

# HANGING GARDENS

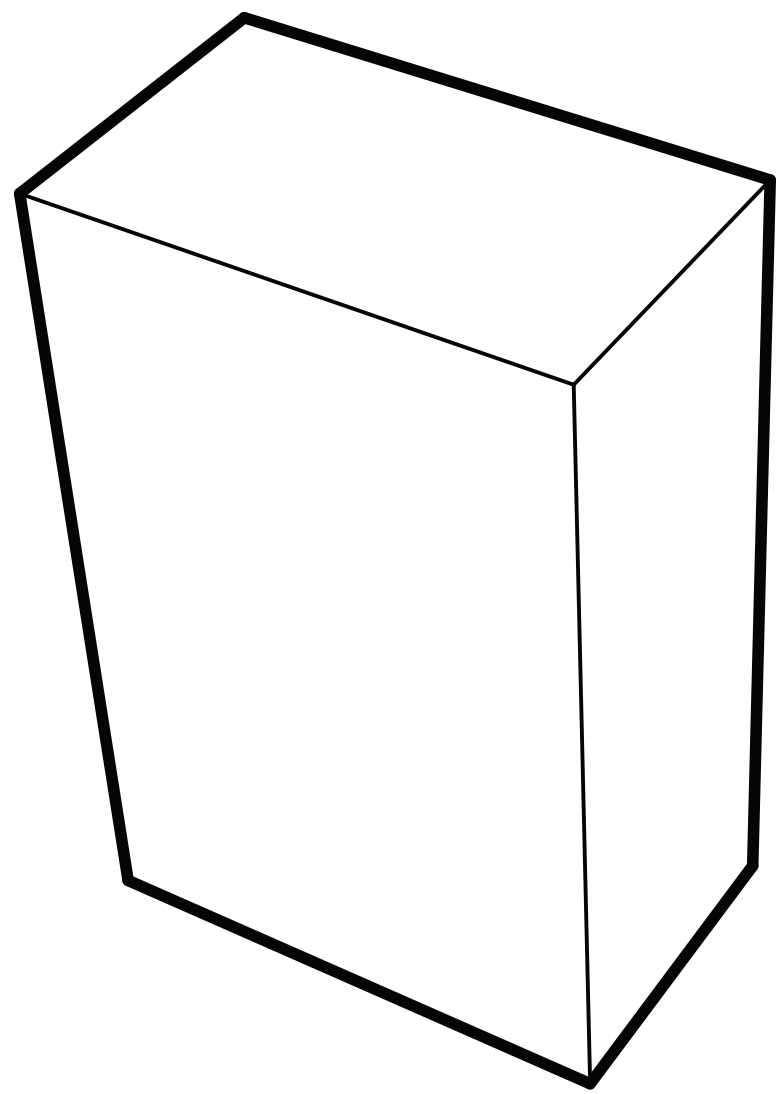
## CO-HOUSING



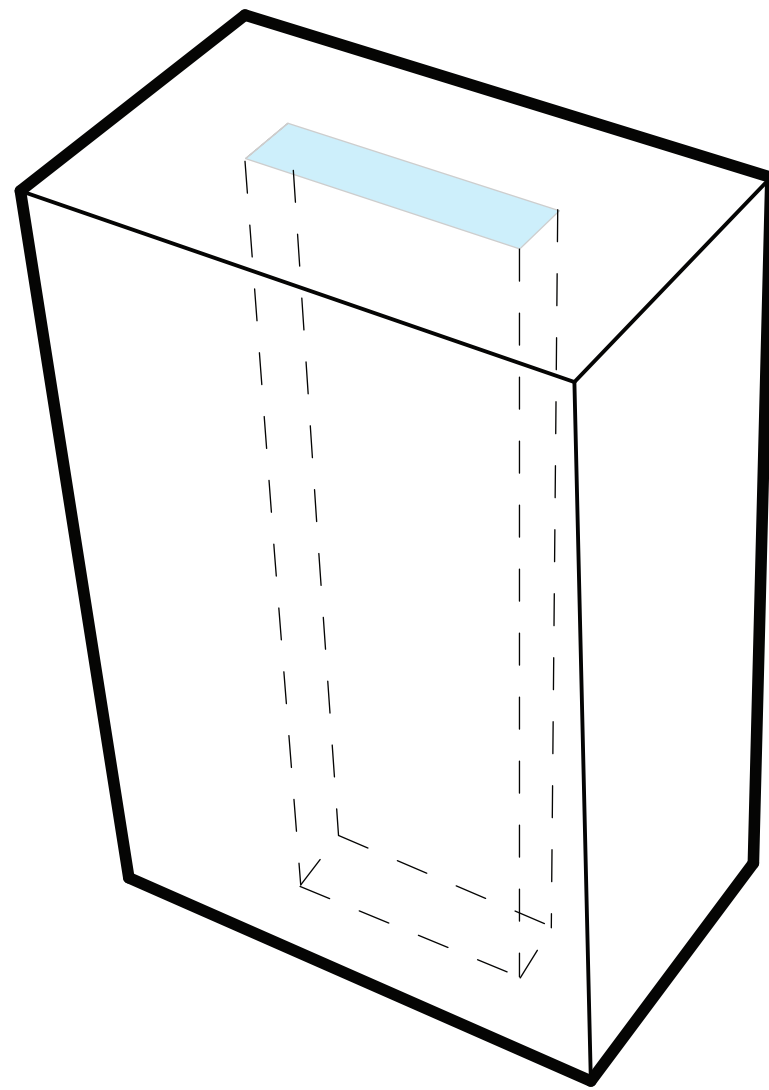
# SITE PLAN



# PARTI AND PROGRAM DIAGRAM

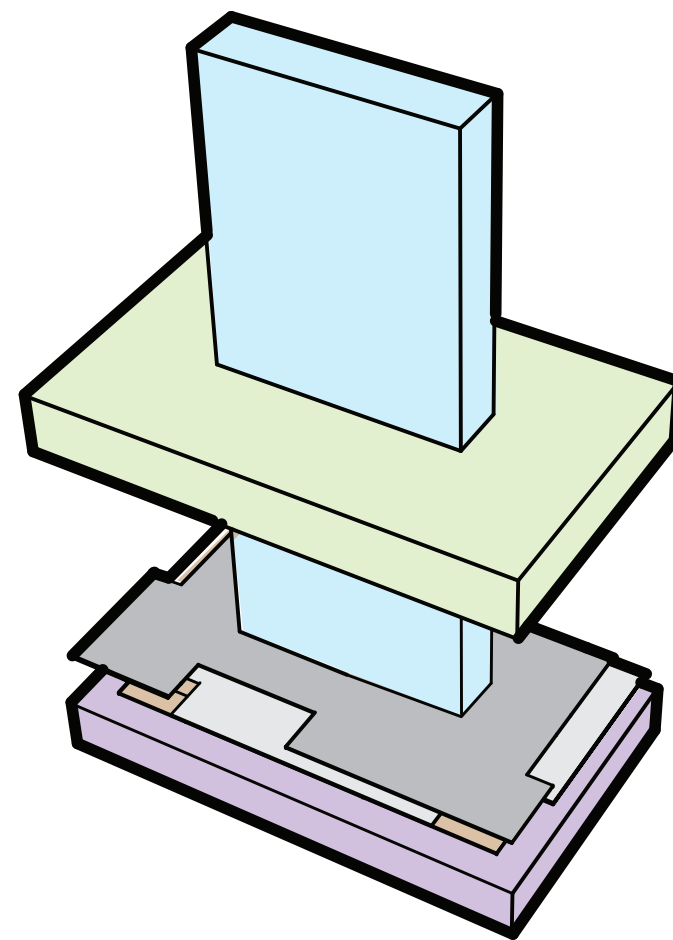


ZONING ENVELOPE



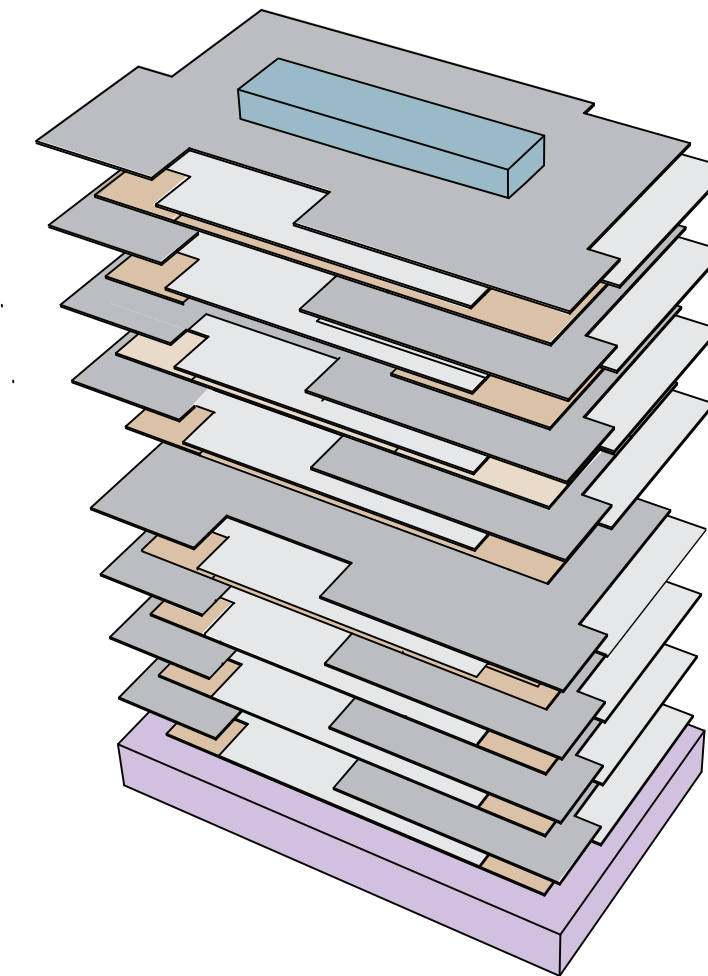
ADD ATRIUM

- UNITS
- SOLAR CHIMNEY



