

01



Comuna De La Vida Housing

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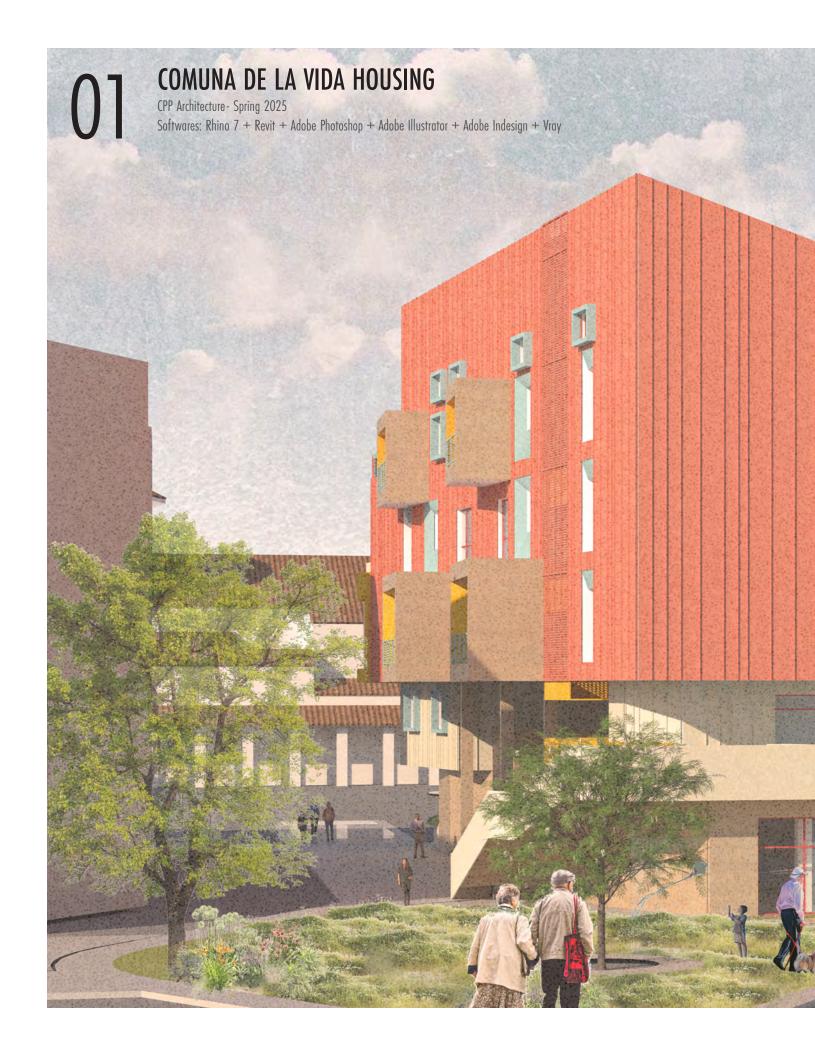


