TRANSPORT HUB AMSTEL 2100

DESIGN OF THE FUTURE MID-CITY TRANSPORT HUB IN THE AMSTEL AREA.

P5 PRESENTATION BY BALDER OTTEN

JULY 9TH, 2019

INTRODUCTION

ASSIGNMENT

2100

RESEARCH THEMES

Active traveling

Climate adaptation

Health

Human productivity

Partial densification

RESEARCH THEMES

Active traveling

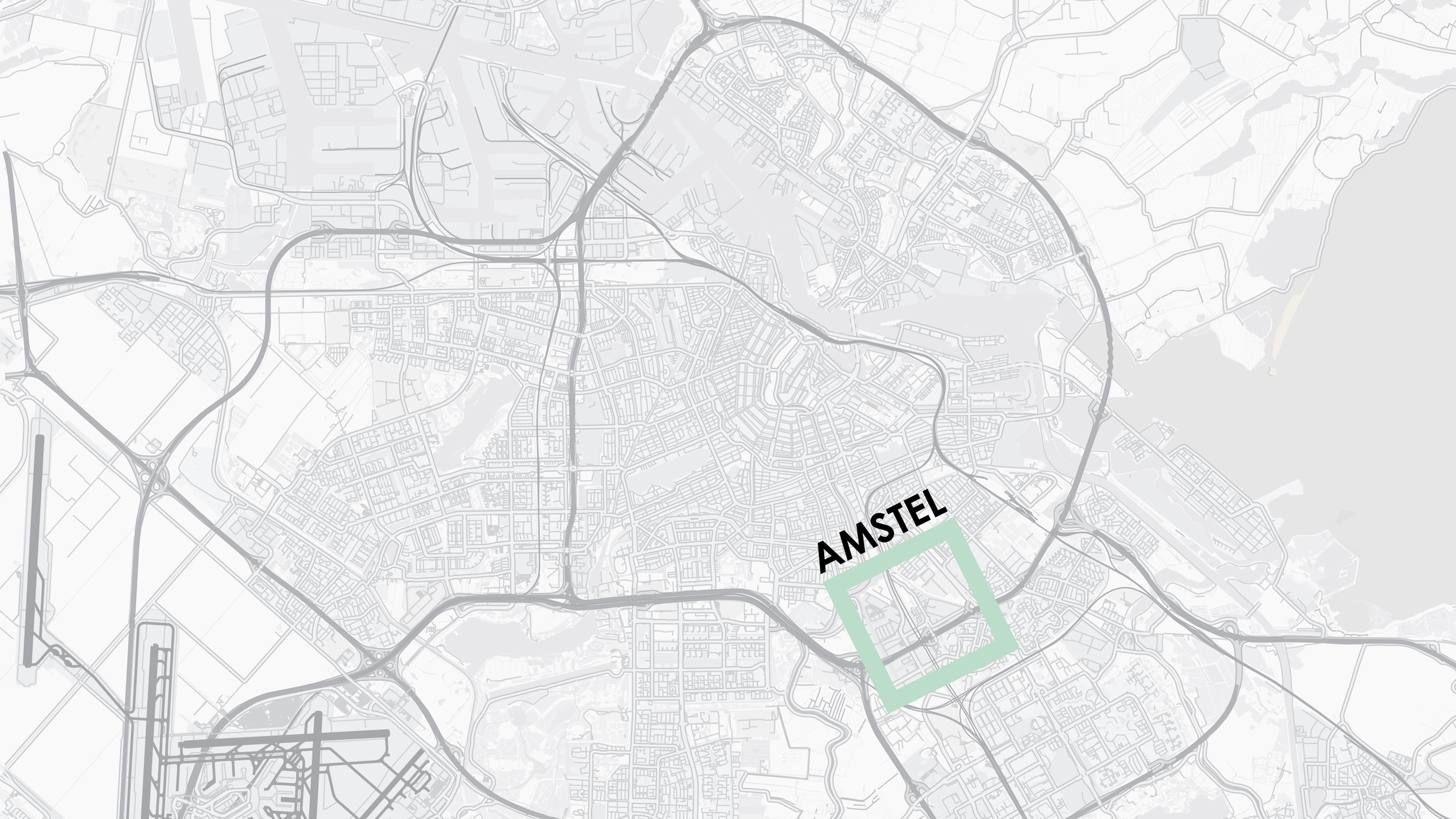
Climate adaptation

Health

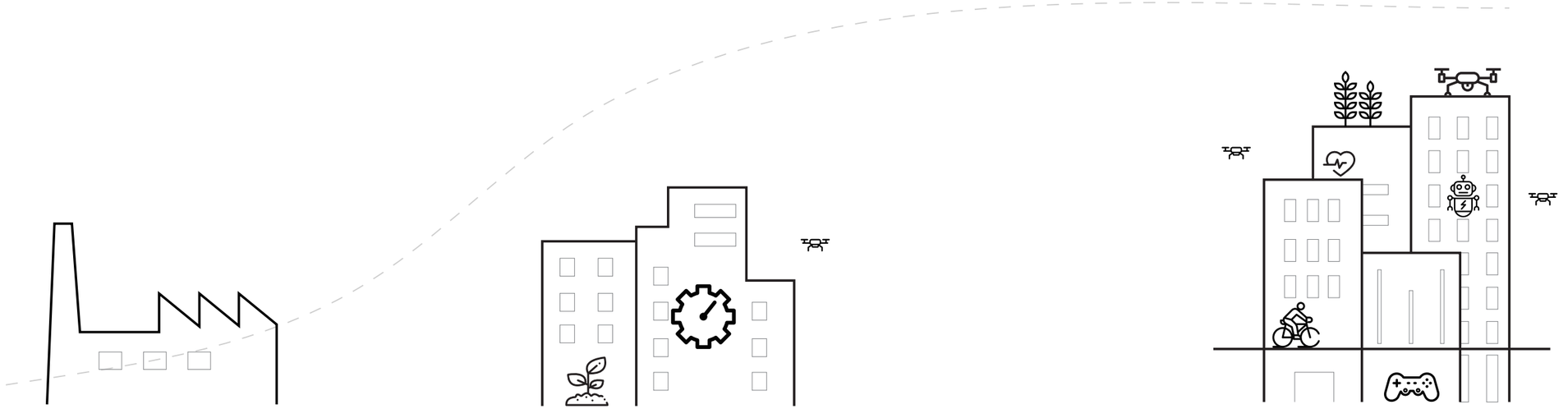
Human productivity

Partial densification

LOCATION AMSTEL


AMSTEL

2100 SCENARIO



20th Century

Industrial

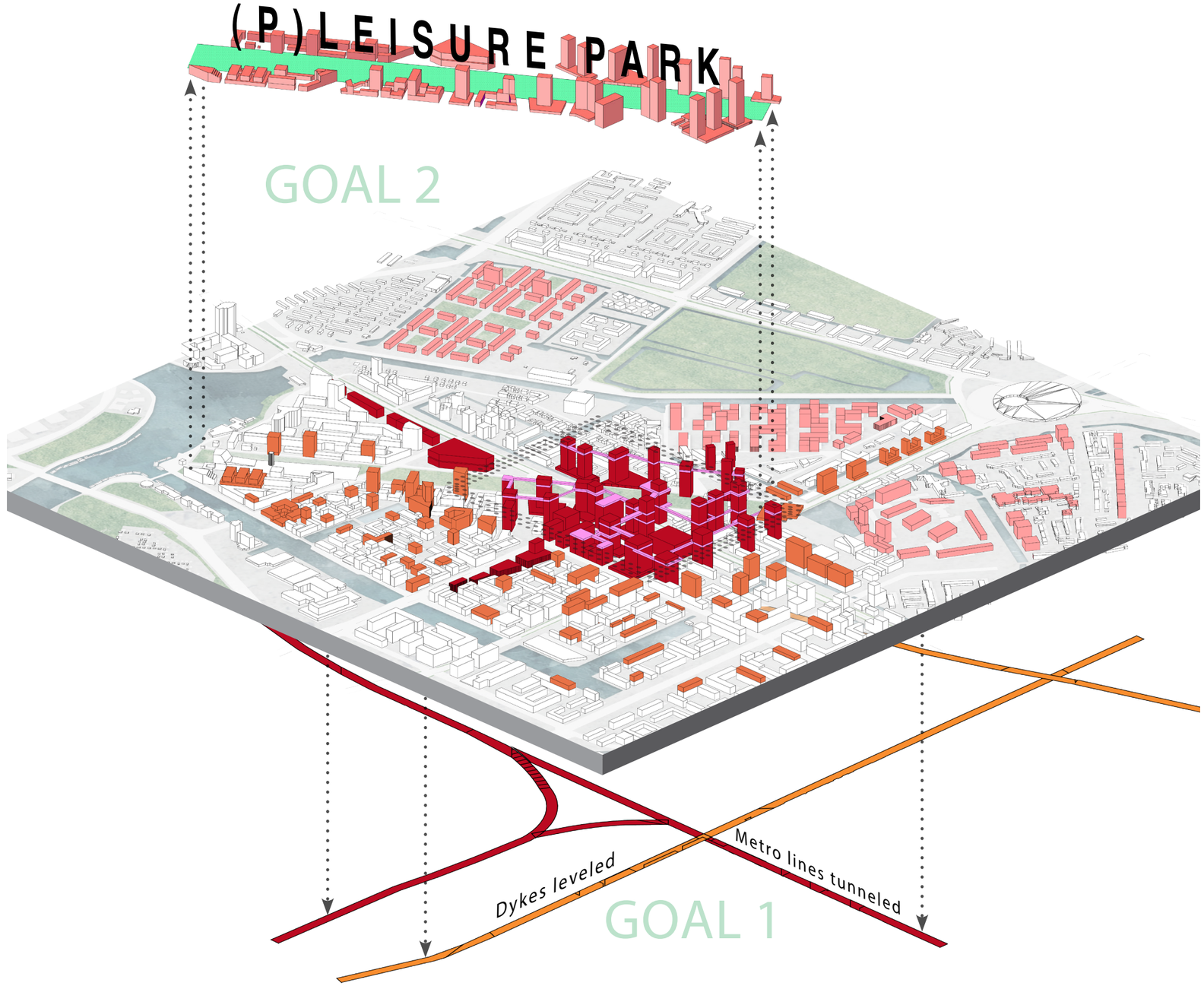
2050

Productive

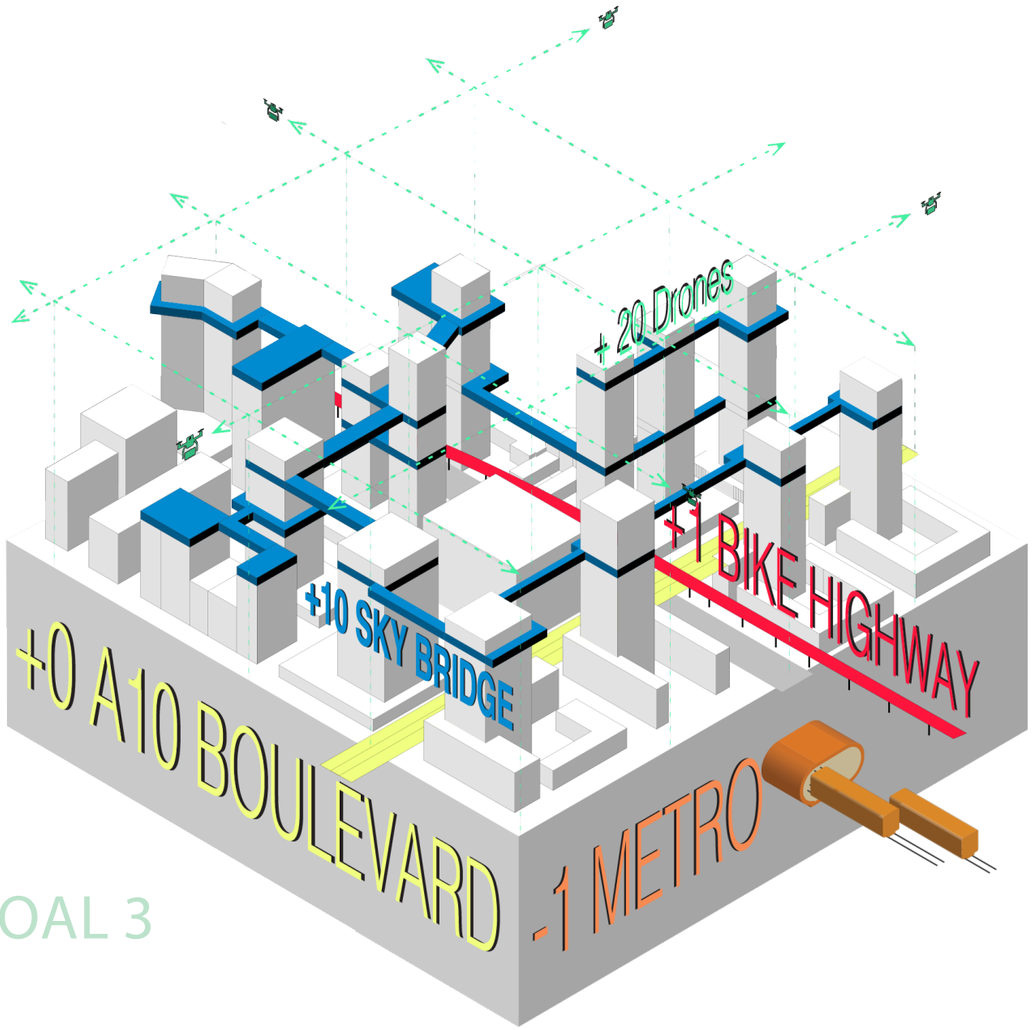
2100

(P)leisure

GOALS


(P)LEISURE PARK
GOAL 2
Dykes leveled
Metro lines tunneled
GOAL 1

GOALS


+ 20 Drones
+1 BIKE HIGHWAY
+10 SKY BRIDGE
+0 A10 BOULEVARD
-1 METRO

GOAL 3

URBAN PLAN

RESEARCH

FUTURE TRENDS

TRANSPORTATION WILL CHANGE

Ddensification IN AMSTEL

THE CITY WILL BECOME TOO BUSY FOR THE CAR

GOODS DELIVERY WILL INCREASE IN THE CITY

CONSEQUENCES

HUMAN TRANSPORT

MORE DEMAND FOR PUBLIC TRANSPORT

METRO RELOCATED UNDERGROUND

FUTURE TRANSPORT NEEDS TO BE BETTER, FASTER AND SEAMLESS.

GOODS DELIVERY

NEW MODES OF TRANSPORT FOR GOODS DELIVERY NEEDED.

NEW DELIVERY SYSTEM NEEDED.

PROBLEM STATEMENT

HUMAN TRANSPORT

CURRENT TRANSPORTATION NODE NOT SUFFICIENT ANYMORE

GOODS DELIVERY

CURRENTLY NO LOCATION WHERE GOODS DELIVERY CAN TAKE PLACE FROM

POSSIBLE SOLUTION

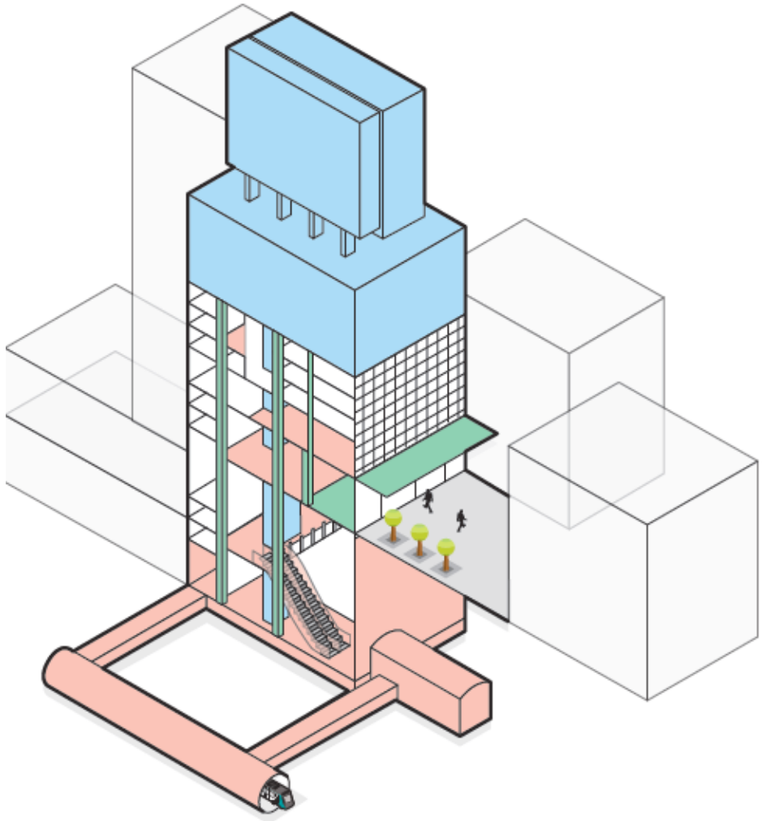
INTEGRAL MID-CITY TRANSPORT HUB FOR GOODS AND HUMANS

RESEARCH QUESTION

How will the future mid-city transport hub be in the Amstel area in the year 2100?

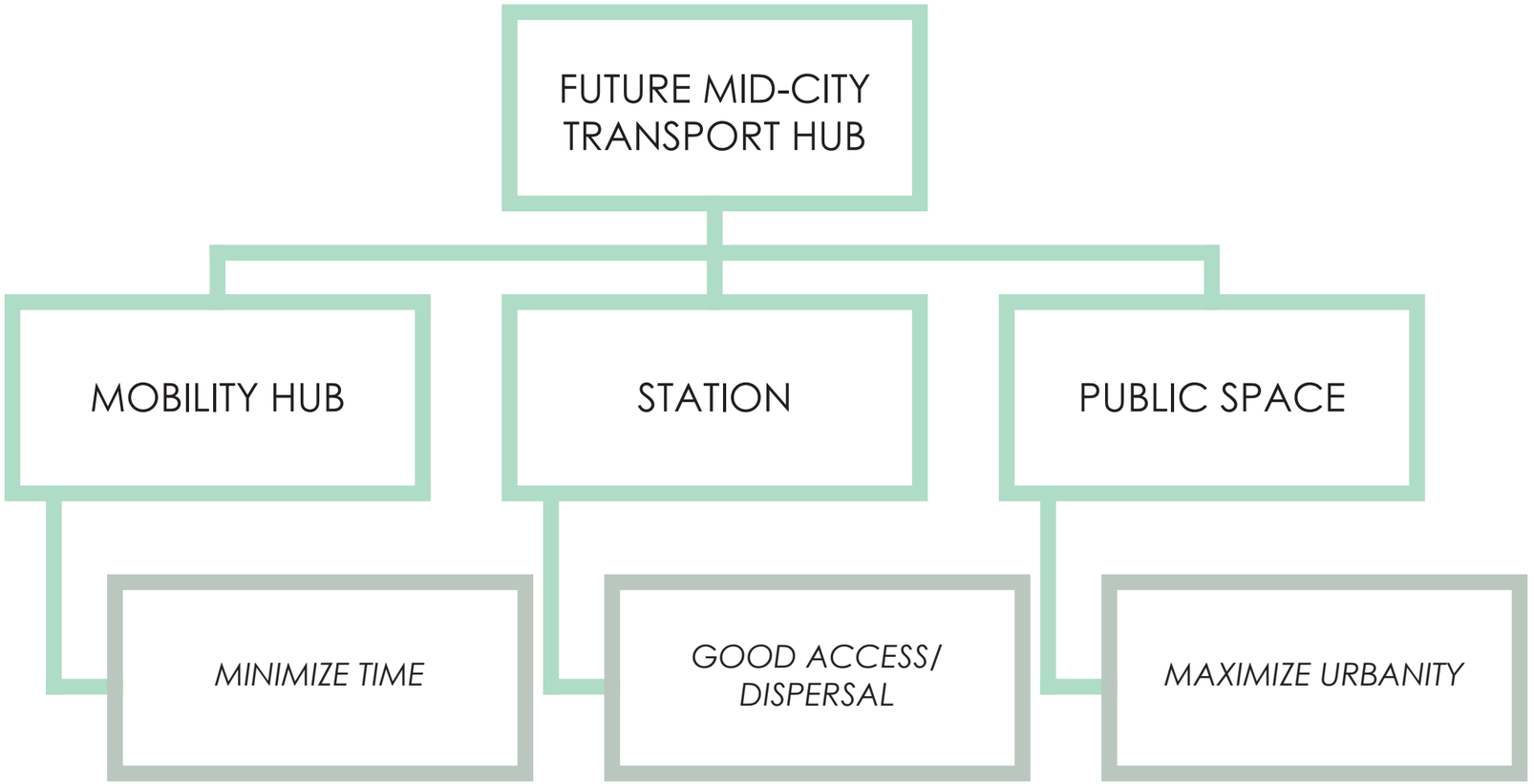
THE ROLE OF THE MID-CITY TRANSPORT HUB

TRANSPORT OF *HUMANS* **IN THE FUTURE CITY**



integral & integrated

INTEGRAL & INTEGRATED



(Based on: Lamíquiz Daudén, Carpio-Pinedo, & García-Pastor, 2014)