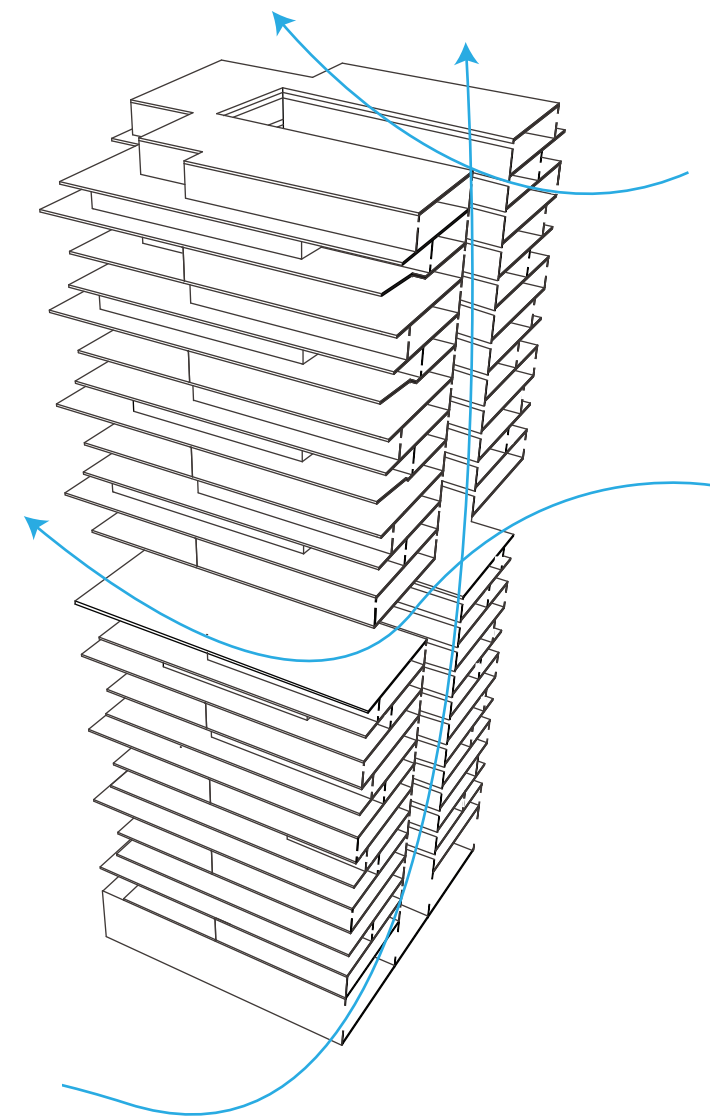
CONNECTIVE SPACES

- COMMERCIAL
- COMMUNITY
- ATRIUM



HORIZONTAL PLATES

- UNITS
- COMMERCIAL
- COMMUNITY
- ATRIUM
- MODULE 1
- MODULE 2
- MODULE 3



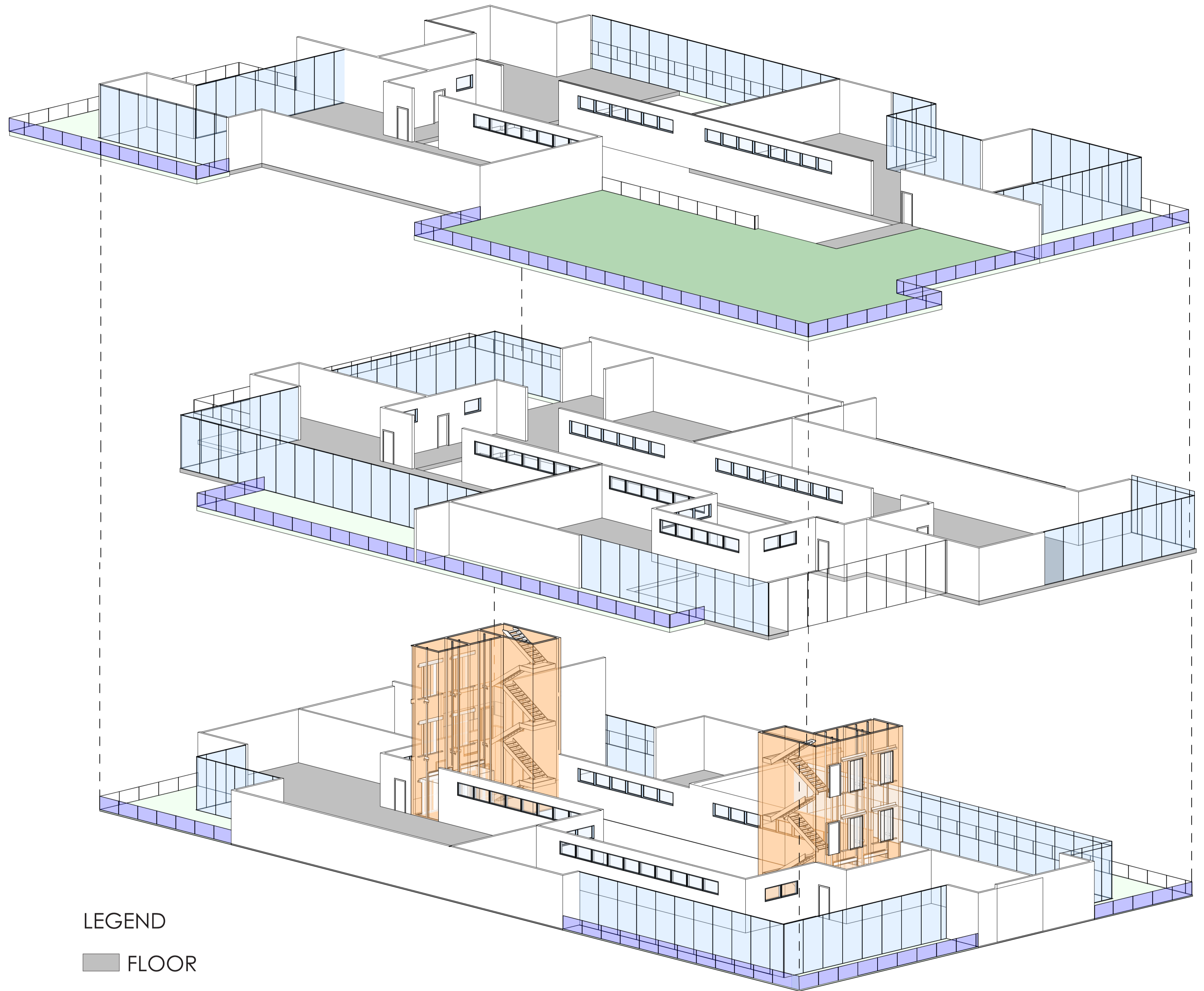
3D SECTION

# GROUND FLOOR PLAN



① COMMERCIAL LEVEL 1  
1/16" = 1'-0"