Mt. Wilson Research Center

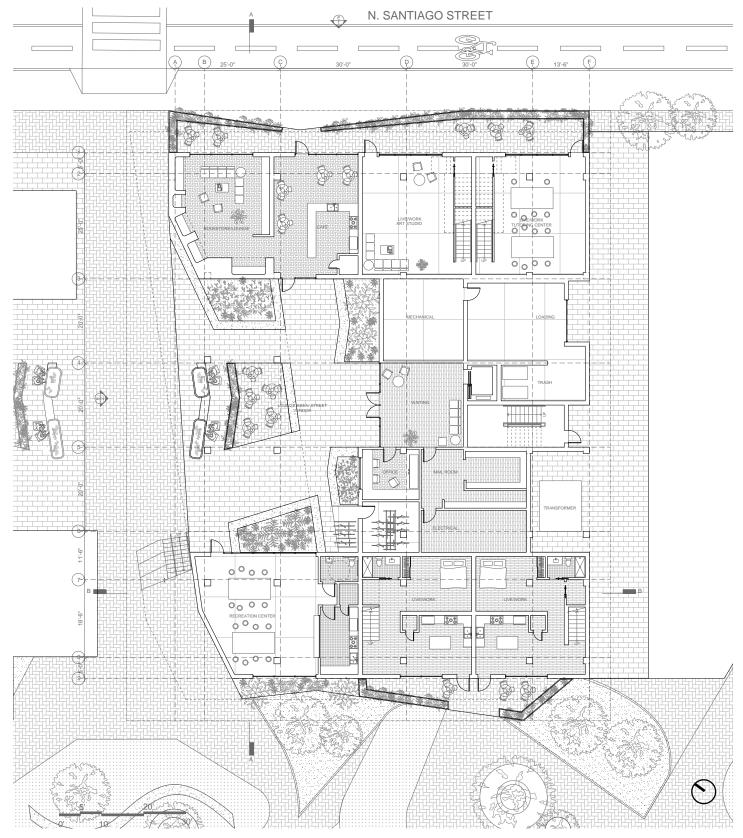
03



School of Architecture
Downtown Pomona







GROUND FLOOR

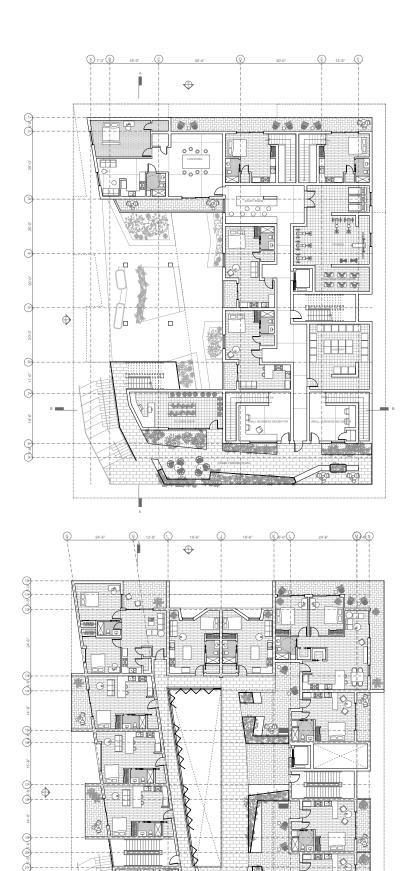
The design itself is made to guide the user through the spaces by designing with angles and corners that are removed. In addition to supporting the neighborhood's microeconomy and creating a step forward to a 15 min city, creating a reliable and sustainable ways of producing and earning from places such as these.

Programs include dance workshops, tutoring rooms, urban farming, and spaces for social gathering, being open to the public ensure that this is not only a place to live but a place to grow, create, and engage.

This comuna transforms urban housing into a full trajectory blending community, sustainable practices, and for all classes of people. combines function through passions of the users.

Small business owners can bring their vision to life with the help of the micro community, helping incubate these spaces.





SECOND FLOOR









After the first two levels the building rotates and the massing steps back each level to create open space that are programmed to allow for residents to gather, relax, and learn.

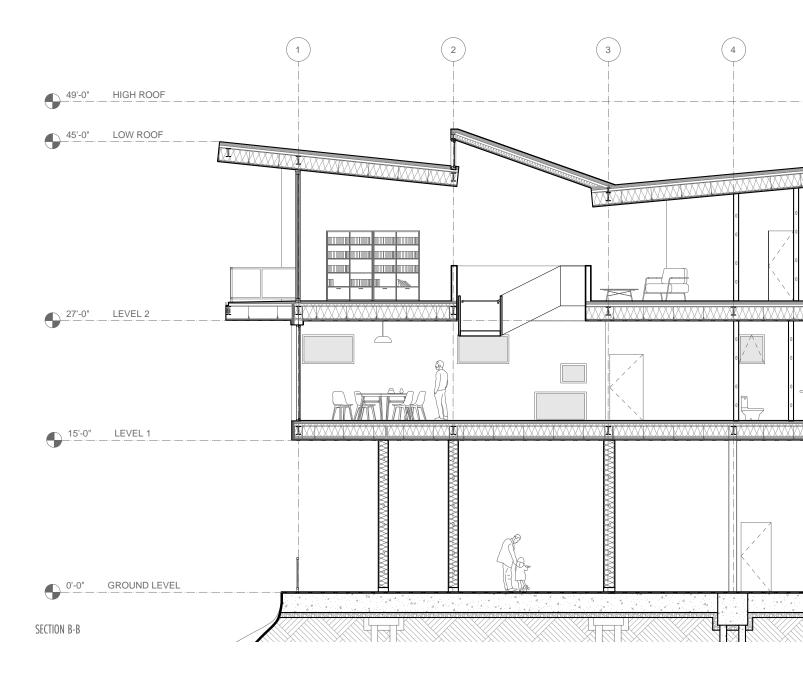
These terraces are not just as a massing technique but rather a space that offers retreat and interaction which gives opportunities for children to feel safe in spaces like these especially as Santa Ana is a busy area.