NODES

S Metro

M Train/transport hub

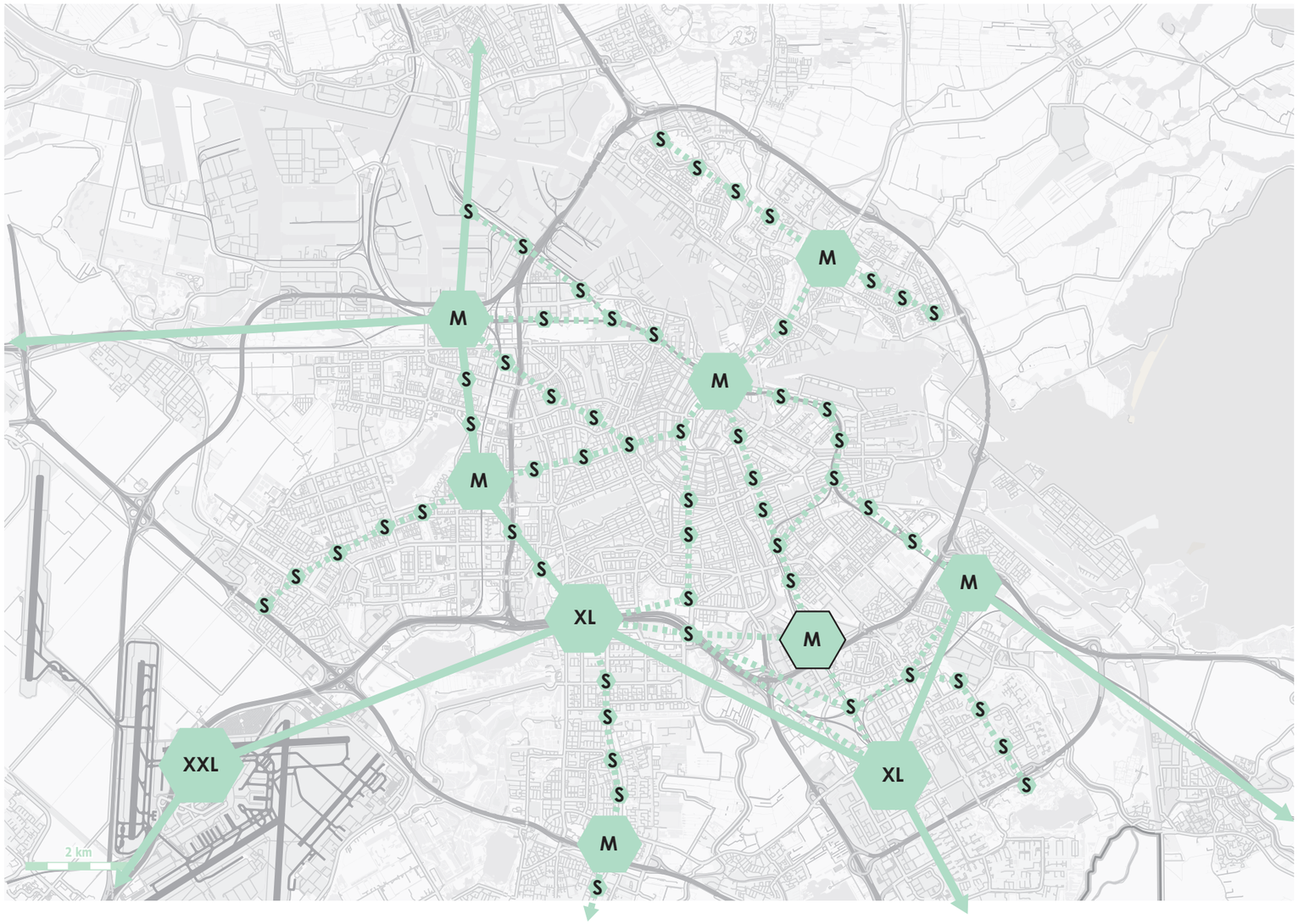
XL Hyperloop

XXL Airport

Train track

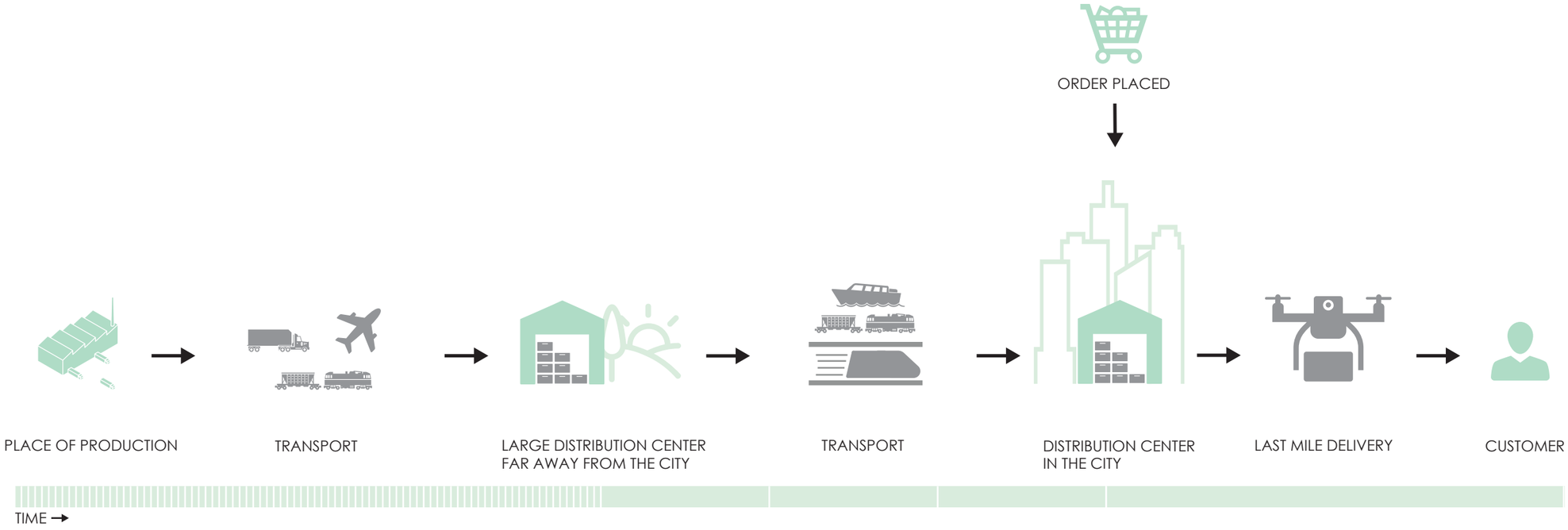
Metro track

Density Amsterdam



Amsterdam

TRANSPORT OF *GOODS* IN THE FUTURE CITY



SUPPLY CHAIN GOODS DELIVERY 2100

(Kuunders, 2017).