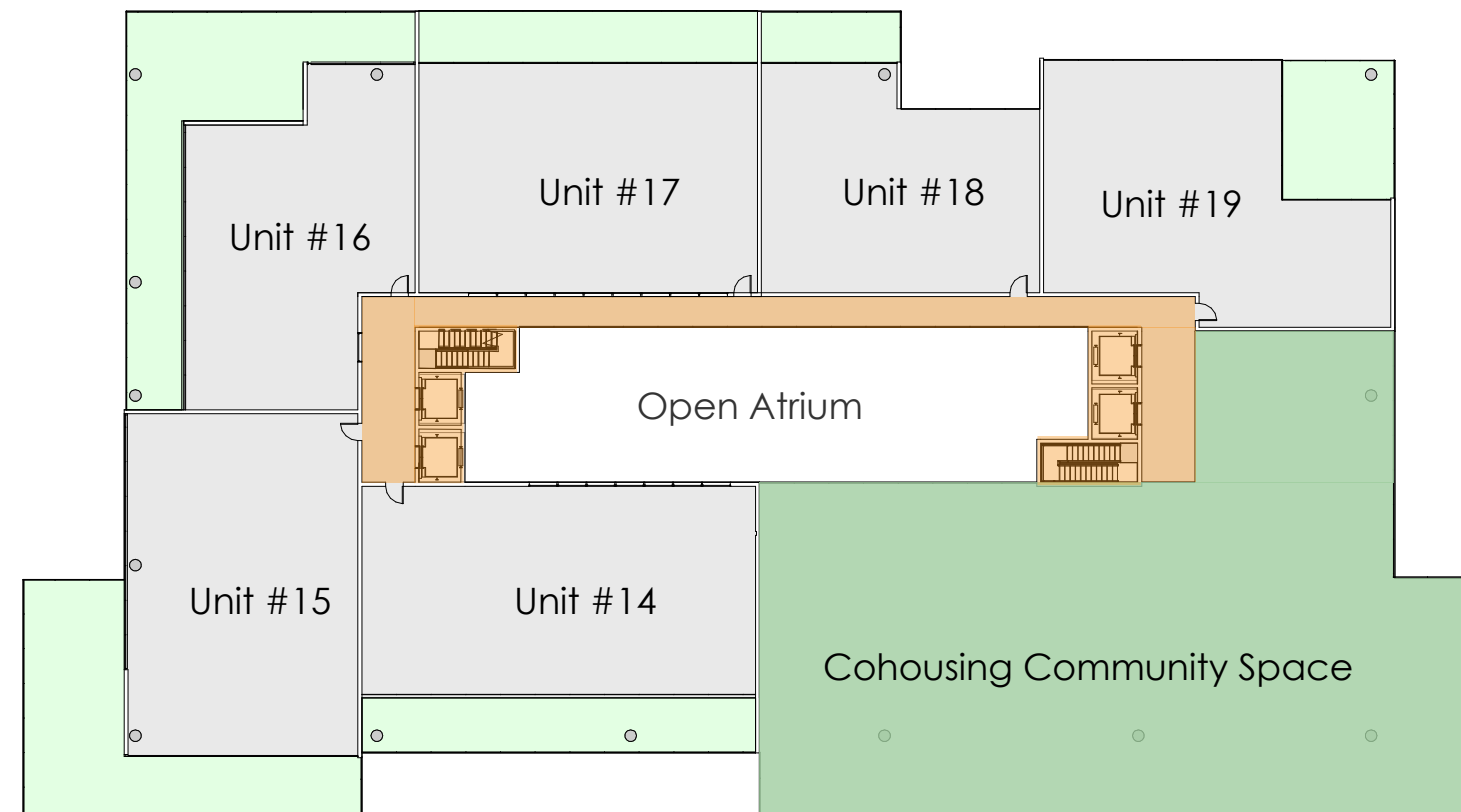
# FLOOR PLATES



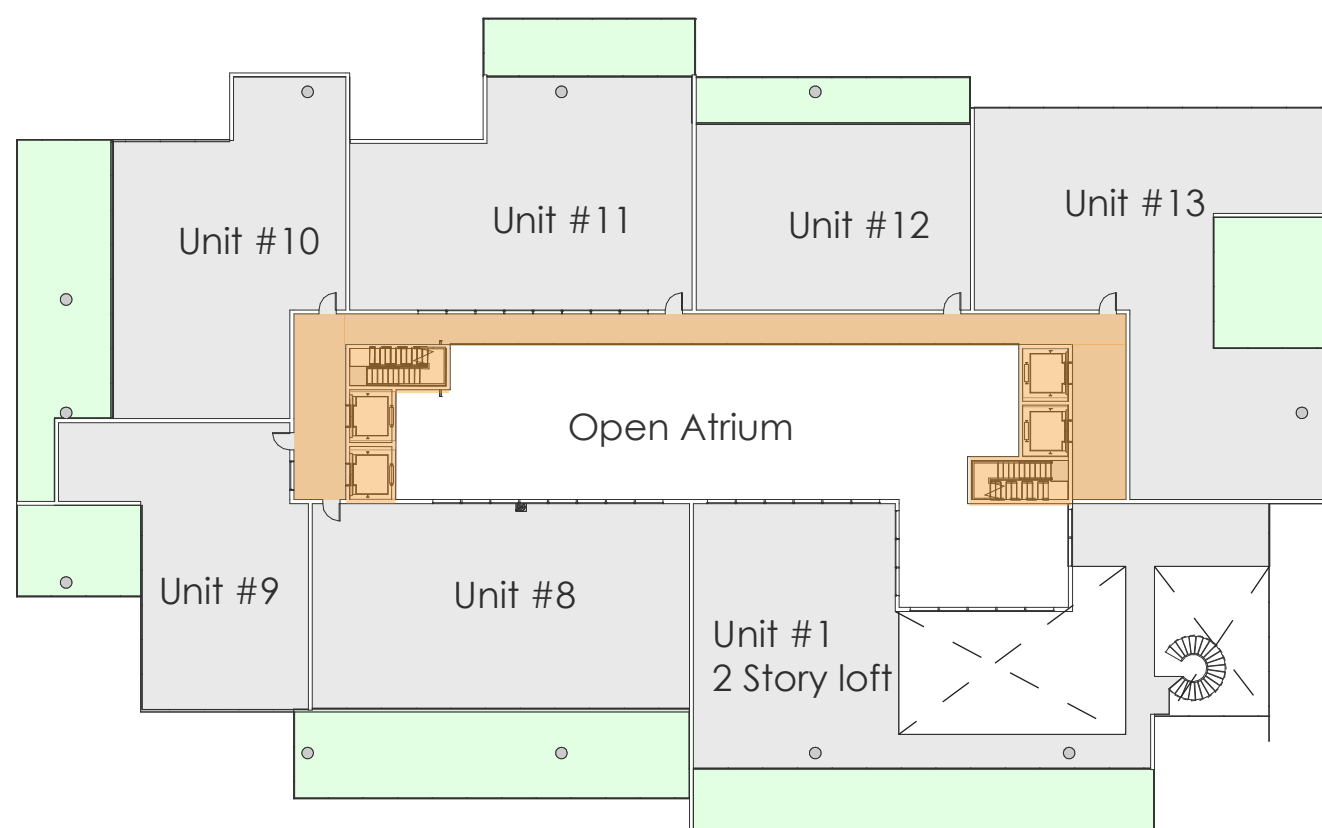
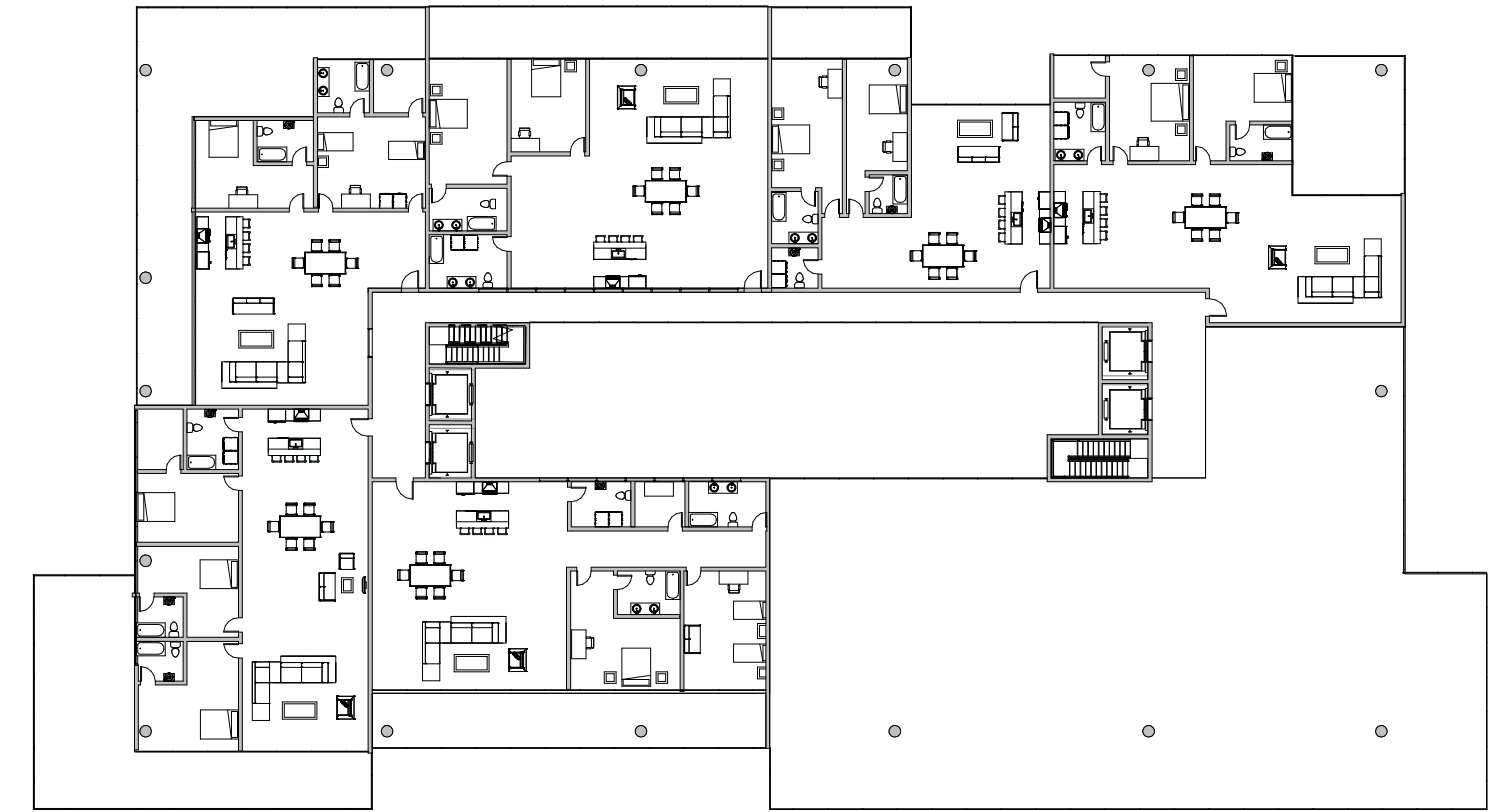
## LEGEND