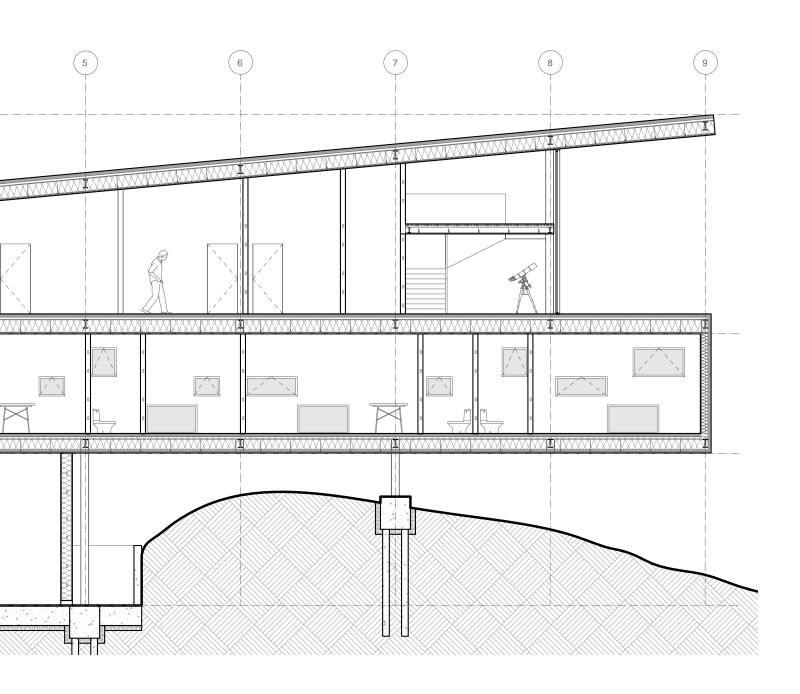


This research center is situated parallel to the Mount Wilson Observatory and functions as a versatile, multiuse building designed to accommodate a wide range of users.

Its architectural concept is informed by a thorough analysis of both functionality and the local climate.

The prominent cantilever, achieved through the strategic use of a truss system, allows for a seamless blending of the site and program.