NODES

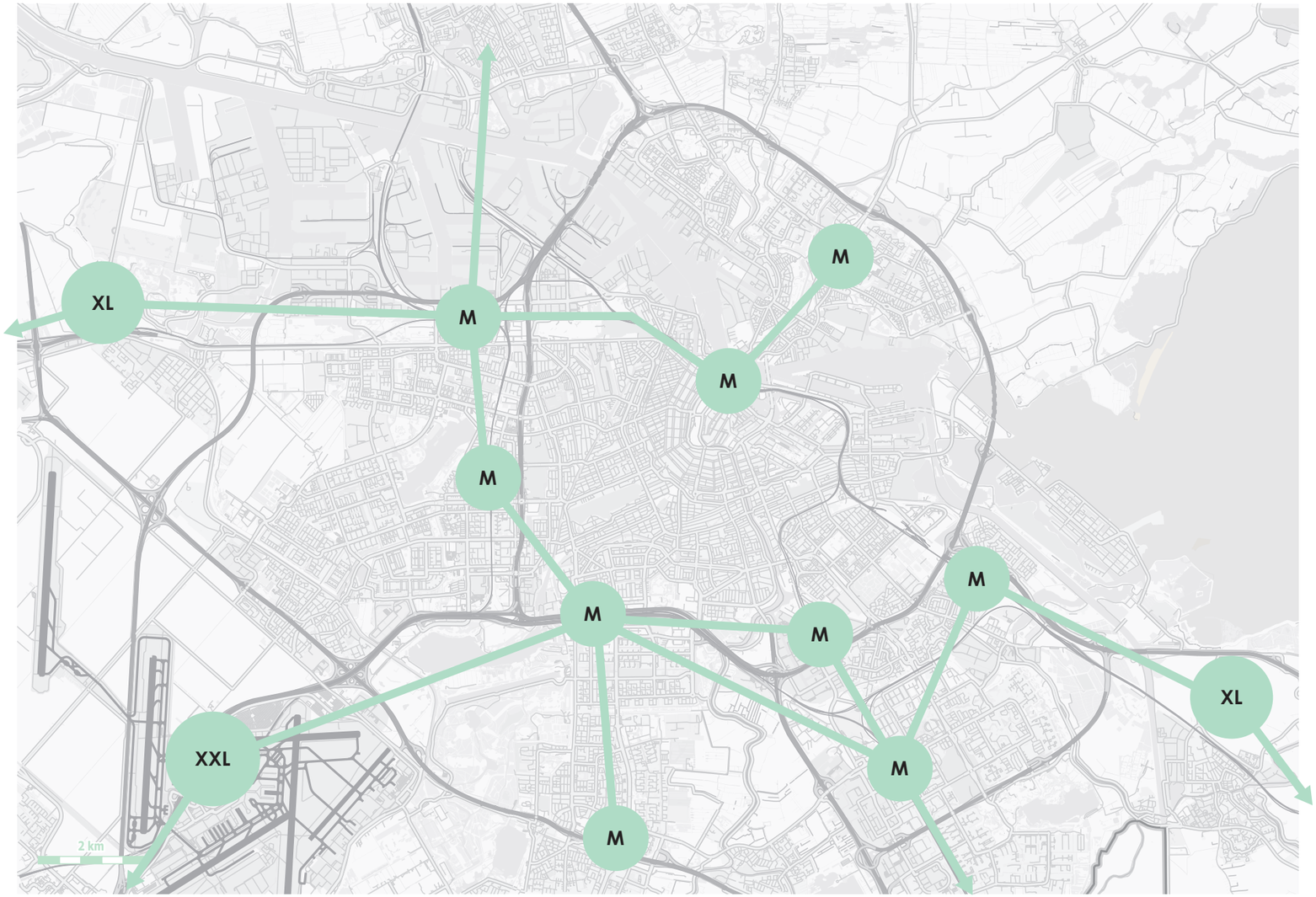
M — Fulfillment center in the city

XL — Distribution center outside the city

XXL — Distribution center airport

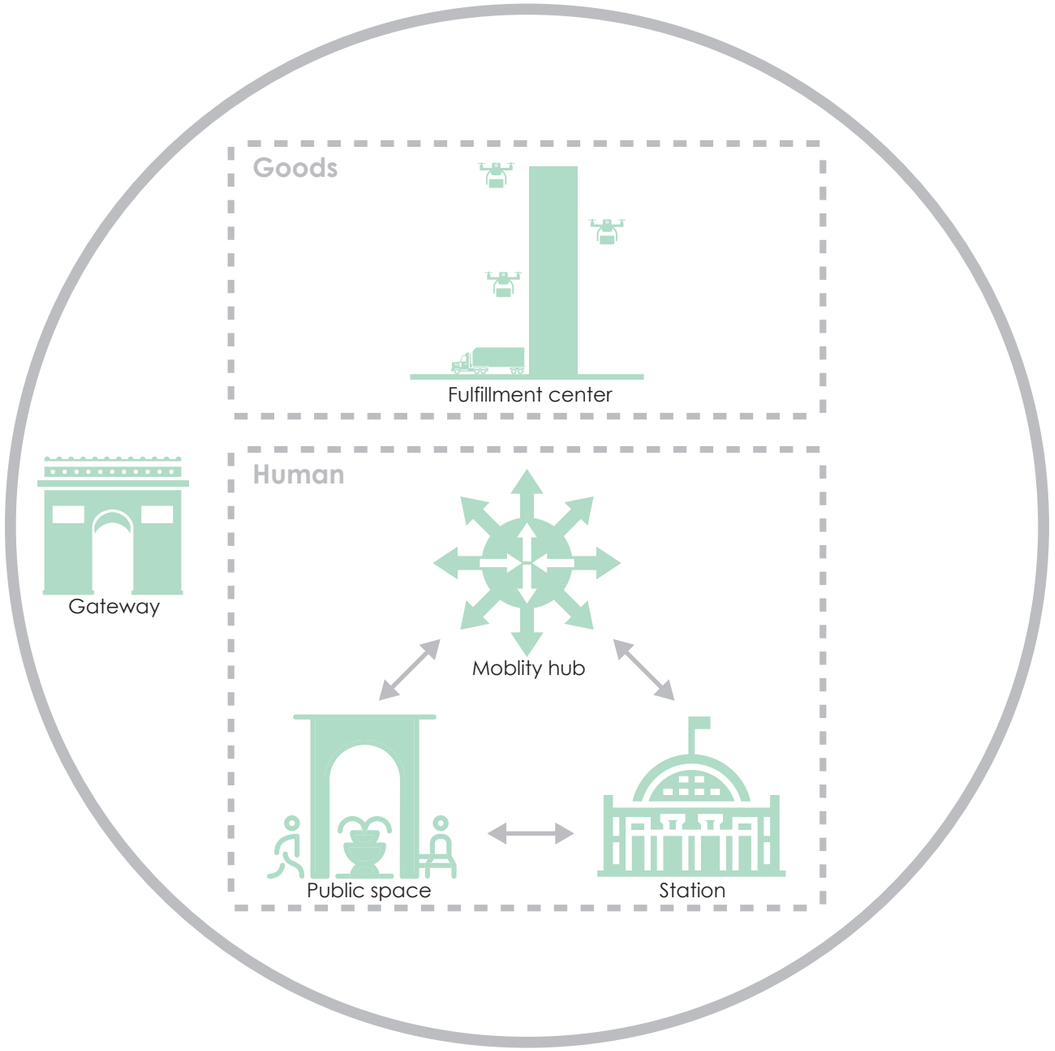
Connection

Density Amsterdam



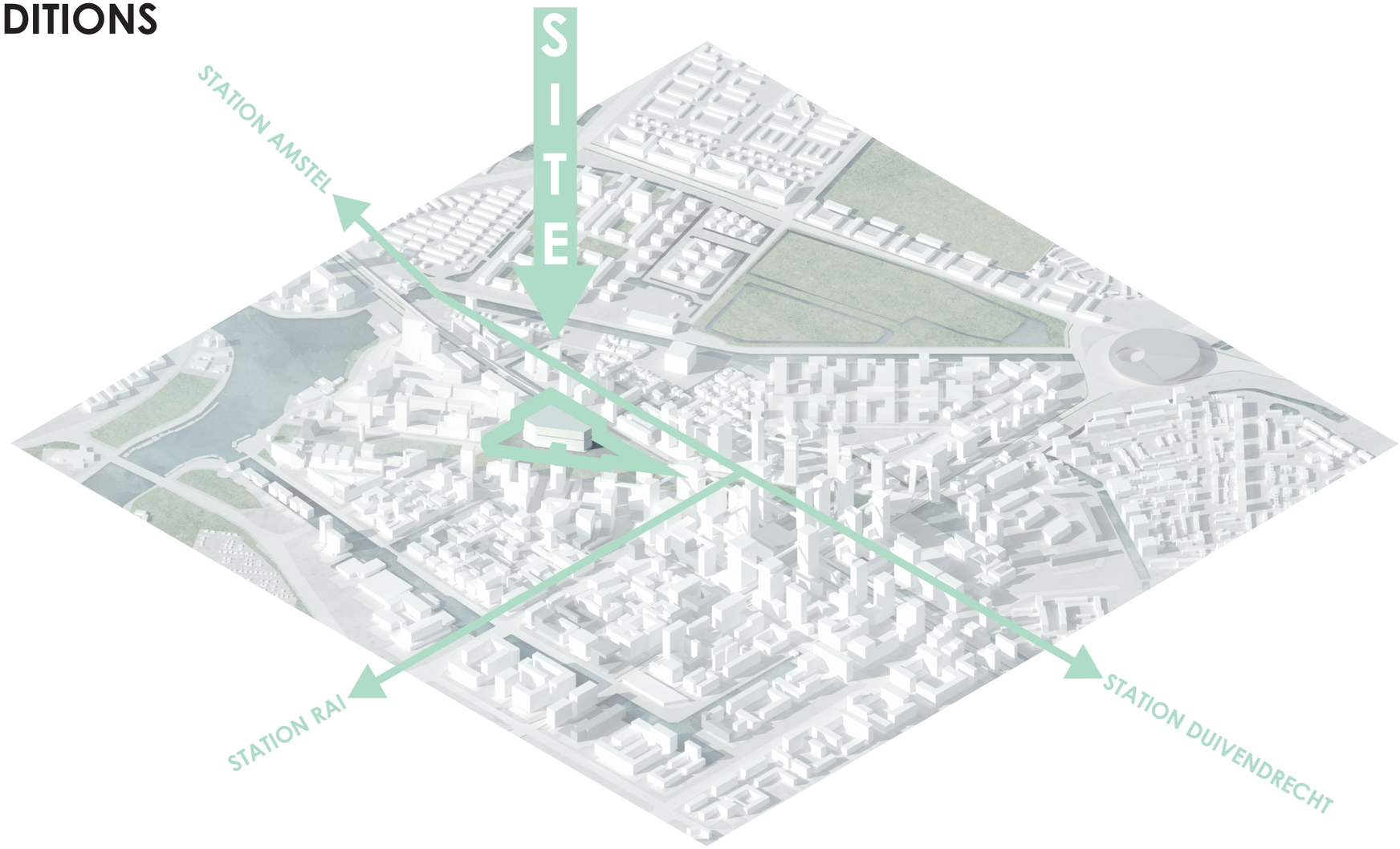
Amsterdam

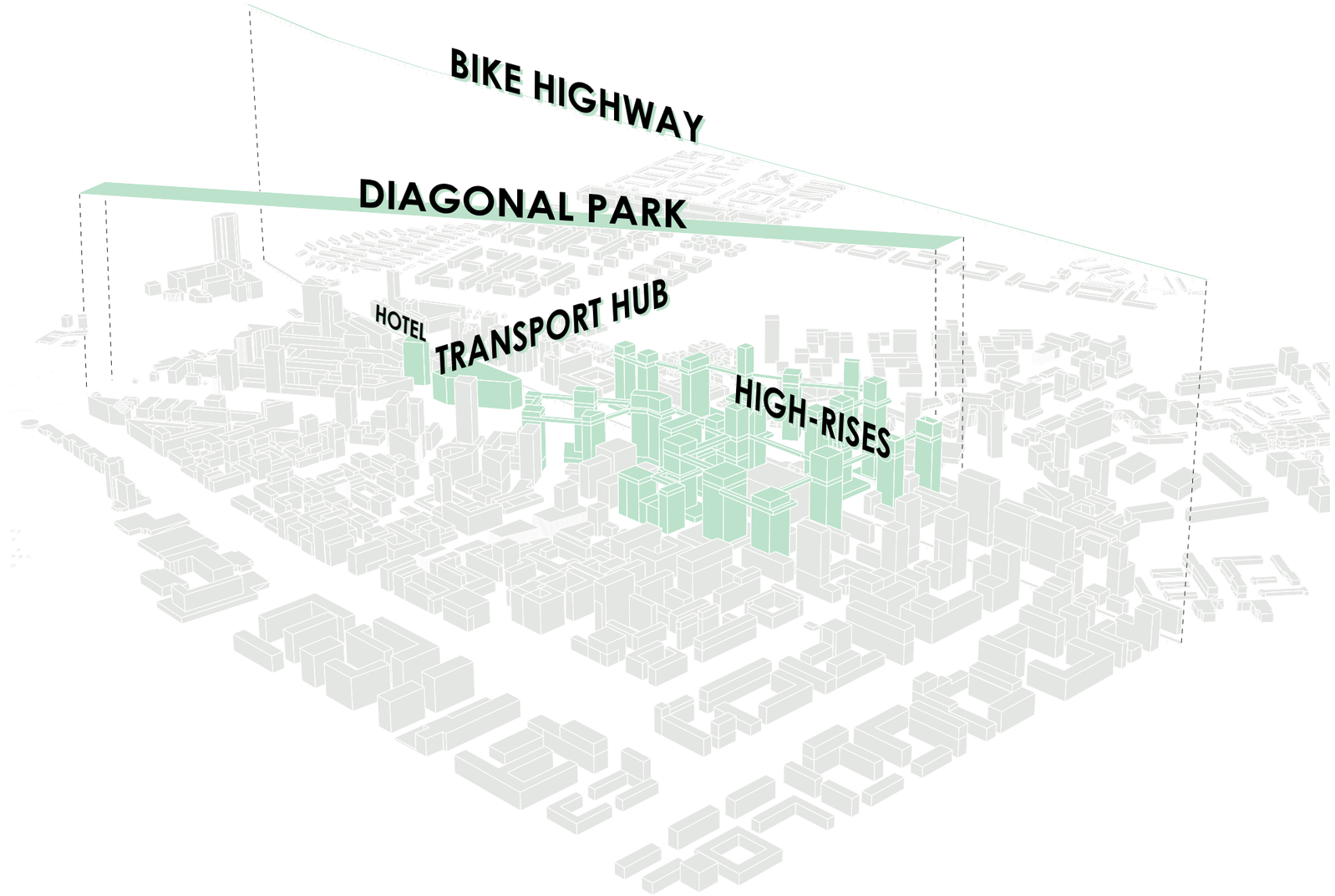
RELATIONS


Goods
Fulfillment center
Human
Gateway
Moblity hub
Public space
Station

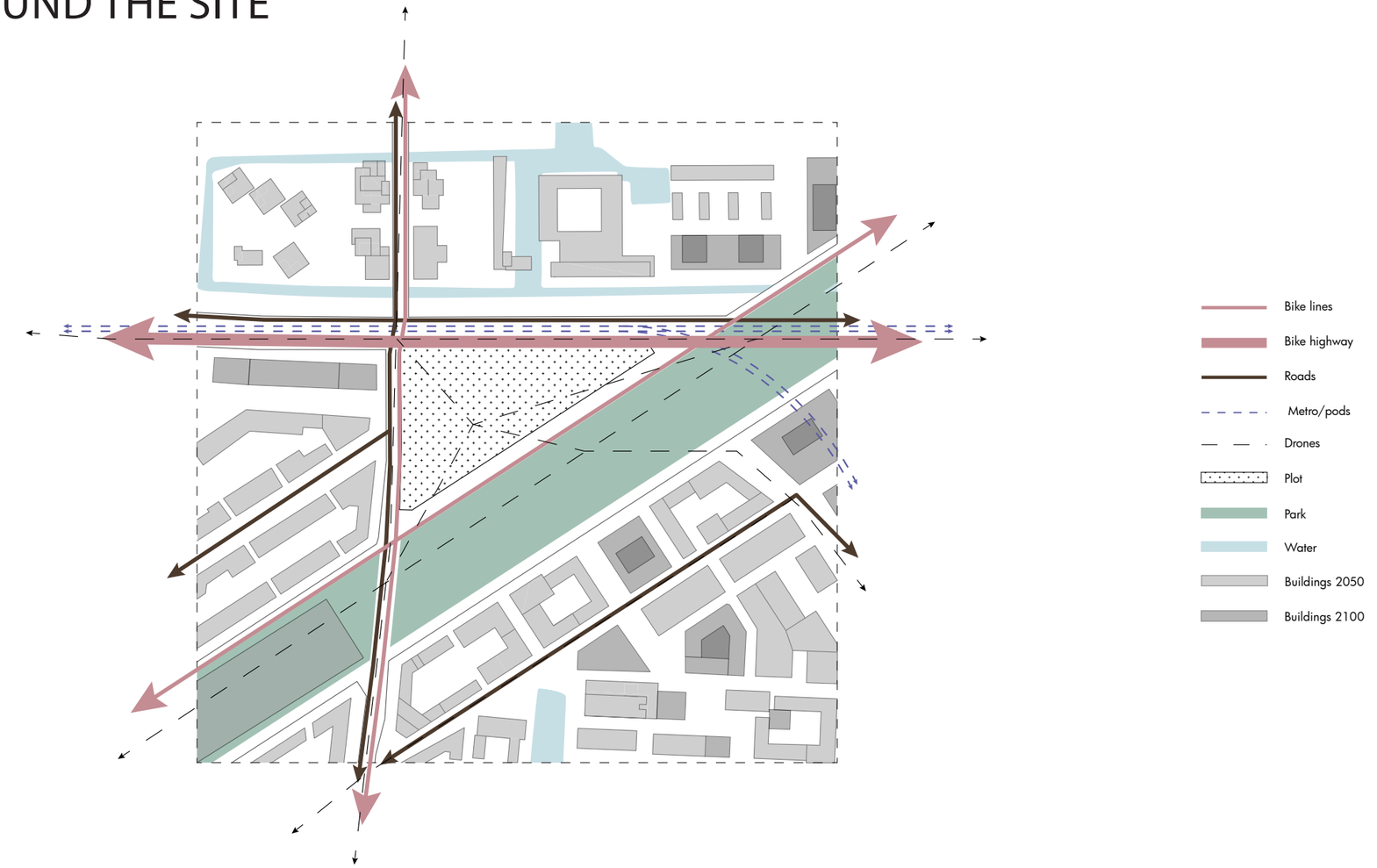
DESIGN REQUIREMENTS

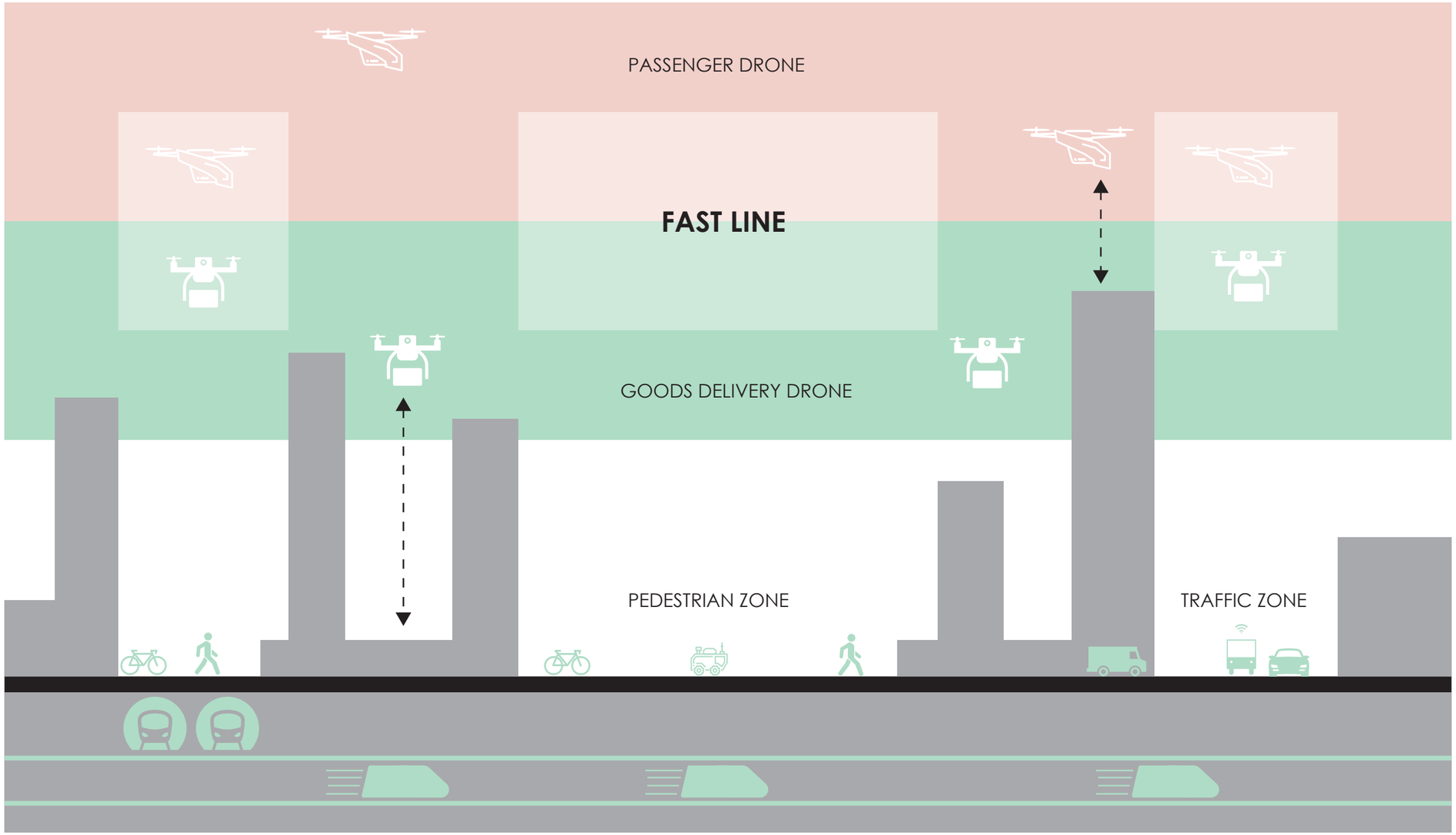
SITE CONDITIONS



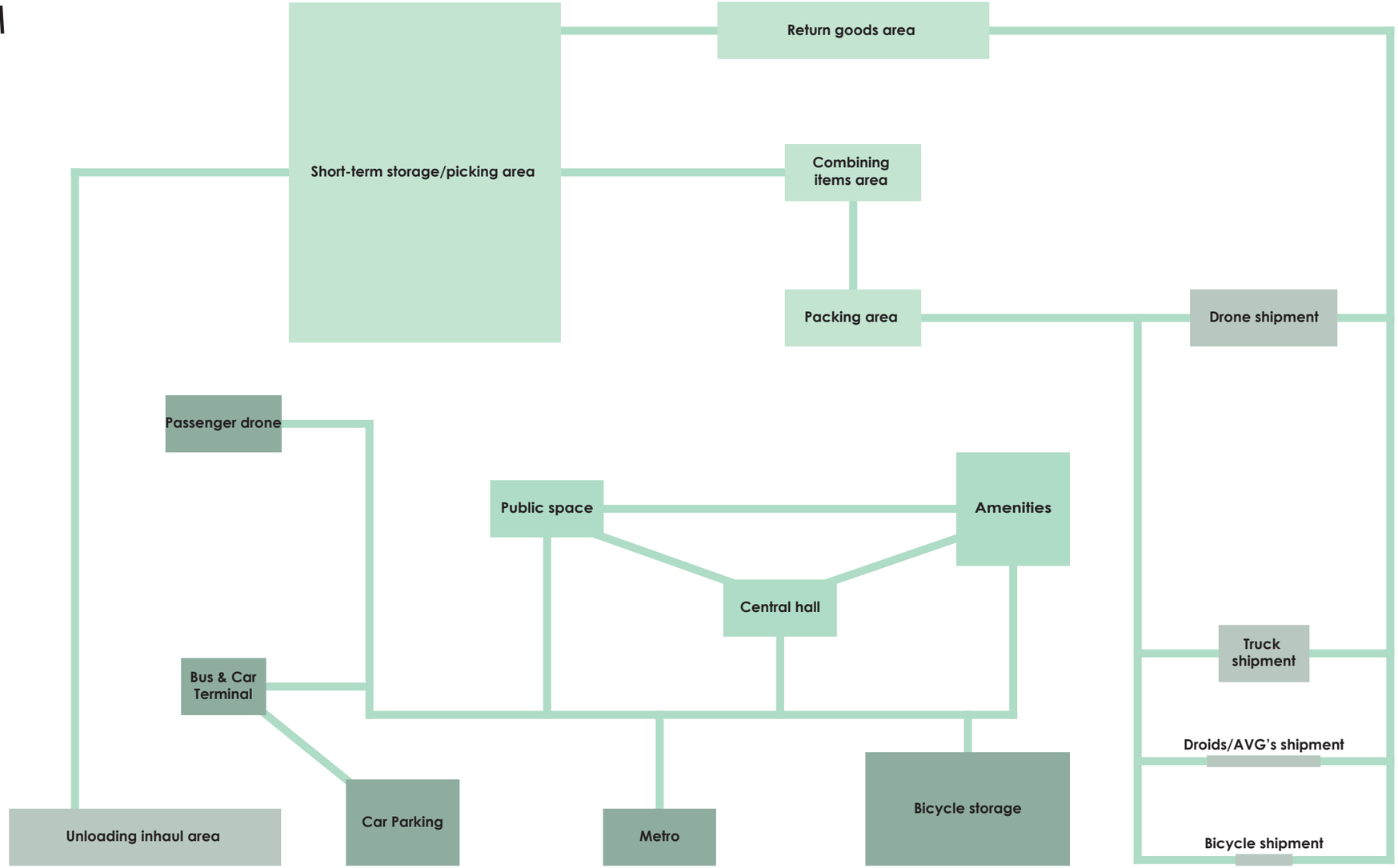