- FLOOR
- WALL
- TERRACE
- COMMUNITY SPACE
- CIRCULATION
- OPERABLE WINDOW
- PV PANEL

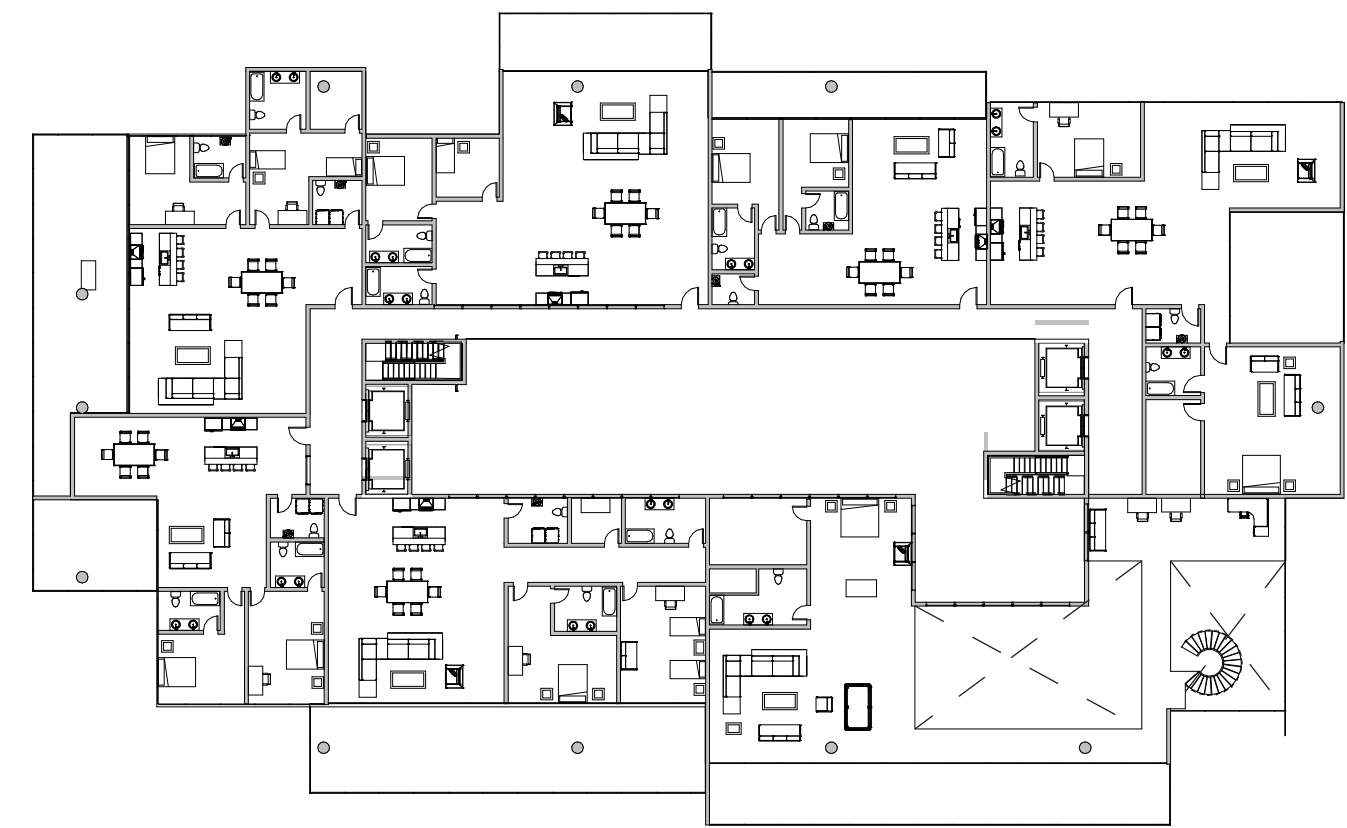
# FLOOR PLANS



LEVEL 3 (C)