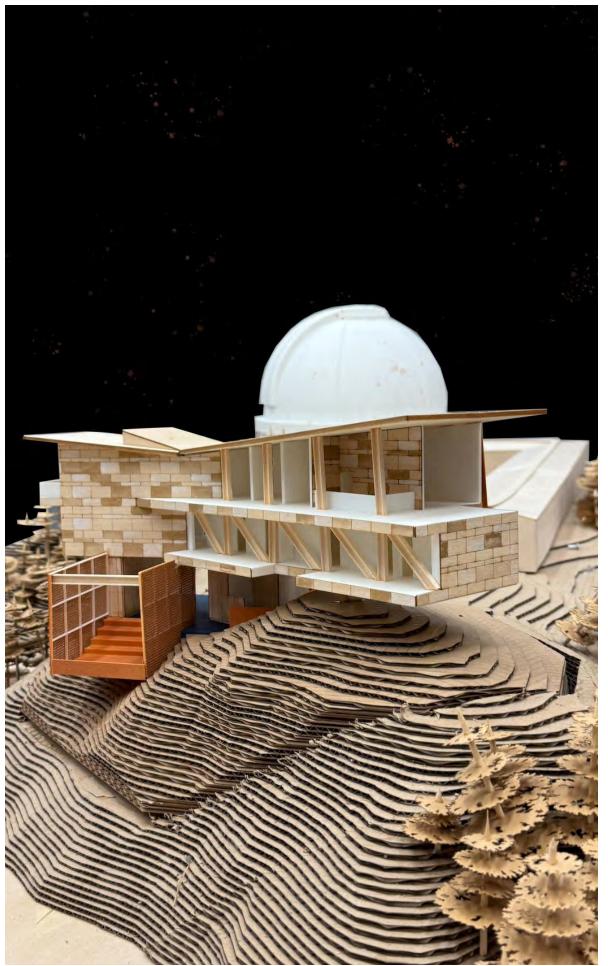












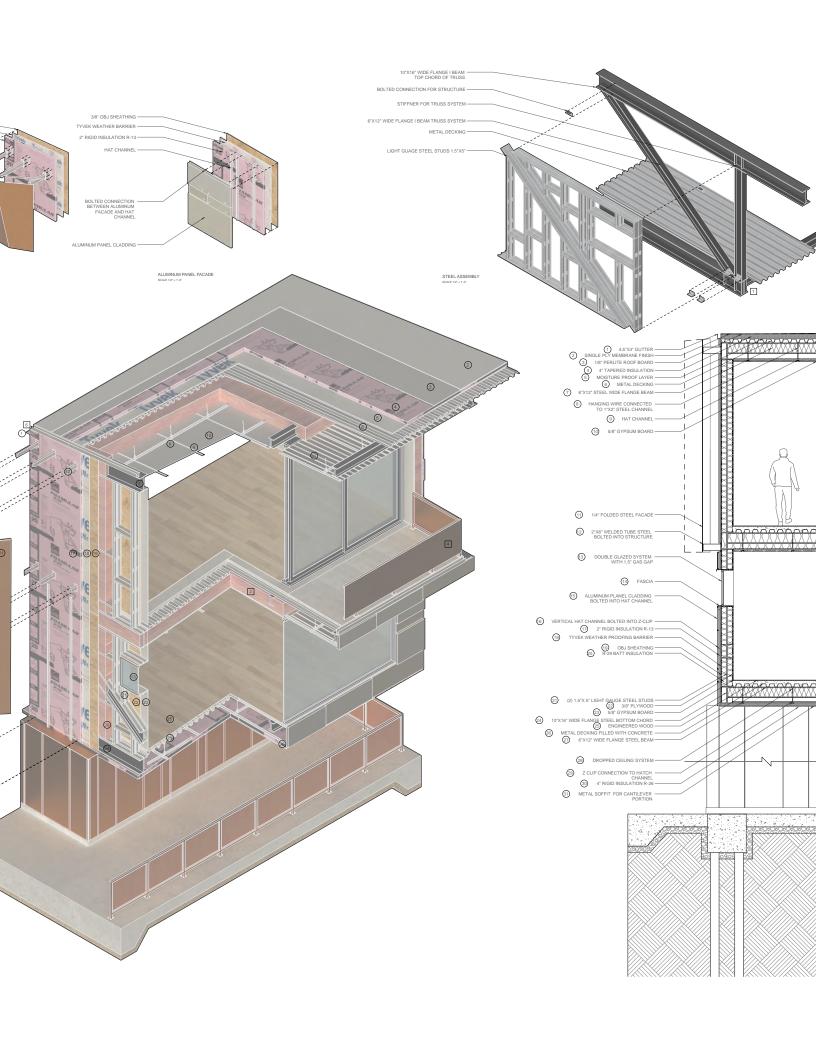
3/8" OBJ SHEATHING — TYVEK WEATHER BARRIER — 2" RIGID INSULATION R-13 —

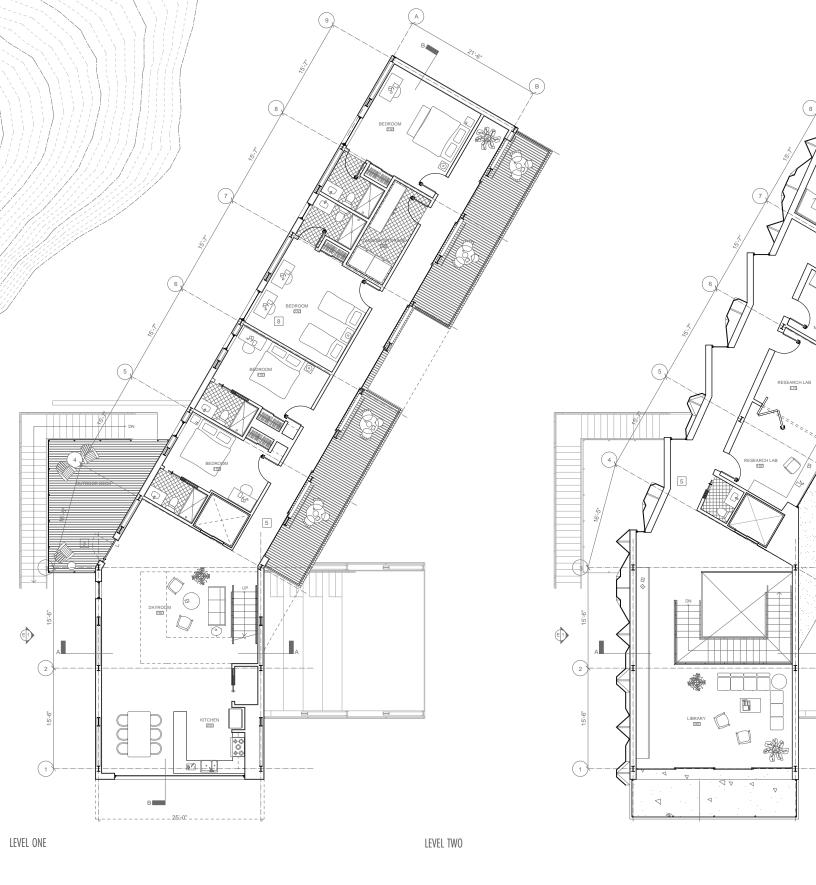
BOLTED INTO STUD STRUCTURE

1/8" STEEL PLATE STIFFNER = FOR FACADE

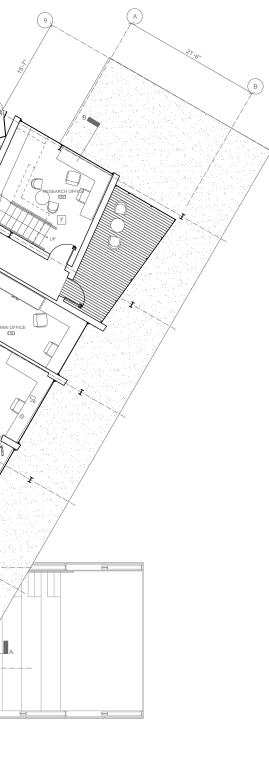
FOLDED STEEL PLA

FOLDED STEEL FACADE SCALE 1/2" = 1'-0"













03

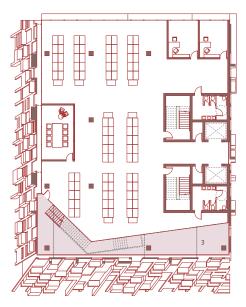
SCHOOL OF ARCHITECTURE DOWNTOWN POMONA

CPP Architecture - Spring 2024