BIKE HIGHWAY
DIAGONAL PARK
HOTEL
TRANSPORT HUB
HIGH-RISES

TRANSPORTATION AROUND THE SITE



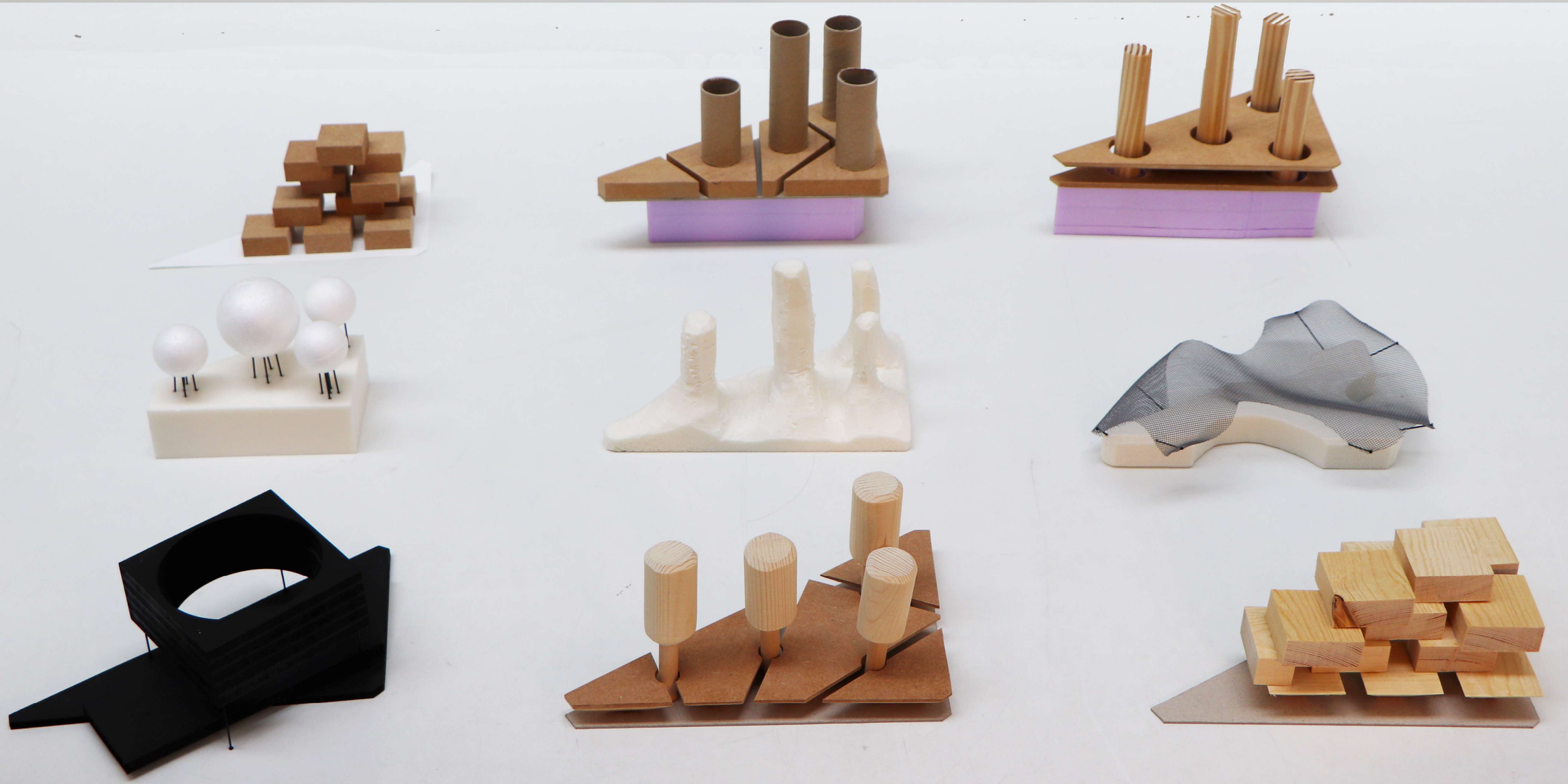

PASSENGER DRONE
FAST LINE
GOODS DELIVERY DRONE
PEDESTRIAN ZONE
TRAFFIC ZONE

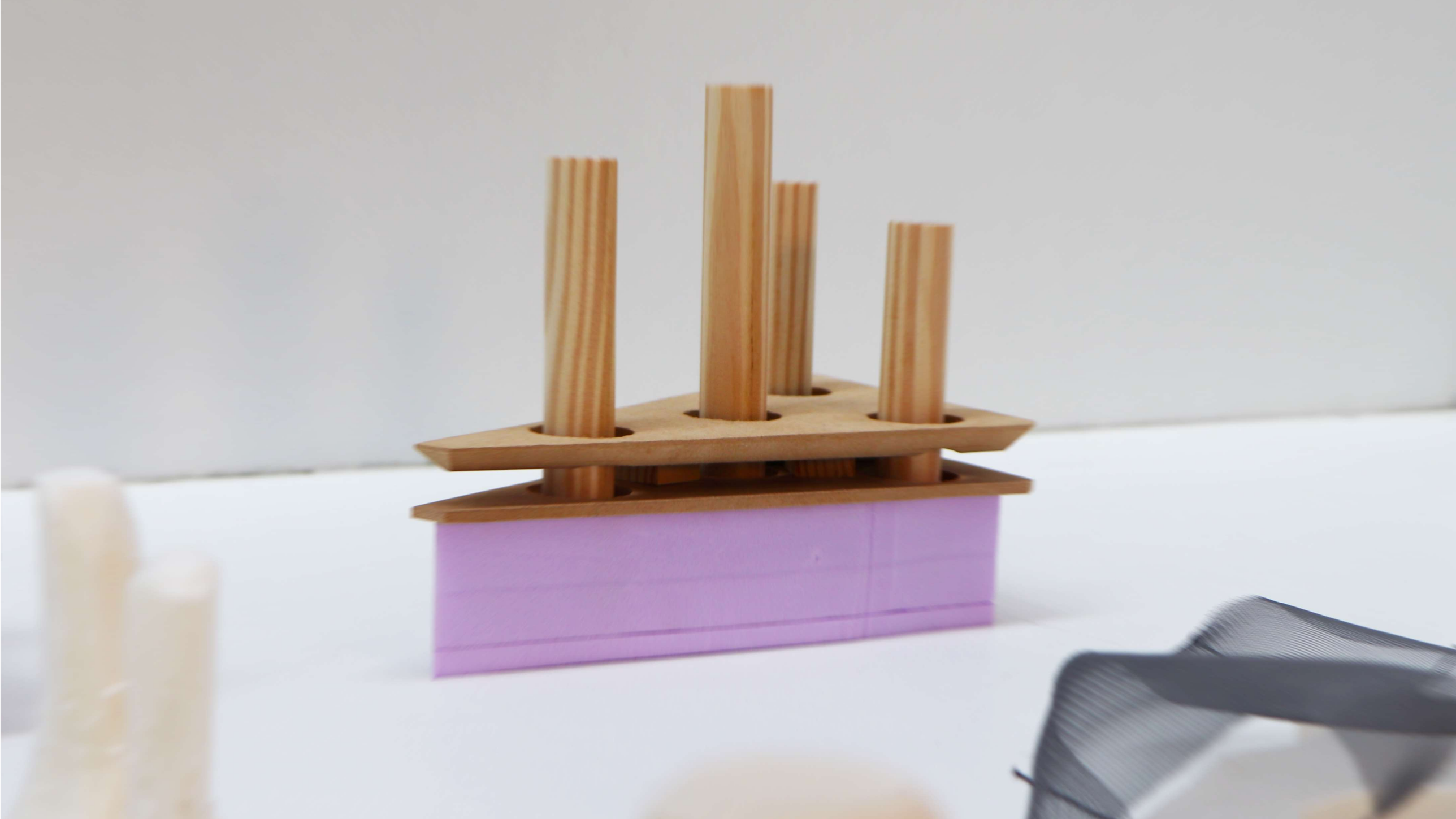
PROGRAM


Short-term storage/picking area
Return goods area
Combining items area
Packing area
Drone shipment
Passenger drone
Public space
Amenities
Central hall
Truck shipment
Bus & Car Terminal
Droids/AVG's shipment
Bicycle shipment
Unloading inhaul area
Car Parking
Metro
Bicycle storage

