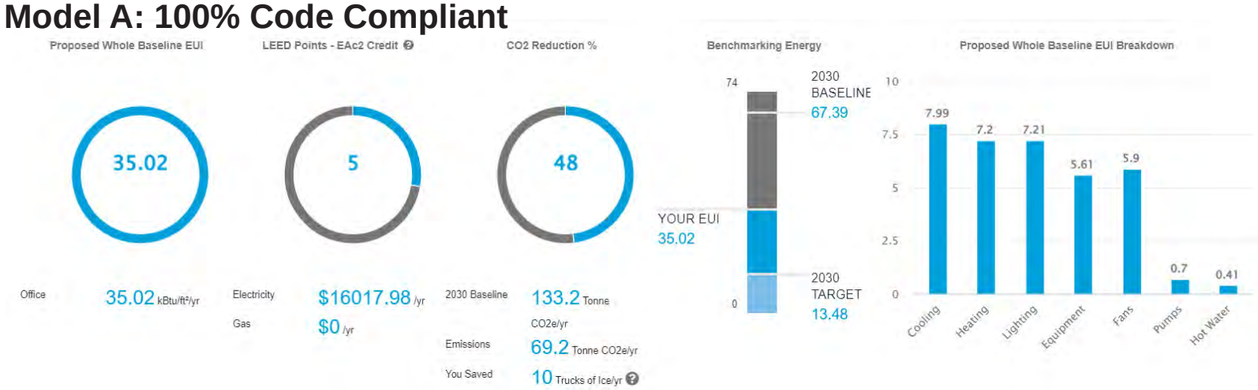
Our building contains a large amount of storefront and polycarbonate surfaces. This creates more daylight than most buildings, which helps bring in natural lighting to reduce electricity usage. However, it does create a problem of too much daylight in certain spaces. To solve that problem, we have many louvers, and shading devices placed along the exterior where glazing occurs. These shading devices also create outdoor spaces to gather for the a relief from the summer sun in Edmond.

AIA Framework for Design Excellence

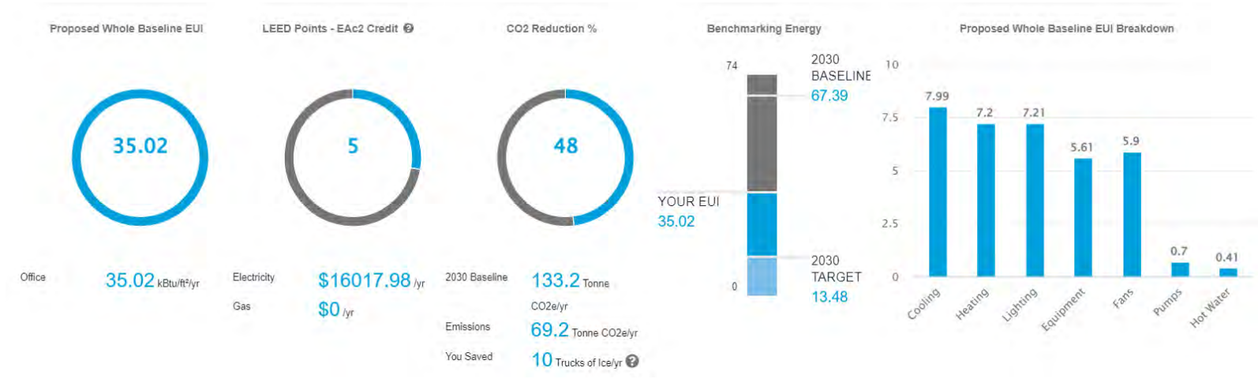
Design for energy

Good design reduces energy use and eliminates dependence on fossil fuels while improving building performance, function, comfort, and enjoyment.

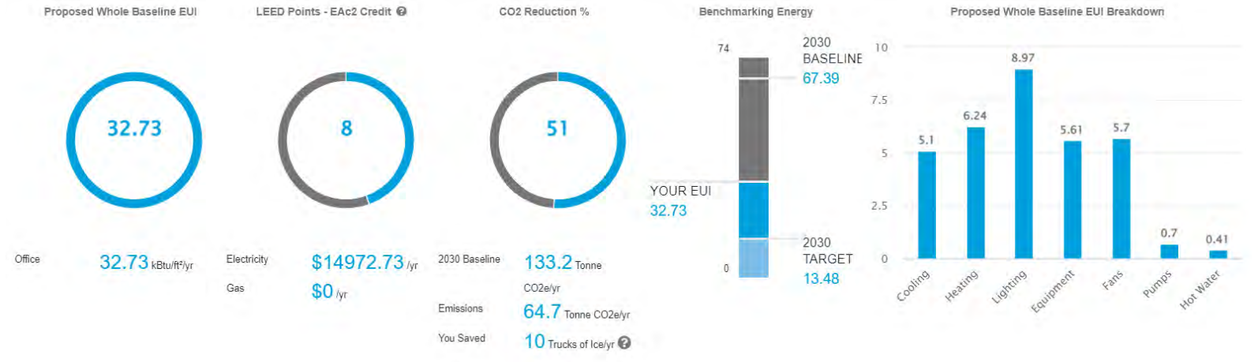
Model A: 100% Code Compliant



Model B: Improved Design



Model C: Improved Design + Equipment



DESIGN NARRATIVE - ACOUSTIC PERFORMANCE

Throughout our building, the nosiest rooms tend to gravitate in the middle and northern portion of the building.

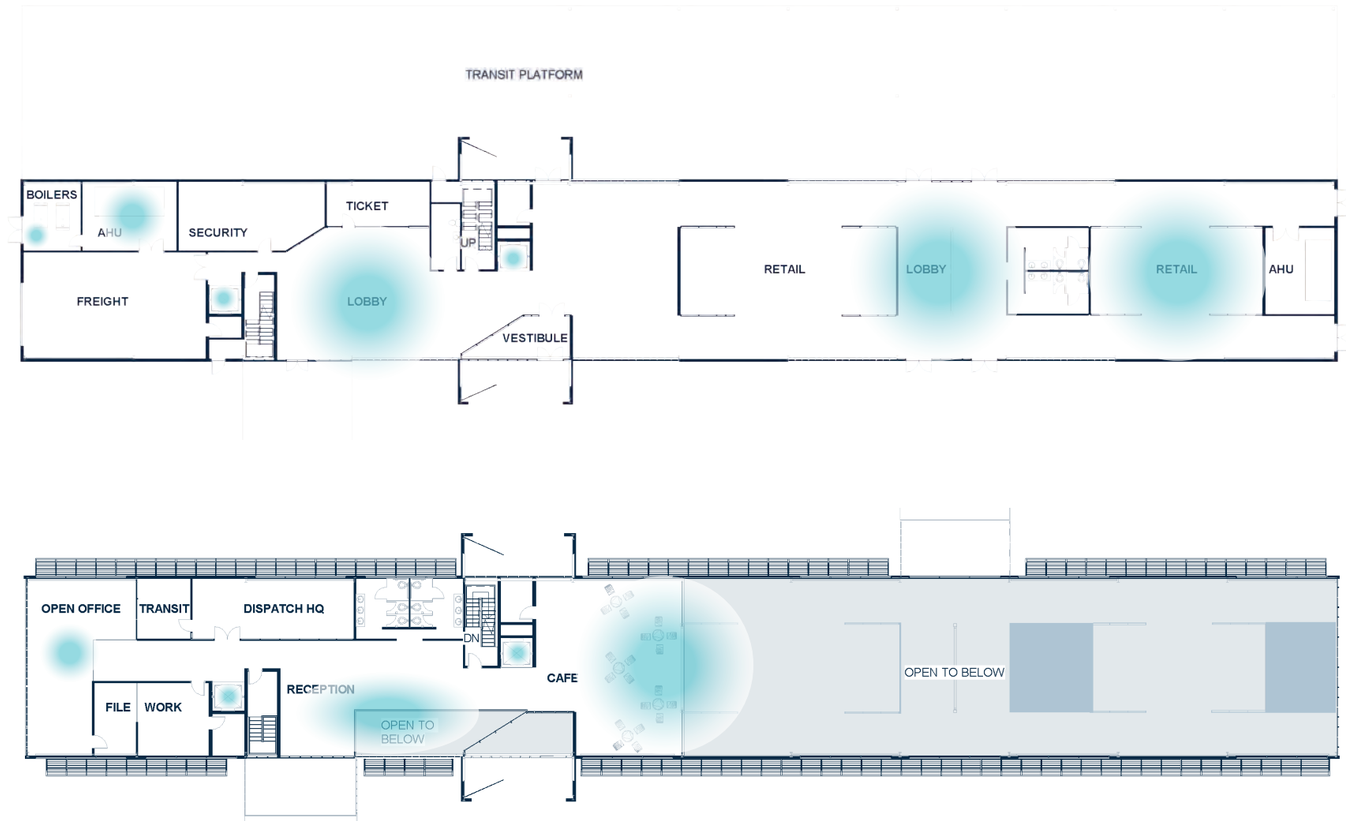
- The north public space is a double height space with an exposed steel truss ceiling. This space, therefore becomes a lot of possibility for echoes and poor acoustics.

- The south portion of the building remains mostly single floor to ceiling height, which creates more enclosed and focused acoustics.

- Air Handling Units are placed on both ends of the first floor of the building, creating areas of high volume noise.

- The south side of the second floor remains mostly focused and quiet acoustical spaces for work.

Solutions for noise volumes:
- To solve the noise in the main double height space, acoustic tiles and floor material are to be considered to help dampen the noise.
- The Air Handling Unit rooms could be enclosed with acoustic wall systems to help not let the noise seep out of the space.



AIA Framework for Design Excellence

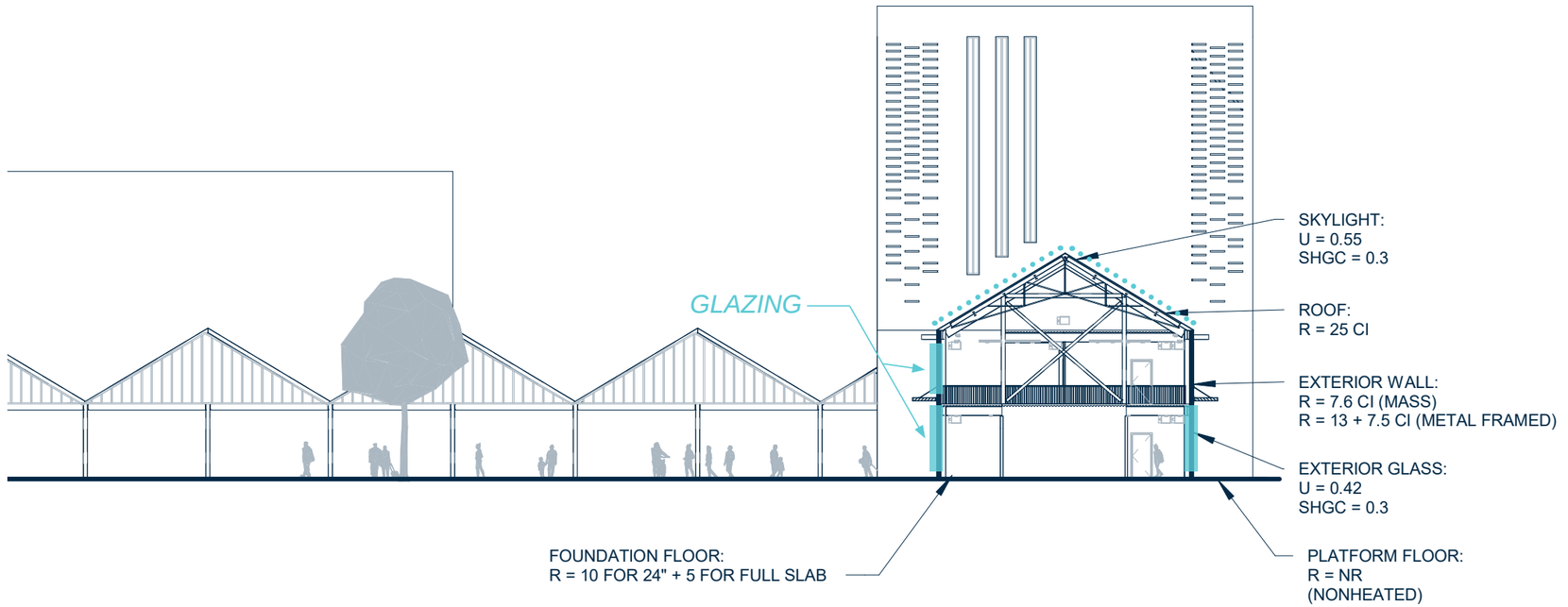
Design for well-being

Good design supports health and well-being for all people, considering physical, mental, and emotional effects on building occupants and the surrounding community.

DESIGN NARRATIVE - THERMAL RESISTANCE OF THE BUILDING ENVELOPE

We used glazing throughout most of the first level as the exterior envelope. This provides some thermal resistance and could be looked at further. Half of the glazing will be polycarbonate, which has more of a thermal resistance than storefront.

Our roof will also have two skylights that are polycarbonate. These skylights will provide areas of thermal insulation that could be looked at in more detail.



AIA Framework for Design Excellence

Design for energy

Good design reduces energy use and eliminates dependence on fossil fuels while improving building performance, function, comfort, and enjoyment.

Glazing

Improper Insulation

DESIGN NARRATIVE - LIGHTING & DAYLIGHTING

The lighting required for each space in the building was derived from the Illuminating Engineering Society. It can be broken down into mechanical spaces, passageways, focus spaces, buffer spaces and public movement spaces. We specifically focused on lighting for ages 25-60 years, considering the transit hub will be mostly used for commuting and tourism.

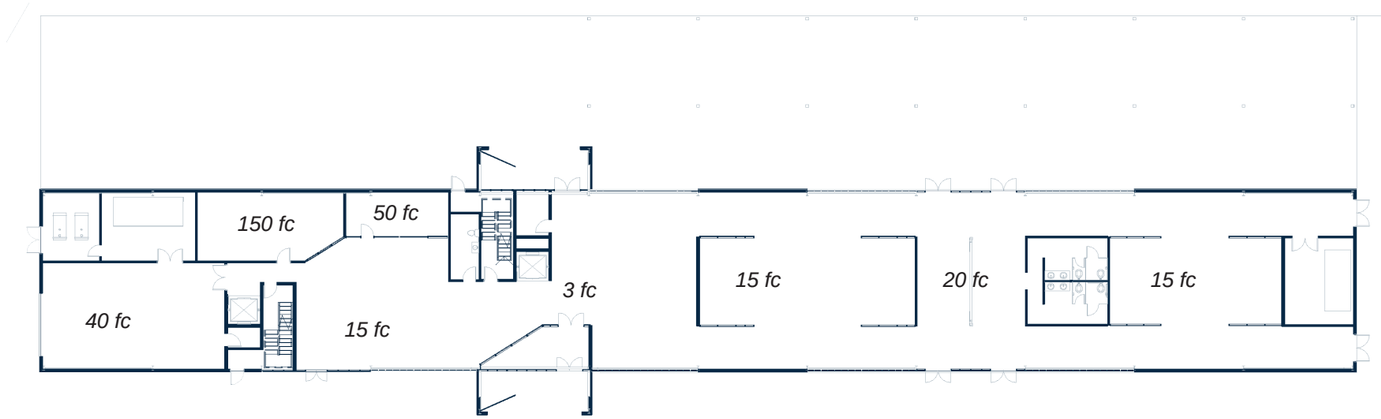
- Industrial spaces: The mechanical space is focused, but with little movement, so the footcandle required for this space is around 150fc

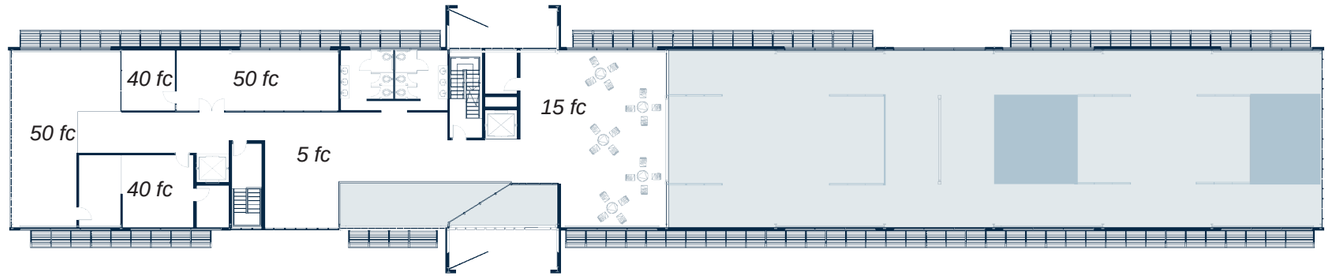
- Passage spaces: There are not many concentrated passage spaces throughout our building, but the ones we have tend to be 3fc to 4fc.

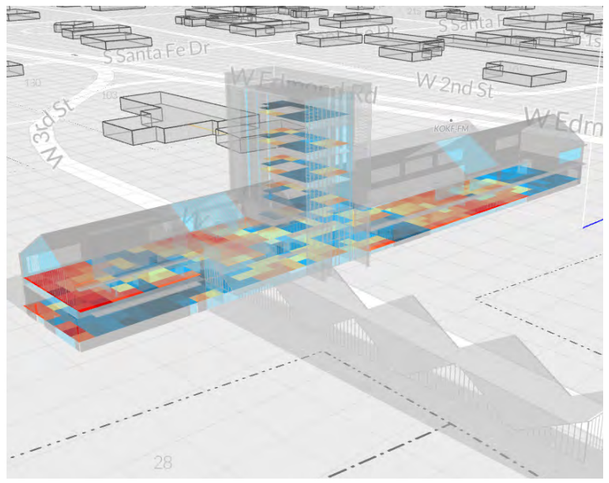
- Focus spaces: These tend to be 40fc to 50fc depending on the size of the space.

- Buffer spaces: The buffer spaces in our building act as lobby and reception spaces. The first floor since it sees more traffic is around 15 fc and the second floor is around 5fc.

