

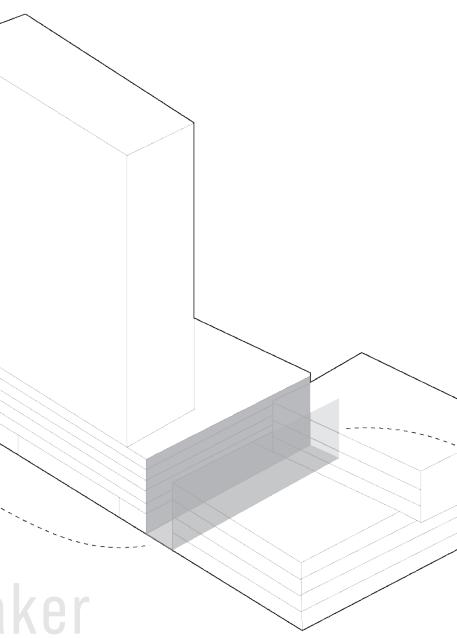
PORTFOLIO

DA GUO

"Make it simple, but significant."

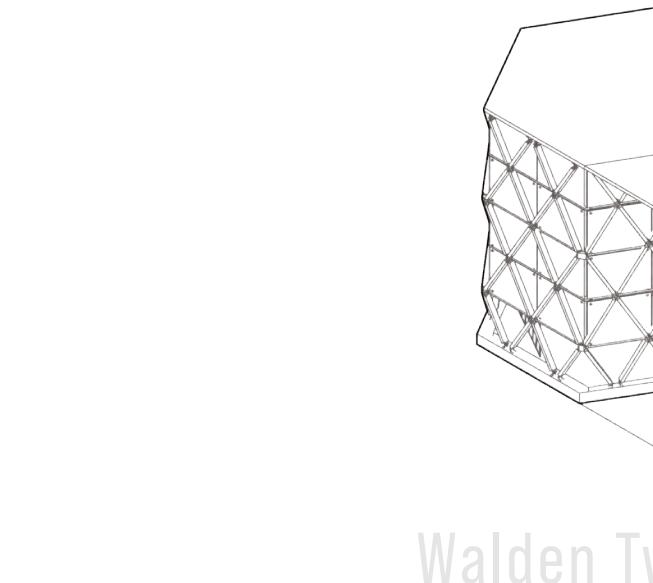
-- Don Draper, fictional character in Mad Men

CONTENT



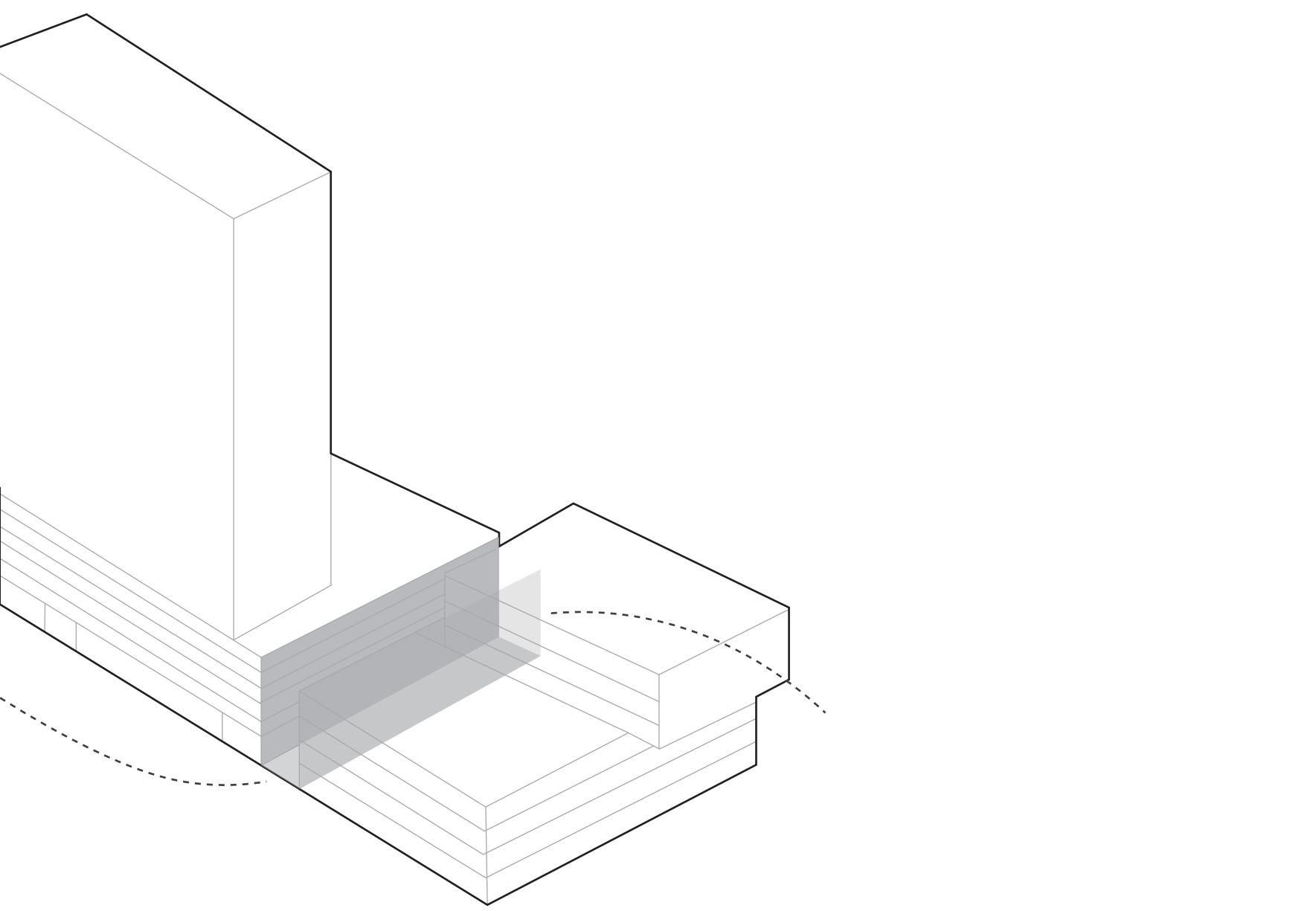
The Maker

p. 004 ~ 014



Walden Two

p. 016 ~ 028



[Artist + Beer + Alley]^{^ #KeepPortlandWeird} = ?

Block 8: **THE MAKER**

Portland, OR

A "Zidell Yards" Redevelopment project

Type: Maker space + residential tower

Focus: Human Wellbeing, Alley culture, Brewery, Art, Support for young artists

Duration: 7 weeks

Honor:

Considered best design among 10 blocks

Group:

Da Guo
Research + Design + Diagram + Render

Haley Ladenburg
Research + Design + Plan & Section

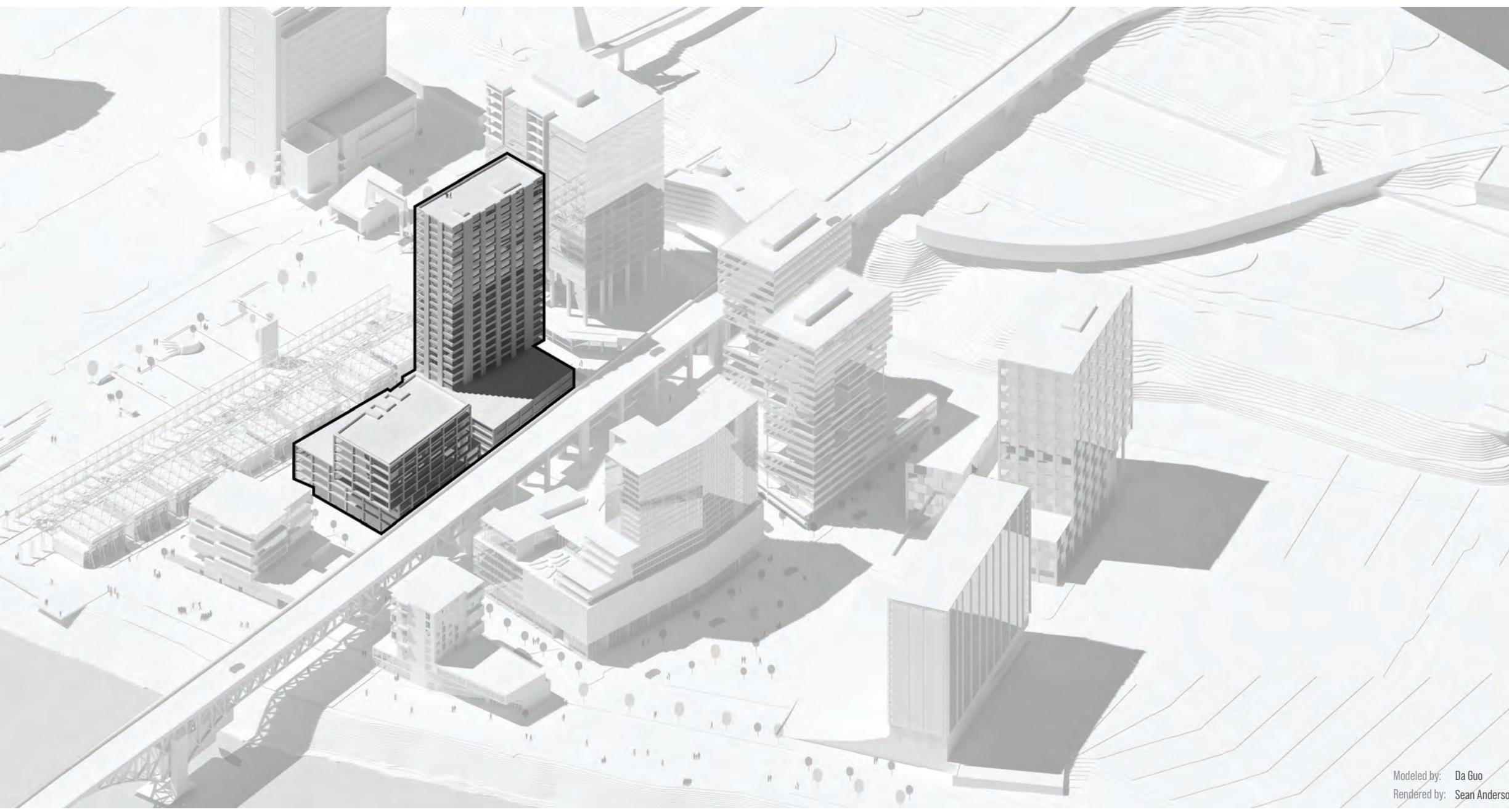
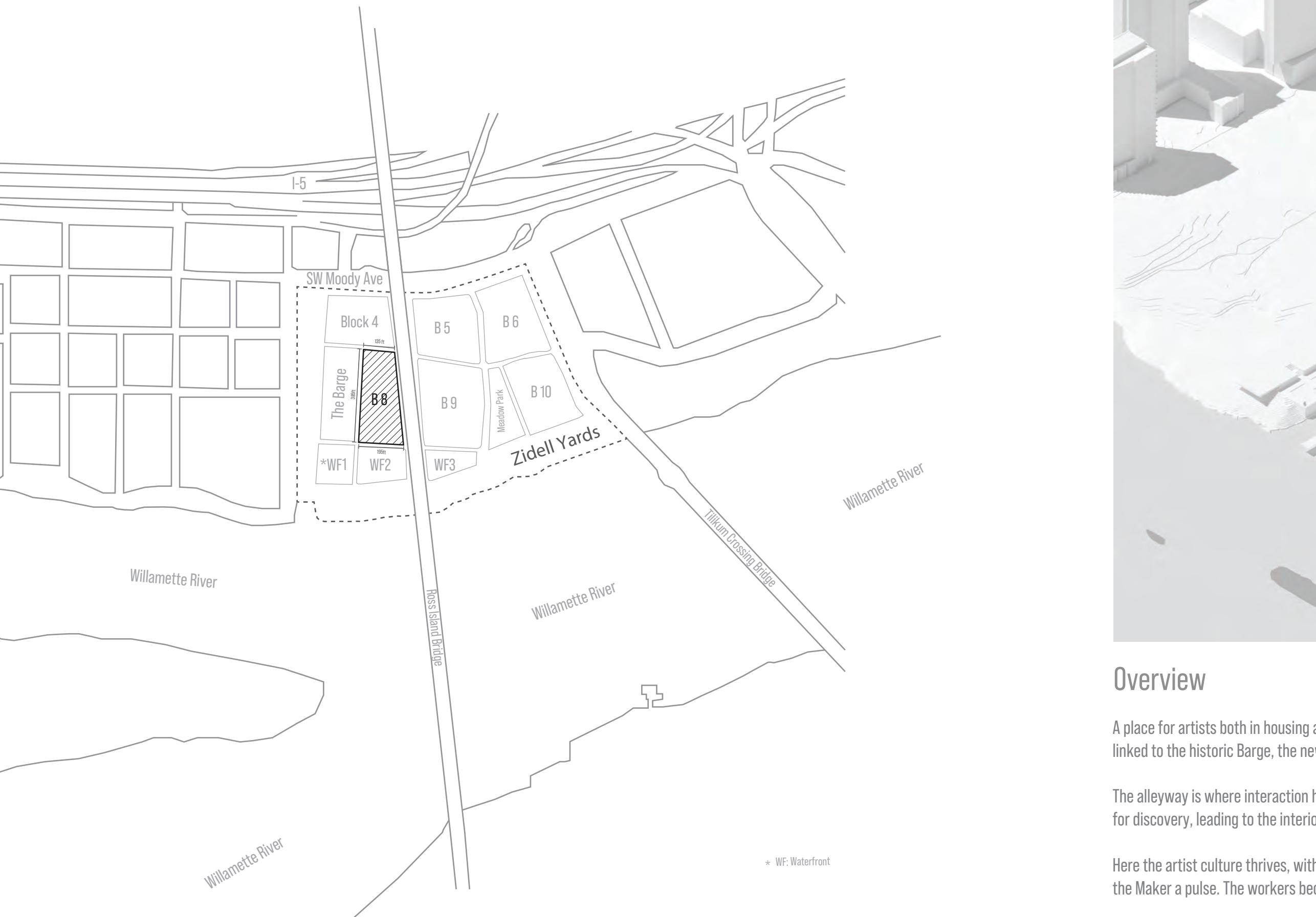
Context

The Zidell family, who was in the ship dismantling business during World War II and later transitioned into barge-building business, is now seeking new opportunities in land development in developing its own warehouse spaces. After spending millions to remove the toxic materials generated over the years on the shoreline, the site is ready to be designed and developed. Design firm Sasaki was invited to first masterplan the site. Approximately 2 parks, 5 new roads and 10 blocks were generated.

As per Washington State University March requirements, we had the pleasure to have summer immersion studio inside GBD architects' office in Portland, Oregon. We were given this exciting project to tackle on based on the masterplan by Sasaki. Teams of two were assigned to one of the ten blocks based on personal preferences with some exceptions.

We (Da Guo and Haley Ladenburg) were assigned to a challenging block --- block 8. The rather slim site of uneven shape, close proximity to the bridge, lack of visibility, and limited transportation were all parts of the challenge.

The entire project had to be completed within 6 weeks, and the 7th week is for presentation and exhibition. Based on the restraints, we decided to focus on the single most important location of the block --- the alley, while limiting design on the rest of the parts, like residential tower and office space.



Overview

A place for artists both in housing and office, the Maker thrives on a creative spirit and the expression of self. Bisected to create a connection through the use of an alley, the Maker is linked to the historic Barge, the new Bridge Park, and the rest of Zidell Yards at large, while still creating a more intimate space in the big city for community, creativity, and play.

The alleyway is where interaction happens - whether between passersby or between strangers conversing over beers at the restaurants and bars lining the row. It also provides a place for discovery, leading to the interior of the makerspaces where artwork is found in large gallery displays, surrounded by artists, their studios, and open spaces for creative collaboration.

Here the artist culture thrives, with the heart of the art being at the Maker. Creatives march to the beat of their own drum, and with less traditional hours and methods, the artists give the Maker a pulse. The workers become the art of the site - they live and breathe life into the spaces and inspire others to express their own creativity.

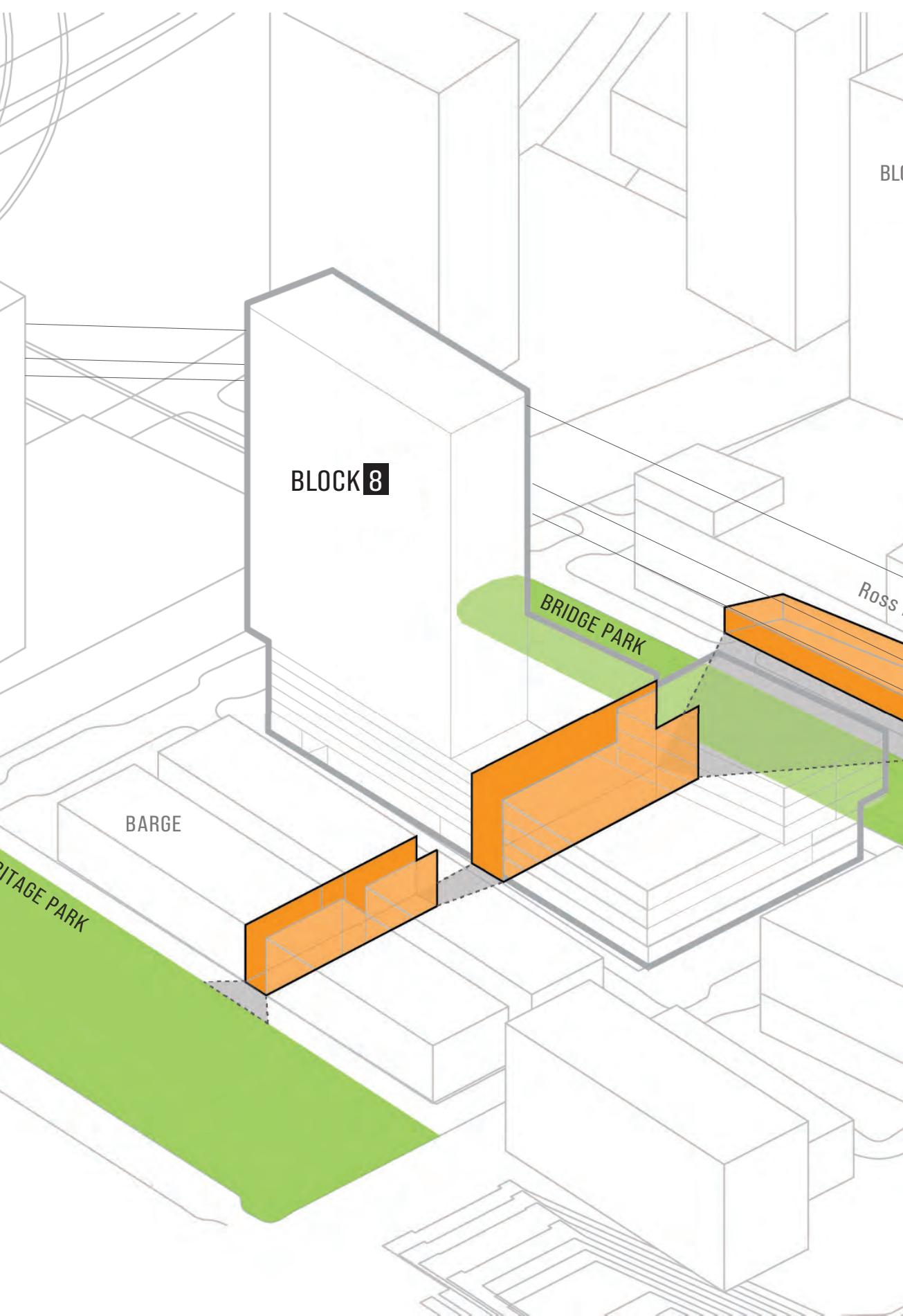
Freedom to design, innovate, eat, drink, or play, the Maker is a playground for artists, Portlanders, and visitors alike.