FROM RESEARCH TO DESIGN

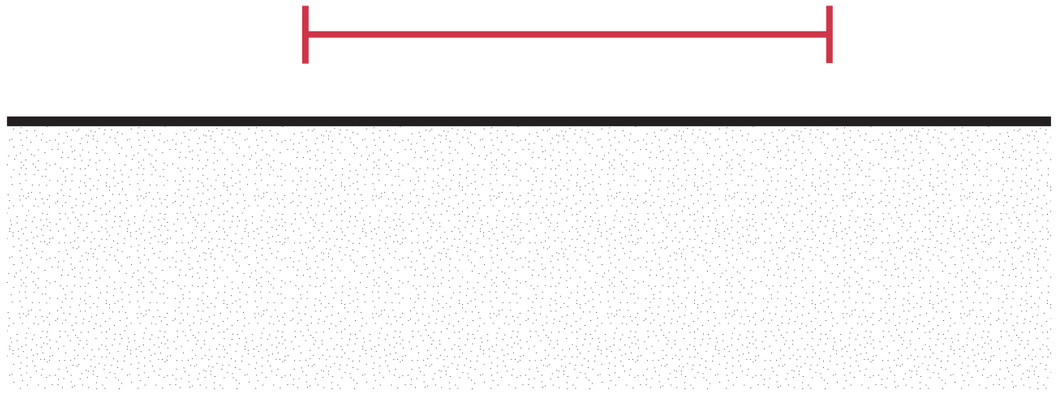
EXPLORATIONS



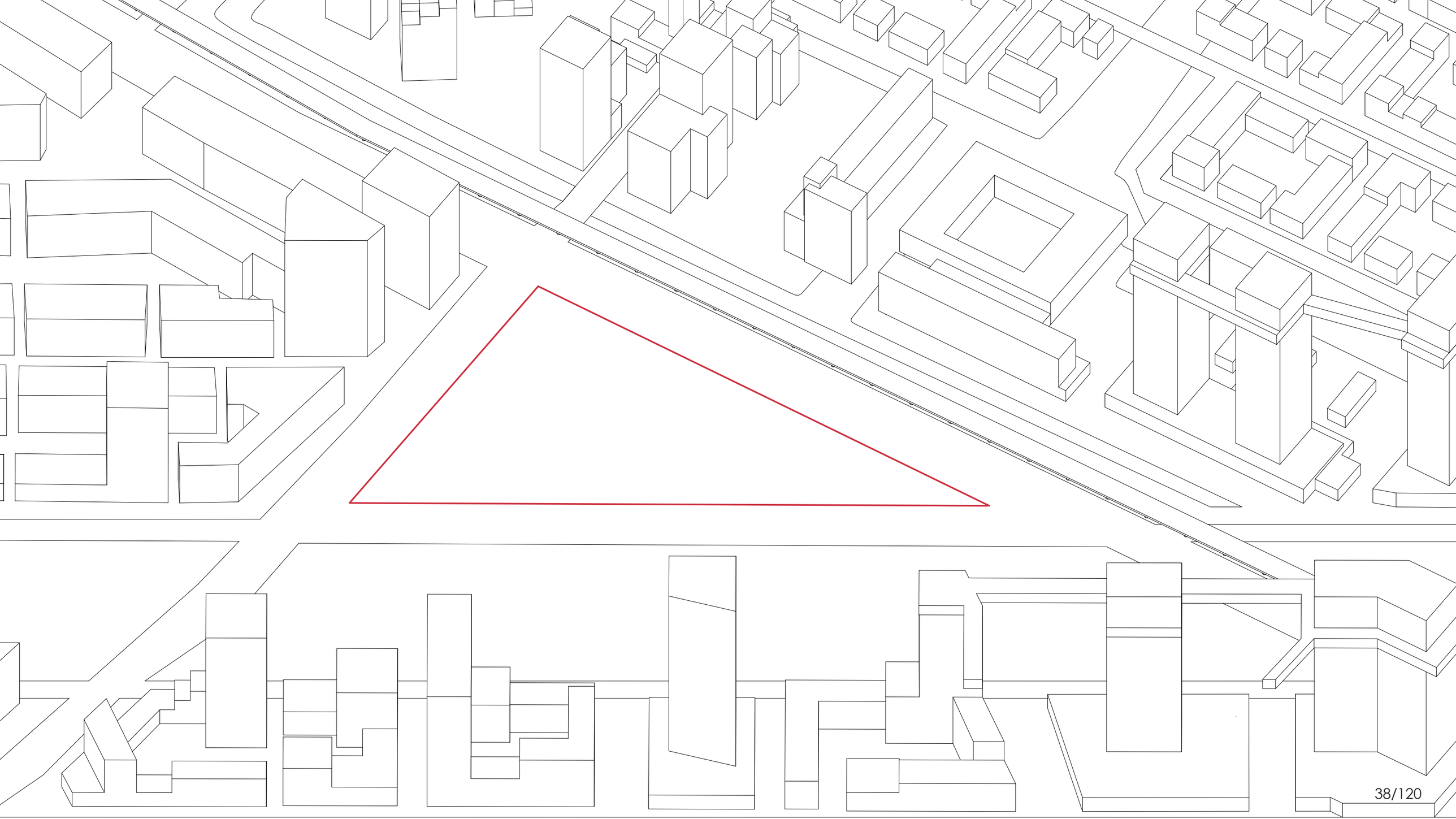


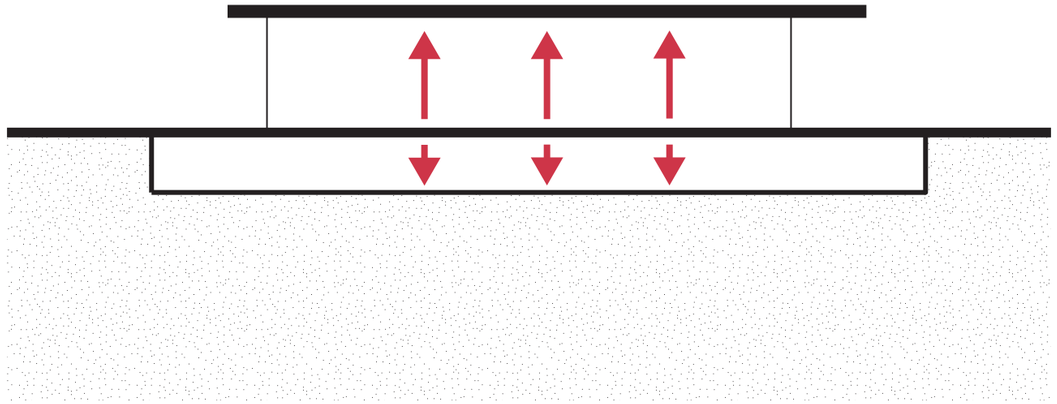
DESIGN

CONCEPT

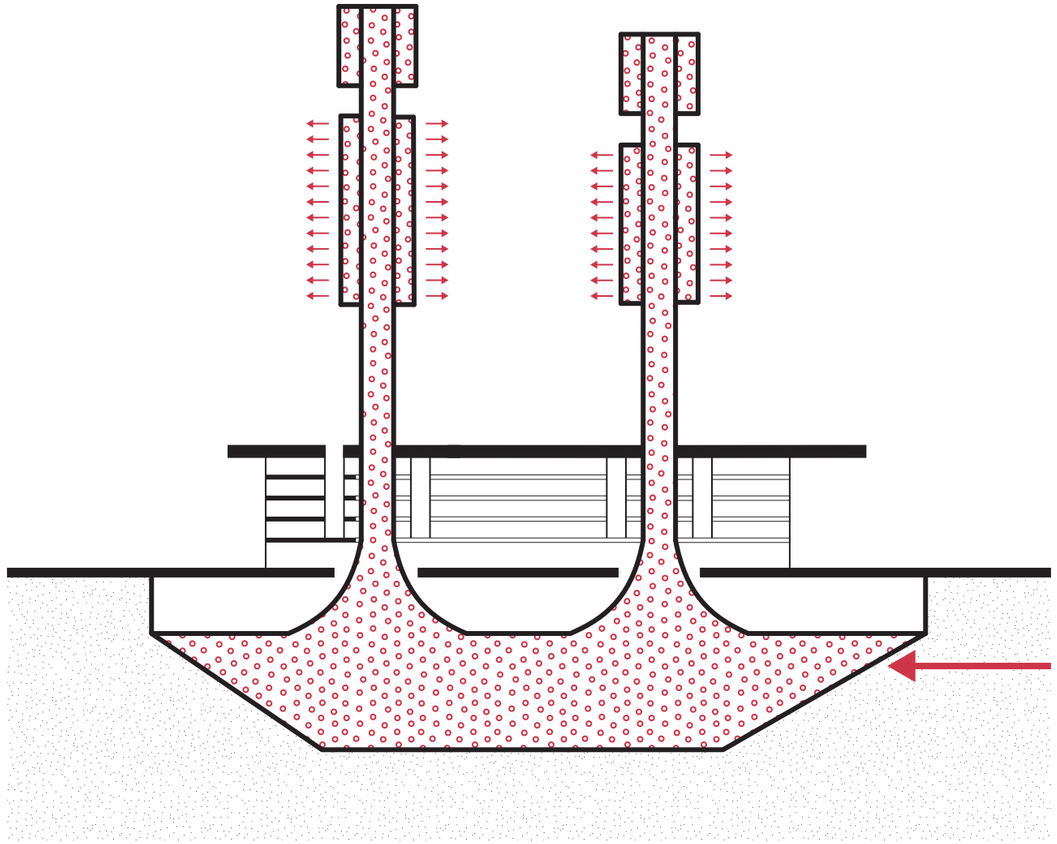


site

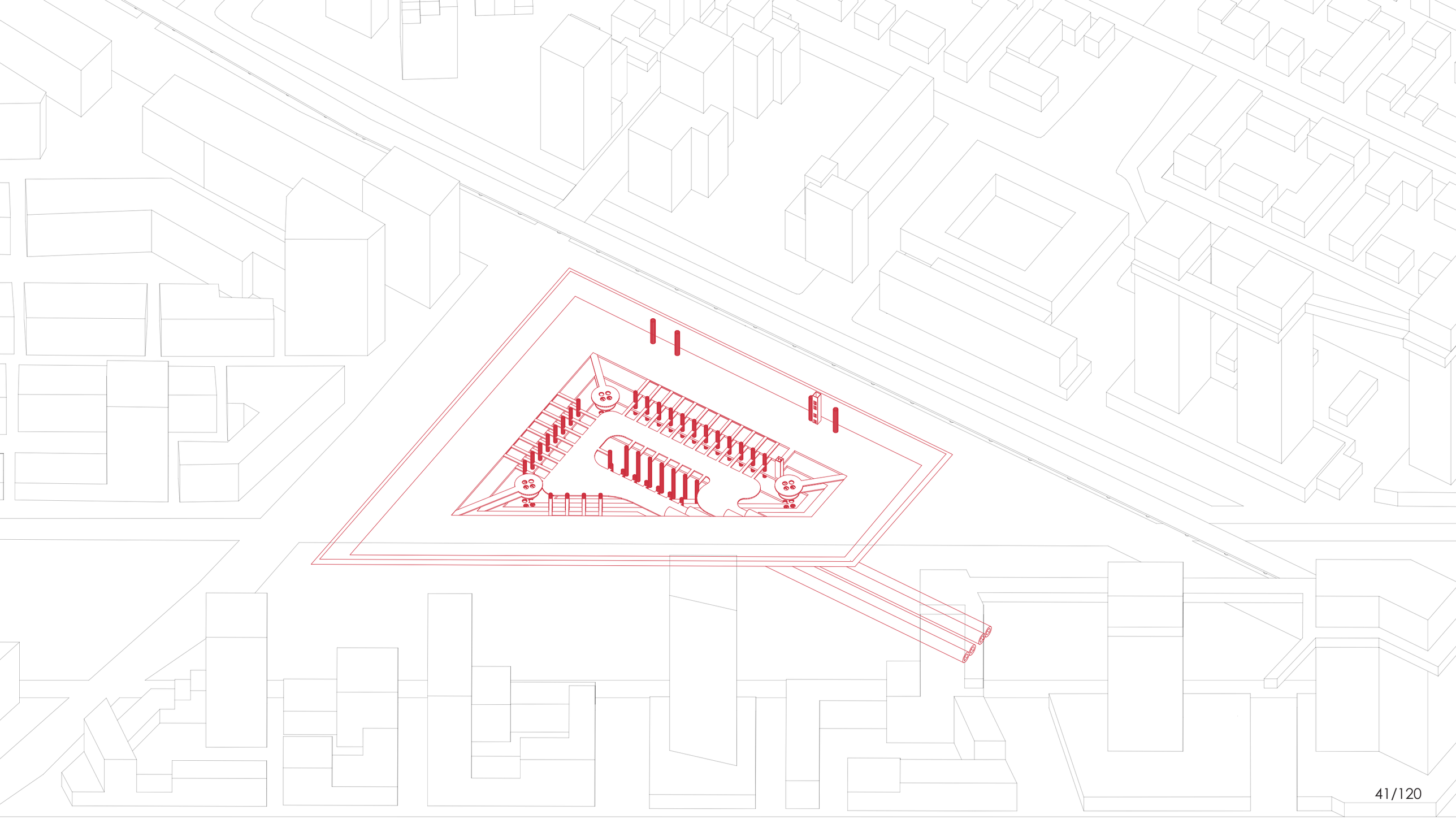


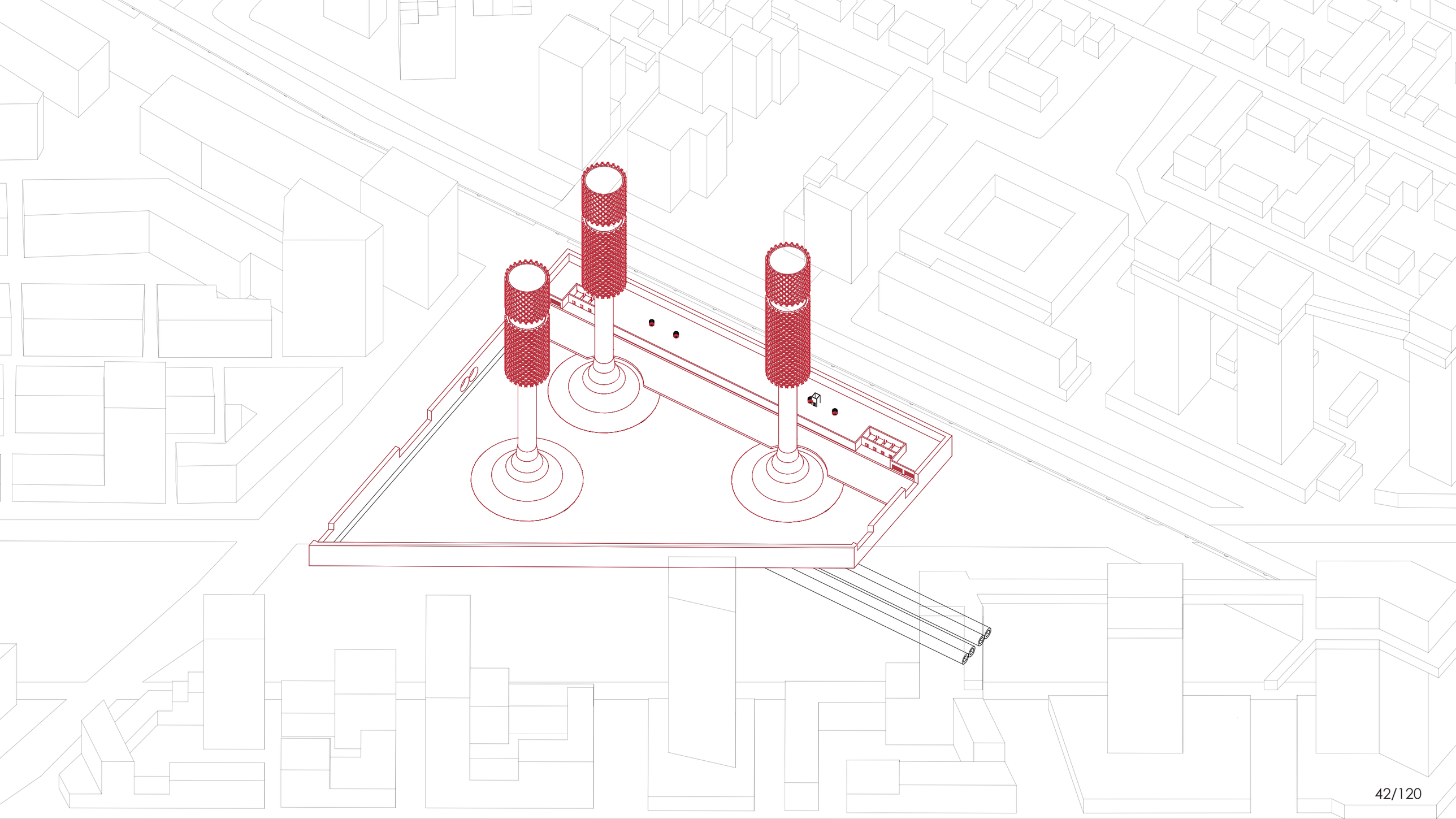


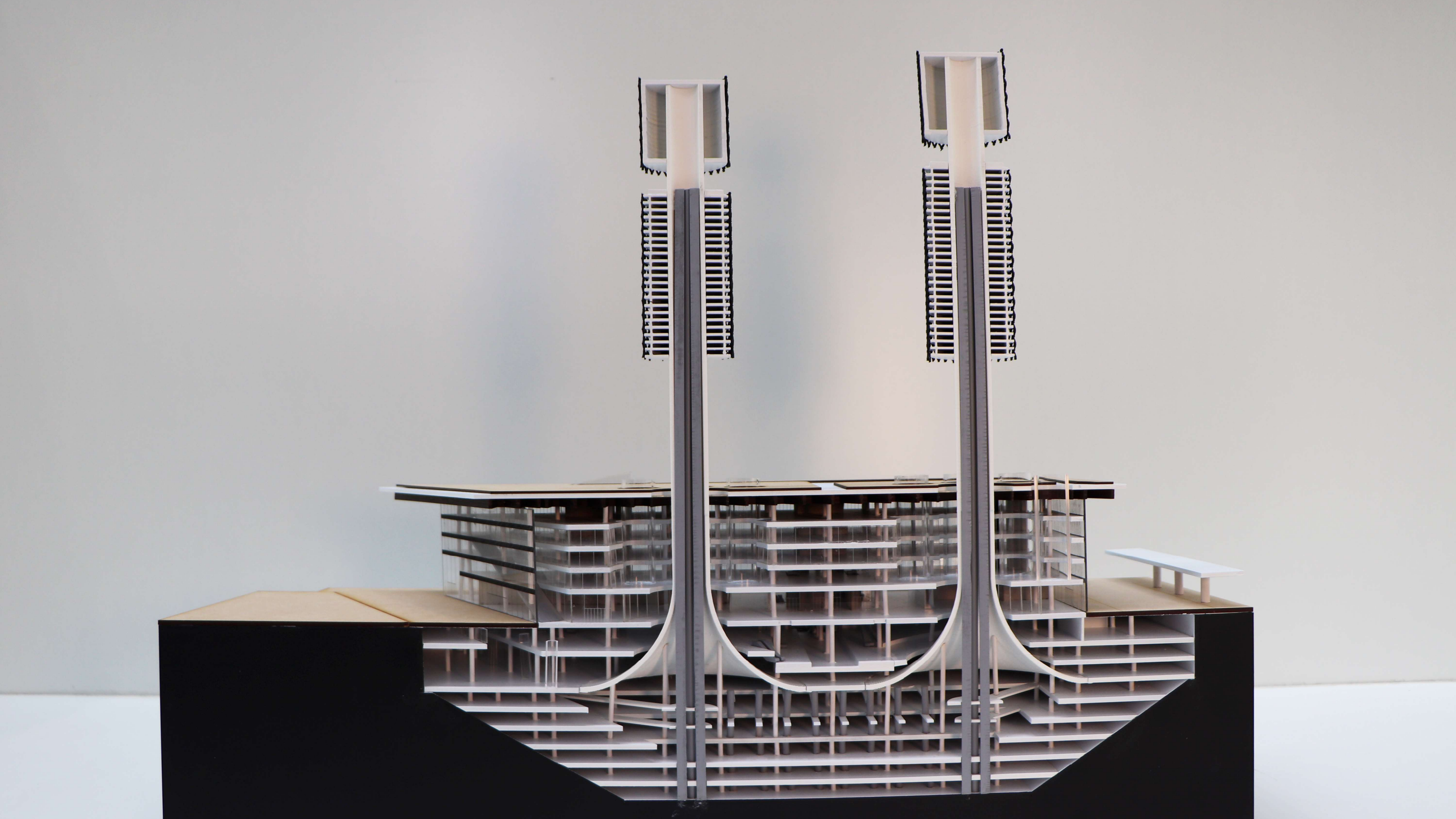
layering