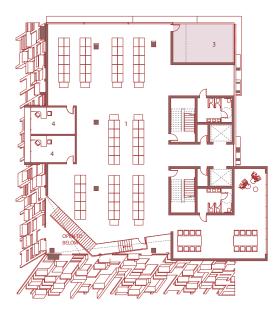
Softwares: Rhino 7 + Adobe Photoshop + Adobe Illustrator + Adobe Indesign + Vray + Climate Analysis





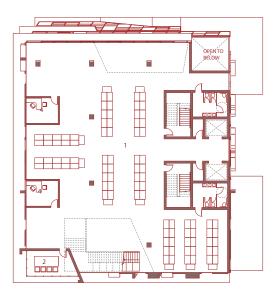


LEVEL 5 SCALE: 1/16"=1'-0"

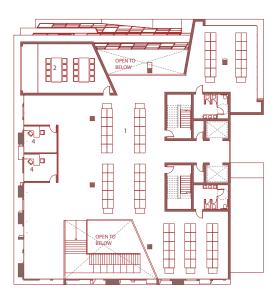


LEGEND LEVEL 6

- 1. STUDIO
- 2. BREAK OUT ROOM
 3. OUTDOOR SPACES
 4. OFFICES



LEVEL 11 SCALE: 1/16"=1'-0"



LEVEL 12 SCALE: 1/16"=1'-0"

Schools are designed to be places of gathering, fostering growth and collaboration between students and professors.

