

The Chameleon

By: Troy Brown





These days the growth of society is accelerating and there are many new technical and cultural problems to be considered. Buildings must therefore be in a position to respond to these rapidly evolving new environments. Buildings should no longer be constructed planned and developed for a single program only, but should take into account a variety of choices over centuries. One way to do that is through the adaptability of buildings; if correctly constructed, buildings can be re-programmed and re-inhabited without the possibility of needless deconstruction.



Designing a building that can adapt faster and more cost-effectively by embracing change also offers an efficient path to a more sustainable built environment for the desired purpose. Adaptability can be used in this sense as a way of minimizing the amount of new construction (reduction), (re)activating underused or empty building stock (reuse) and improving the disassembly / deconstruction of components. A building that can adapt and change to become useful for not only today's society but for future generations is a key factor for the development of the future.

Design Strategies

MOVEABLE WALL PARTITIONS

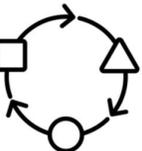
- An adaptable building should provide a space plan that is able to be arranged in several scenarios to meet different needs, lifestyles and uses. Functional and spatial adaptability can be achieved by using moveable partition walls as it will create multifunctional spaces allowing for a large variety of functions, as well as trans functional spaces which can lead to the creation of new undetermined and unpredictable activities according to the users' personal experiences and their consumption of space. Using moveable partition will also support elasticity and divisibility because the building will be easily extended vertically or horizontally and can also be subdivided into different functional entities without hampering its coherence.

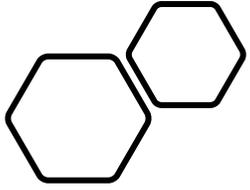
SLIDING MECHANISM

- An approach that has been used in fast-assembled systems is the sliding mechanism. Using this method made it easier to alter the form and shape of the building and helped me design a building that made the transformation to each use and typology successful.

RETRACTABLE STRUCTURE

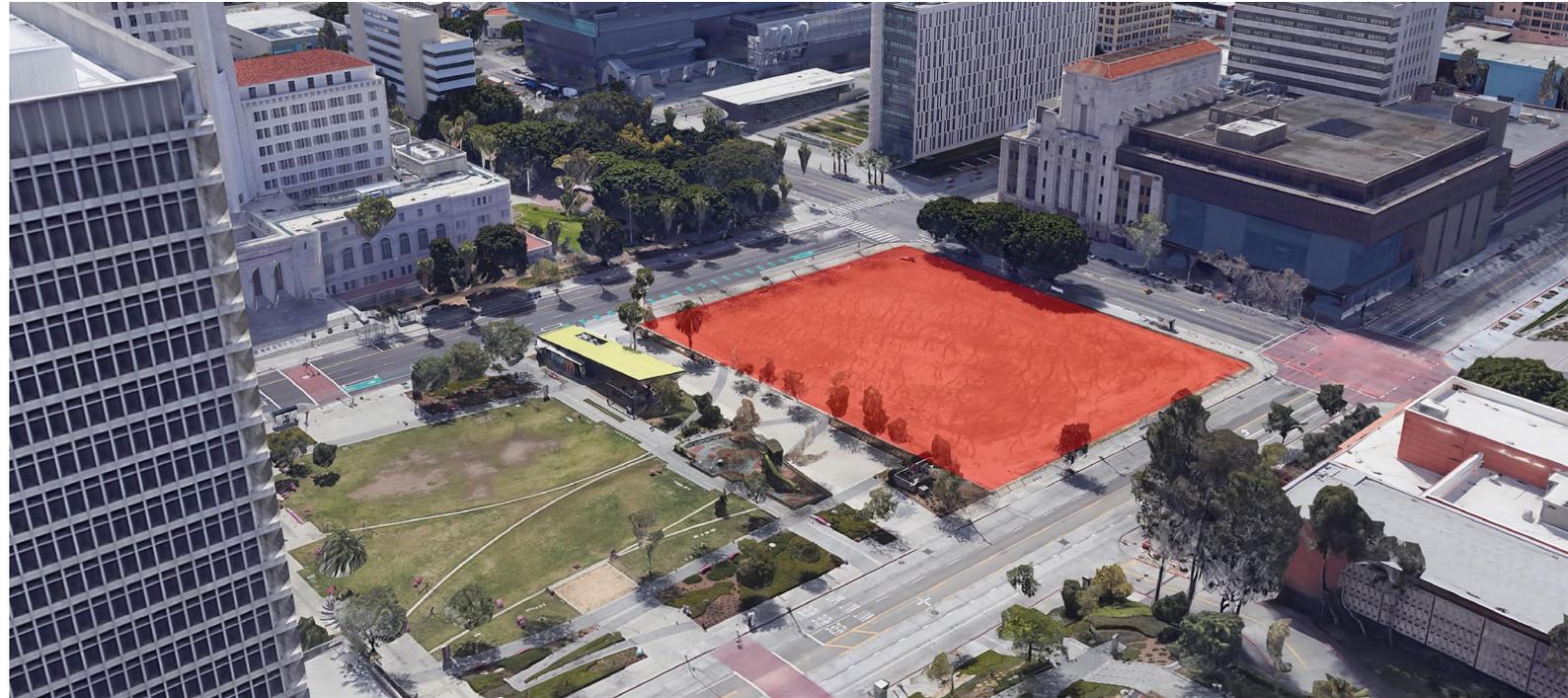
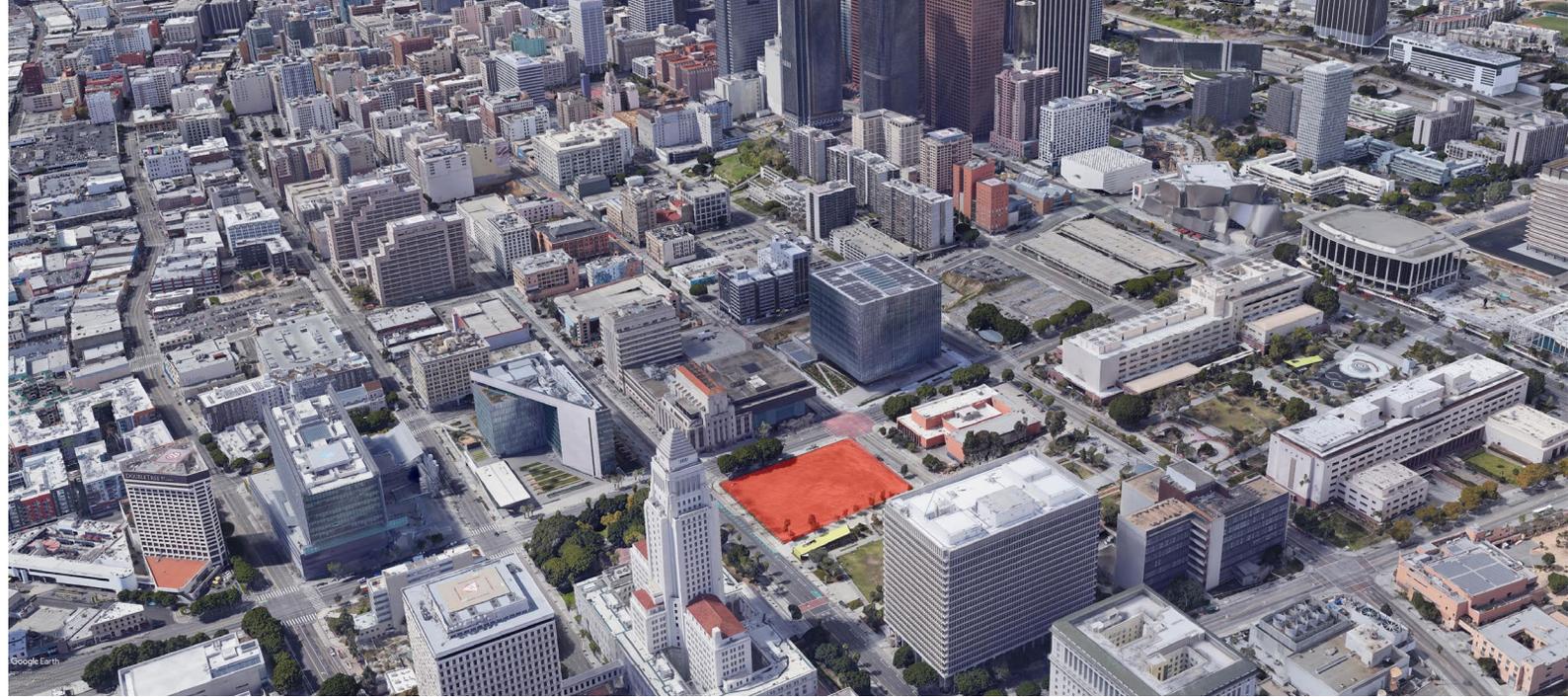
- The use of retractable structures, roofs, skylights, windows, and doors were key design features that were integrated into my project that made it possible to make a building be re-programmed and re-inhabited without the possibility of needless deconstruction. The use of operable awnings also was used as a tool to separate spaces to make them become private or public spaces.