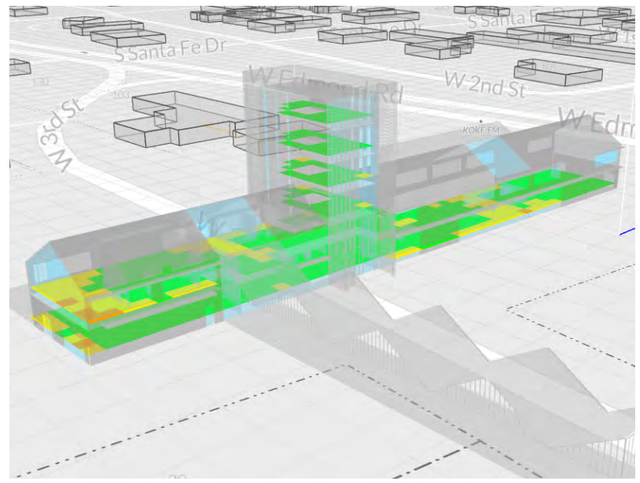
- Public movement spaces: The north side of the first floor is our main public space and will receive lots of movement, therefore the footcandle is around 15fc to 20fc.







sDA = 53%



ASE = 36%

AIA Framework for Design Excellence

Design for well-being

Good design supports health and well-being for all people, considering physical, mental, and emotional effects on building occupants and the surrounding community.

DESIGN NARRATIVE - THERMAL COMFORT

System Selected: Four Pipe System with Air Cooled Chiller and Air Control with VAV

Total Square Footage: 20, 000 SQ FT

Air Handling Unit Quantity: 3

AHU #1: W6’-8” x L16’-2” x H5’-2”
(Serves the south portion of building)

AHU #2: W6’ x L14’-1” x H4’-1”
(Serves North portion of building)

AHU #3 (Rooftop Unit): W6’ x L14’-1” H5’ (Serves the tower)

Total CFM: 1.43 CFM / SQ FT

Air Cooled Chiller: W8’-3” x L12’-6” x H7’-1”

With Clearances: W14’-9” x L21’-0”

Trash: (2) 8 cubic yard dumpsters

Primary Transformer: Concrete pad 15’ x 15’

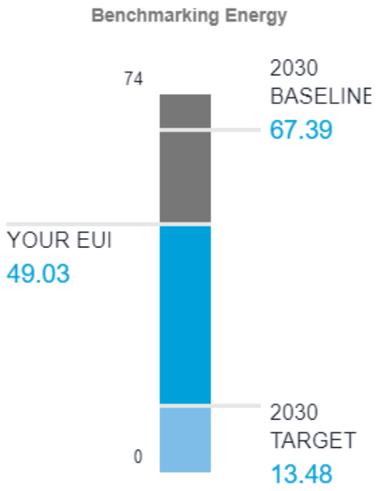
Electrical Room: W4’-6” x L7’-6”

Satellite Room: L20’-6” x W16’-6”
(Located in room with AHU #2)

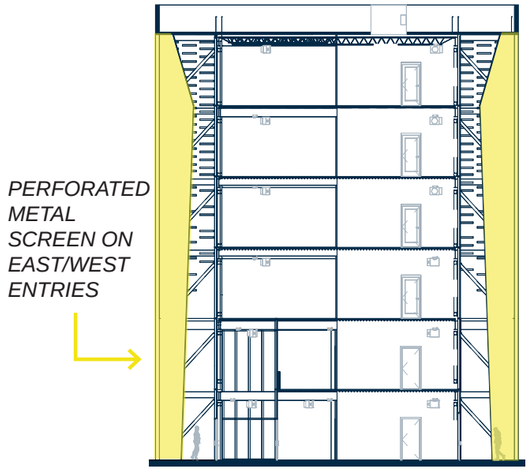
AIA Framework for Design Excellence

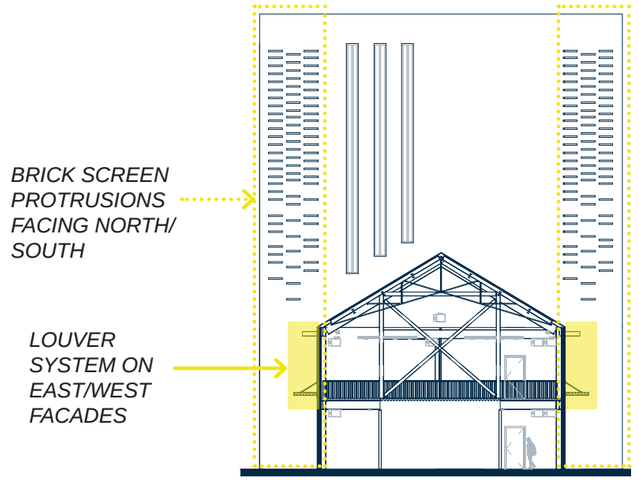
Design for energy

Good design reduces energy use and eliminates dependence on fossil fuels while improving building performance, function, comfort, and enjoyment.

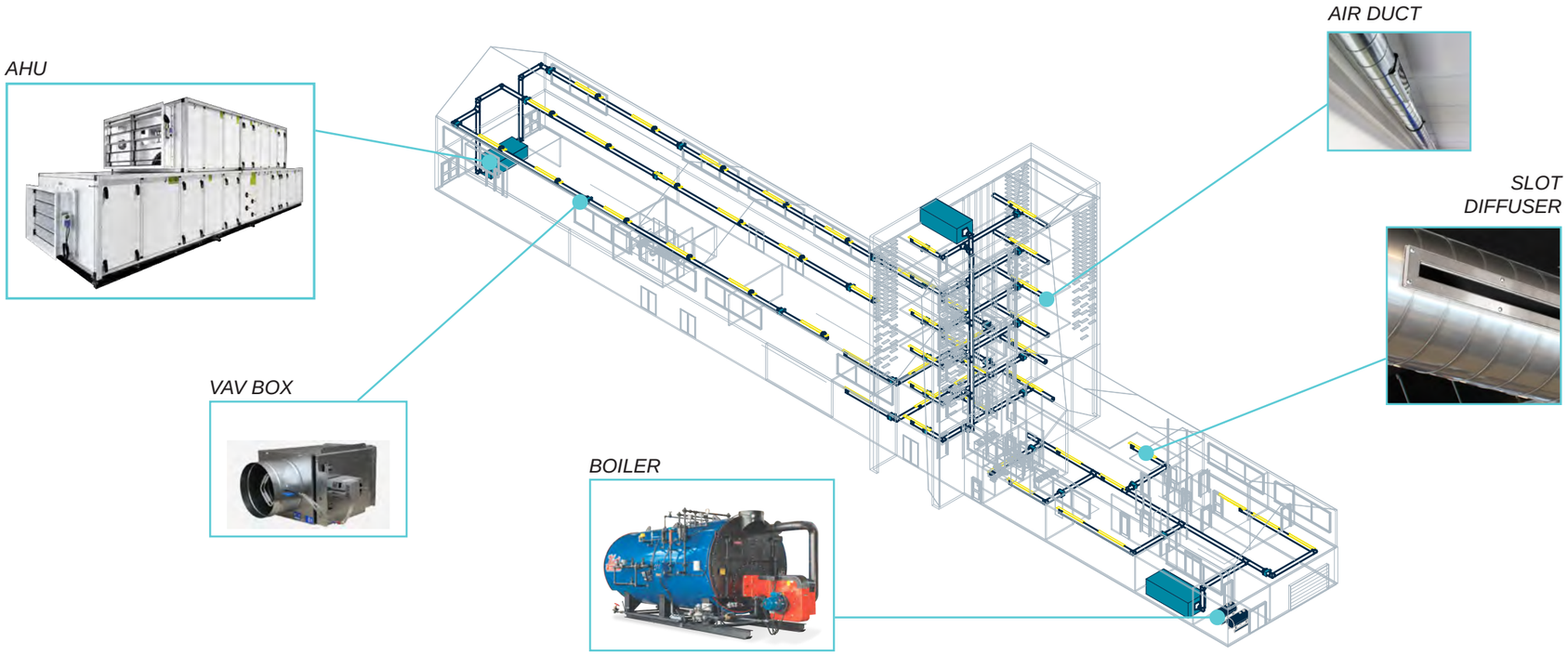


Passive Systems





HVAC System



SCHEMATIC DESIGN REFLECTION

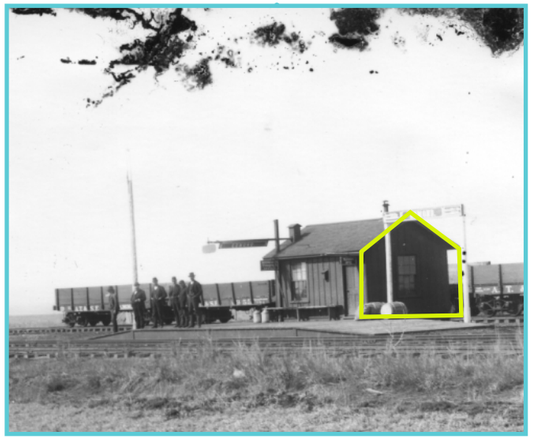
Schematic Design, SD, the first phase of an architectural project, we focused on teamwork, collaboration, and creating a big picture building design. In past studios this is the phase that one would typically stop at, so the beginning process is one of familiarity. Working with a teammate helped me change the rhythm of studio work and it helped teach each of us team members how to learn compromise paired with encouragement. We began individually creating a concept and statement for our project. The result was each member providing a different idea to the meeting and presenting each idea to one another. The team discussed and we realized the ideas that were brought blended together smoothly. This was the birth of our project, The Gateway to Next. We then immediately jumped into the collaboration of how to bring that concept into form. Our first step was to map out a master plan for the site and the beginning figure of our building. Working with two people to come to a conclusion on space and design was challenging, but the process brought lots of growth. I learned how to compromise, how to find what was important to each person, and how to encourage each person if they had an idea. Leadership skills and interpersonal skills were emphasized outside of just the design and process of the project. After developing the outlines of our site and building the next jump was into coordinating the bones. We encouraged our structural engineer to make their design expressive, and that became one of the main anchor points behind the design. With the bones comes the skin and how that interacts with our environment, so we began to create studies of our initial designs environmental impact. We concluded this phase by presenting our final design and analysis to a group of professionals and they provided critique and feedback to help us refine it in the next phase.

GATEWAY TO NEXT...

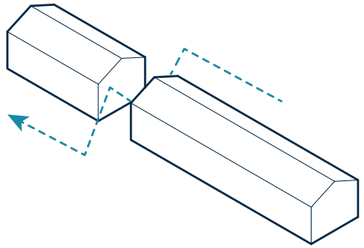
The Gateway challenges the City of Edmond to look towards a shift in lifestyle that would ignite growth for the city. By intersecting what's familiar with a pathway to something new, the building reflects how the Edmond Multimodal Transportation Hub will intersect the current life of Edmond to provide a pathway of outreach to nearby urban environments.

C. 1920 *BEACON OF EDMOND*

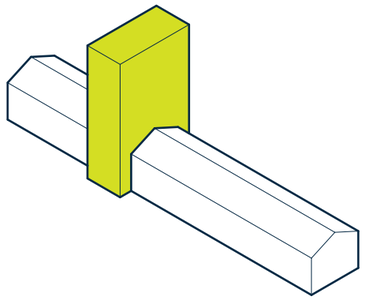
TRADITIONAL GABLE



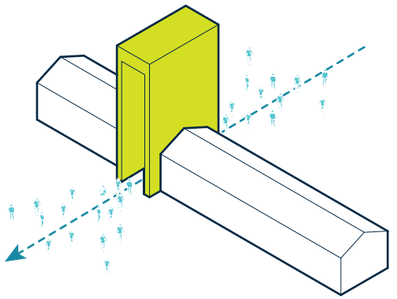
2023 *new BEACON OF EDMOND*



Split public and private.

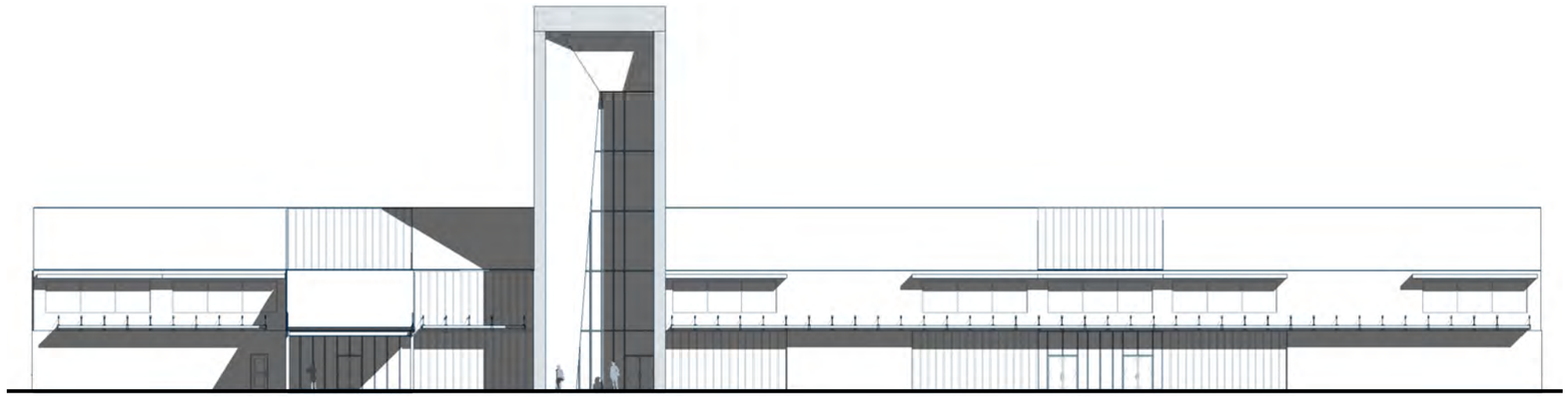


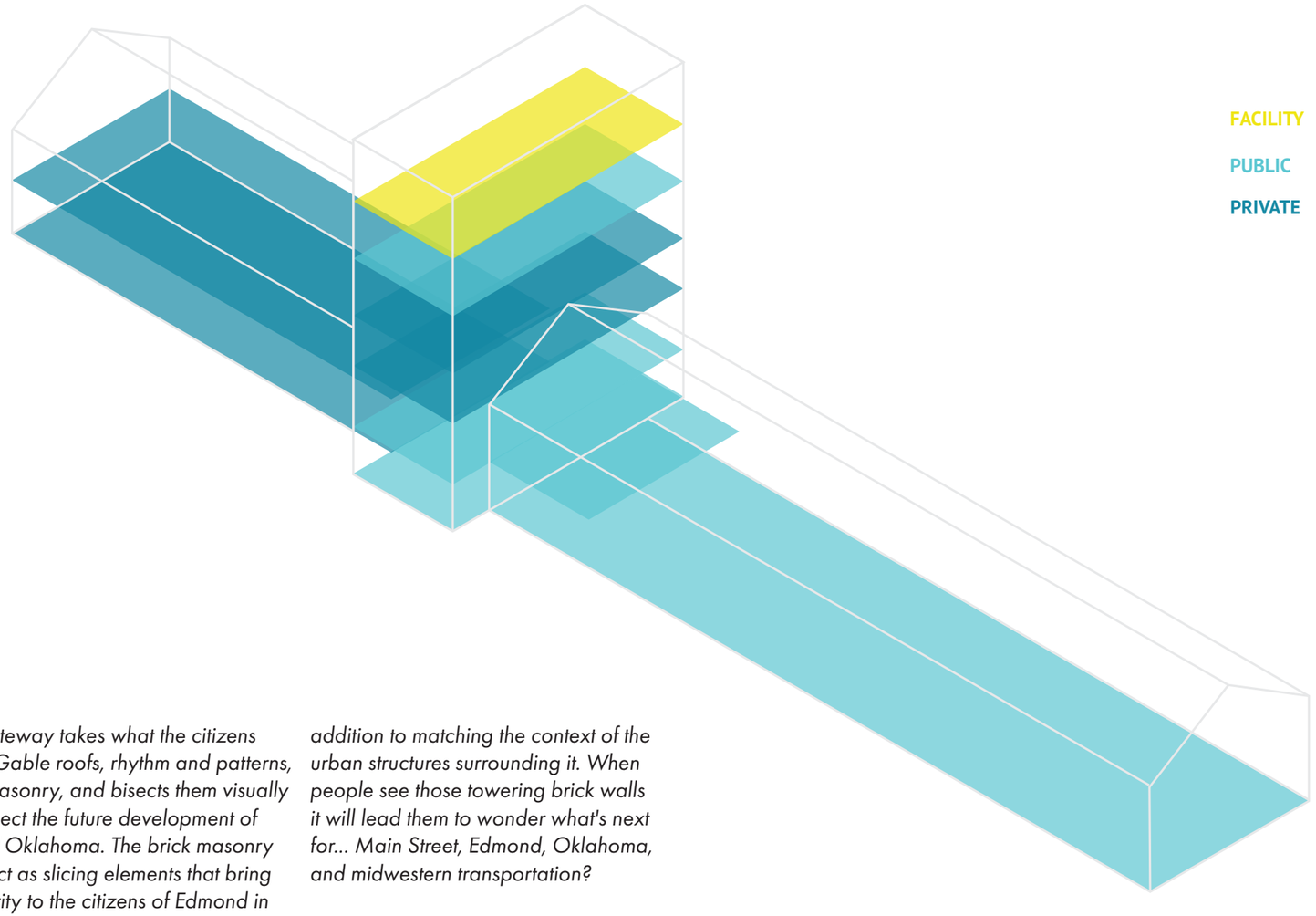
Insertion of visual beacon.



Entrance Gateway.

SD RECAP





FACILITY

PUBLIC

PRIVATE

The Gateway takes what the citizens know; Gable roofs, rhythm and patterns, brick masonry, and bisects them visually to connect the future development of Central Oklahoma. The brick masonry walls act as slicing elements that bring familiarity to the citizens of Edmond in addition to matching the context of the urban structures surrounding it. When people see those towering brick walls it will lead them to wonder what's next for... Main Street, Edmond, Oklahoma, and midwestern transportation?