Main idea

The primary goal of this project is to create connections between blocks and parks in order to enable the entire redevelopment zone to be a cohesive whole rather than separate entities.

Upon researching and understanding the local culture, we decided to embrace the casual “alley vibes” that were seen in quite a few spots in Portland. We also want to celebrate the motto #KeepPortlandWeird as well as supporting the local artists.

Thus the core pieces of “the Maker” are decided: brewery for artisan beers, exhibition space for young artists, studio space to be rented by more established artists, restaurants and bars to bring people to the place, and residential units favored towards artists in need.

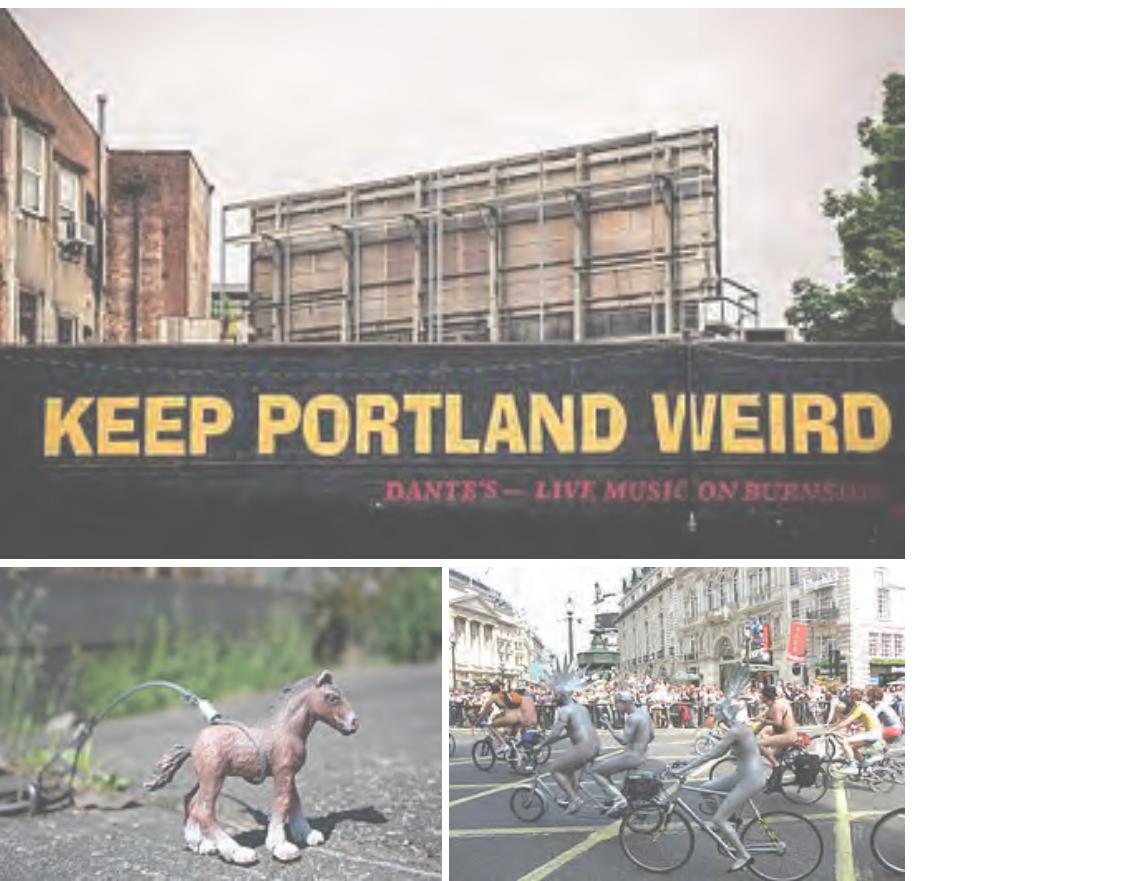


Collaborative Effort

A collaboration between teams that were designing block 8, 9 and the Barge allowed an interesting connection of features: Heritage park which was used for launching ships is now a park with gigantic old lifters telling untold stories on the site; the Barge which is the most iconic building on the site, to be rented by outdoor brand Rei, will be converted into a flagship store with multiple climbing walls and other activities, all while preserving the original structure; alley way cut through block 8 will be acting as rest places as well as help guiding visitors towards either the Barge or a large ground floor market designed by block 9 team or other parts of the site.