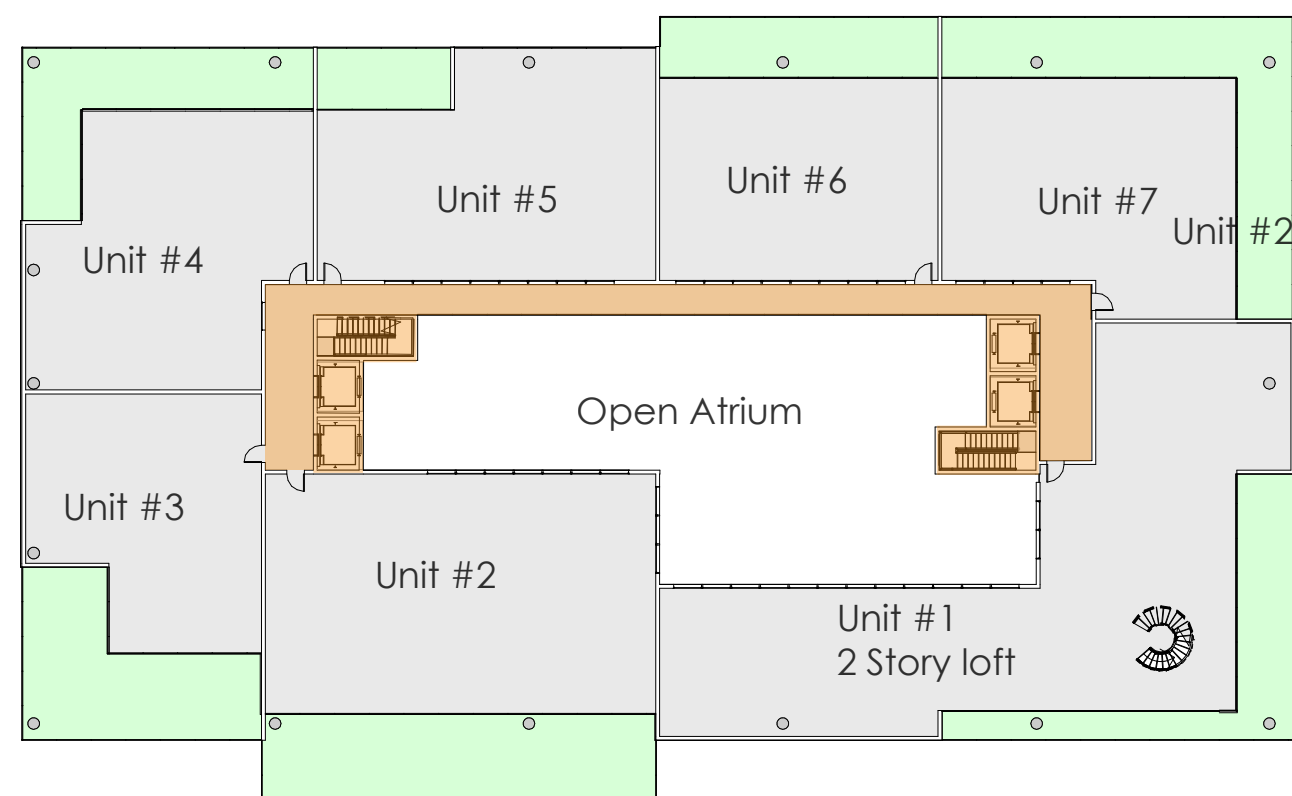


LEVEL 2 (B)

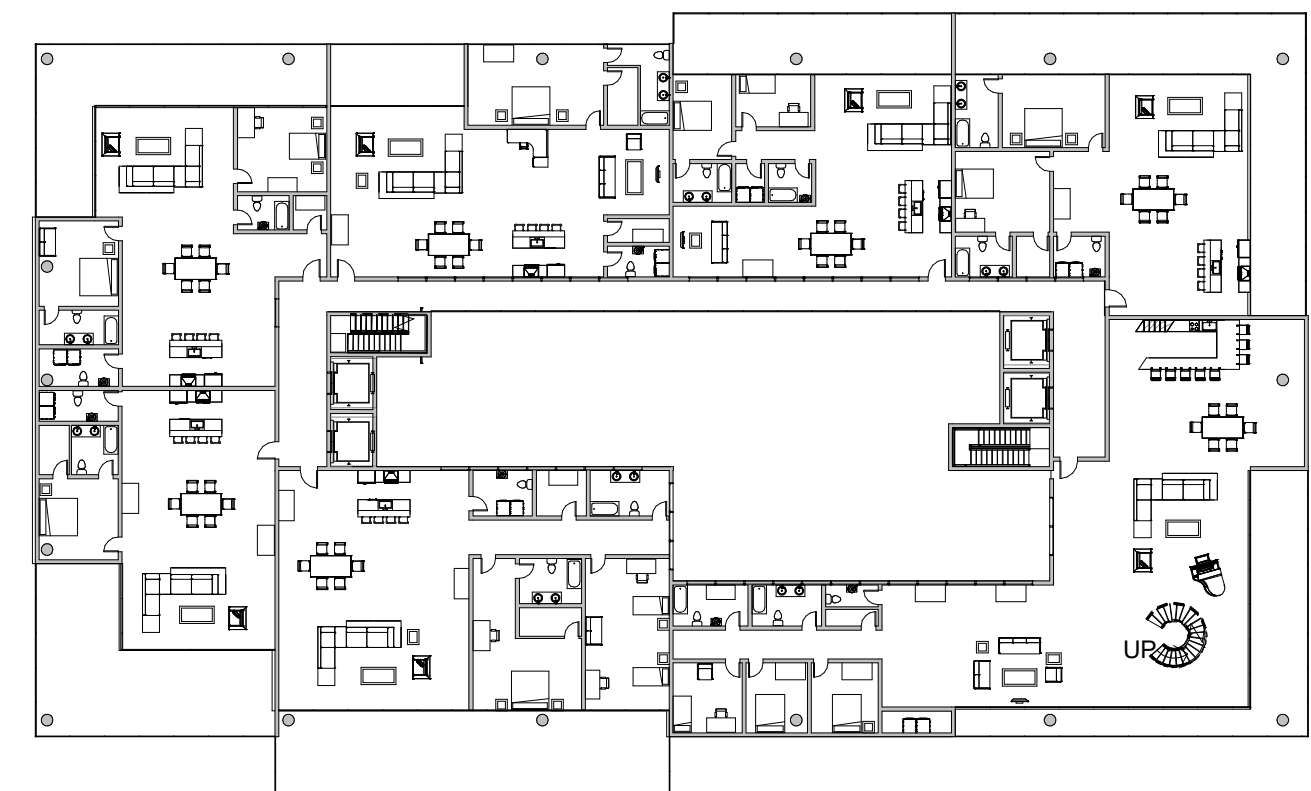


## LEGEND

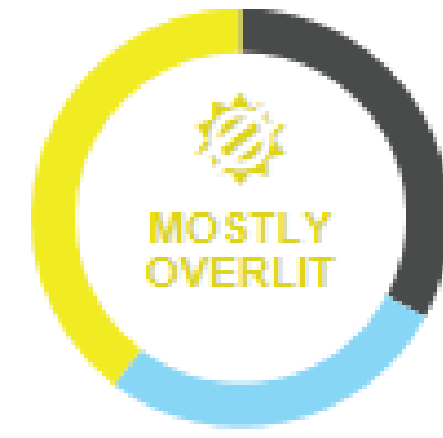
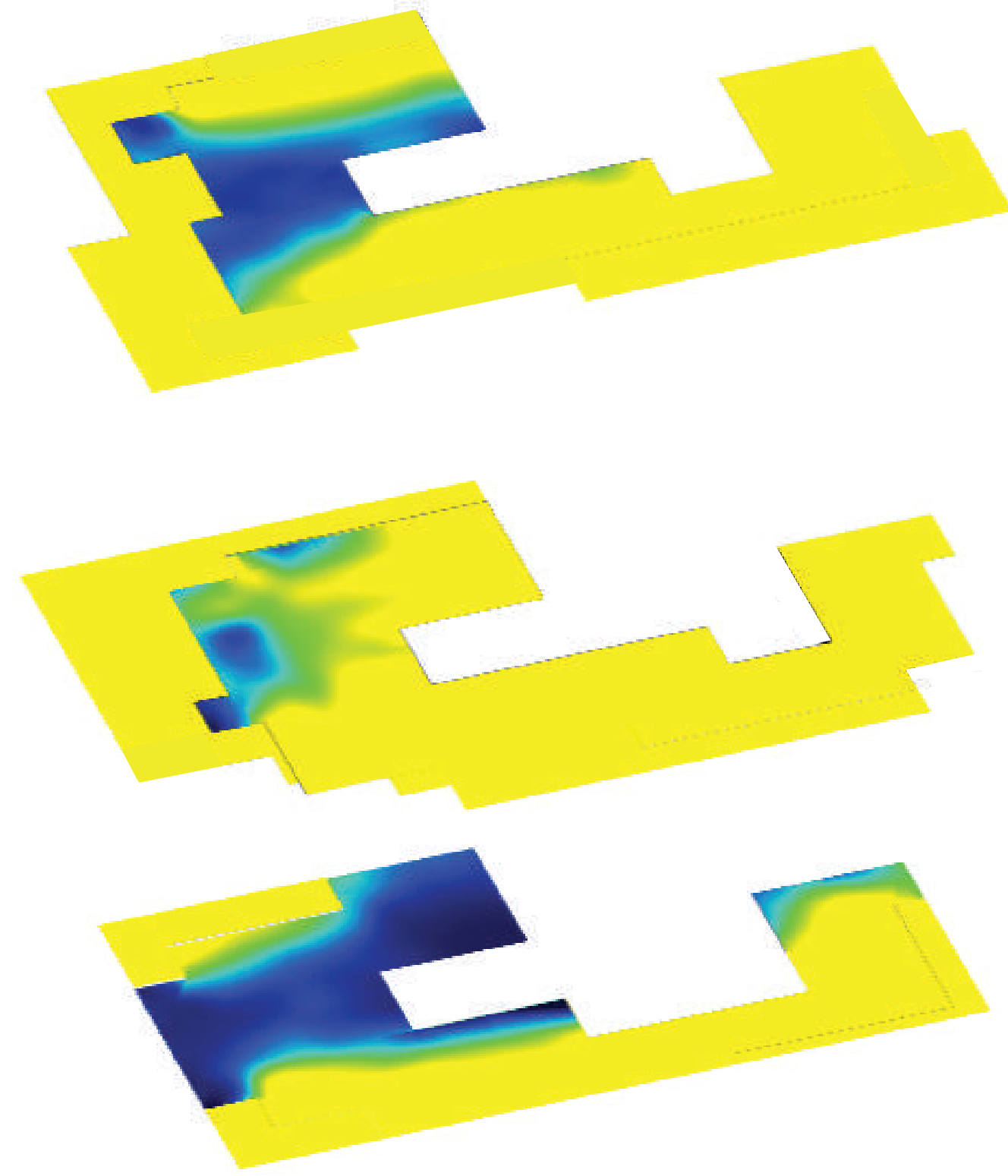
- UNIT
- CIRCULATION
- TERRACE
- COMMUNITY SPACE