SD RECAP

PUBLIC INTERIORS

DESIGN DEVELOPMENT

COFFE SHOP / CAFE *MORNING*

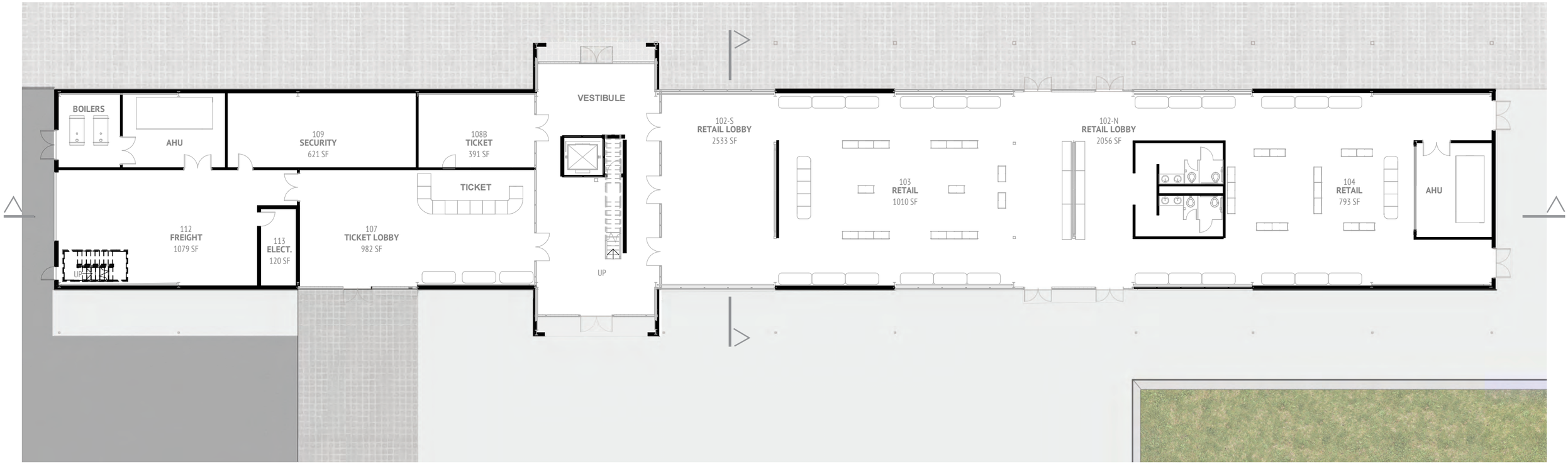
COFFEE SHOP / CAFE *EVENING*

TRANSPORTATION HUB

MASTER / SITE PLAN

N

25' 50' 100'


BOILERS
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SECURITY
621 SF
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TICKET
391 SF
TICKET
VESTIBULE
102-S
RETAIL LOBBY
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102-N
RETAIL LOBBY
2056 SF
103
RETAIL
1010 SF
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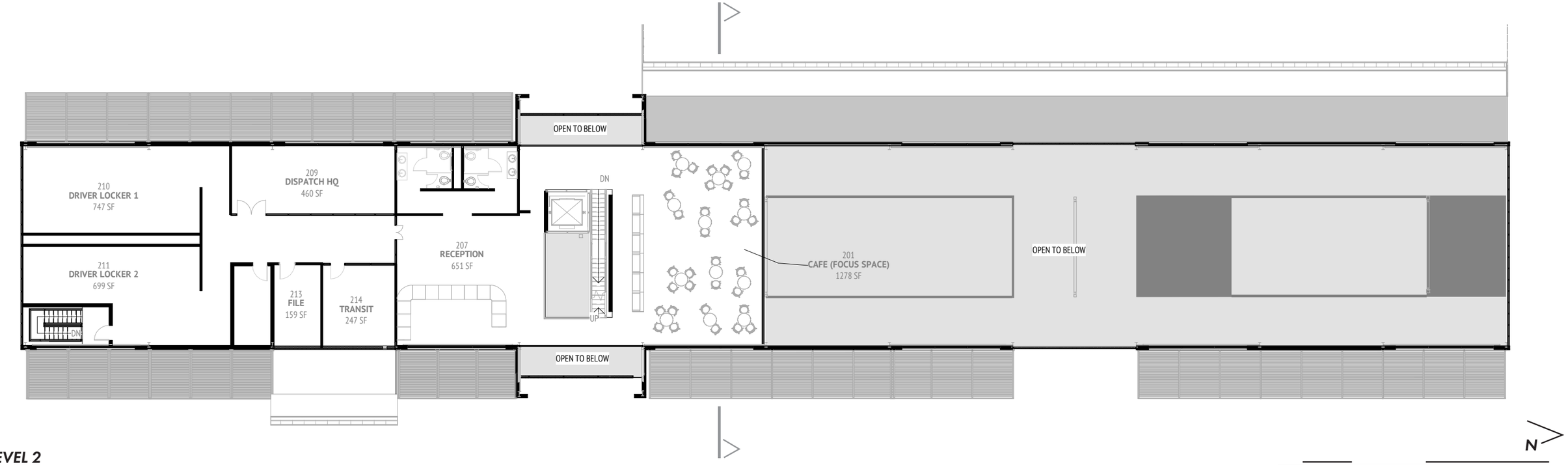
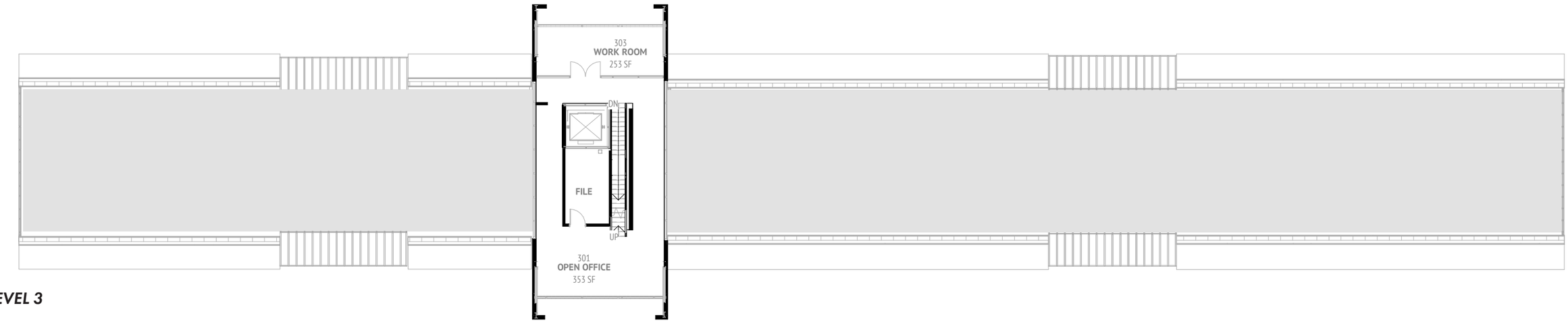
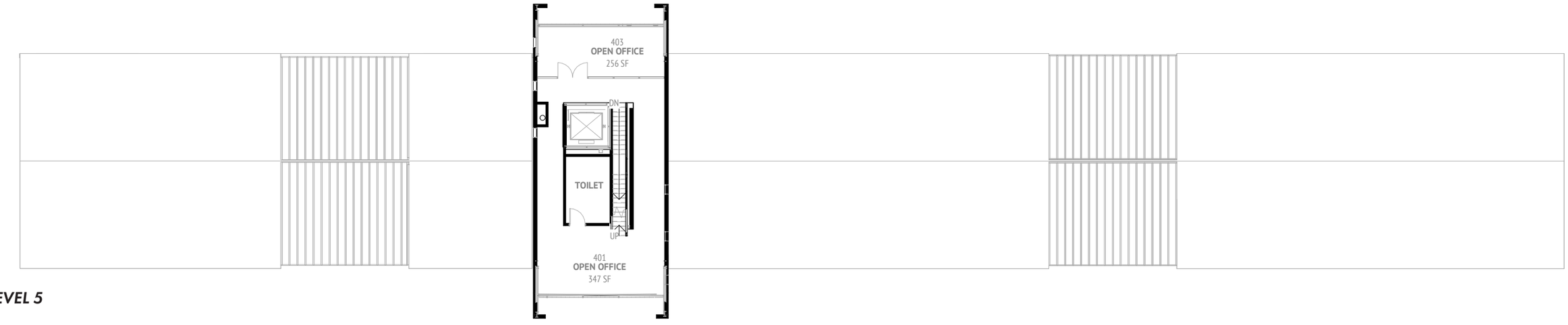
RETAIL
793 SF
AHU
112
FREIGHT
1079 SF
UP
113
ELECT.
120 SF
107
TICKET LOBBY
982 SF
UP
LEVEL 1

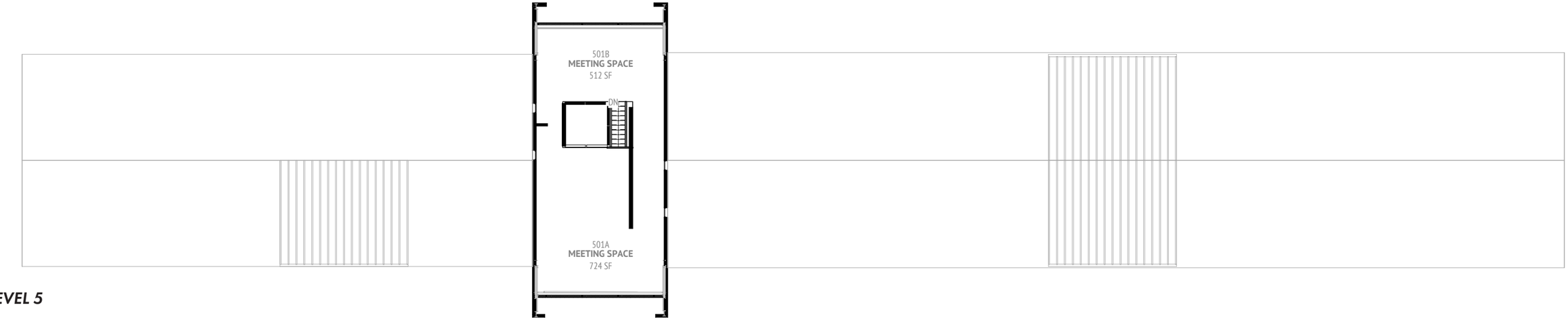

OPEN TO BELOW
210
DRIVER LOCKER 1
747 SF
209
DISPATCH HQ
460 SF
DN
207
RECEPTION
651 SF
201
CAFE (FOCUS SPACE)
1278 SF
OPEN TO BELOW
211
DRIVER LOCKER 2
699 SF
213
FILE
159 SF
214
TRANSIT
247 SF
DN
UP
OPEN TO BELOW
LEVEL 2
N
5'
10'
15'
25'



LEVEL 3



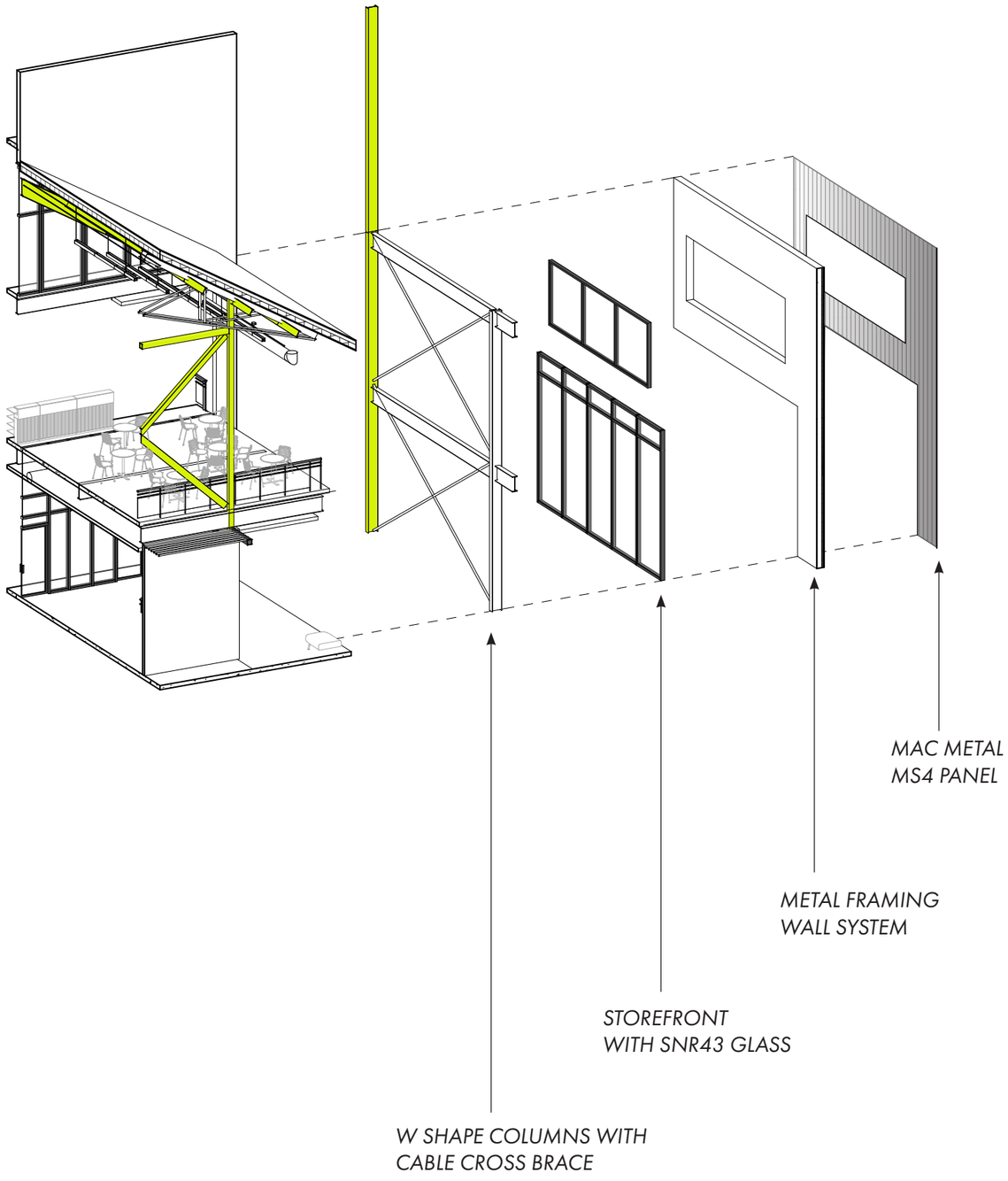
LEVEL 5



LEVEL 5

N

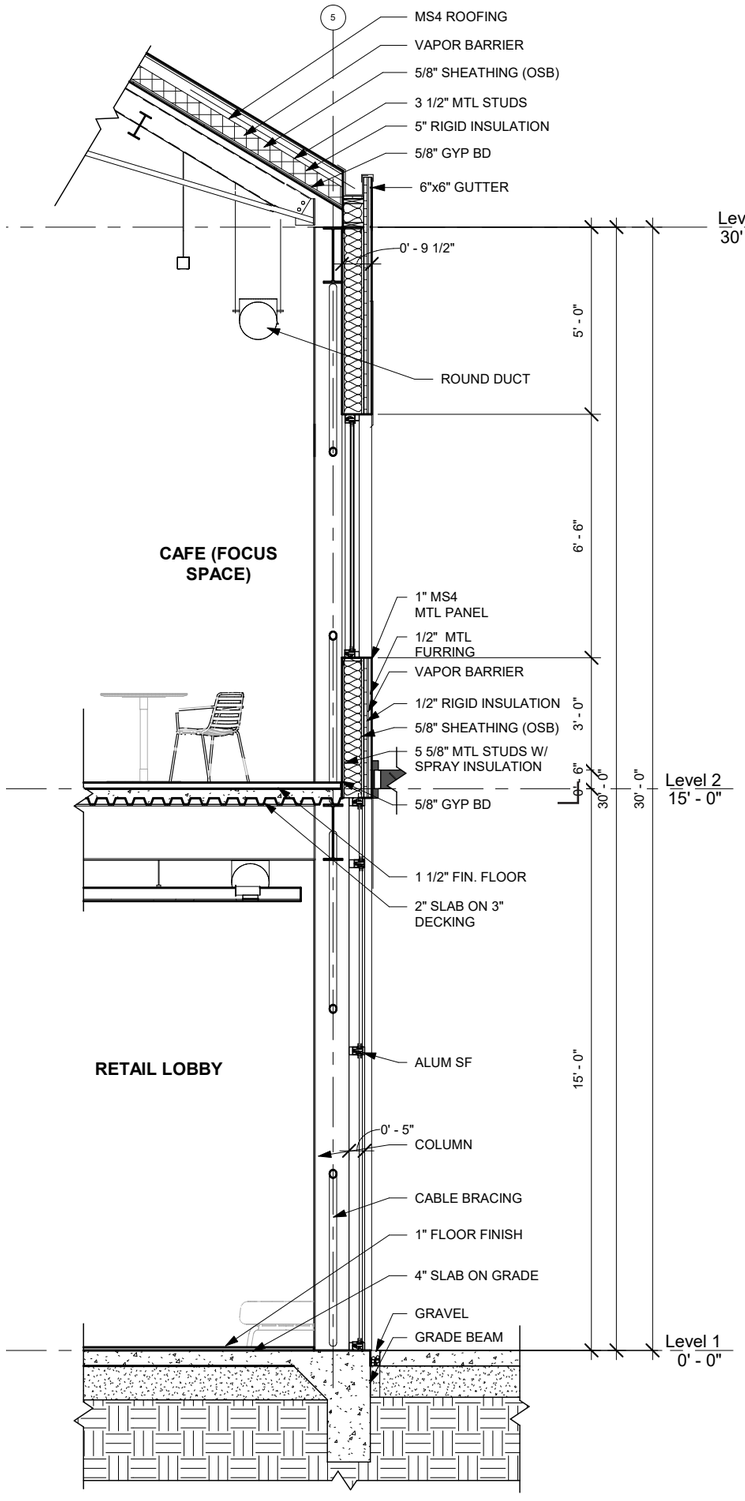
5' 10' 15' 25'