Design Process

Step 01 Understand local culture



Step 02 Understand local needs



Step 03 Find inspiration



Step 04

Generate preliminary design idea



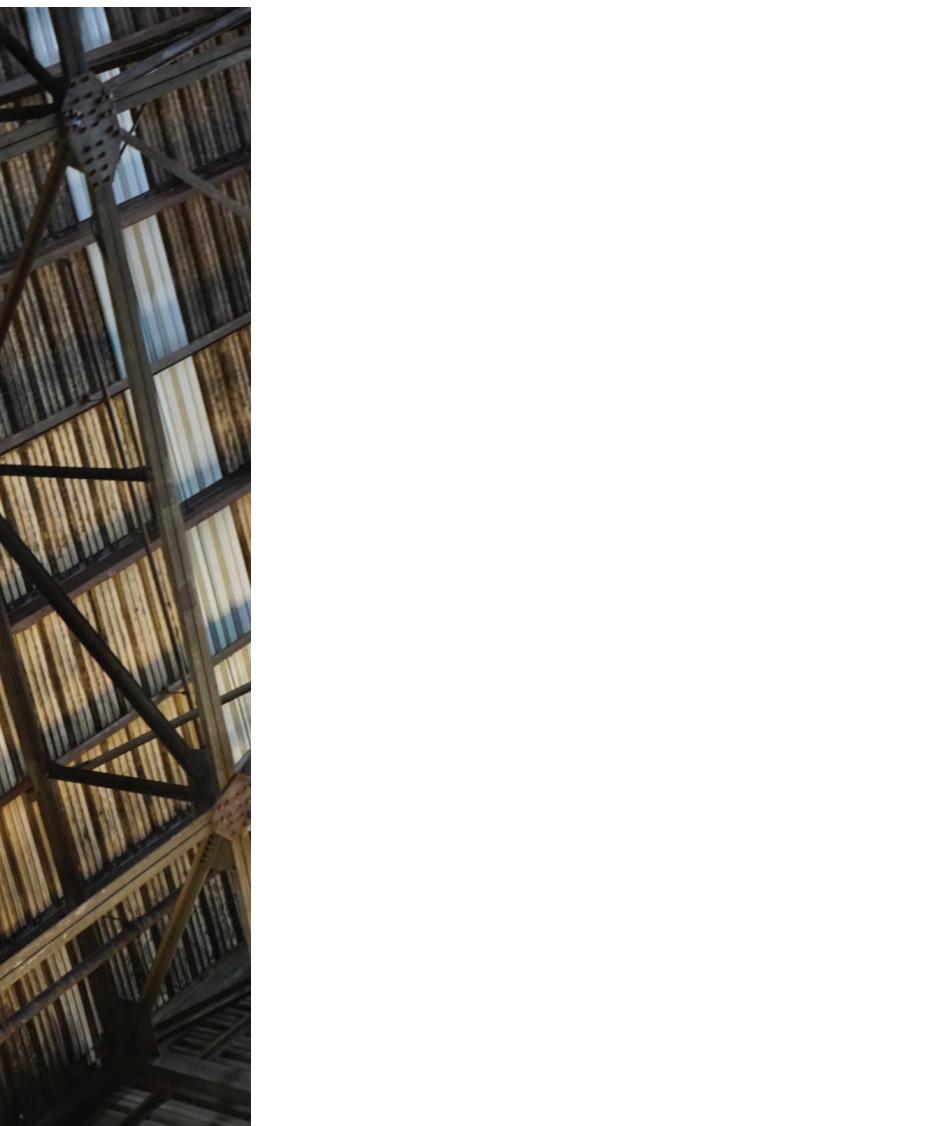
Midterm render at 4th week

Step 05

Find defining elements of buildings in an alley way



Step 06 Infuse with Zidell Yards' materials

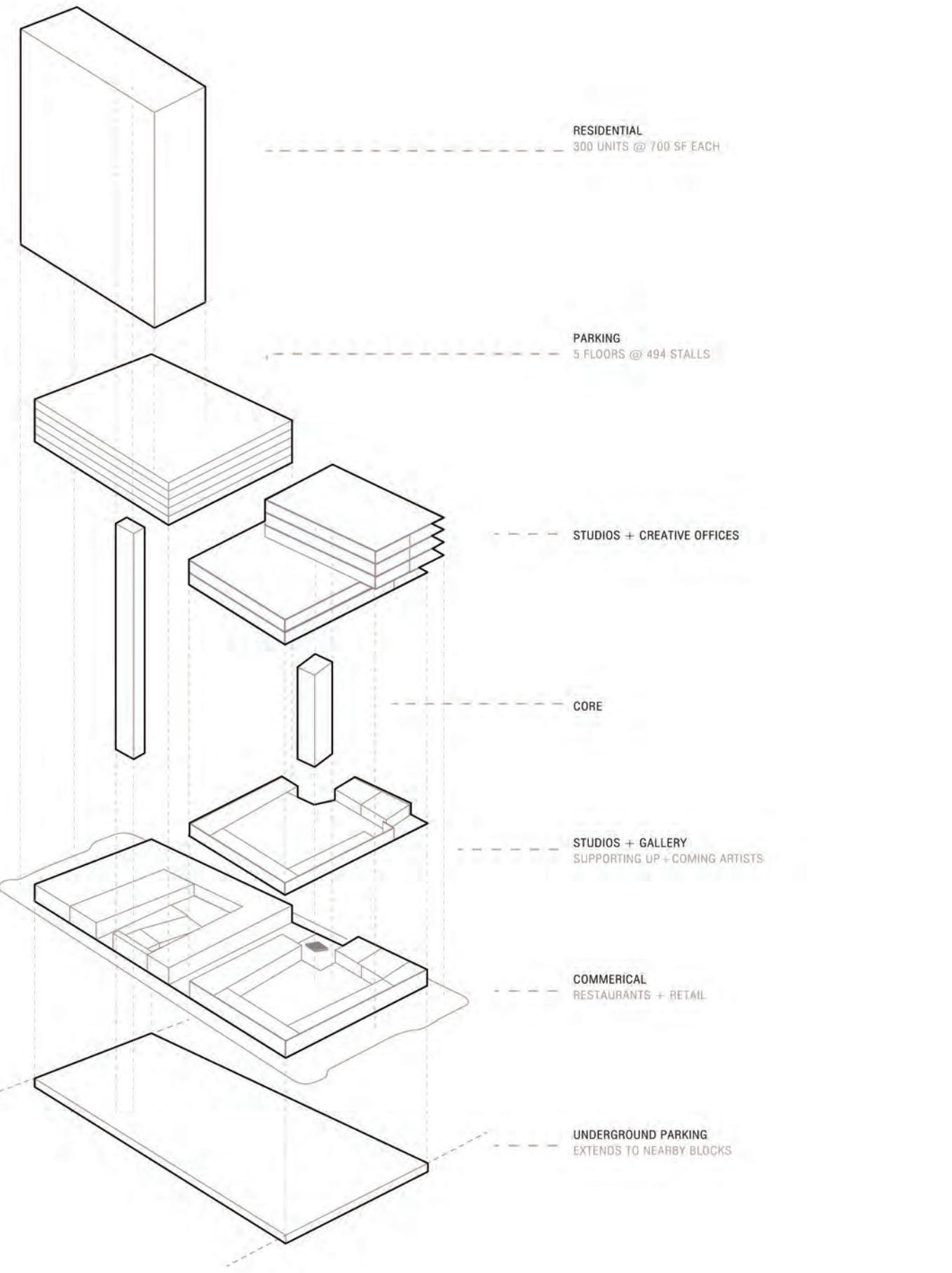


Step 07 Final product



Barge Side Alleyway Perspective
Final render at week 6

Exploded Axon



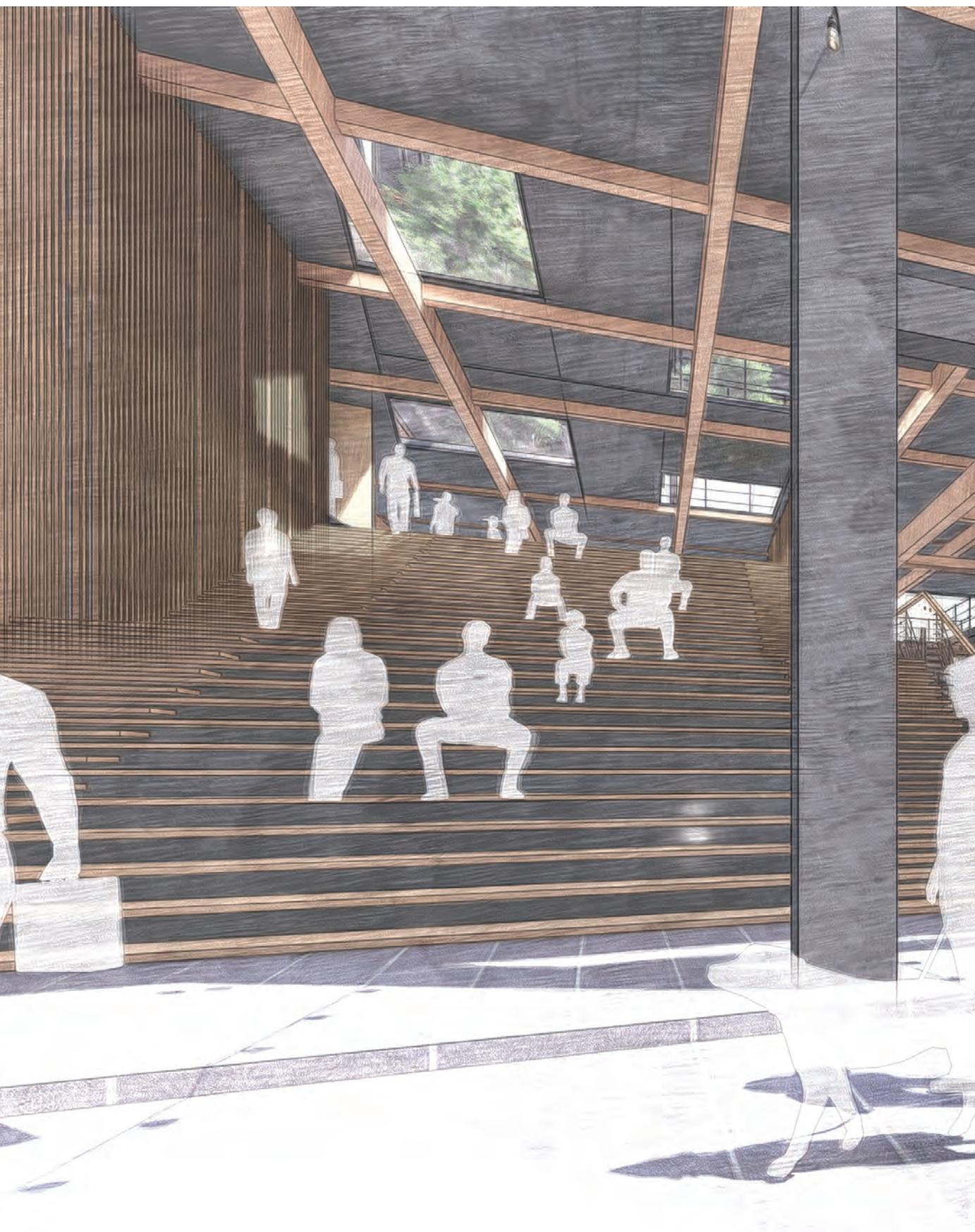
Ground Floor Plan



Plan drawn by: Haley Ladenburg

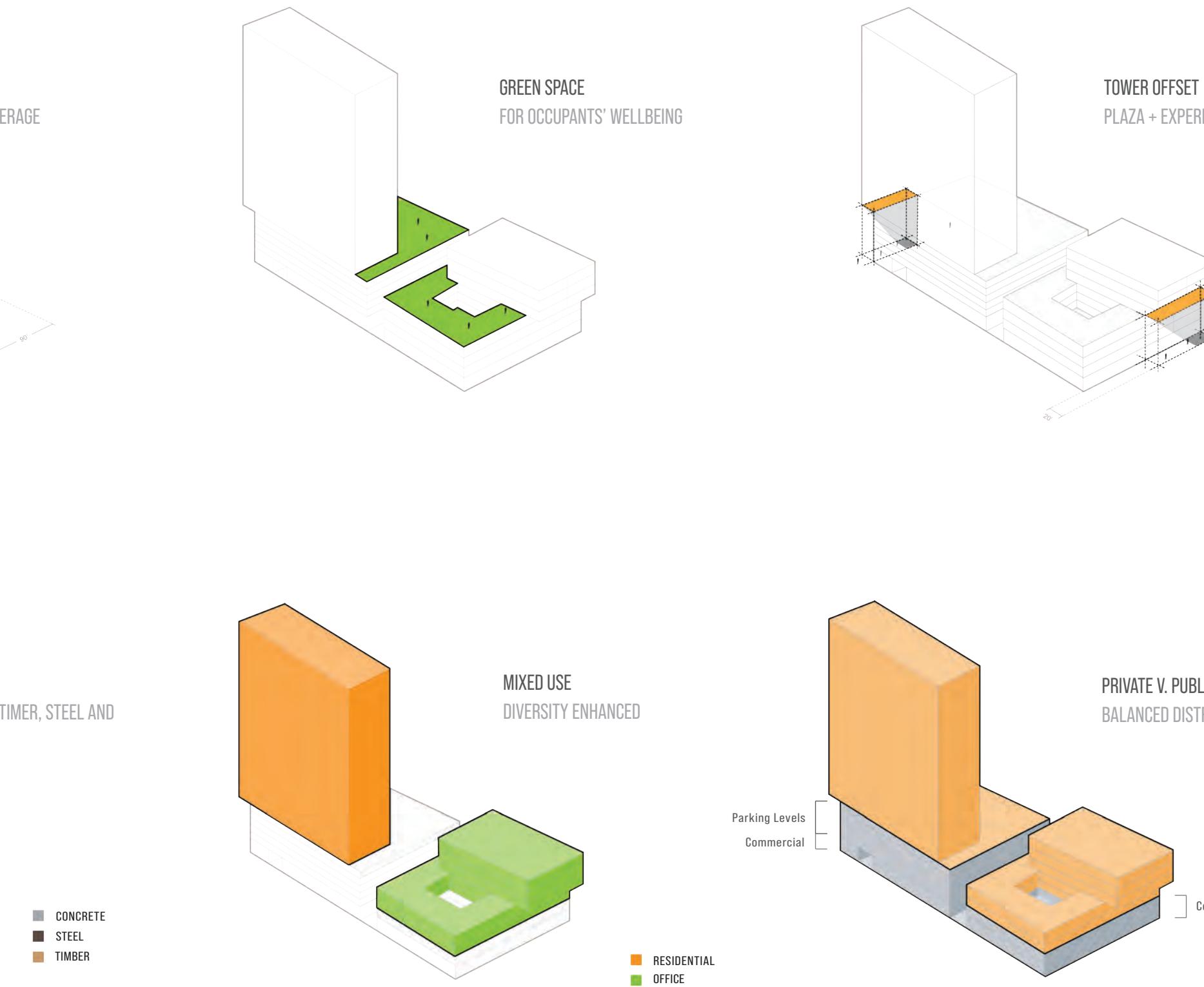


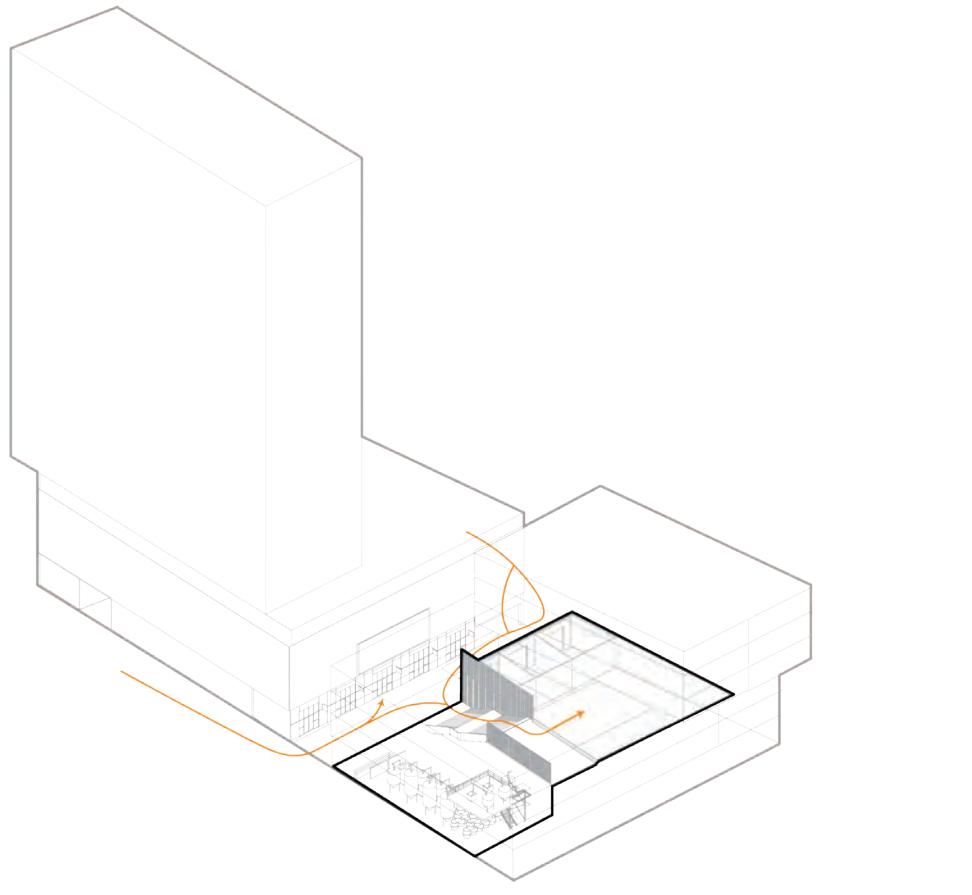
Bridge Side Alleyway Perspective



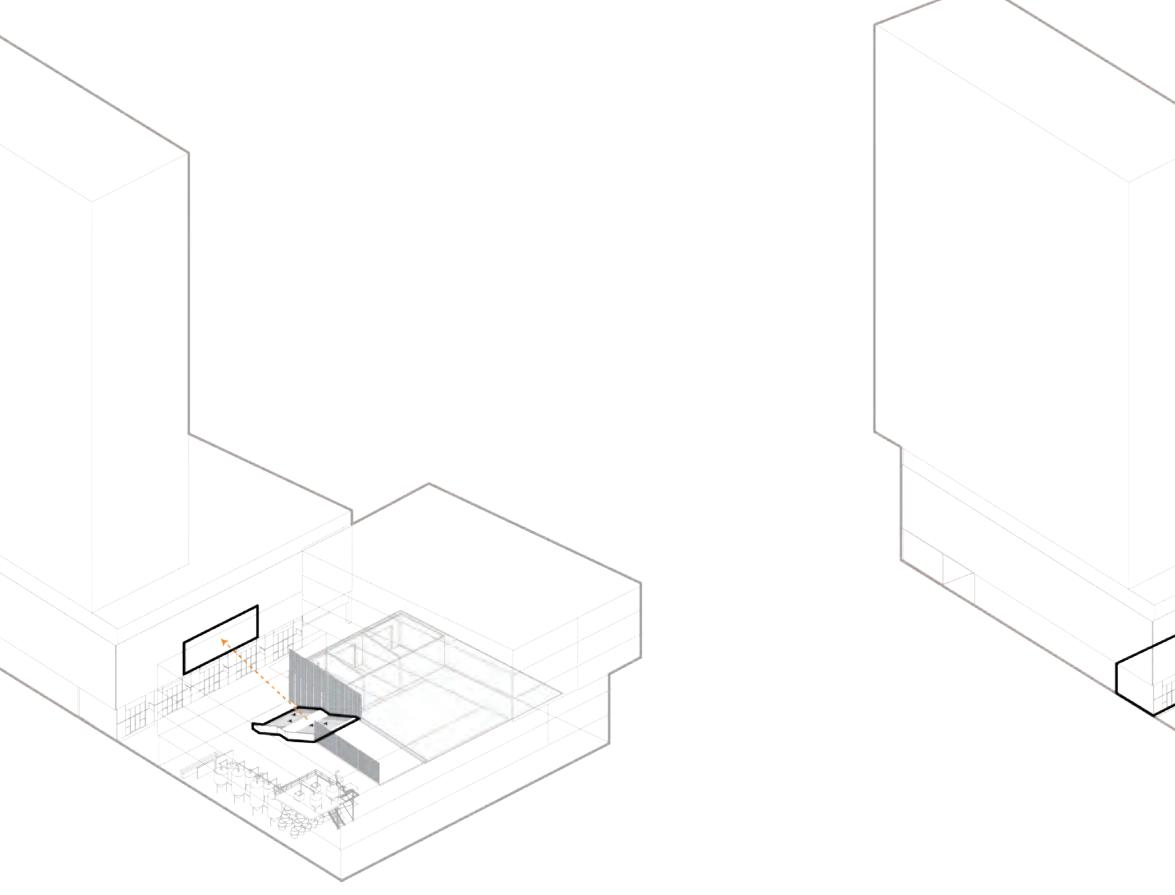
Alleyway Perspective A

Features

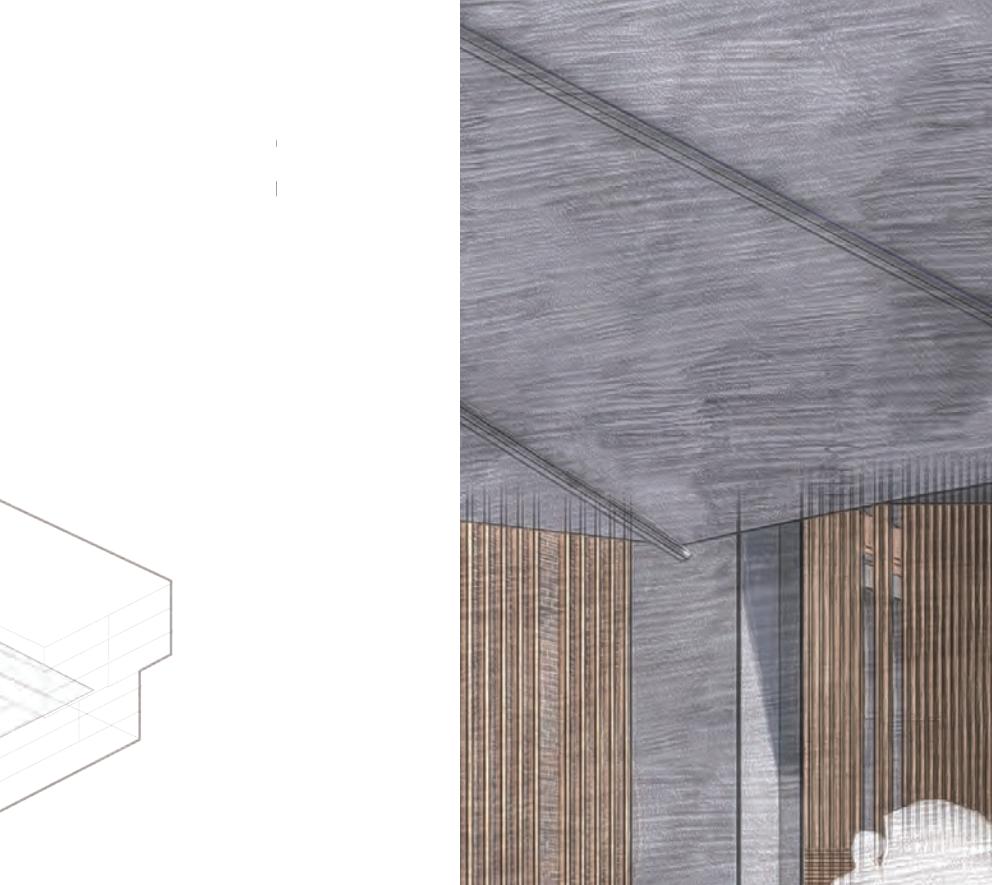




EXHIBITION SPACE
LOBBY + EVENTS



MOVIE THEATRE
PARKING SIDE SCREEN + STAIR-
CASE SEATING



CIRCLE OF FUN
SELF-BREWED DRINKS FOR NEARBY
RESTAURANTS & BAR

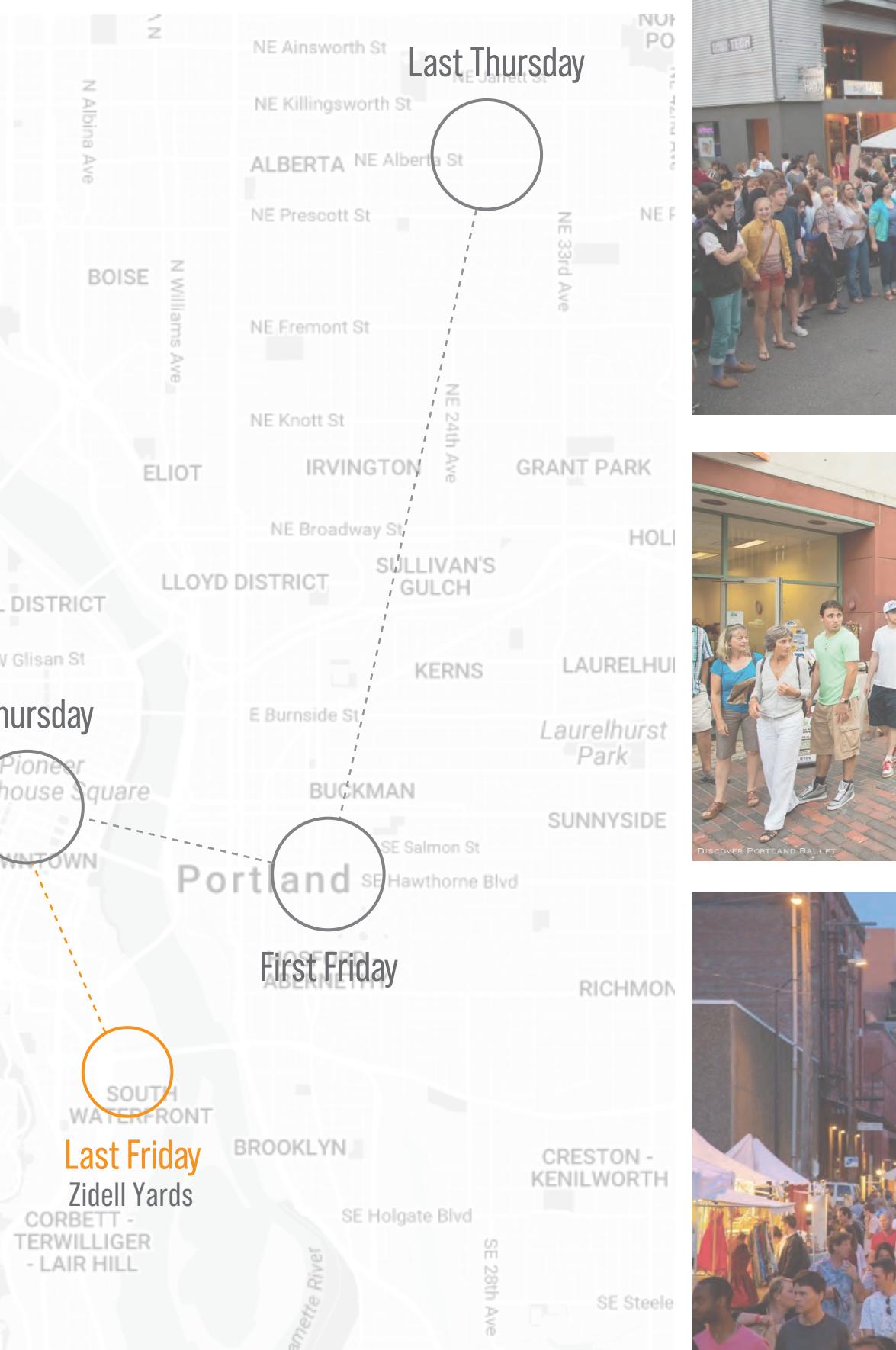


Alleyway Perspective B



Nighttime Render Perspective

Continuing the Monthly Art Walks



Last Thursday on Alberta

First Thursday on Pearl District

Last Friday on Pearl District

Last Thursday on Alberta

First Thursday on Pearl District

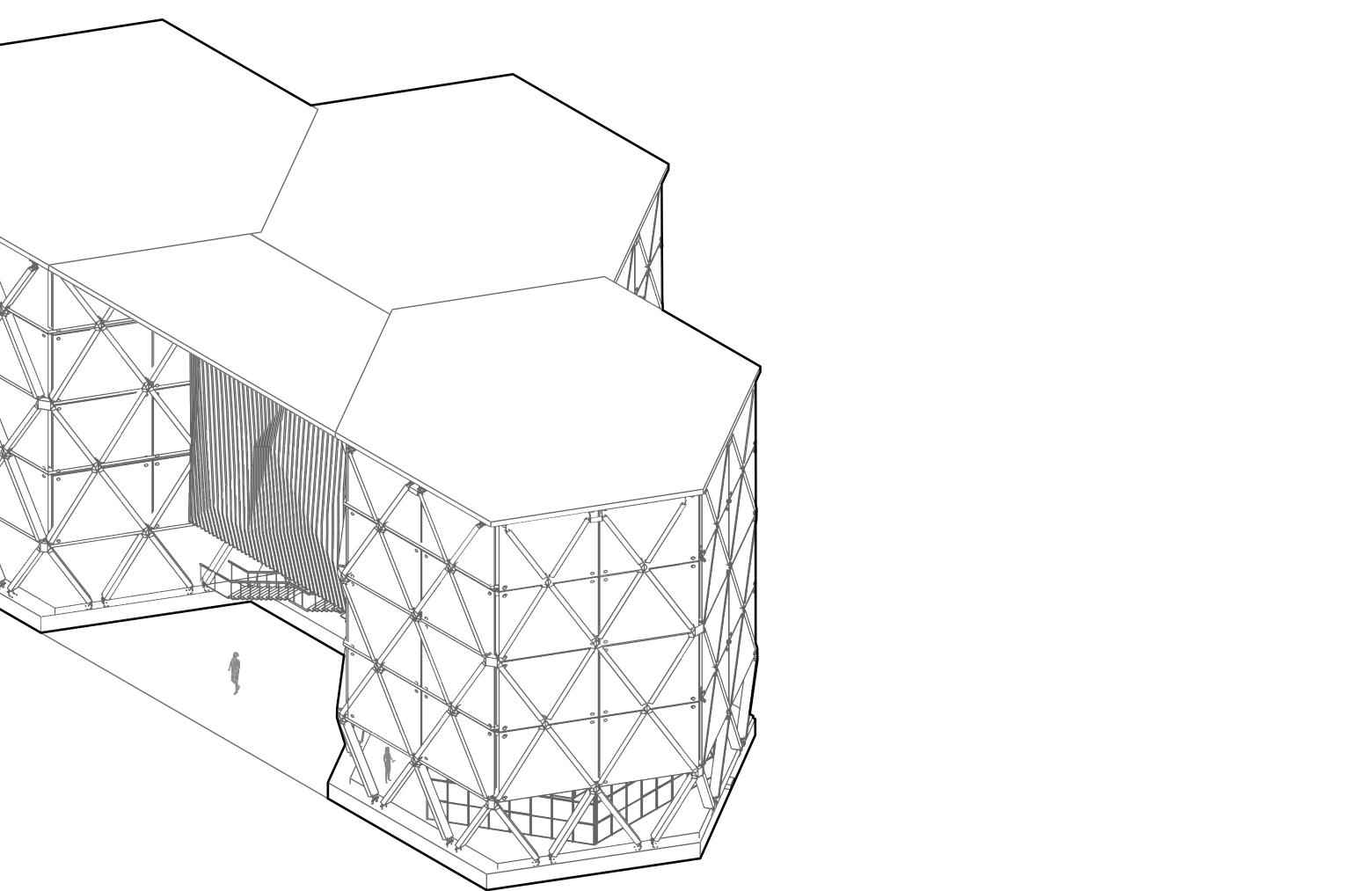
Last Friday on Pearl District

Monthly art walks is a popular and celebrated activity in Portland. People of all ages walk around certain points of the city to watch artists' performances and support artisan goods on specific days of the month.

By placing "the Maker", an artists' base of operation, on the map, we hope to invent and invite "Last Friday" down to the south waterfront and Zidell Yards, boosting popularity and economic opportunities at the often-considered industrial zone.

"Design is intelligence made visible."