AERIAL SITE VIEW

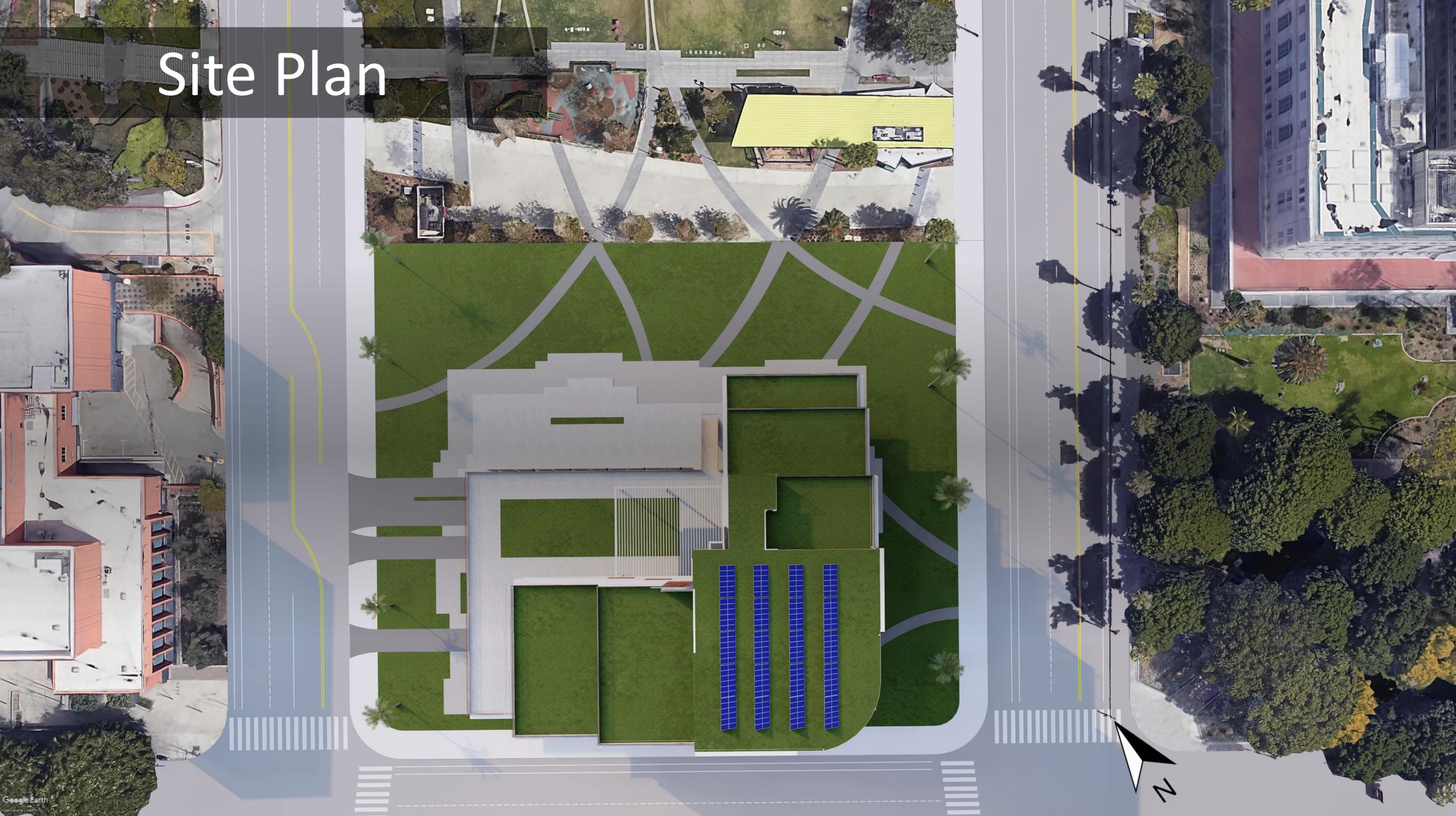
- The site is located in the Northern part of Los Angeles and is part of the Civic Center District. The Site is neighboring the Grand Park which is a 12-acre park that include tree-shaded sidewalks, drought-tolerant plants, an interactive fountain plaza, performance lawns and courtyards, plenty of street lights, movable park furniture, and kiosks to encourage the walking and exploration of the area. The City Hall and court buildings are particularly significant for the decorative concrete grilles and the geometric metal *brise soleil* (A type of shading system that uses a series of horizontal and vertical blades to control the amount of sunlight and solar heat that enters the building) which decorate their front facades. The use of *brise soleil* on the surrounding buildings will make the use of a kinetic panels and adaptable facade fit in well with the area and surrounding buildings.