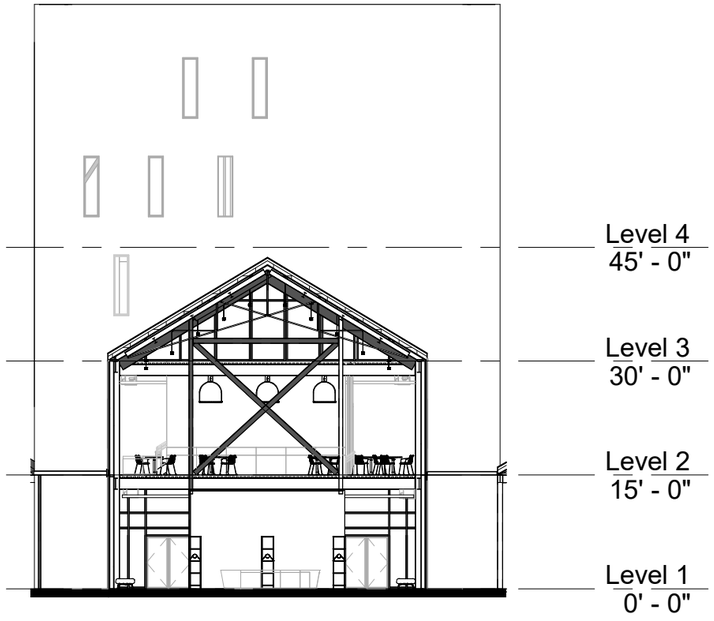
SKIN AXON

BAY MODEL

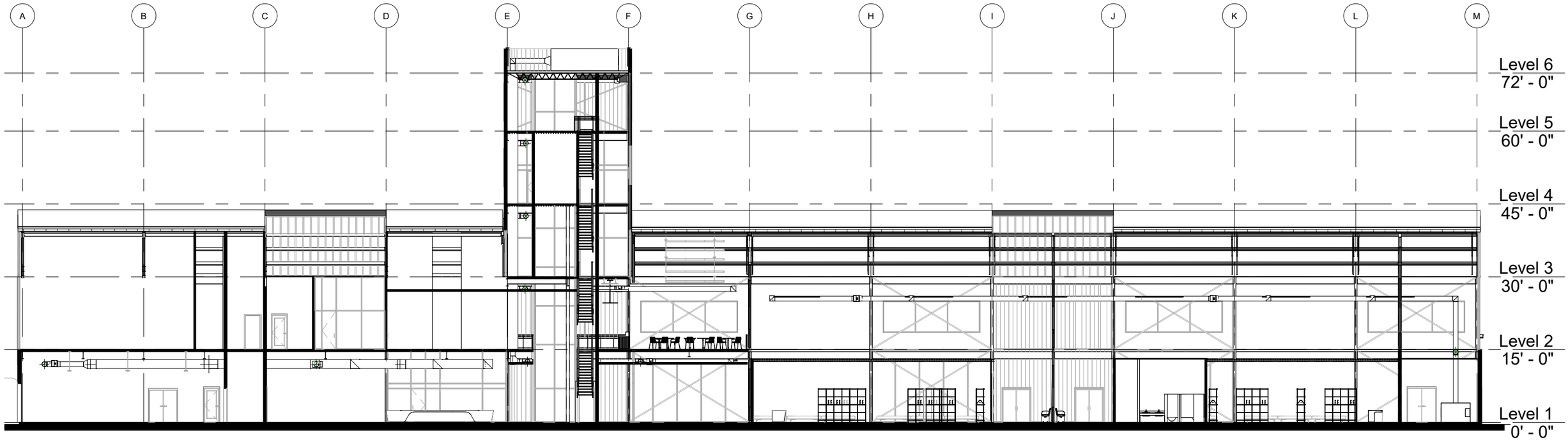
EXTERIOR MATERIALS



WALL SECTION



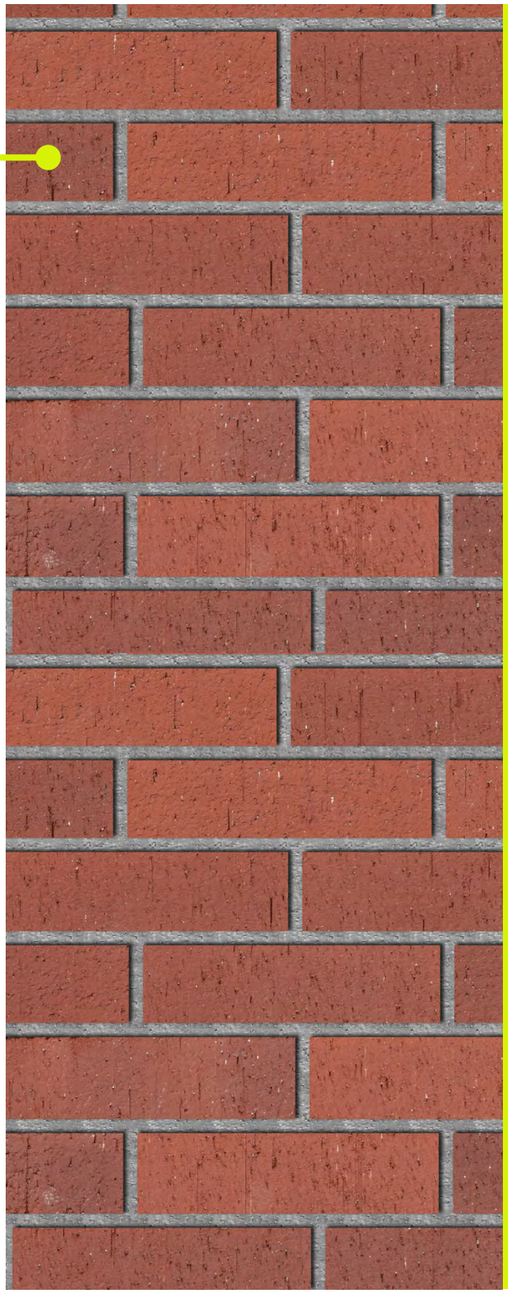
FOCUS SPACE SECTION

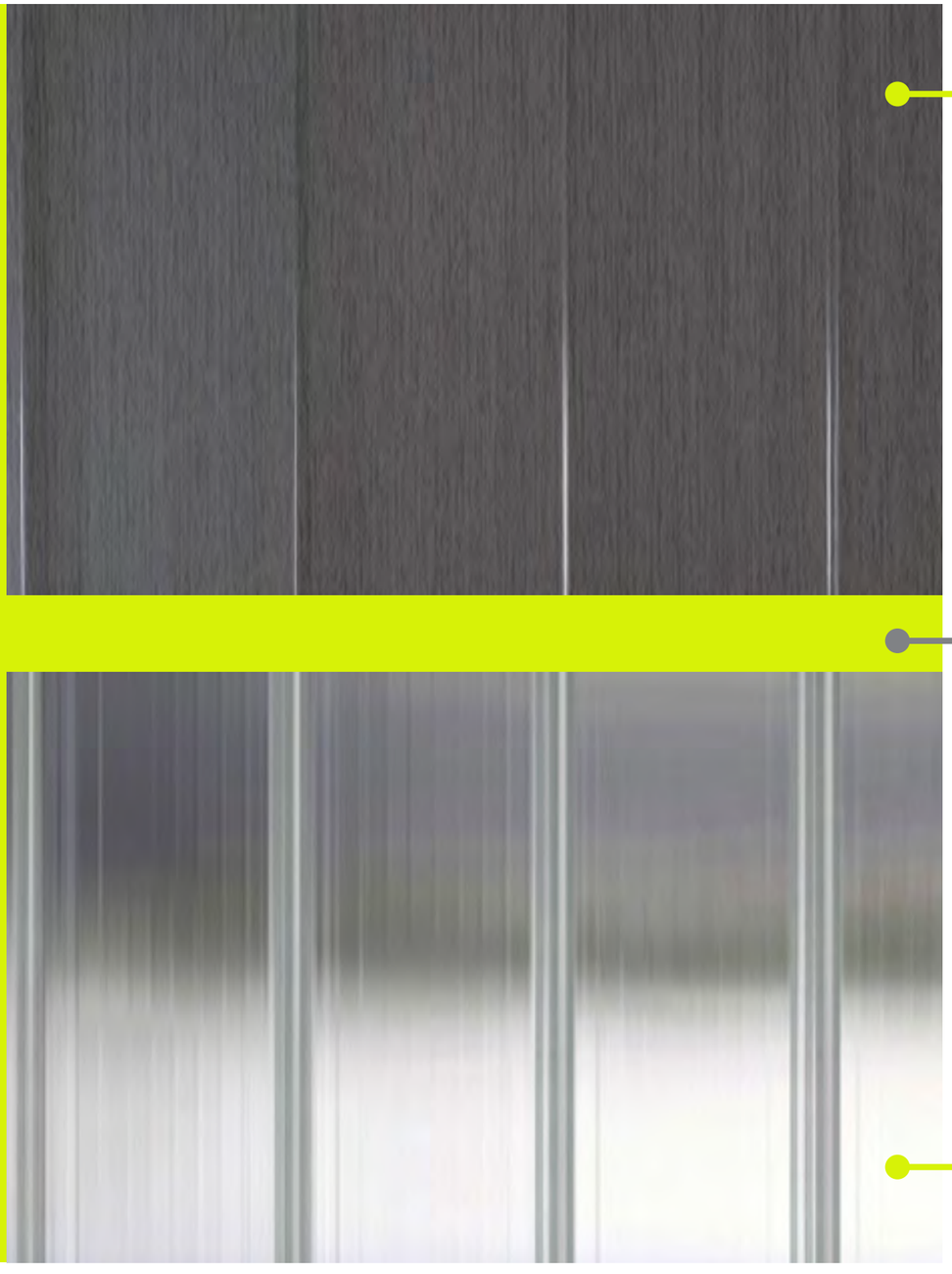


BUILDING SECTION

5' *10'* *15'* *25'*

ACME Brick Thin Brick
Pacific Clay - Cambria





MAC Metal
MS3 Paneling

COLOR: Brushed Zinc

Painted Structure
Accent

COLOR: SW 6918
humorous green

Pilkington - LUMIRA
AEROGEL Panel 25mm
(clear, Slimline texture)

Insulated Channel Glass

Edmond's Greens

Edmond
A GREAT PLACE TO GROW

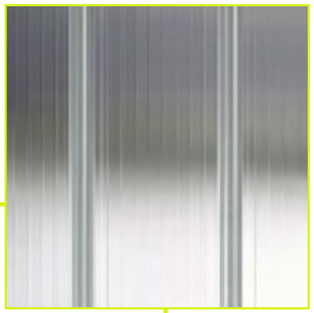
EDMOND
HISTORY MUSEUM

Edmond Transportaion Hub

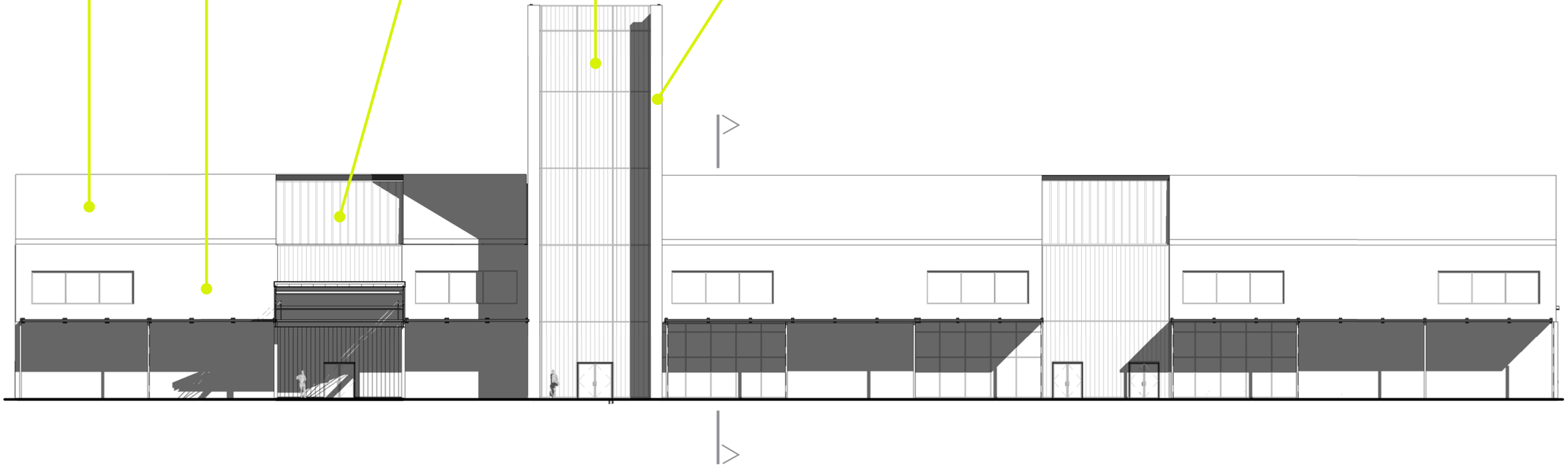
MATERIALS PALETTE

CORRUGATED METAL PANEL

CHANNEL GLASS



THIN BRICK CLADDING



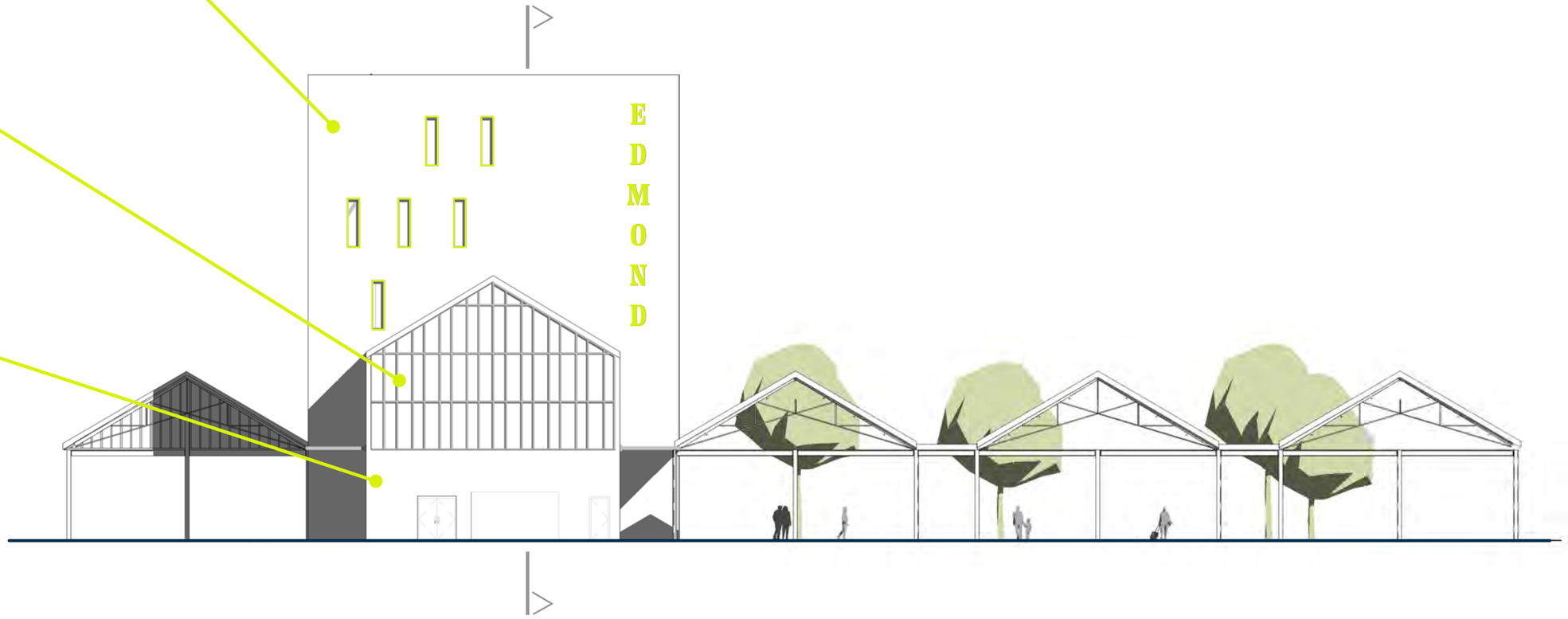
EAST ELEVATION

5' 10' 15' 25'

THIN BRICK CLADDING

SUNGUARD SNR43 GLASS

CORRUGATED METAL PANEL



NORTH ELEVATION

5' 10' 15' 25'