-- Alina Wheeler, author



$$(\text{People} + \text{Hexagon} + \text{Drone})^{\wedge \text{yr } 2030+} = ?$$

WALDEN TWO

Queens, NY

A timber residential complex project

Type: Affordable Housing

Focus: Human Wellbeing, Near Future

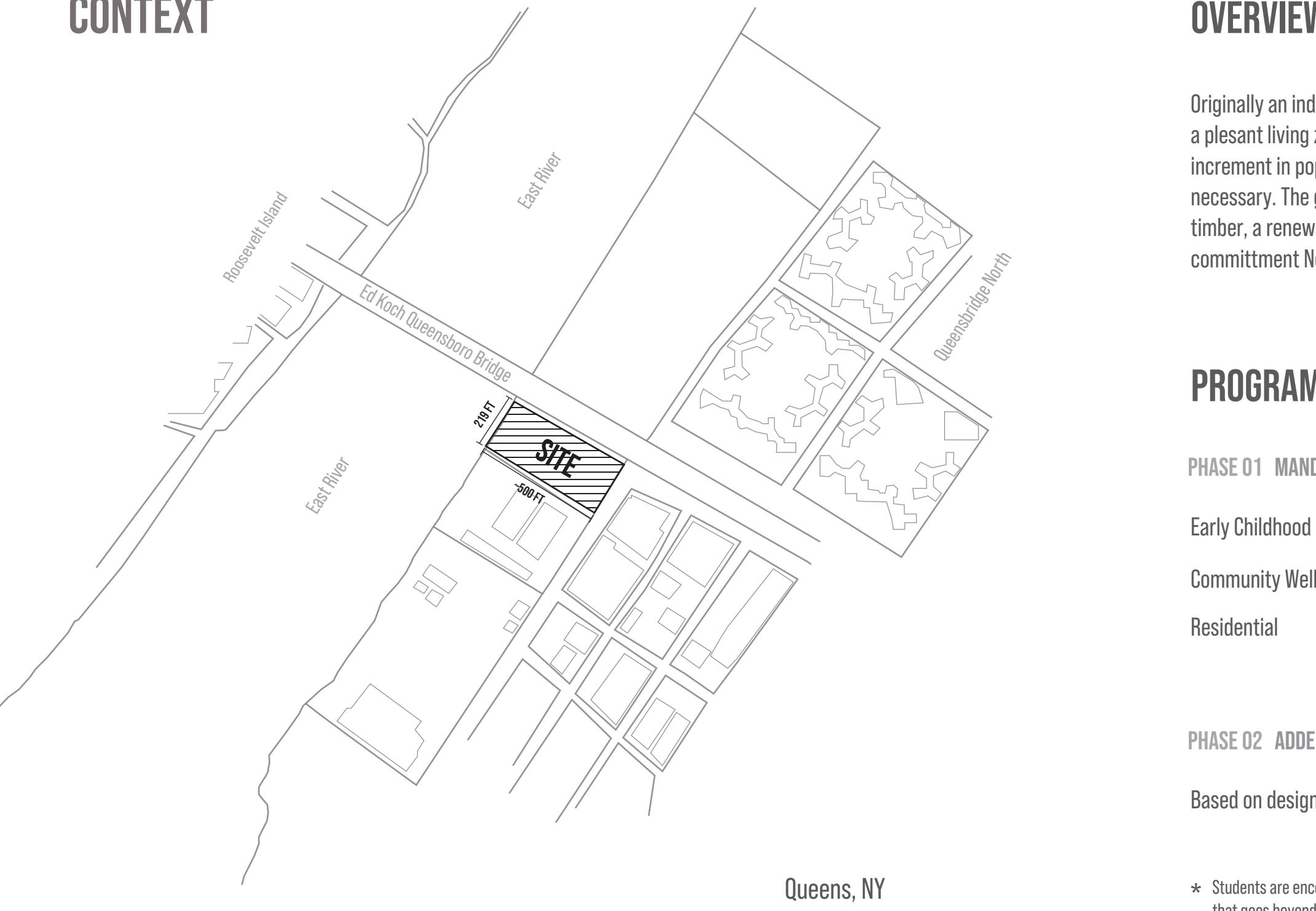
Duration: 3 months

Competition Entered:

2019 Timber & City New York

2019 AIA Northwest and Pacific regions Student Award

CONTEXT



OVERVIEW

Originally an industrial site, Long Island area had not been considered a pleasant living zone. However, due to the pressure of continued increment in population, a redevelopment of the area seemed necessary. The goal is to design a residential complex using mainly timber, a renewable resource, to raise a strong gesture of the commitment New York city has towards a more sustainable future.

PROGRAM

PHASE 01 MANDATORY

Early Childhood Education Center	31,265 sqft
Community Wellness Center	22,713 sqft
Residential	91,428 sqft

PHASE 02 ADDED

Based on design and thesis

* Students are encouraged to develop this site in different phases that goes beyond the mandatory square footages and programs.



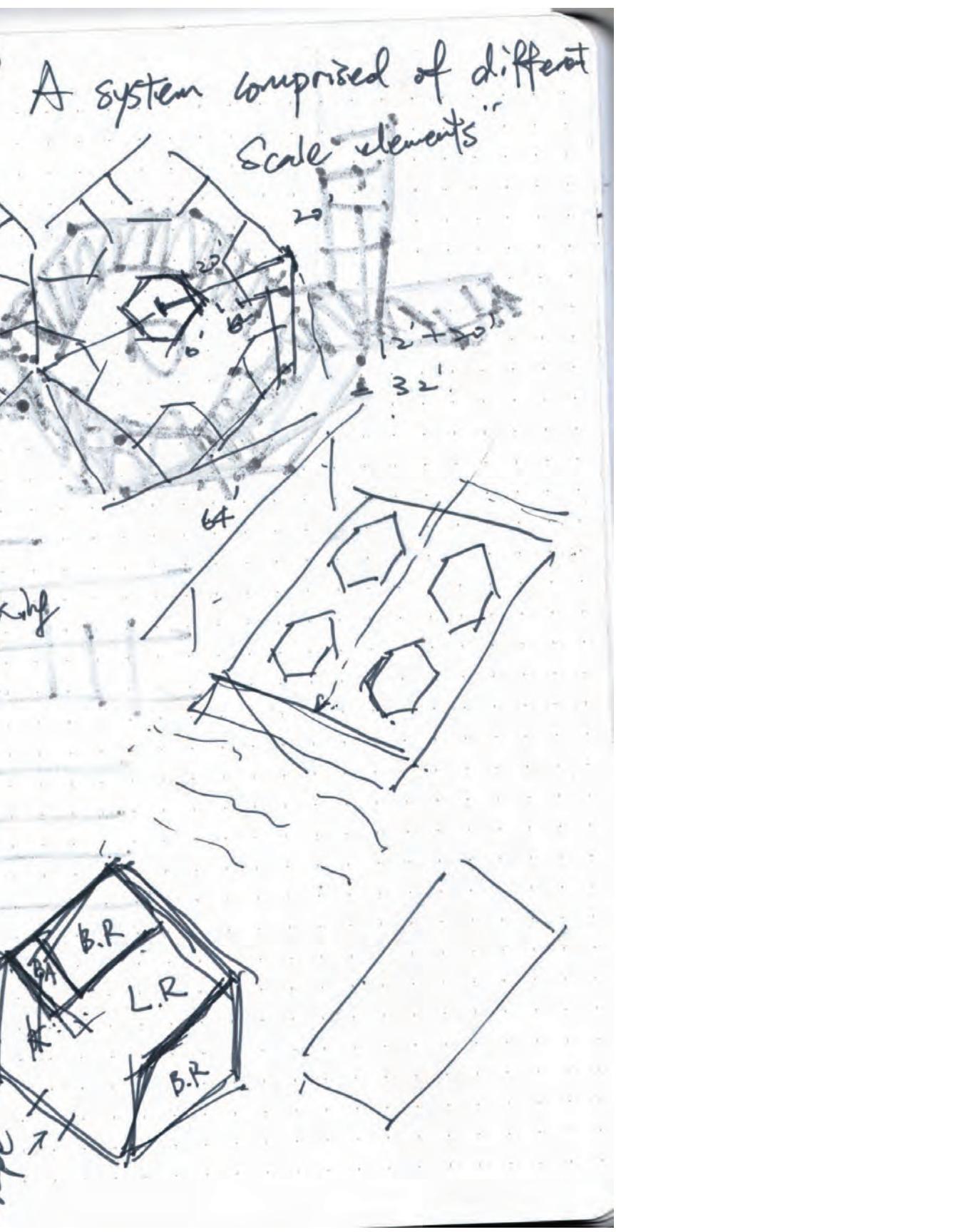
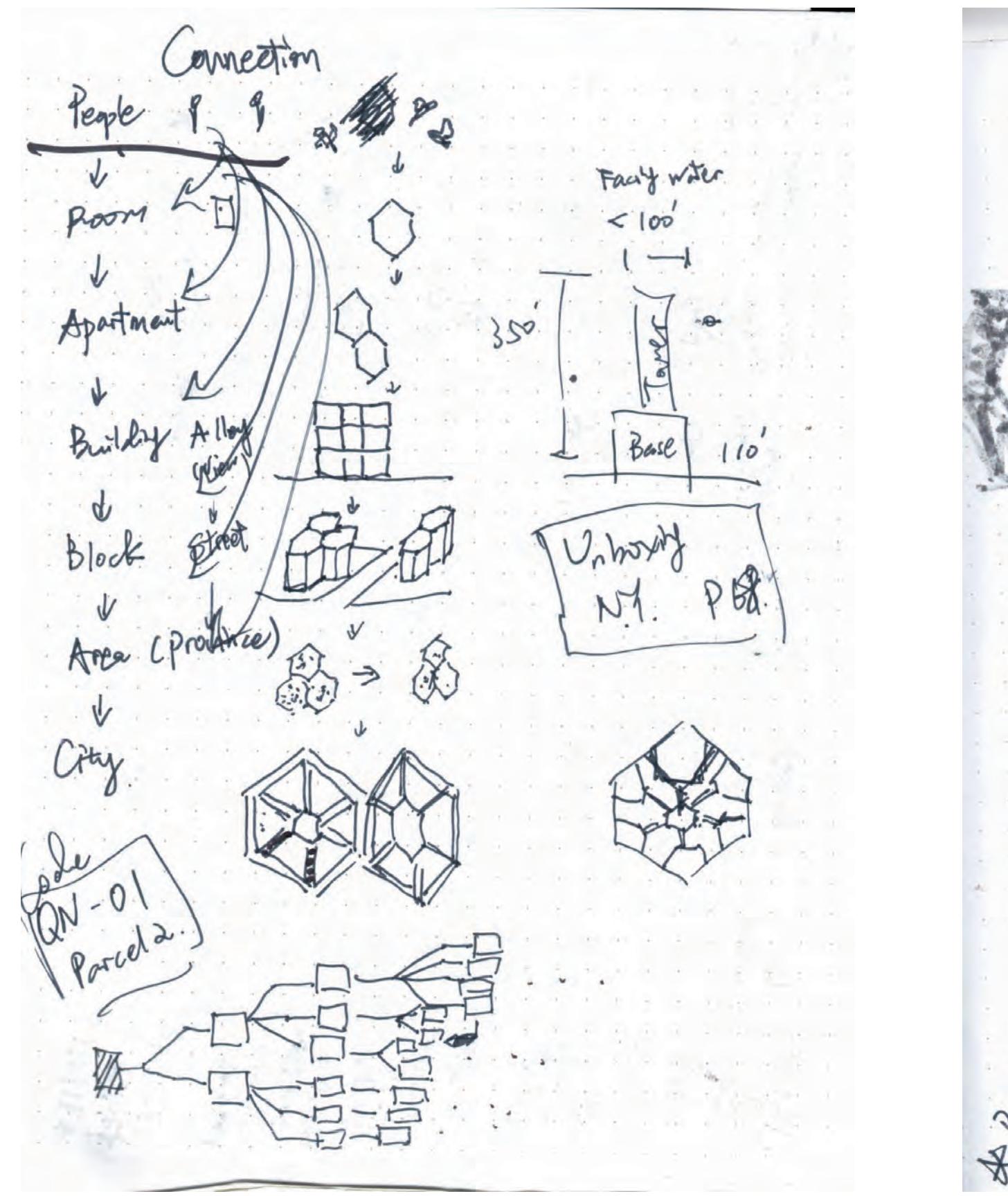
Looking from site to Roosevelt Island



Looking from Roosevelt Island to site



Street view + Existing structure



Early design notes

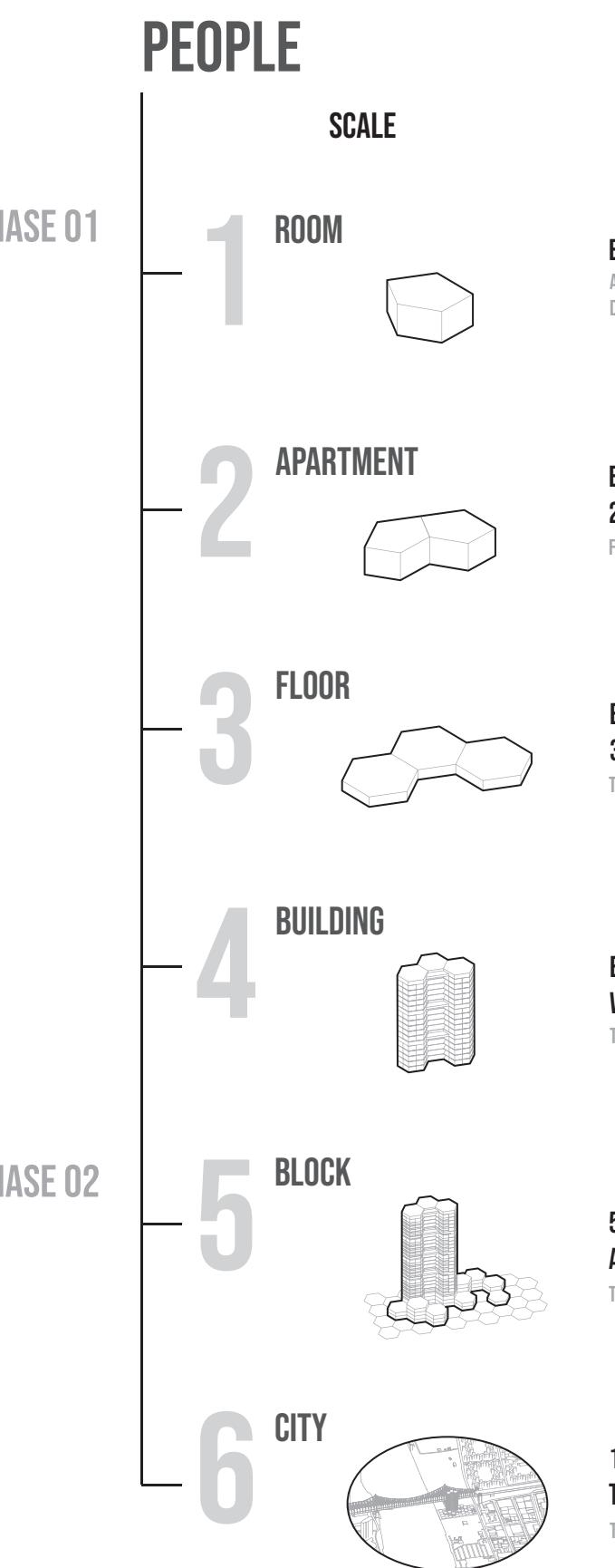
THESIS

People's experience is perserved at each scale
regardless of how much NYC increase in density
based on predefined rules.

DESIGN PROCESS

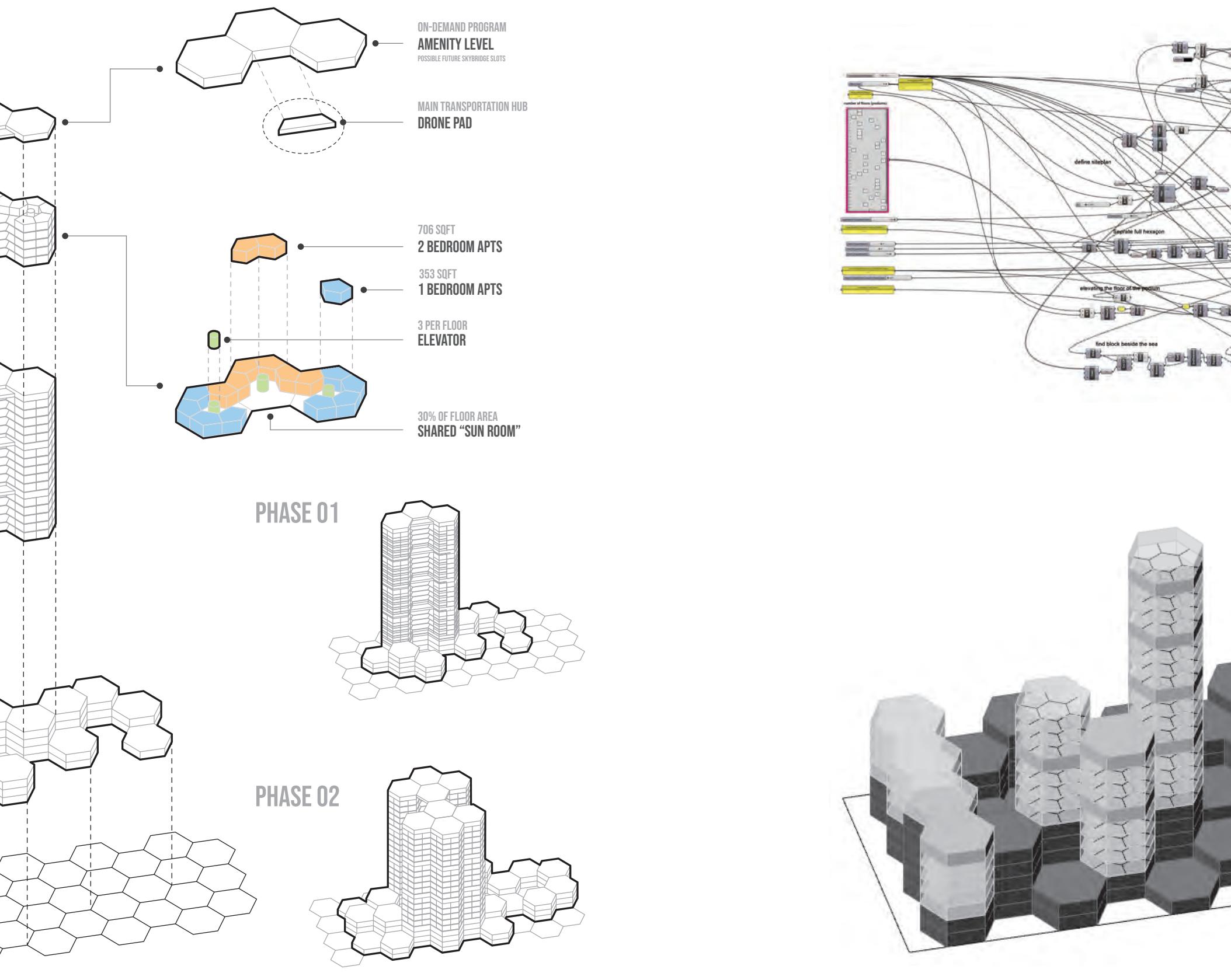
STEP 01

Define scales and preliminary rules.