LEVEL 1 (A)



# DAYLIGHT ANALYSIS



Footcandle levels on March 21 at 9AM measured at 2.79 feet above the floor plate. Time does not take into account daylight savings time.



MARCH 21st 9:00 am



MARCH 21st 3:00 pm



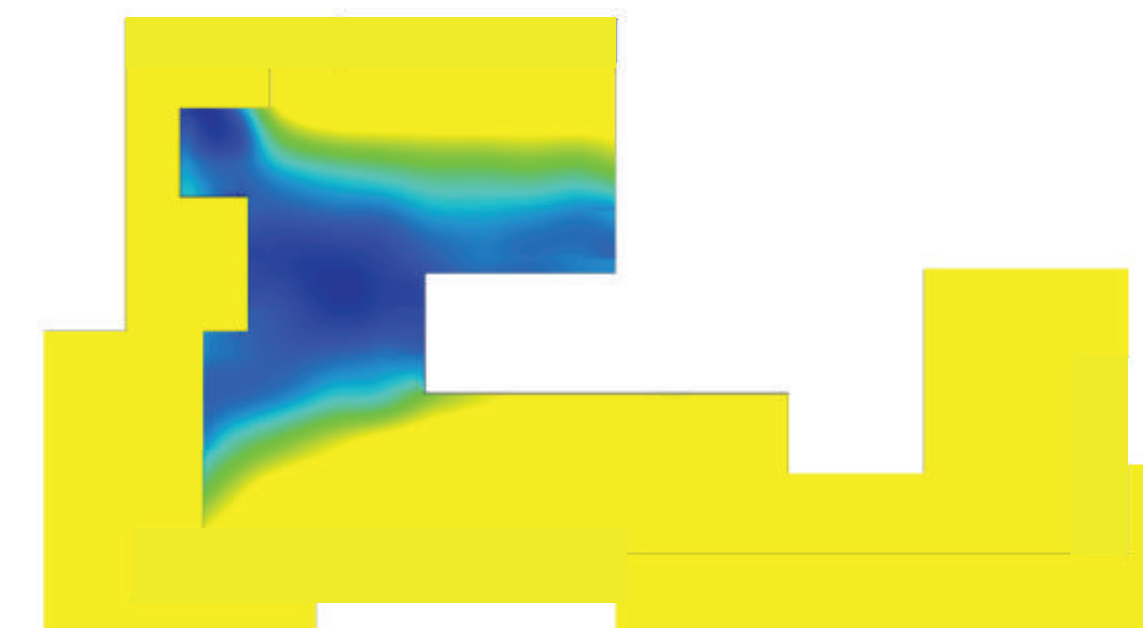
DEC 21st 9:00 am