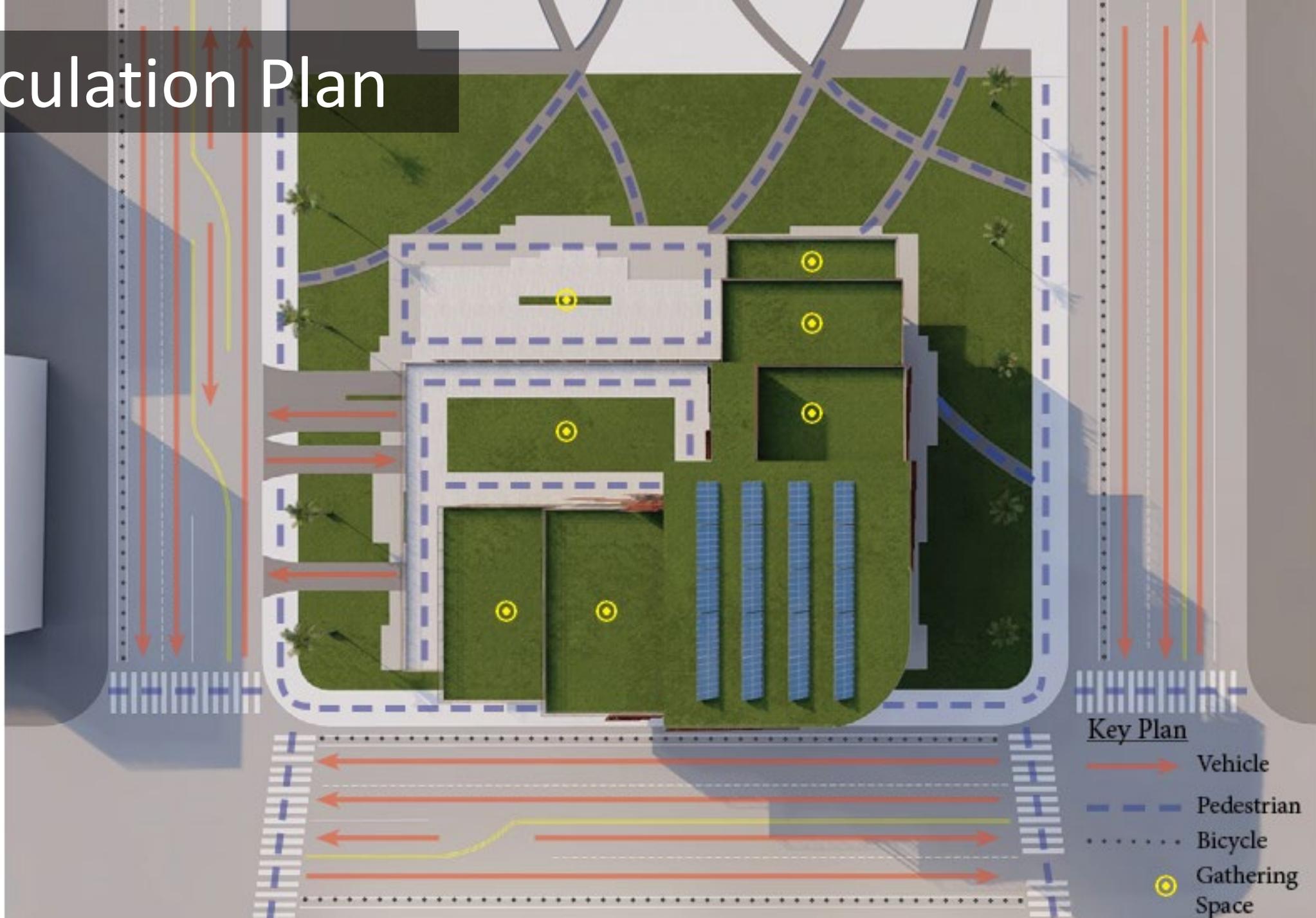
Current Site



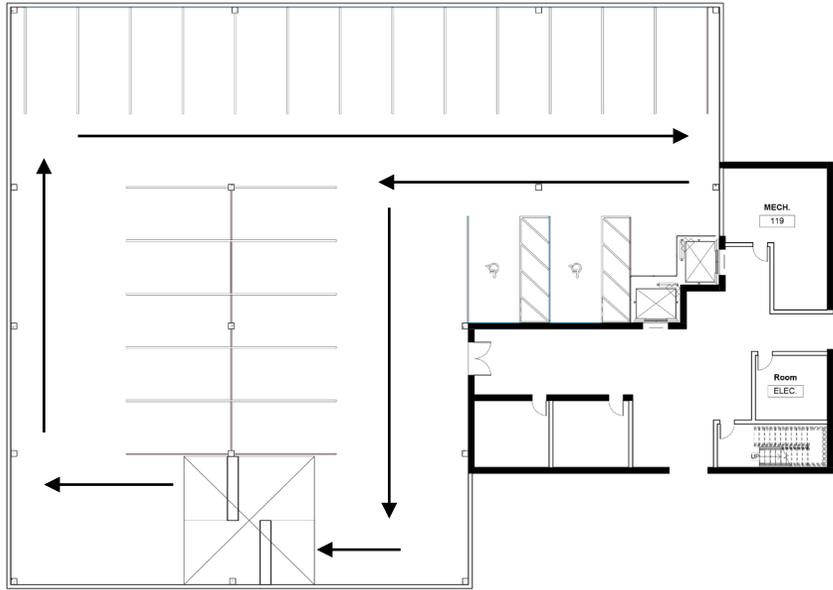
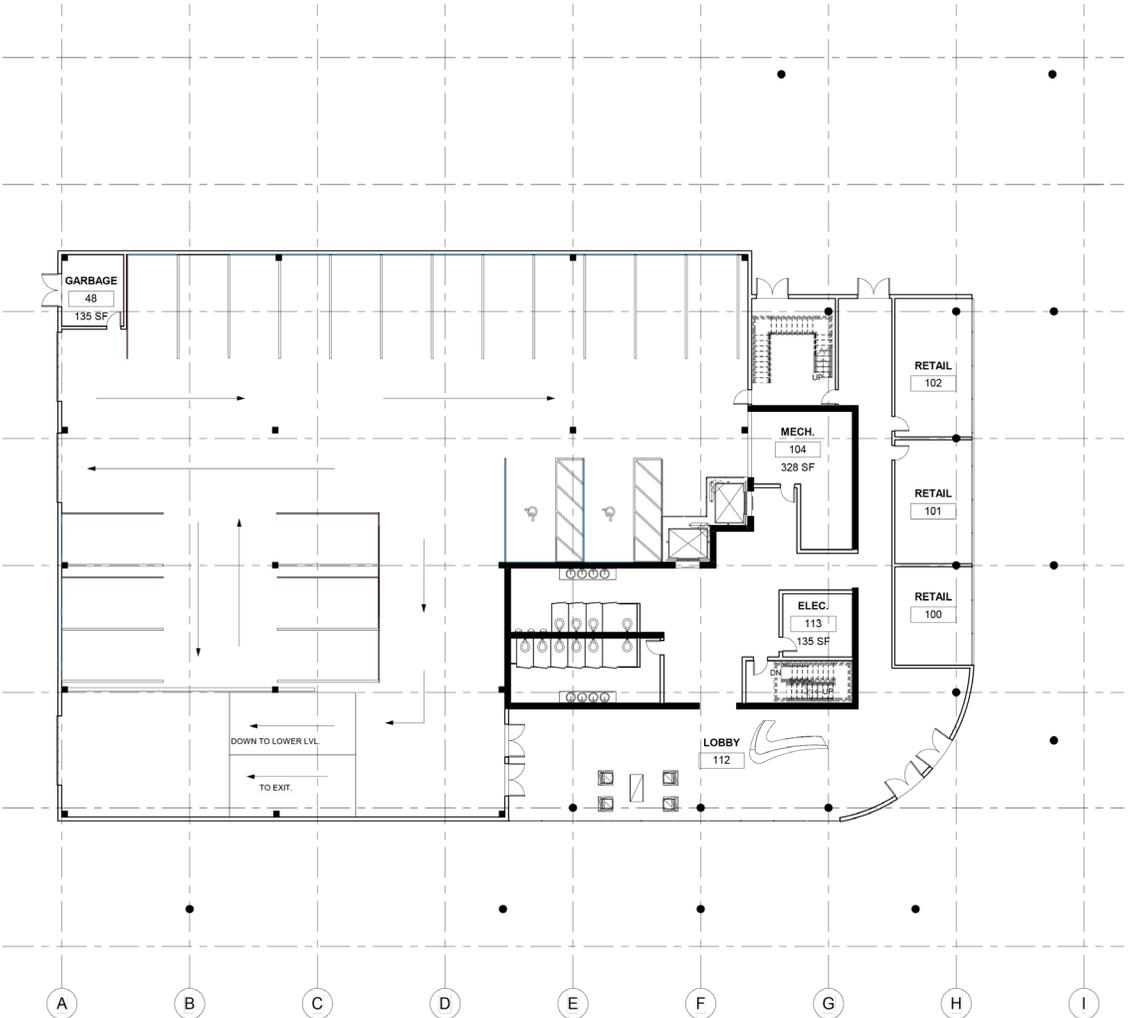
Site Plan



Circulation Plan



Ground Level Plans: Office, Retail, and Residential



Lower - Level Parking



 = Moveable Partition Walls

Second Level Floor Plans



OFFICE

Sq. FT of Outdoor Space = 3004'

Sq. FT of Glazing = 424'



RETAIL

Sq. FT of Outdoor Space = 1698'

Sq. FT of Glazing = 368'



RESIDENTIAL

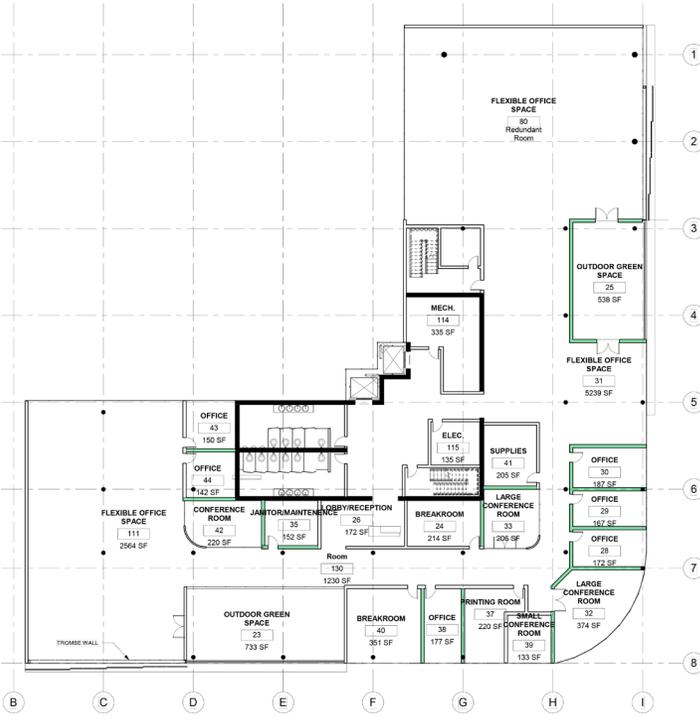
Sq. FT of Outdoor Space = 0'

Sq. FT of Glazing = 275'



 = Moveable Partition Walls

Third Level Floor Plans



OFFICE

Sq. FT of Outdoor Space = 1271'

Sq. FT of Glazing = 68'



RETAIL

Sq. FT of Outdoor Space = 1723'

Sq. FT of Glazing = 57'-6"



RESIDENTIAL

Sq. FT of Outdoor Space = 0'

Sq. FT of Glazing = 0'



 = Moveable Partition Walls

Fourth Level Floor Plans



OFFICE

Sq. FT of Outdoor Space = 6656'

Sq. FT of Glazing = 358'-6"



RETAIL

Sq. FT of Outdoor Space = 3987'

Sq. FT of Glazing = 276'-6"



RESIDENTIAL

Sq. FT of Outdoor Space = 1711'

Sq. FT of Glazing = 97'



 = Moveable Partition Walls

Fifth Level Floor Plans



OFFICE

Sq. FT of Outdoor Space = 5975'

Sq. FT of Glazing = 346'

RETAIL

Sq. FT of Outdoor Space = 3753'

Sq. FT of Glazing = 277'

RESIDENTIAL

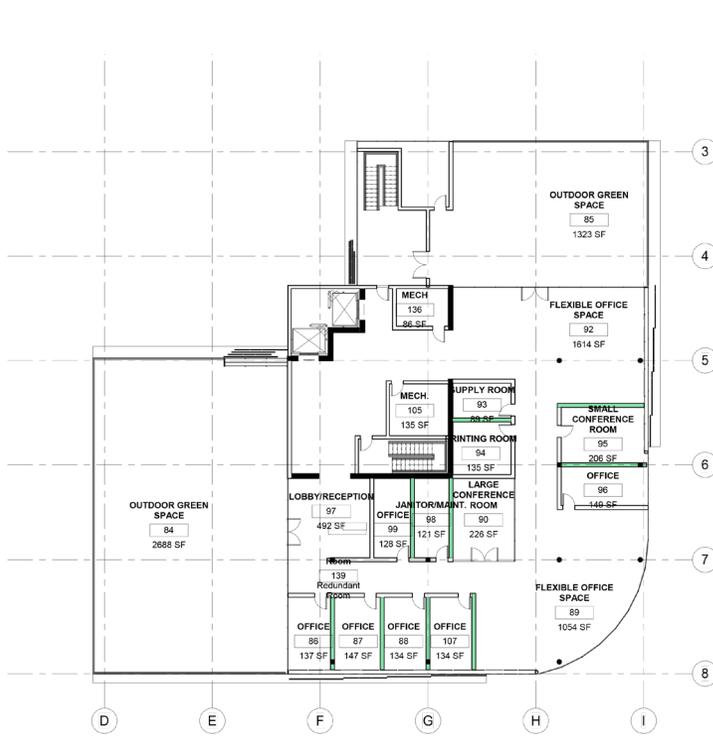
Sq. FT of Outdoor Space = 1453'

Sq. FT of Glazing = 78'



 = Moveable Partition Walls

Sixth Level Floor Plans



OFFICE

Sq. FT of Outdoor Space = 4168'

Sq. FT of Glazing = 212'



RETAIL

Sq. FT of Outdoor Space = 3241'

Sq. FT of Glazing = 222'



RESIDENTIAL

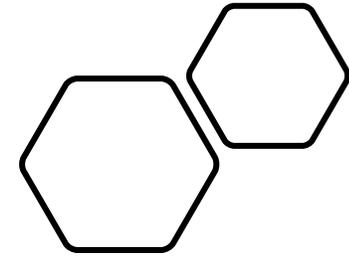
Sq. FT of Outdoor Space = 4359'

Sq. FT of Glazing = 260'



PERFORMANCE ANALYSIS

	OFFICE	RETAIL	RESIDENTIAL
LINEAR FT. OF PARTITION WALLS	1,055' 8" FT	1055' 8" SQ. FT	1562' 10" SQ. FT
SQ. FT OF GLAZING WALL	21,392 SQ. FT	24,373 SQ. FT	27,874 SQ. FT
OVERALL SQ. FT OF INDOOR SPACE	52,304 SQ. FT	63,702 SQ. FT	77,480 SQ. FT
SQ. FT OF OUTDOOR SPACE	21,074 SQ. FT	14,402 SQ. FT	7,523 SQ. FT
PERCENTAGE OF PUBLIC SPACE	8.1 %	77.3%	8.1%
PERCENTAGE OF PRIVATE SPACE	21.8%	9.11%	83.5%
PERCENTAGE OF SEMI-PUBLIC SPACE	70.1%	13.59%	8.4%
LENGTH OF RAILINGS (FT)	1408'-6" SQ. FT	1,201' SQ. FT	710' SQ. FT
NUMBER OF PANELS	61	61	61

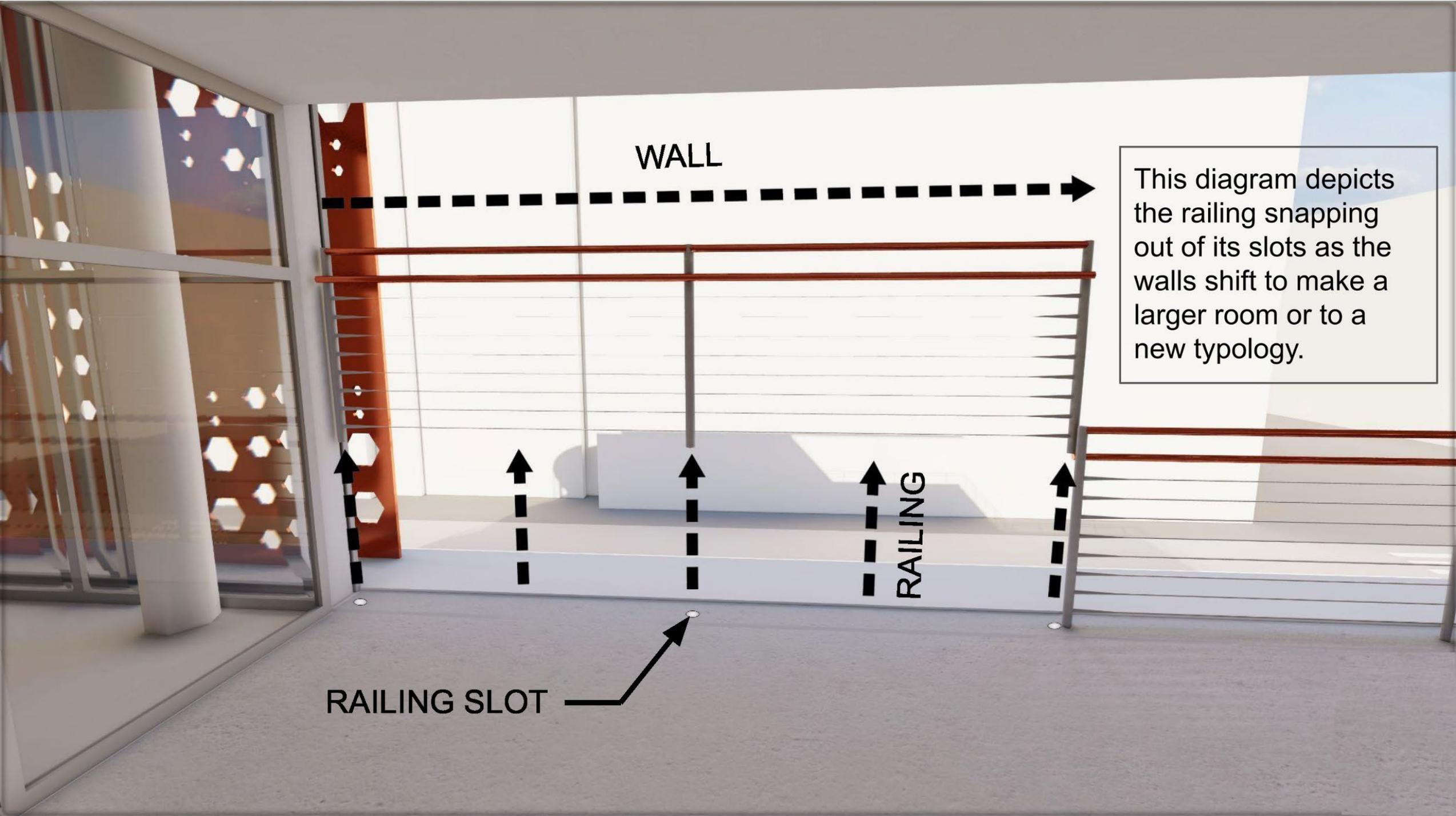








In my design, I used moveable awnings to build flexible spaces that can transform public space into private or semi-public spaces.



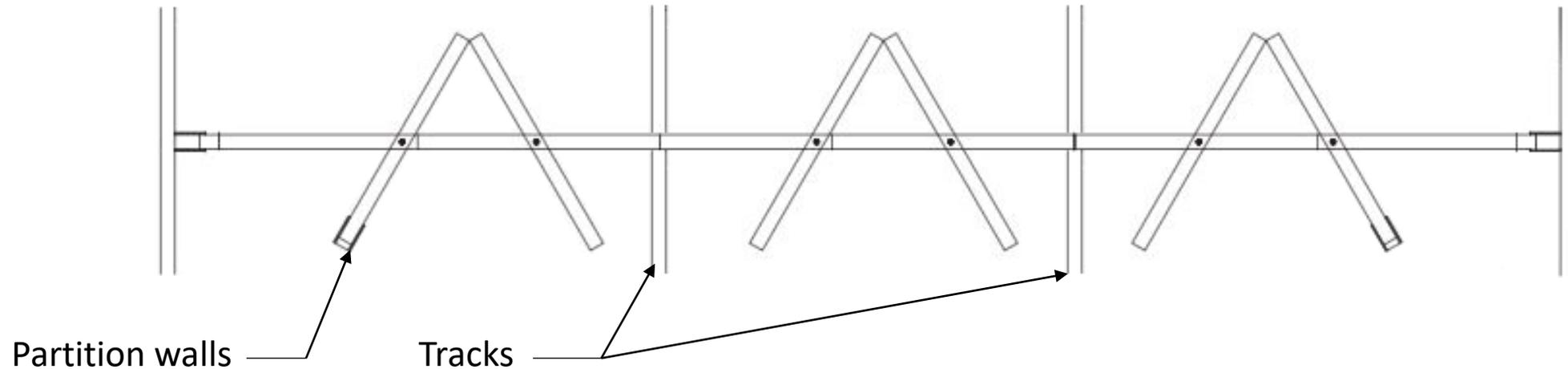
WALL

This diagram depicts the railing snapping out of its slots as the walls shift to make a larger room or to a new typology.

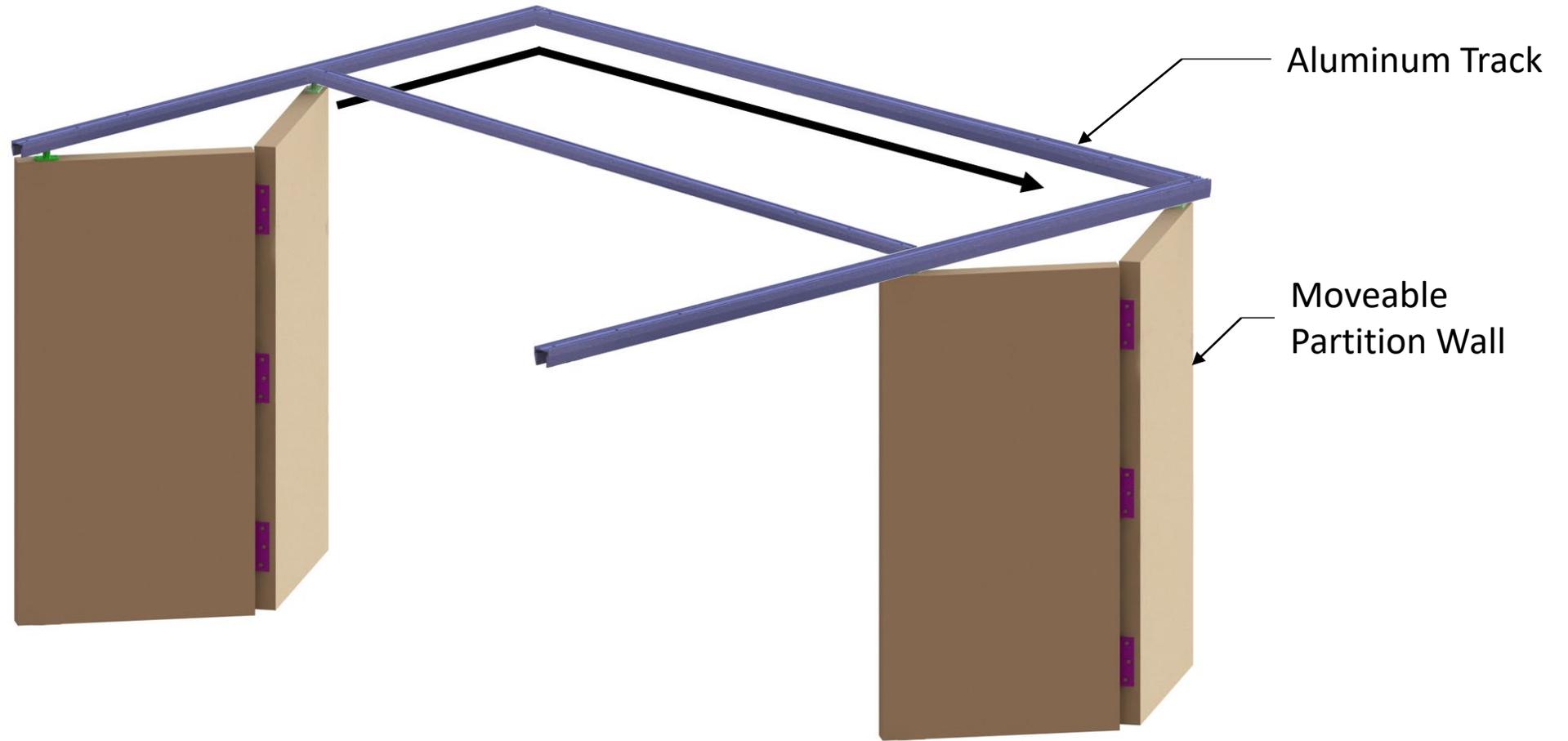
RAILING

RAILING SLOT

Paired Operable Partitions



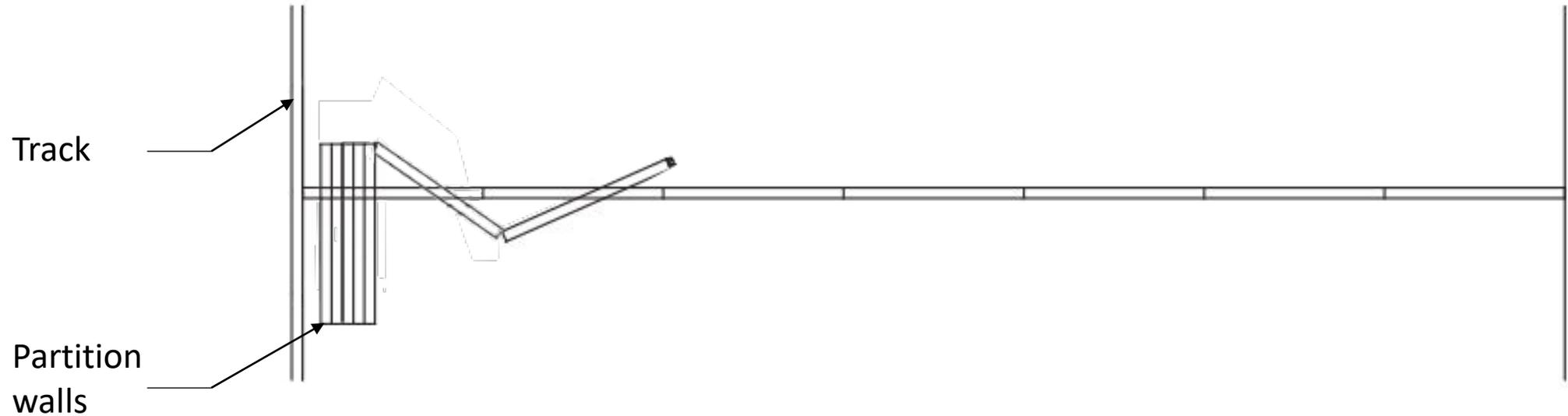
A type of moveable partition walls I used in my project are paired operable partitions. These moveable partition walls use retractable top and bottom seals, which allow for easy panel movement. The advantages with retractable top and bottom seals are that retractable seals are intended to compensate for uneven floors, nothing drags on the floor or track as the panels are retracted and panels can also be "locked" into place.



This diagram illustrates how the paired operable partition walls shift on aluminum tracks to create spaces that can be configured in a variety of scenarios to meet different needs, lifestyles, and uses.

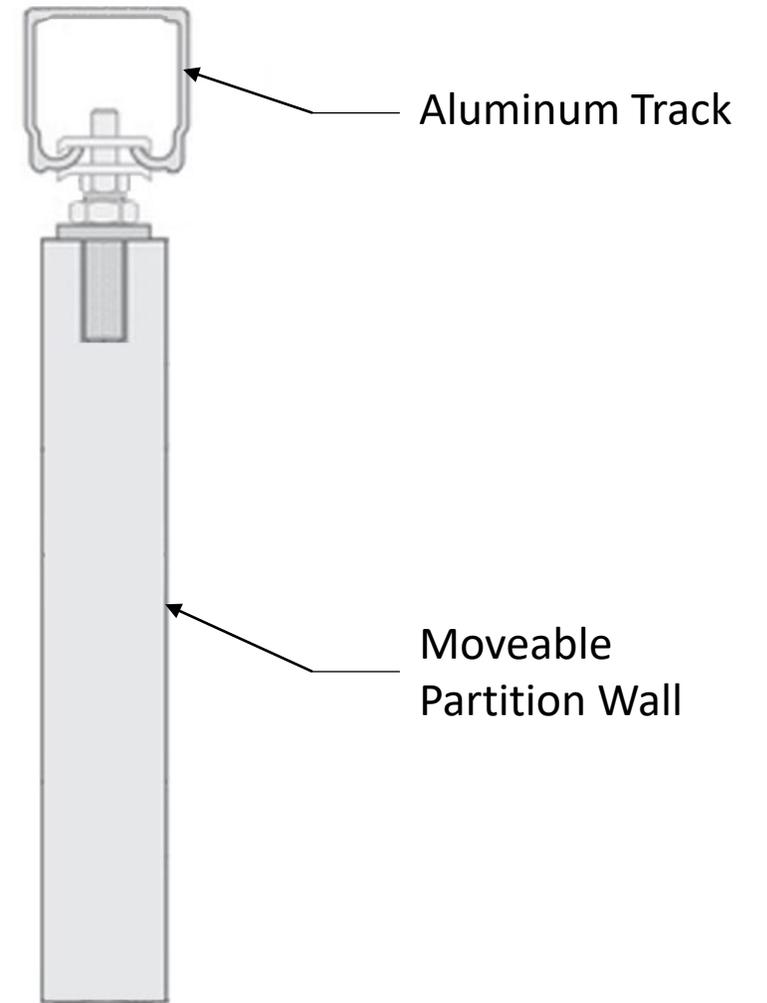
Partition Wall Track System

Single Opening Partition Wall

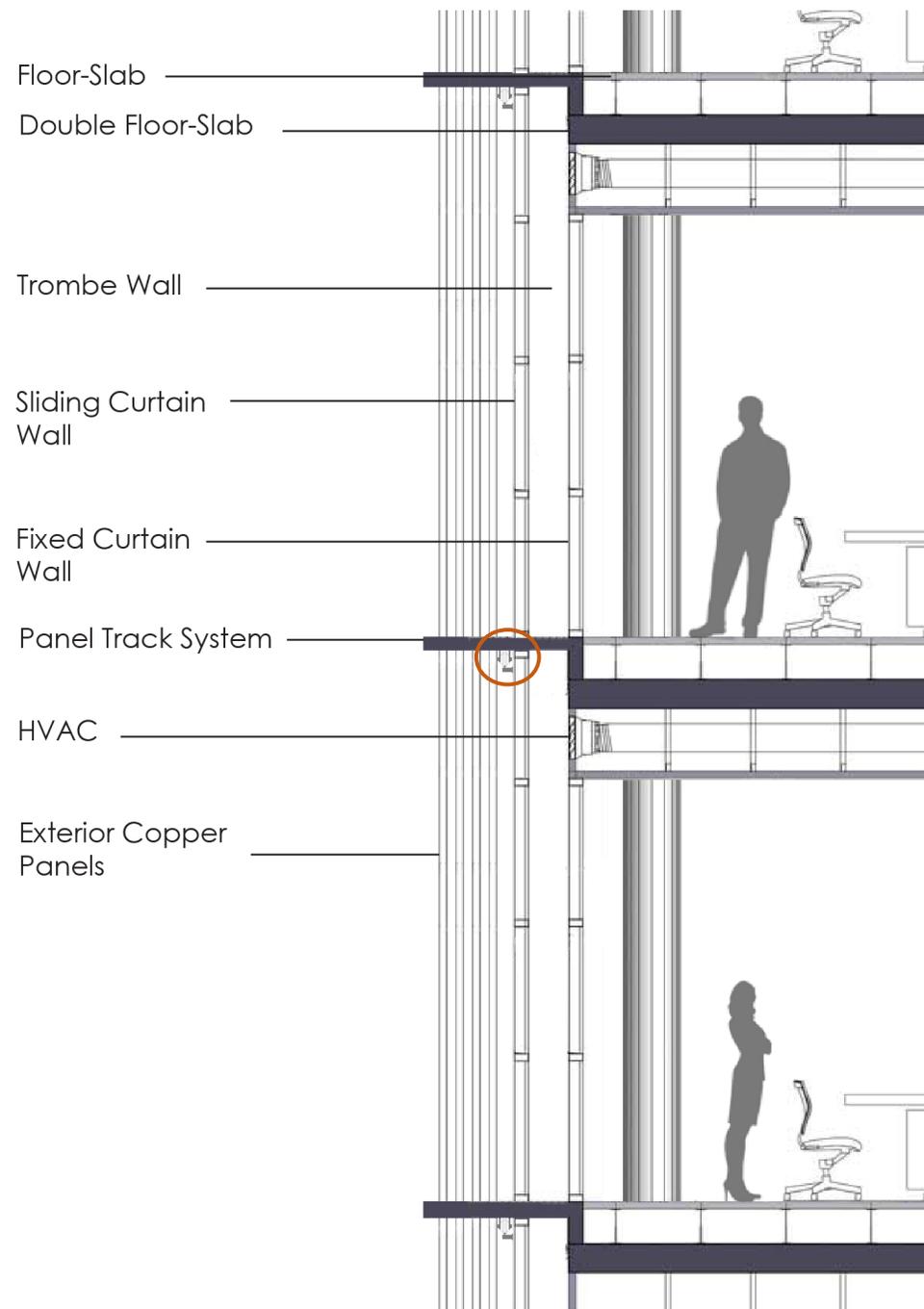


In my project I also used single opening partition walls. These moveable partition walls have retractable seals as well that exert continuous force against the track and floor for optimal acoustics, including on carpet or other porous floor materials. When the seals are mounted, the panel remains stable.

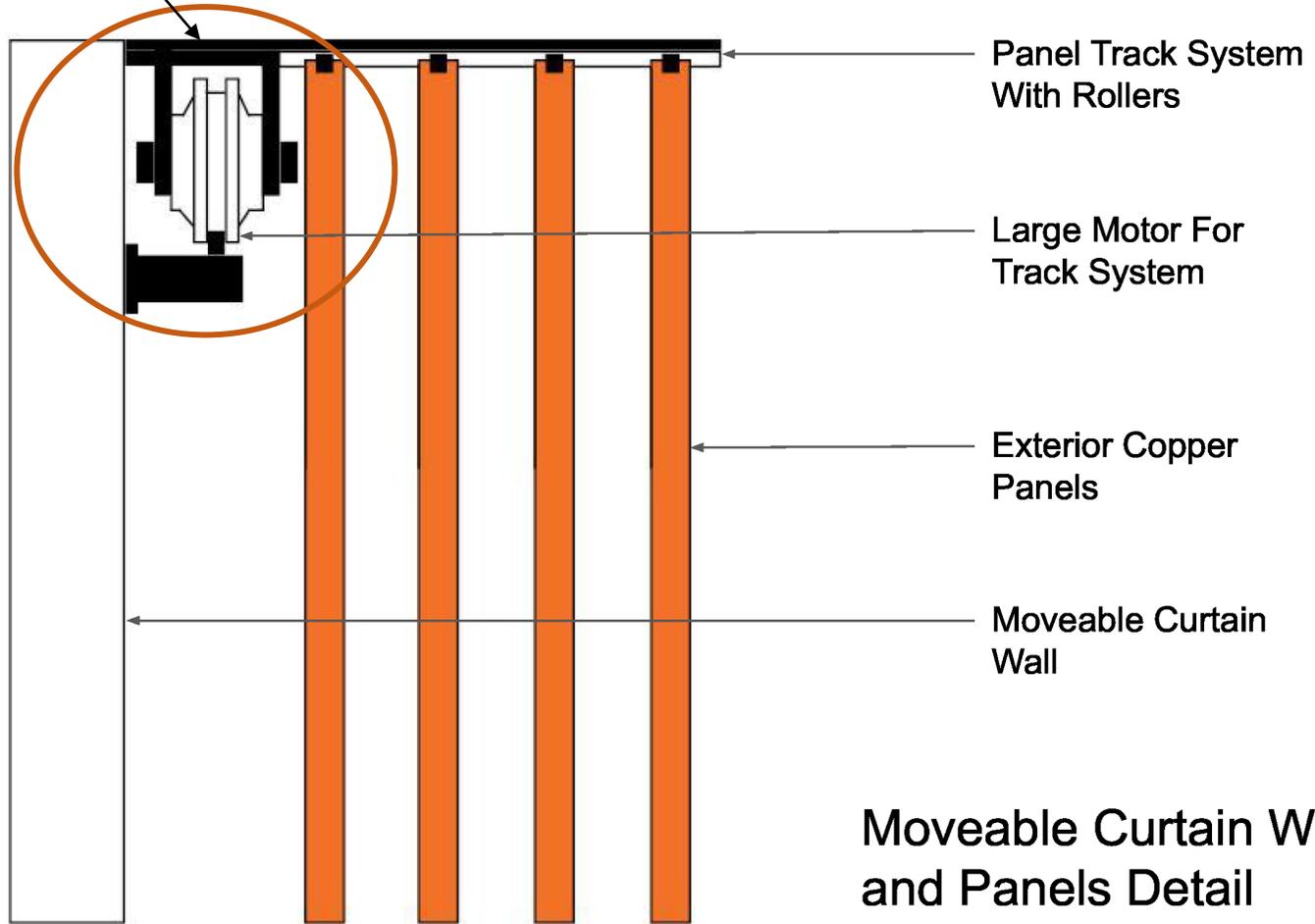
The partition walls are top hung, so there is no need for a floor track.



Building Section

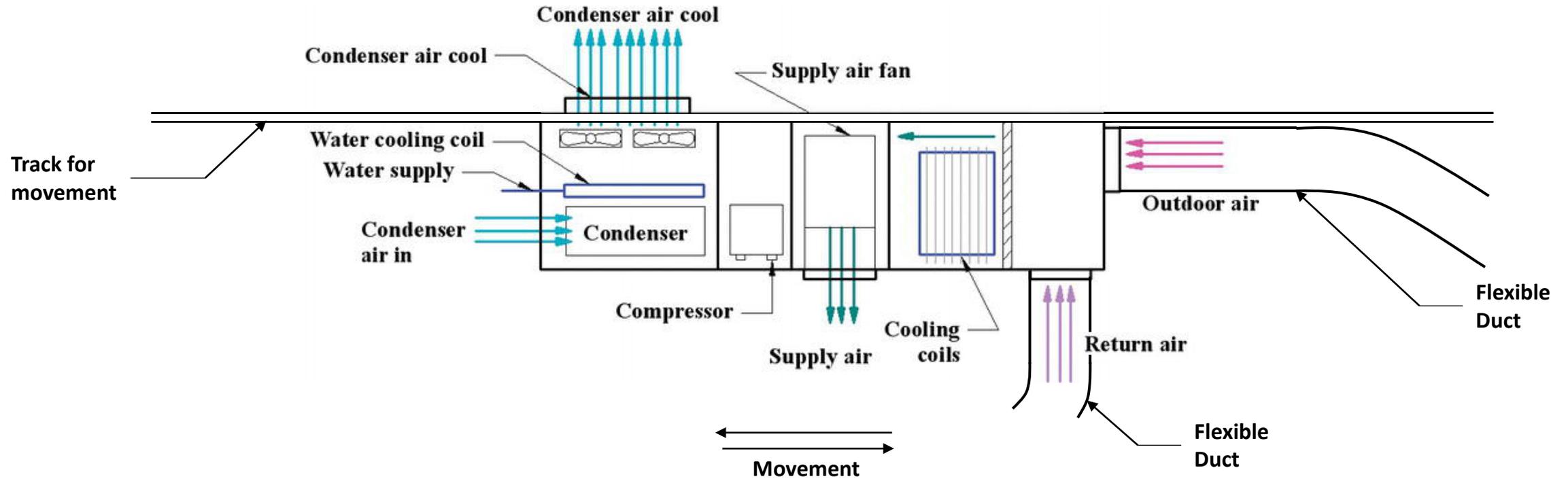


Top Weld



**Moveable Curtain Wall
and Panels Detail**

HVAC – Package Units Ceiling Mounted





OFFICE ELEVATION



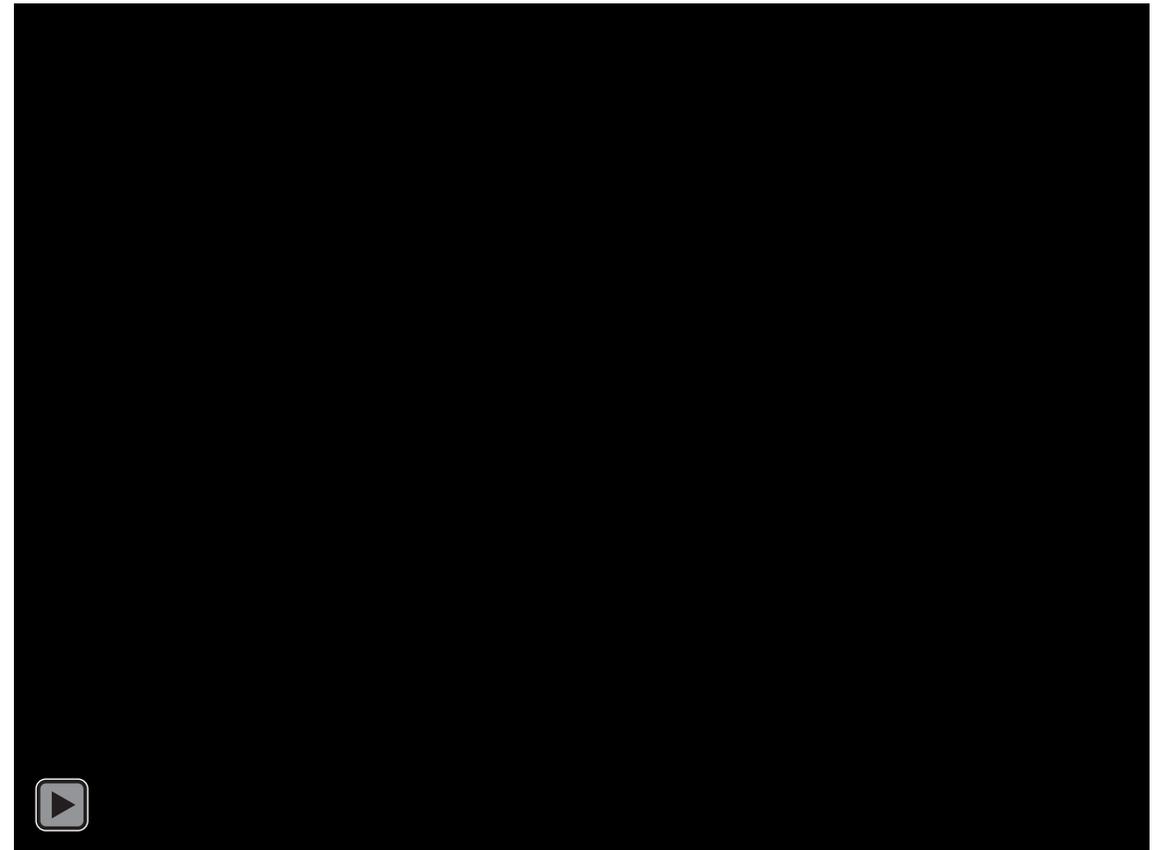
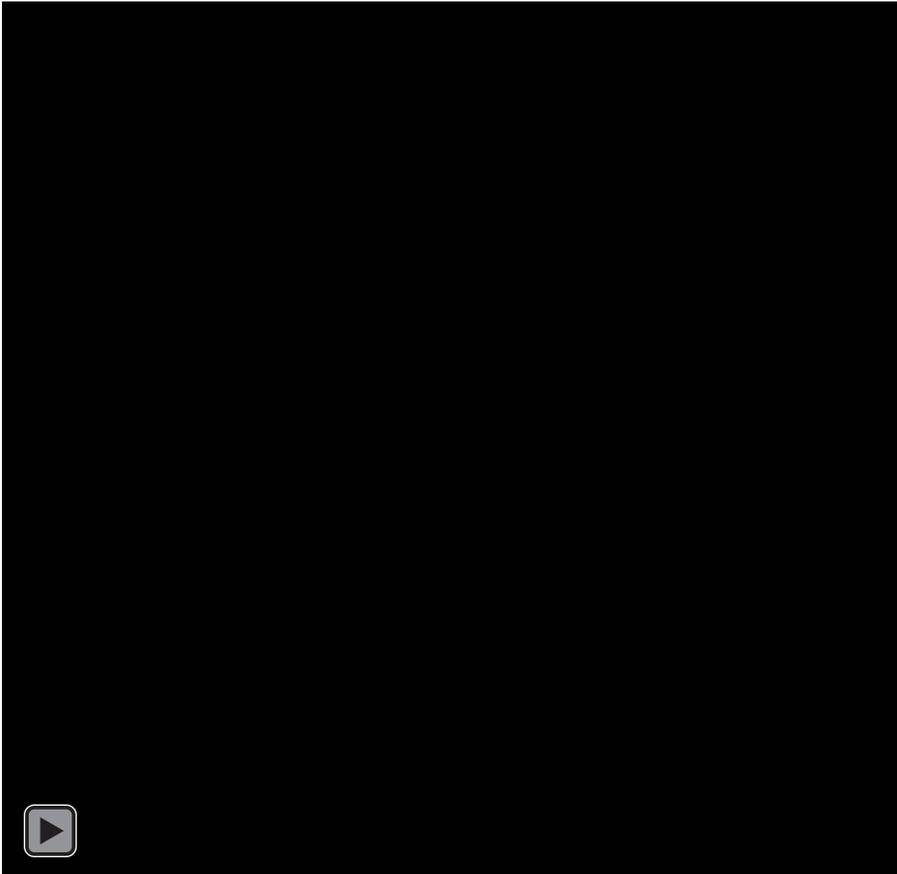
RETAIL ELEVATION



RESIDENTIAL ELEVATION



Ori Pocket Office





Office

Retail



Residential



(1)

(2)

Materials

(1) Copper

(2) Glass

(3) White Concrete

(4) Wood Cladding

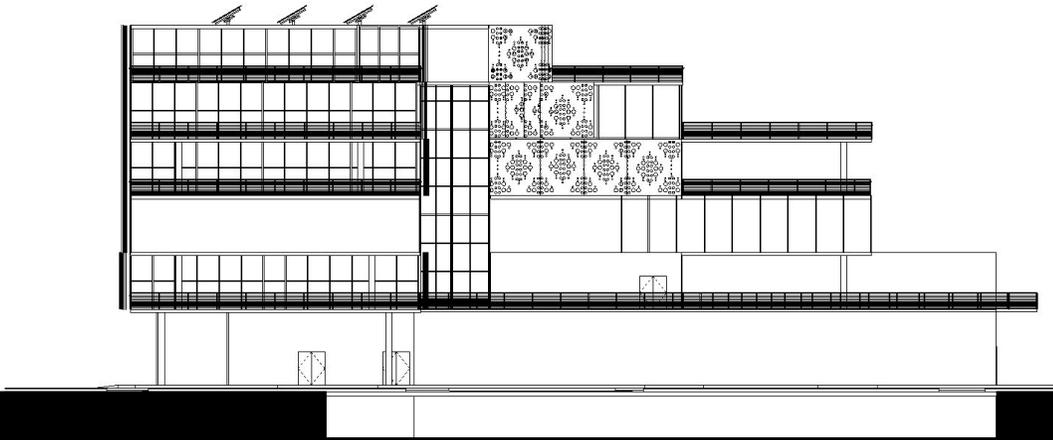
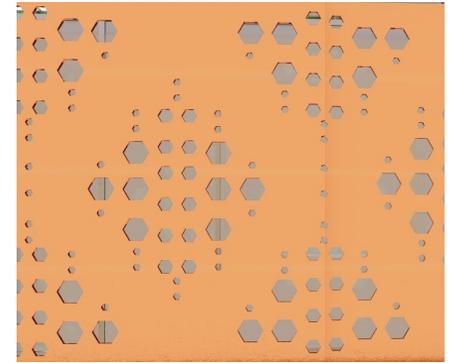
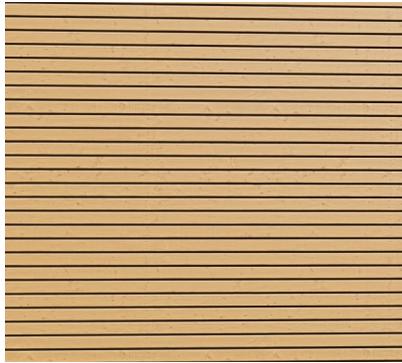
(3)

(4)

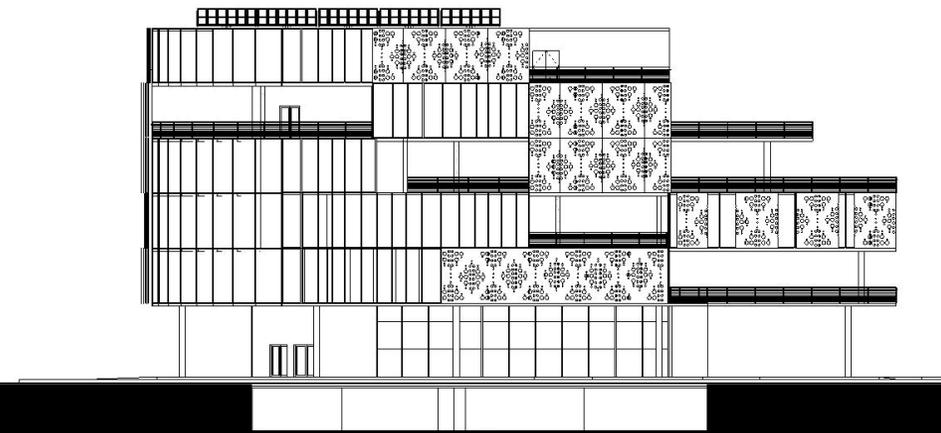


Thank You

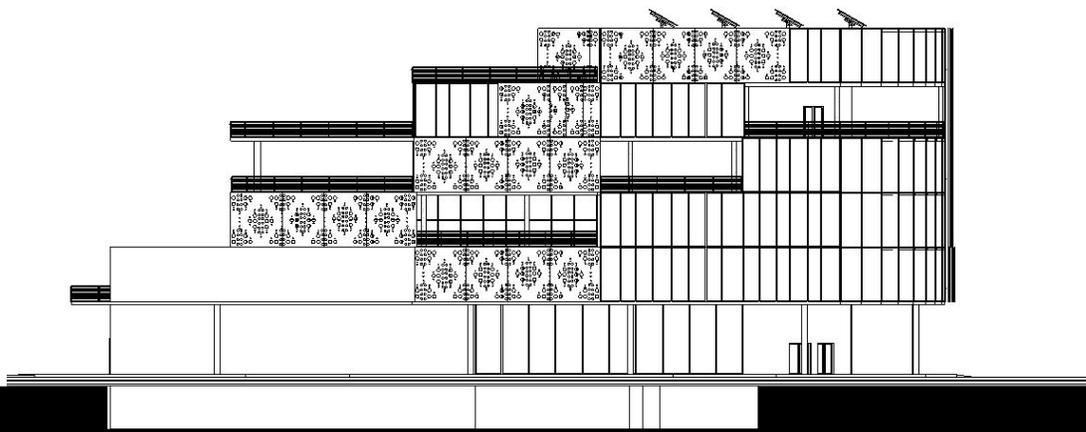




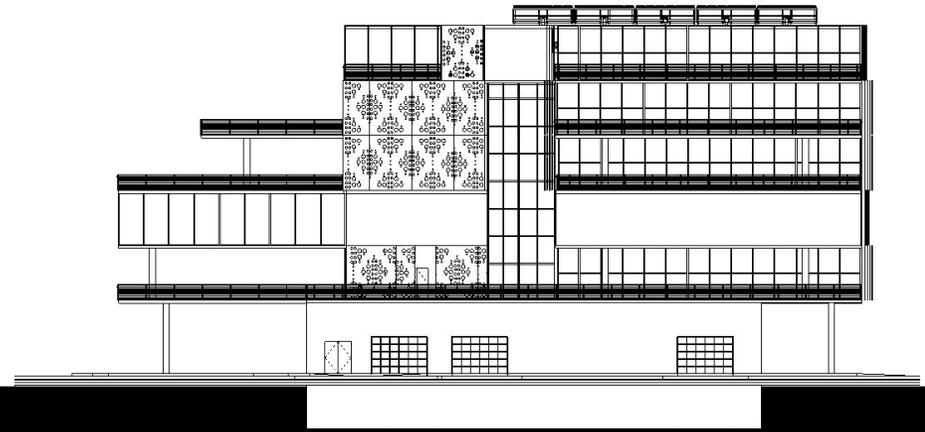
North Elevation



East Elevation



South Elevation



West Elevation