FOCUS SPACE

SHEAR

SHEAR WALLS ON EITHER SIDE OF CIRCULATION CORE TO PROVIDE SUPPORT FOR THE HEIGHT OF THE TOWER

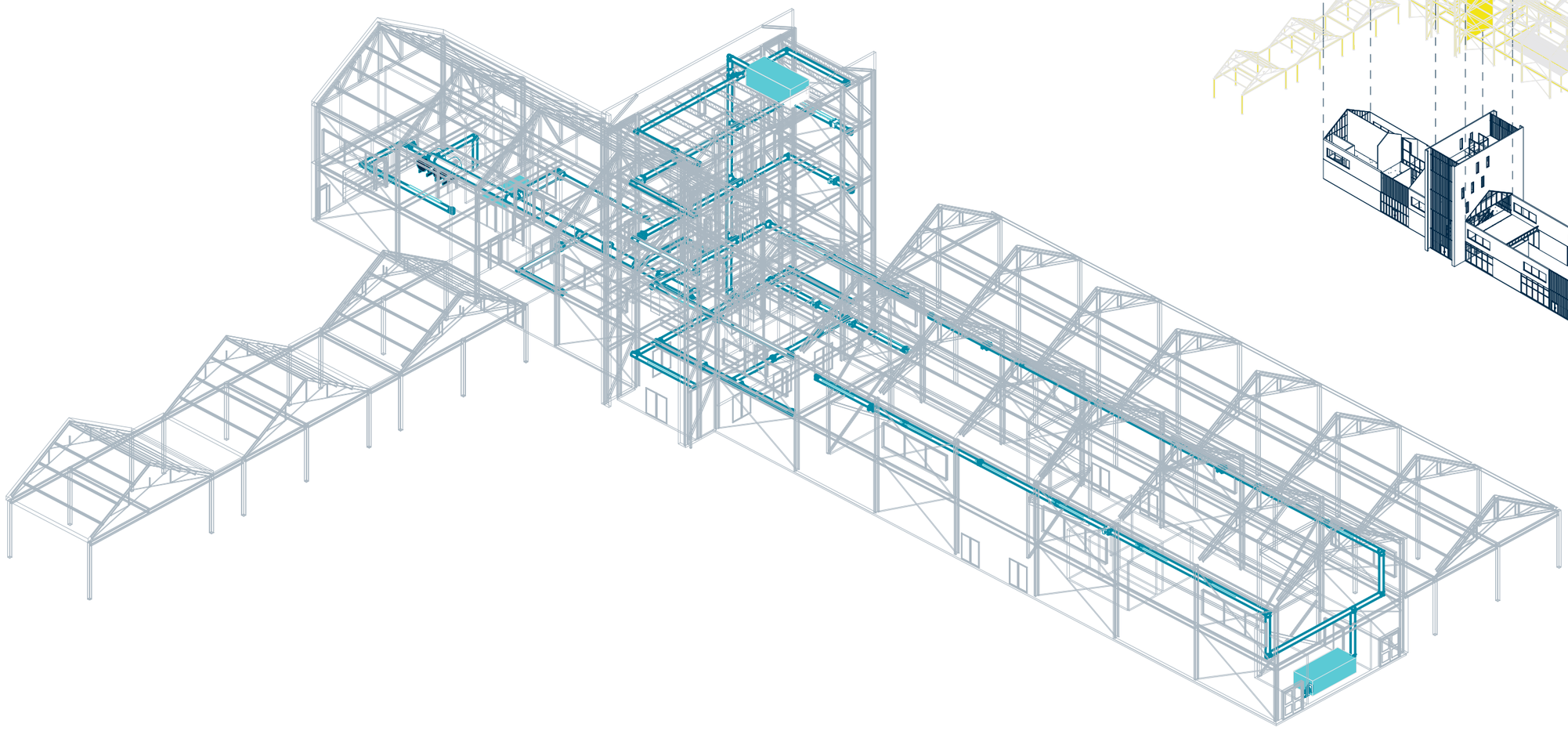
DESIGNED JOISTS TO BE 12K1 TYPICAL

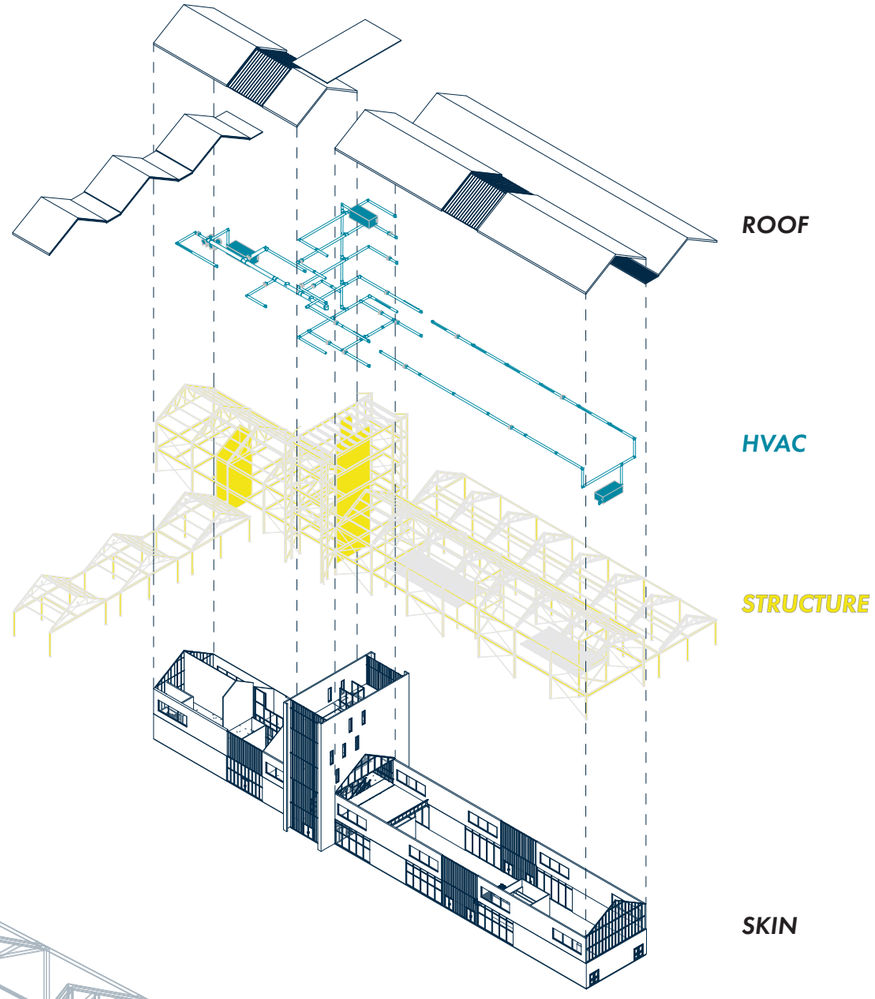
HSS 6X6X5/16 FOR CLEAN COLUMN AESTHETIC SINCE EXPOSED

LATERAL

CABLE CROSS BRACING FOR EXPRESSIVE STRUCTURE AND LATERAL SUPPORT

STRUCTURAL AXON

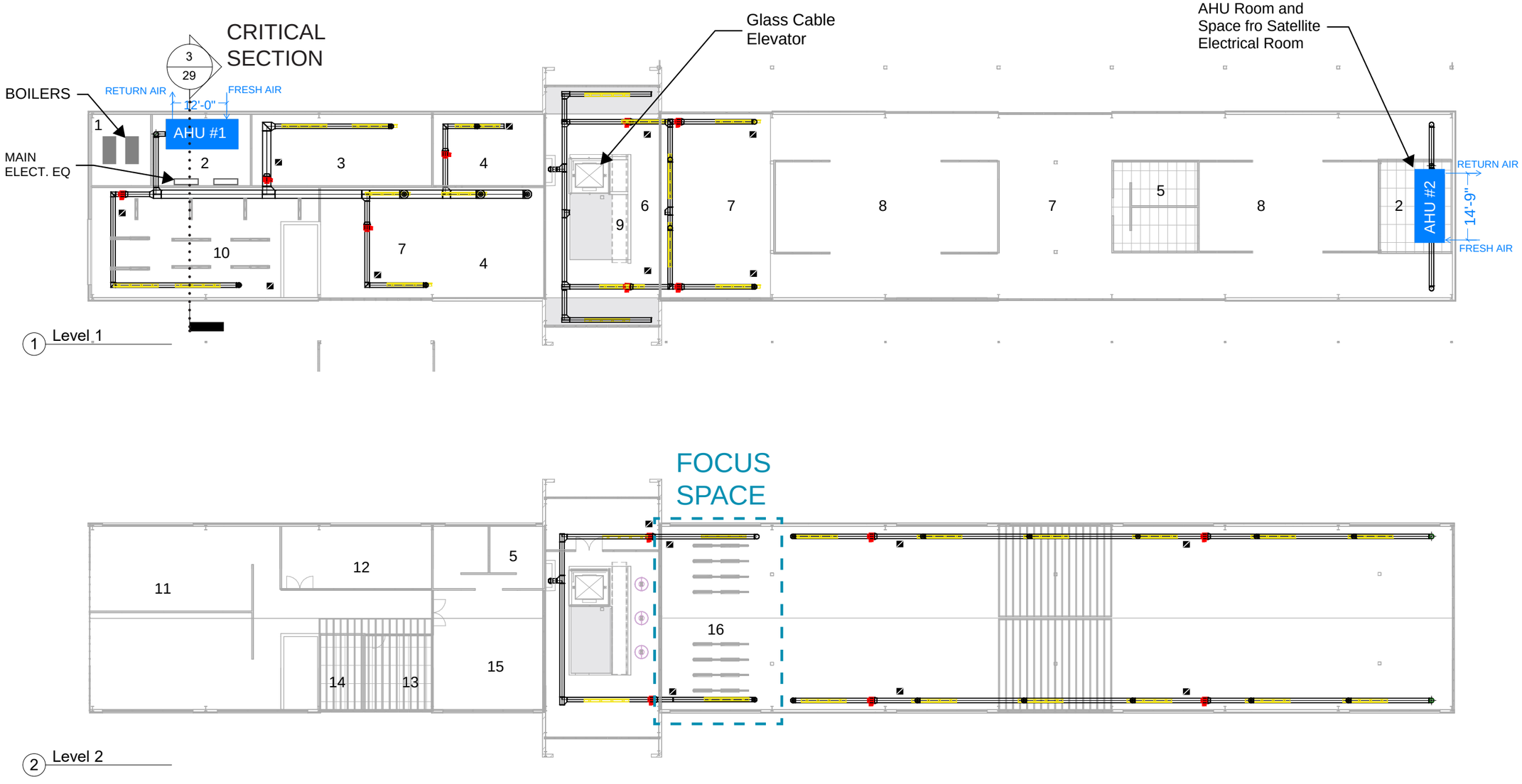




MECHANICAL AXON

AHU
Boilers
Diffusers
VAV Boxes
Return Grille

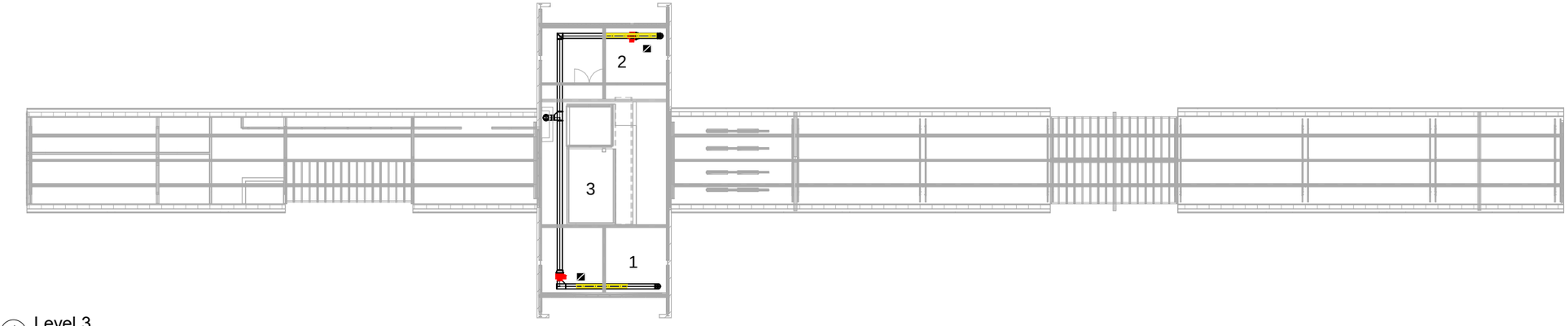
1. Boilers
2. Fan Room
3. Security Office
4. Ticket Office
5. Restrooms
6. Vestibule
7. Lobby
8. Retail
9. Main Stair
10. Freight
11. Lockers
12. Dispatch HQ
13. Transit
14. File Room
15. Reception
16. Cafe Mezzanine/Focus Space



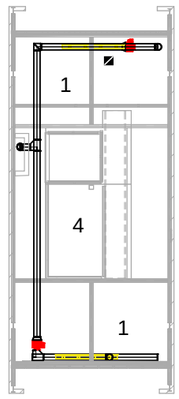
MECHANICAL LAYOUT

AHU
Boilers
Diffusers
VAV Boxes
Return Grille

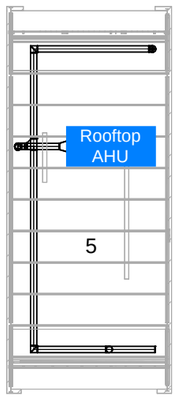
1. Open Office
2. Work Room
3. File Room
4. Restroom
5. Meeting Space



1 Level 3

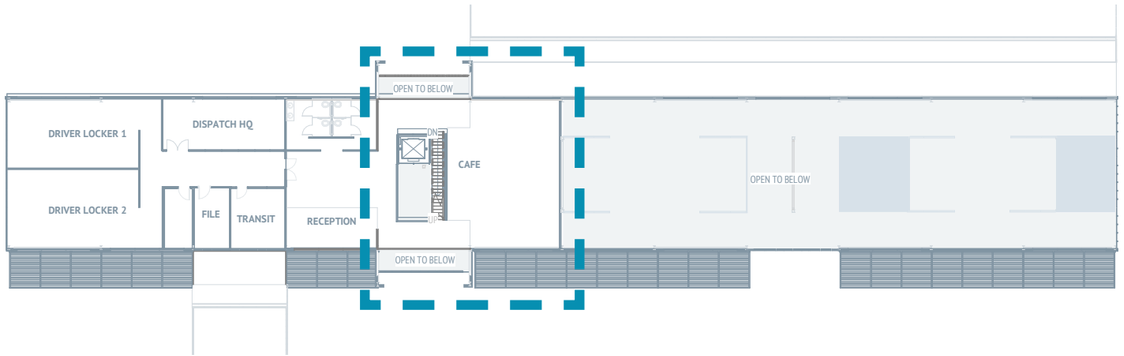


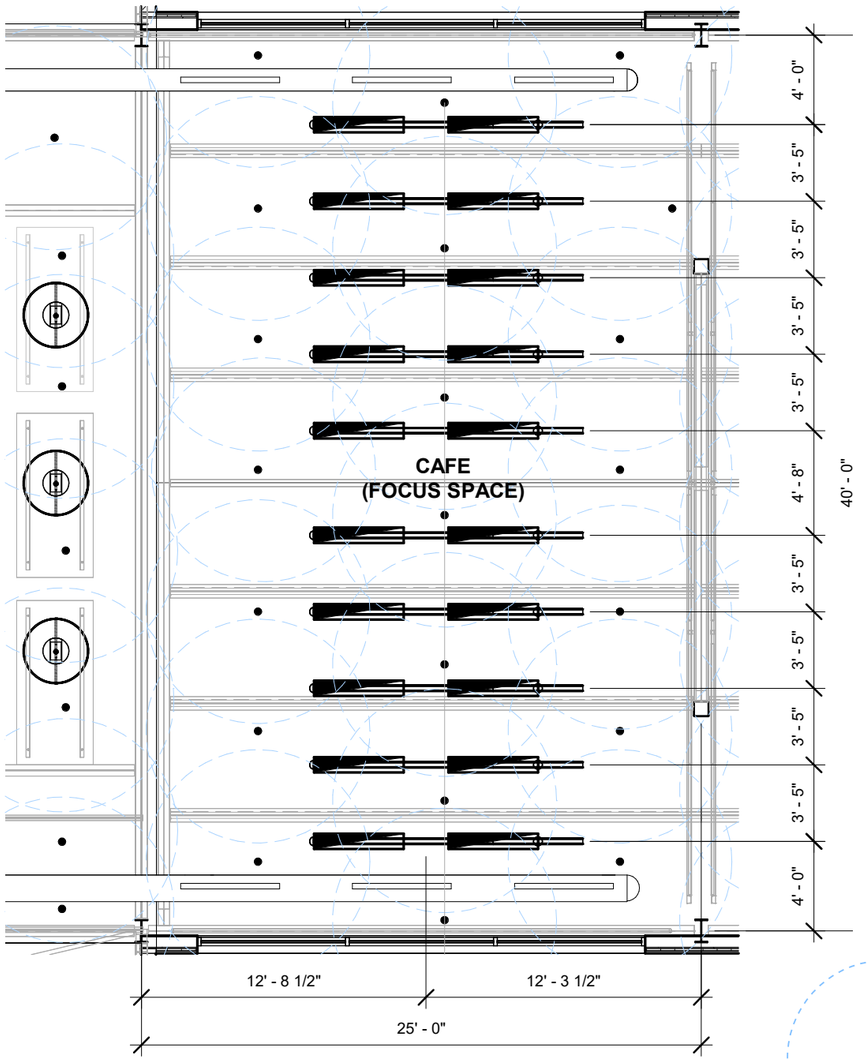
2 Level 4



3 Level 5

MECHANICAL LAYOUT





3/31/23, 1:11 PM OPM4 80CRI 35K I610LMF 510LMF

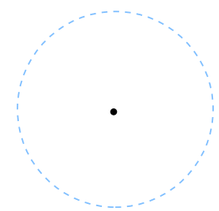
INDOOR PHOTOMETRIC REPORT
CATALOG: OPM4 80CRI 35K I610LMF 510LMF

Test #:	ISF 201367IDP13
Test Lab:	SCALED PHOTOMETRY
Catalog:	OPM4 80CRI 35K I610LMF 510LMF
Description:	OPM4 80CRI 3500K I610LMF 510LMF
Series:	Open LED Suspended
Lamp Output:	Total luminaire Lumens: 4498.2, absolute photometry *
Input Wattage:	34.722
Luminous Opening:	Rectangle (L: 51", W: 2.04")
Cie Class:	General Diffuse
Max Cd:	1,022.0 at Horizontal: 90°, Vertical: 110°
Spacing Criterion:	@ 0 = 1.31 / @ 90 = 1.21

Peerless

Product Links

IES PDF RFA DWG



Sprinkler Head w/
10' Sprinkler Throw

4' Slot Diffuser

OPM4 10' LED
Linear Suspended

ENVIRONMENTAL - LIGHTING

ARCH 4233-5133
Space Use: Terminal Lobby
Student Names: Sarah Rose

Daylighting lab test results

Sky Condition: Standard CIE Overcast Sky

Light Sensor #	Multiplier	Meter's Reading	illumination level under artificial sky dome: lux	illumination level under artificial sky dome: fc	sensor's serial number
1	2.9210	34.4	100 lux	9.3 fc	PH 8355
2	2.8313	17.0	48 lux	4.5 fc	PH 8356
3	2.8248	11.3	32 lux	3.0 fc	PH 8357
4	2.9378	8.9	26 lux	2.4 fc	PH 8358
5	2.9792	9.5	28 lux	2.6 fc	PH 8359
6	2.7992	11.7	33 lux	3.0 fc	PH 8360
7	2.9673	16.0	47 lux	4.4 fc	PH 8361
8	2.9431	36.1	106 lux	9.9 fc	PH 8362
(single sensor) 9	2.7651	267.3	739 lux	68.7 fc	PH 8363
Outside (under dome)	2.7390	269.8	739 lux	68.7 fc	PH 8364

Measured outside illuminance = 68.7 fc

[NOTE]: This is the outside horizontal illuminance under the artificial sky dome in the lab, and not the standard illuminance at the location of your building.