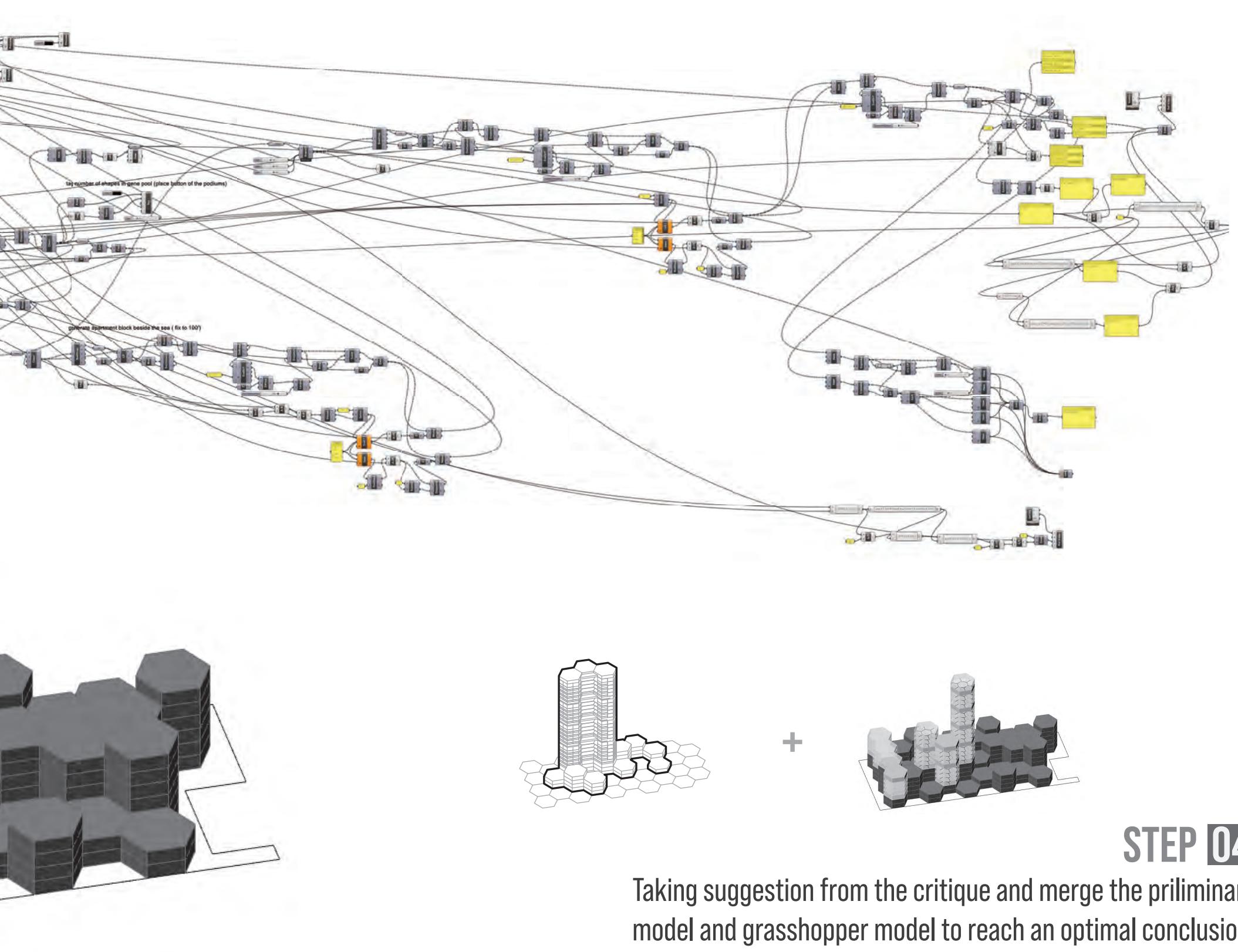
STEP 02

Translate rules into a preliminary concept model.



STEP 03

Input rules into Grasshopper to understand the most logical layout.



STEP 04

Taking suggestion from the critique and merge the priliminary model and grasshopper model to reach an optimal conclusion.



PHASE 01

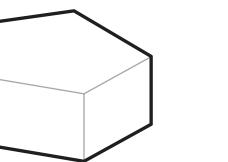
ADDRESSING THE BASIC MANDATORY
PROGRAM REQUIREMENTS

PROVIDING RESIDENTS THE MOST ENJOYABLE LIVING EXPERIENCE

Phase one focuses on providing residents the most enjoyable living experience this site has to offer --- from fully glazed window walls to enjoy the stunning waterfront view, to easily accessible pools, wellness centers and commercials down on the ground floor. It is a precious oasis in the heart of busy NY lives.

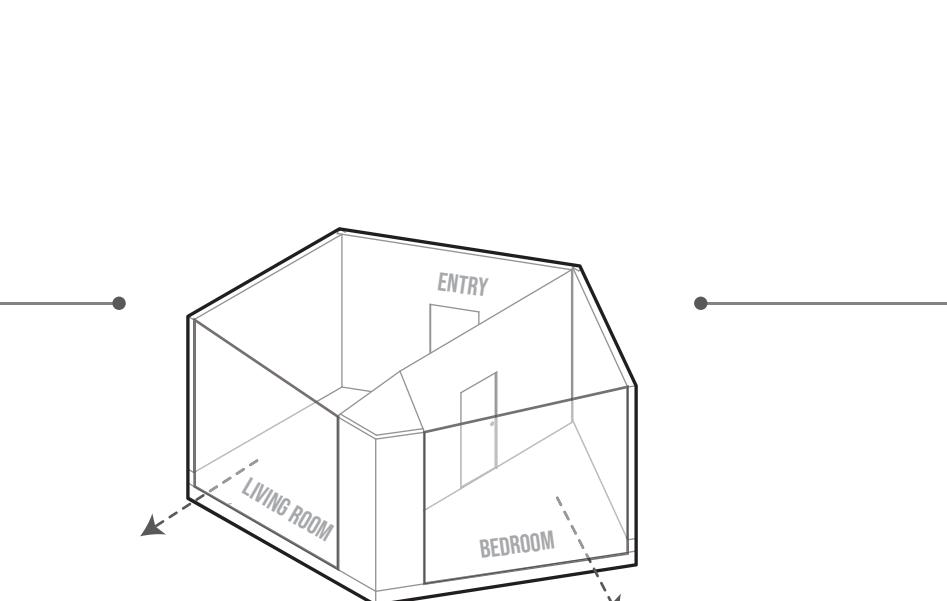
SCALE

1 ROOM



RULE

EVERY ROOM HAS A WINDOW
MAXIMIZE VENTILATION AND NATURAL DAY-LIGHTING



TYPICAL 1 BEDROOM APARTMENT

PRODUCT

2 APARTMENT



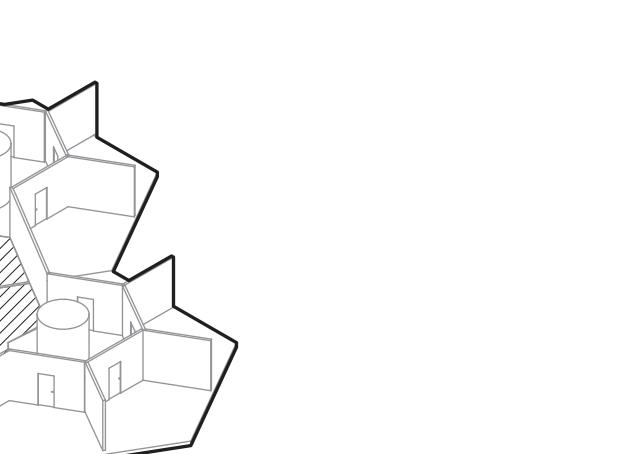
EACH APARTMENT HAS AT LEAST 2 SIDES FACING OUTSIDE

FOR ECONOMIC AND PSYCHOLOGICAL BENEFITS

3 FLOOR



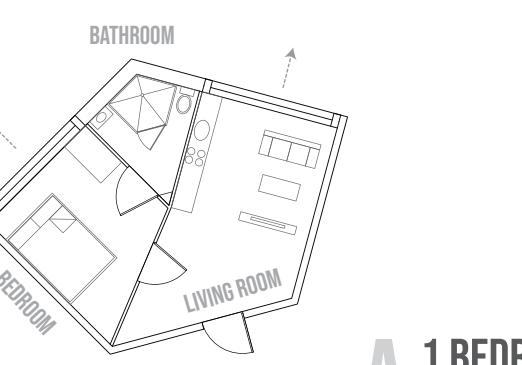
EACH FLOOR HAVE AT LEAST 30% AREA FOR SHARED SPACE
TO FACILITATE A SENSE OF COMMUNITY



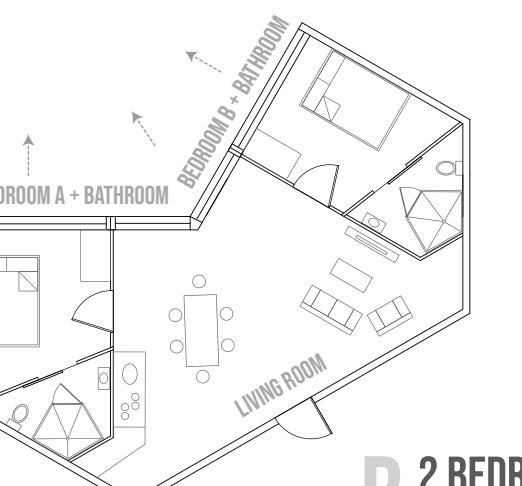
TYPICAL RESIDENTIAL FLOOR

RESIDENTIAL UNIT TYPES

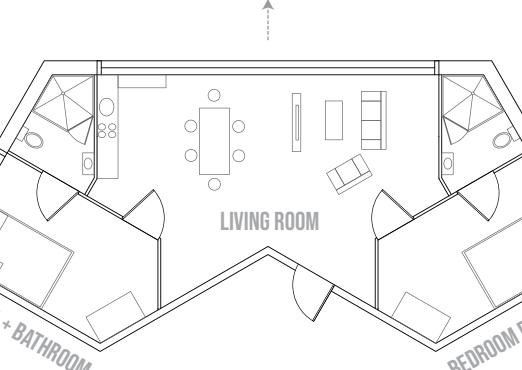
ALL BEDROOMS HAVE PRIVATE BATHROOMS



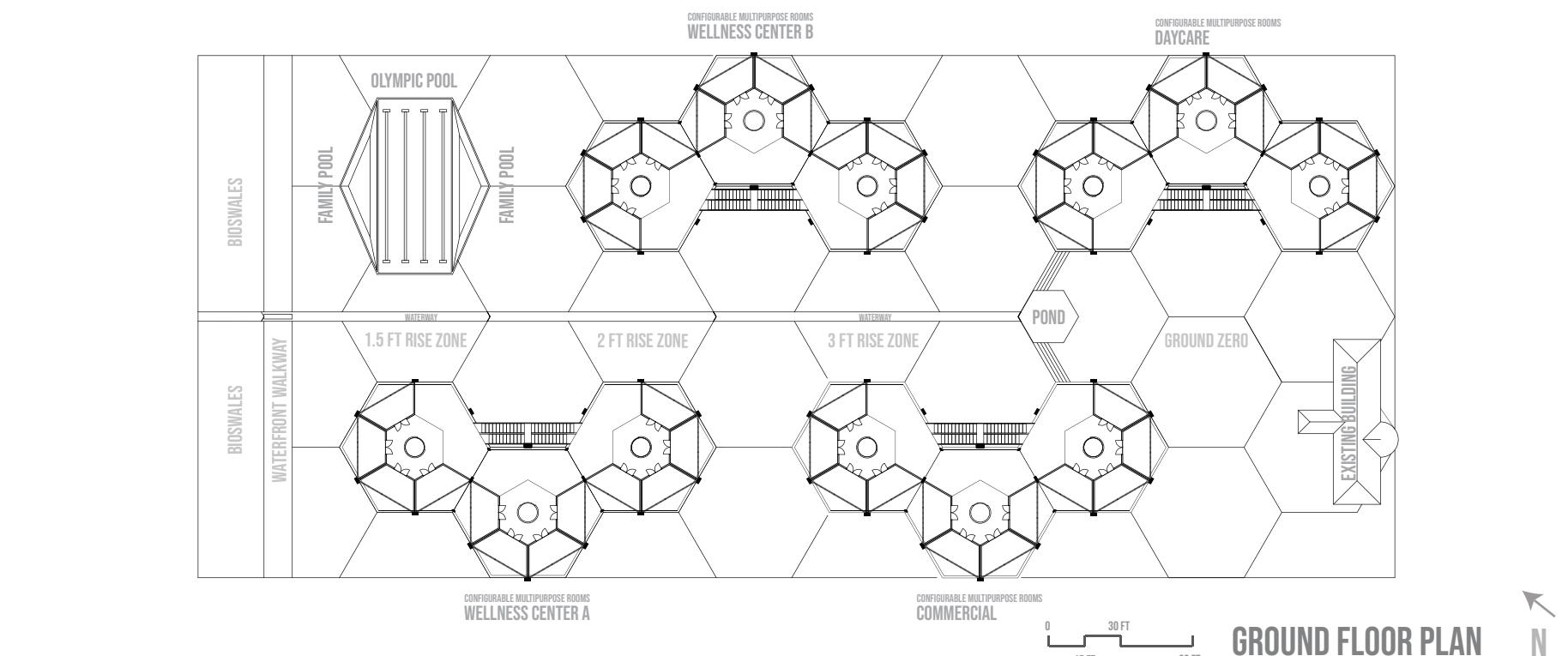
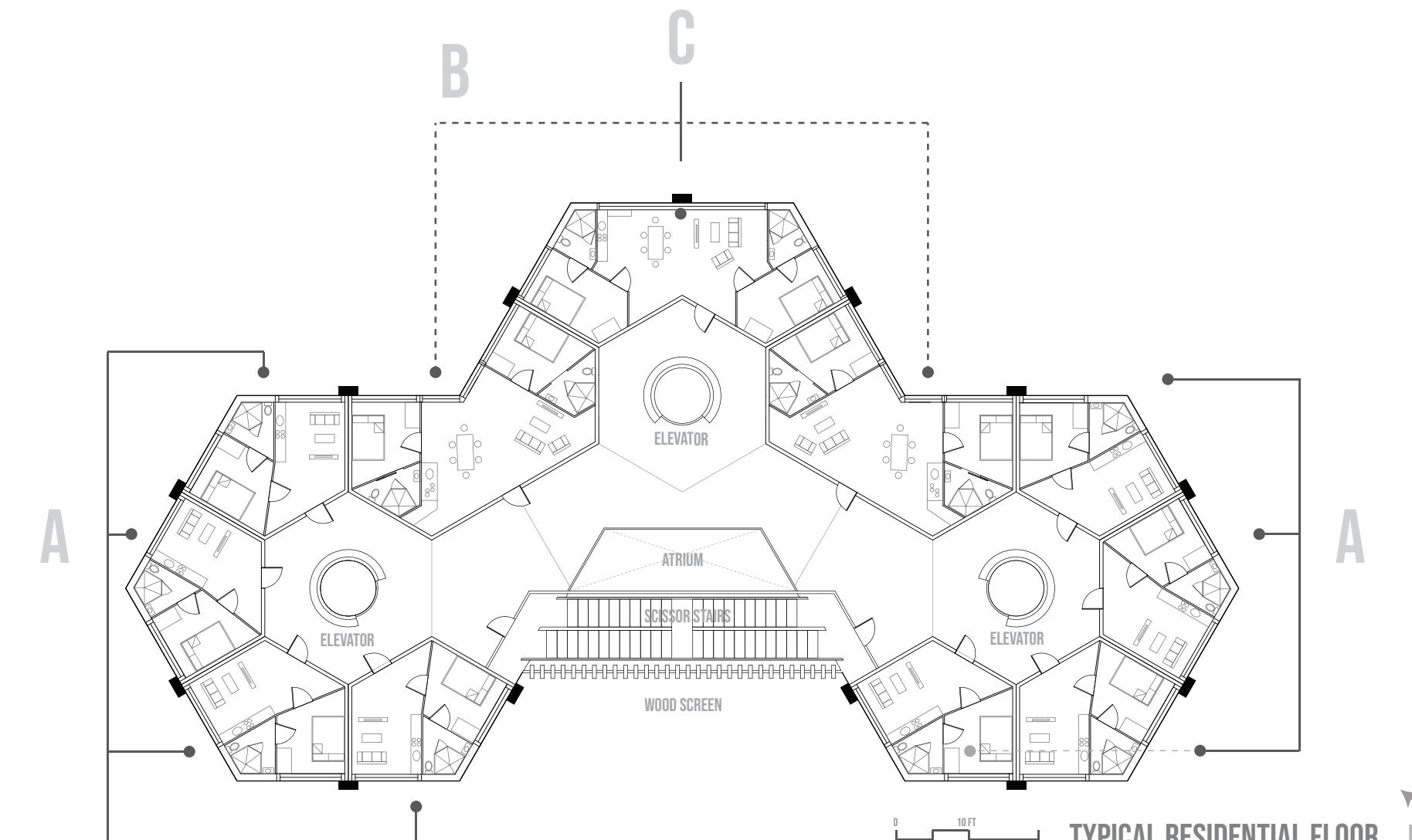
A 1 BEDROOM 8 PER FLOOR
360 SQFT



B 2 BEDROOM 2 PER FLOOR
(3 WINDOWS 2 VIEWING DIRECTIONS) 720 SQFT



C 2 BEDROOM 1 PER FLOOR
(3 WINDOWS 3 VIEWING DIRECTIONS) 720 SQFT

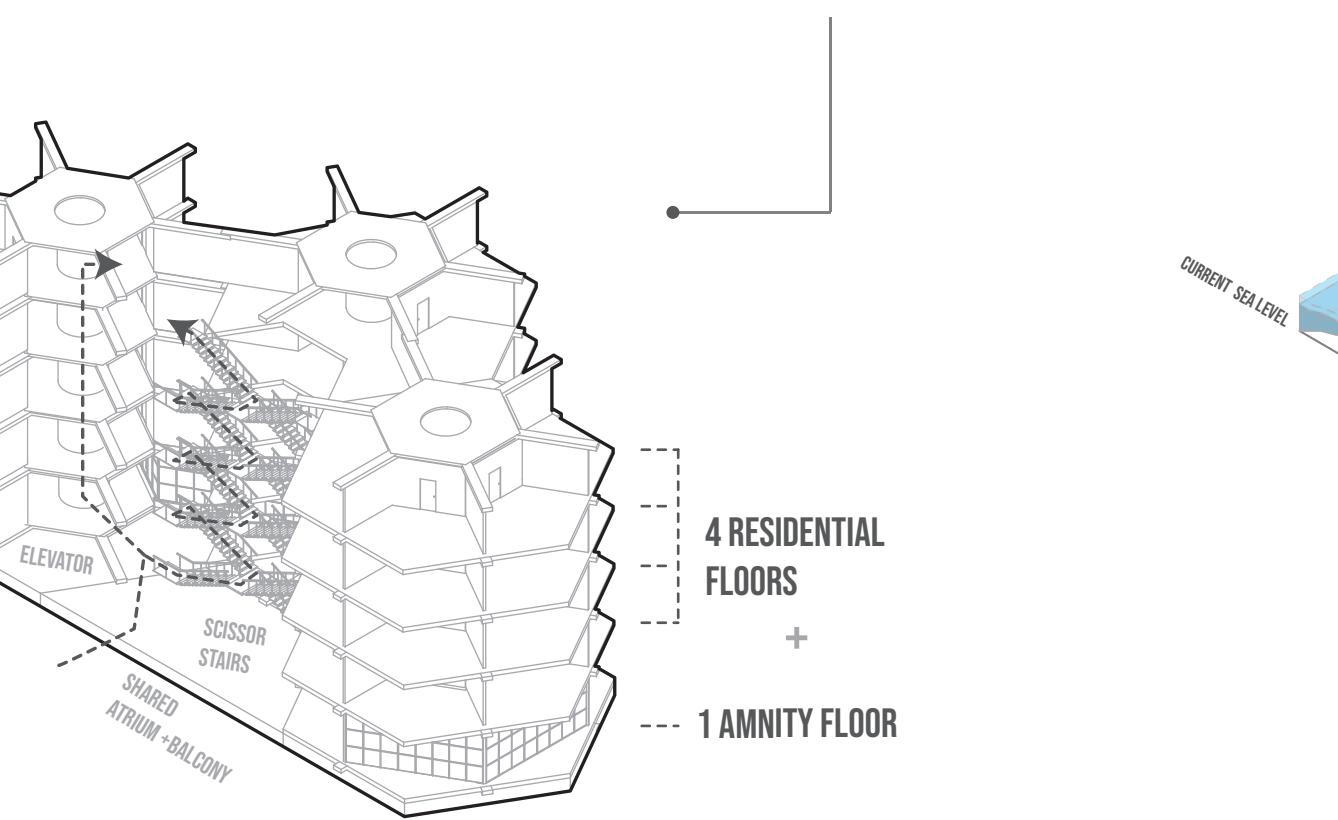


WHY HEXAGON?

Because using hexagonal shaped volumes can save approximately 10% on construction material and utility pipelines

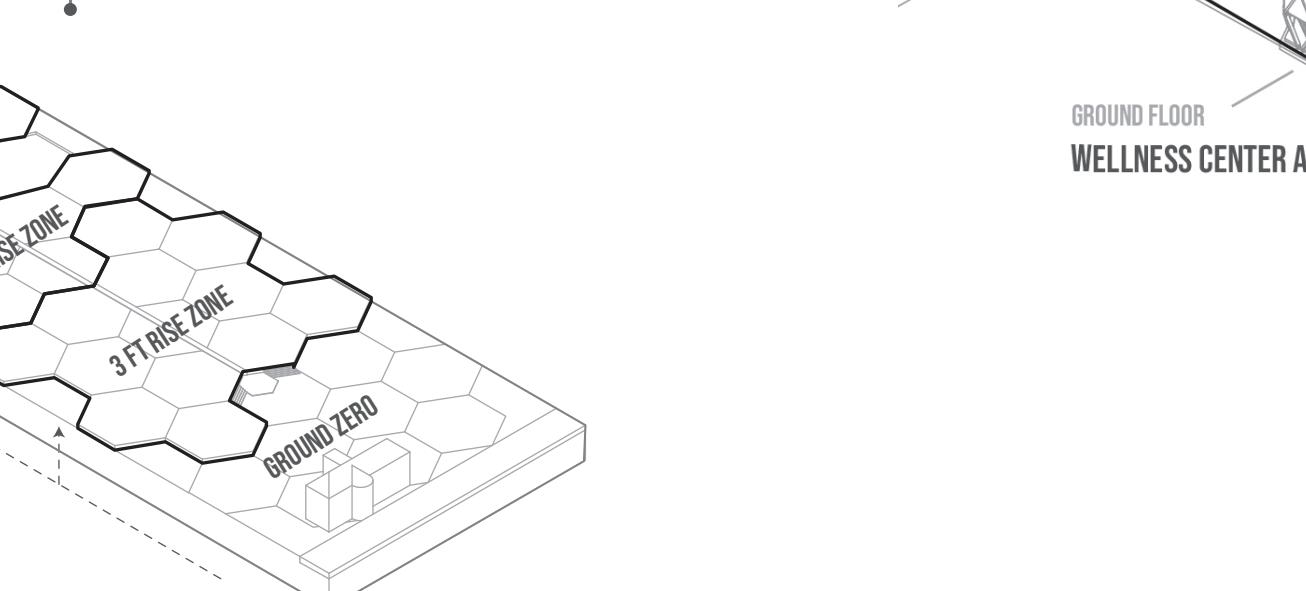
4
STACK

**EVERY 4 RESIDENTIAL FLOORS
+ 1 AMENITY FLOOR**
TO REDUCE GROUND TRAFFIC AND FOR EASE OF ACCESS



5 BUILDING

CONVENIENT VERTICAL CIRCULATION
FAST CIRCULATION RESULTS IN BETTER USER EXPERIENCE

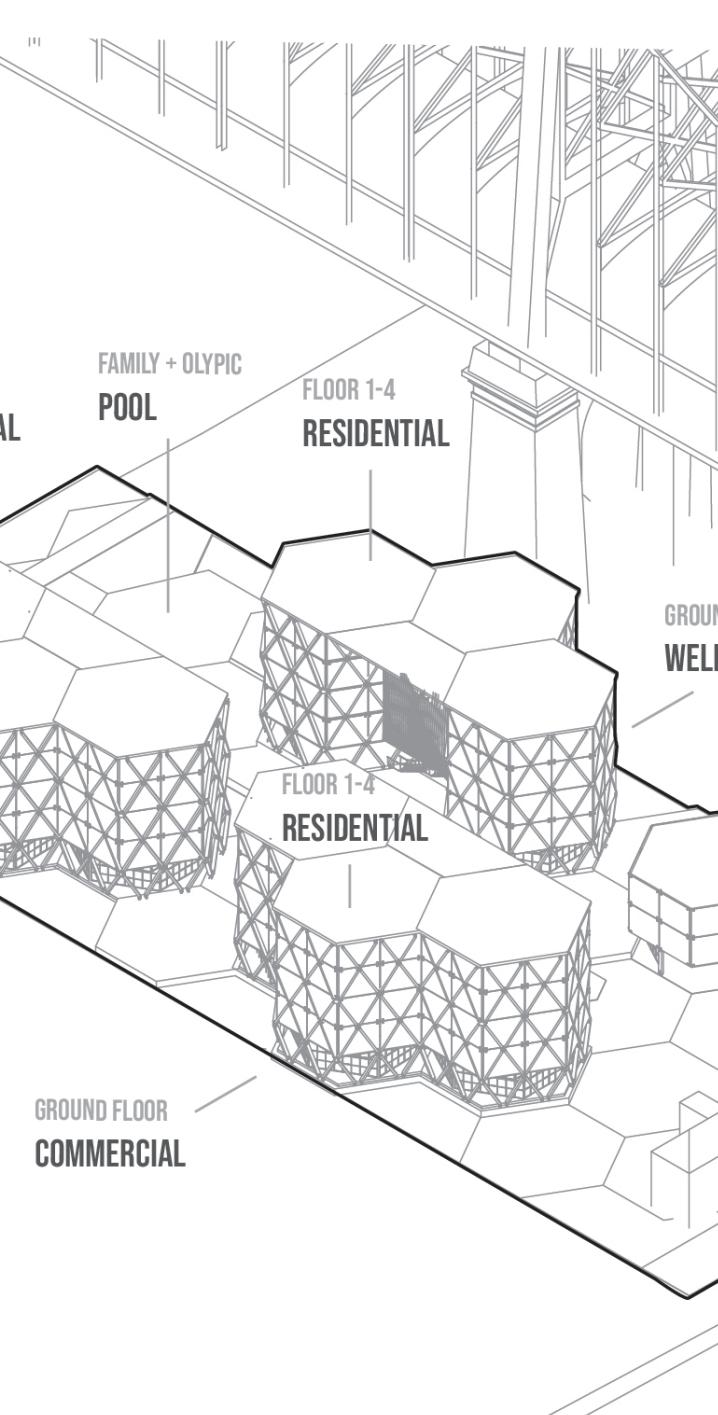


6 SITE

RAISED SITE FOR FLOOD PLAIN RISK
FOR OCCUPANT'S SAFETY

SITE PLAN
AXONOMETRIC VIEW

PHASE 01



RESIDENTIAL 75,120 SQFT

1 BEDROOM 34,560 SQFT
360 SQFT PER FLOOR 90 UNITS TOTAL
2 BEDROOM 25,920 SQFT
720 SQFT PER FLOOR 36 UNITS TOTAL
SHARED SPACE 14,640 SQFT
1220 SQFT PER FLOOR 12 UNITS TOTAL

WELLNESS 19,620 SQFT

CENTER A 7,980 SQFT
CENTER B 7,980 SQFT
POOLS 3,660 SQFT

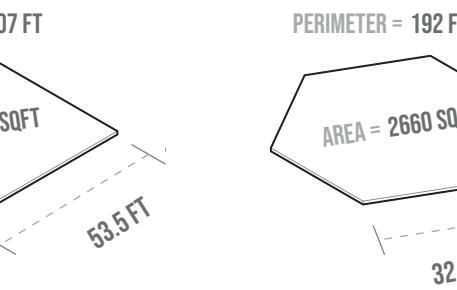
DAYCARE 21,280 SQFT

COMPLEX 15,960 SQFT
ROOF PLAYGROUND 5,320 SQFT
1220 SQFT PER FLOOR 12 UNITS TOTAL

~

12.6 % SAVED
COMPARE TO A MORE TRADITIONAL RECTANGULAR BUILDING OF THE SAME SQUARE FOOTAGE

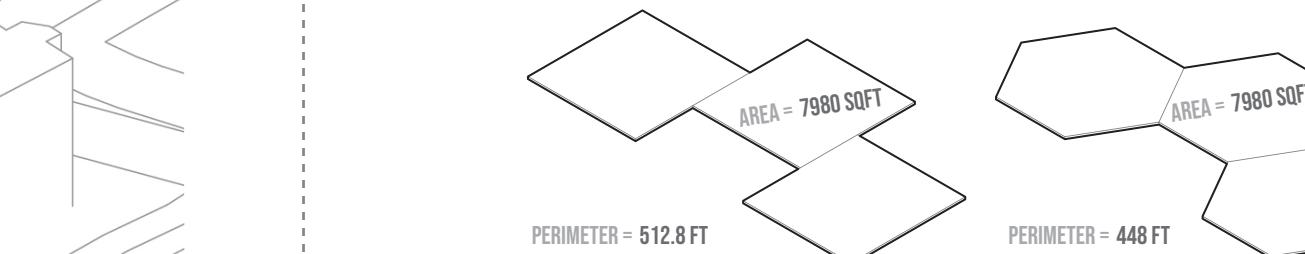
BASIC SHAPE COMPARISON: RECTANGLE VS. HEXAGON