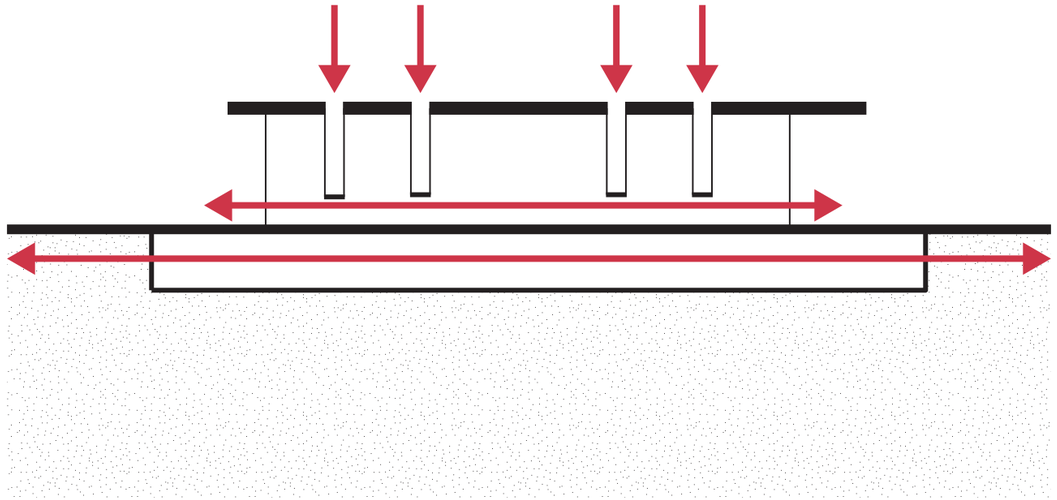


goods transportation

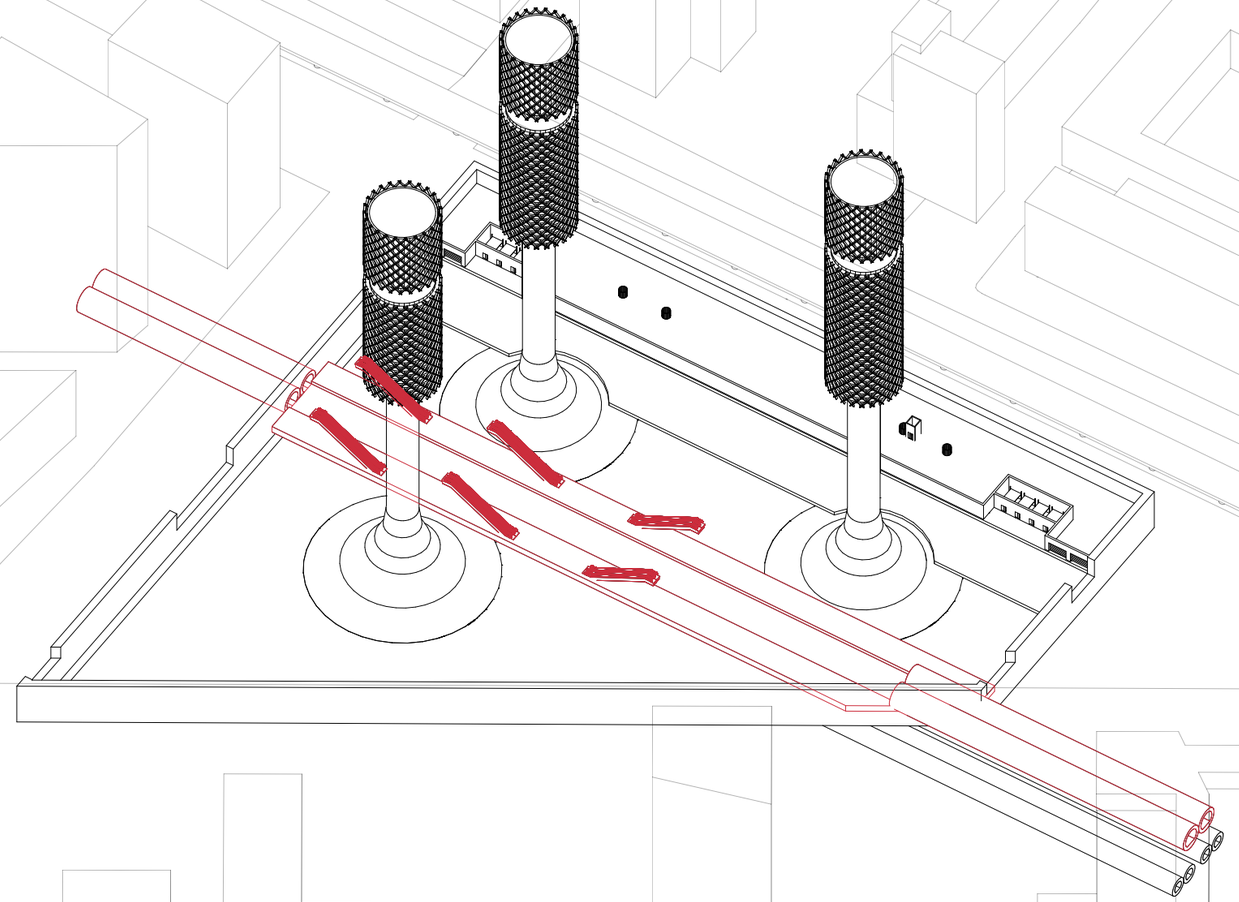


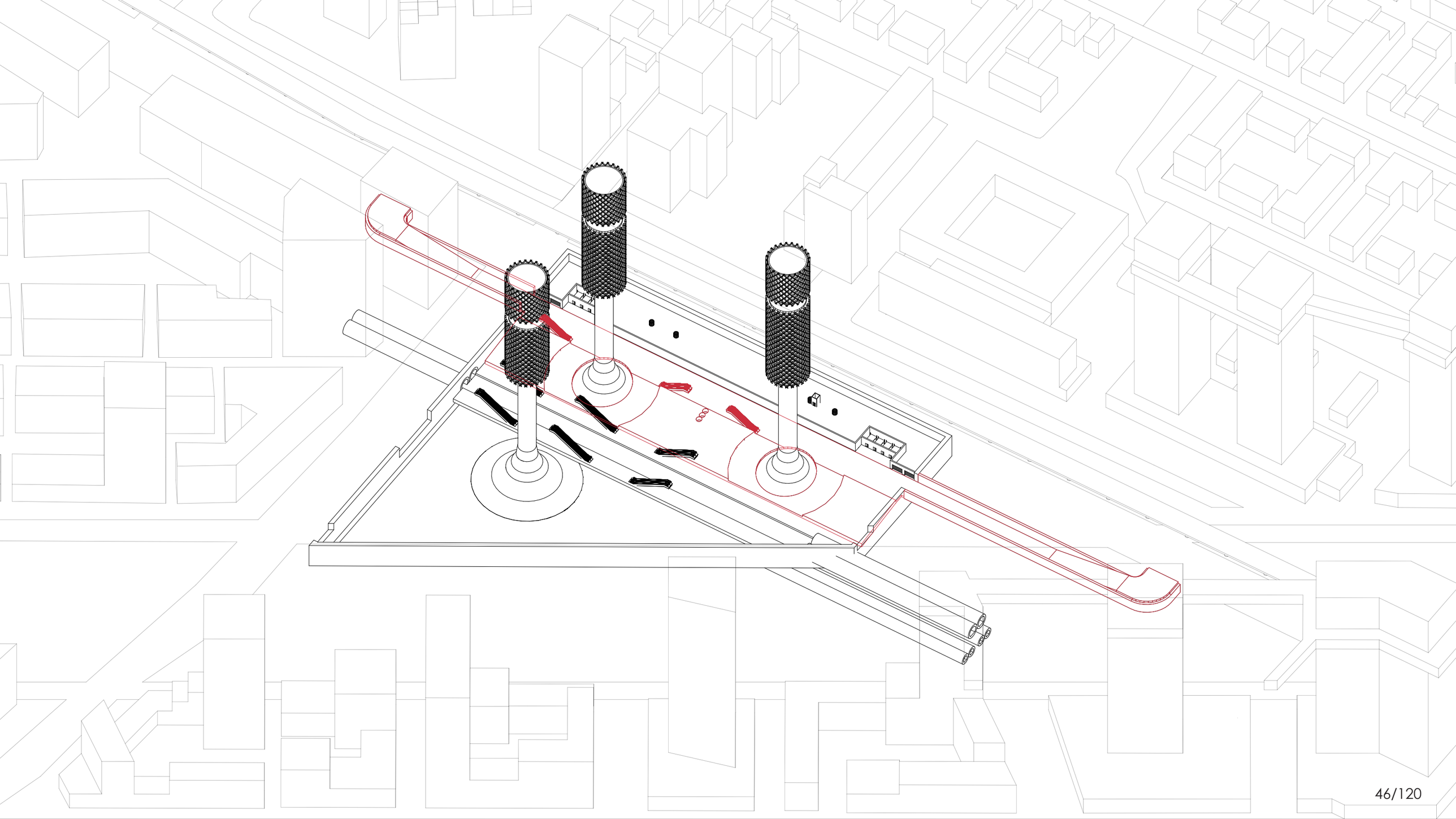


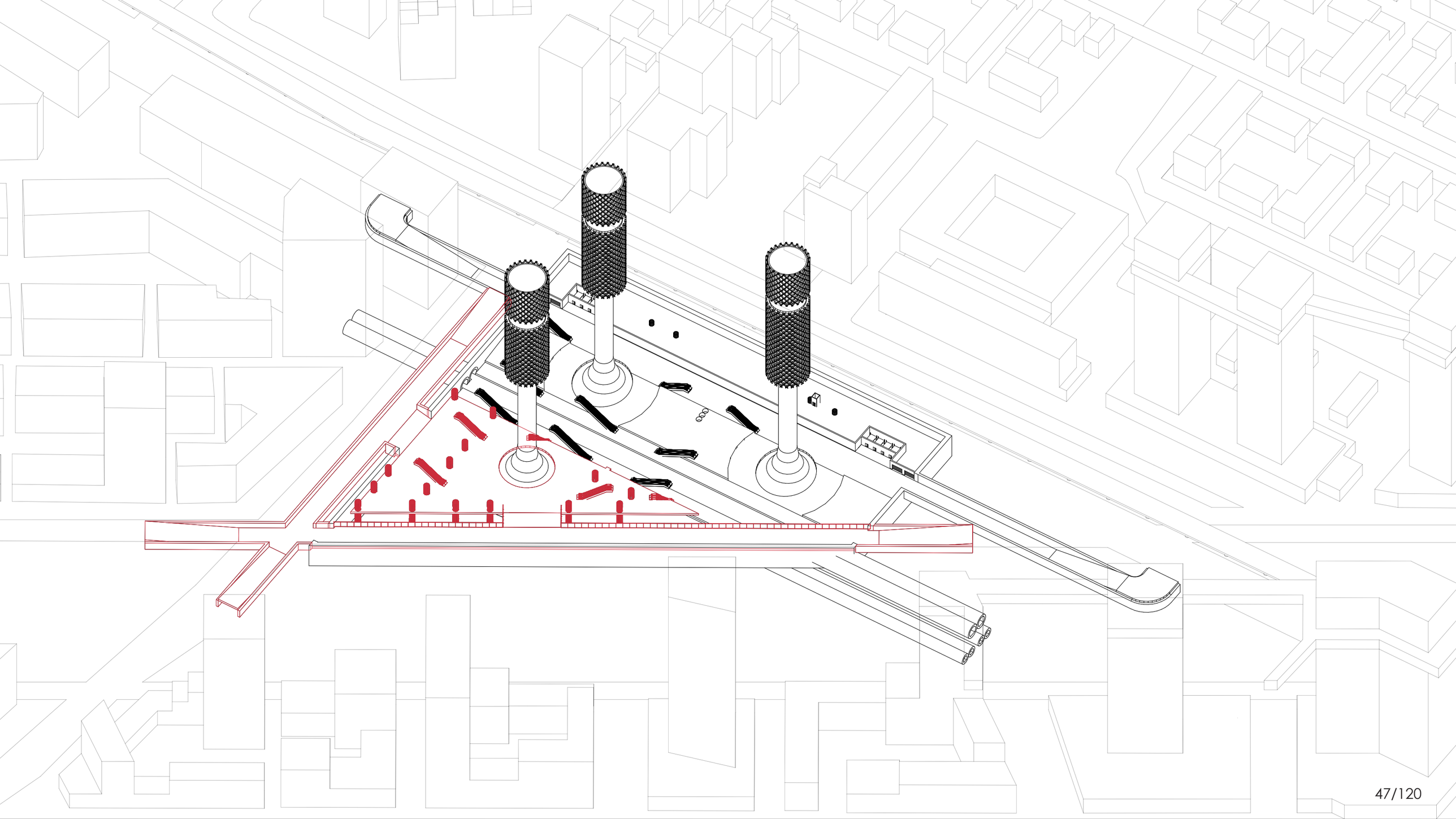


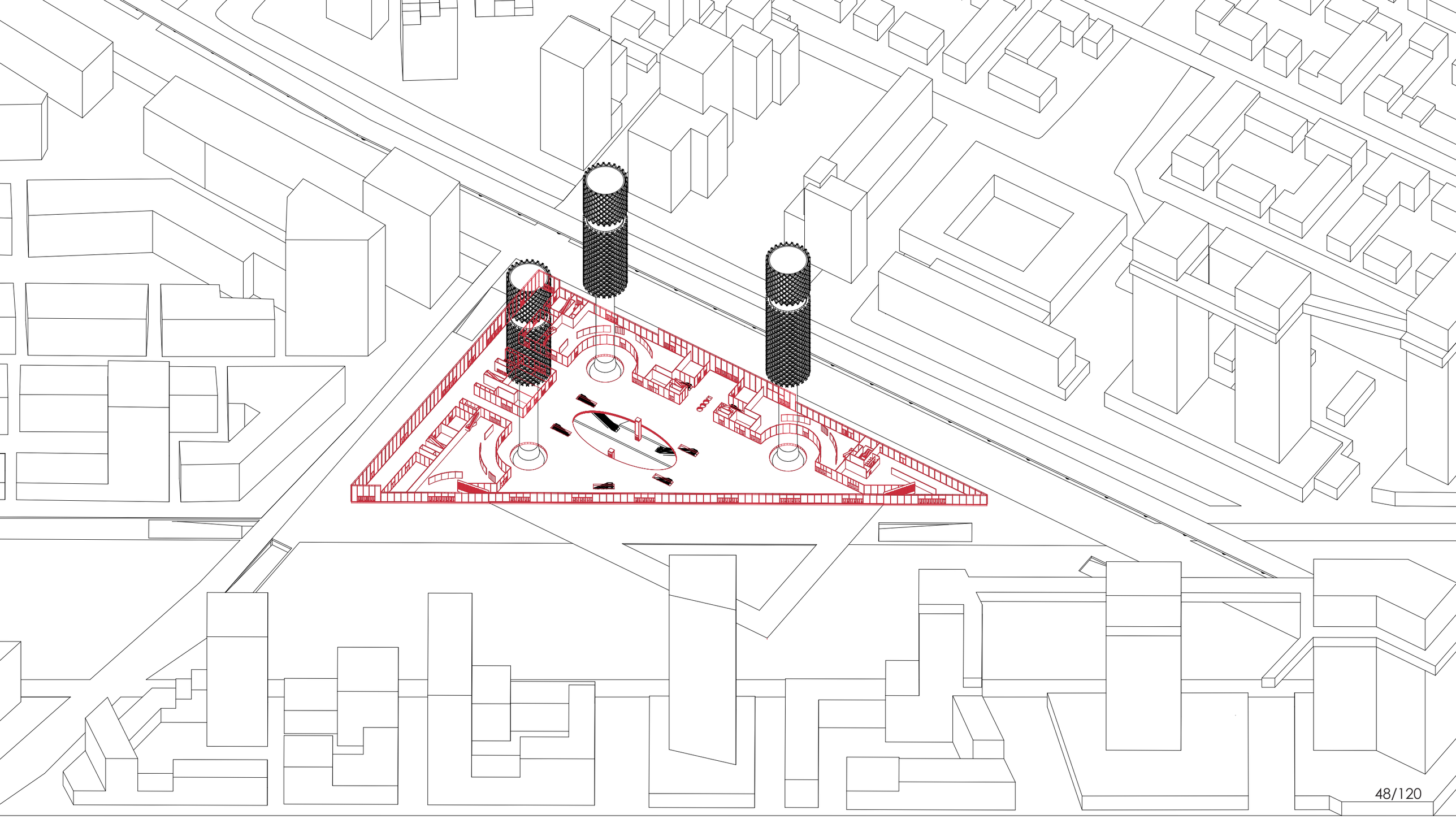


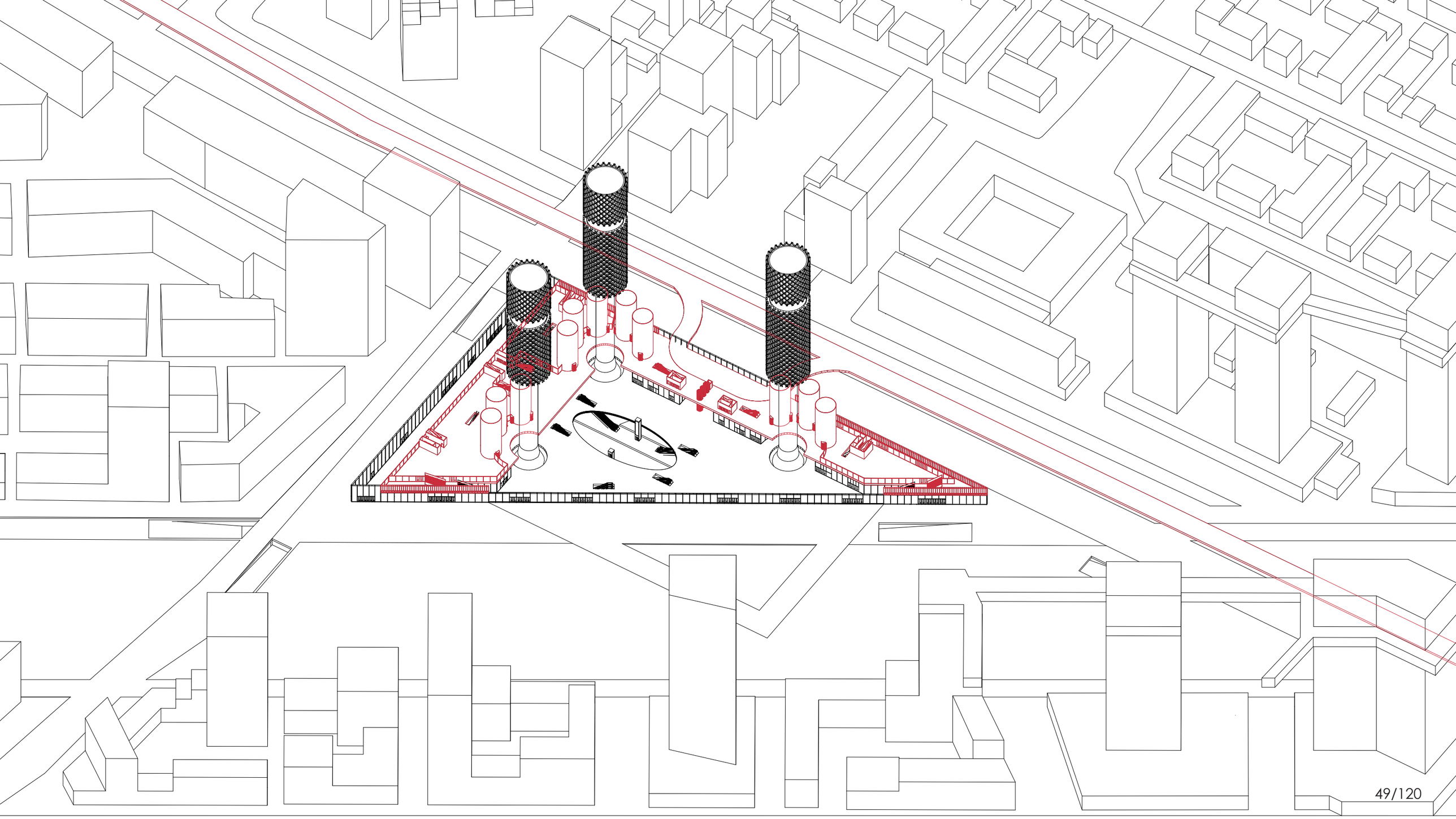
human transportation

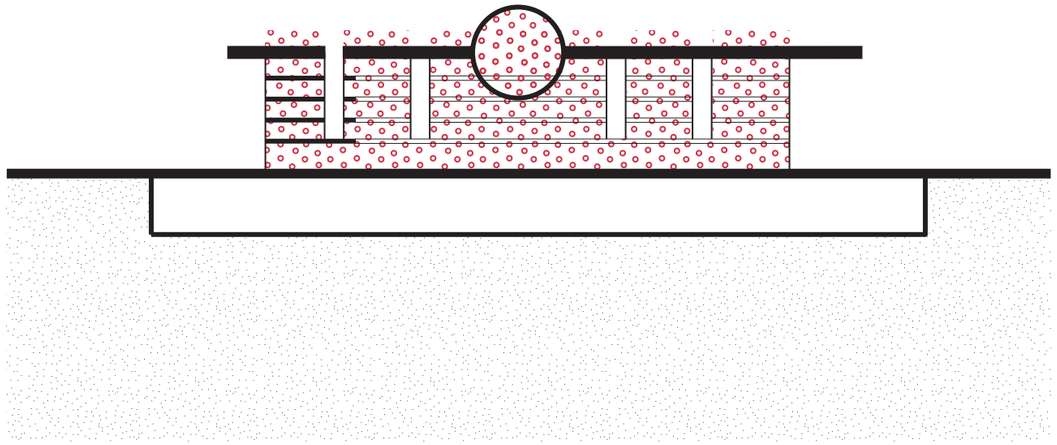




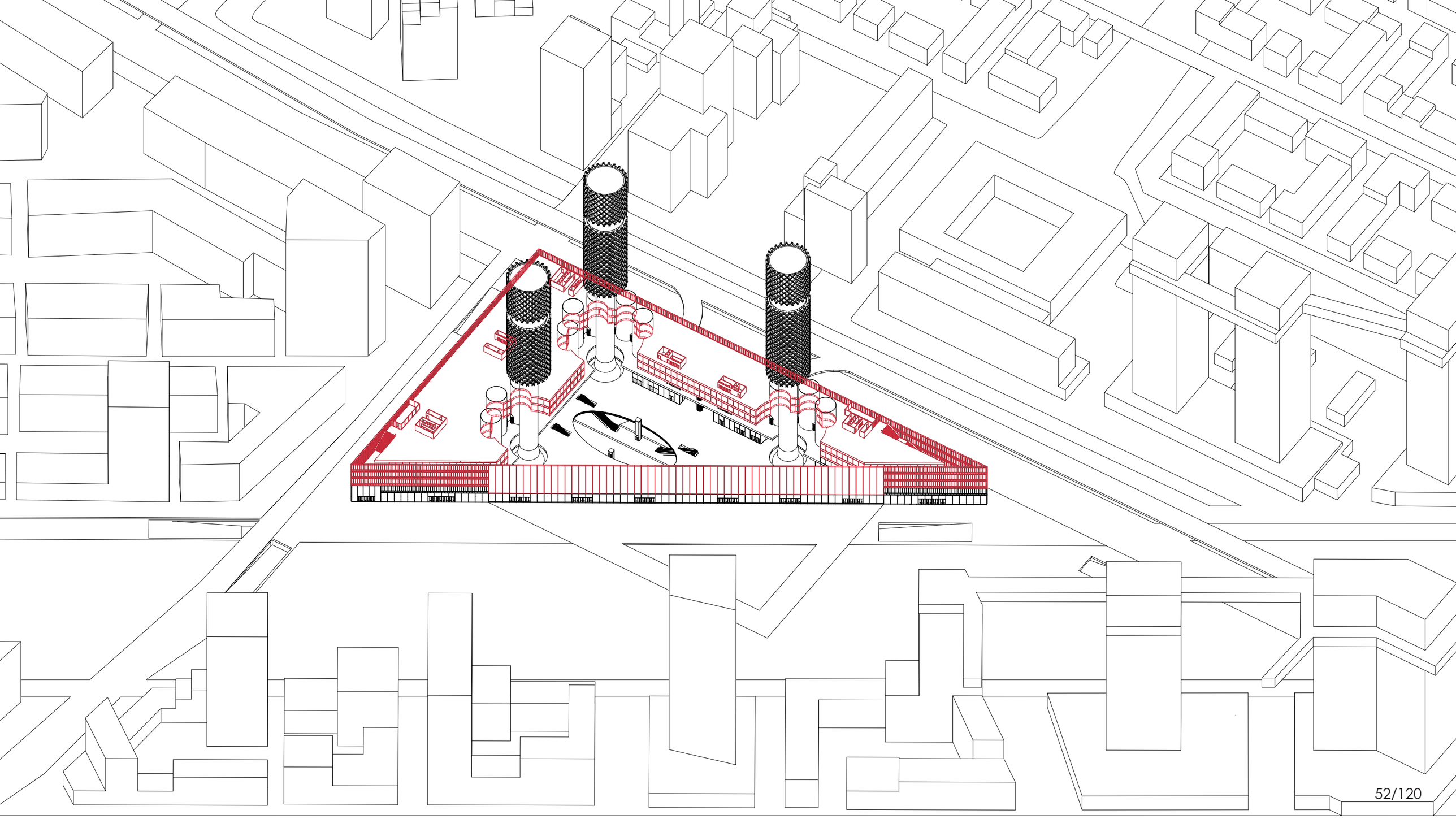