Daylight Factor for VT= 1.00

For models tested with glass or trace paper

1	13.60%
2	6.51%
3	4.32%
4	3.54%
5	3.83%
6	4.43%
7	6.42%
8	14.38%
(single sensor) # 9	

Daylight Factor

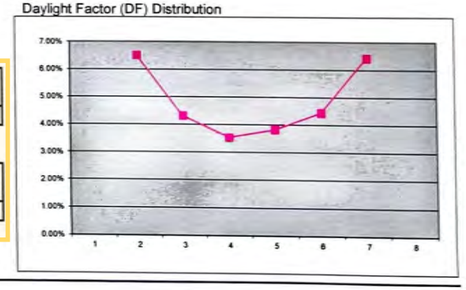
excluding effect of glass VT

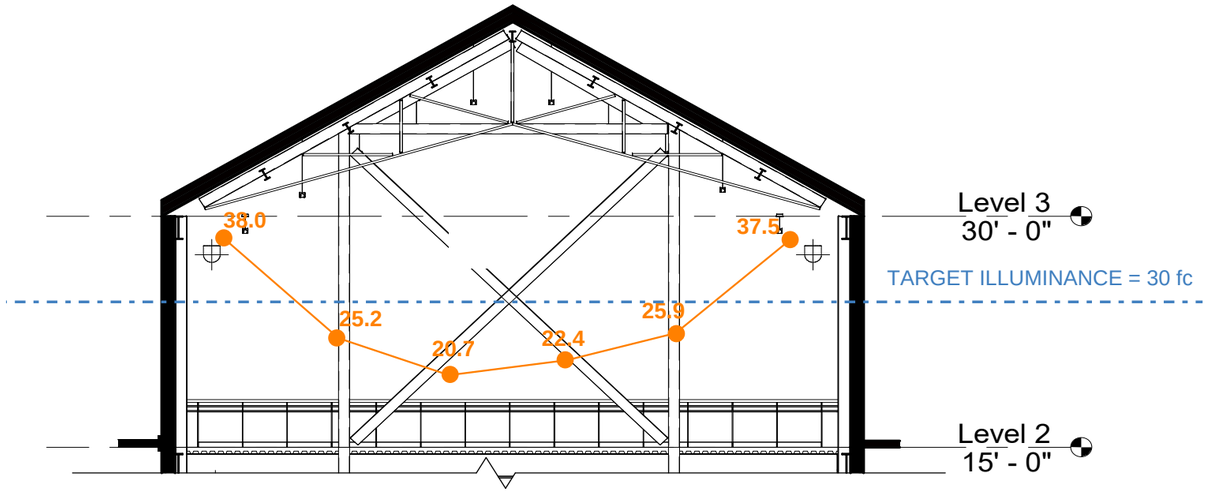
6.51%
4.32%
3.54%
3.83%
4.43%
6.42%

Average sens # 1 to 8: 4.84%

Ratio of Max. to Min.: 1.84

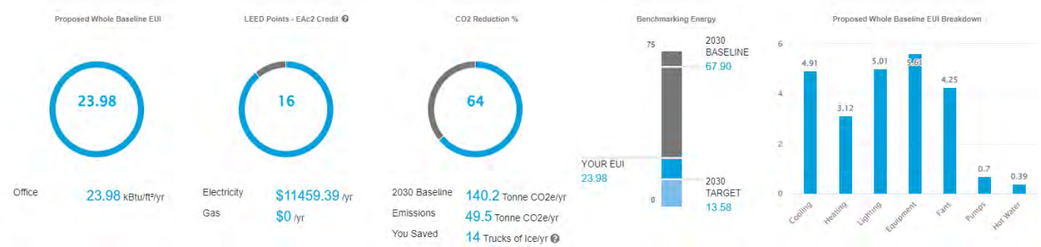
Daylight Factor (DF) Distribution





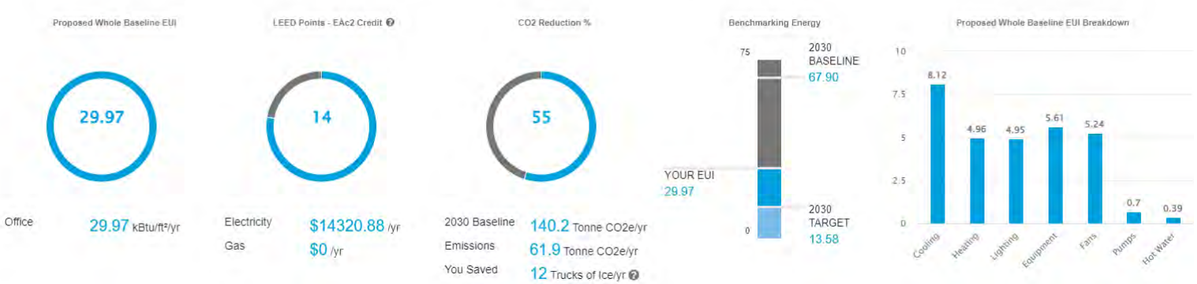
IL Predicted	=	IL Standard		*	DF	*	VT Glass	*	M Glass			
	=	1597	fc	*	4.84%	*	0.43	*	0.85	=	28.3	fc
Point 1	=	n/a	fc	*	n/a	*	n/a	*	n/a	=	n/a	fc
Point 2	=	1597	fc	*	6.51%	*	0.43	*	0.85	=	38.0	fc
Point 3	=	1597	fc	*	4.32%	*	0.43	*	0.85	=	25.2	fc
Point 4	=	1597	fc	*	3.54%	*	0.43	*	0.85	=	20.7	fc
Point 5	=	1597	fc	*	3.83%	*	0.43	*	0.85	=	22.4	fc
Point 6	=	1597	fc	*	4.43%	*	0.43	*	0.85	=	25.9	fc
Point 7	=	1597	fc	*	6.42%	*	0.43	*	0.85	=	37.5	fc
Point 8	=	n/a	fc	*	n/a	*	n/a	*	n/a	=	n/a	fc

ENVIRONMENTAL - DAYLIGHTING



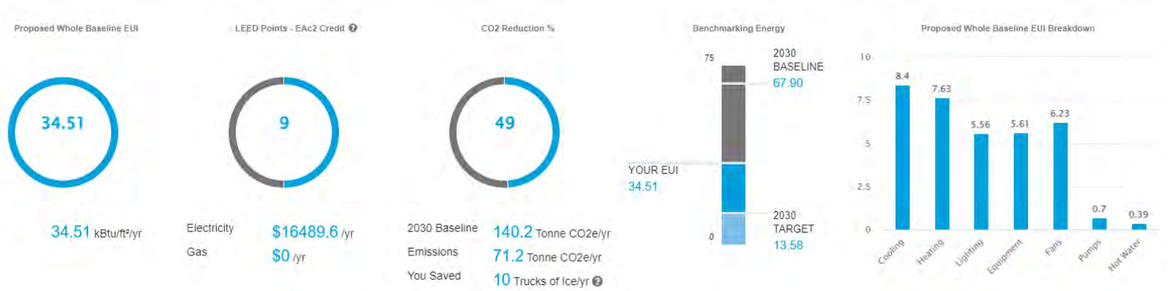
MODEL C

EUI 23.98



MODEL B

EUI 29.97



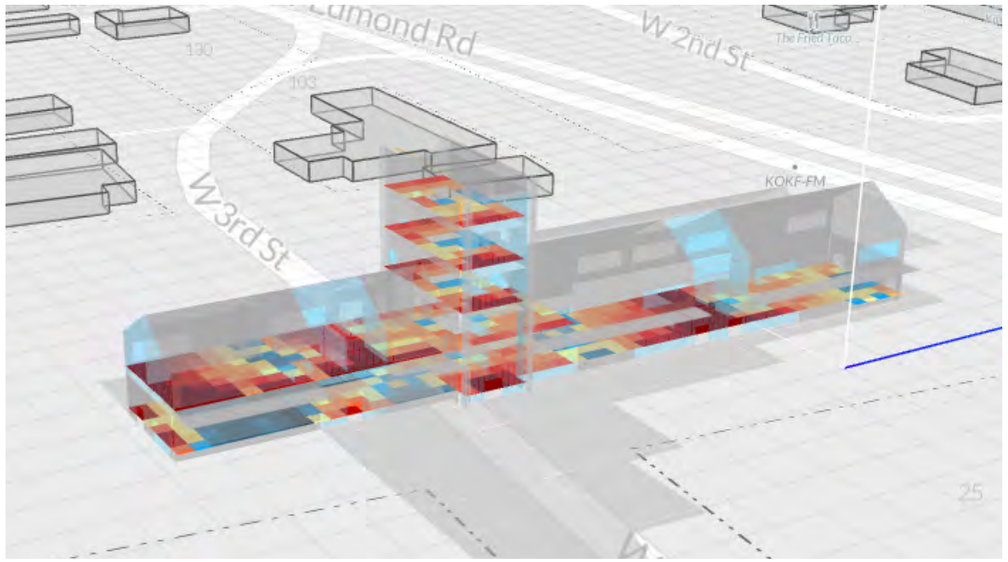
MODEL A:

EUI 34.5

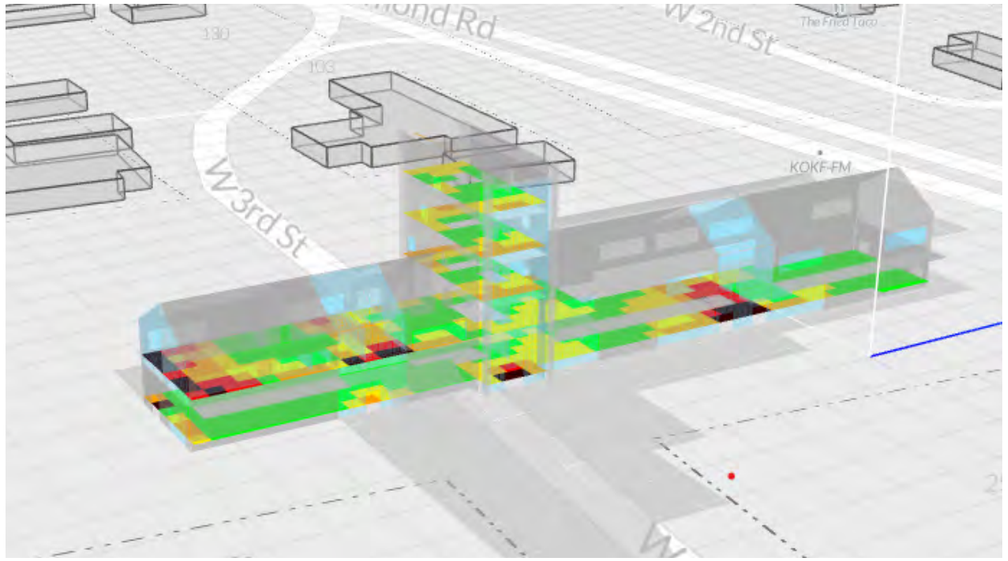
MODEL C

Glass VT for Current: 0.43

sDA = 66%



ASE = 50%



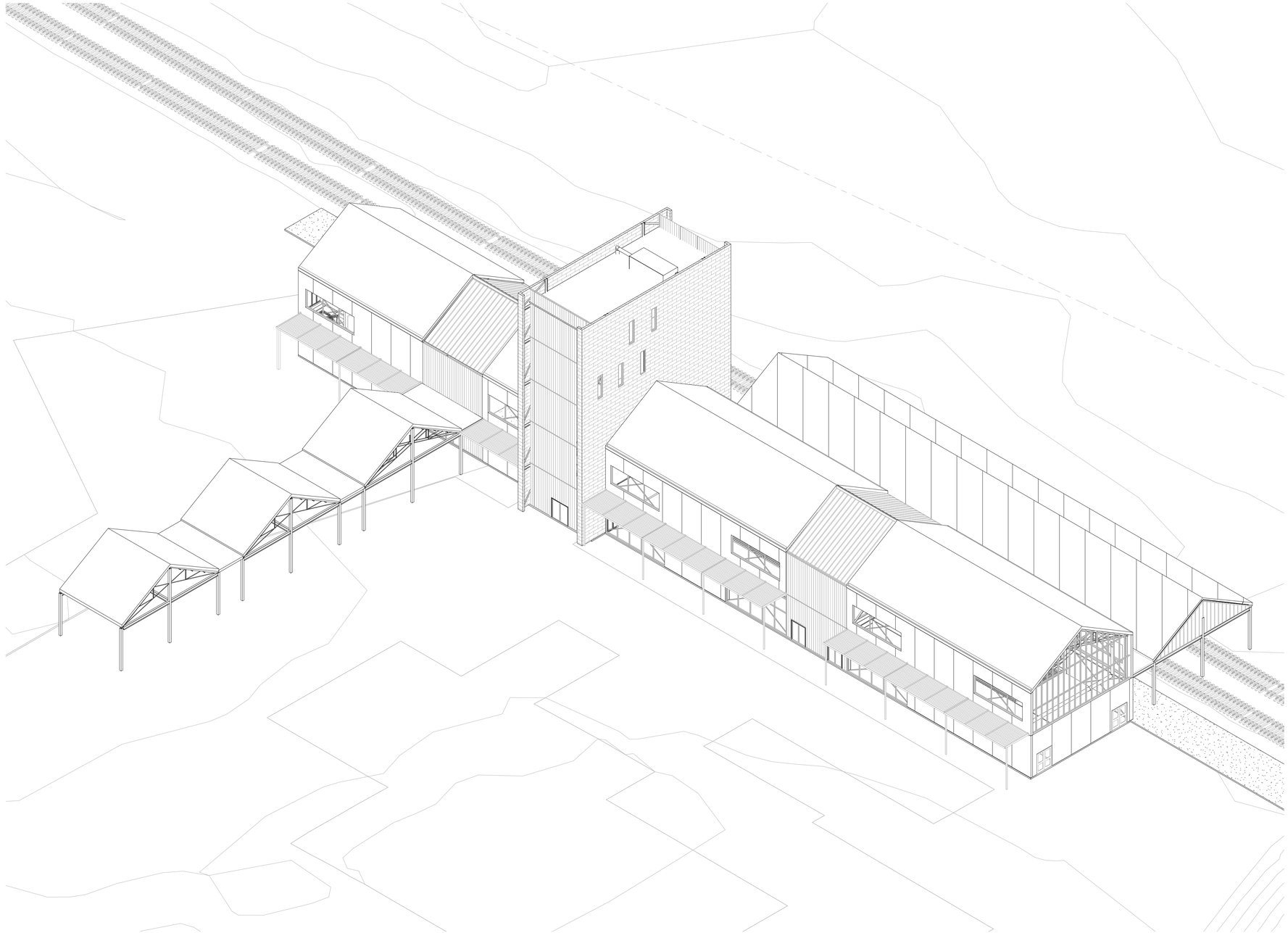
ENVIRONMENTAL - COVETOOL ANALYSIS

DESIGN DEVELOPMENT REFLECTION

Design Development, DD, the second phase of an architectural project, we separated into individual designs and focused on fine tuning the details of our big picture. I took the comments given by jurors in the SD phase and focused primarily on refining the materiality and entry of our building. For the primary material, I selected a standing seam metal panel to act in diagrammatic form to the traditional industrial look of the railroad. As the accent material, I chose a specific brick that comes from a local masonry manufacturer called ACME brick. This brick would additionally act as the main design element being placed on two parallel walls to create a beacon for citizens as they approach the building. For the interior, I chose to paint the steel green as a way to continue the proposed branding for the Edmond Transportation Hub. In addition to materiality, each individual had to pick a space in their building to focus on coordinating building systems such as HVAC, lighting, and structure. I chose the café space on the second floor and analyzed the lighting, daylighting, cooling, and heating through calculations. With these calculations I then modeled the accurate size of ductwork and structure that would be exposed. To conclude this phase, we had another round of juries with the same professionals who critiqued us during the SD phase.

SHEET LIST	
NUMBER	NAME

A.000	TITLE SHEET
A.001	SITE PLAN
A.102	FLOOR PLAN
A.201	BLDG ELEVATIONS
A.301	BLDG SECTIONS
A.350	WALL SECTION
A.401	GUTTER DETAIL
A.702	FOCUS SPACE RCP