DEC 21st 3:00 pm



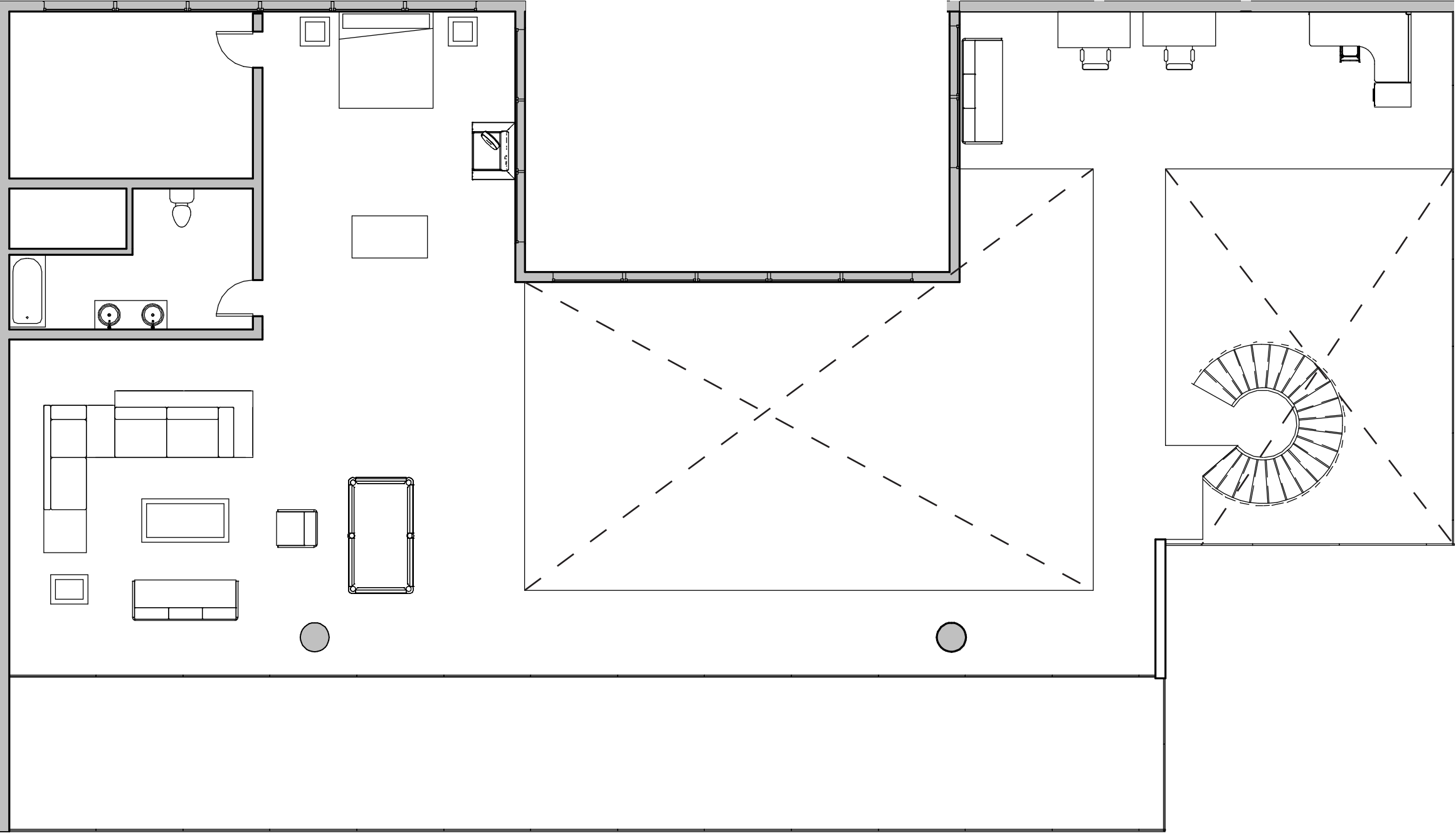
JUNE 21st 9:00 am



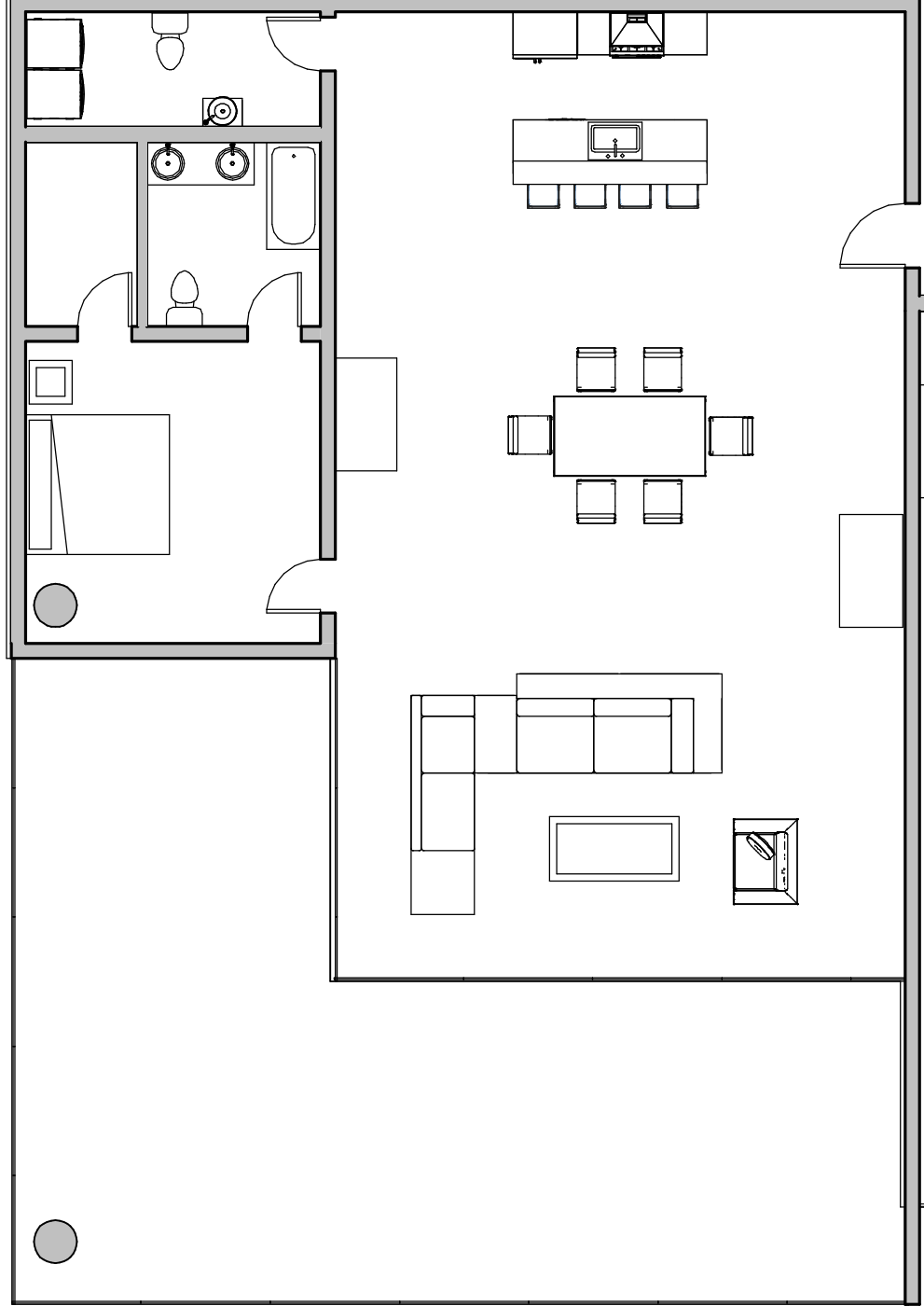
JUNE 21st 3:00 pm



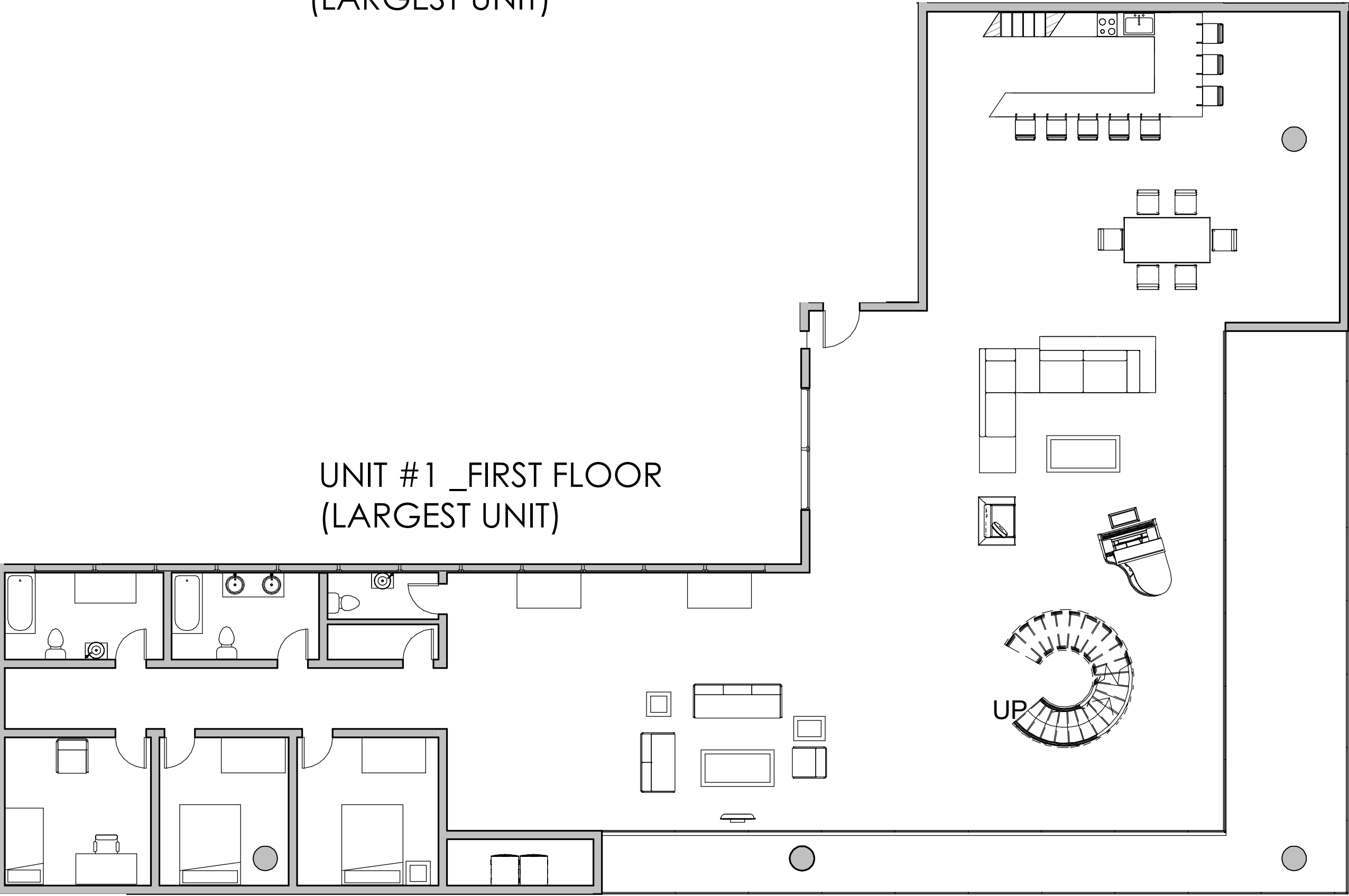
TYPICAL UNIT PLANS



UNIT #1 \_SECOND FLOOR  
(LARGEST UNIT)



UNIT #3 (SMALLEST UNIT)

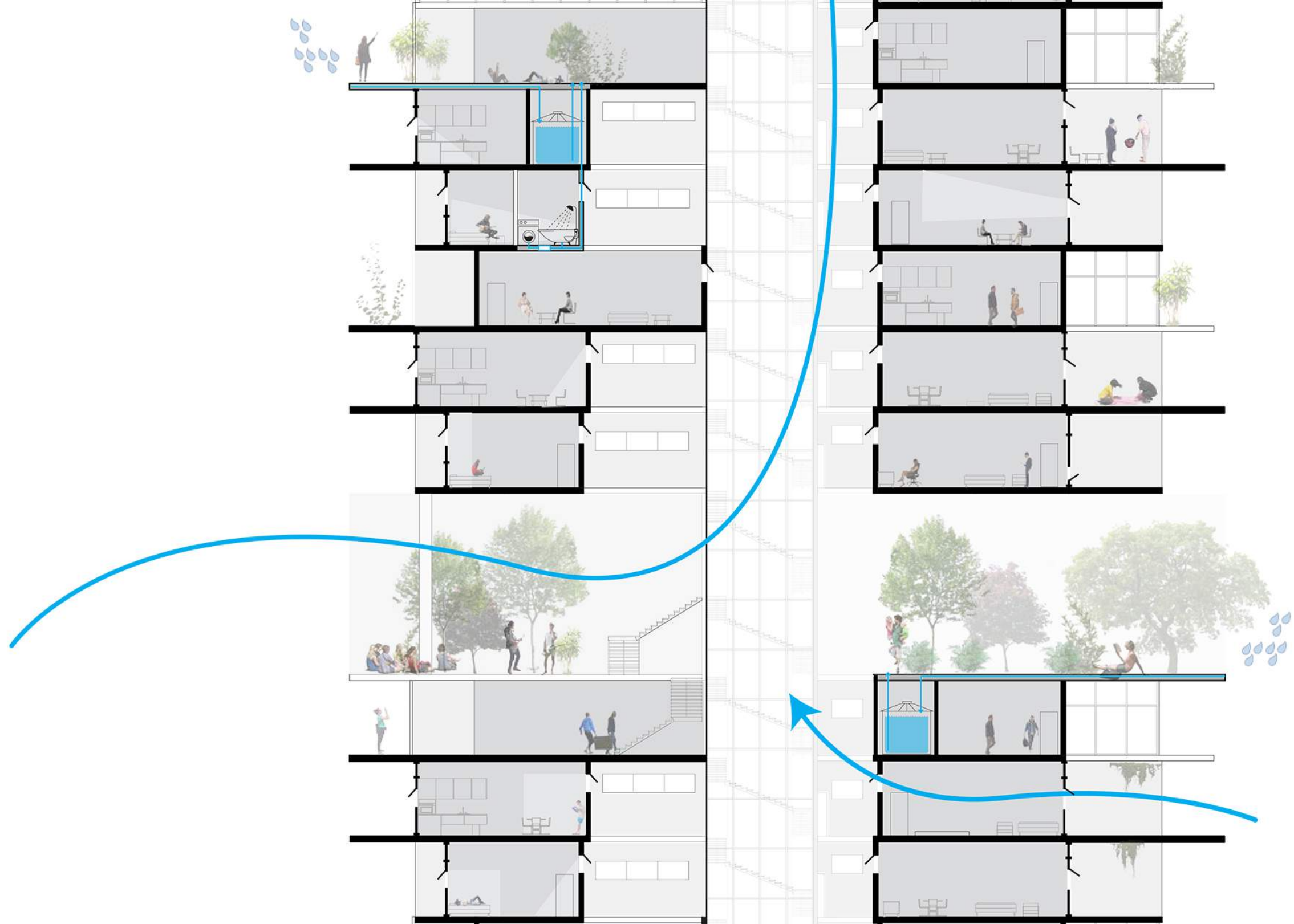


UNIT #1 \_FIRST FLOOR  
(LARGEST UNIT)



# SUSTAINABLE SECTION DIAGRAM





# To Calculate the Carbon Footprint of the Building

City For LADWP Territory Data Taken from Power Profiler

Building Area (m2) **38692.2** m2

	Yearly Values	Conversion Factor	lbs CO2e/yr	
<b>1. Operational Energy:</b>				
Use the following values from the energy modeling program				
<b>Total Electricity</b>	<b>2,252,354</b> kWhr	per kWhr	<b>0.62</b> lbs/kWhr	<b>1,396,459</b>
<b>Total Fuel</b>	<b>113,853</b> kWhr	per kWhr	<b>0.083492847</b> lbs/kWhr	<b>9,506</b>
EUI	<b>61</b> kWhr/m2 year			
EUI	<b>19</b> kBtus/sq ft year			
			<b>Operational Energy</b>	<b>1,405,965</b> lbs CO2e/yr
				<b>637,626.0</b> kgs CO2e/yr
<b>2. Construction:</b>				
Build Carbon Neutral <a href="http://buildcarbonneutral.org/">http://buildcarbonneutral.org/</a> Build Carbon Neutral Provides an Easy way to calculate Embodied Emissions or Athena Eco Calculator for Assemblies <a href="http://www.athenasmi.org/tools/ecoCalculator/index.html">http://www.athenasmi.org/tools/ecoCalculator/index.html</a>				
	<b>10,393</b> metric tonnes	lbs per metric tonne	<b>2205.0</b>	<b>Construction</b>
		life expectancy of the building. Default is average in the USA	<b>73.0</b>	<b>Per Year</b>
				<b>22,916,565</b> lbs CO2e
				<b>313,926</b> lbs CO2e/yr
				<b>10,393,000.0</b> kgs CO2e/yr
<b>3. Water:</b>				
CO2e factor per Million Gallons: 1,331 lbs of CO2				
	<b>2,400,009</b> gallons of water	per gallon of water	<b>0.001331</b>	<b>Water</b>
				<b>3194</b> lbs CO2e/yr
				<b>1,448.7</b> kgs CO2e/yr
<b>4. Waste:</b>				
EPA WARM Model or <a href="https://www.epa.gov/warm/documentation-chapters-greenhouse-gas-emission-and-energy-factors-used-waste-reduction-model">https://www.epa.gov/warm/documentation-chapters-greenhouse-gas-emission-and-energy-factors-used-waste-reduction-model</a>				
	<b>938,000</b>			<b>Waste</b>
EPA Personal Emissions Calculator <a href="http://www.epa.gov/climatechange/emissions/ind_calculator.html">http://www.epa.gov/climatechange/emissions/ind_calculator.html</a>				
<a href="https://www3.epa.gov/carbon-footprint-calculator/">https://www3.epa.gov/carbon-footprint-calculator/</a>				
Warm Model <a href="https://www.epa.gov/warm/versions-waste-reduction-model-warm#WARM Tool V14">https://www.epa.gov/warm/versions-waste-reduction-model-warm#WARM Tool V14</a>				
				<b>938000</b> lbs CO2e/yr
				<b>425,396.8</b> kgs CO2e/yr
for a family of five that does not recycle it is 3,458 lbs of CO2e per family use the carbon footprint calculator to better estimate				
			<b>total</b>	<b>2,661,085</b> lbs CO2e / yr
			<b>total</b>	<b>1,207,047</b> kgs CO2e / yr
			<b>total</b>	<b>1,207</b> metric tonnes CO2e / yr
				<b>31</b> kgs CO2e / m2 yr
				<b>6.39</b> lbs CO2e/sqft-yr
<b>Renewable Energy</b>				
Total Energy Generated on Site kWhr	<b>588,582</b> kWhr	per kWhr	<b>0.62</b>	<b>364,921</b> lbs CO2 sequestered on site by renewable system
Total kWhr/m2/yr:	<b>15</b> kWhr/m2/yr			

## ZERO NET CARBON

The numbers below are for 2030 Architecture's definition of Zero Net Carbon

total energy used	2,366,207	kWhr
total renewable energy generated	588,582	kWhr
annual energy balance	1,777,625	kWhr
EUI	46	kWhr/m2 year
<b>EUI</b>	<b>14</b>	<b>kBtus/sq ft year</b>
TOTAL CARBON	1,102,128	lbs CO2e / yr
TOTAL CARBON	499,917	kgs CO2e / yr
<b>CUI: CARBON USE INTENSITY</b>	<b>12.9</b>	<b>kgs CO2e/m2-yr</b>
<b>CUI: CARBON USE INTENSITY</b>	<b>2.6</b>	<b>lbs CO2e /sf yr</b>

## CARBON NEUTRAL

The numbers below are for carbon emissions after renewables and should be zero or better to be carbon neutral

	<b>2,296,165</b>	lbs CO2e-yr	<b>1,041,344.4</b>	kgs CO2e/yr
	<b>1,041,522</b>	kgs CO2e-yr	<b>472,345.5</b>	kgs CO2e/yr
	<b>1,042</b>	metric tonnes CO2e-yr	<b>472.3</b>	kgs CO2e/yr
<b>CUI: CARBON USE INTENSITY</b>	<b>59.3</b>	kgs CO2e/m2-yr	<b>26.9</b>	kgs CO2e/yr
<b>CUI: CARBON USE INTENSITY</b>	<b>12.2</b>	lbs CO2e /sf yr		

# HANGING GARDENS

## CO-HOUSING