This project aims to address this issue by creating a tower that integrates studio spaces with the natural environment around Pomona, serving as the primary inspiration for its design and concept.



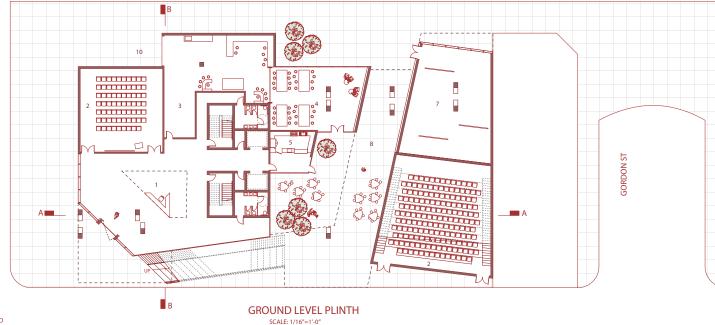
The spatial qualities of the tower are informed by the deliberate pushing and pulling of specific programs, creating responsive interactions between the façade and the surrounding city.

These design decisions generate spaces that connect with the outdoors and foster engagement among students in communal areas.

The project aspires to enhance students' learning experiences through nature, having features like outdoor classrooms and living roofs to promote biodiversity.

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LEGEND

- LECTURE HALL
 MODEL SHOP
 FABRICATION LAB

- 5. KITCHEN
 6. OUTDOOR CAFE
 7. GALLERY
 8. OUTDOOR COURTYARD
- 9. SEATING 10. LOADING DOCK



LEGEND

- BREAK ROOM
 SMALL CONFERENCE
- 3. LARGE CONFERENCE 4. MAILROOM 5. ADMIN OFFICE
- 6. DEAN OFFICE
- 7. CHAIR OFFICE 8. LABS & ARCHIEVES 9. OUTDOOR COURTYARD

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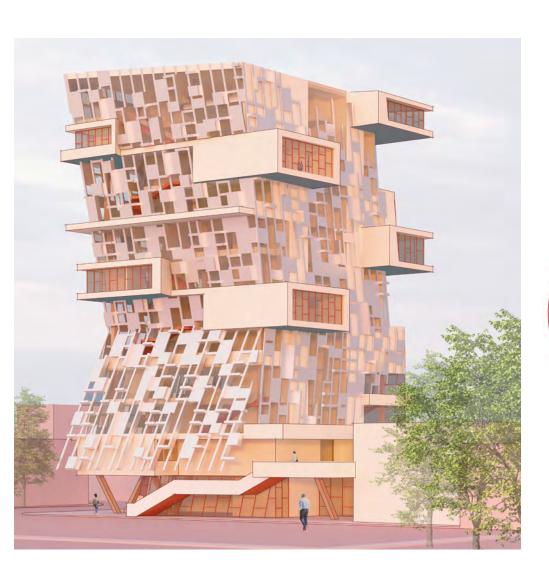


The façade employs intricate design strategies, integrating overhangs for studio spaces and a BIPV (Building Integrated Photovoltaic) system covering more than 60% of the façade. This approach not only provides comfortable, conditioned studio spaces through a combination of solid and void patterns but also

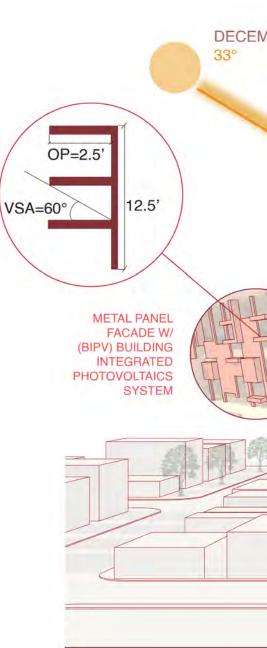
supports the goal of achieving net-zero carbon emissions.