CONSULTANTS

DESIGN:
PROF. JAY YOWELL
HANK TRAXEL

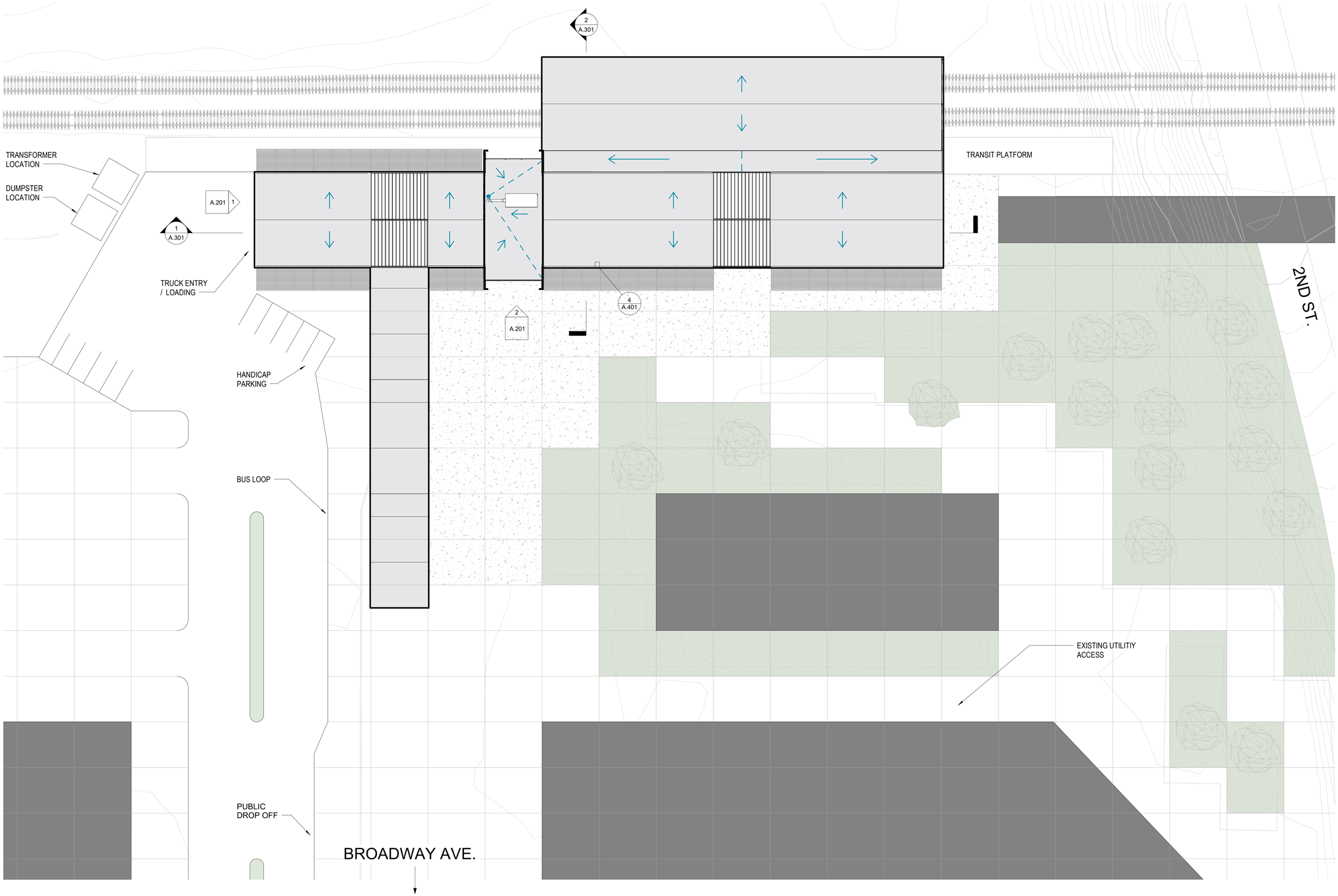
STRUCTURAL:
PROF. CHRISTINA MCCOY
CAITLYN CHRISTIAN

MEP:
DR. KHALED MANSY
ELI HARRIS

ROSE
DESIGN

EMTH GATEWAY

EDMOND MULTIMODAL TRANSPORTATION HUB



1 MASTER PLAN
1" = 20'-0"

N

ROSE
DESIGN
101 DWR BUILDING
STILLWATER, OK 74075
C: 918.833.2662

EMTH GATEWAY

123 BROADWAY AVE.
EDMOND, OK 73075
C: 405.001.1234

CONSULTANTS

DESIGN:
PROF. JAY YOWELL
HANK TRAXEL

STRUCTURAL:
PROF. CHRISTINA MCCOY
CAITLYN CHRISTIAN

MEP:
DR. KHALED MANSY
ELI HARRIS

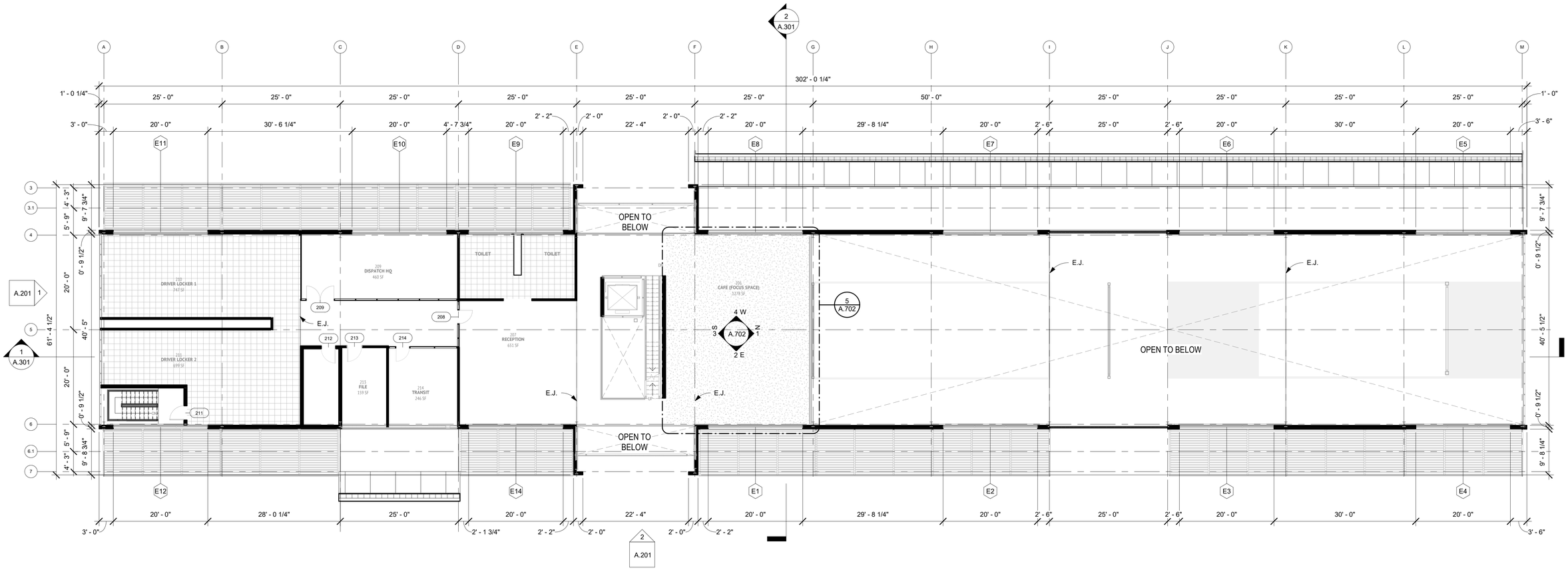
04/17/2023

S.ROSE
Checker

STAMP

SITE PLAN

A.001



1 LEVEL 2
3/32" = 1'-0"

N

ROSE
DESIGN

101 DWR BUILDING
STILLWATER, OK 74075

C: 918.833.2662

EMTH GATEWAY

123 BROADWAY AVE.
EDMOND, OK 73075

C: 405.001.1234

CONSULTANTS

DESIGN:
PROF. JAY YOWELL
HANK TRAXEL

STRUCTURAL:
PROF. CHRISTINA MCCOY
CAITLYN CHRISTIAN

MEP:
DR. KHALED MANSY
ELI HARRIS

04/17/2023

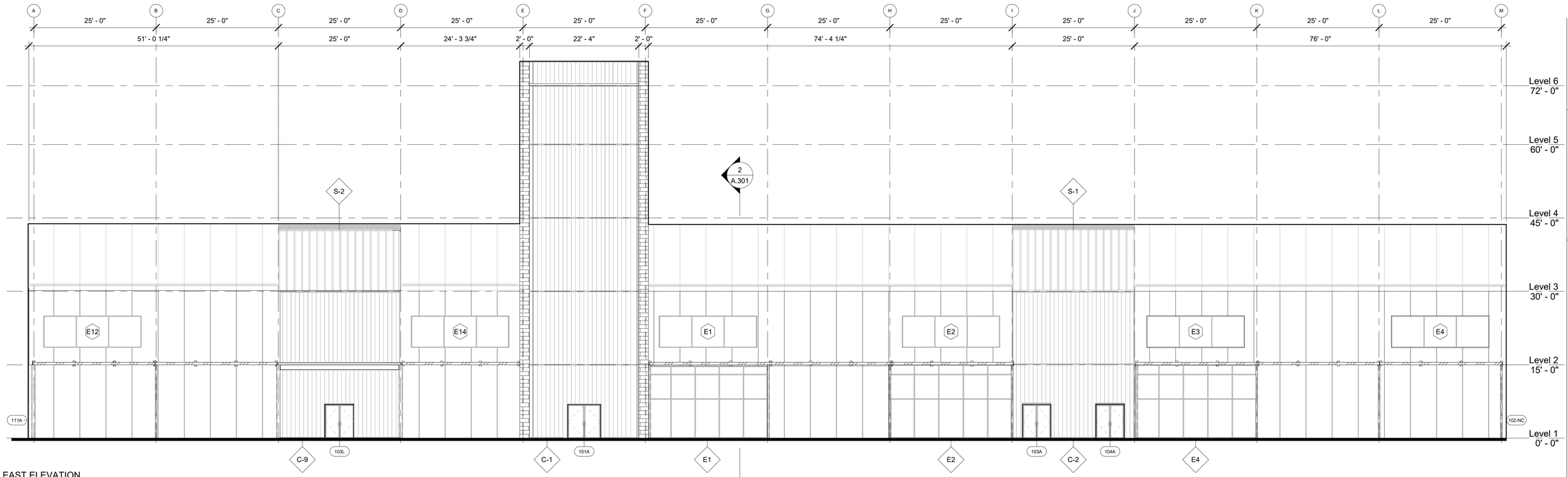
S.ROSE

Checker

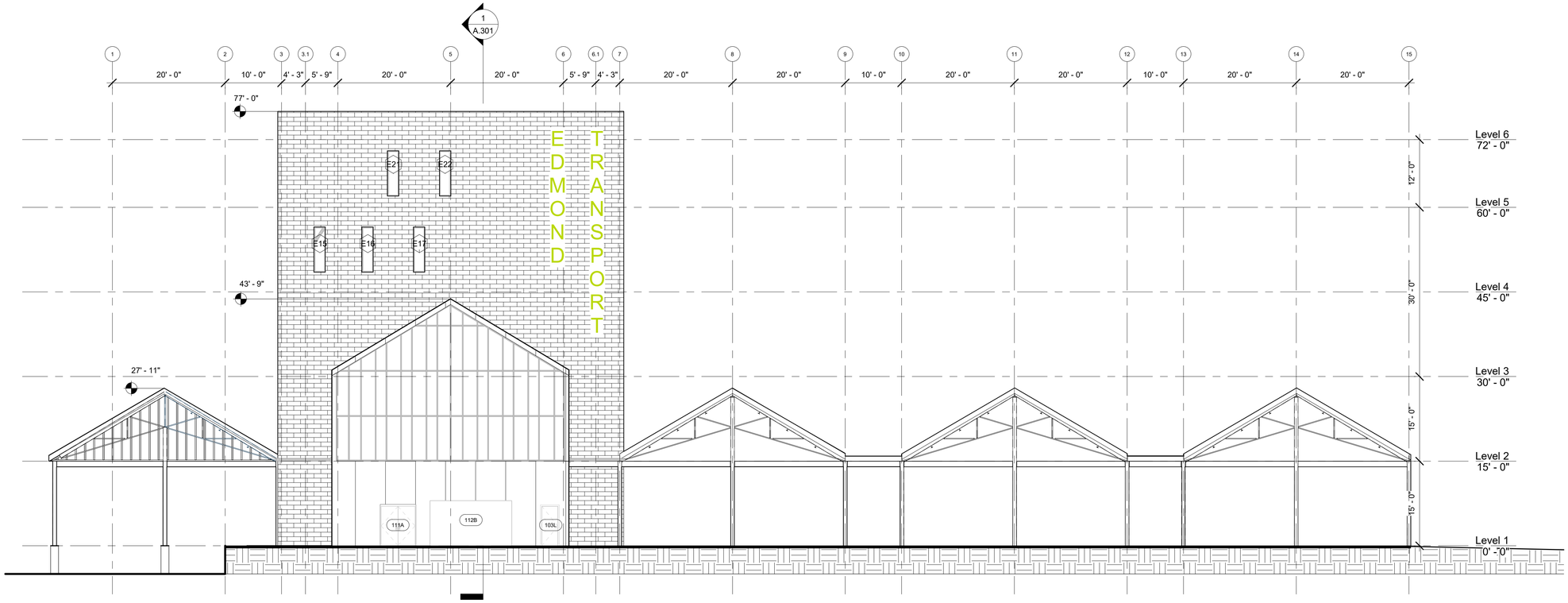
STAMP

FLOOR PLAN

A.102



2 EAST ELEVATION
3/32" = 1'-0"



1 SOUTH ELEVATION
3/32" = 1'-0"

ROSE
DESIGN
101 DWR BUILDING
STILLWATER, OK 74075
C: 918.833.2662

EMTH GATEWAY

123 BROADWAY AVE.
EDMOND, OK 73075
C: 405.001.1234

CONSULTANTS

DESIGN:
PROF. JAY YOWELL
HANK TRAXEL

STRUCTURAL:
PROF. CHRISTINA MCCOY
CAITLYN CHRISTIAN

MEP:
DR. KHALED MANSY
ELI HARRIS

04/17/2023

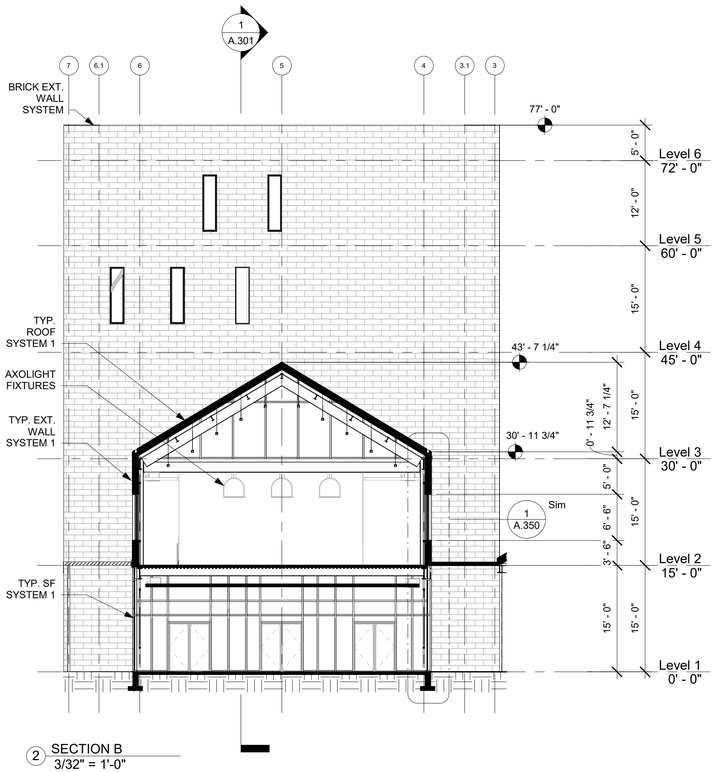
S.ROSE

Checker

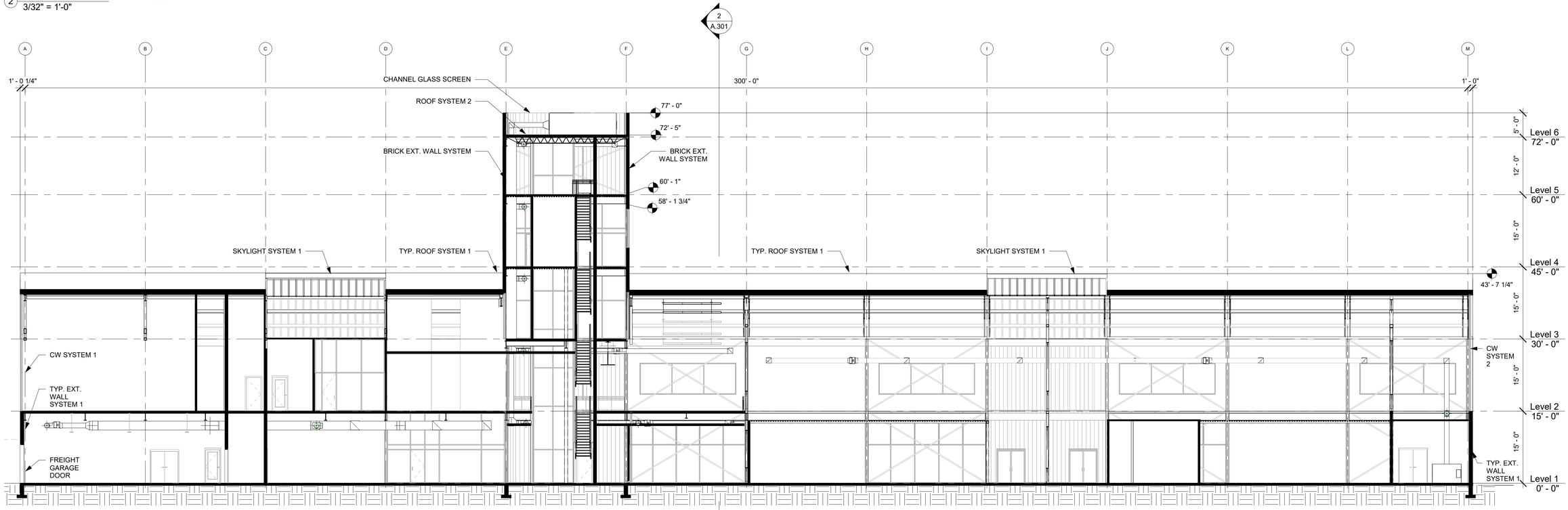
STAMP

BLDG ELEVATIONS

A.201



2 SECTION B
3/32" = 1'-0"



1 SECTION A
3/32" = 1'-0"

ROSE
DESIGN
101 DWR BUILDING
STILLWATER, OK 74075
C: 918.833.2662

EMTH GATEWAY

123 BROADWAY AVE.
EDMOND, OK 73075
C: 405.001.1234

CONSULTANTS

DESIGN:
PROF. JAY YOWELL
HANK TRAXEL

STRUCTURAL:
PROF. CHRISTINA MCCOY
CAITLYN CHRISTIAN

MEP:
DR. KHALED MANSY
ELI HARRIS

04/17/2023

S.ROSE

Checker

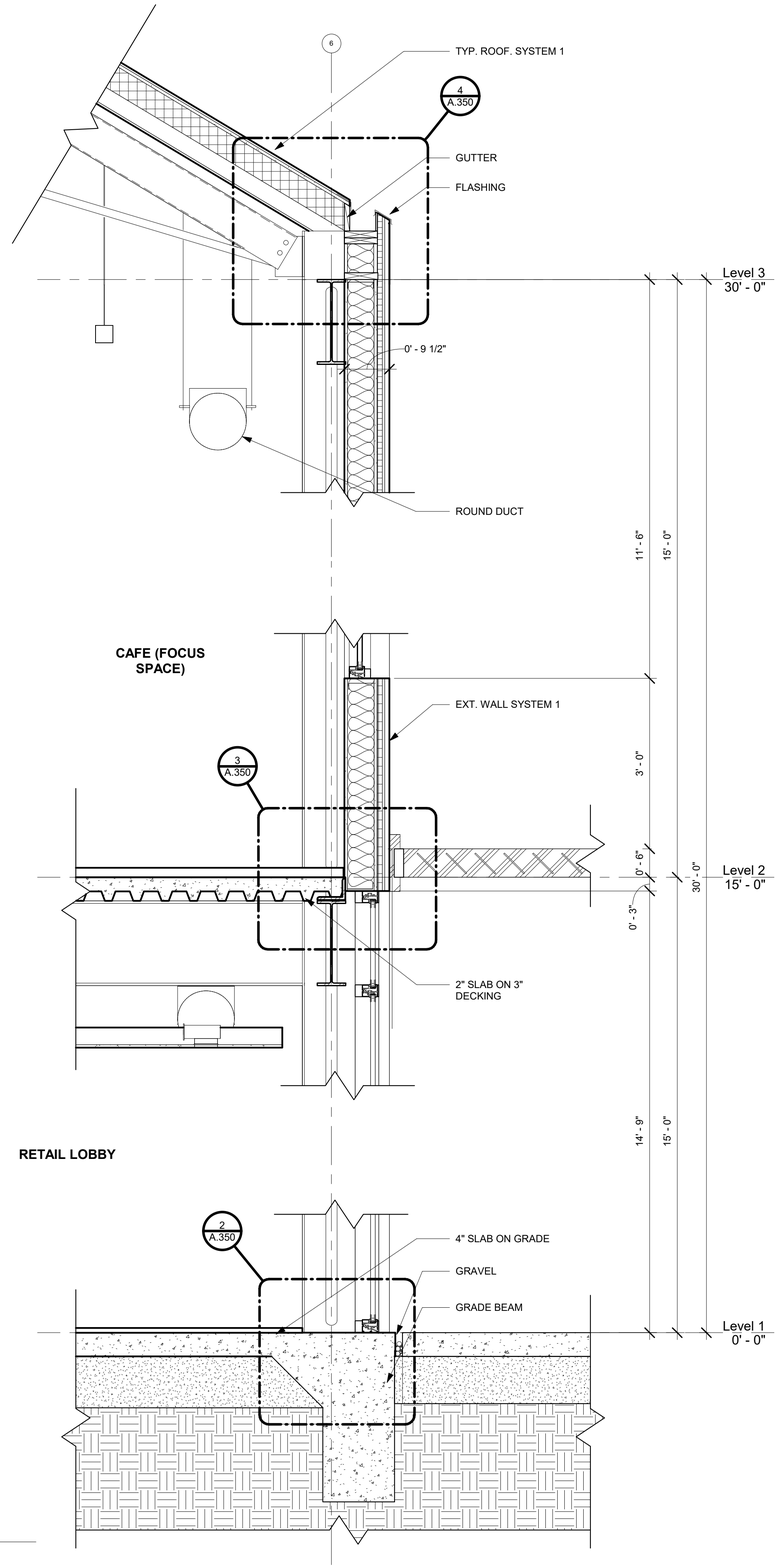
STAMP

BLDG SECTIONS

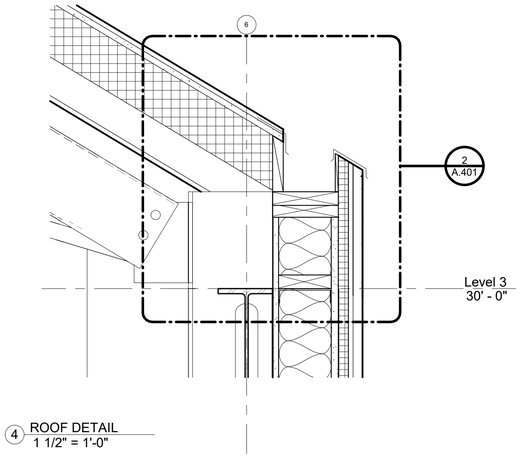
A.301

1. TYP. ROOF SYSTEM 1
   - MS4 MTL ROOF PANEL
   - MTL STUDS
   - SHEATHING
   - 5" RIGID INSULATION
   - VAPOR BARRIER
   - 5/8" GYP BD