**207 FT - 192 FT = 15 FT ~
7.2 % SAVED**

THIS MEANS BY USING EXOSKELETON STRUCTURE, THE HEXAGONAL BUILDING CAN SAVE ABOUT 7.2% STRUCTURAL MATERIALS

PROJECT CONFIGURATION



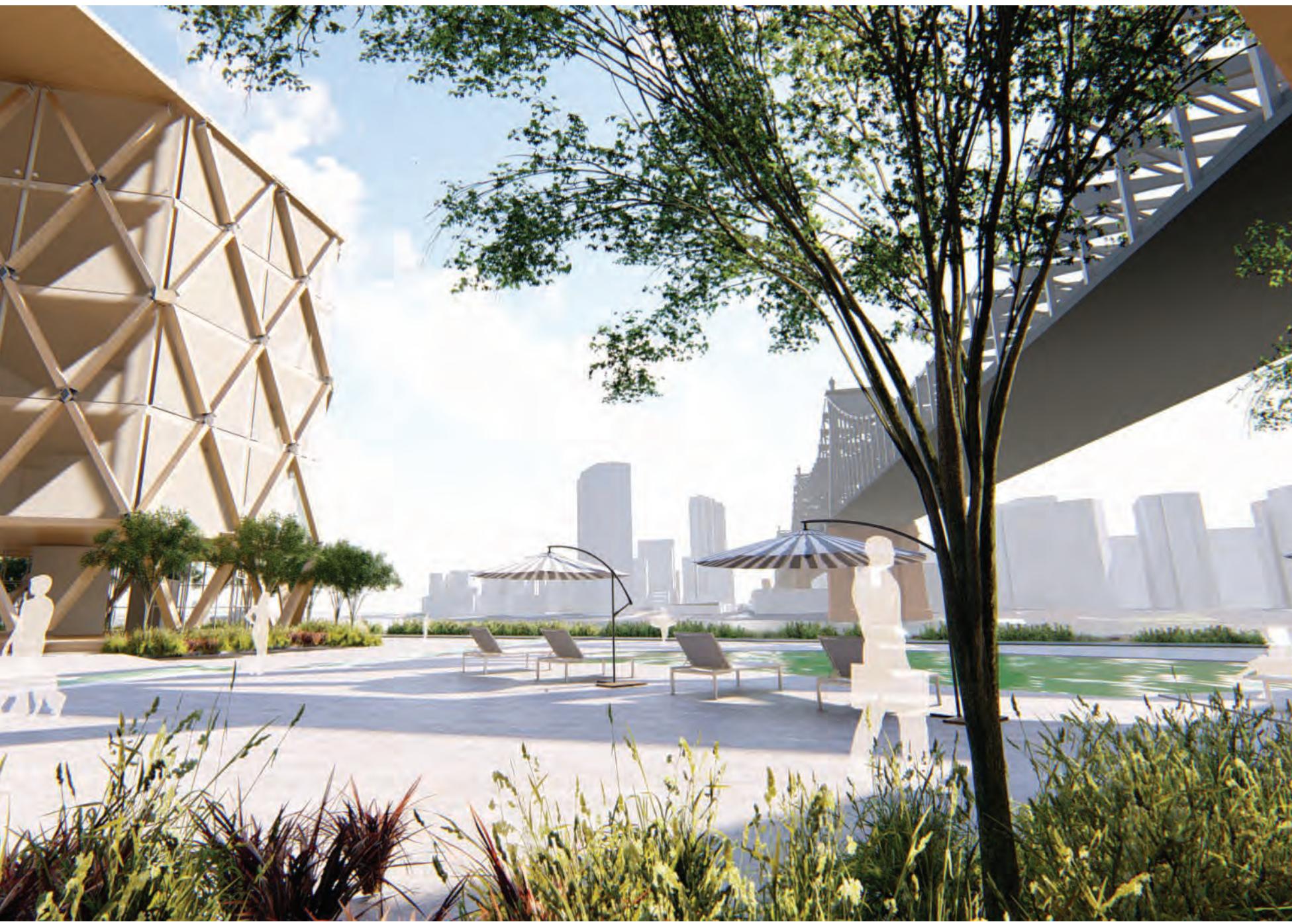
512.8 FT - 448 FT = 64.8 FT ~

12.6 % SAVED
COMPARE TO A MORE TRADITIONAL RECTANGULAR BUILDING OF THE SAME SQUARE FOOTAGE



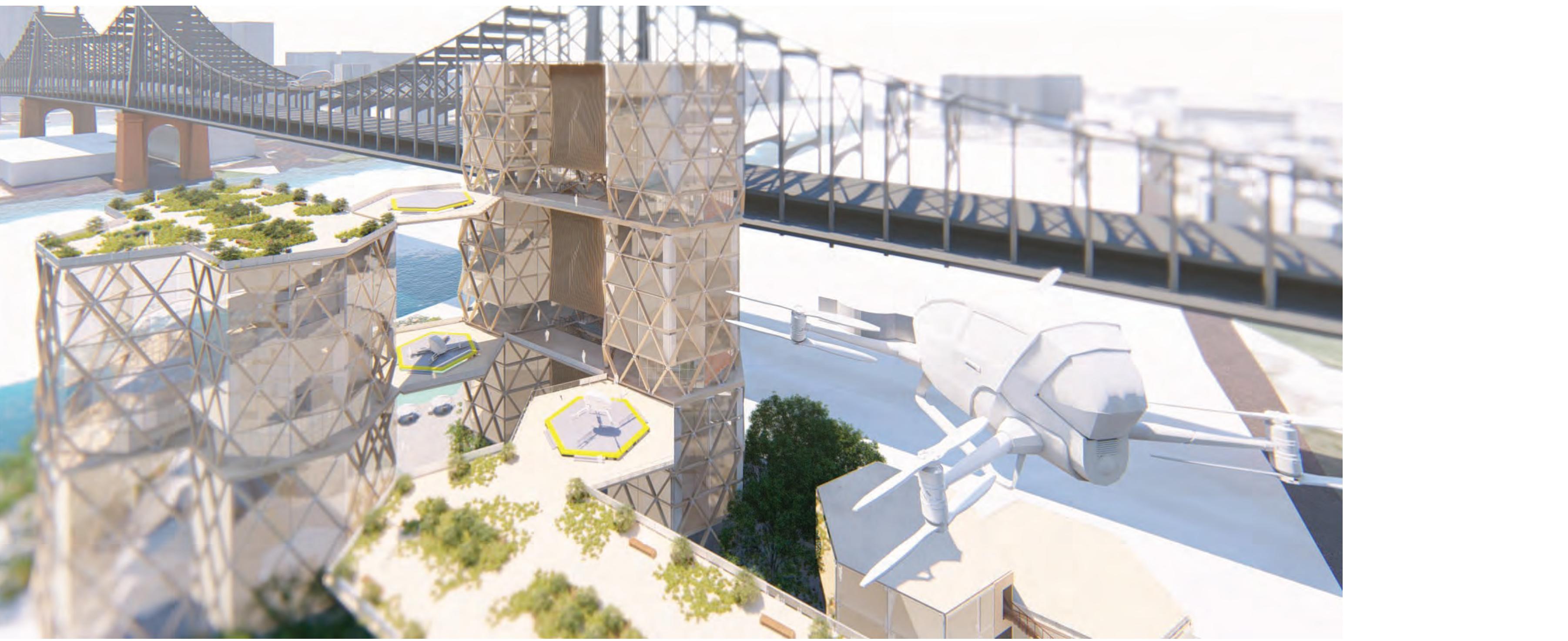
VIEW TOWARDS DAYCARE

FROM BOTTOM COMMERCIAL FLOOR OF THE RESIDENTIAL TOWER



WATERFRONT VIEW

OVERLOOKING ROOSEVELT ISLAND



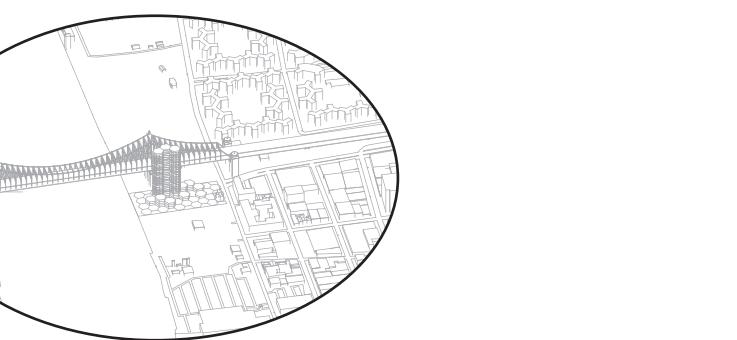
INCREASE VOLUMN AND INTRODUCE
NEW PROGRAMS BASED ON PHASE 1

PHASE 02 + 03

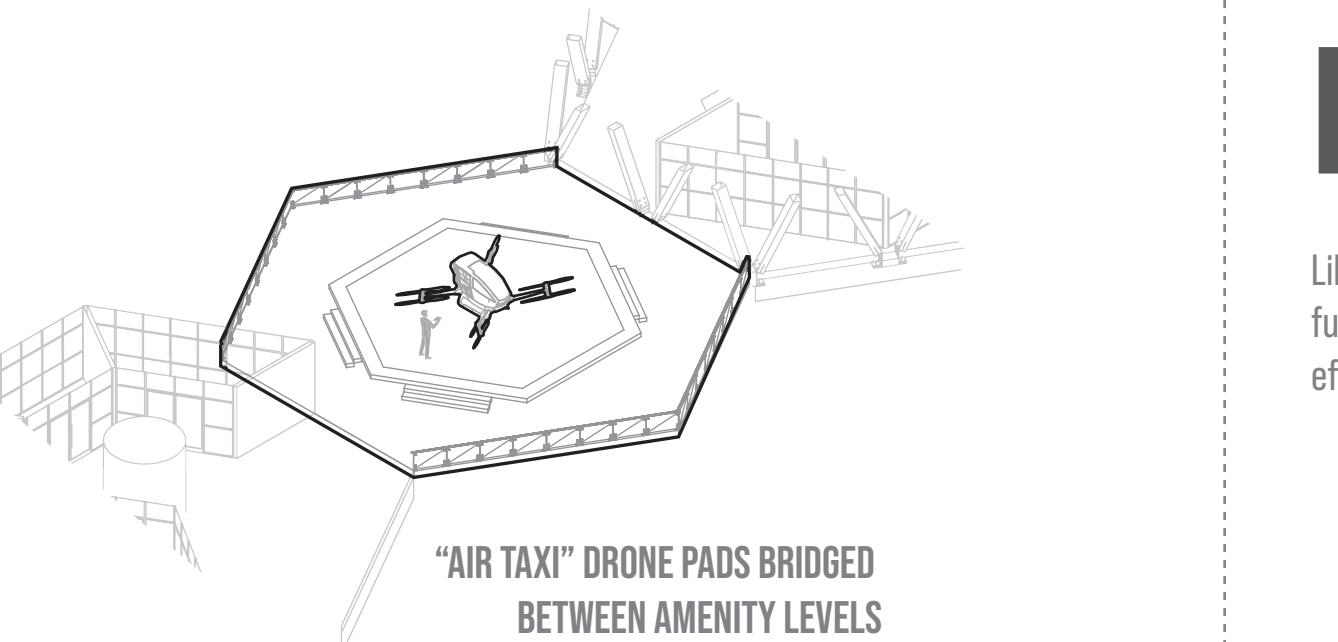
HIGHLY CUSTOMIZABLE AMENITY LEVEL FUNCTIONS COUPLED WITH "AIR
TAXI" DRONES TO MEET ALL RESIDENTS' LIVING NEEDS

Drone pads that are bridged between amenity level of different residential towers act as bridge, air taxi stop and delivery dropoff points. By design, mobile applications can be utilized to call air taxis and residents will be able to quickly move across city to their destinations.

7 CITY

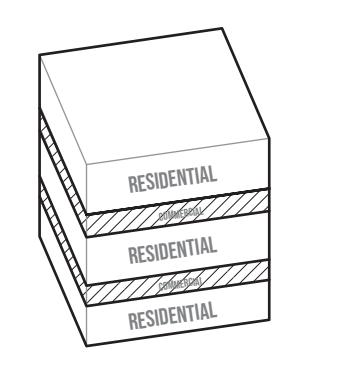


100% OF THE RESIDENTS HAVE ACCESS TO PUBLIC TRANSPORTATION ON SITE
TO REDUCE CITY CONGESTION AND SAVE TIME & MONEY FOR RESIDENTS

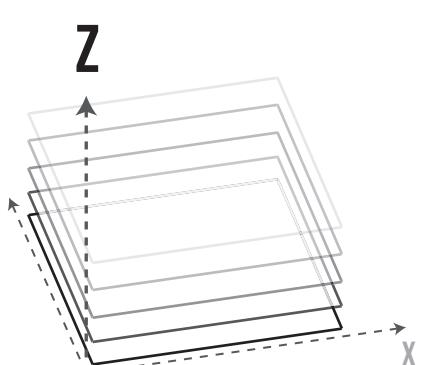


PROGRAM VERTICAL EXP.

A NEW PERSPECTIVE BROUGHT FORTH BY NEW TECHNOLOGIES



TRADITIONALLY, COMMERCIAL LEVEL IS ALWAYS PUT ON THE GROUND FLOOR FOR ACTIVE STREET LEVEL ENGAGEMENT AND ECONOMIC OPPORTUNITIES.



WITH THE HELP OF PASSENGER DRONES, THE ACTIVITY WILL NO LONGER HAVE TO BE LIMITED TO THE GROUND LEVEL. THIS IN TURN, ALLOWS BREAKING DOWN OF BIG BOX STORES AND EASIER FASTER ACCESS BY CUSTOMERS.

DRONE

Like amazon air, drone technology will eventually make themselves into our daily lives. and in the foreseeable future, service drones won't be the only type we see. As uber air and other companies continue to make efforts in developing passenger drone technology, it might arrive and popularize sooner than you think.

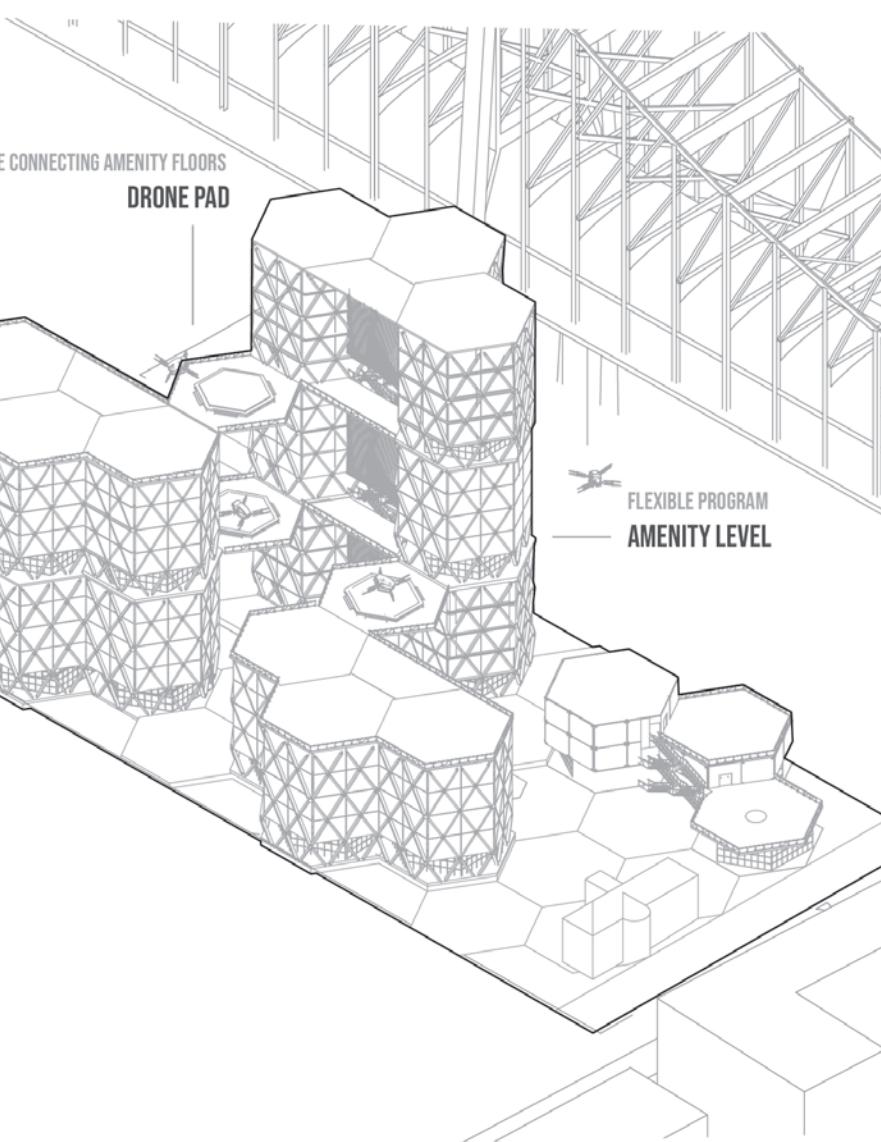


SERVICE DRONES CONSIST MAINLY OF DELIVERY DRONES, AS "FLIGHT ASSEMBLY" TECHNOLOGY KEEP DEVELOPING, SERVICE DRONES MAY BE ABLE TO CONSTRUCT BUILDINGS BY THEMSELVES.



PASSENGER DRONES OFFER MANY FORESEEABLE BENEFITS - OTHER THAN BEING ABLE TO IGNORE TRAFFIC JAM, IT ALSO OPENS UP NEW URBAN DESIGN CHALLENGES, LIKE EXPANDED STREET LEVEL, SECURITY, ETC.

PHASE 02



RESIDENTIAL 100,160 SQFT

1 BEDROOM	46,080 SQFT	
360 SQFT	8 PER FLOOR	128 UNITS TOTAL
2 BEDROOM	34,560 SQFT	
720 SQFT	3 PER FLOOR	48 UNITS TOTAL
2.5 BEDROOM	25,920 SQFT	
720 SQFT	3 PER FLOOR	36 UNITS TOTAL
SHARED SPACE	19,520 SQFT	
1220 SQFT	1 PER FLOOR	16 UNITS TOTAL