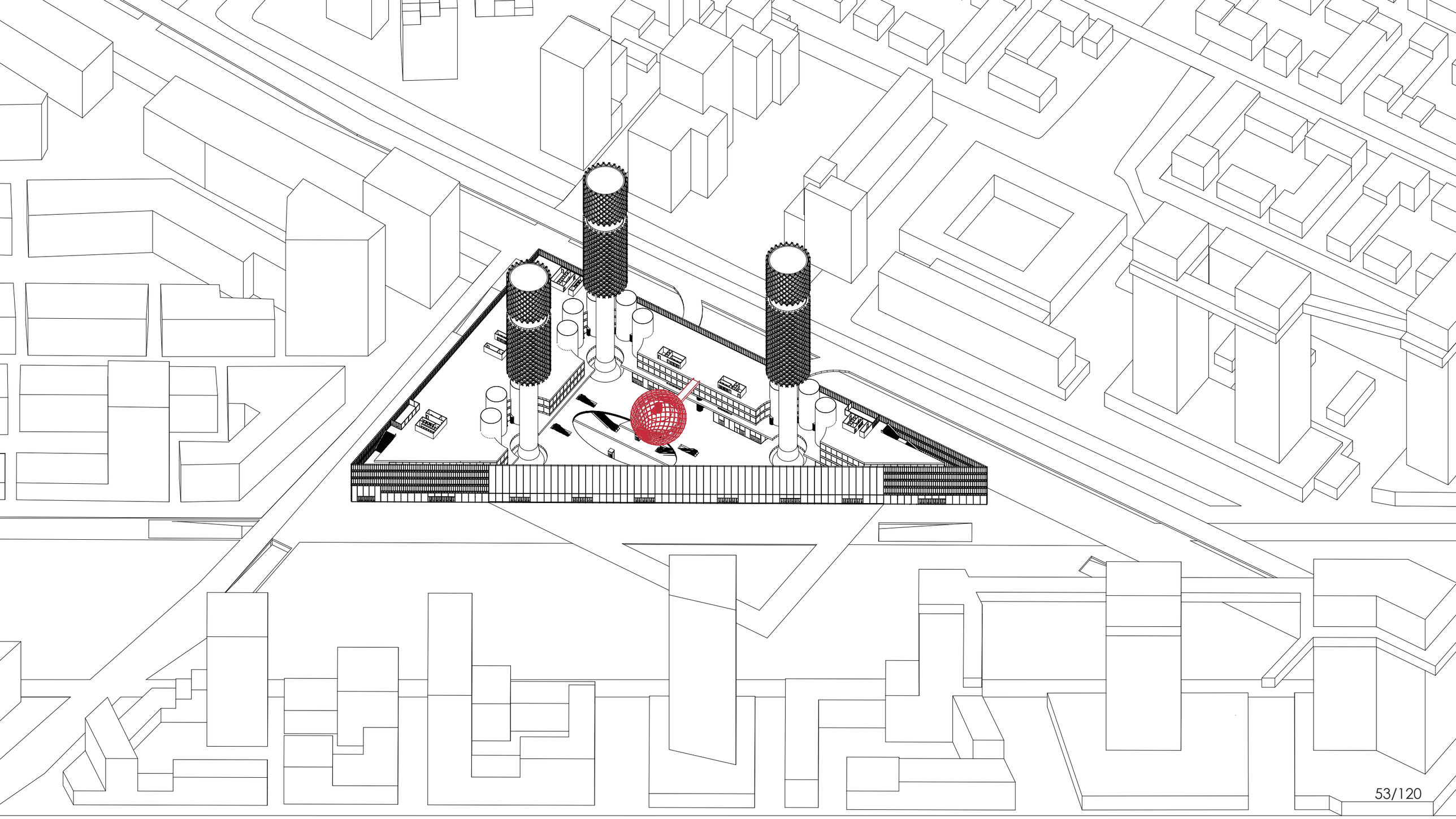


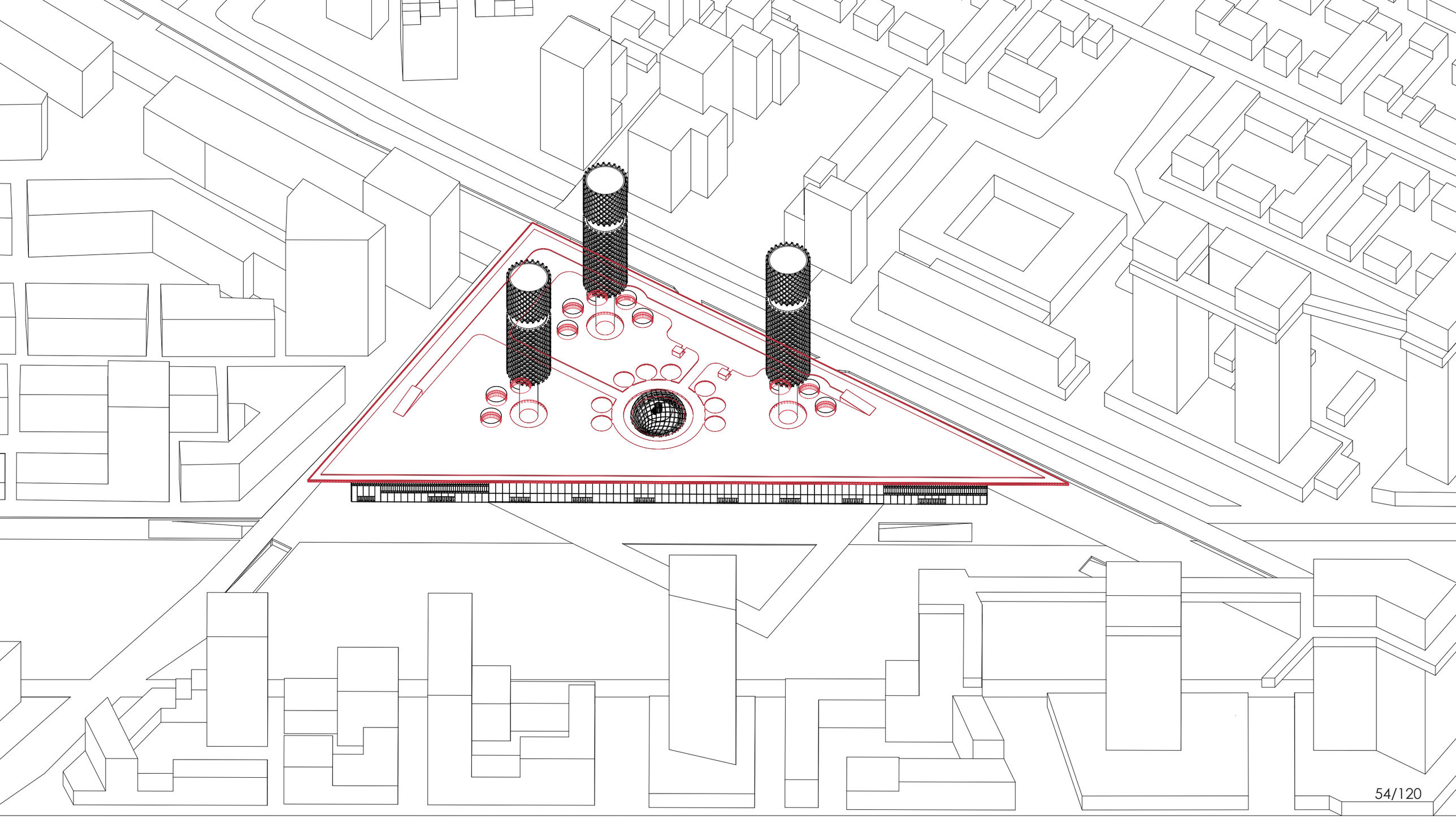


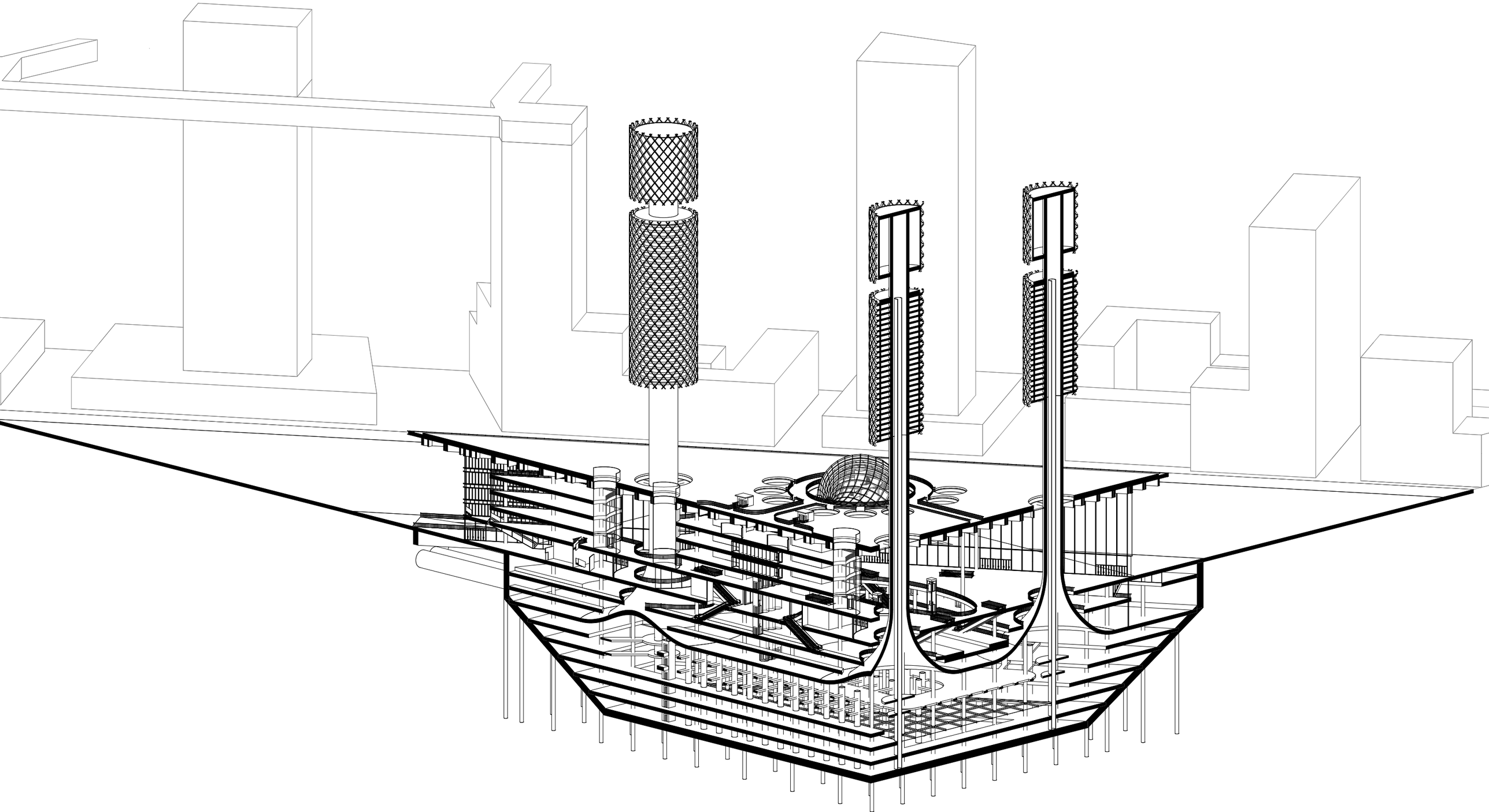


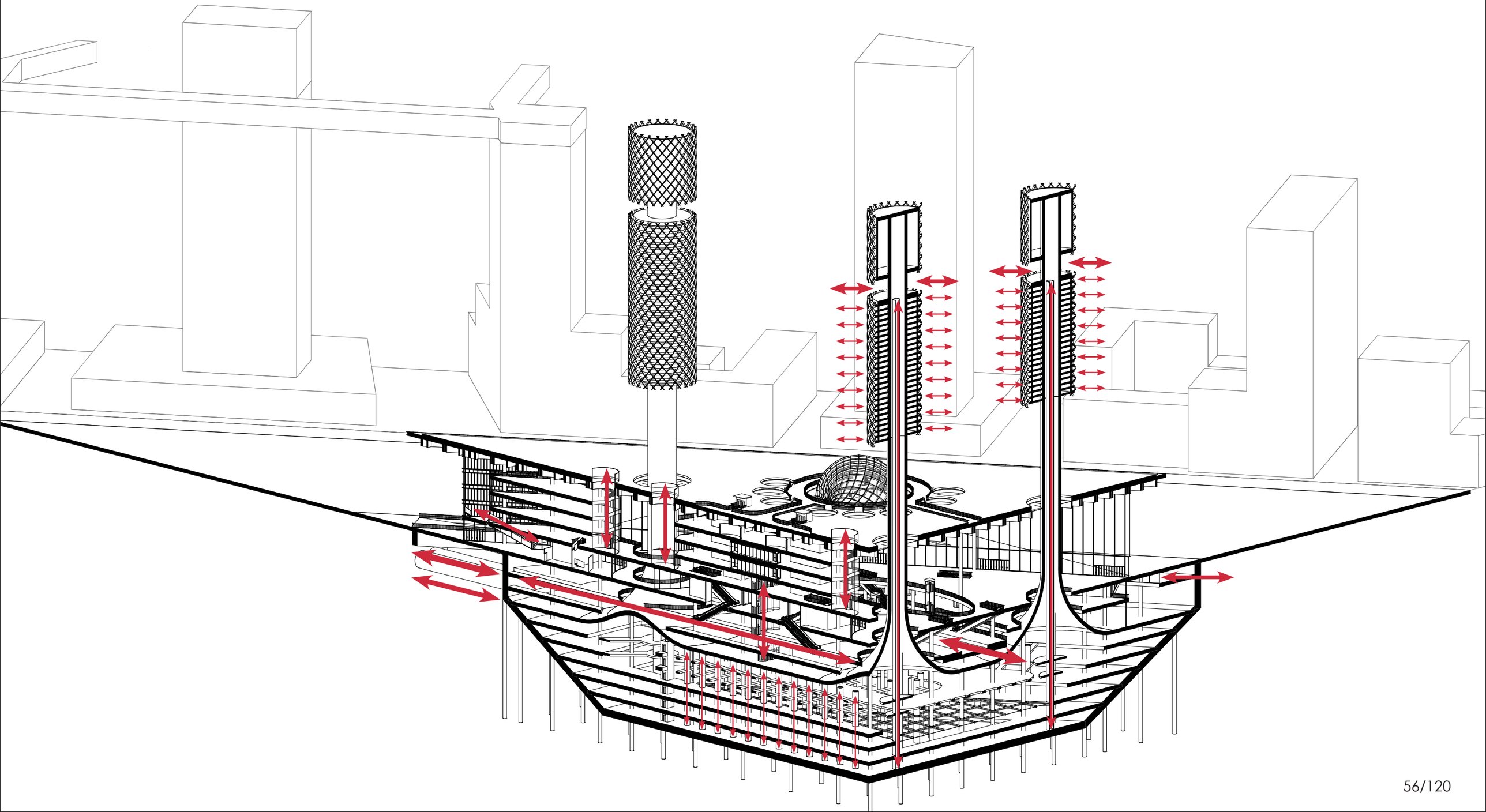
Public space & additional program







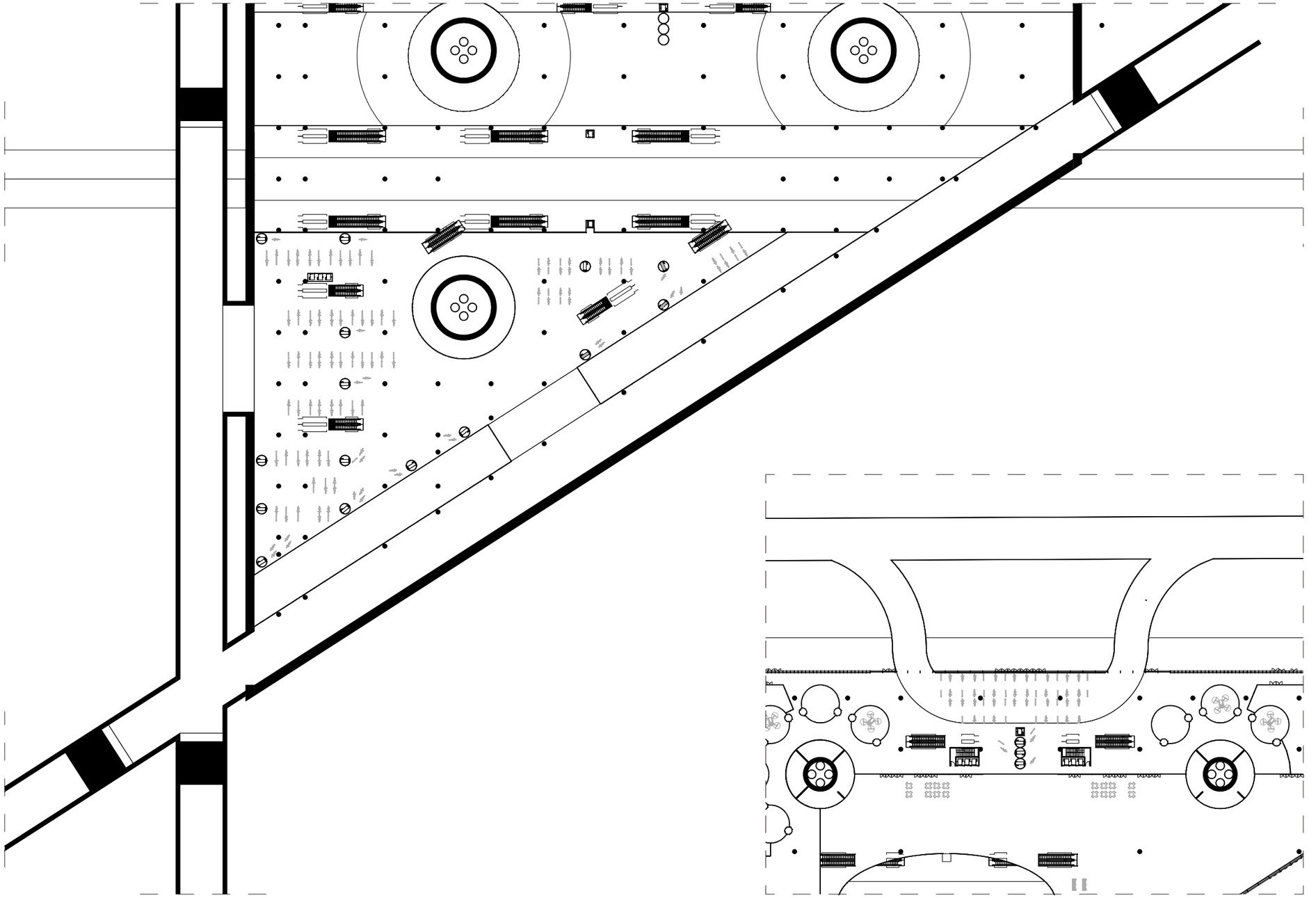


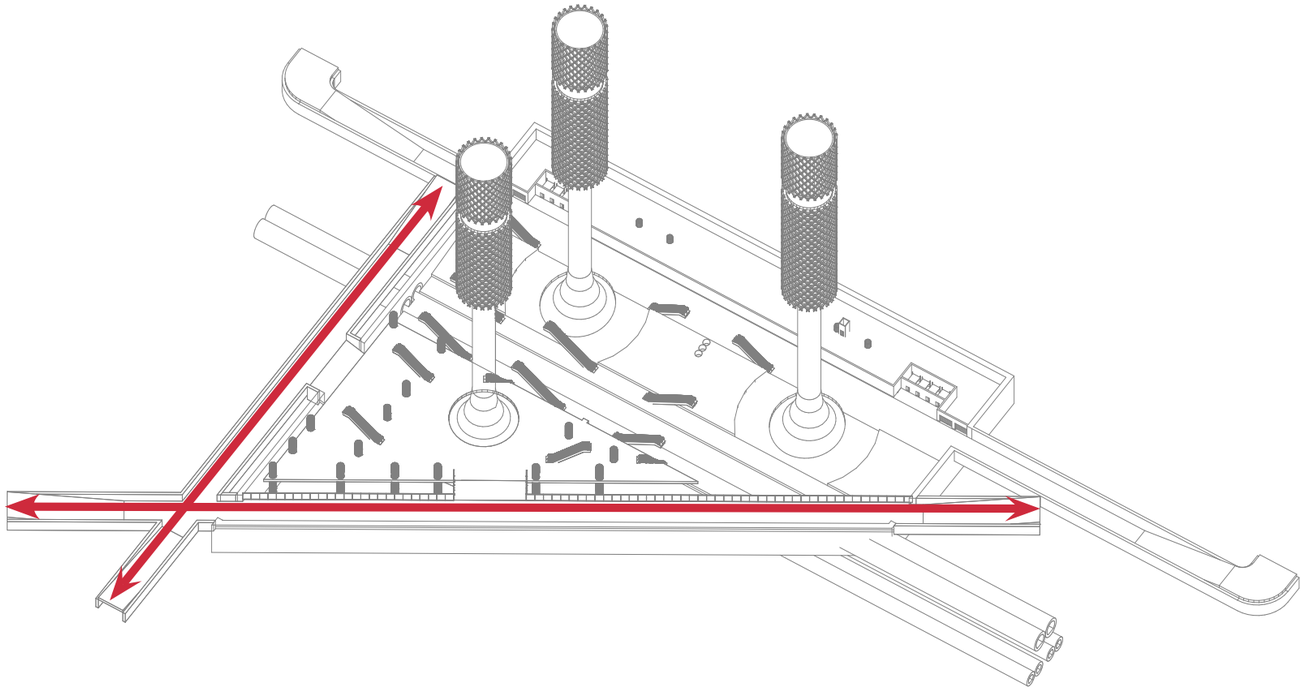


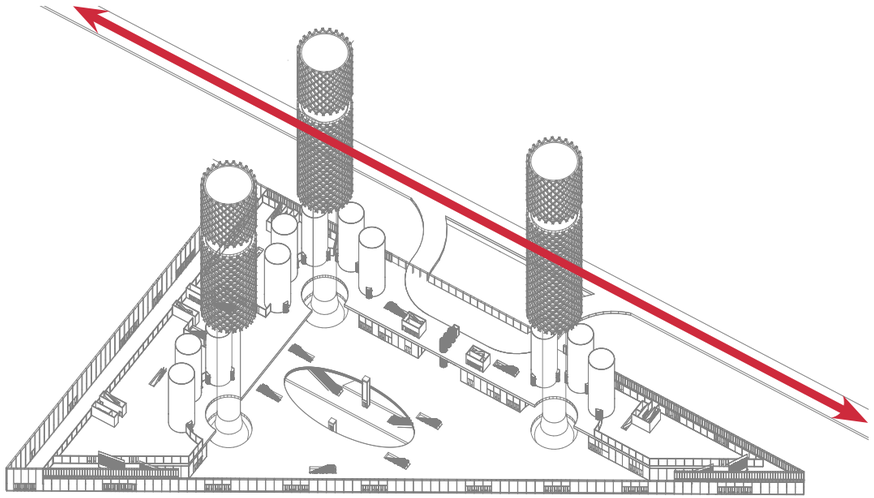
AN OFFICE WORKER...