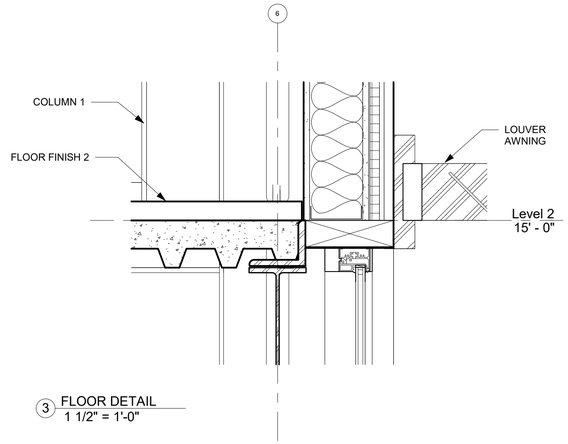
2. TYP. EXT. WALL SYSTEM 1
   - 1" MS4 MTL WALL PANEL
   - 1/2" MTL FURRING
   - VAPOR BARRIER
   - 1/2" RIGID INSULATION
   - 5/8" SHEATHING (OSB)
   - 5 5/8" MTL STUDS W/ SPRAY
   - 5/8" GYP BD FOR PAINT FINISH



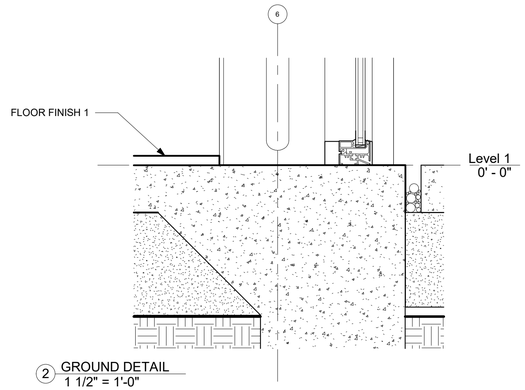
1 WALL SECTION
3/4" = 1'-0"



4 ROOF DETAIL
1 1/2" = 1'-0"



3 FLOOR DETAIL
1 1/2" = 1'-0"



2 GROUND DETAIL
1 1/2" = 1'-0"

ROSE
DESIGN
101 DWR BUILDING
STILLWATER, OK 74075
C: 918.833.2662

EMTH GATEWAY

123 BROADWAY AVE.
EDMOND, OK 73075

C: 405.001.1234

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CAITLYN CHRISTIAN

MEP:
DR. KHALED MANSY
ELI HARRIS

04/17/2023

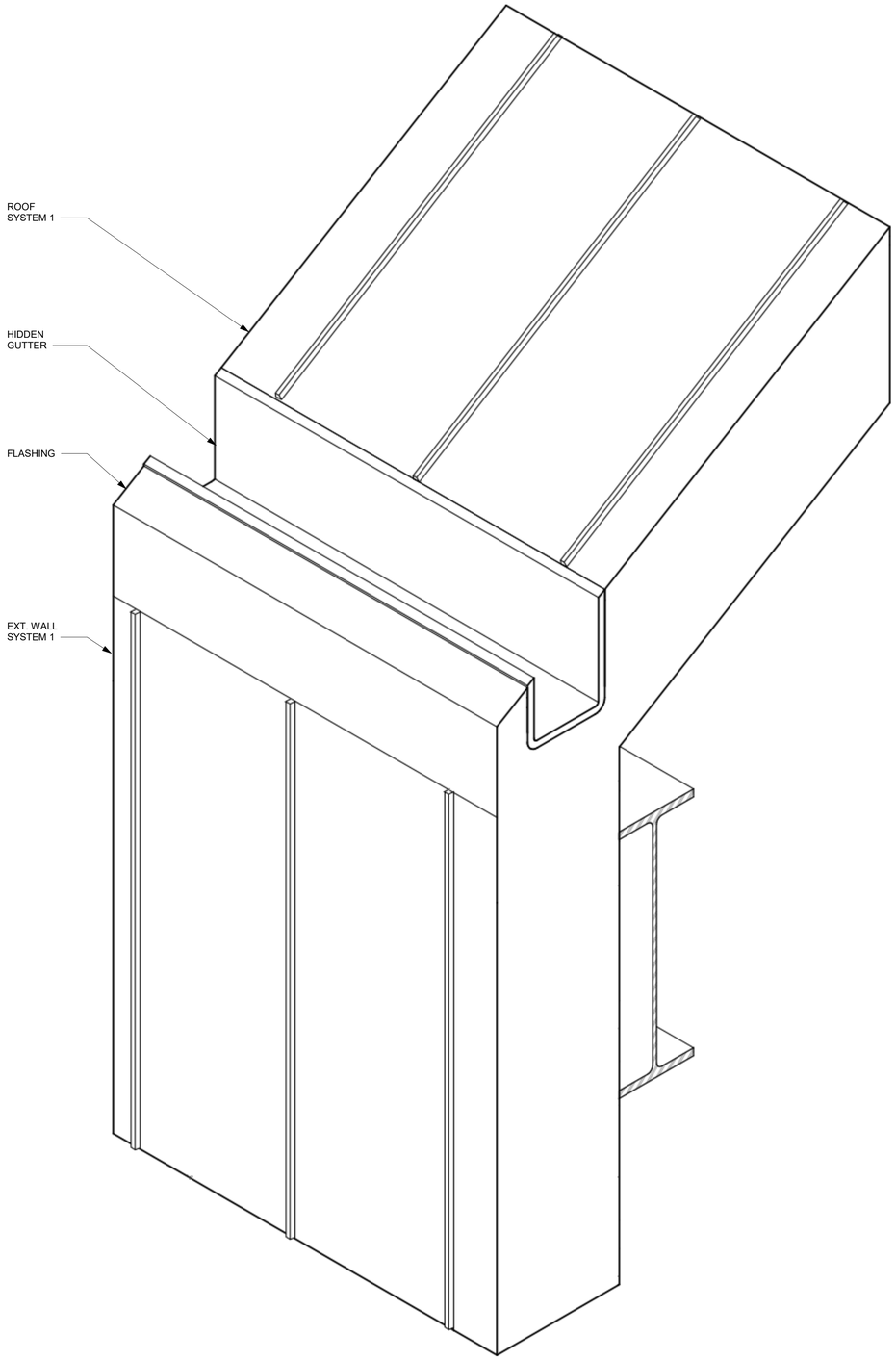
S. ROSE

Checker

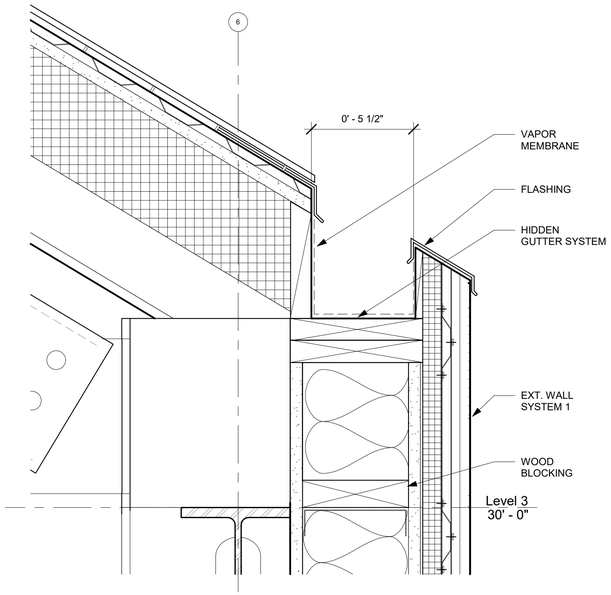
STAMP

WALL SECTION

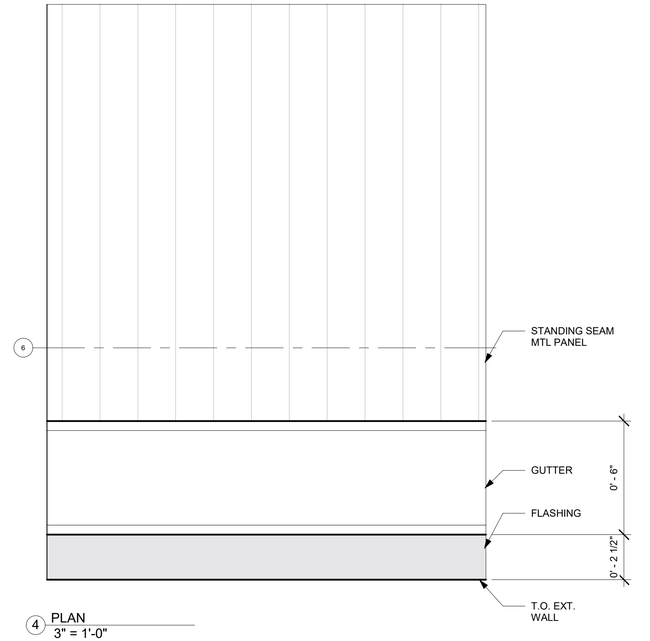
A.350



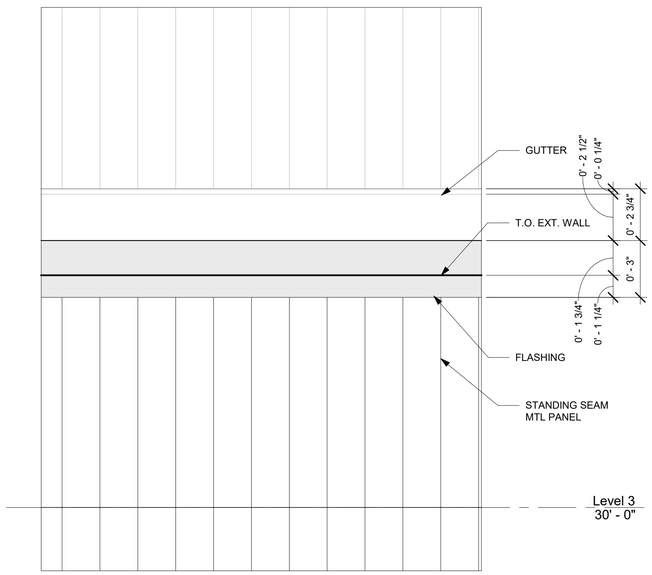
1 GUTTER DETAIL



2 SECTION
3" = 1'-0"



4 PLAN
3" = 1'-0"



3 ELEVATION
3" = 1'-0"

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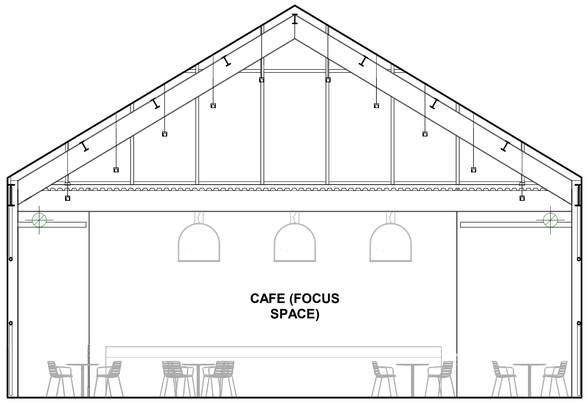
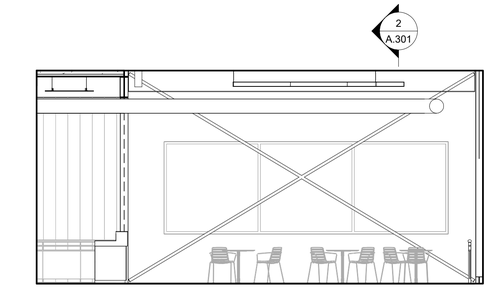
GUTTER DETAIL

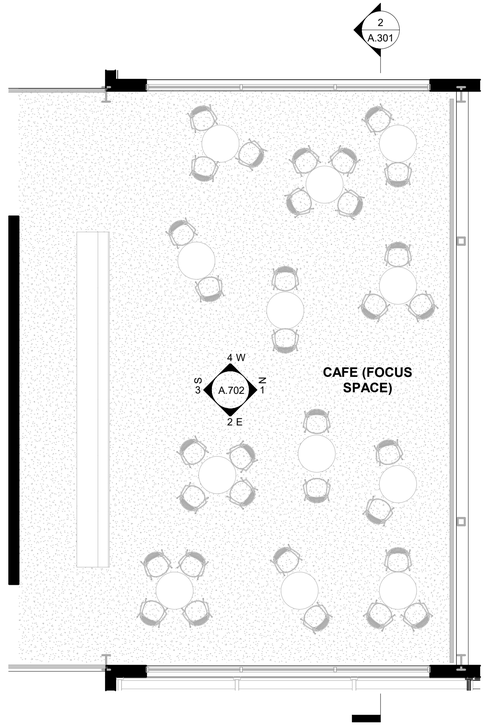
A.401



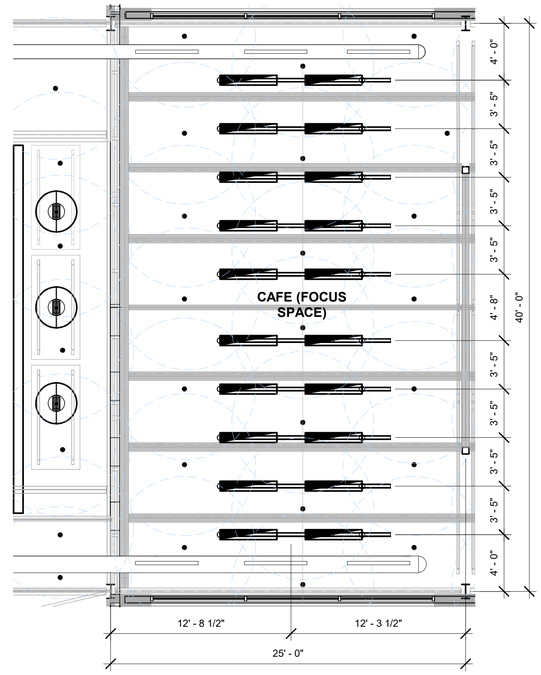
3 SOUTH
3/16" = 1'-0"



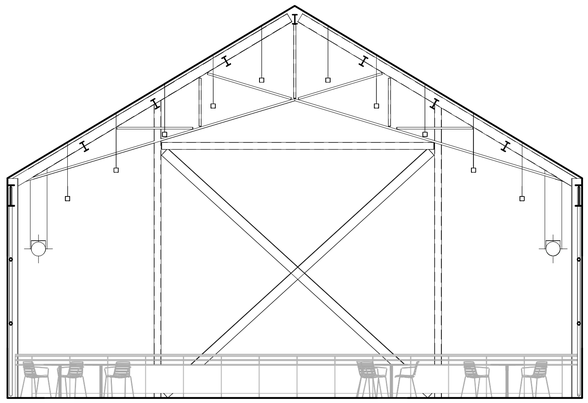
4 WEST
3/16" = 1'-0"



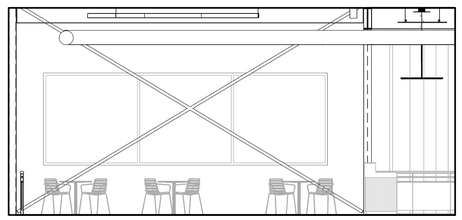
5 ENLARGED PLAN
3/16" = 1'-0"



6 REFLECTED CEILING PLAN
3/16" = 1'-0"



1 NORTH
3/16" = 1'-0"



2 EAST
3/16" = 1'-0"

N

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04/17/2023

S.ROSE

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FOCUS SPACE RCP

A.702

CONSTRUCTION DOCUMENTS REFLECTION

Construction Documents, CD, the final phase of an architectural project, we took the material choices we made in DD and refined into drawings that act as legally binding. During this phase we were challenged to create mock construction documents set, including a title block with our “firm” name. Each page contained details that are typical in construction documents such as size and quantity. We each individually created a set that included floorplans, elevations, siteplan, sections, and wall sections. The idea with the drawings is as the contractor flips through, the detail becomes more refined, like zooming in. In the last few pages of the construction documents, we were instructed to pick a specific detail and draw it to the scale that a contractor would be able to construct it. I chose a hidden gutter as my detail, a detail that is common in Europe and rising in popularity for its smooth look. Although the detail is popular, not many people in America have documented details of how to construct it. I was able to draw a section, plan, and elevation of the hidden gutter by piecing European dimensions and American dimensions together. The CD concluded with us turning in our final construction set of drawings at half scale. I hope to use the methods during this specific phase to help me in the future as I develop projects and provide creative solutions for clients.