RESIDENTIAL

75,120 SQFT

AMENITY LEVELS

23,940 SQFT

FLEXIBLE PROGRAM

3 FLOORS TOTAL

SHARED SPACE

15,960 SQFT

CAN CONVERT TO SOLAR FARM

DRONE PADS

7,980 SQFT

ALSO AS BRIDGE

3 UNITS TOTAL

ADDED PROGRAMS

47,880 SQFT

AMENITY LEVELS

15,960 SQFT

AMENITY LEVELS

31,920 SQFT

FLEXIBLE PROGRAM

4 FLOORS TOTAL

SHARED SPACE

15,960 SQFT

ROOF GARDENS

15,960 SQFT

CAN CONVERT TO SOLAR FARM

DRONE PADS

13,300 SQFT

ALSO AS BRIDGE

5 UNITS TOTAL

DAYCARE EXPANSION

15,960 SQFT

15,960 SQFT

AMENITY LEVELS

15,960 SQFT

AMENITY LEVELS

116,020 SQFT

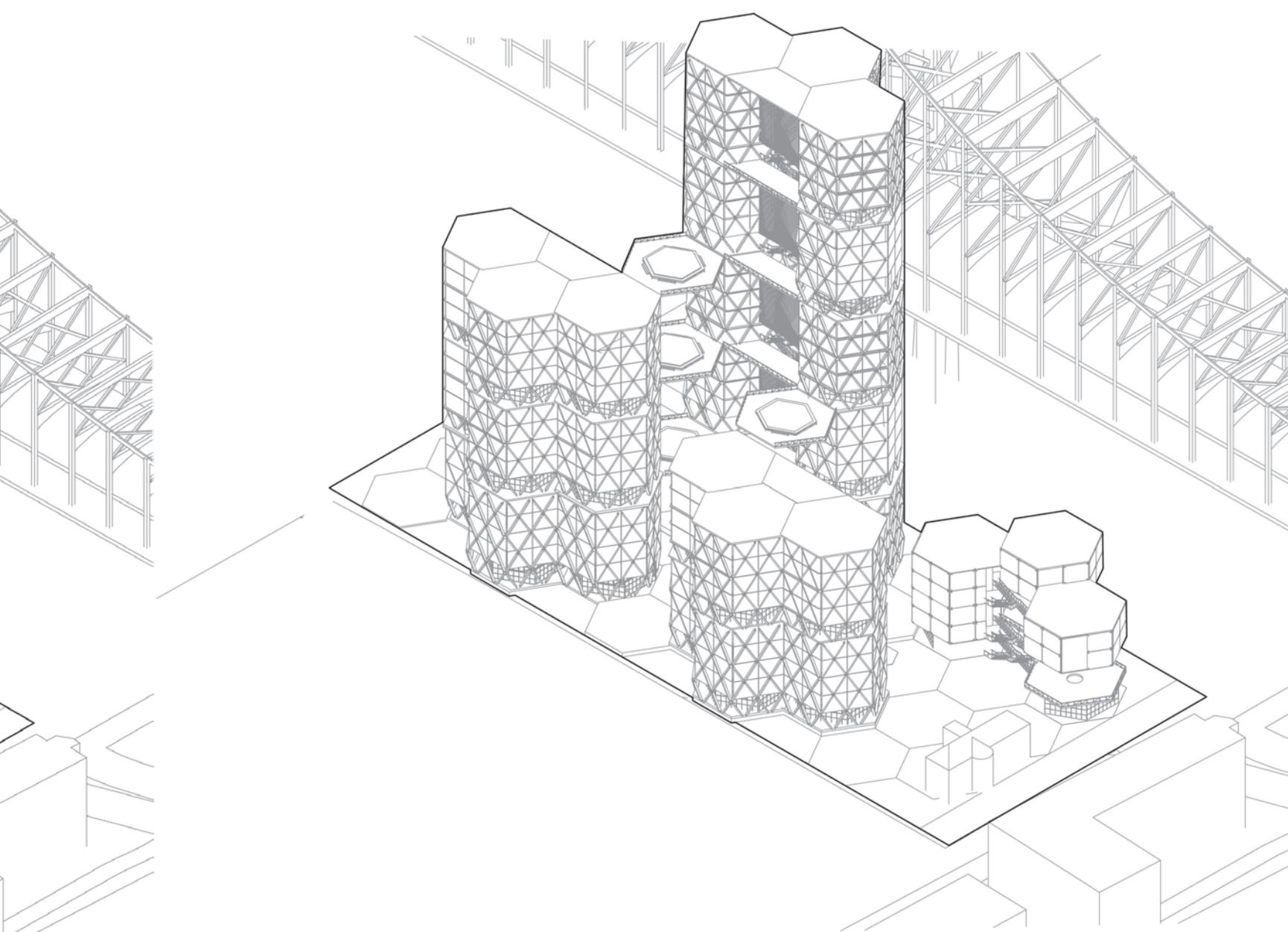
PHASE 01

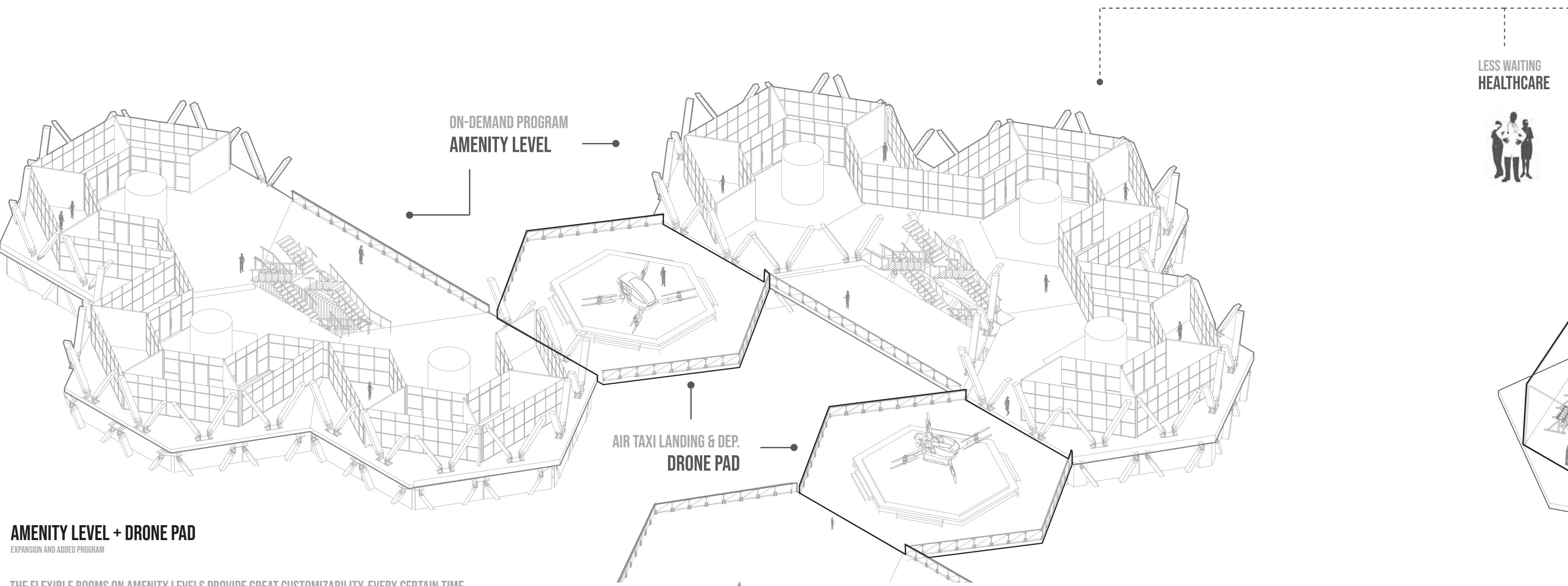
123,000 SQFT

PHASE 02

177,300 SQFT

PHASE 03



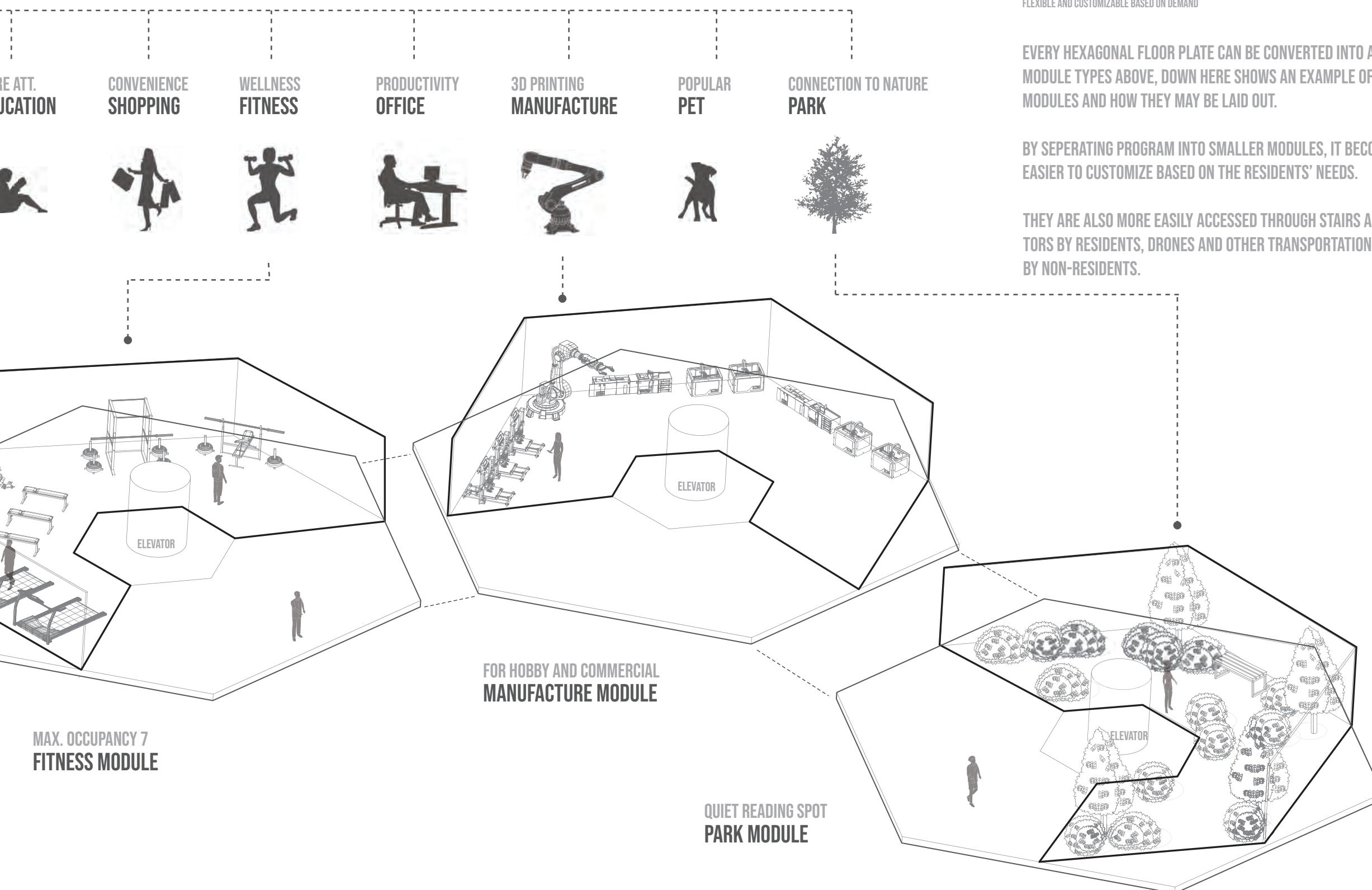


AMENITY LEVEL + DRONE PAD

EXPANSION AND ADDED PROGRAM

THE FLEXIBLE ROOMS ON AMENITY LEVELS PROVIDE GREAT CUSTOMIZABILITY. EVERY CERTAIN TIME PERIOD, RESIDENTS CAN GET TOGETHER WITH BUILDING MANAGEMENT TO DECIDE WHAT'S THE BEST PROGRAM TO PUT ON LEVEL AT THE TIME.

ALONG WITH PASSENGER DRONES, THE CONCEPT OF "STREET LEVEL" WILL NOW EXPAND MORE VERTICALLY, POTENTIALLY BOOSTS ECONOMY AND CREATE MORE VIBRANT CITY LIVES IN RESIDENTIAL TOWERS AMONG URBAN ENVIRONMENTS.



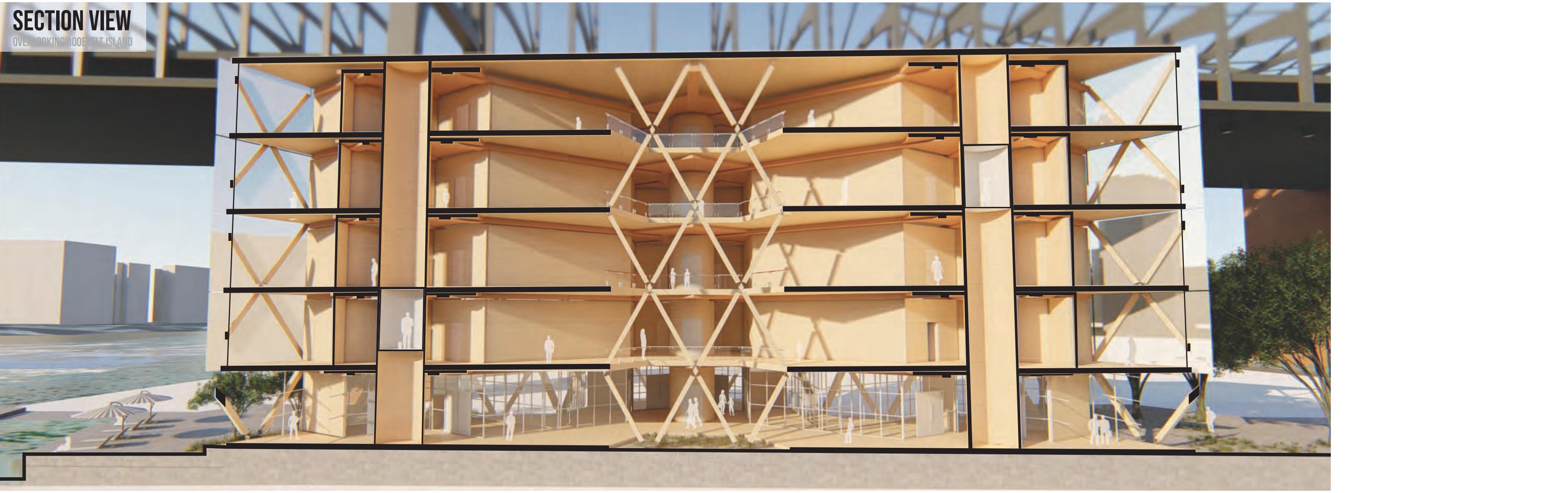
EXAMPLE AMENITY MODULE COMBO

FLEXIBLE AND CUSTOMIZABLE BASED ON DEMAND

EVERY HEXAGONAL FLOOR PLATE CAN BE CONVERTED INTO ANY OF THE MODULE TYPES ABOVE, DOWN HERE SHOWS AN EXAMPLE OF 3 MODULES AND HOW THEY MAY BE LAID OUT.

BY SEPARATING PROGRAM INTO SMALLER MODULES, IT BECOMES MUCH EASIER TO CUSTOMIZE BASED ON THE RESIDENTS' NEEDS.

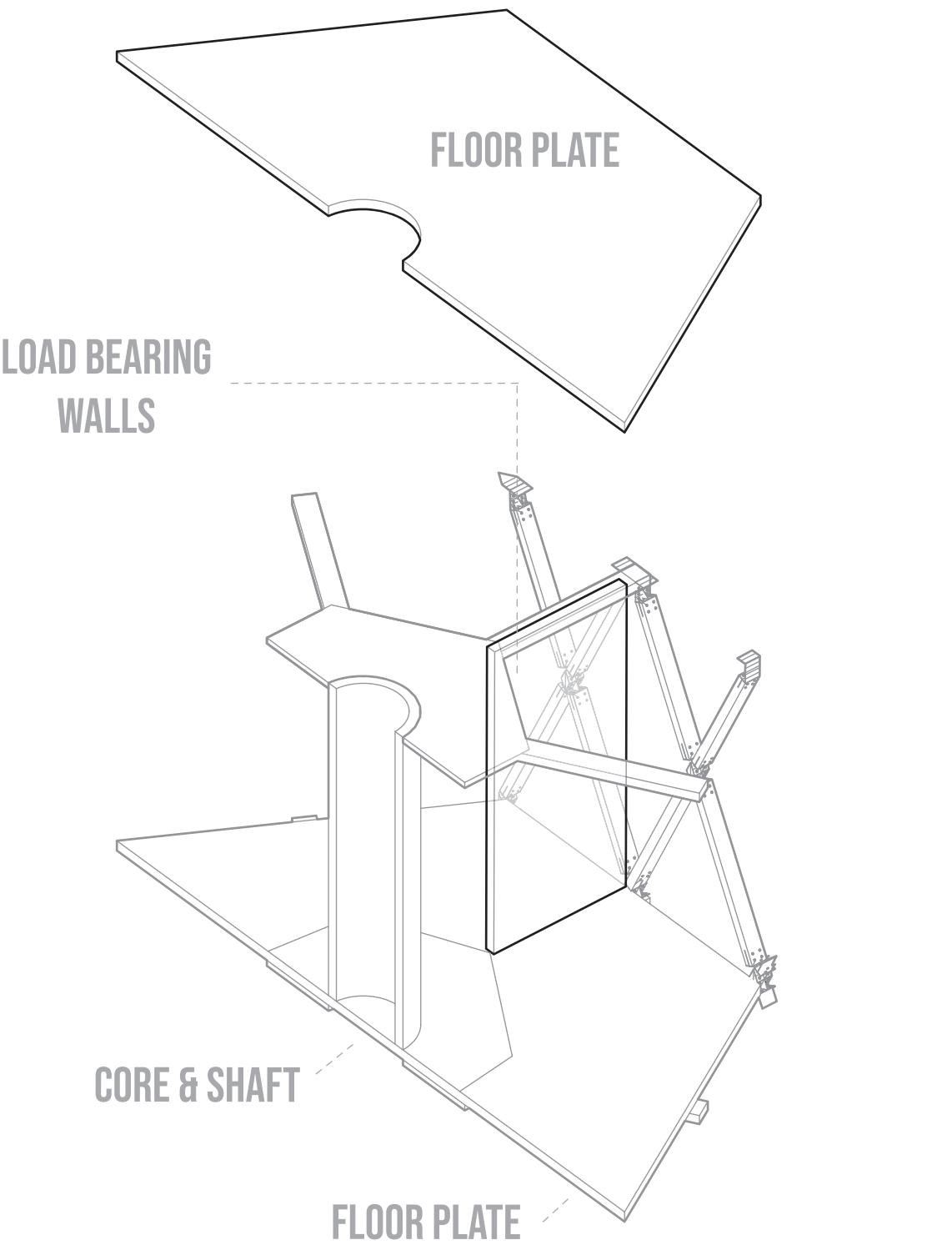
THEY ARE ALSO MORE EASILY ACCESSED THROUGH STAIRS AND ELEVATORS BY RESIDENTS, DRONES AND OTHER TRANSPORTATION METHODS BY NON-RESIDENTS.



CONSTRUCTION

TIMBER-FRAME EXOSKELETON ALLOWS THE BUILDING TO ACHIEVE ZERO
INTERIOR COLUMNS IN ORDER TO MAXIMIZE INTERIOR SPACE

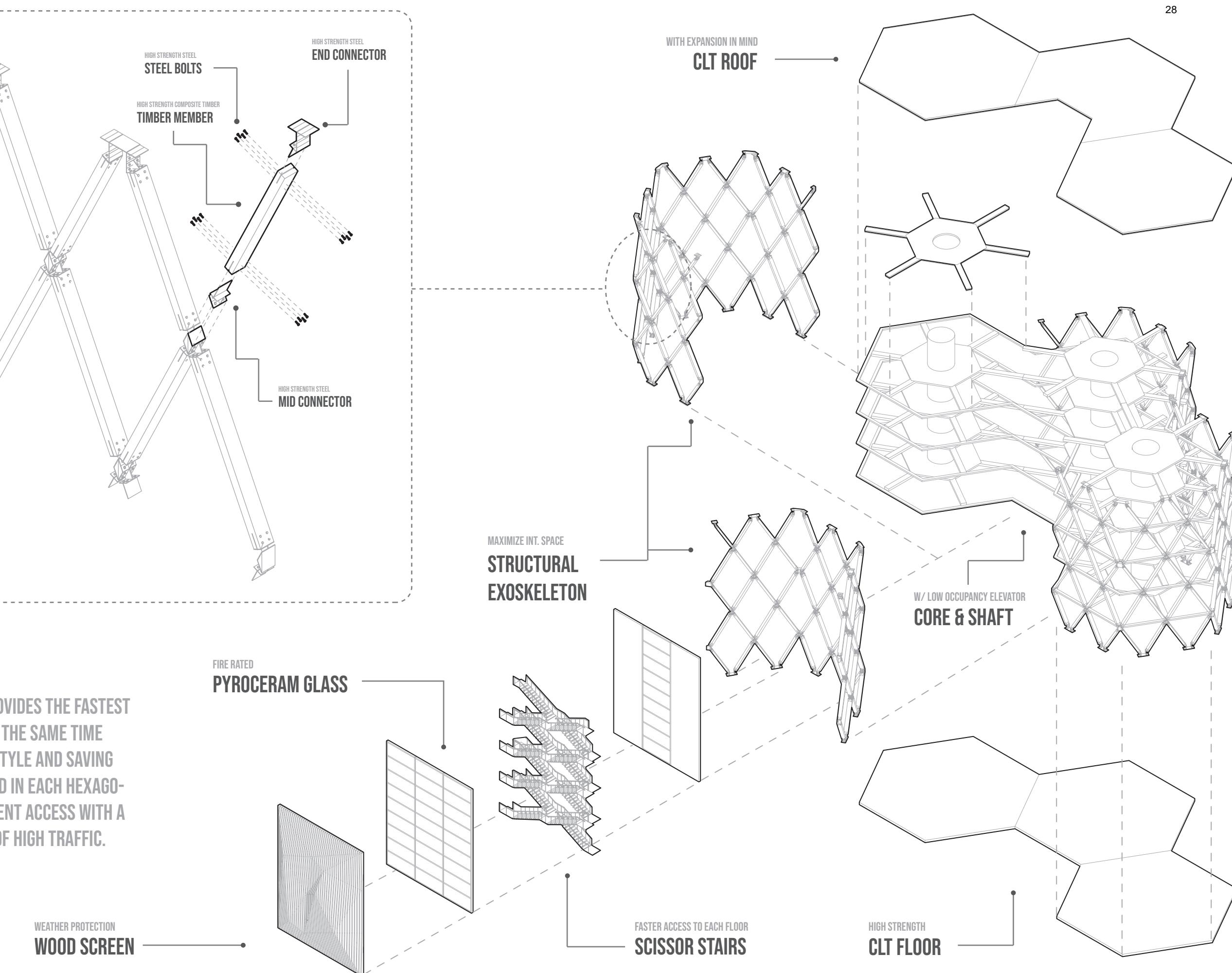
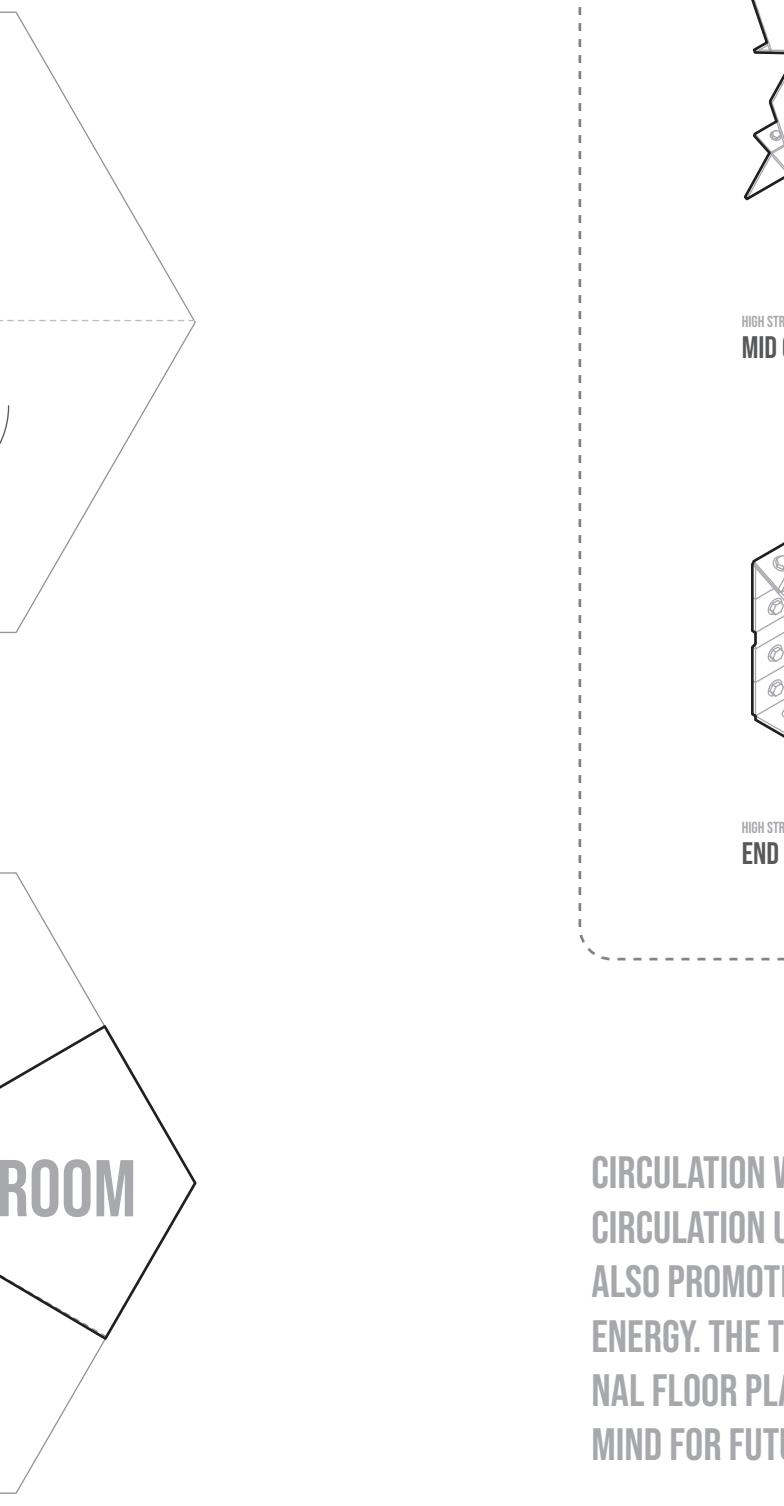
BY UTILIZING EXOSKELETON AS THE MAIN STRUCTURAL METHOD, NO INTERIOR BEAMS ARE NEEDED
AND MORE SPACE CAN BE DEDICATED TO OTHER PROGRAMS OR ACTIVITIES. THIS METHOD ALSO TAKES
FULL ADVANTAGES OF THE BENEFITS HEXAGONAL SHAPE BRINGS, WHICH MEANS SAVING 12.6%
STRUCTURAL MATERIALS, MAKING THE BUILDING MUCH MORE FEASIBLE COMPARE TO OTHERS.



INTERIOR WALL & ROOM

PLACED ACCORDING TO BEAMS

BY ROTATING THE FLOOR PLATE HEXAGON BY 90 DEGREES AND CONNECTING THE END POINTS WITH MID POINTS ON THE LINES OF LARGER HEXAGON, THE ROOMS ARE CREATED AND ALIGNED WITH THE STRUCTURE.



"Have no fear of perfection -- you'll never reach it."

-- Salvador Dali, artist