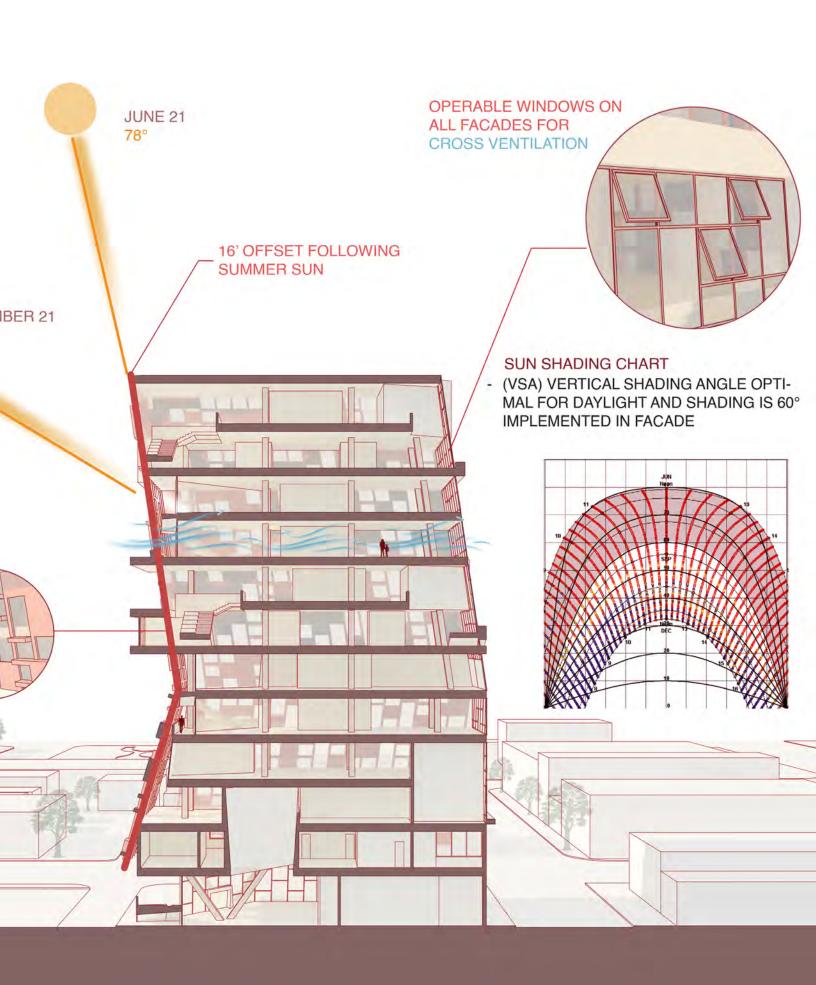
SUSTAINABILITY DIAGRAM

SUSTAINABILITY DIAGRAM



The tower's massing is influenced by solar studies, incorporating gradual overhangs to provide shade in spaces significantly impacted by the summer sun. This design aligns with a solar altitude of 78 degrees.





STRIVING FOR OPTIMAL ENERGY EFFICIENCY

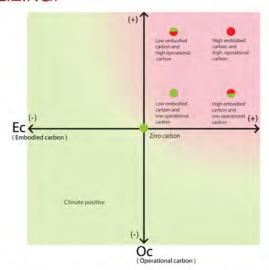
TOTAL ENERGY CONSUMPTION	646,605	kWhr/yr
TOTAL ENERGY GENERATED	249,941	kWhr/yr

TOTAL OPERATIONAL CARBON(M2) 7.8 kgCO2e/M2 yr

TOTAL EMBODIED CARBON(M2) 3.5 kgCO2e/M2 yr

TOTAL CARBON 11.3 kgCO2e/M2 yr

VISUALIZING:



- 1) Area of positive operational emissions and negative embodied emissions
- 2) Area of positive operational emissions and positive embodied emissions
- 3) Area of negative operational emissions and negative embodied emissions
- 4) Area of negative operational emissions and positive embodied emissions

SOURCE BY: P.M. LA ROCHE

THE TOWER ANALYSIS:

