



*Gastronomic Architecture  
-Towards a diverse food space in Berlin Friedrichshain*

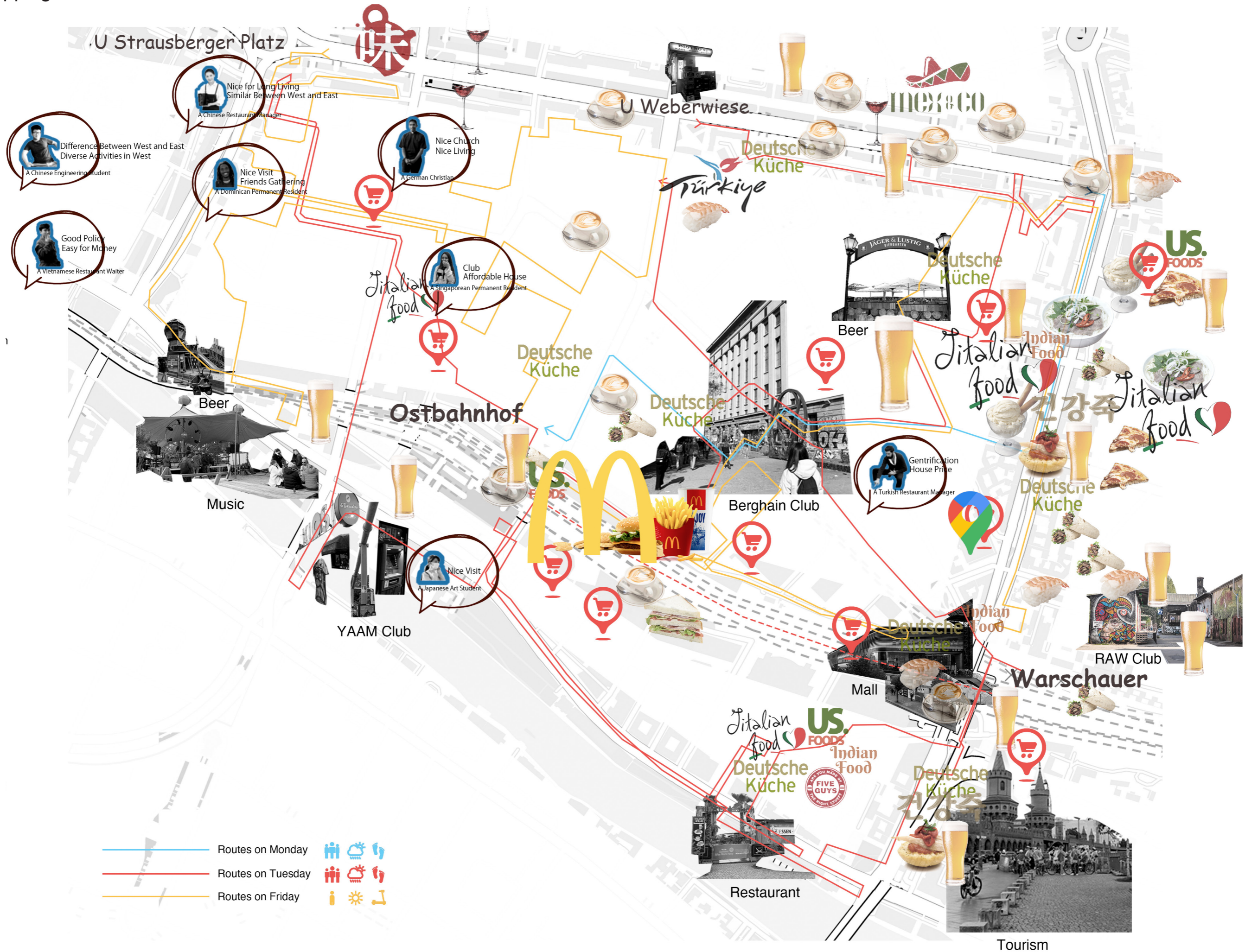


Friedrichshain





# Food Mapping



# WEST

# EAST



## Commercial



Checkpoint Charlie



Im Sony Center



Kaiser Wilhelm Church



Zoologischer Garten



Alexandar Platz



Monbijouplatz

## Steet Market



Apostel-Paulus-Kirche



Apostel-Paulus-Kirche

## Moving Food



Axel Springer Neubau

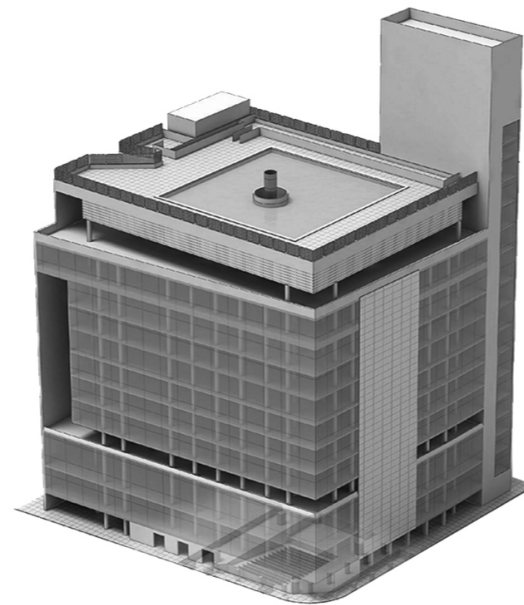
## Food&Drinks



## Event & Activity



"Public Condenser"











Prinzessinnengarten

<https://brightspace.tudelft.nl/d2l/le/content/503104/viewContent/2997906/View>

Culture 2.0  $\longrightarrow$  Culture 3.0  
Consumerism  $\longrightarrow$  Prosumerism

*Culture 3.0 encourages individuals to activate their capacity of expression by participation and production*

*- 'not simply by hearing music, but playing; not simply reading texts, but writing'.*

*[Sacco, 2010, p.7]*

# FOOD ACTIVITIES

Planting > Growing > Picking Up > Education > Food Research > Entertainment > Cooking > Shopping > Selling > Eating

Project Program



Relaxed Area for Locals

Consuming Area for Visitors

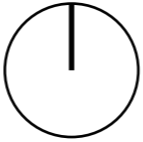
Making Area for Groups

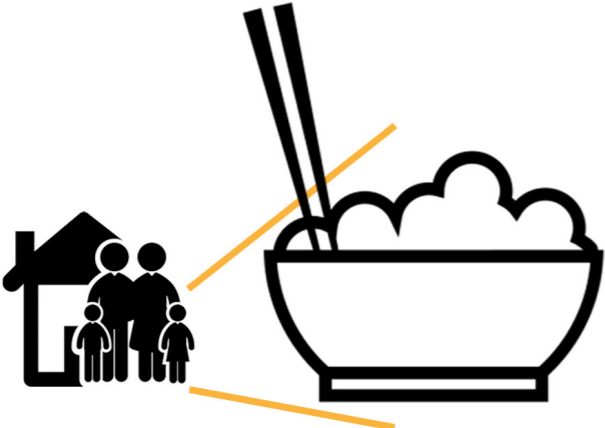


Site Choosing



0 100M 200M

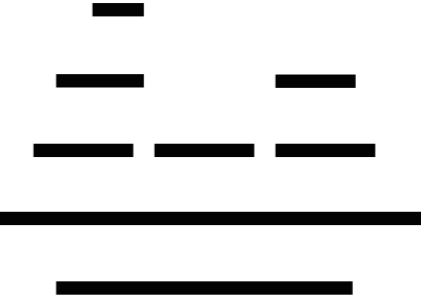




Social Issue



Site Issue



Design Issue

## Research Question

How can we condense diverse food activities into one prototype, including farming, cooking, shopping, and eating, and then incorporate it into the specific site?









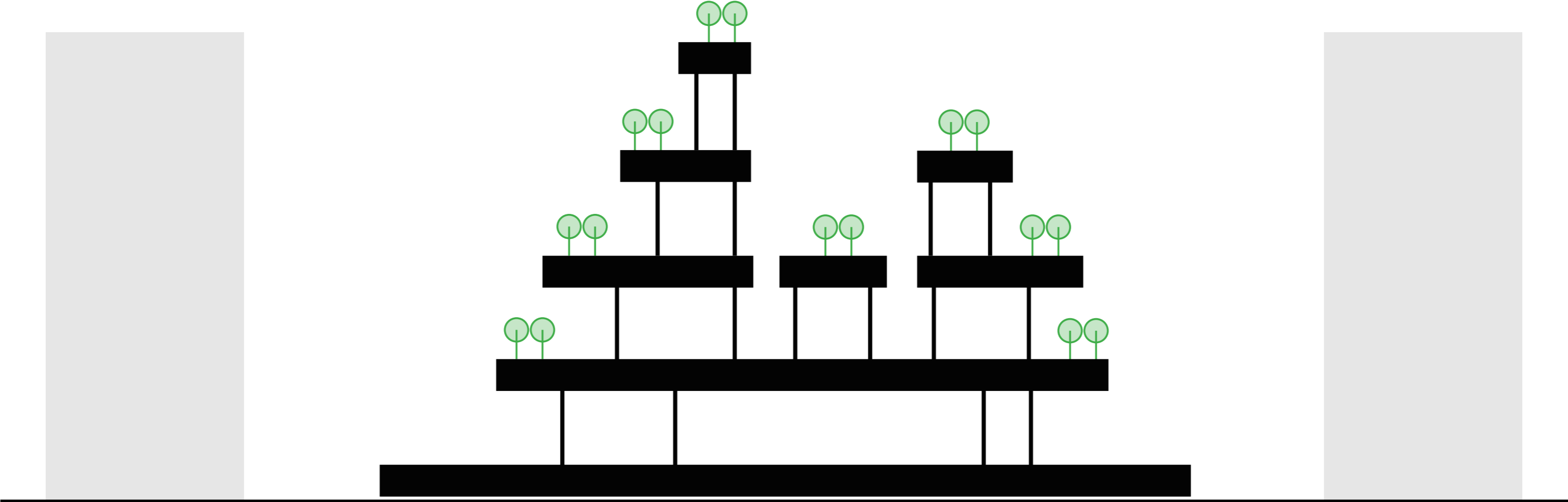
Setback for Urban Square



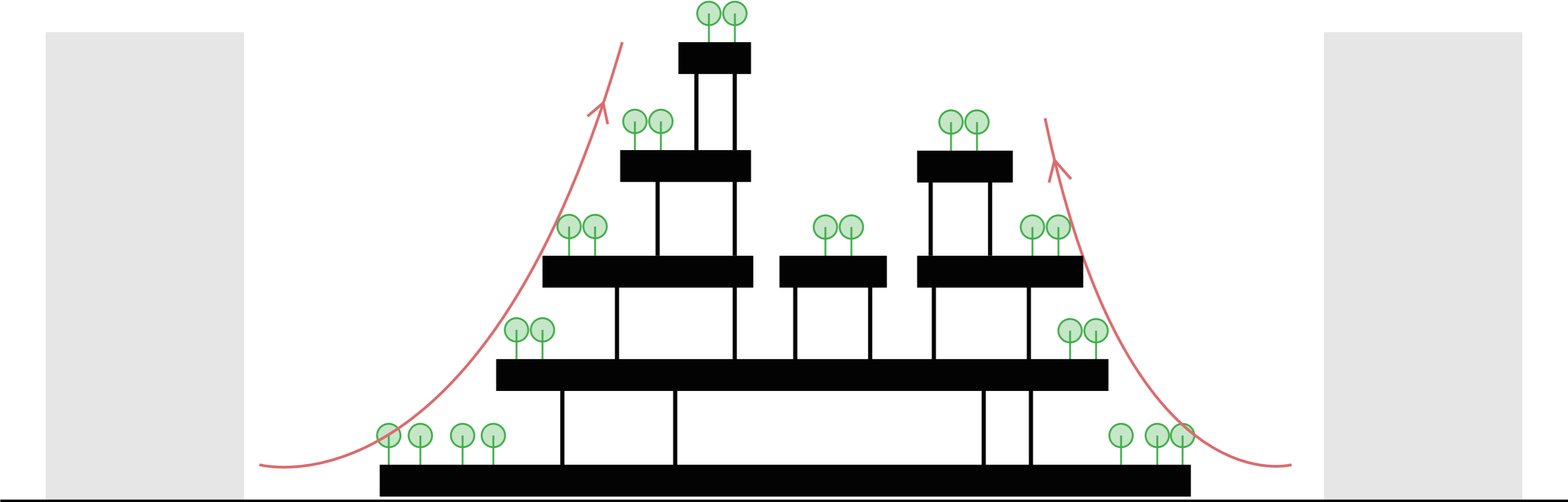
Roof Cut for Welcoming



Terrace Space



Continuous landscape





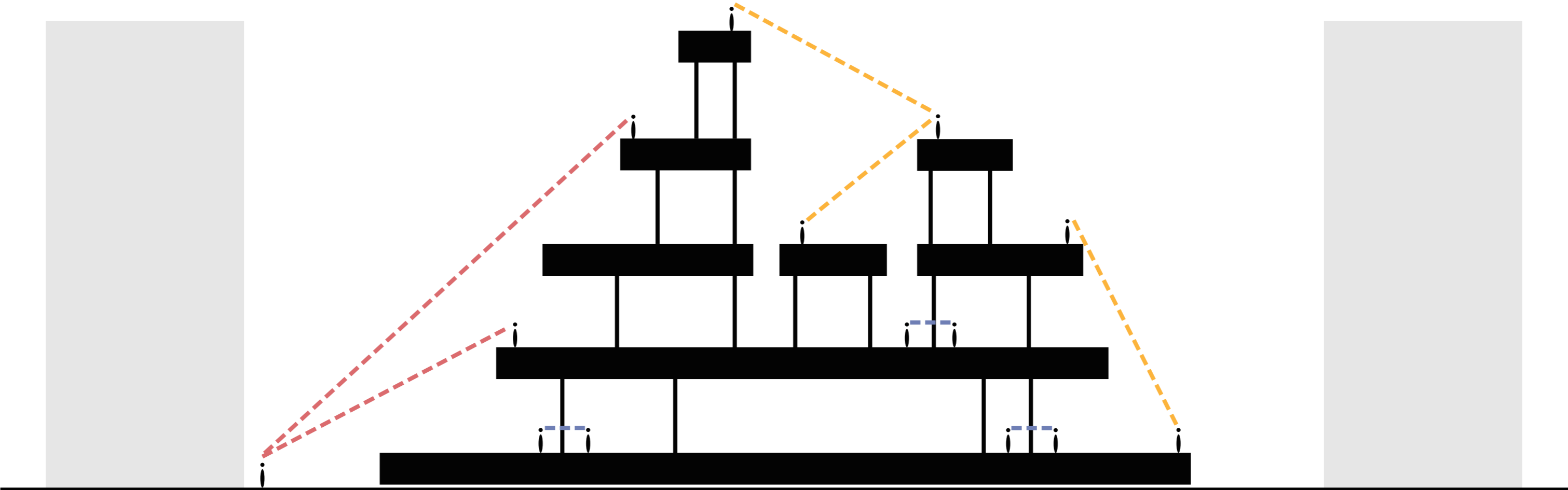


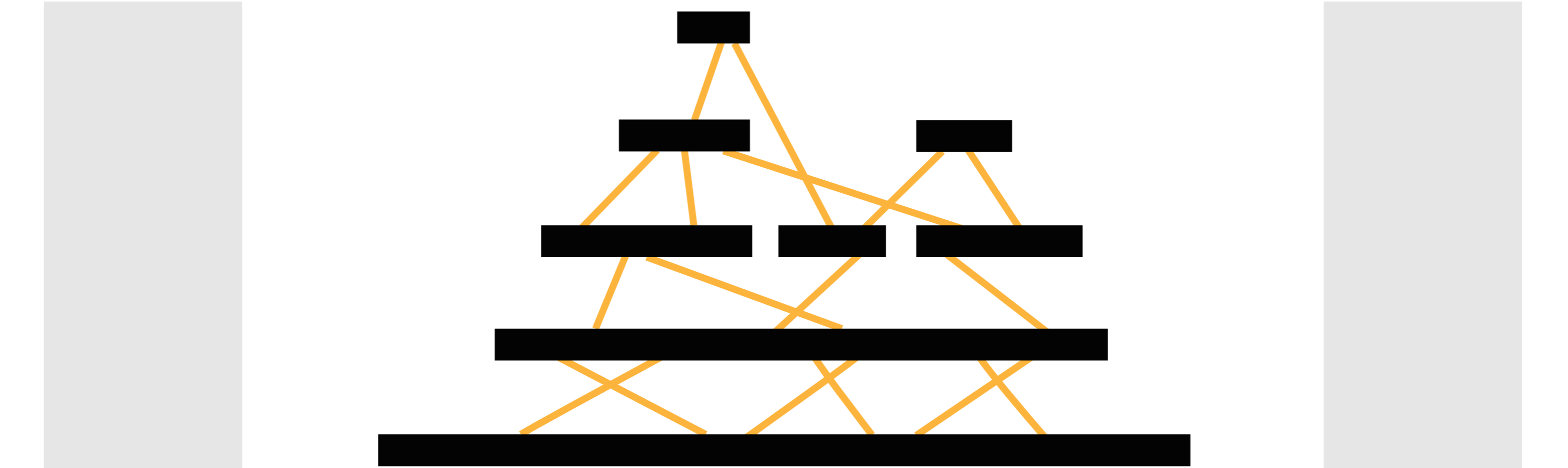
Jane Jacobs

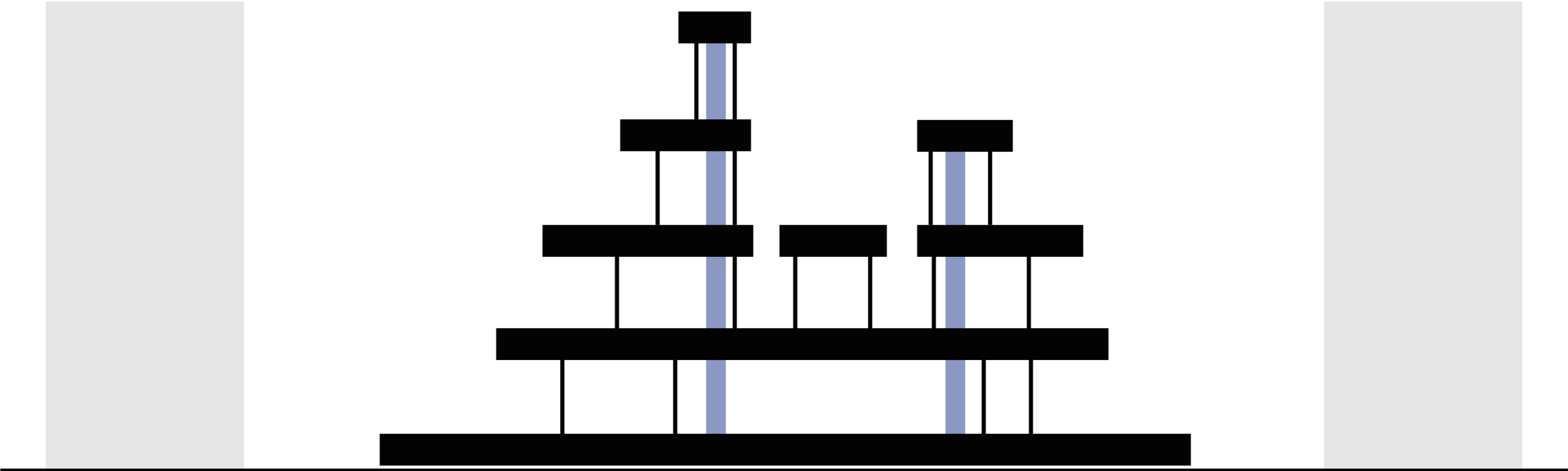


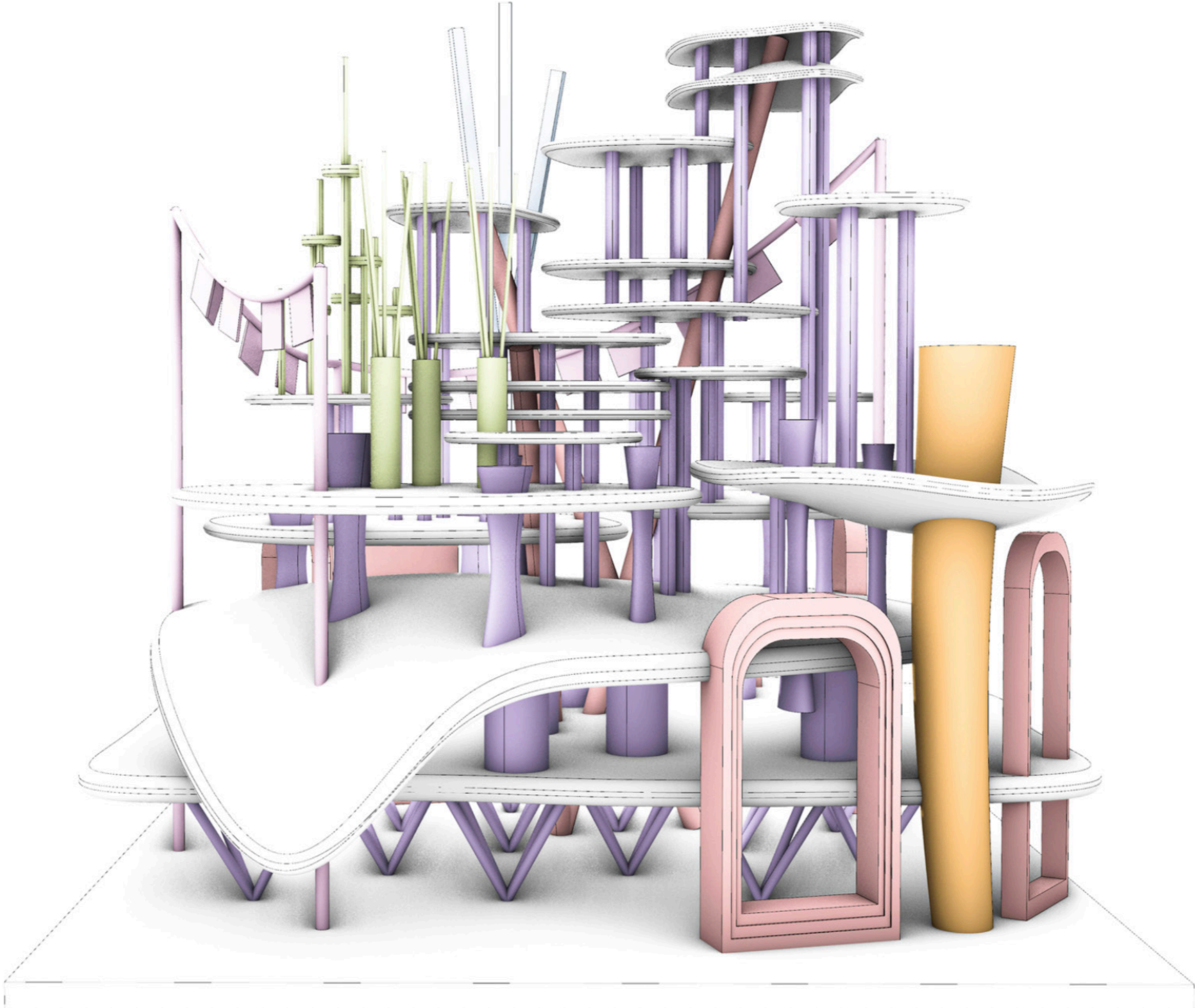
Jan Gehl

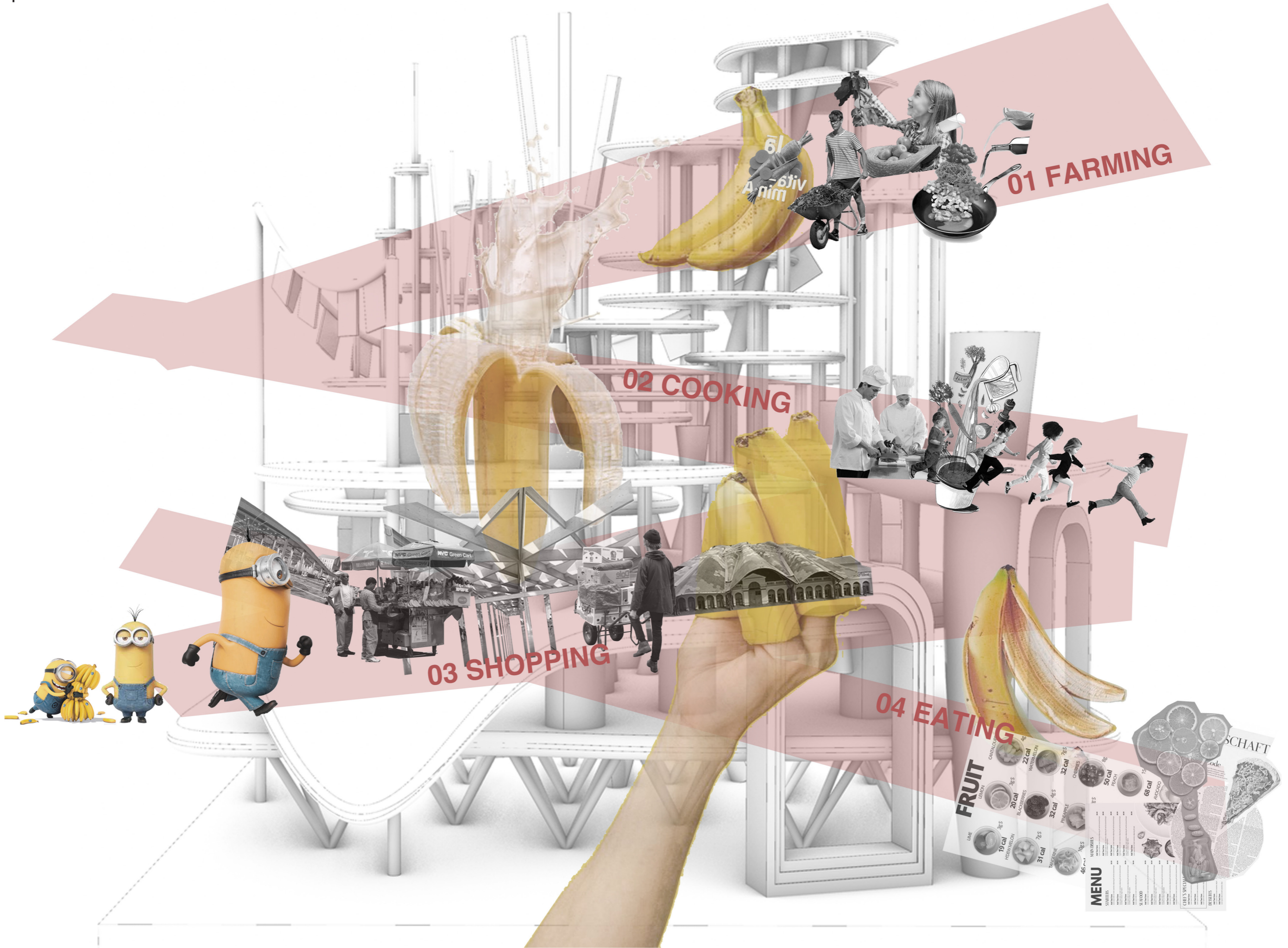


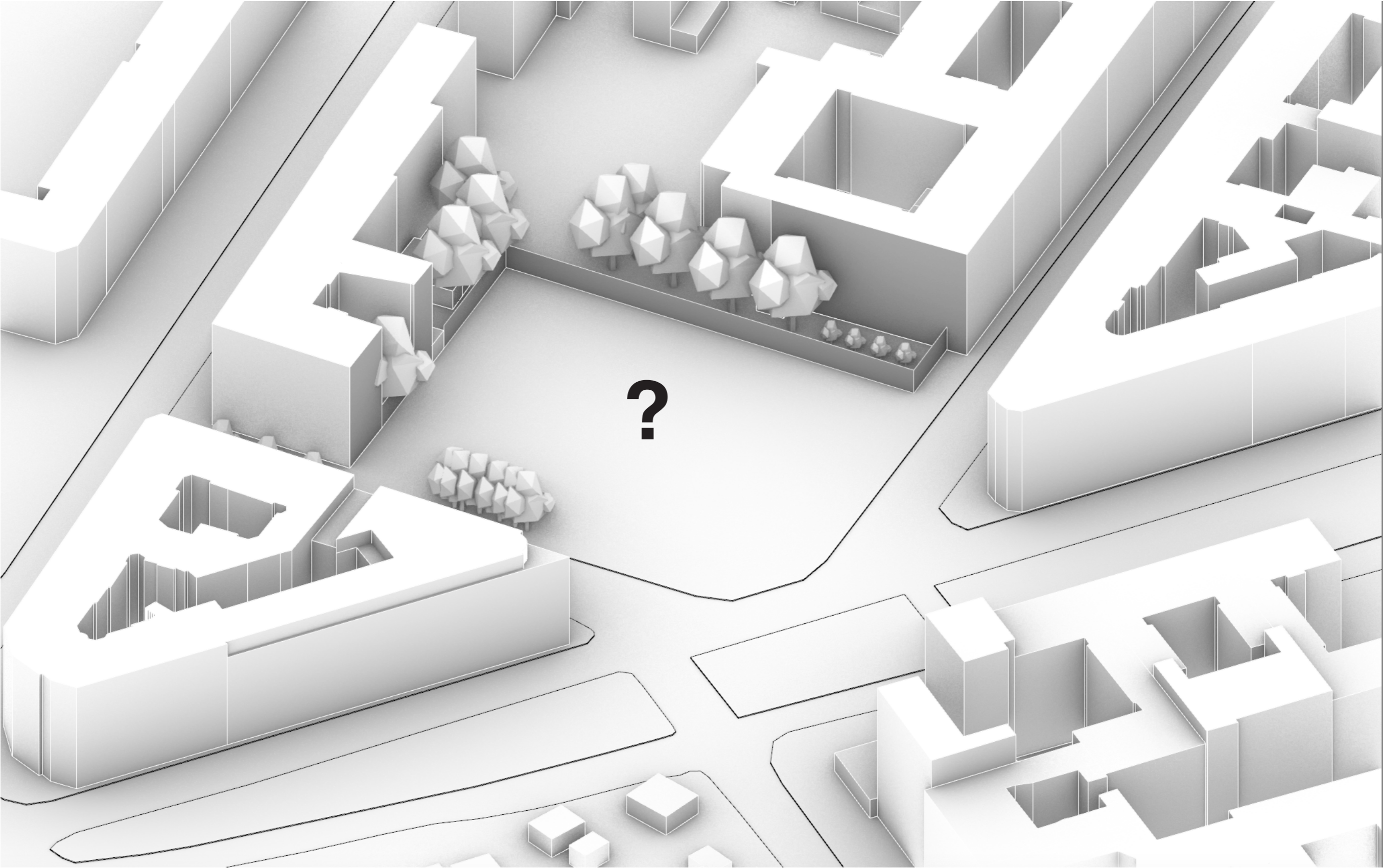


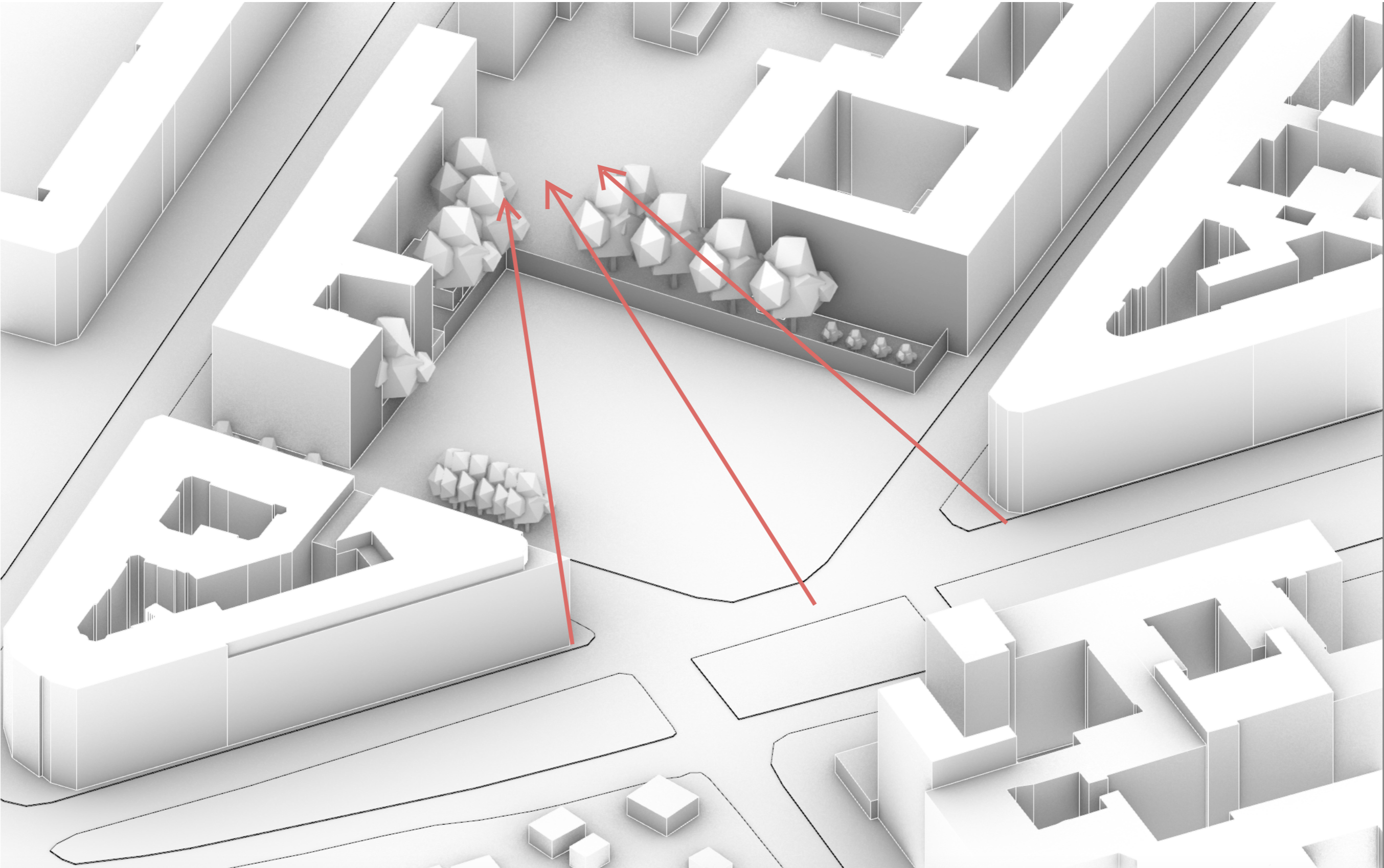


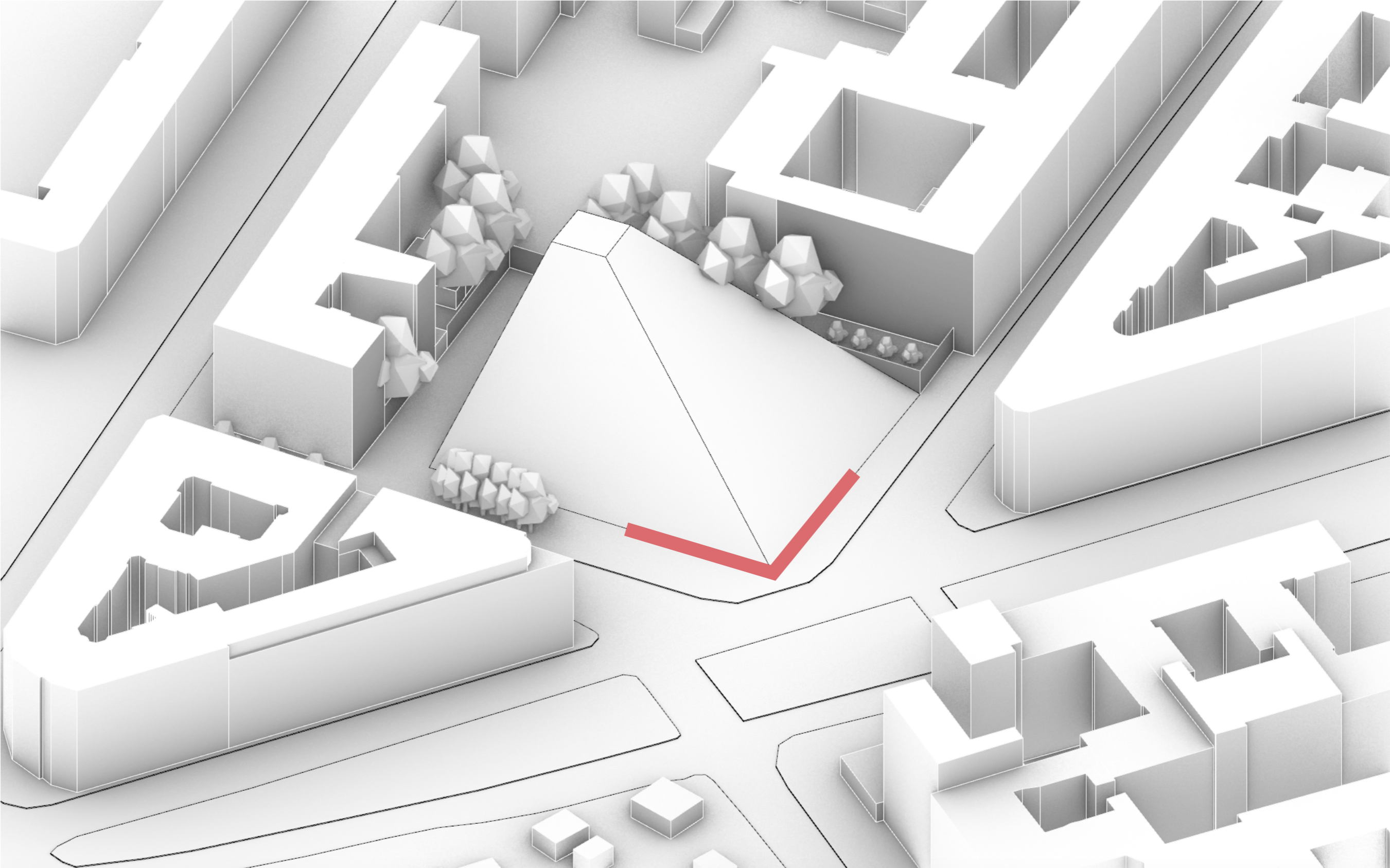






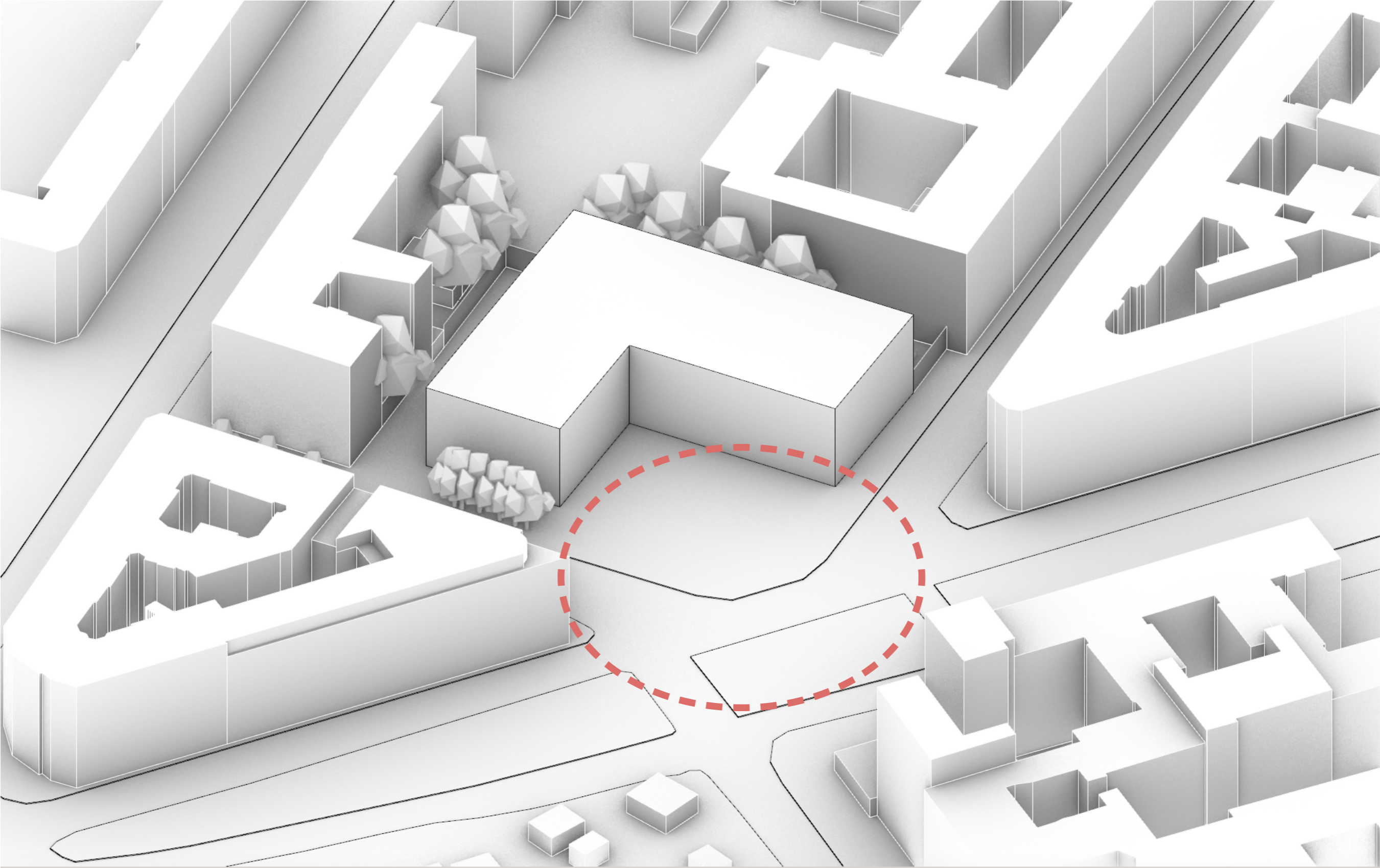


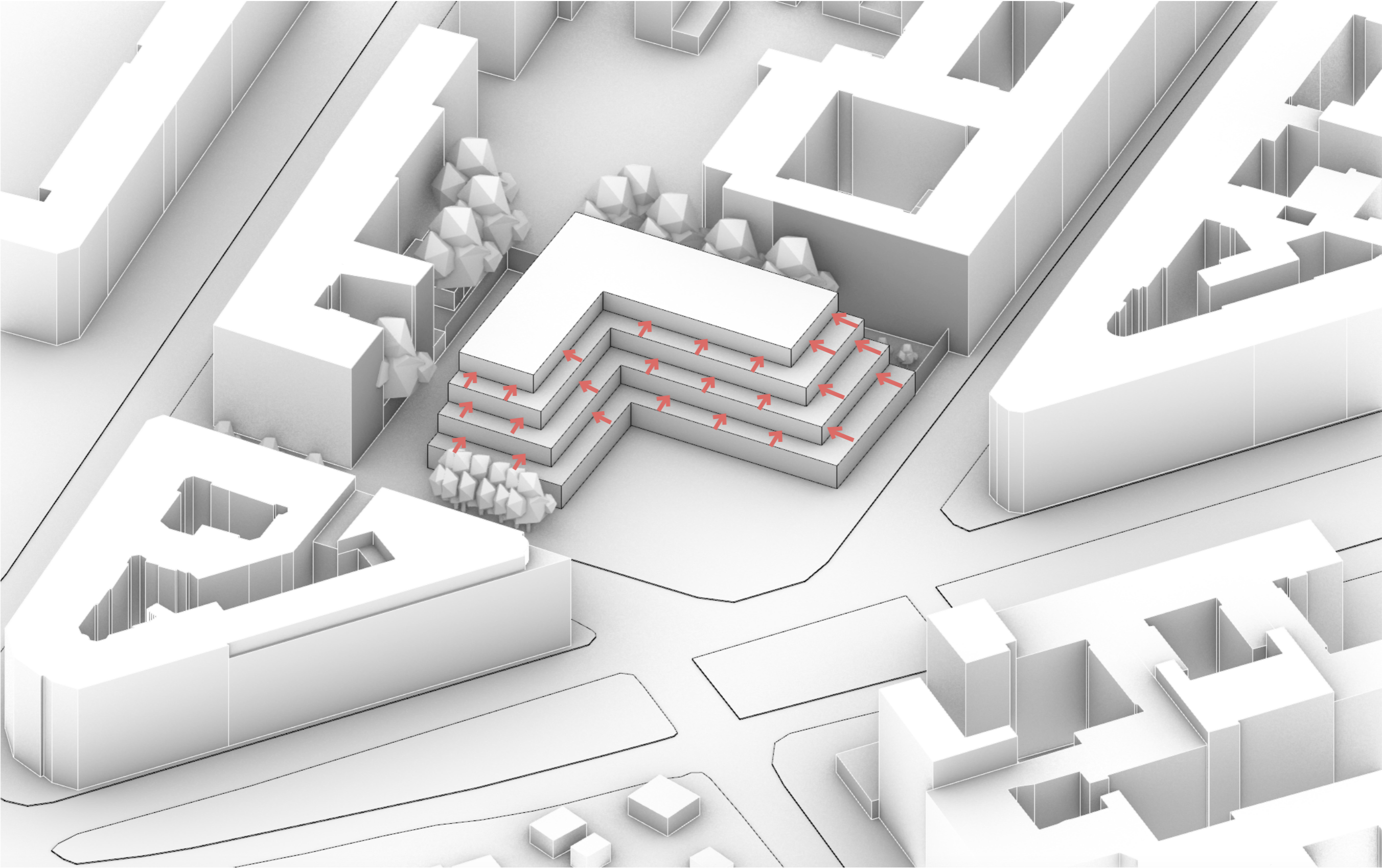


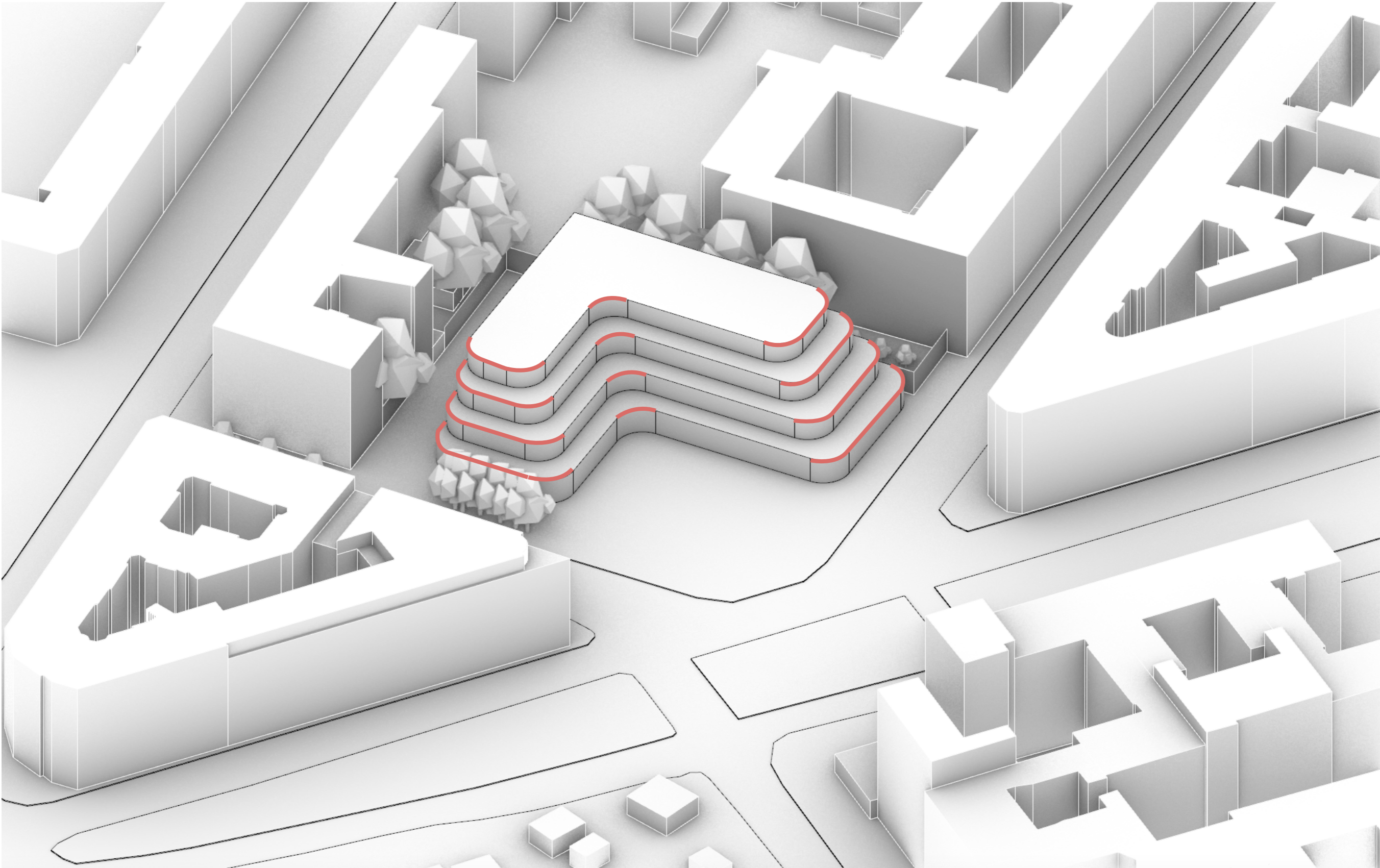




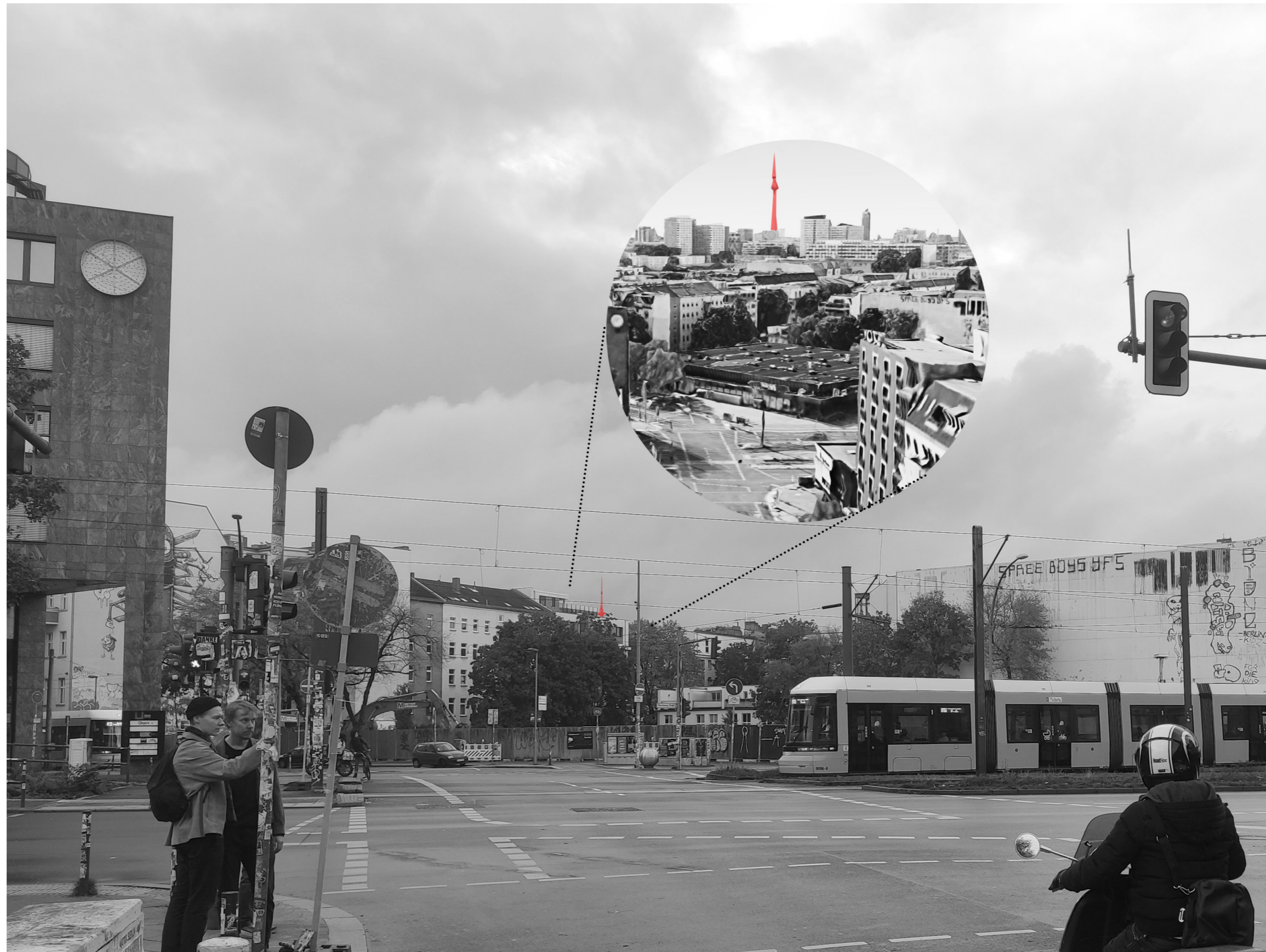


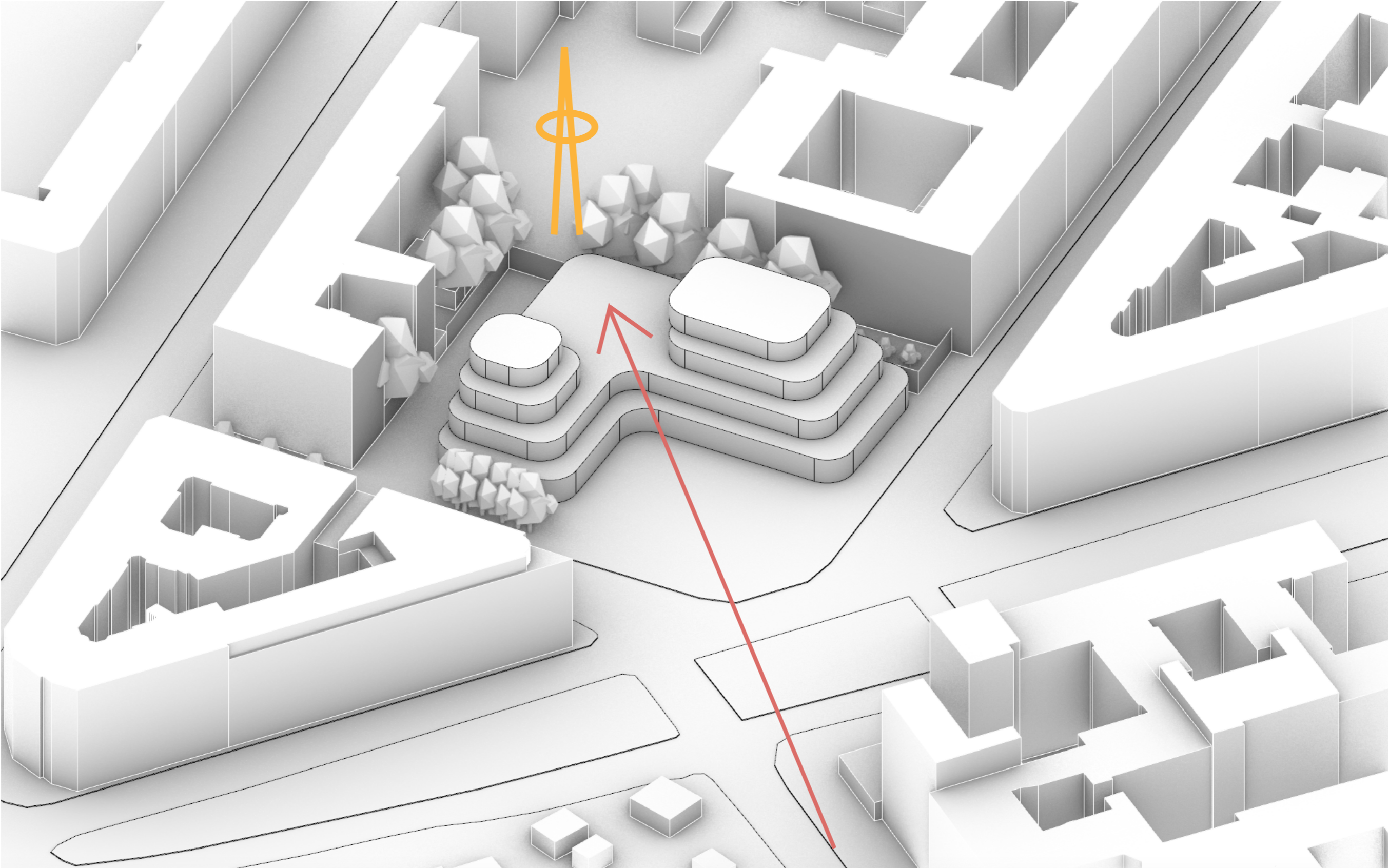




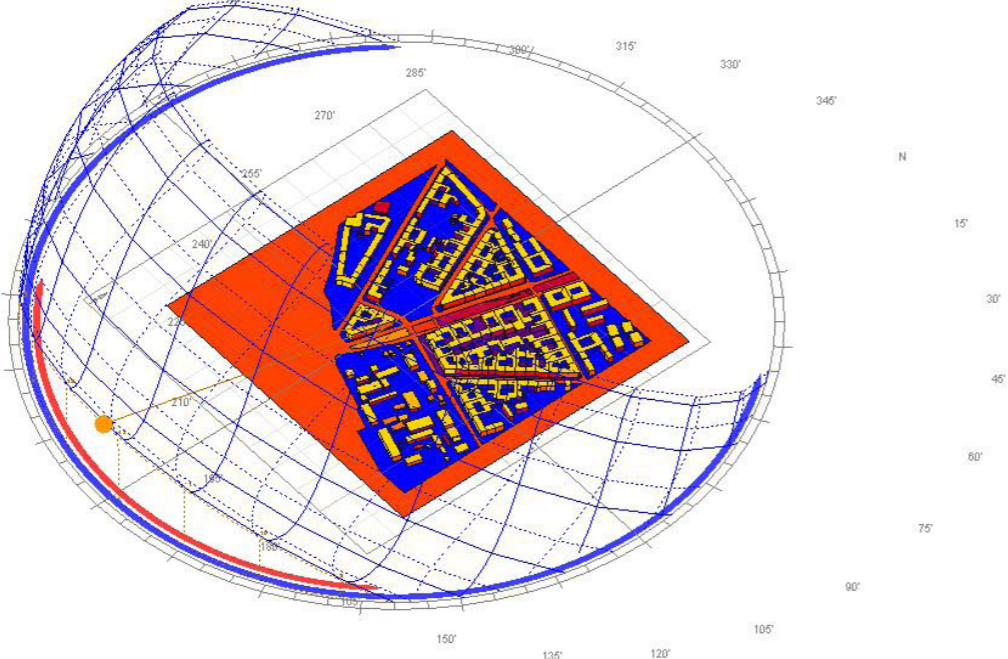


Design Process

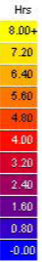




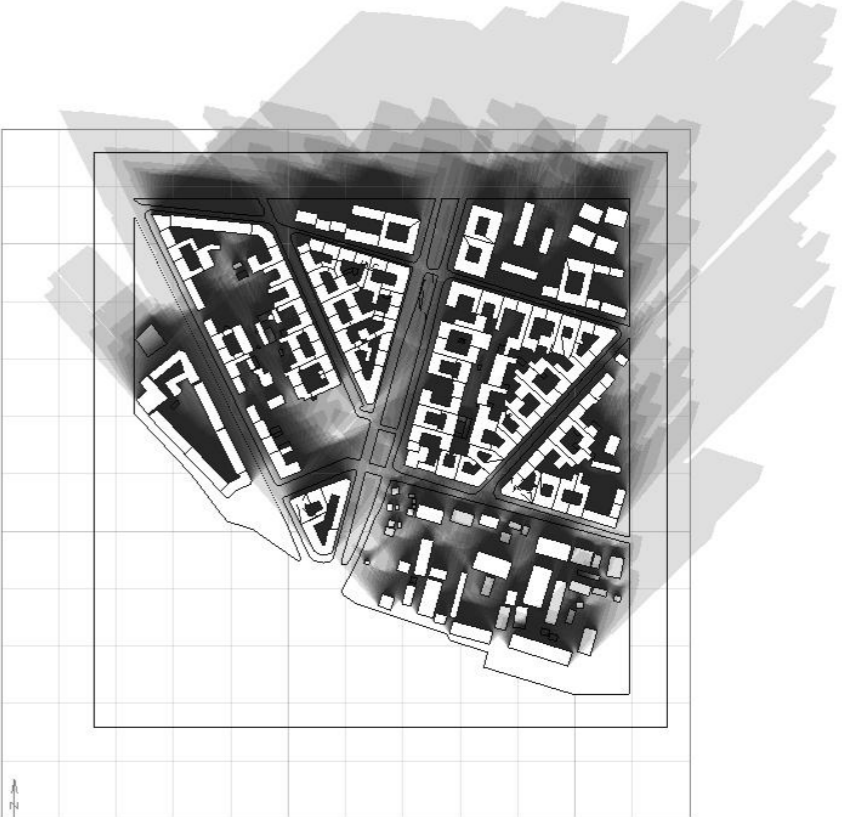
**OBJECT ATTRIBUTES**  
Total Sunlight Hours  
Value Range: 0.0 - 8.0 Hrs  
(c) ECOTECH v6



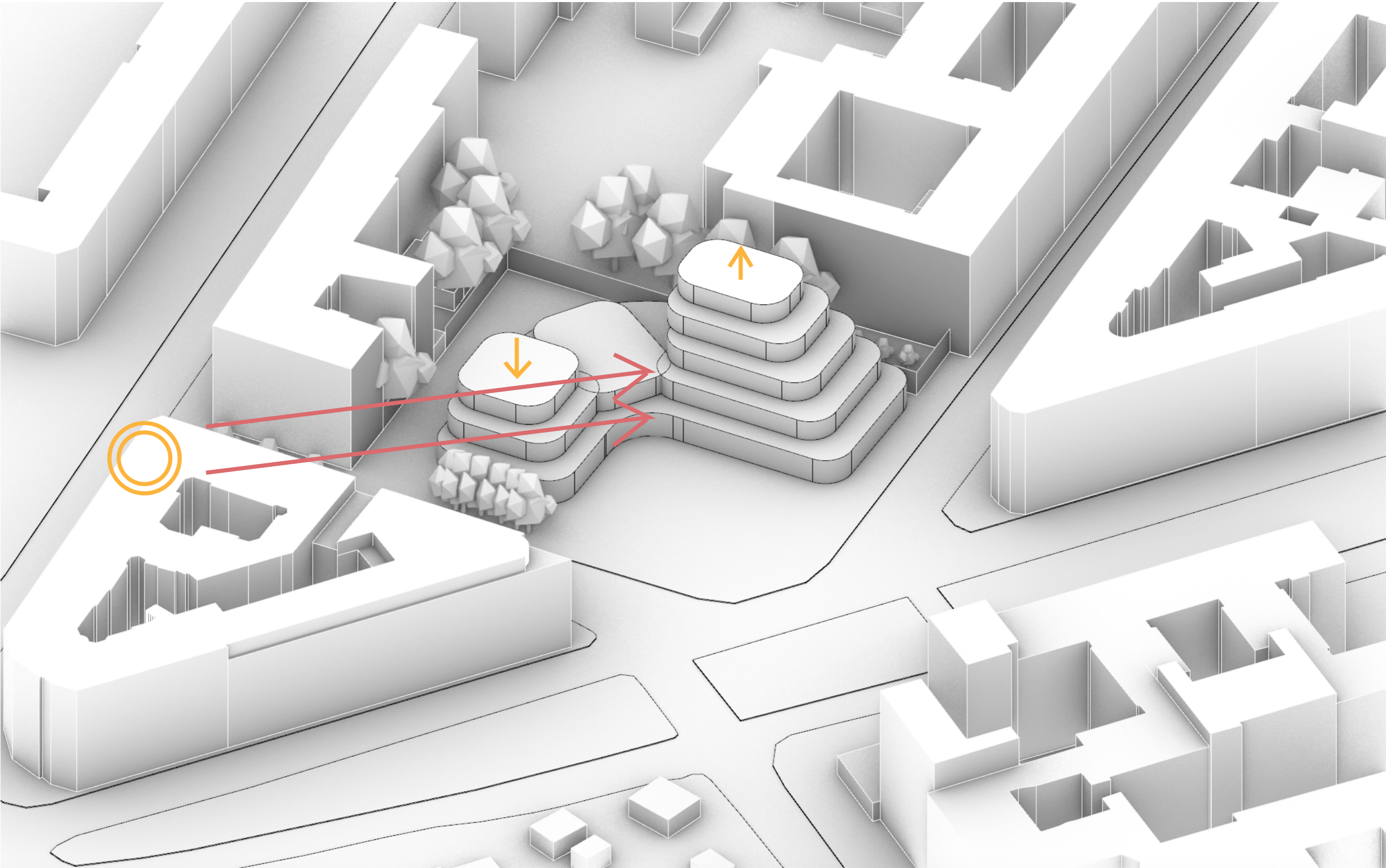
**OBJECT ATTRIBUTES**  
Total Sunlight Hours  
Value Range: 0.0 - 8.0 Hrs  
(c) ECOTECH v6



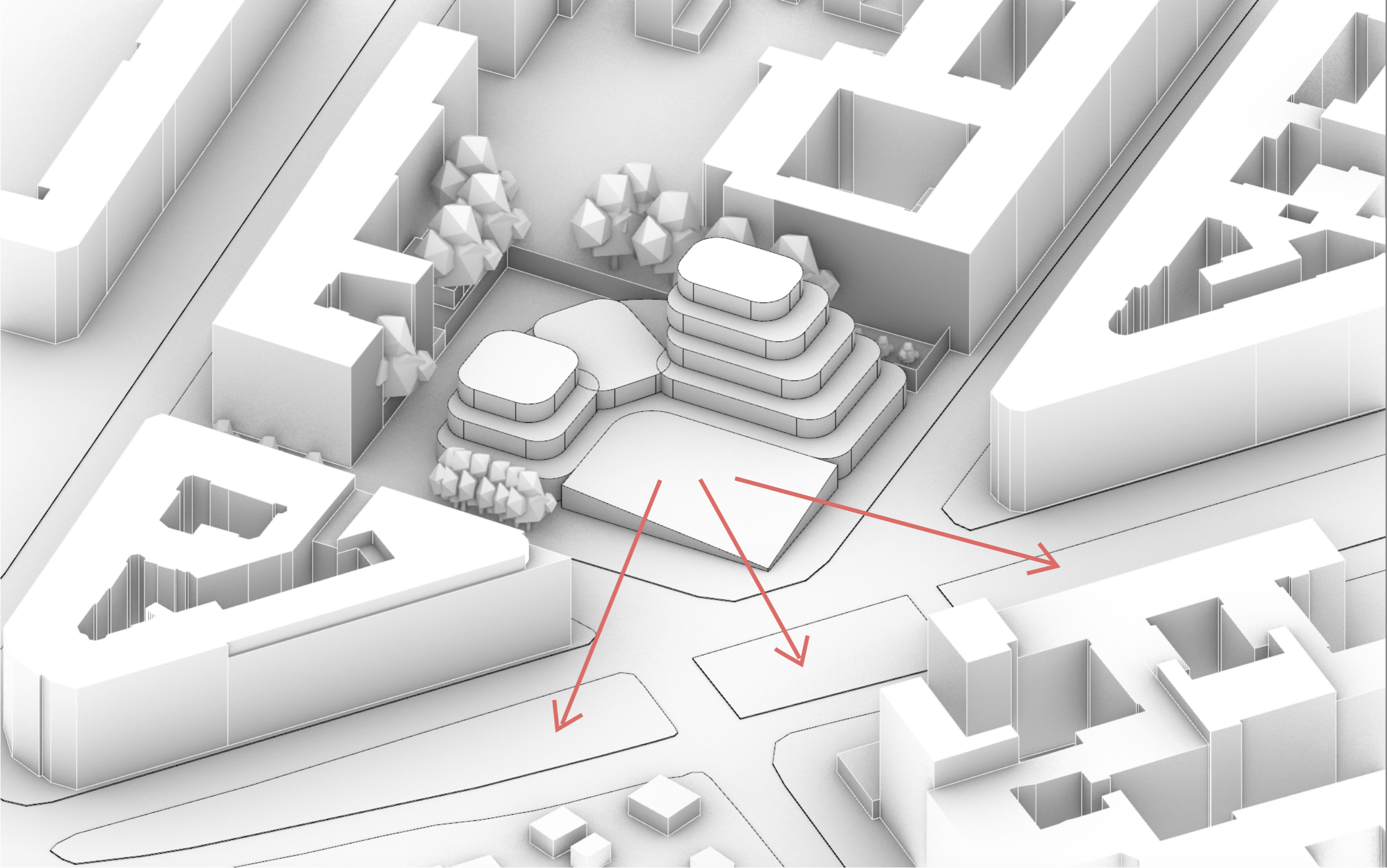
Sun analysis

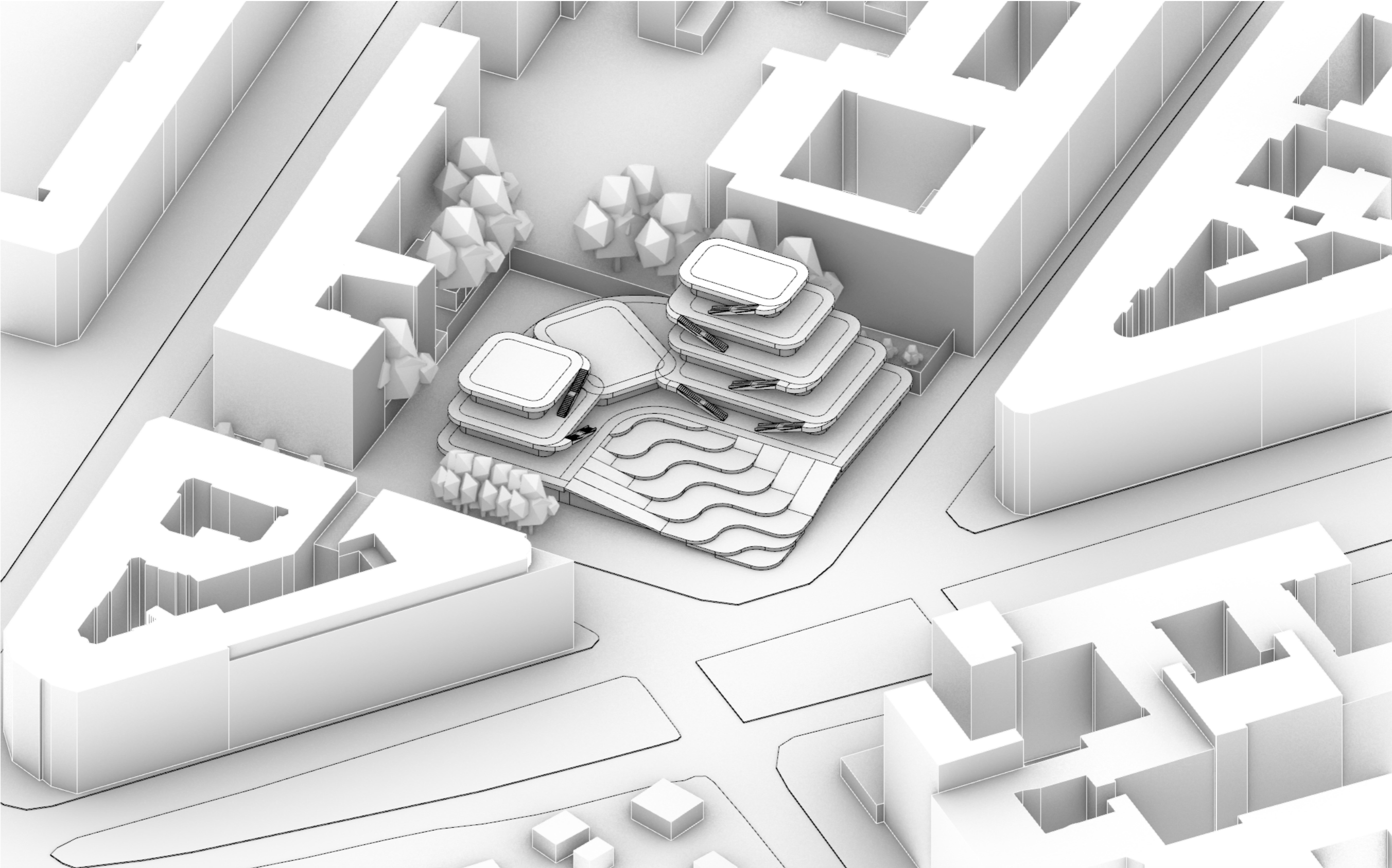


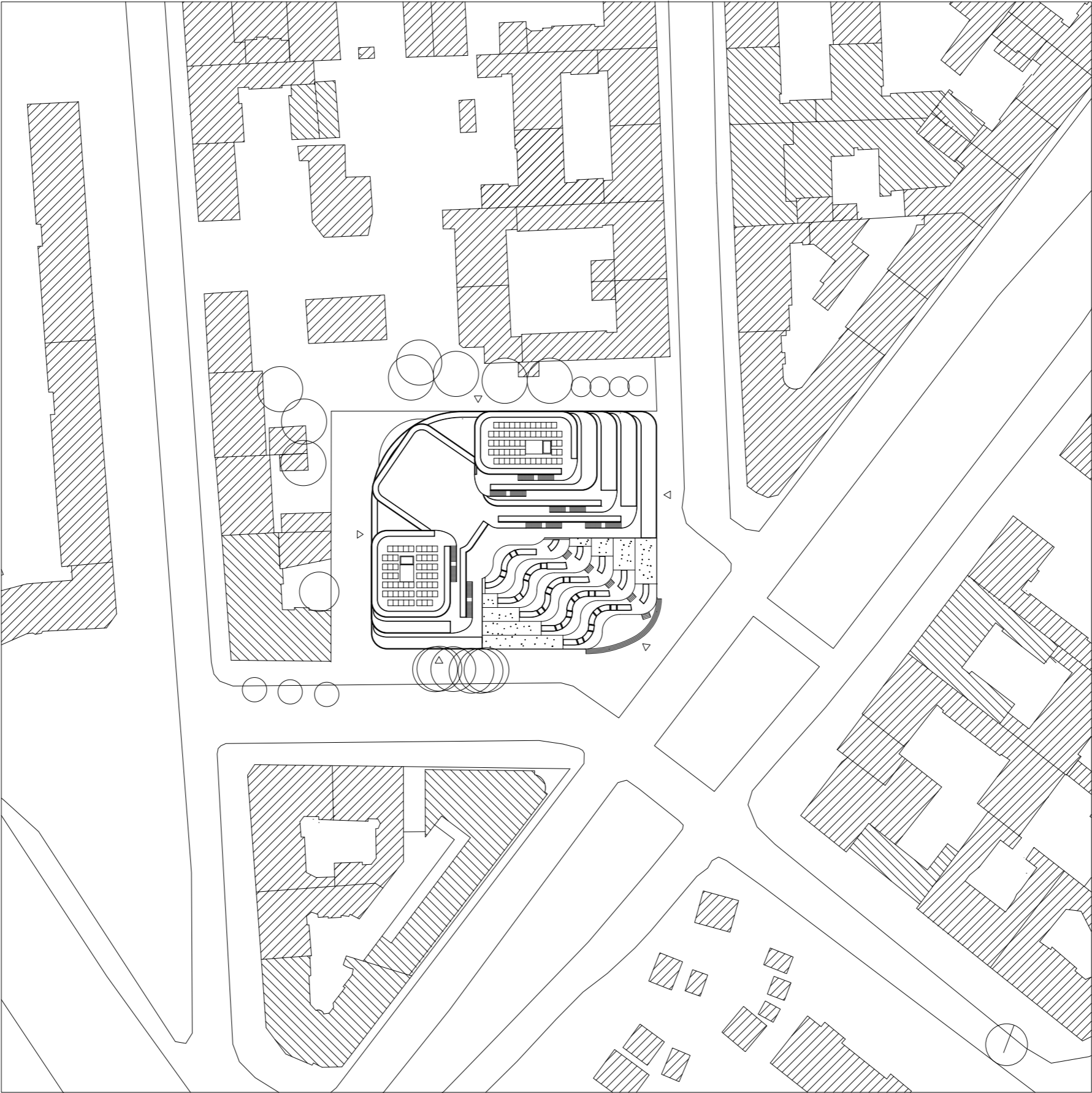
Shadow



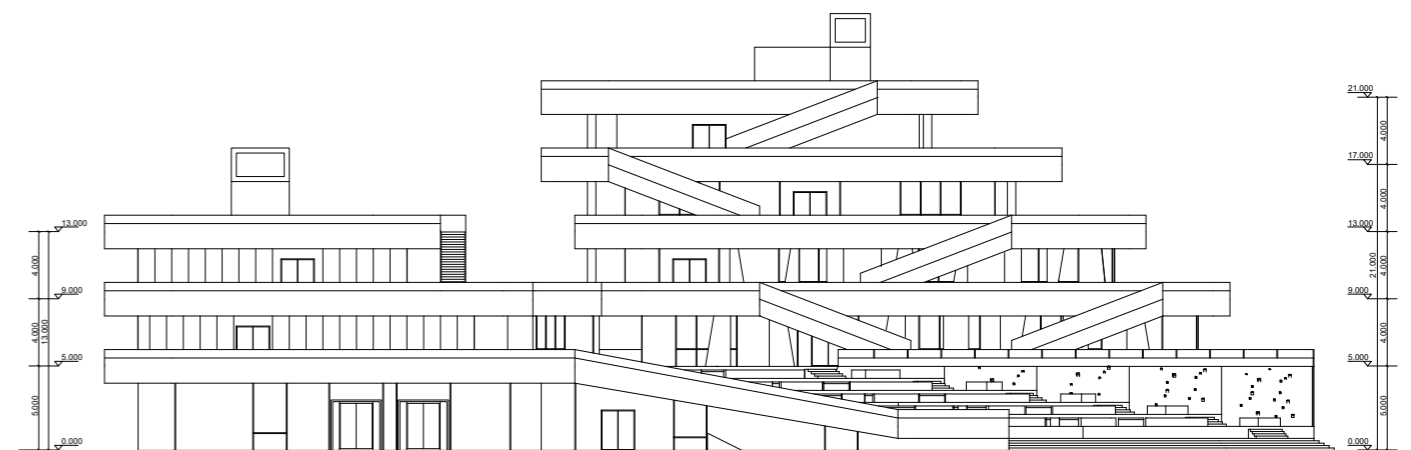
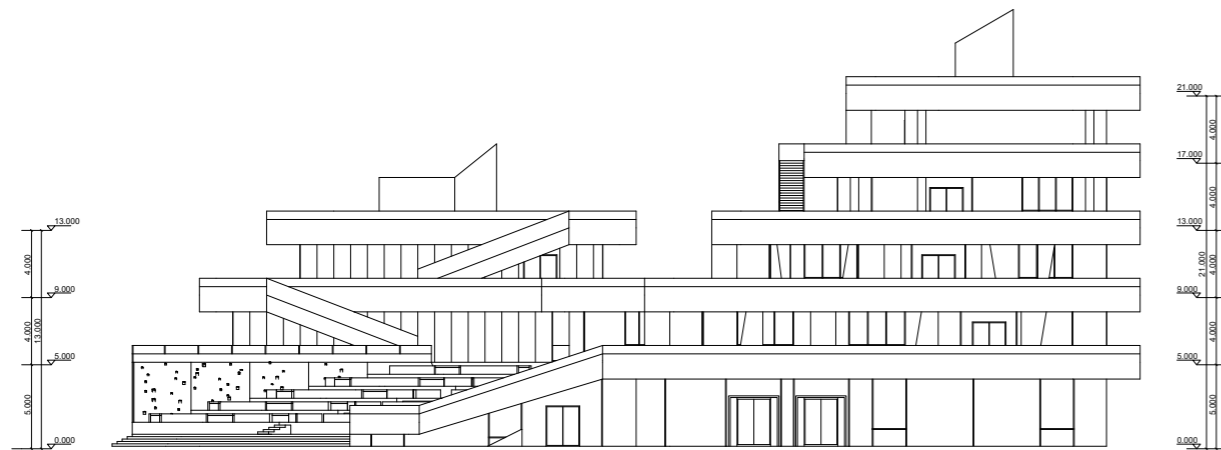
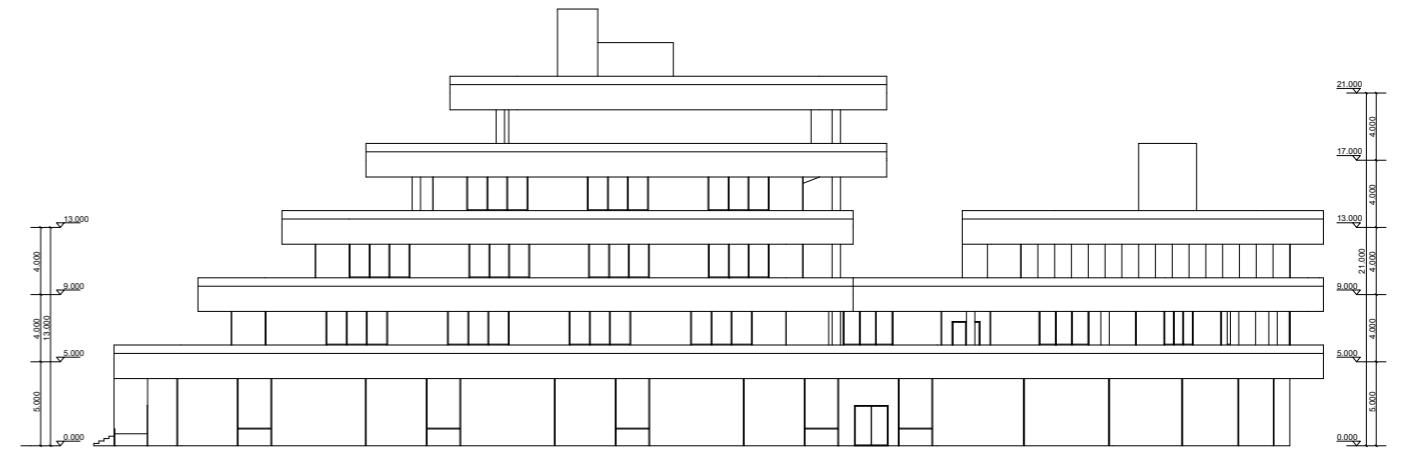
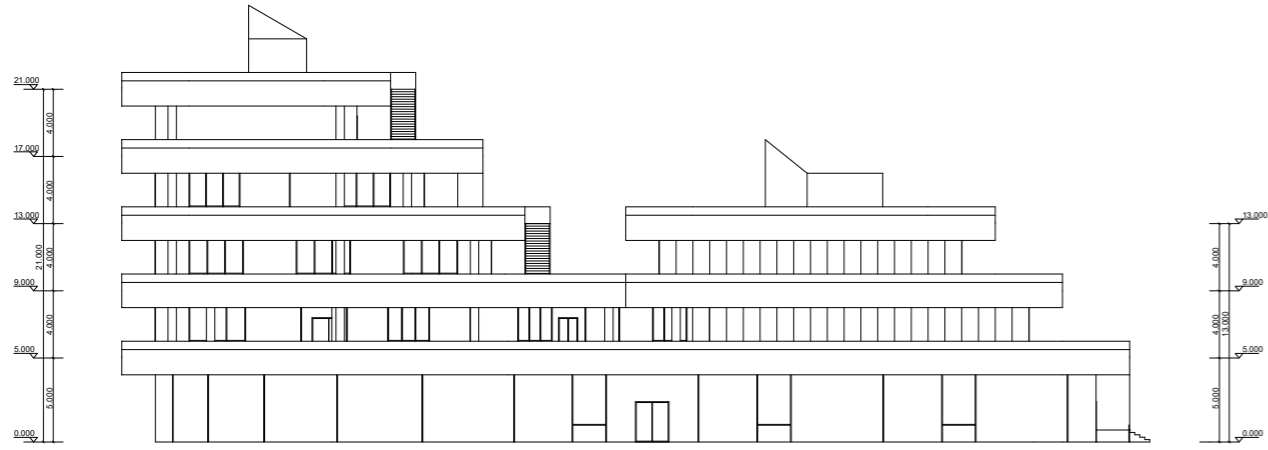


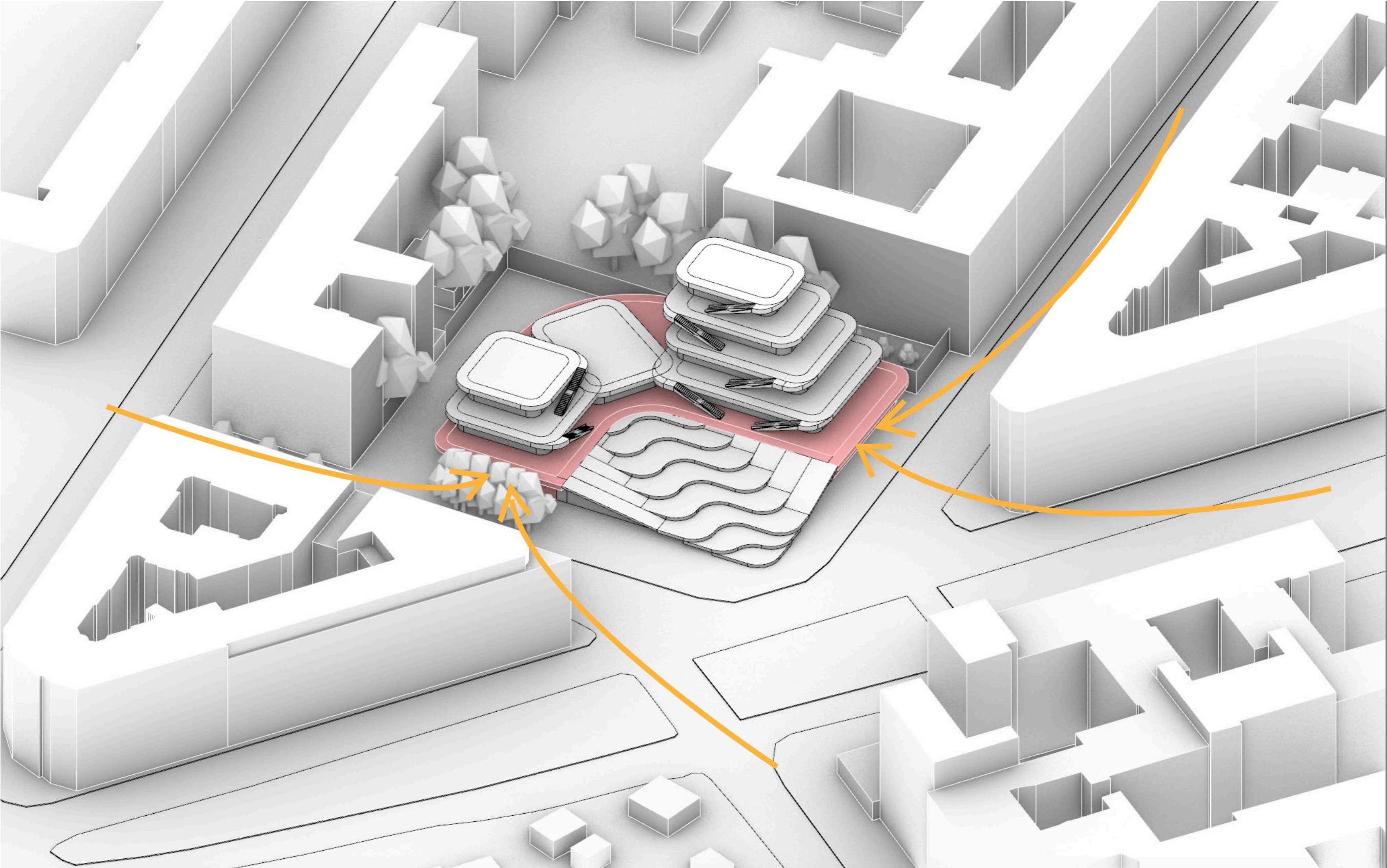


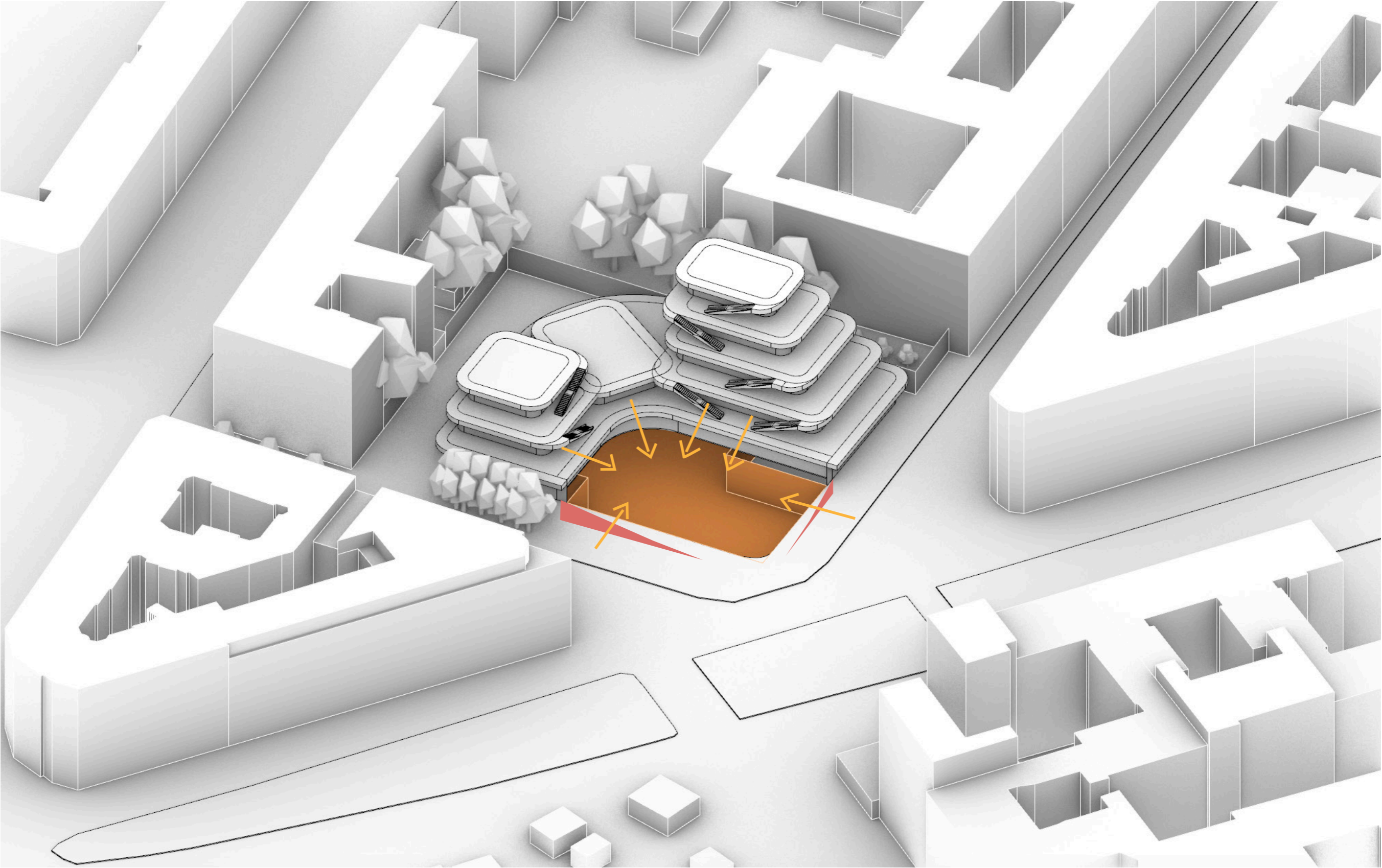




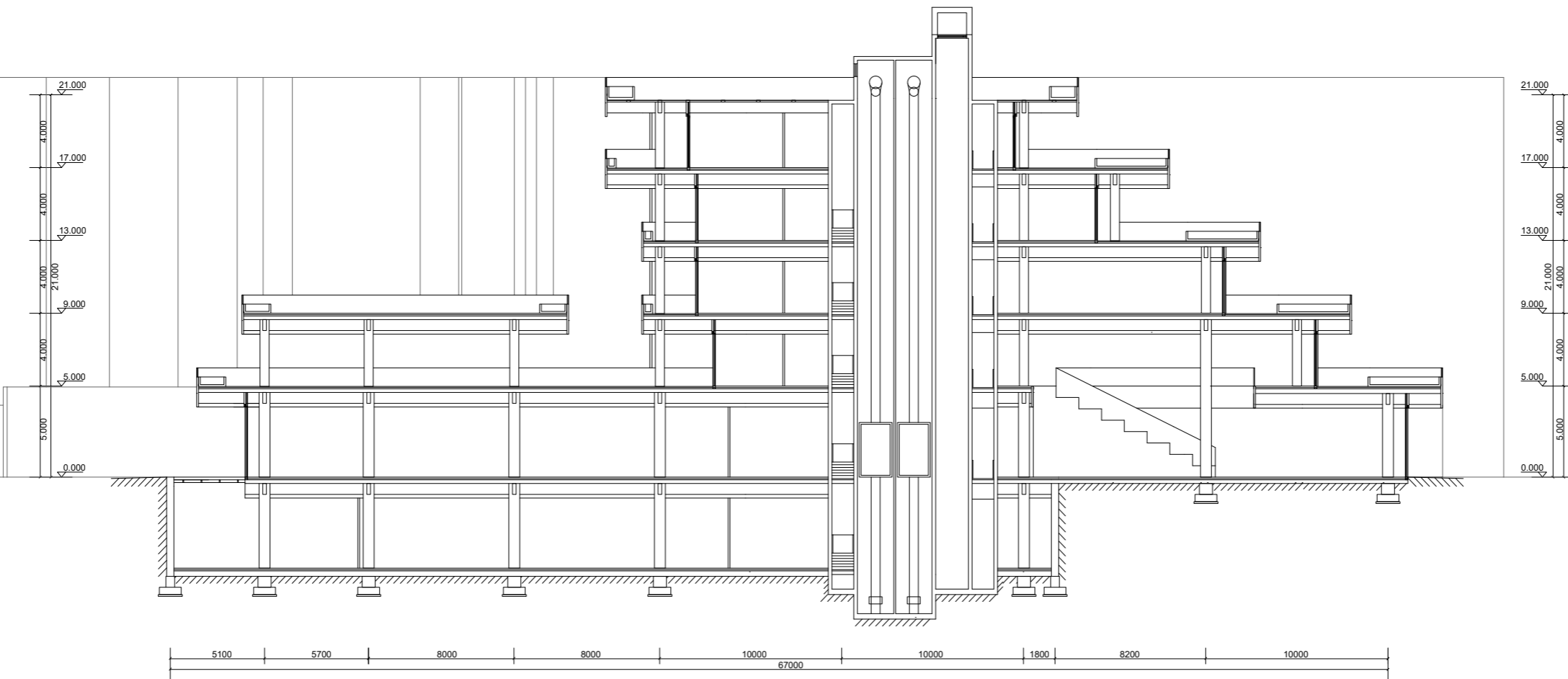
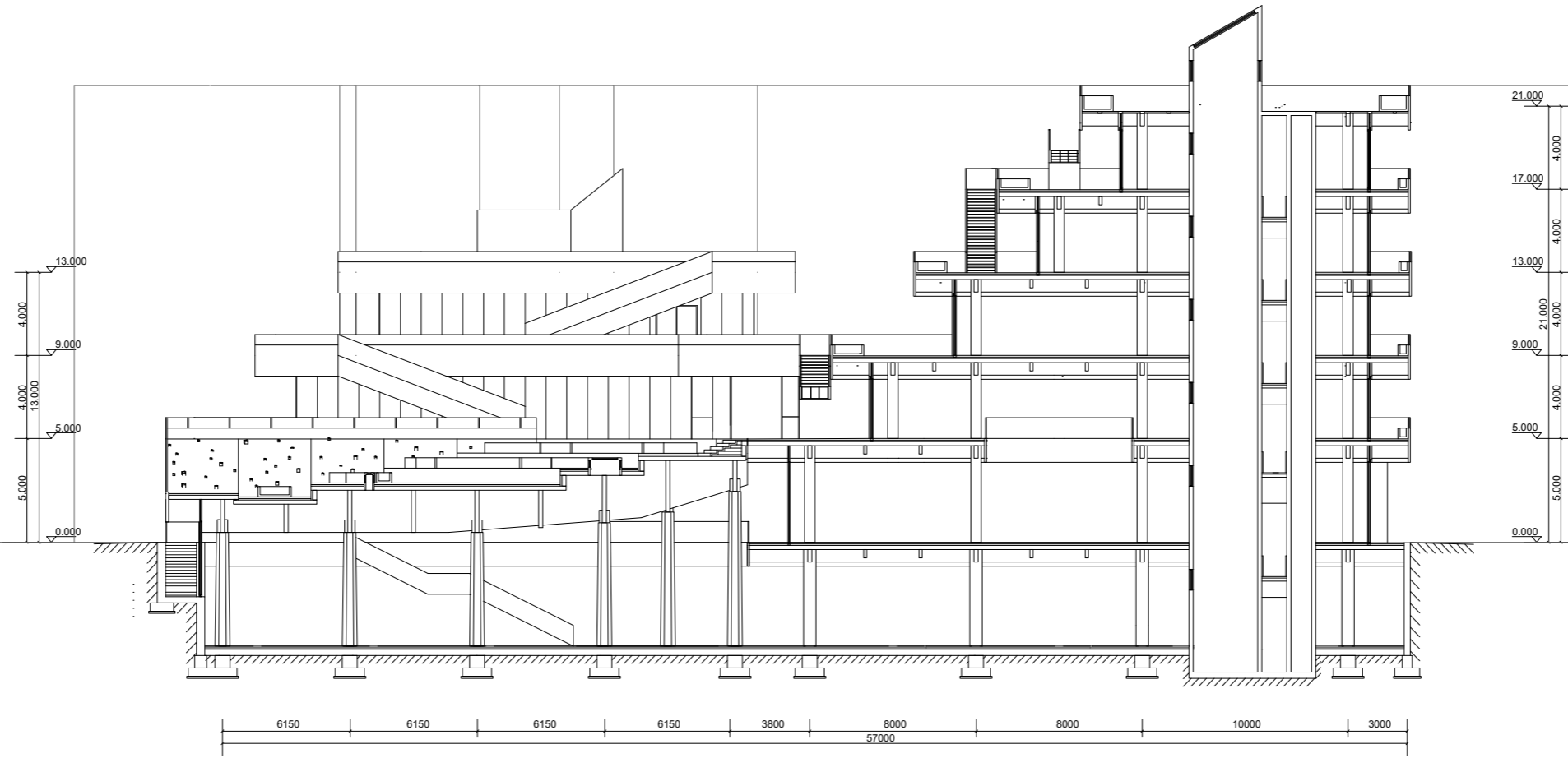
# Facades

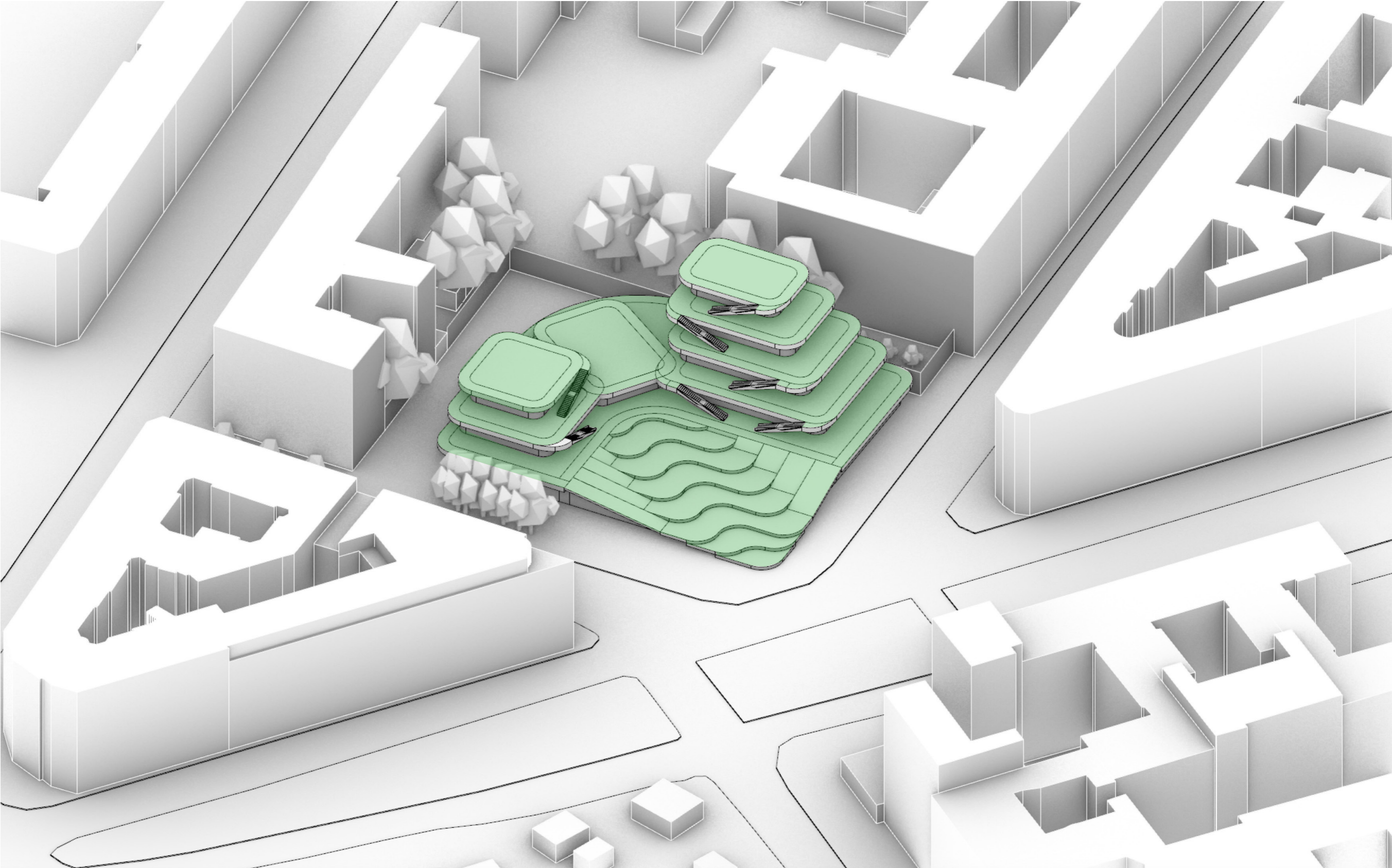




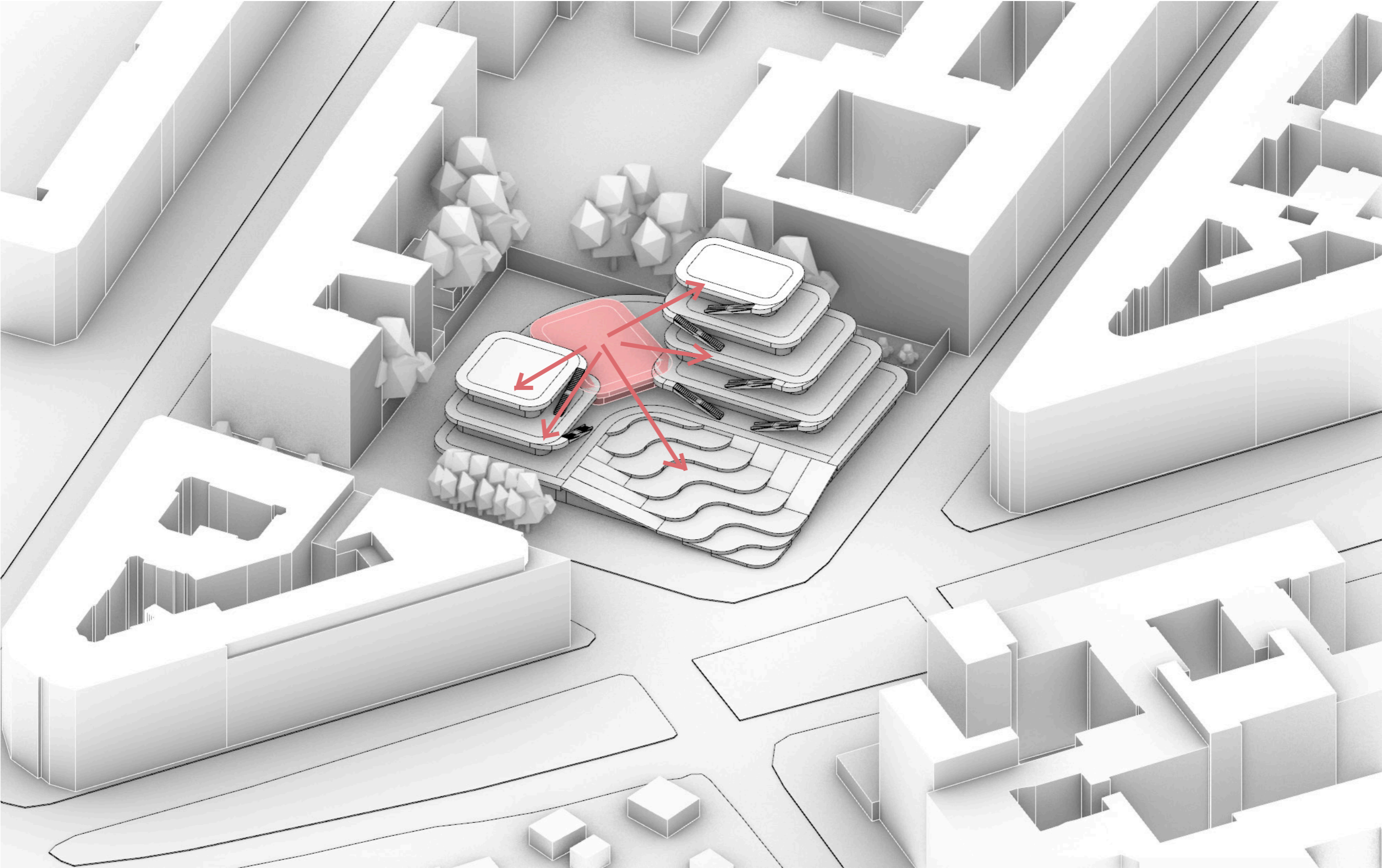


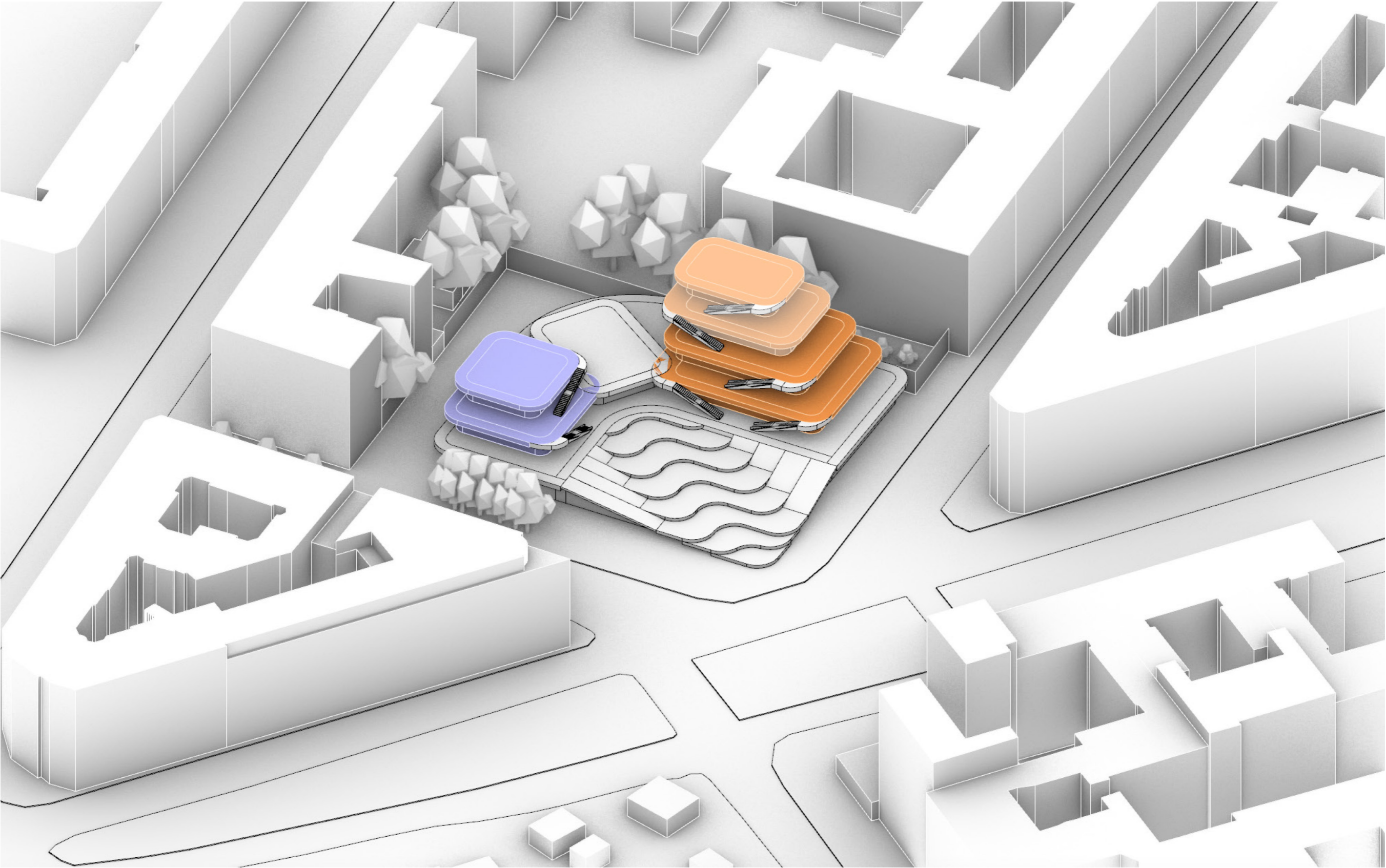
Section 1:500



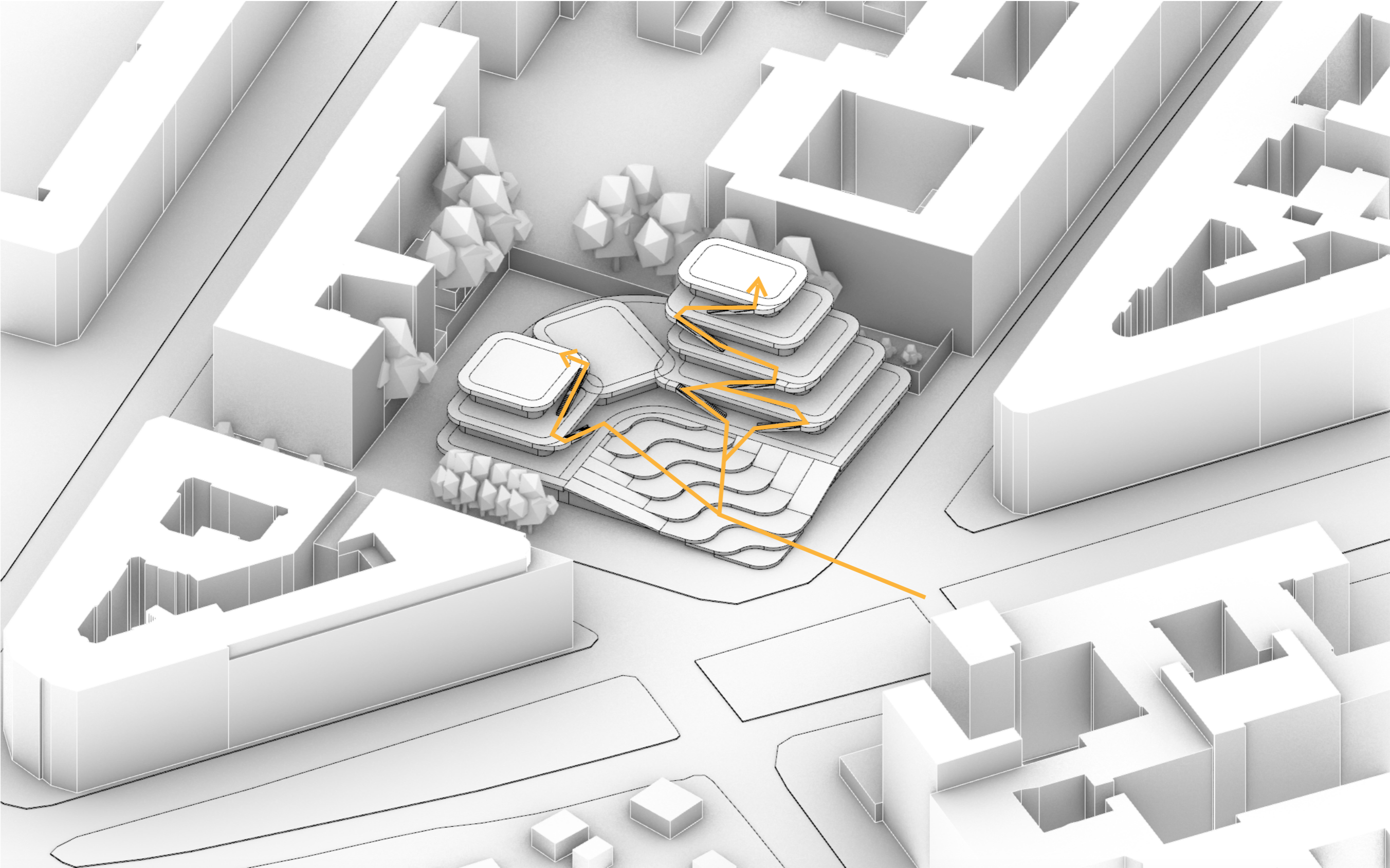


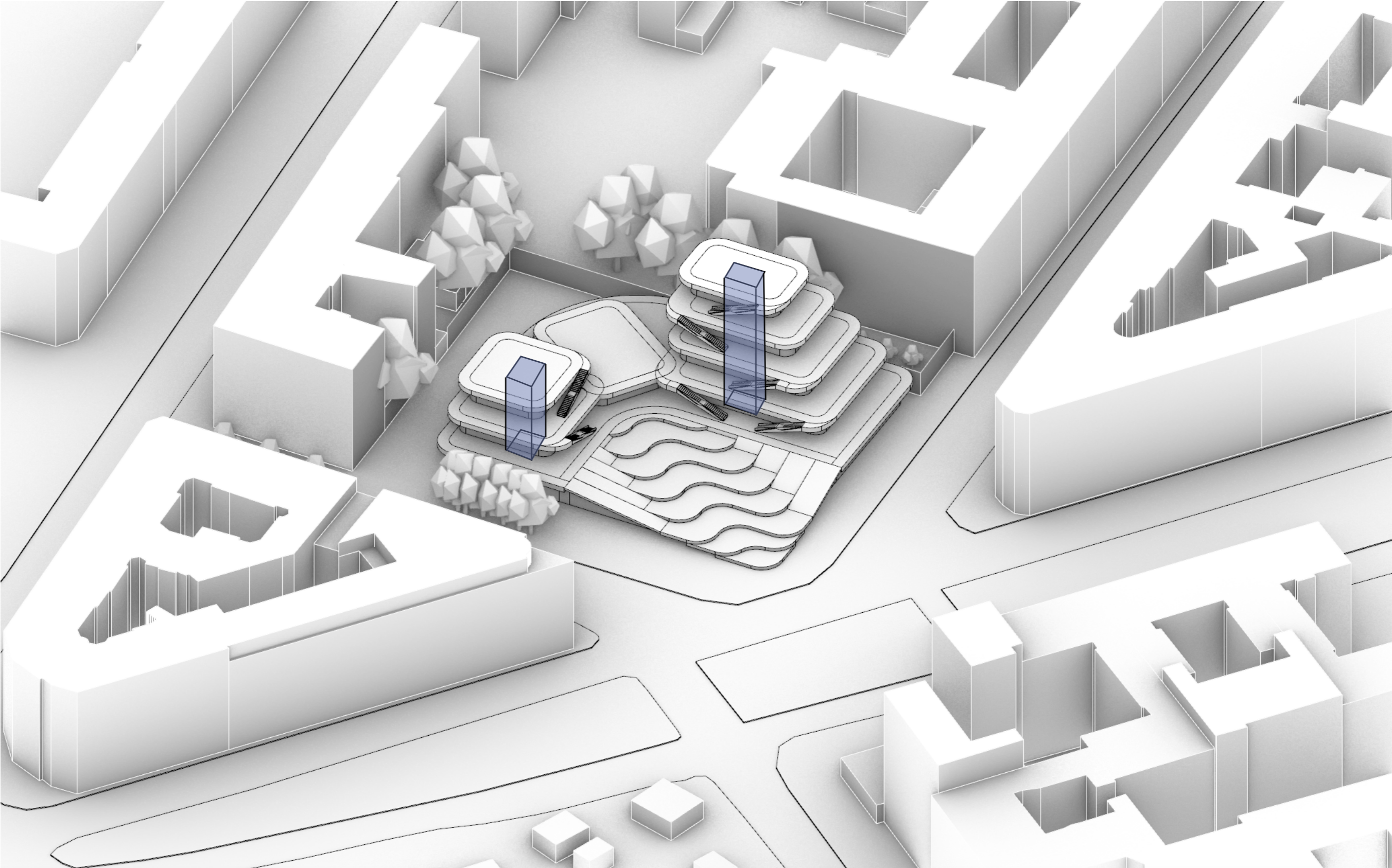




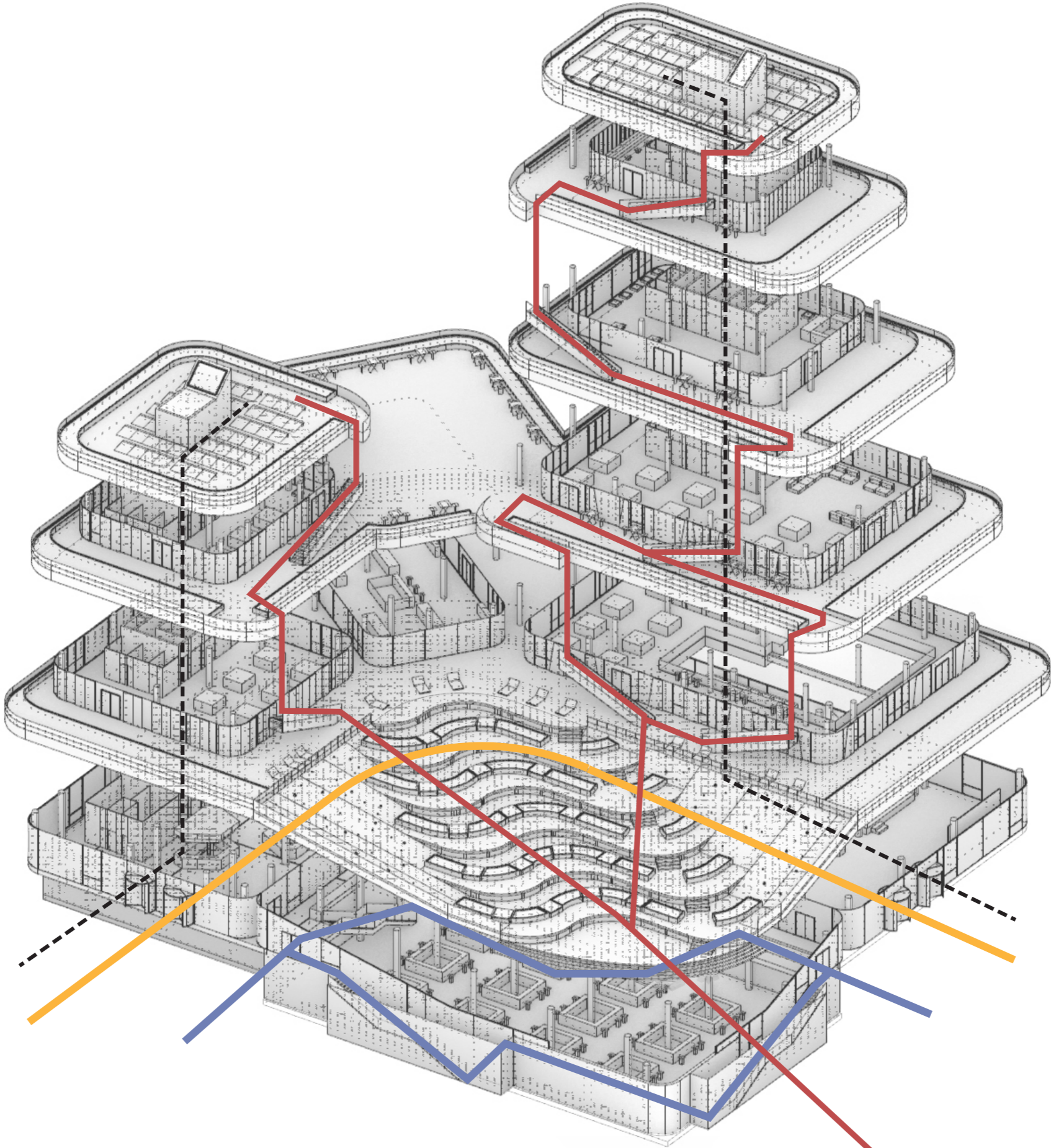






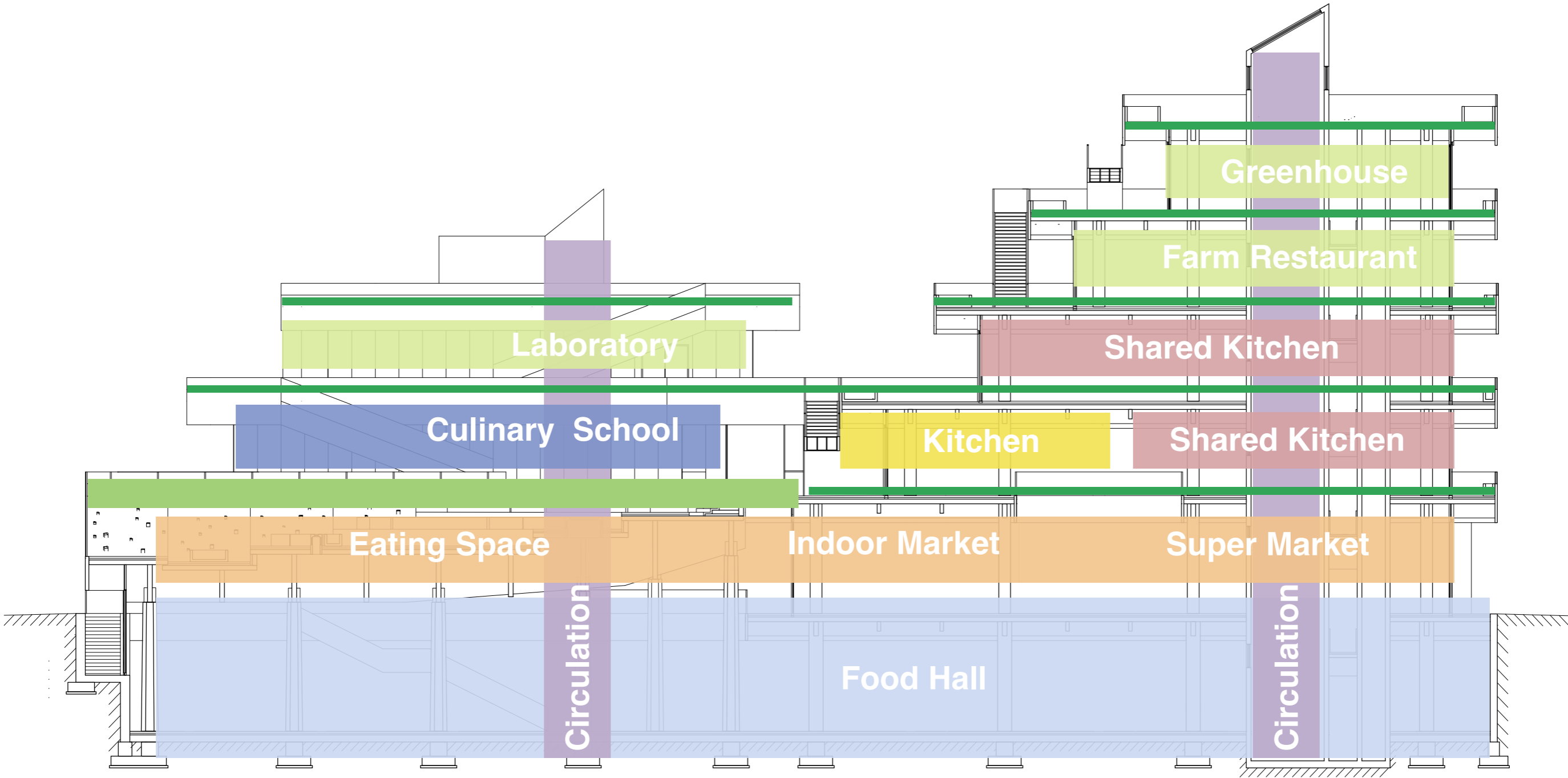


Space Circulation



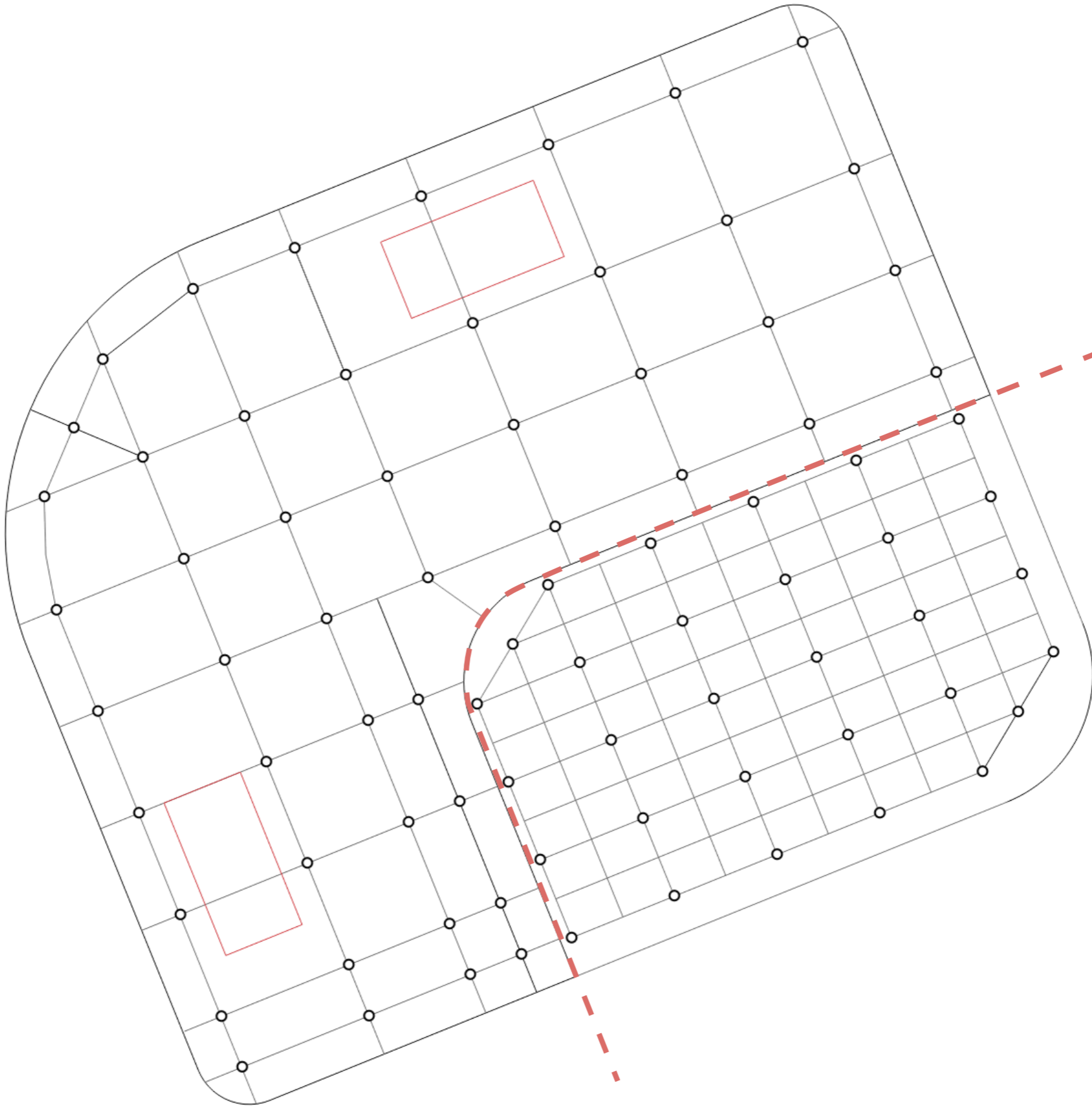
- Making Line for Community
- Market Line for Locals
- Food Hall Line for Visitors
- - - Vertical Circulation

Program Distribution



<ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: #008000; margin-right: 5px;"></span> 500 m2   Exterior Farming (Vegetable+Ingredient+Garden)</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: #90EE90; margin-right: 5px;"></span> 1000 m2   Exterior Landscape Garden</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: #C8E6C9; margin-right: 5px;"></span> 650 m2   Farming Lab+Farm Restaurant</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: #D9534F; margin-right: 5px;"></span> 450 m2   Shared Kitchen</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: #3954AB; margin-right: 5px;"></span> 280 m2   Culinary School</li> </ul>	<ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: #FFD700; margin-right: 5px;"></span> 270 m2   Central Kitchen</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: #FFA07A; margin-right: 5px;"></span> 1800 m2   Indoor Market+Supermarket</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: #ADD8E6; margin-right: 5px;"></span> 2400 m2   Food Hall+Eating Square</li> <li><span style="display: inline-block; width: 15px; height: 15px; background-color: #8A56A0; margin-right: 5px;"></span> 500 m2   Circulation (Elevator+Staircase+Machine Pipe Void)</li> </ul>
---	---

Structure System





Column



Wood

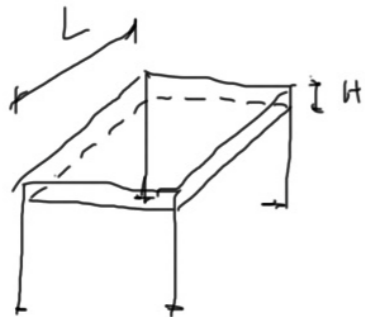
$D \geq 300 \text{ mm}$      $D = \frac{1}{8} H \sim \frac{1}{10} H$

$5 \text{ m} / 10 = 500 \text{ mm}$

$7 \text{ m} / 10 = 700 \text{ mm}$

Material: Pine, Cedar, Douglas Fir, oak.

Slab



CLT

$H \geq 80 \text{ mm}$     Max = 350 mm

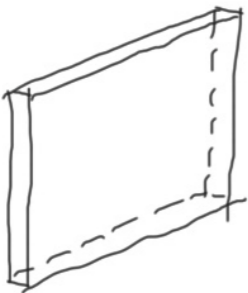
Roof Slab     $H = \frac{1}{40} L$

$5 \text{ m} / 40 = 125 \text{ mm}$

Floor Slab     $H = \frac{1}{20} L \sim \frac{1}{30} L$

$5 \text{ m} / 25 = 200 \text{ mm}$

Wall

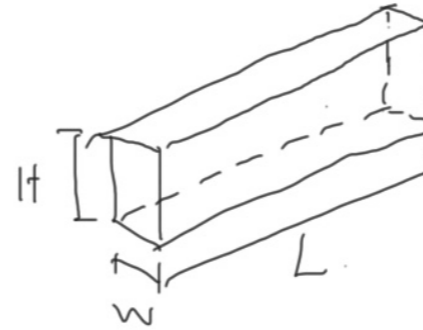


CLT

Non-structure Wall

100 mm - 150 mm

Beam



CLT

$W \geq 60 \text{ mm}$      $\leq 300 \text{ mm}$      $W = \frac{1}{6} H \sim \frac{1}{3} H$

Roof Beam     $H = \frac{1}{15} L$

$5 \text{ m} / 15 \approx 330 \text{ mm}$      $W \approx 150 \text{ mm}$

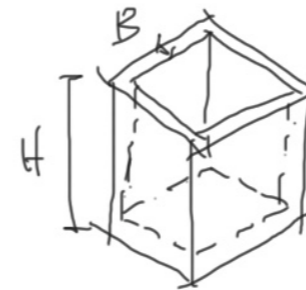
Main Beam     $H = \frac{1}{8} L \sim \frac{1}{12} L$

$8 \text{ m} / 12 \approx 660 \text{ mm}$      $W \approx 200 \text{ mm}$

Secondary Beam     $H = \frac{1}{12} L$

$4 \text{ m} / 12 \approx 330 \text{ mm}$      $W \approx 100 \text{ mm}$

Shear Wall

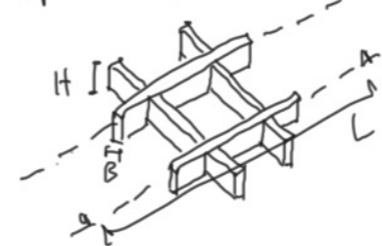


Concrete

$B \geq 160 \text{ mm}$      $B = \frac{1}{20} H$

$5 \text{ m} / 20 = 250 \text{ mm}$

Waffle Beam

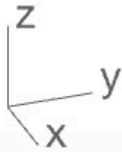
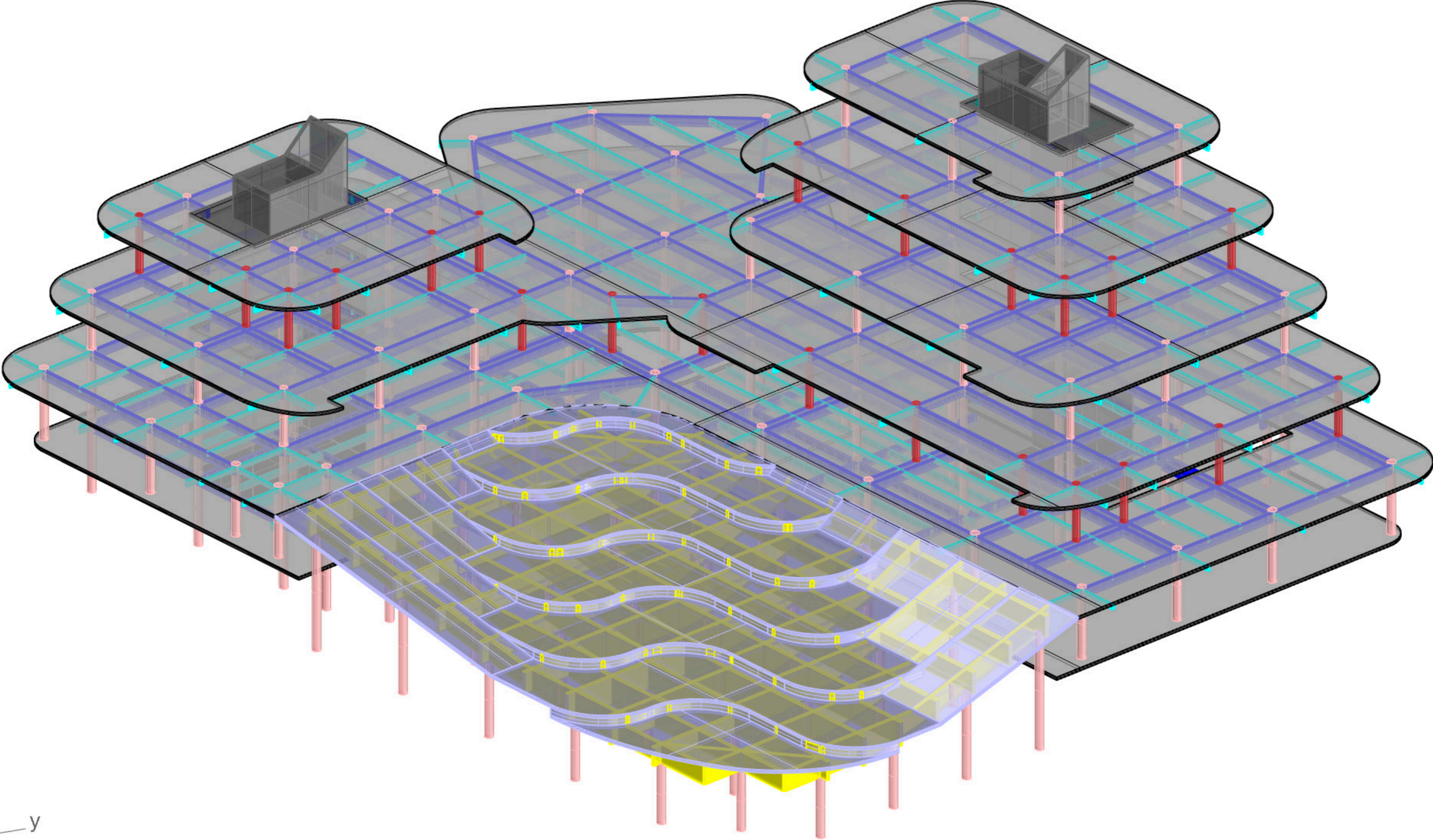


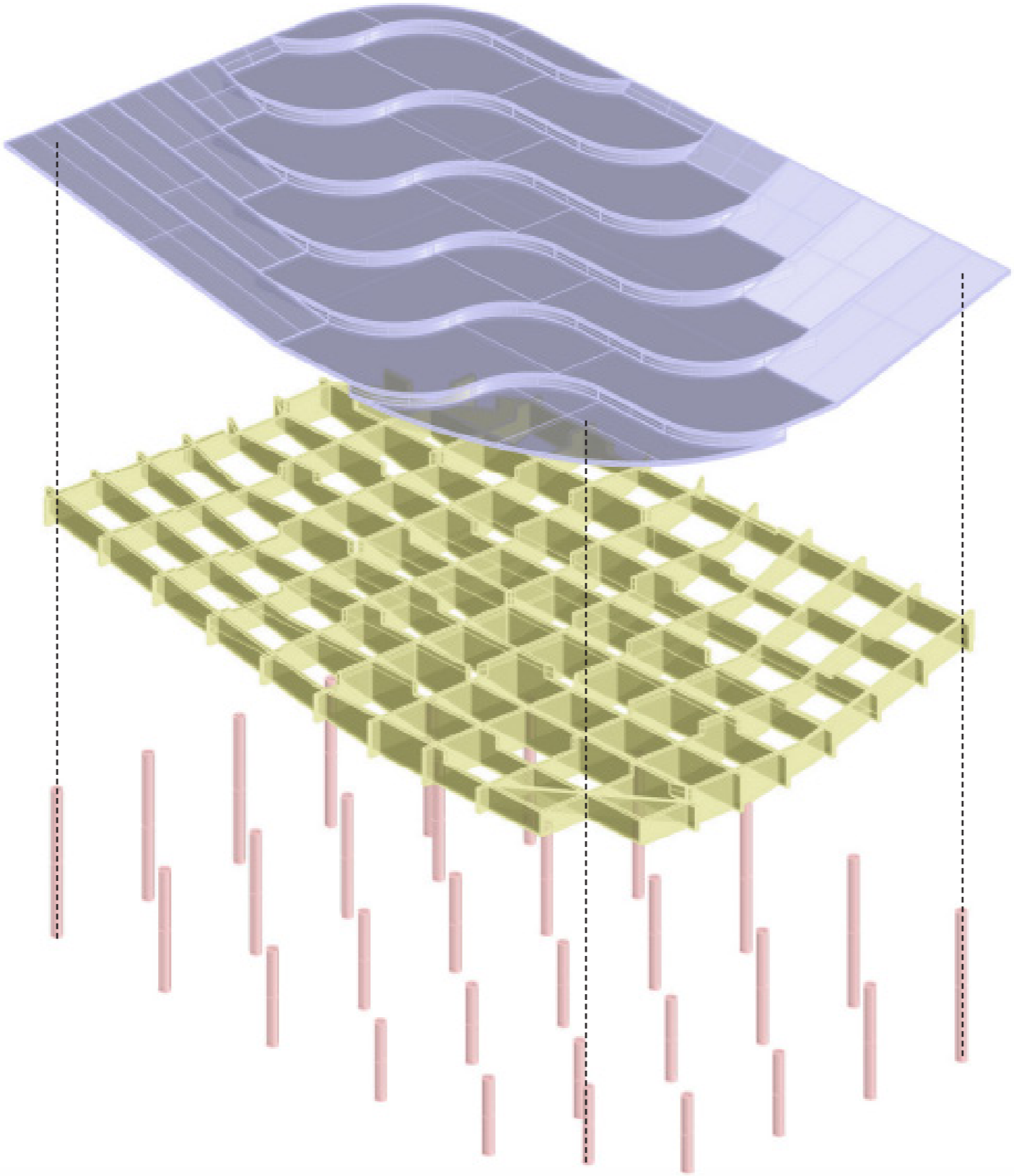
CLT

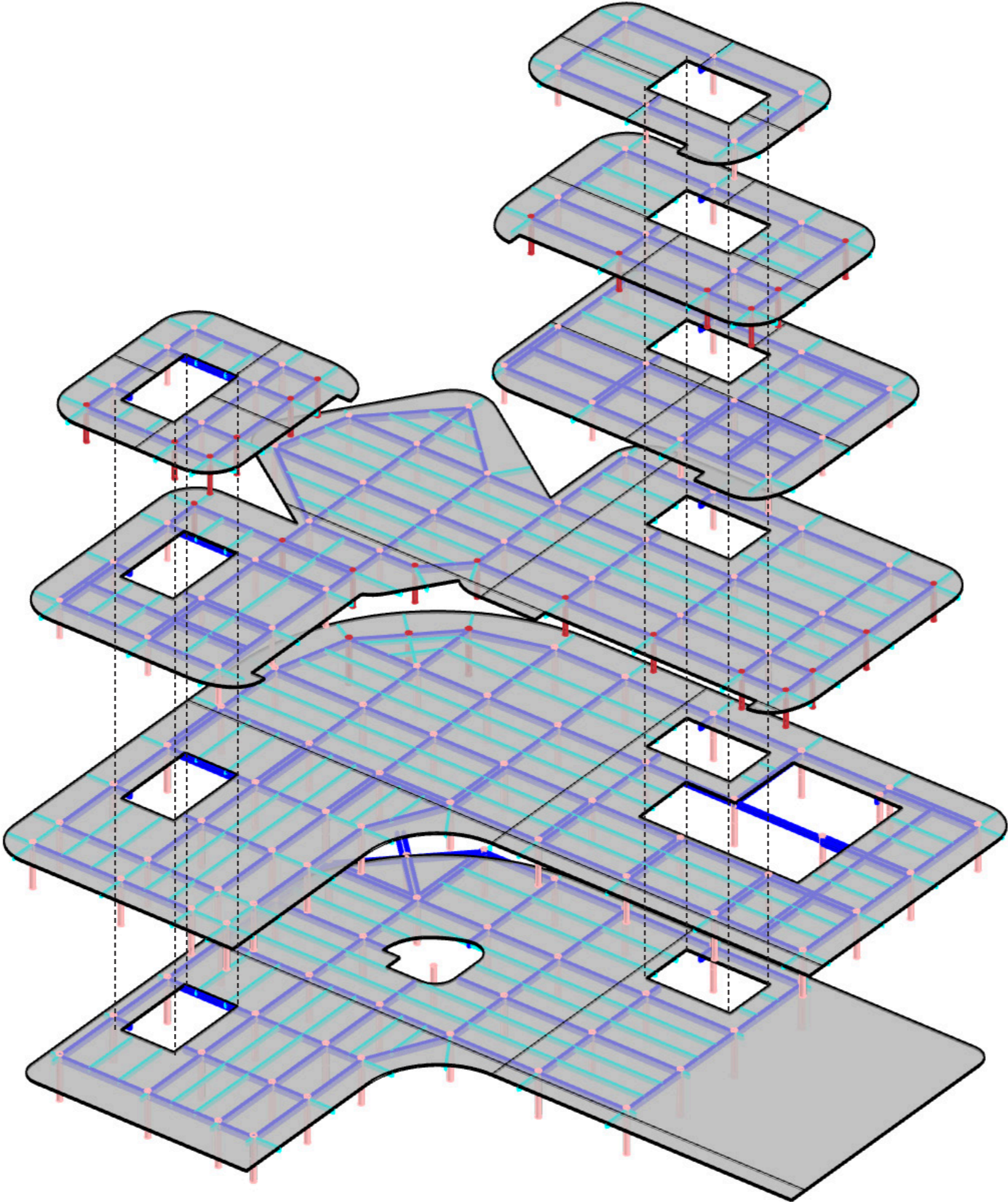
$H = \frac{1}{15} L \sim \frac{1}{10} L$      $B = \frac{1}{4} H$

$24 \text{ m} / 15 \approx 1600 \text{ mm}$      $B \approx 200 \text{ mm}$

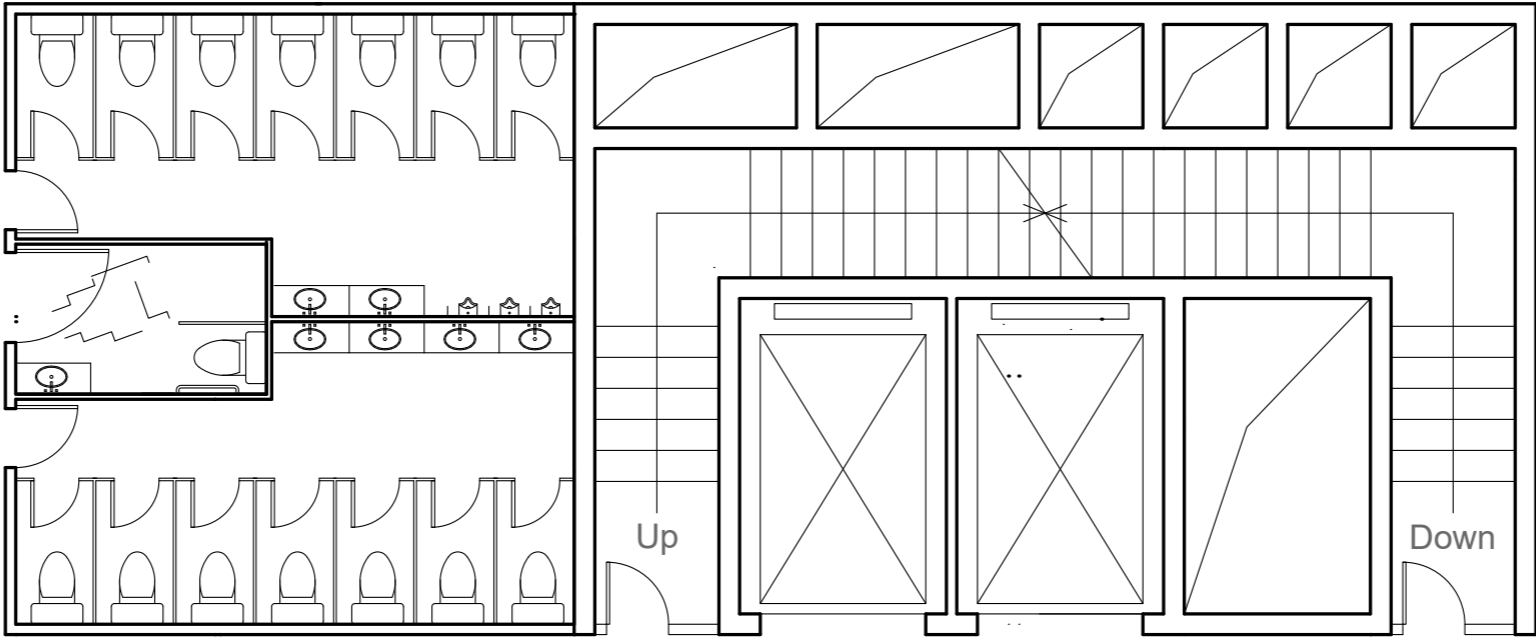
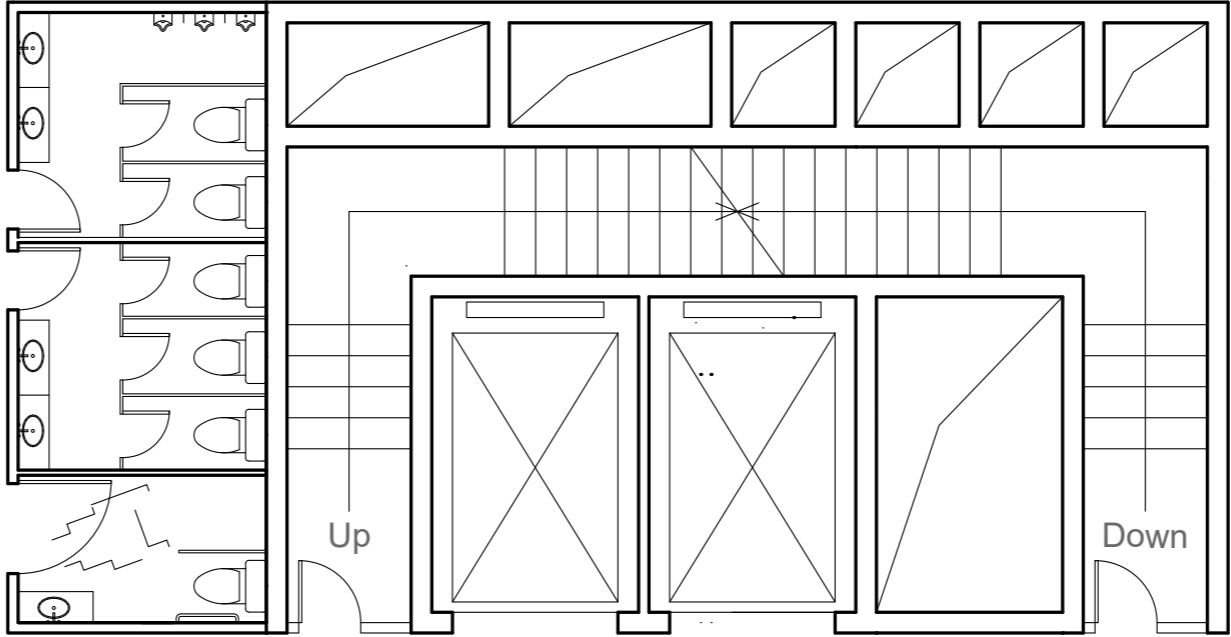
Structure System





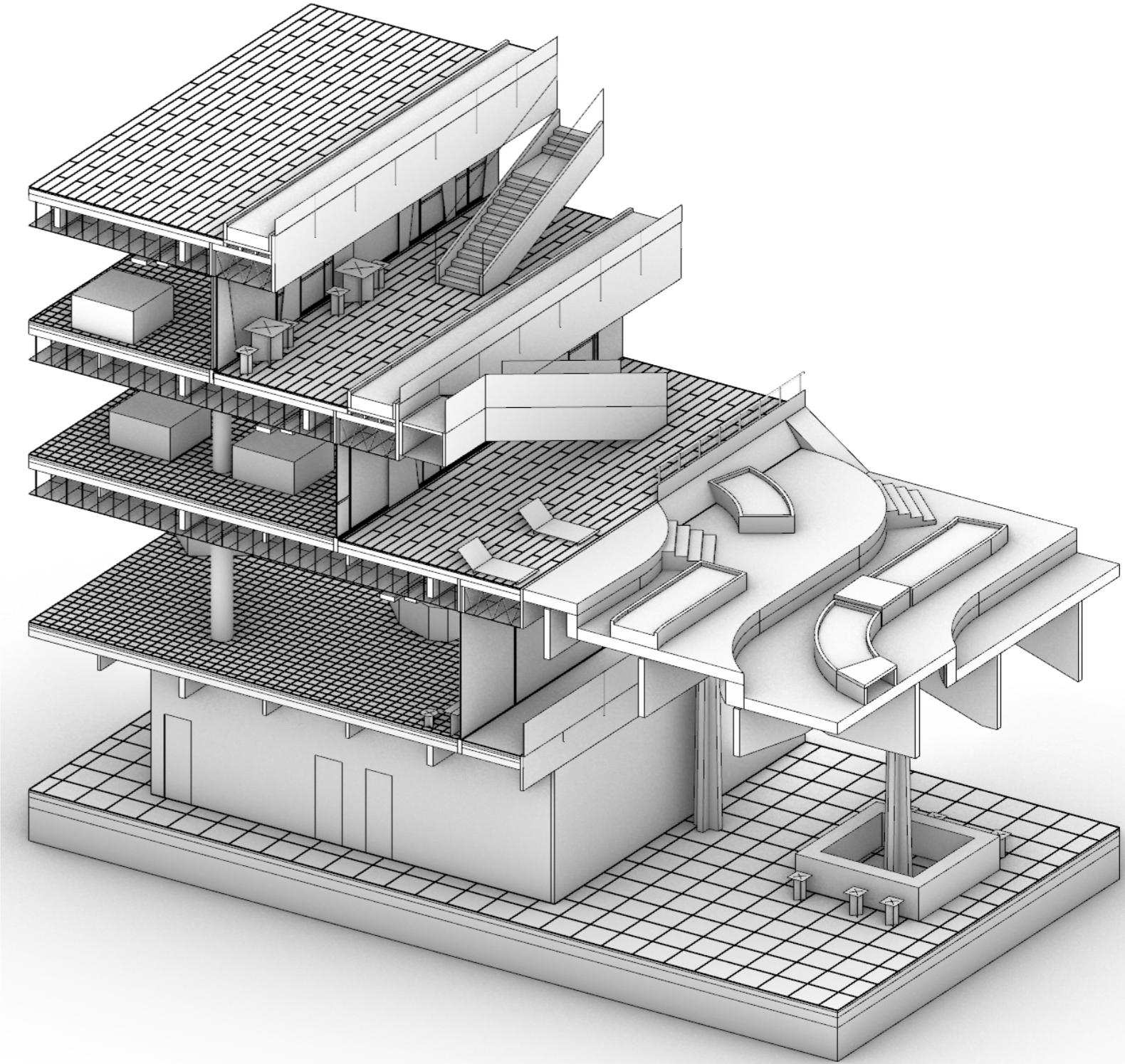
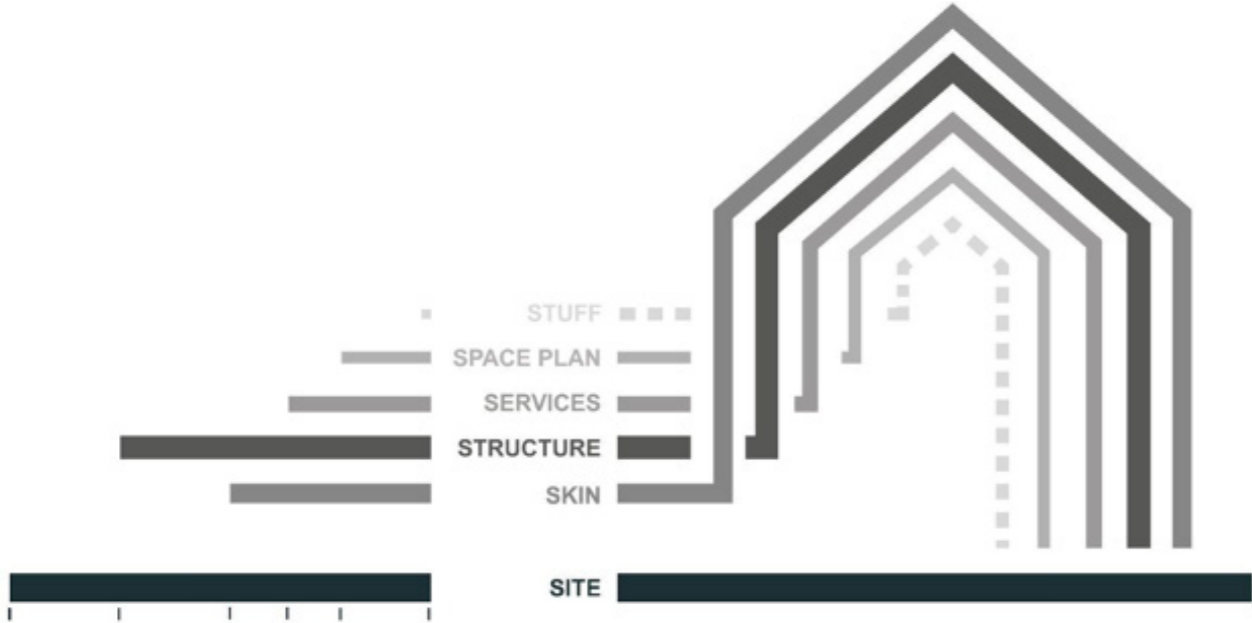


Structure System

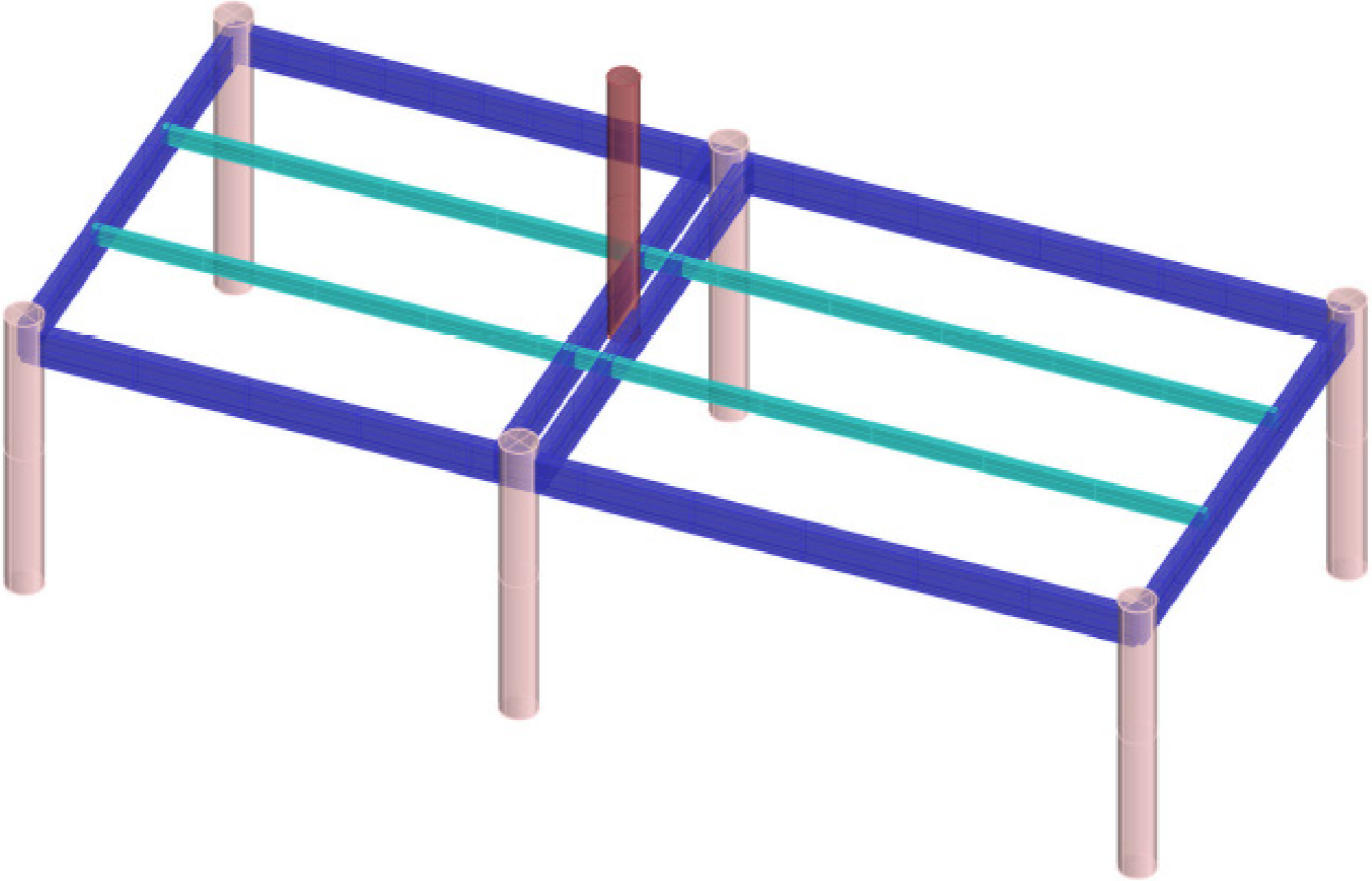


# Structure System

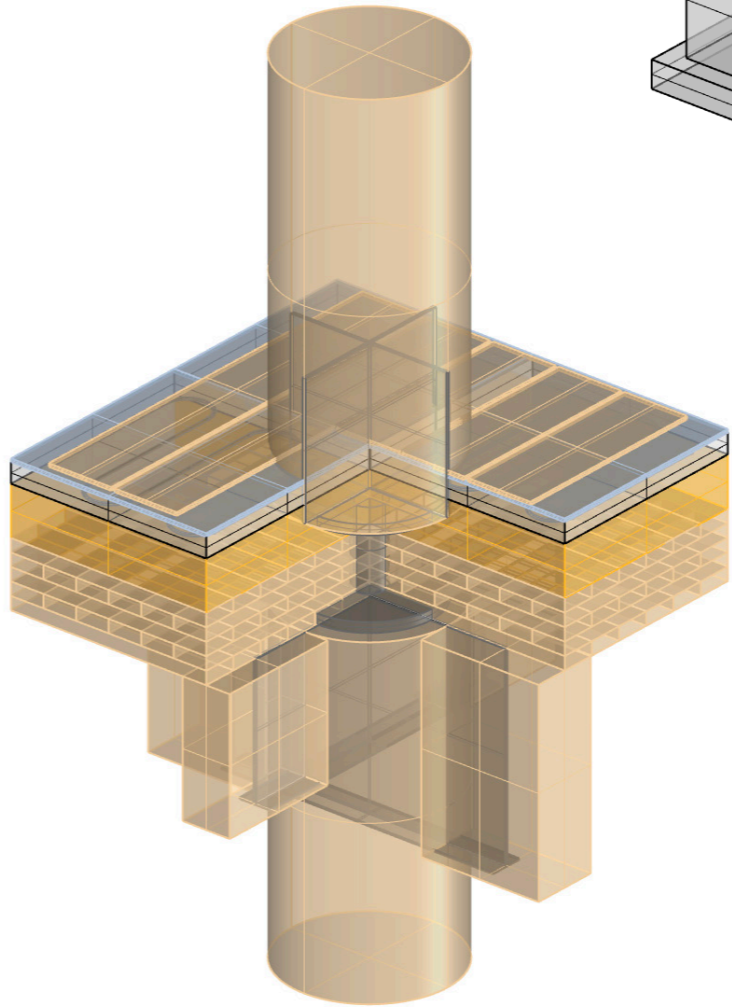
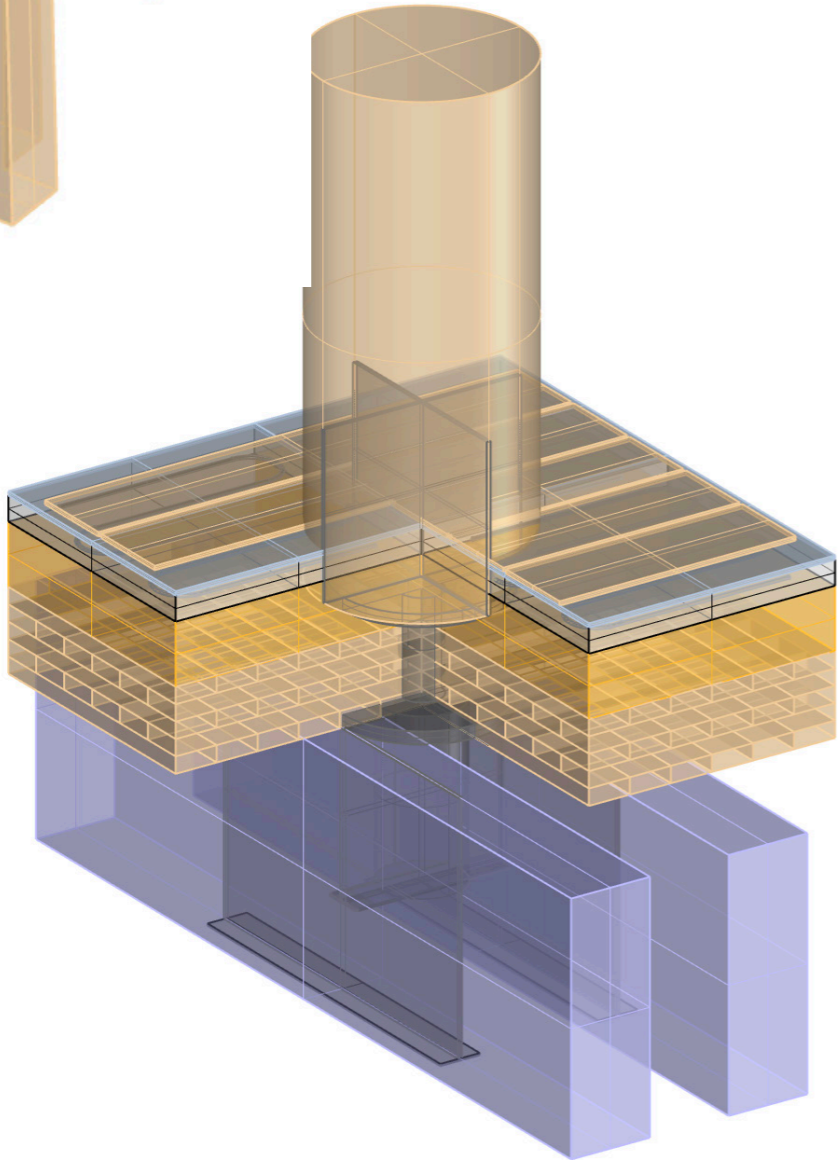
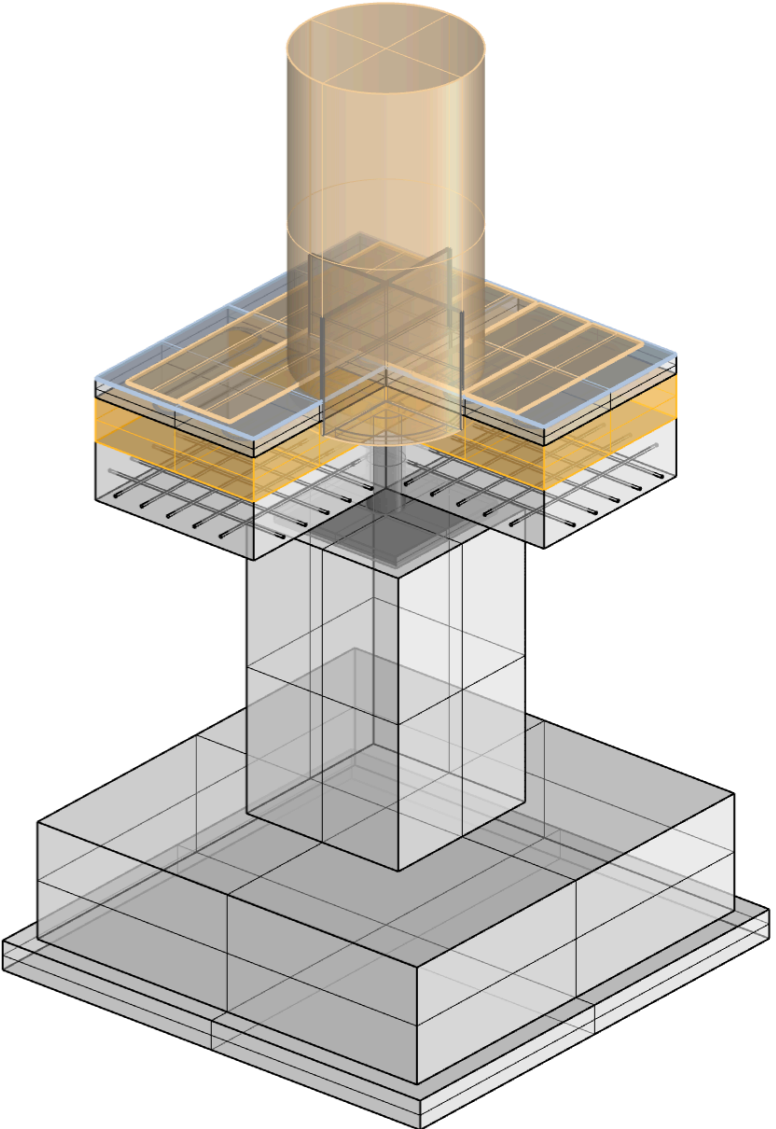
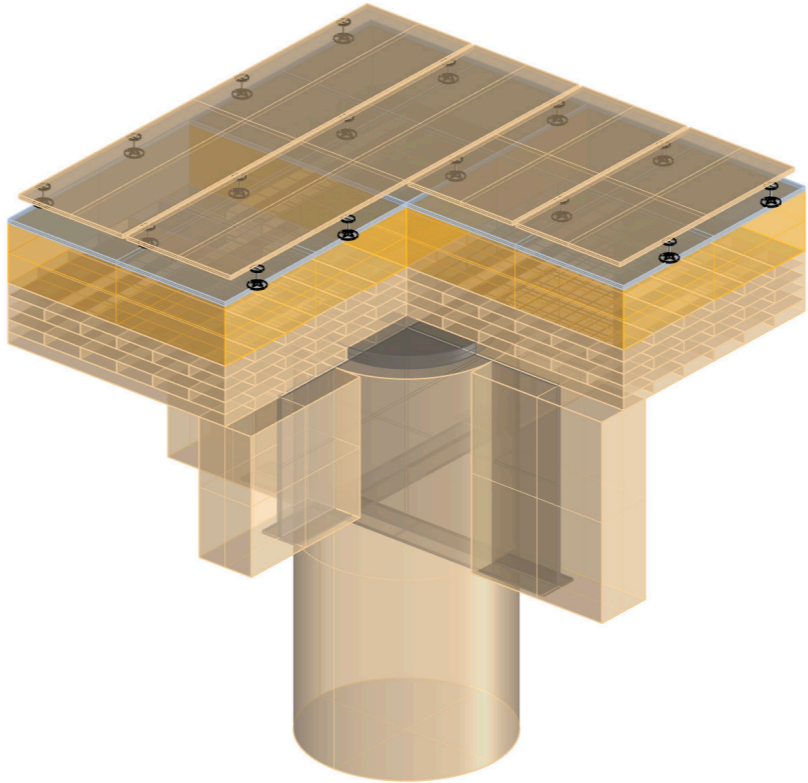
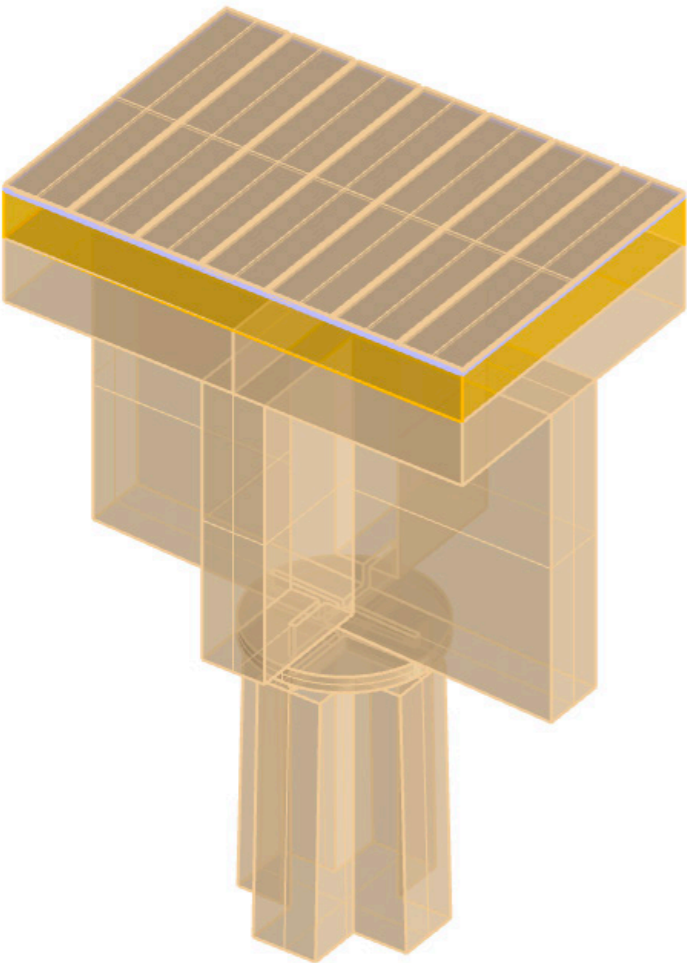
**Steward Brand estimation\*:**  
SITE > Eternal  
STRUCTURE > 30 to 300 years  
SKIN > 20  
SERVICES > 7 to 15 years  
SPACE PLAN > 30 years on average  
STUFF > every few weeks, months, etc



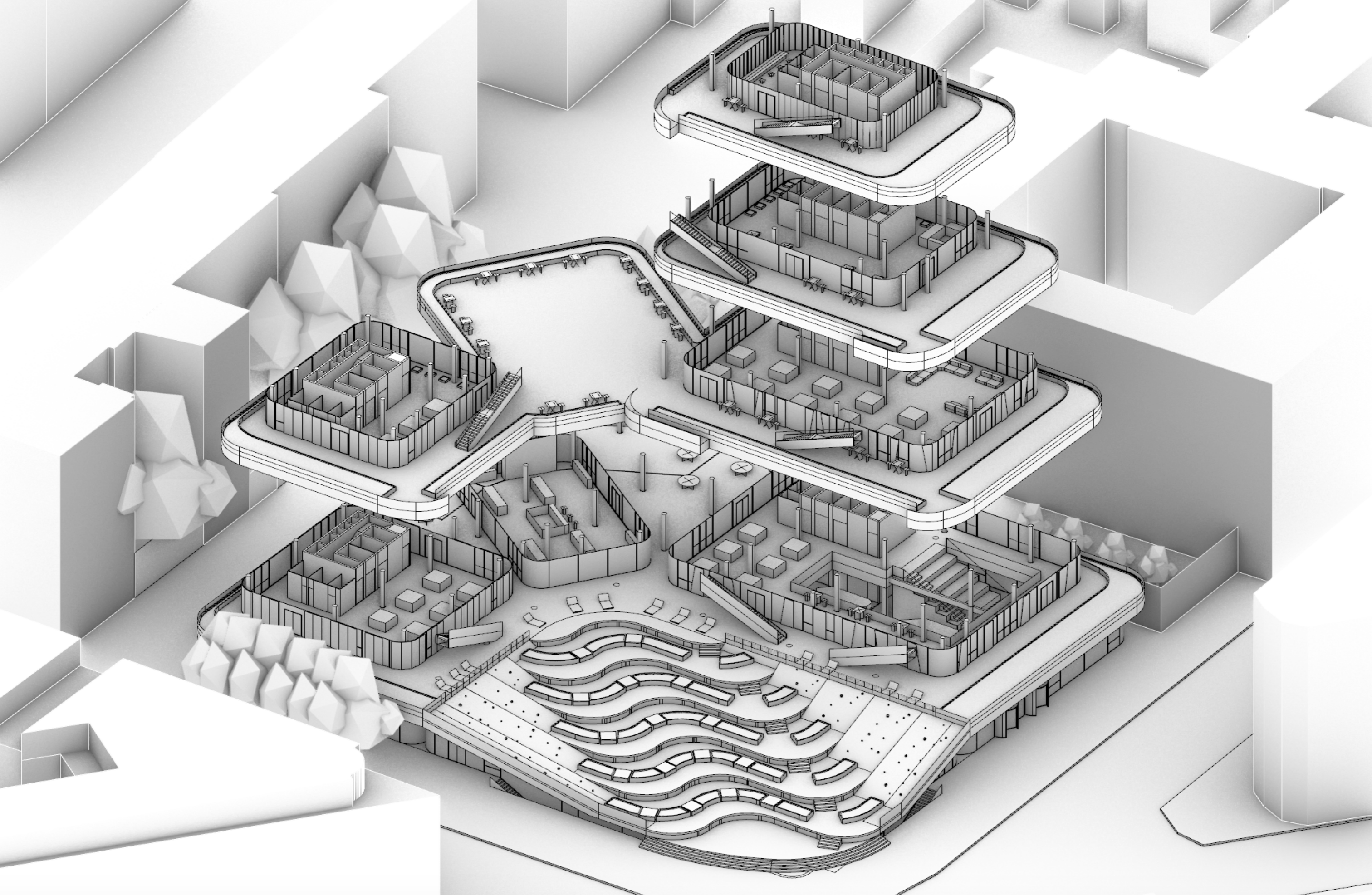
Structure System



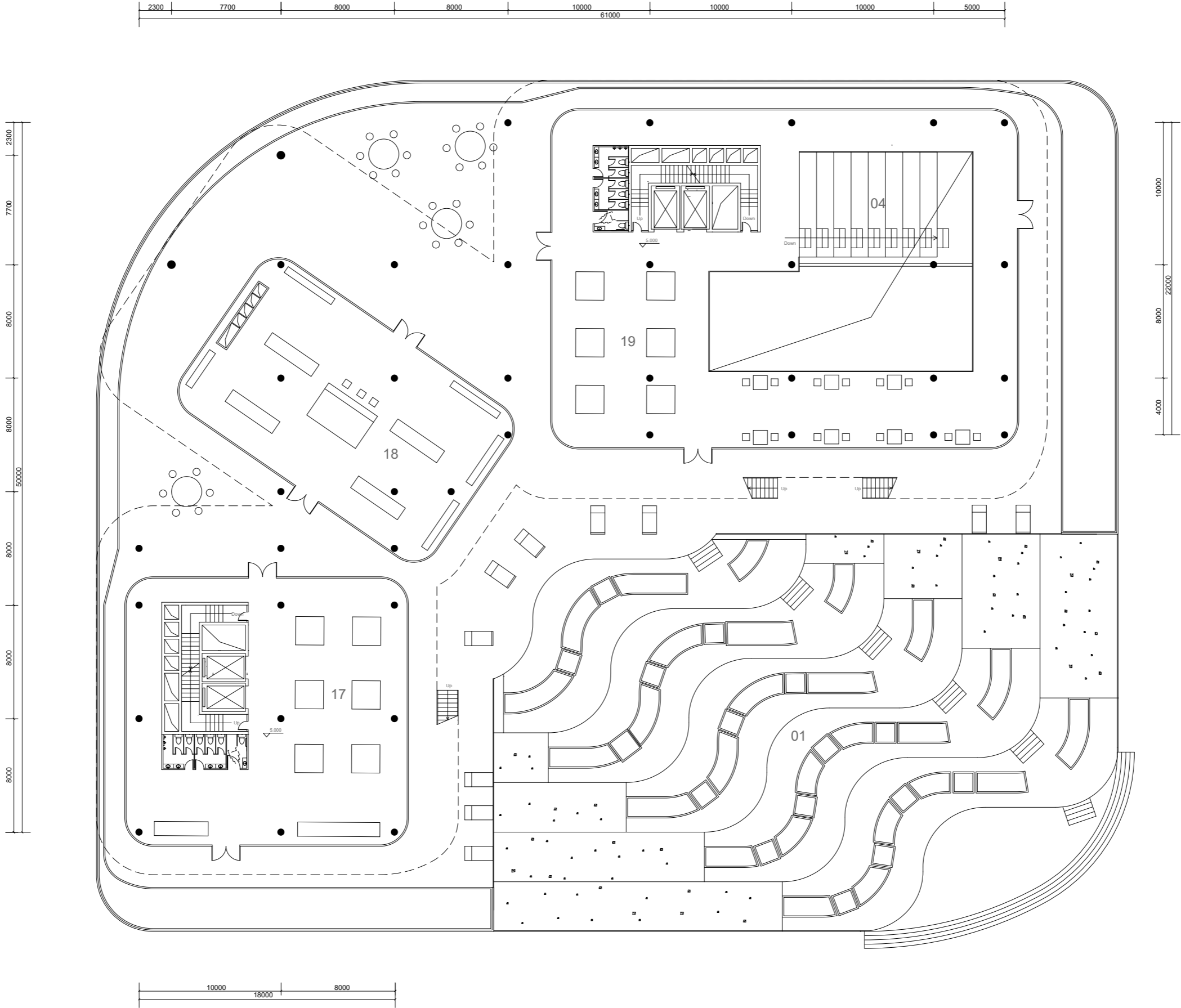
Structure System







Space Montage-First Floor

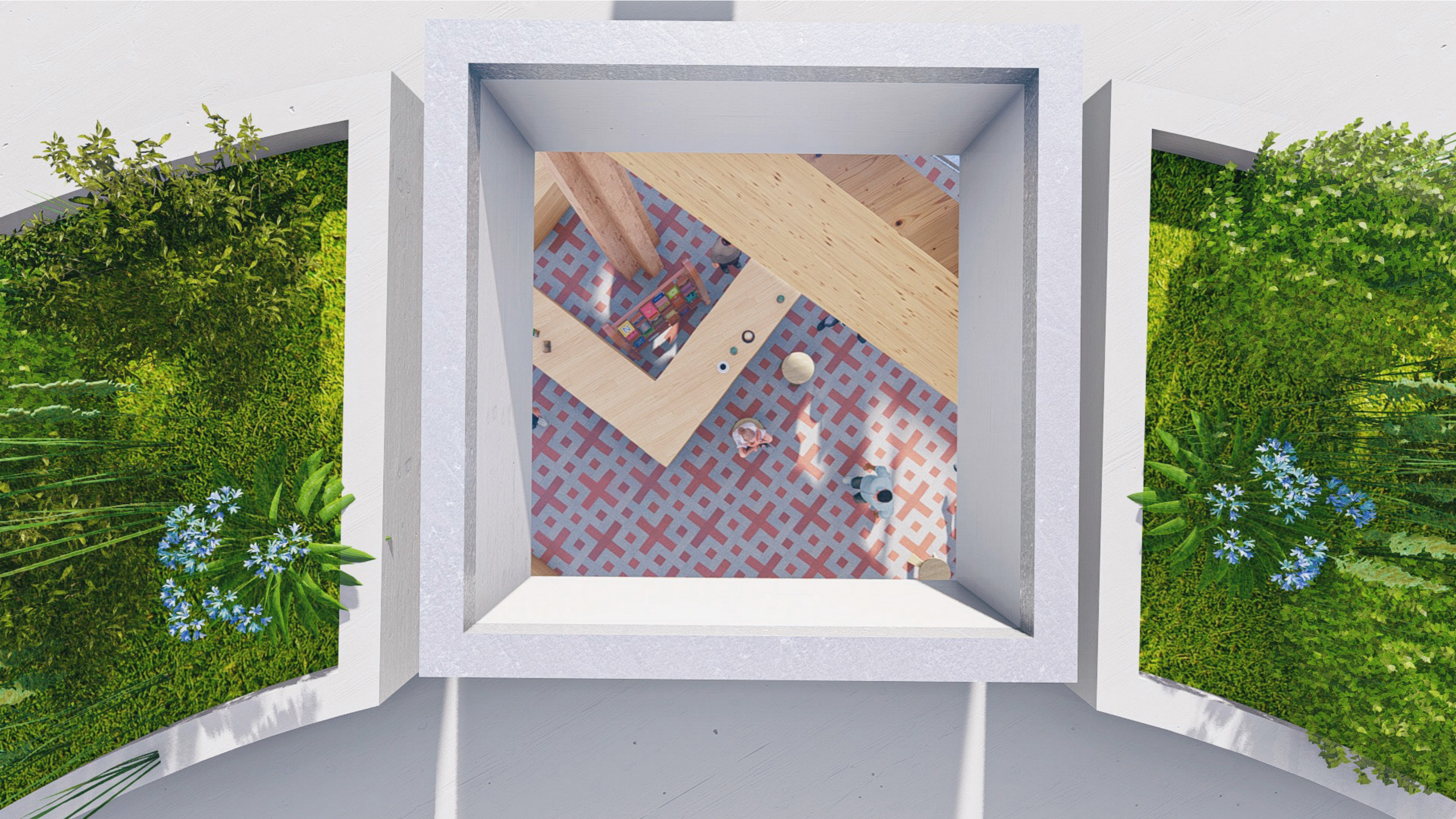


Rooftop Landscape Rendering

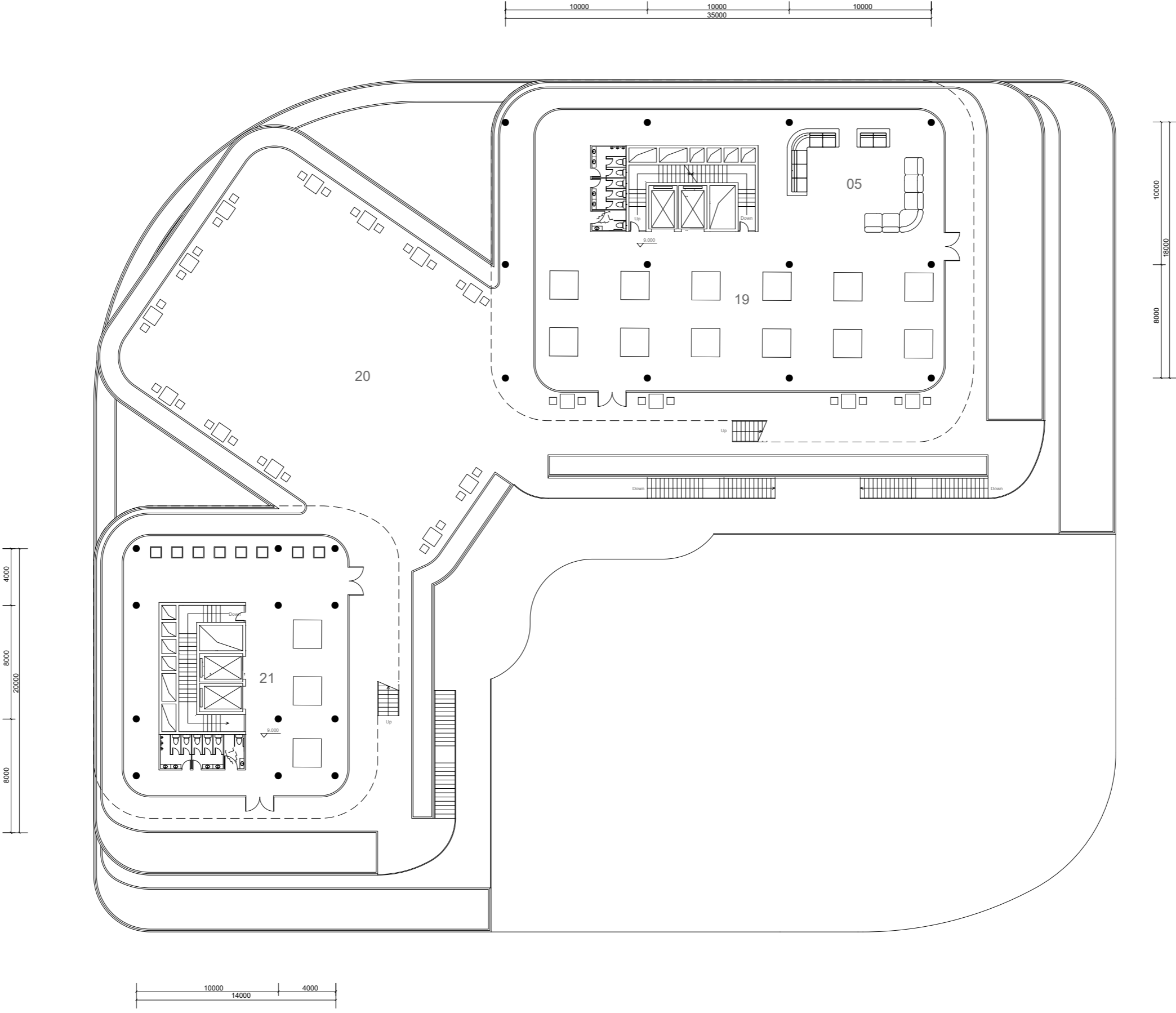


Rooftop Landscape Rendering



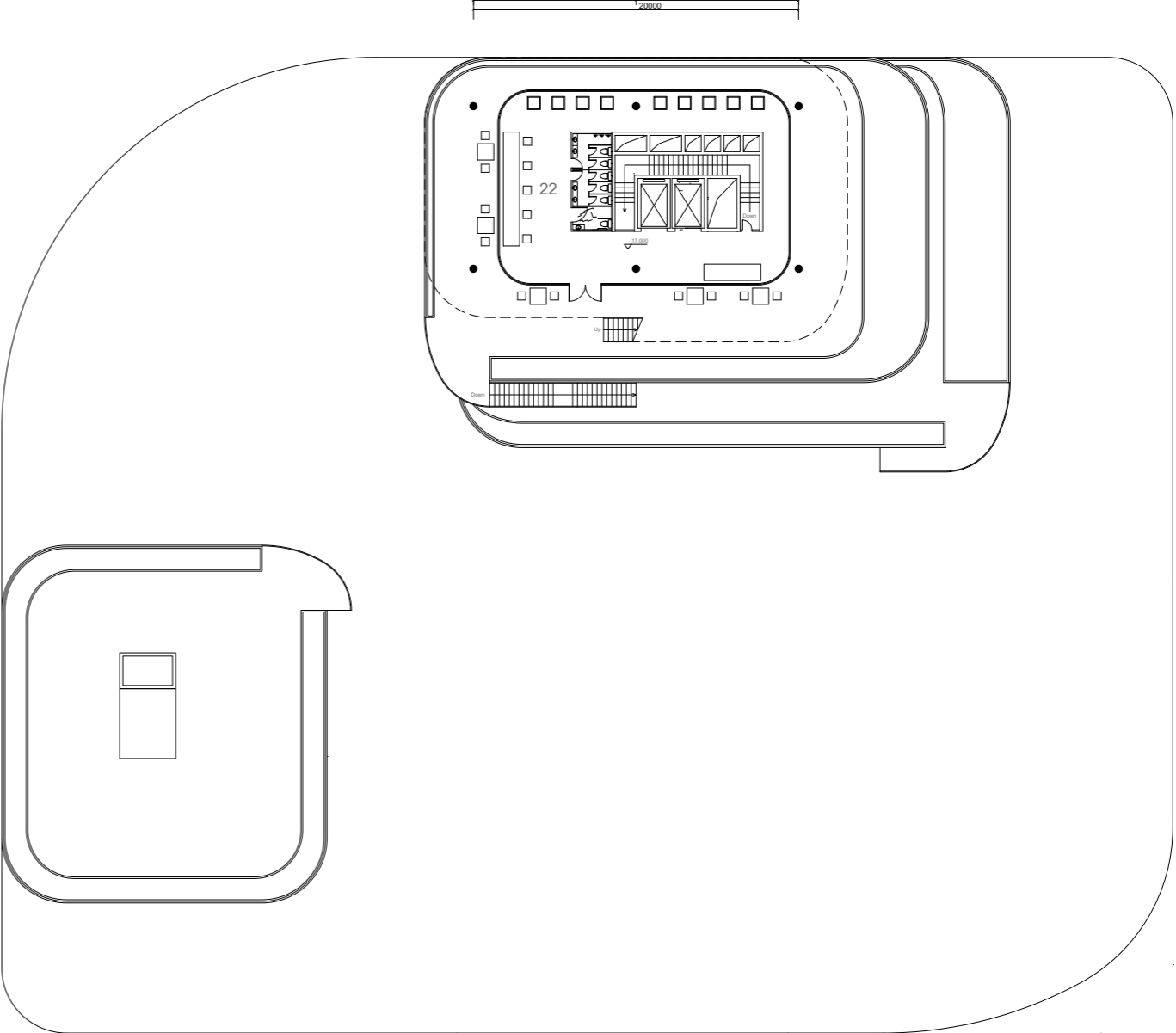
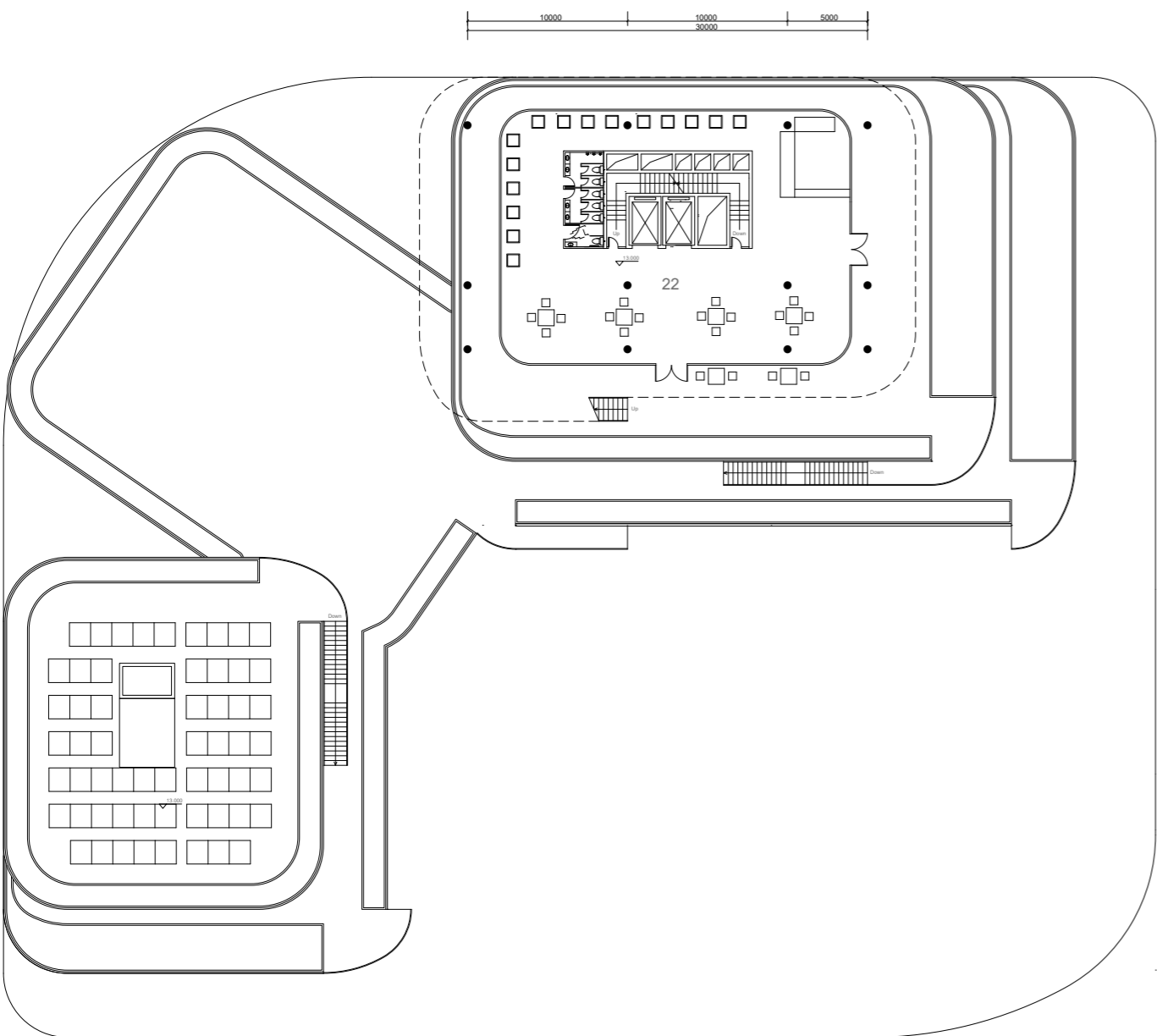


Space Montage-Second Floor



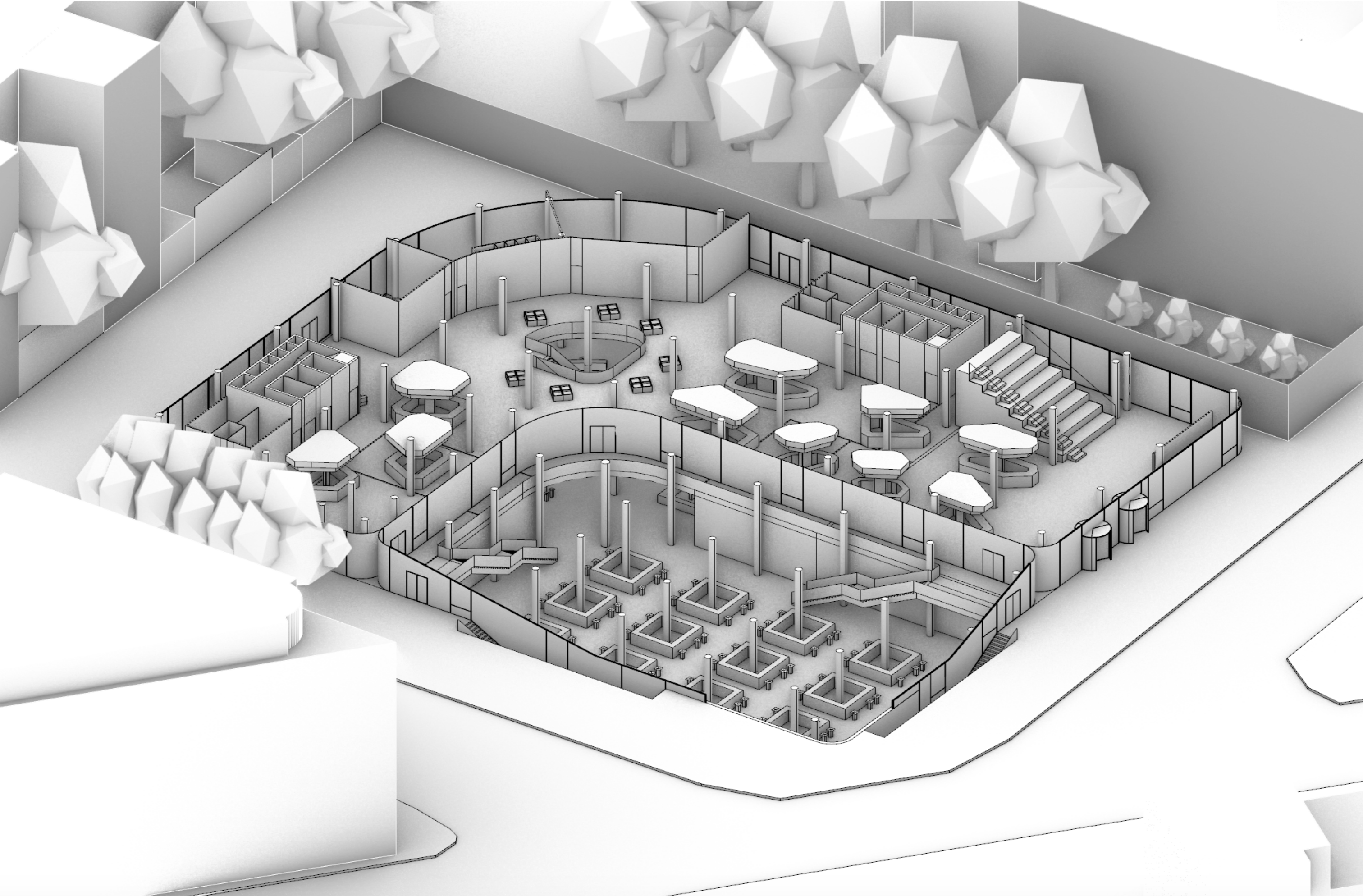


Space Montage-Third Floor, Forth Floor

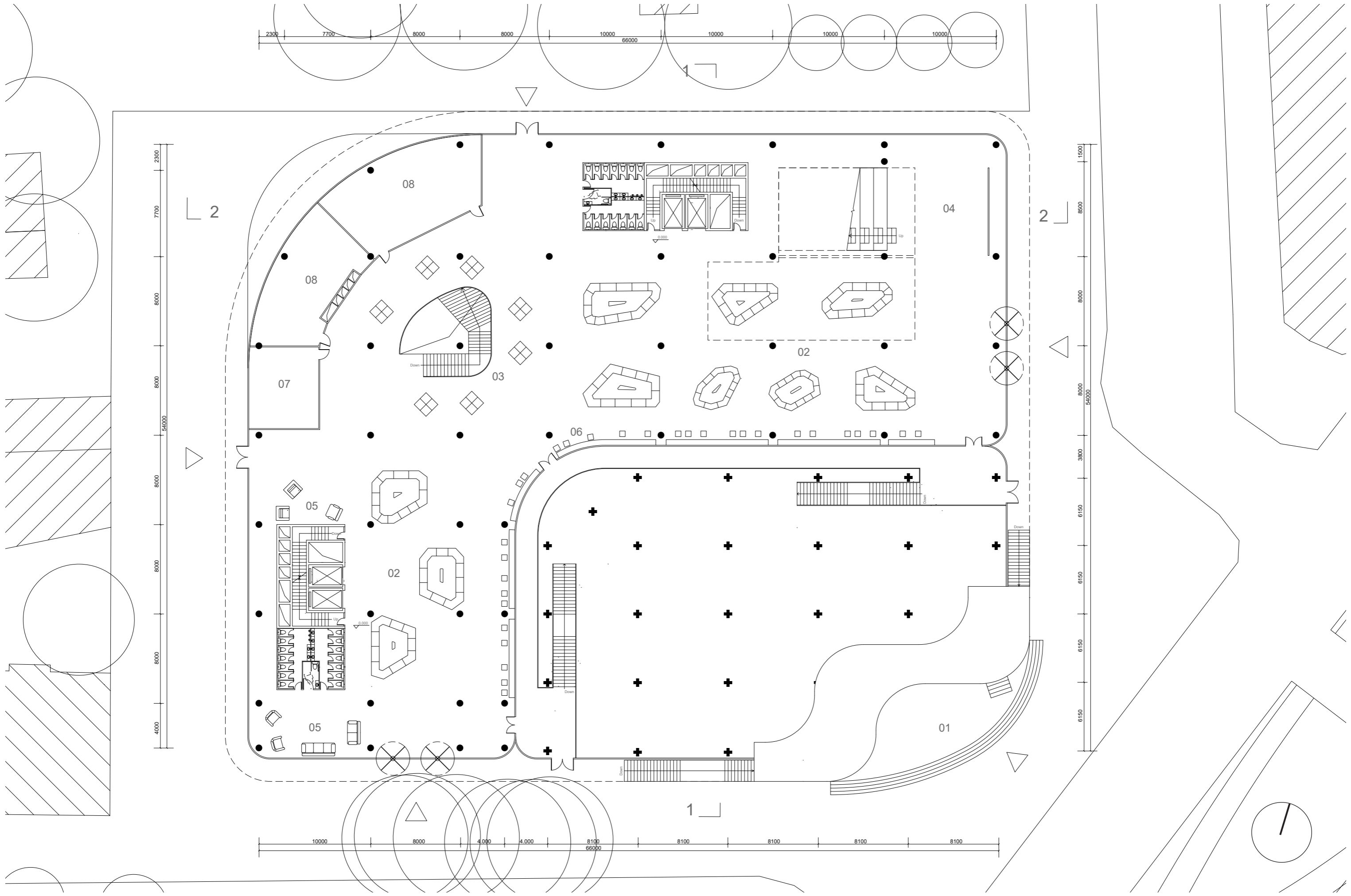








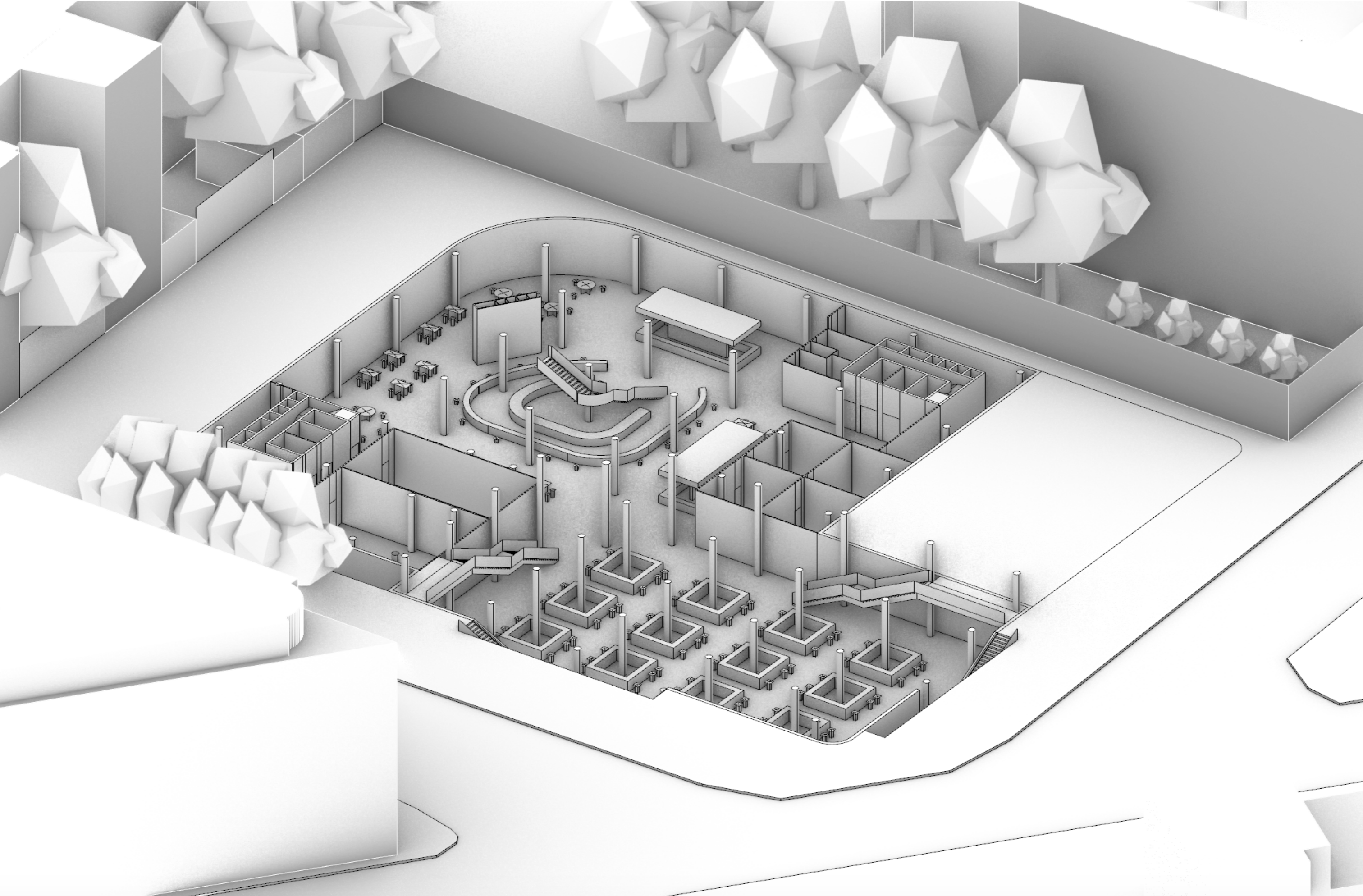
Space Montage-Ground Floor 1:300



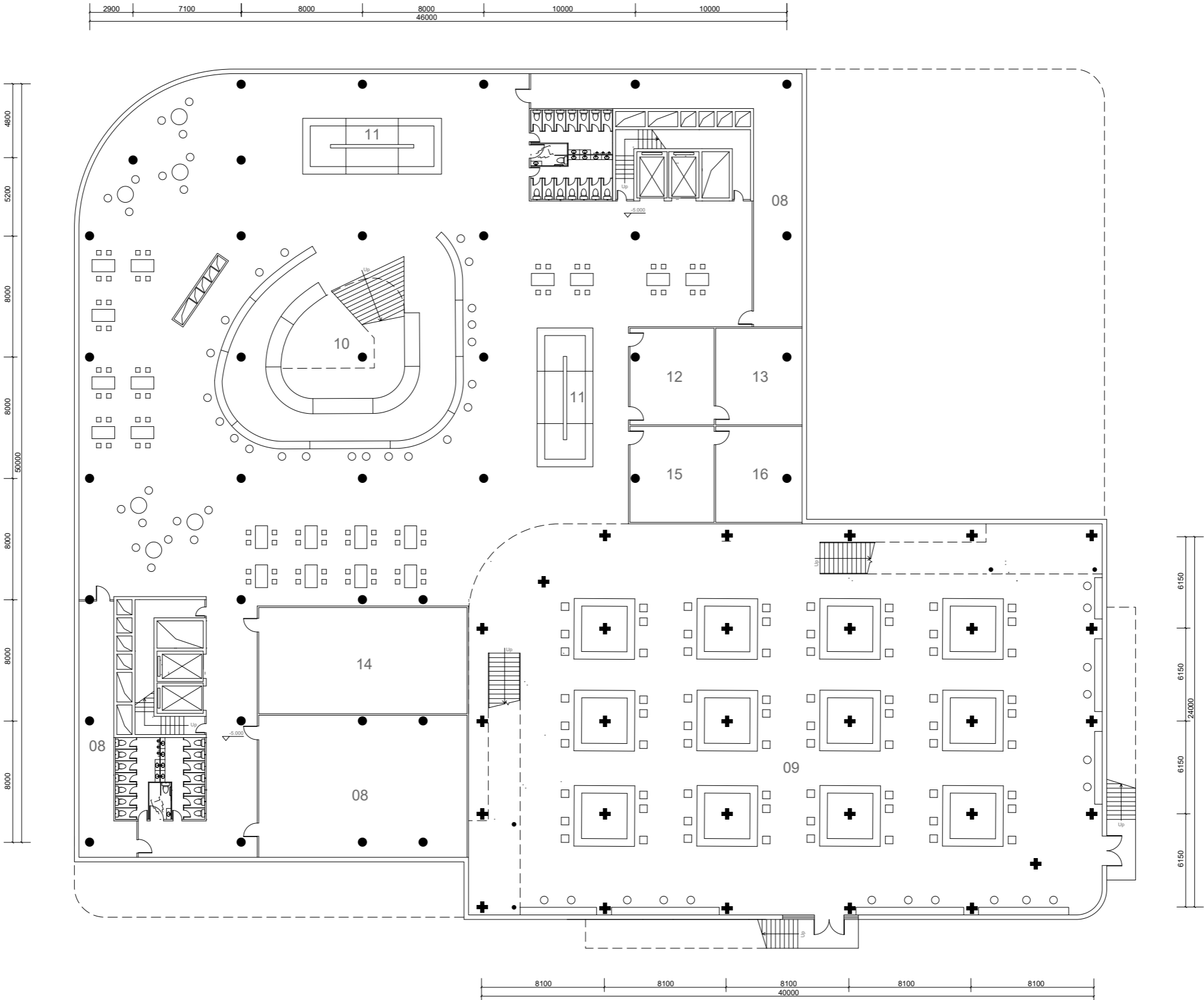


In-between Corridor Rendering





Space Montage-Underground Floor 1:300



Food Square Rendering







Color, Material



Grey Outside



VS.

Organic Plants



<https://www.kickstarter.com/projects/minijunglesponges/minijungle-sponge-self-watering-soilless-grow-sponges>

Warm Inside



CLT-by-Stora-Enso-technical-brochure-EN

## Color, Material



Facade Finish: Laminated Timber Balustrade

<https://www.benacci.com/>



Exterior and Interior Ceiling: Fir-Faced Plywood

<https://www.pinterest.com/pin/789537378441638925/>



Main Structure: CLT Wood

<https://www.architonic.com/en/story/giovanna-dunmall-getting-high-on-wood/>



Interior Floor: Oak Reveal

<https://afium.nl/>



Exterior Floor: Porcelain Wood Tile

<https://www.vivesceramica.com/en/products/floor-and-porcelain-tiles/71-ORSA-14,4X89,3>



Landscape Roof Structure: CLT Waffle

<https://www.designboom.com/architecture/forstberg-ling-a-house-for-two-artists-sweden-10-20-2020/>



# Farming Elements in Winter

## Vegetable, Crop, Fruit for Eating



*Spinacia oleracea*  
<https://www.ouriquesfarm.com/store/seeds/vegetables/spinach/>



*Solanum lycopersicum*  
<https://www.freepik.com/premium-photo/bunch-organic-ripe-red-juicy-tomato-greenhouse>



*Daucus carota*  
<https://plantwiseplusknowledgebank.org/doi/10.1079/PWKB.Species.18018>



*Solanum tuberosum*  
<https://www.insectimages.org/browse/subthumb.cfm?sub=11305>



*Fragaria*  
<https://housing.com/news/fragaria-ananassa-a-great-plant-to-beautify-your-garden/>

## Ingredients for Cooking



*Allium cepa*  
<https://www.ebay.com.au/itm/153887934982>



*Ocimum basilicum*  
<https://www.gardenia.net/plant/ocimum-basilicum>



*Cymbopogon citratus*  
<https://santarosagardens.com/cymbopogon-citratus/>



*Mentha*  
<https://plants.ces.ncsu.edu/plants/mentha-spicata/>



*Allium sativum*  
<https://www.gardenia.net/plant/allium-sativum>



*Zingiber officinale*  
<https://www.ethnoplants.com/gb/spice-plant-seeds/409-zingiber-officinale-ginger-plant.html>

## Bush for Aesthetics



*Lavandula angustifolia*  
<https://www.provenwinners.com/plants/lavandula/sweet-romance-lavender-lavandula-angustifolia>



*Sorbus aucuparia*  
<https://online.brunns.de/en-us/article/3062>



*Rosmarinus officinalis*  
<https://shop.rosebarni.it/en/perennials/515-rosmarinus-officinalis.html>



# Color, Material

Color	Psychological Impact	Physiological Impact	The character of people who like this color	The age of the one who like it	Identity	Influence on appetite	Influence on consumption desire
<p>Red</p> 	<p>Active, positive, enthusiastic</p> <p>Dangerous, distressed, scared</p>	<p>The pituitary gland reacts, adrenaline secretes, blood pressure rises, shortness of breath, faster pulse, faster blood flow. Taste buds and olfactory become sensitive</p>	<p>Confident, passionate, powerful</p>	<p>&lt;1, 10-19, 20-30 years</p>	<p>Brick, nostalgia, measurable, pedestrian, plebeian</p>	<p>Red is an appetite stimulant and stimulates conversation. Fast food franchises use red and it's a valuable tool in drawing attention</p>	<p>Red draws attention to itself and calls for action to be taken and stimulates the physical senses such as the appetite, lust and sexual passion</p>
<p>Orange</p> 	<p>Tolerant, gentle, brave, warm, free, energetic</p> <p>Irritated, dull, thoughtless, arrogant, vain</p>	<p>Stimulate appetite regulation, make appetite become strong, make people sleepy, reduce blood circulation speed, stimulate immunity, and help treat</p>	<p>Like to socialize, be close to people, have strong understanding ability, express fluently, think quickly, and be full of vitality</p>	<p>&lt;1, 2-10, 10-19, &gt;55 years</p>	<p>_____</p>	<p>Orange is related to need, hunger, energy and excitement. Red and orange in fast food space encourage people to eat quickly and leave</p>	<p>Orange encourages sales in restaurants, making people stay longer and spending more. It is good for youth and teen market</p>
<p>Yellow</p> 	<p>Joyful, intelligent, clear, noble</p> <p>Sinful, obscene, thoughtless, selfish</p>	<p>It can alleviate diseases, secrete hormones, generate energy, and promote motor nerves</p>	<p>Pursue new things, be free and unrestrained, have rich expressions and give people warmth</p>	<p>&lt;1, 20-30 &gt;55 years</p>	<p>_____</p>	<p>Yellow is a sociable color. Yellow is a color that makes everyone feel good. Yellow stimulates the appetite and enlivens the spirit</p>	<p>Use yellow where you want to keep people moving. It is a highlight color, good for children's products, playful and fun activities</p>



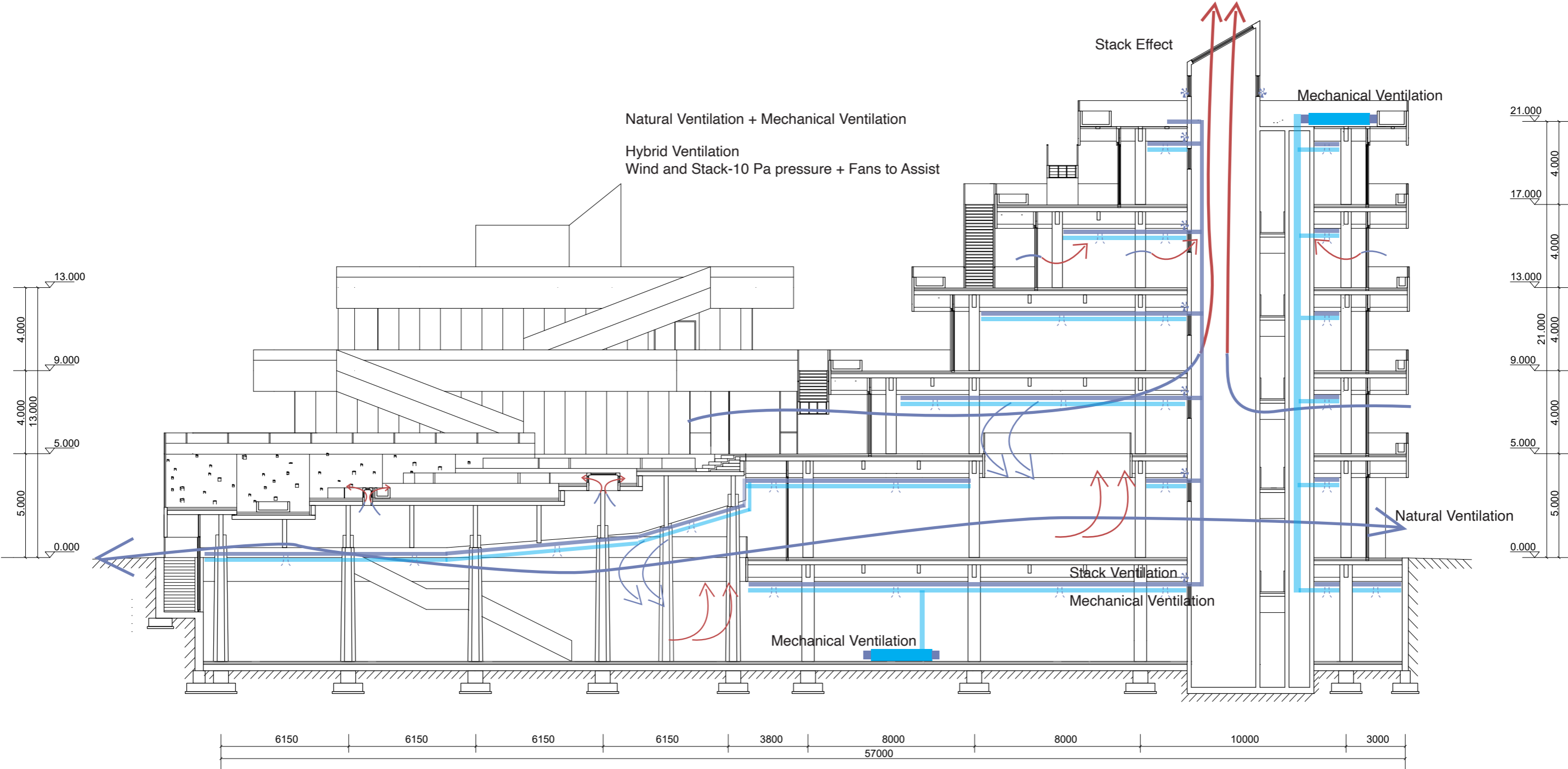
## Family Meal (McNuggets®)

Delight the family with a McSpicy® Meal, Filet-O-Fish® Meal and a 4pc Chicken McNuggets® Happy Meal®!

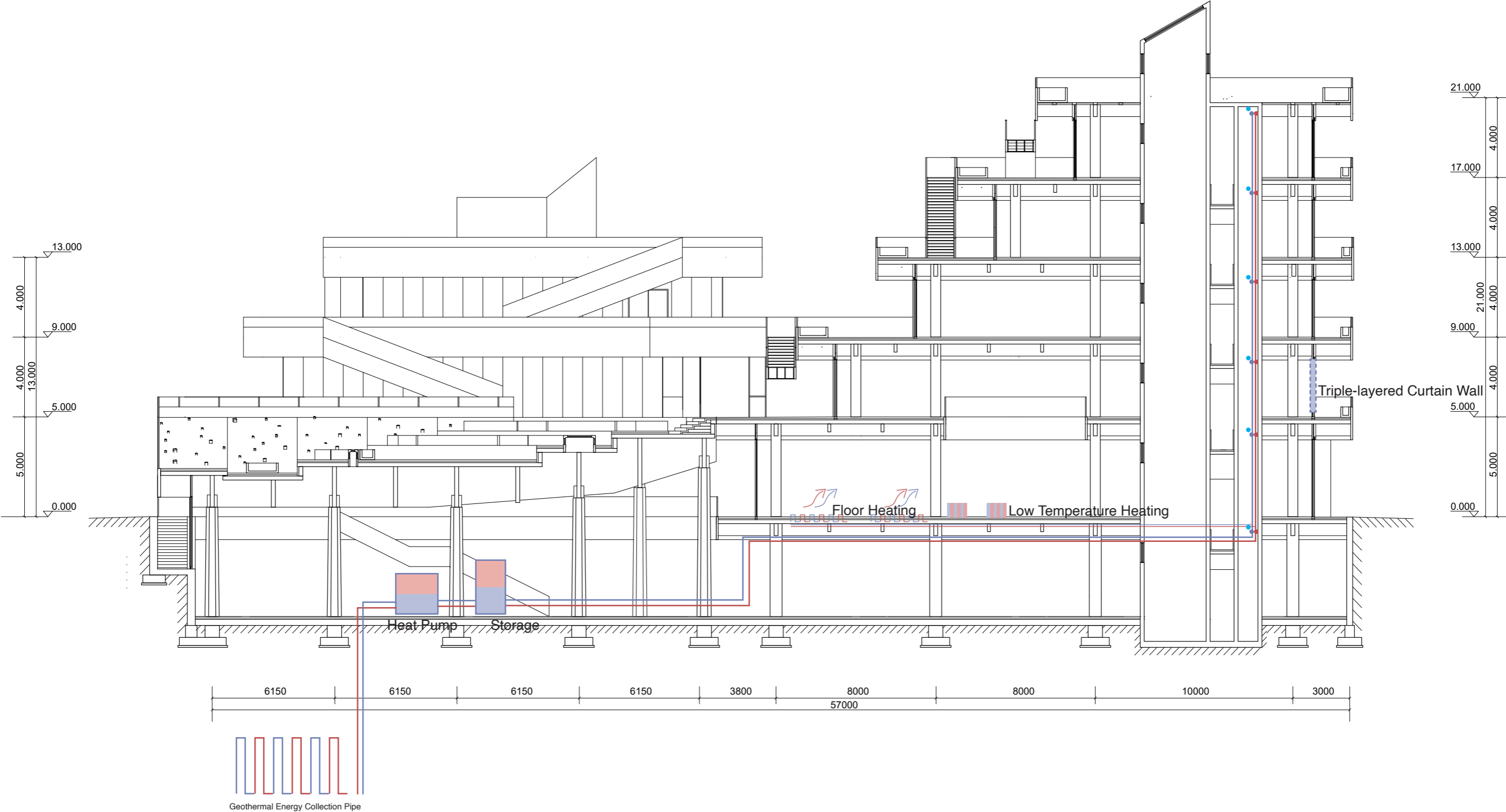




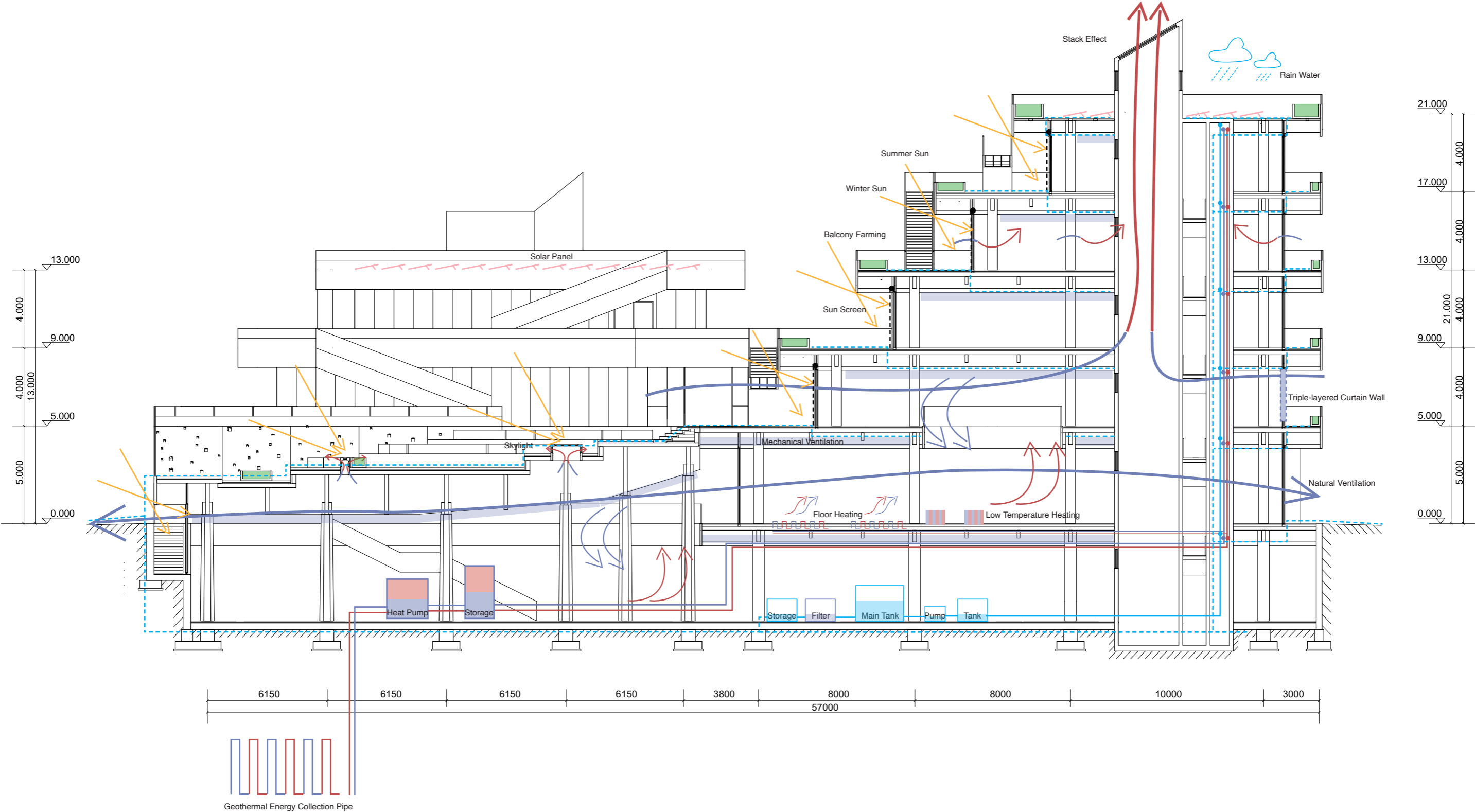
# Climate System, Ventilation



Climate System, Section 1:200



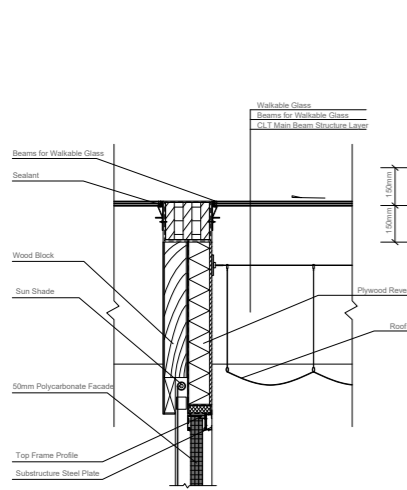
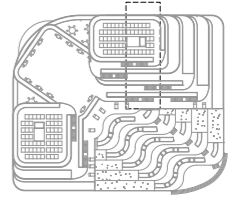
Climate System, Section 1:200



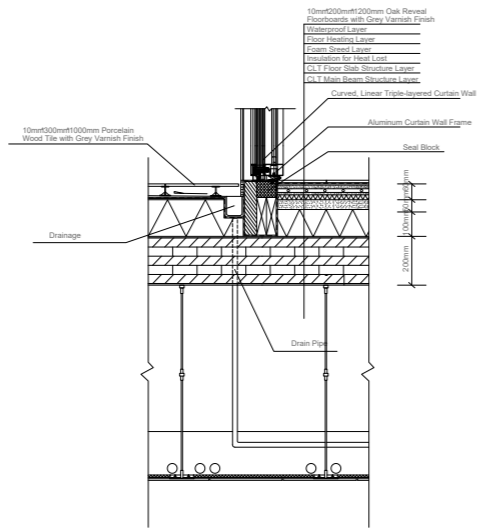
Terrace Space Rendering



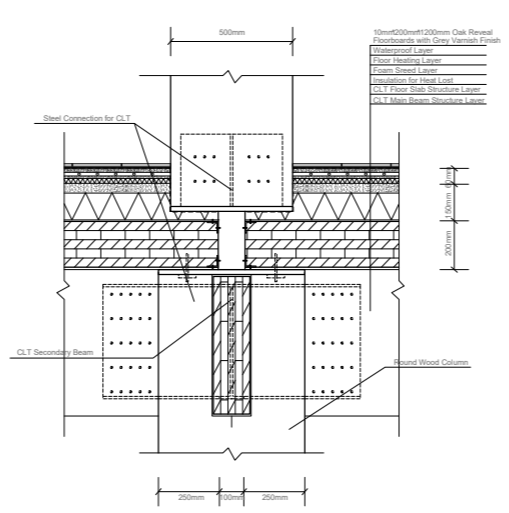
# Fragment+Detail



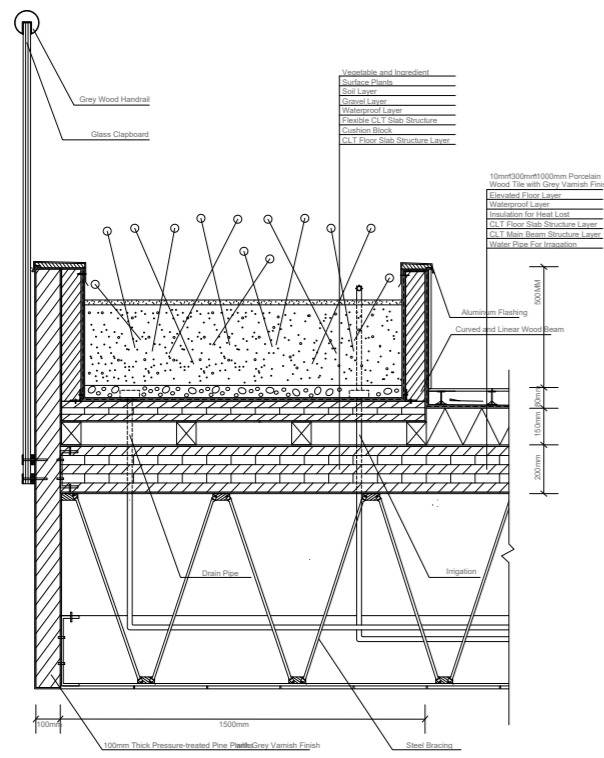
Detail 1



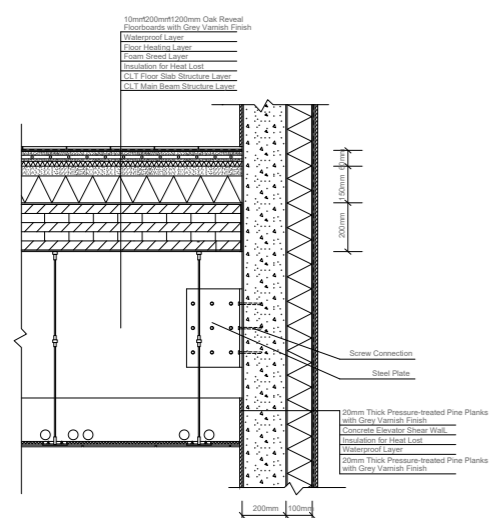
Detail 2



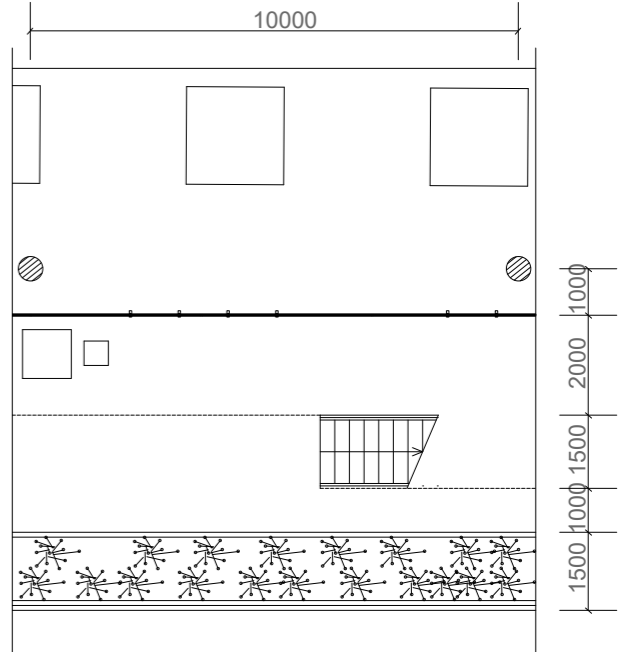
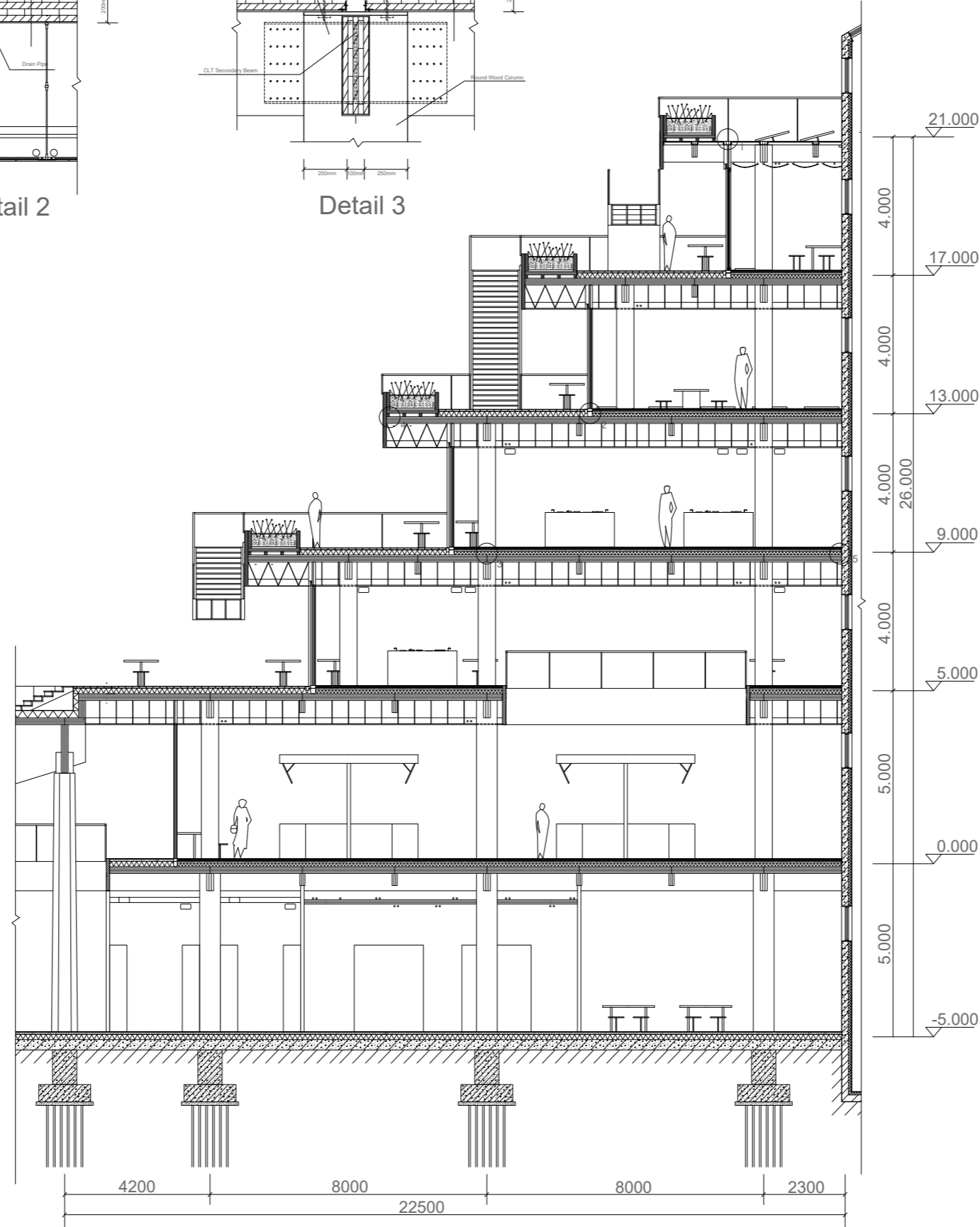
Detail 3

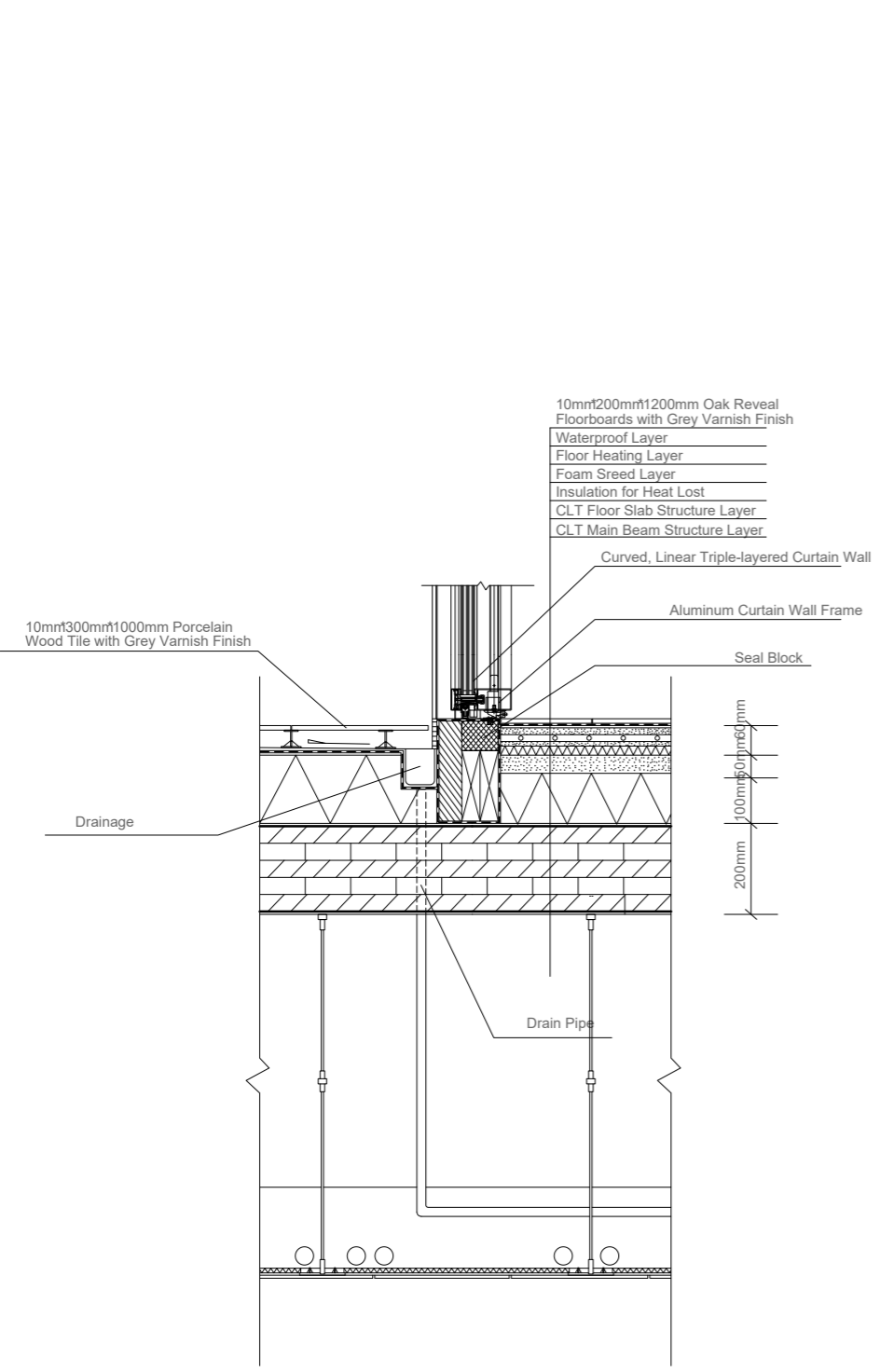


Detail 4

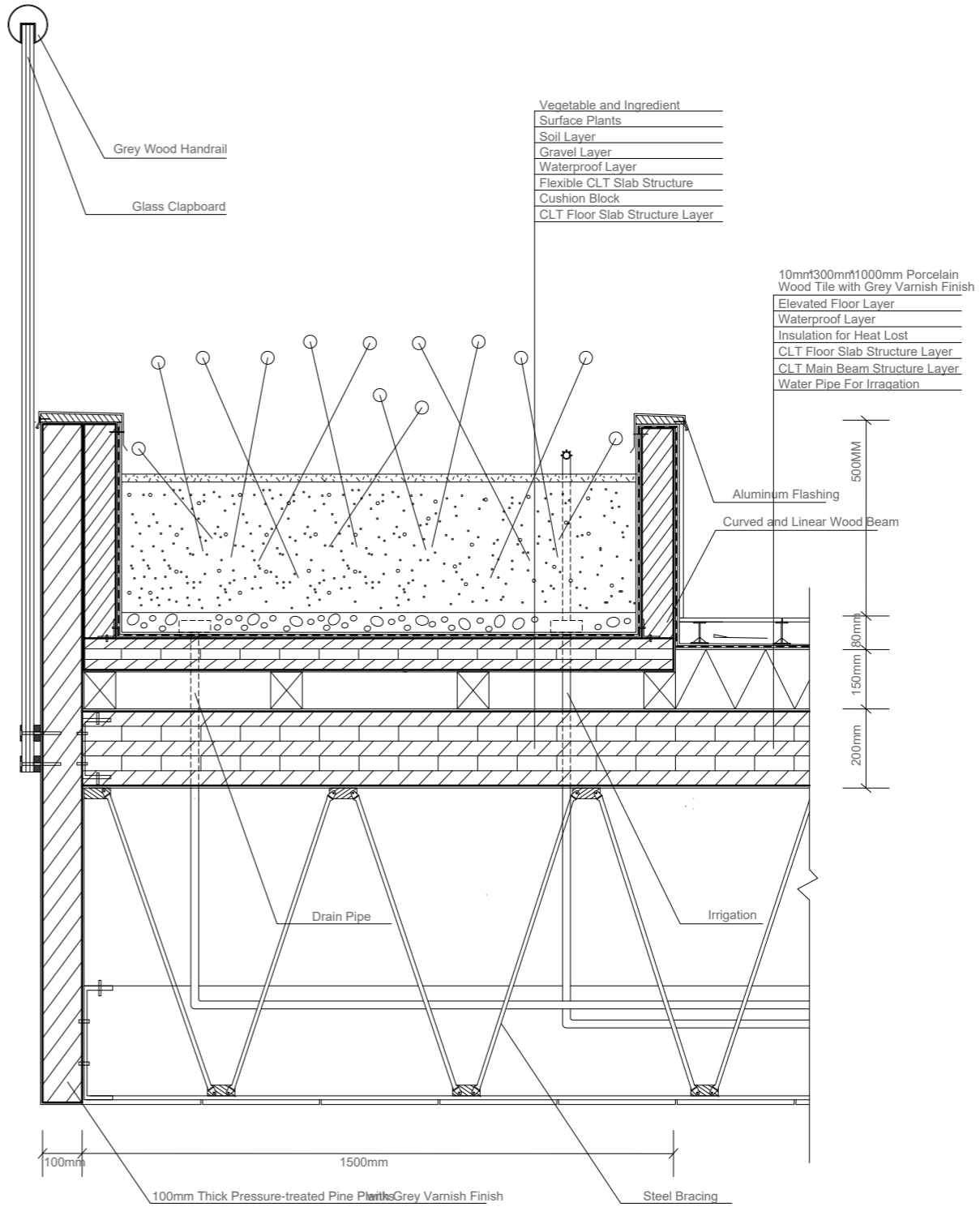


Detail 5





Detail 2



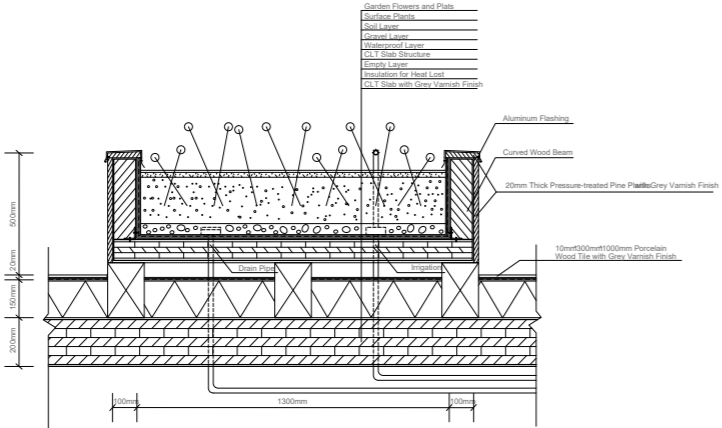
Detail 4

Balcony Farming Rendering

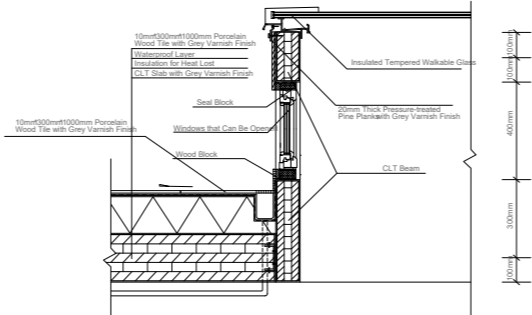




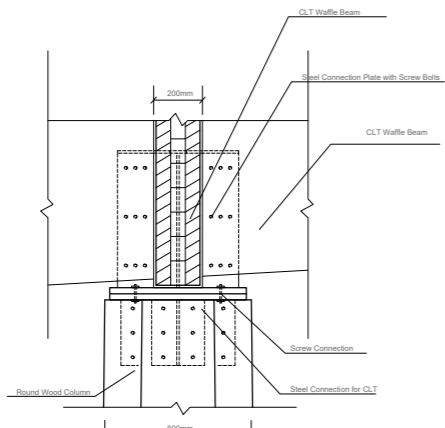
# Fragment+Detail



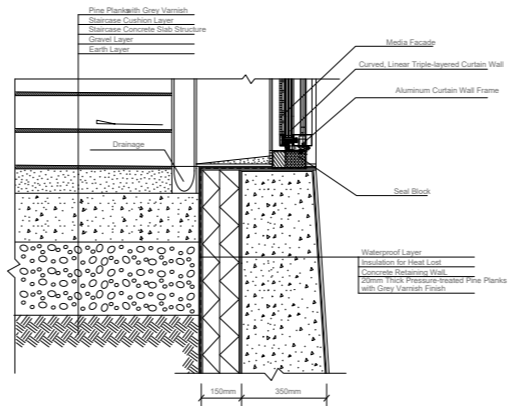
Detail 1



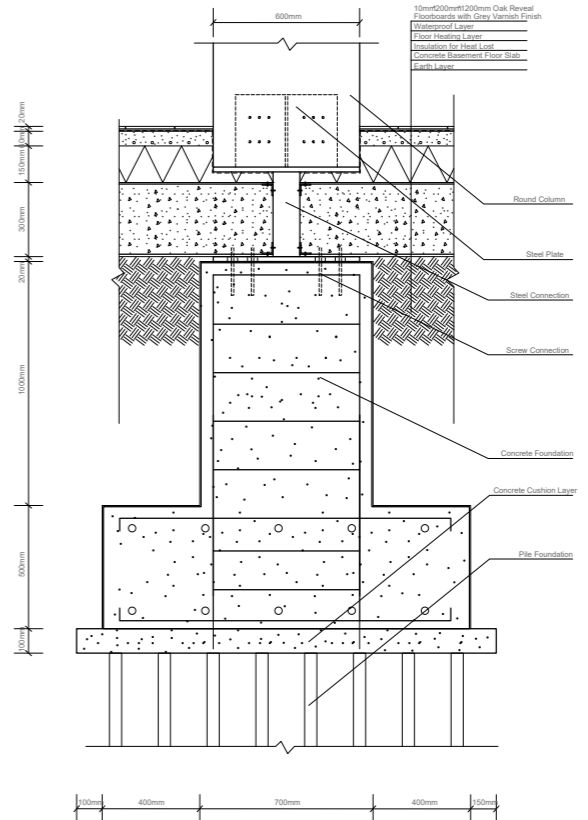
Detail 2



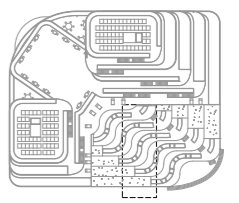
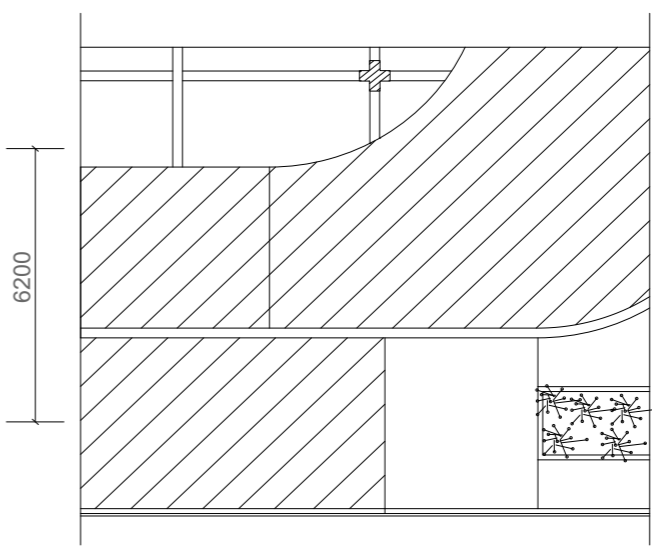
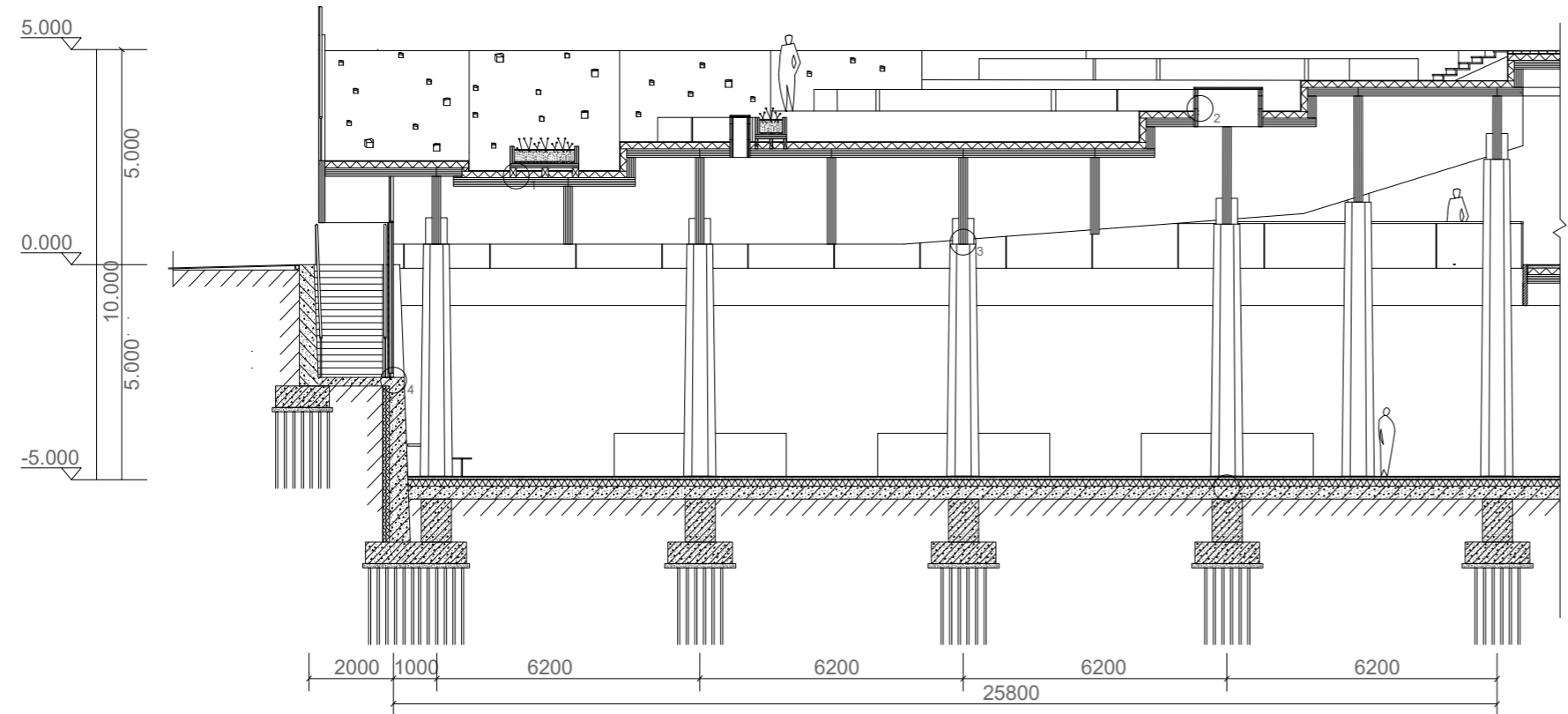
Detail 3

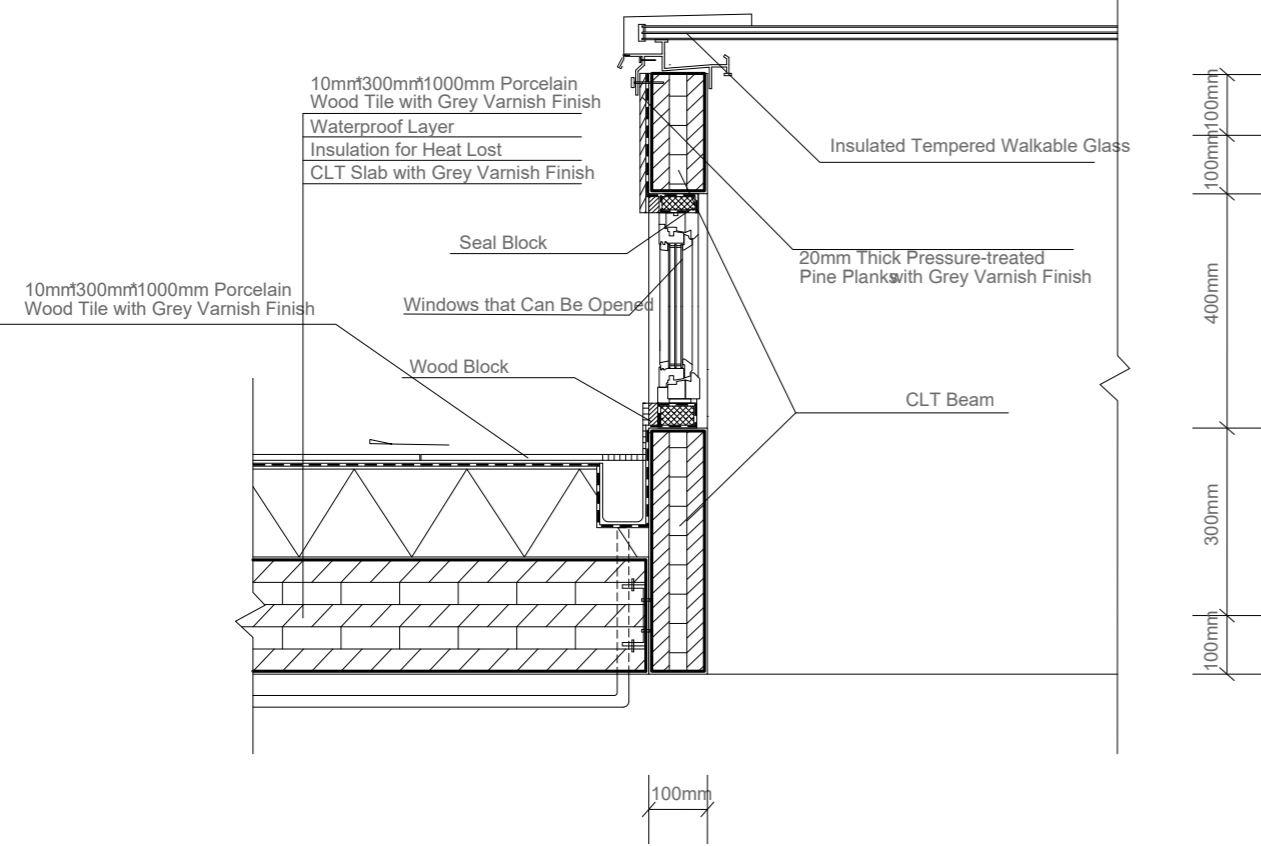


Detail 4

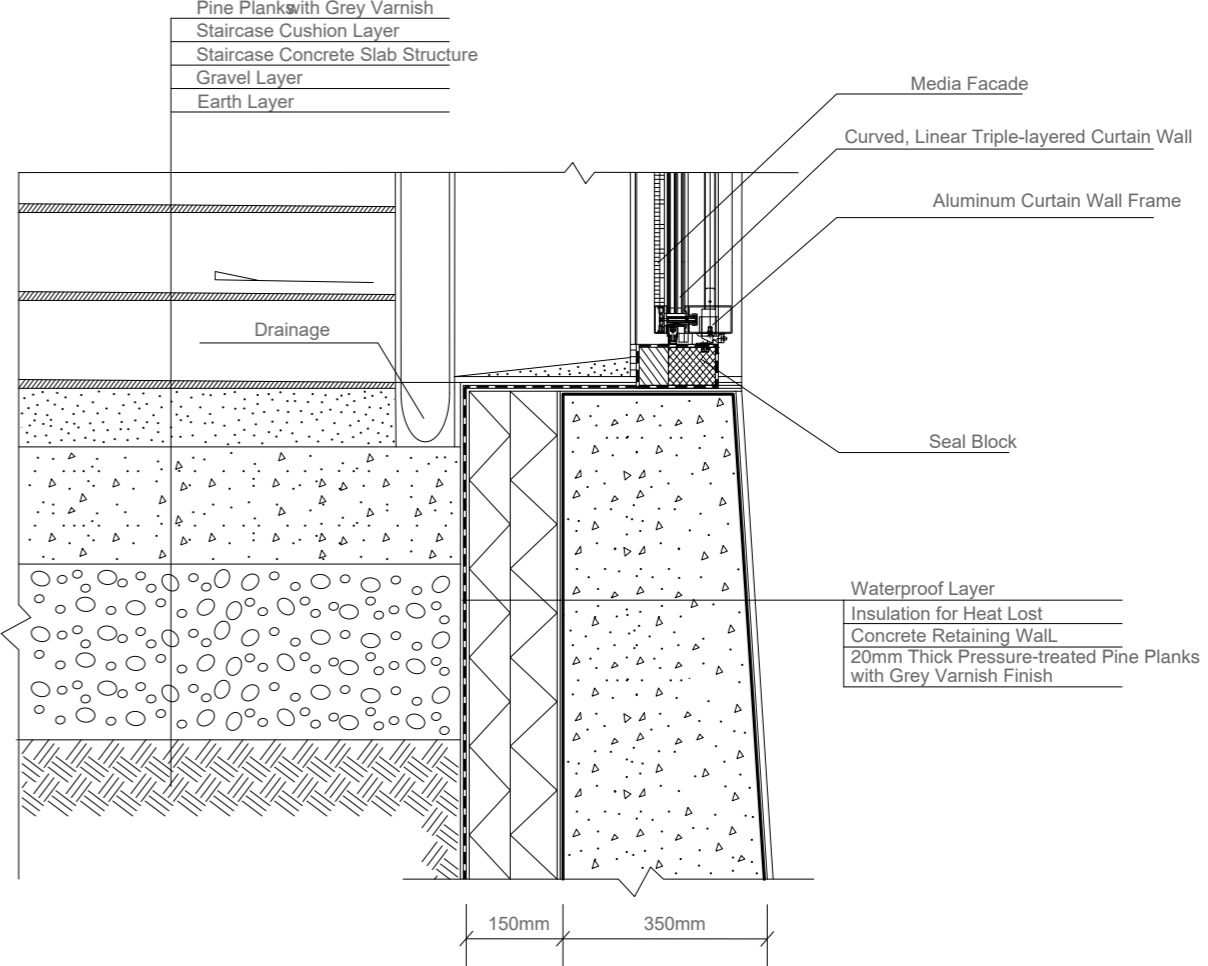


Detail 5





Detail 2



Detail 4

Urban Balcony Rendering