FCO Cycle

PLAN BIKES
-1 AND +1 LEVEL

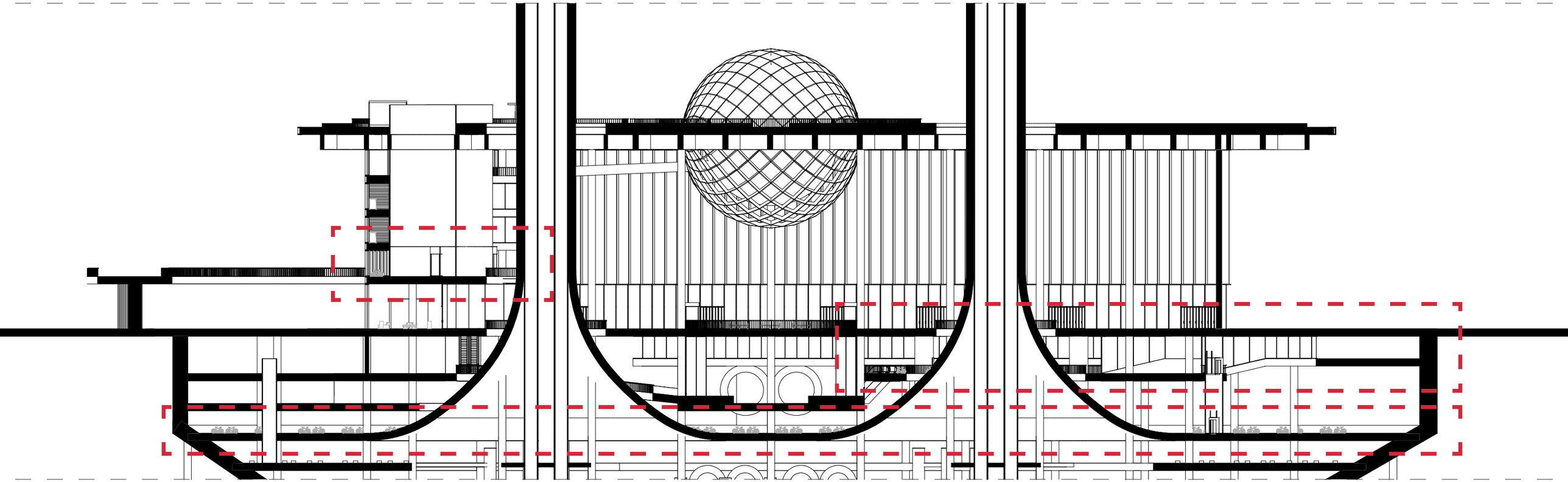


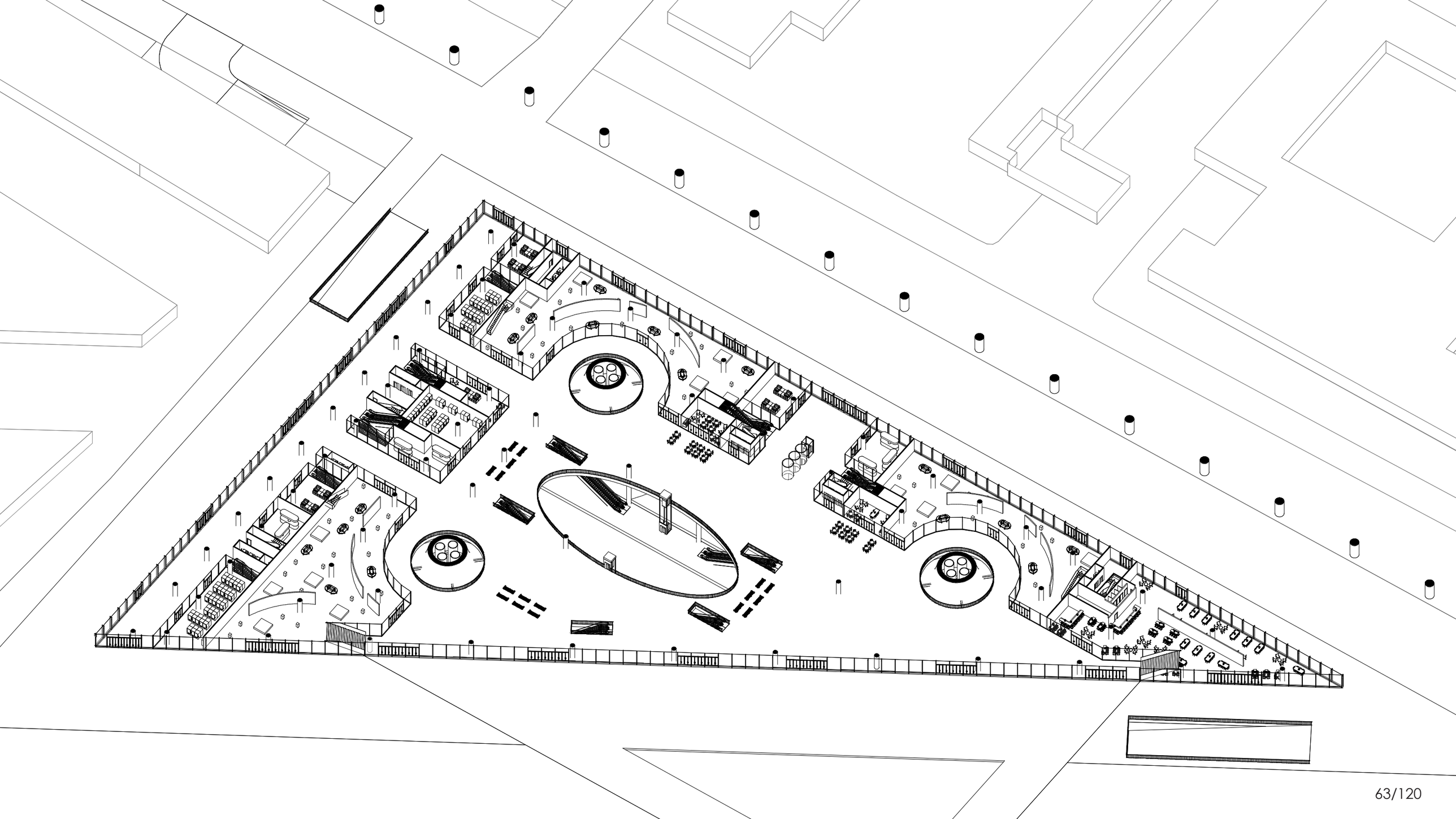


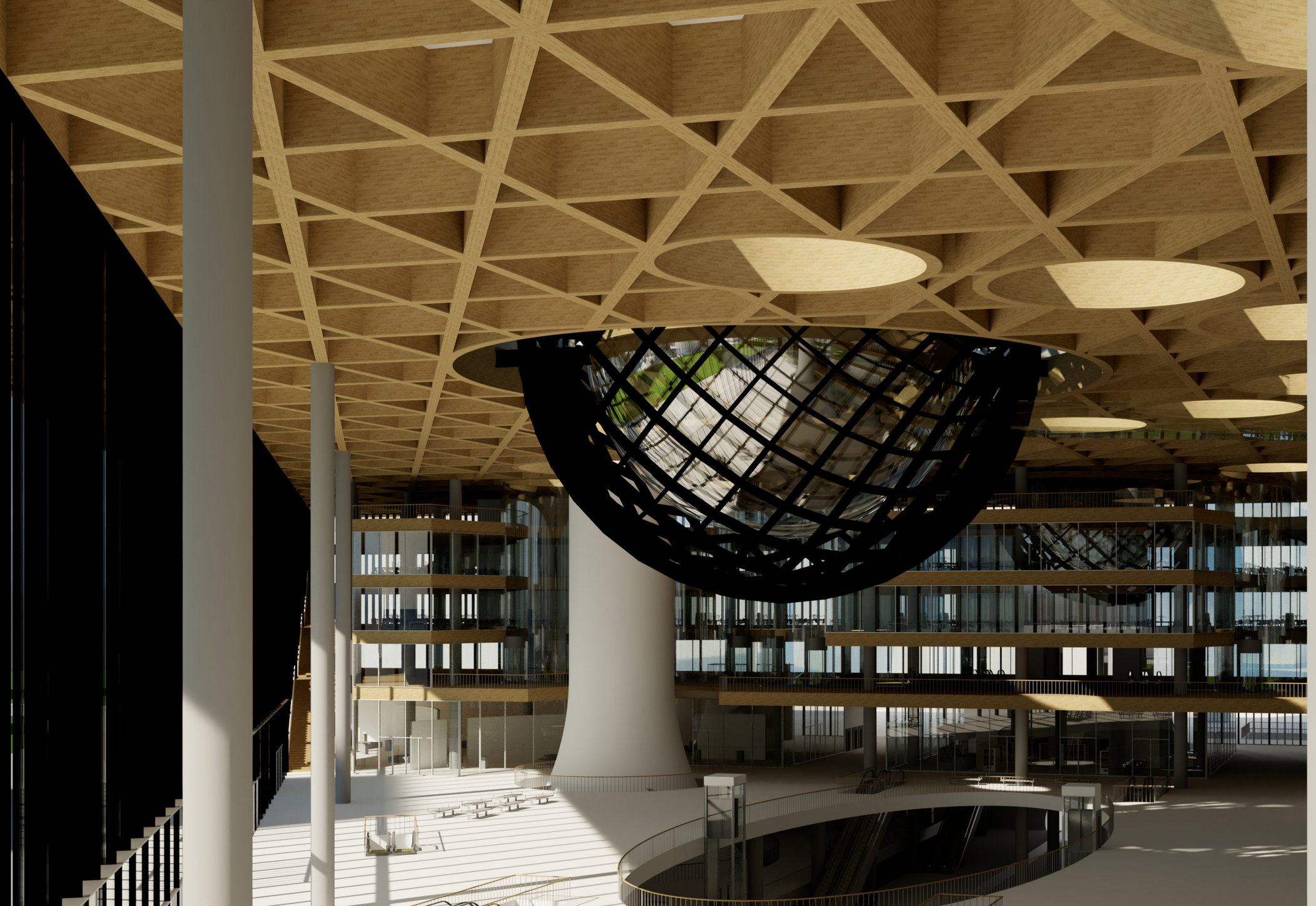


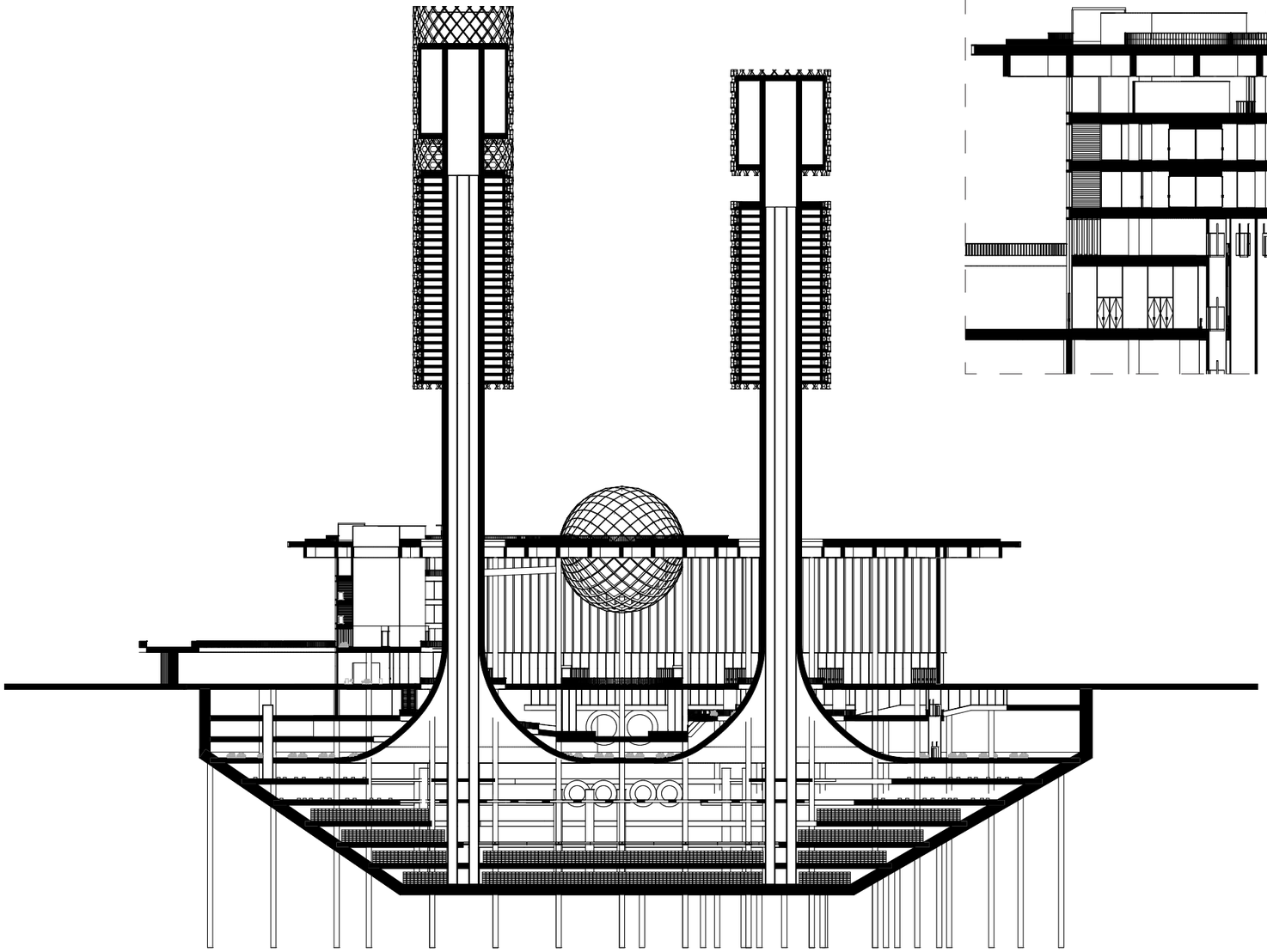

BALDER
BALDER
BALDER
BALDER

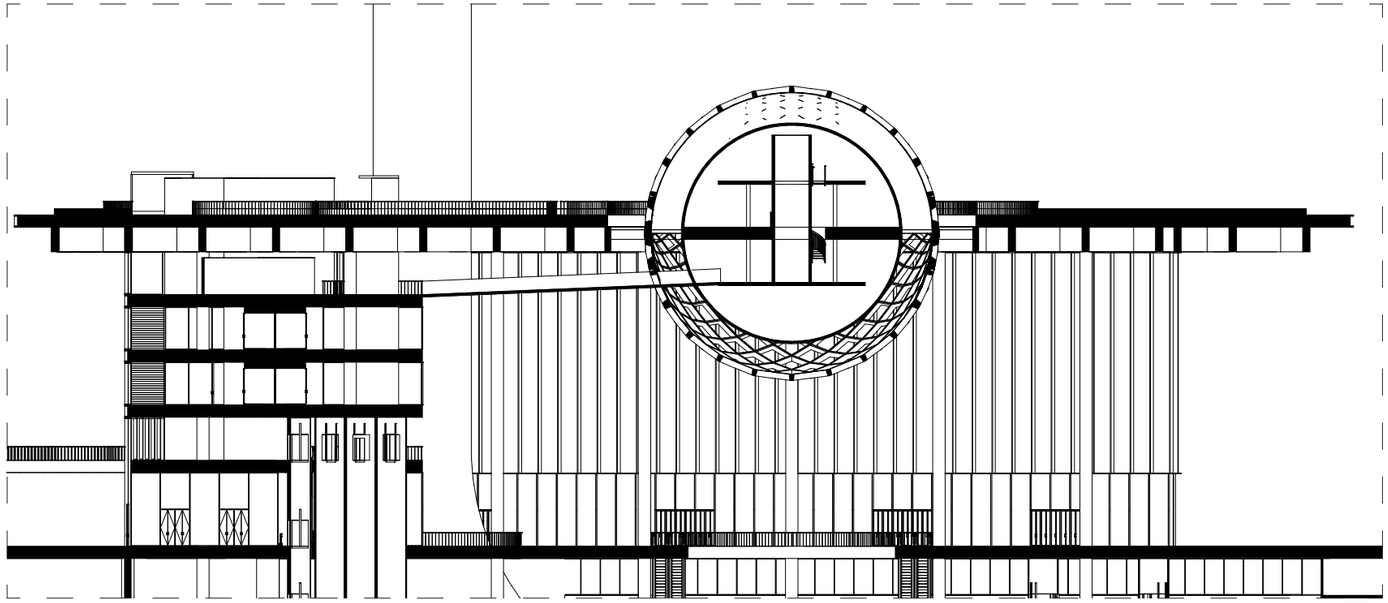
CROSS SECTION



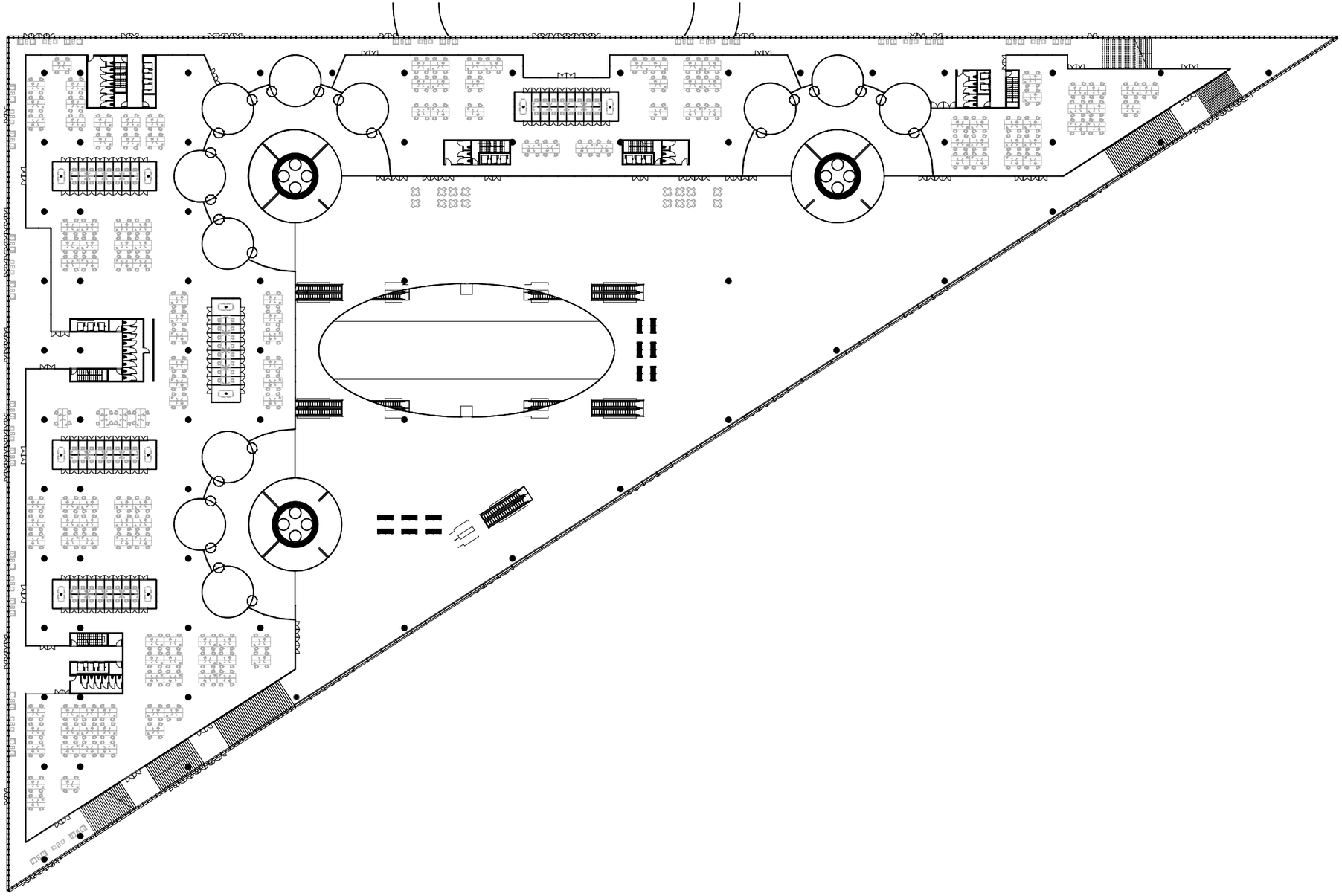




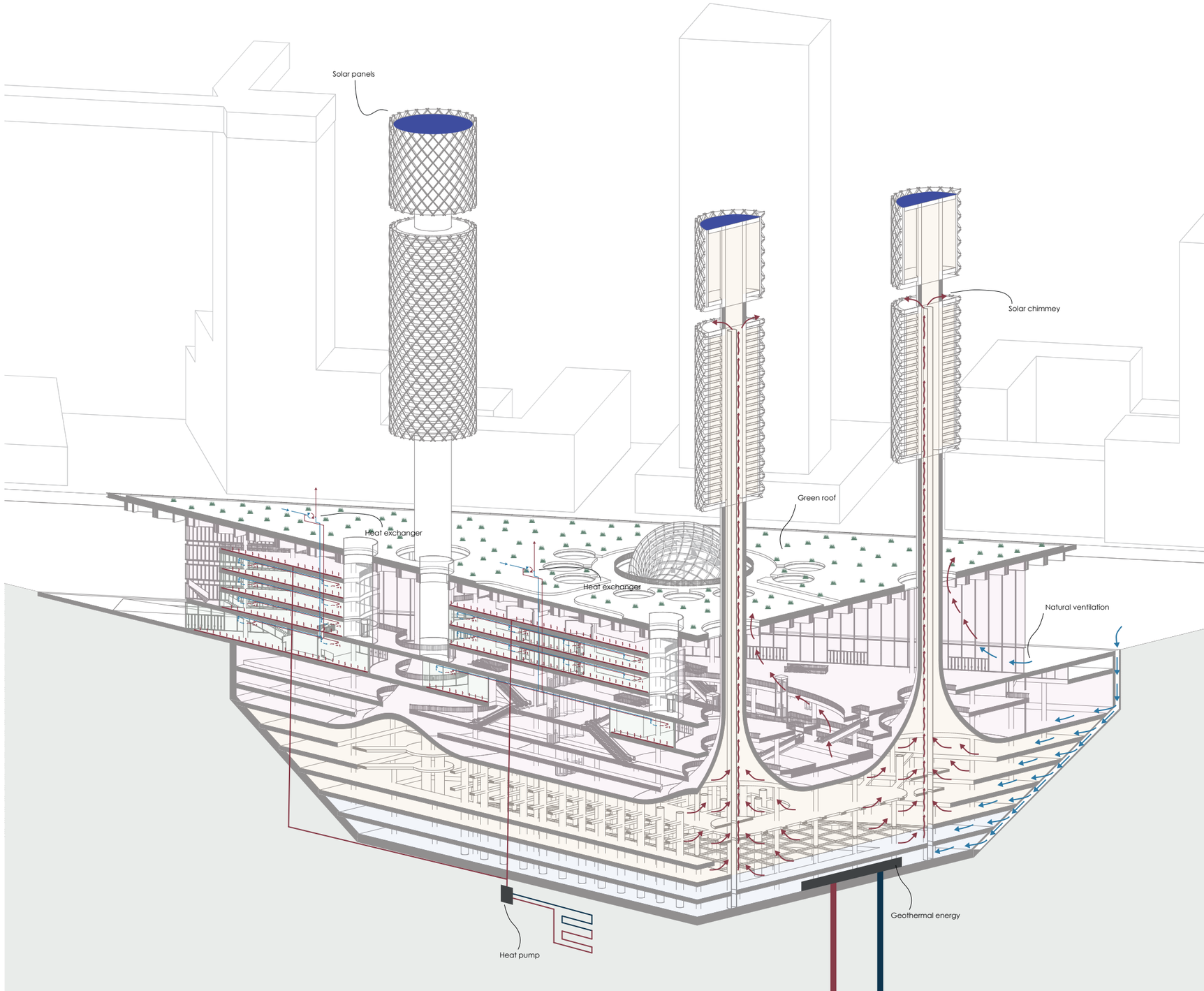




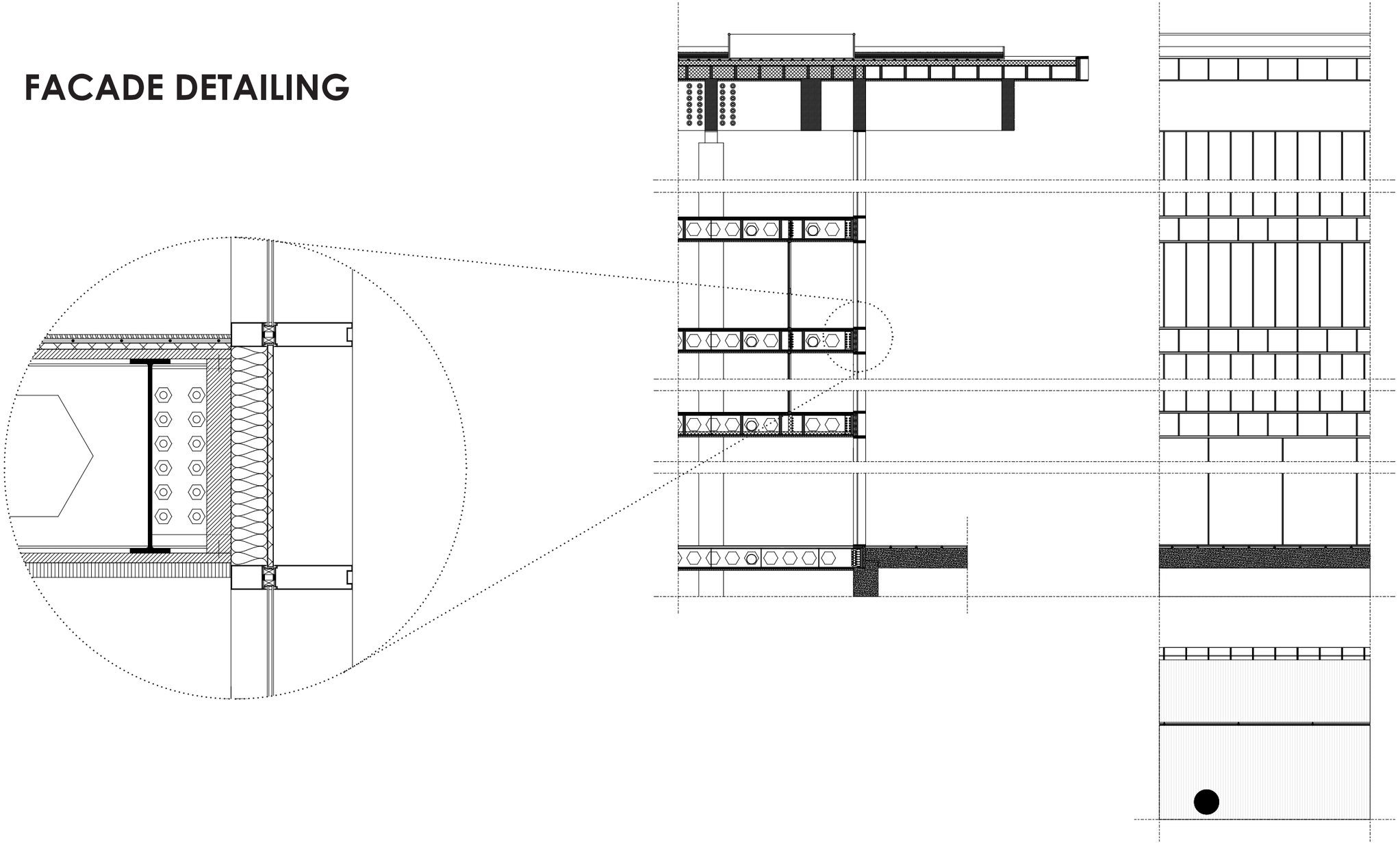
PLAN OFFICES



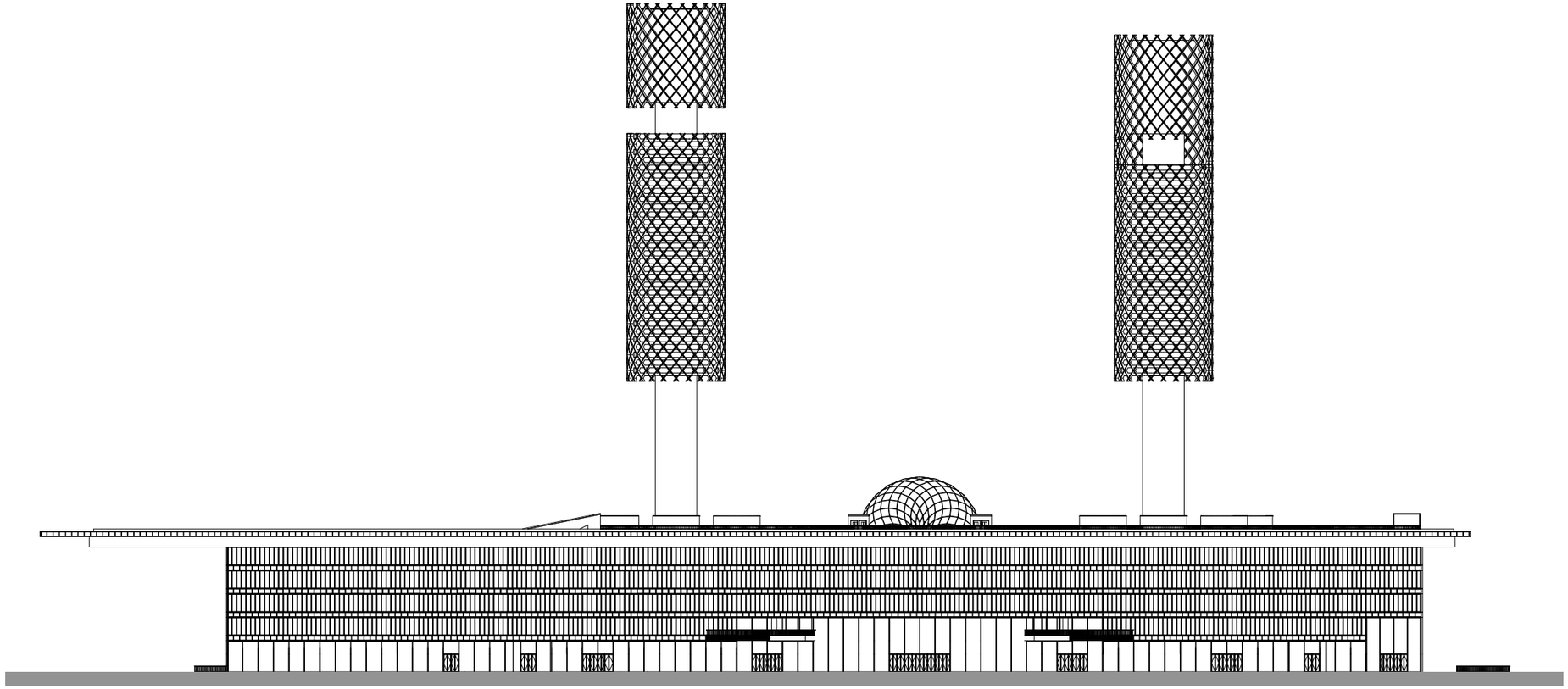
BUILDING CLIMATE CONCEPT



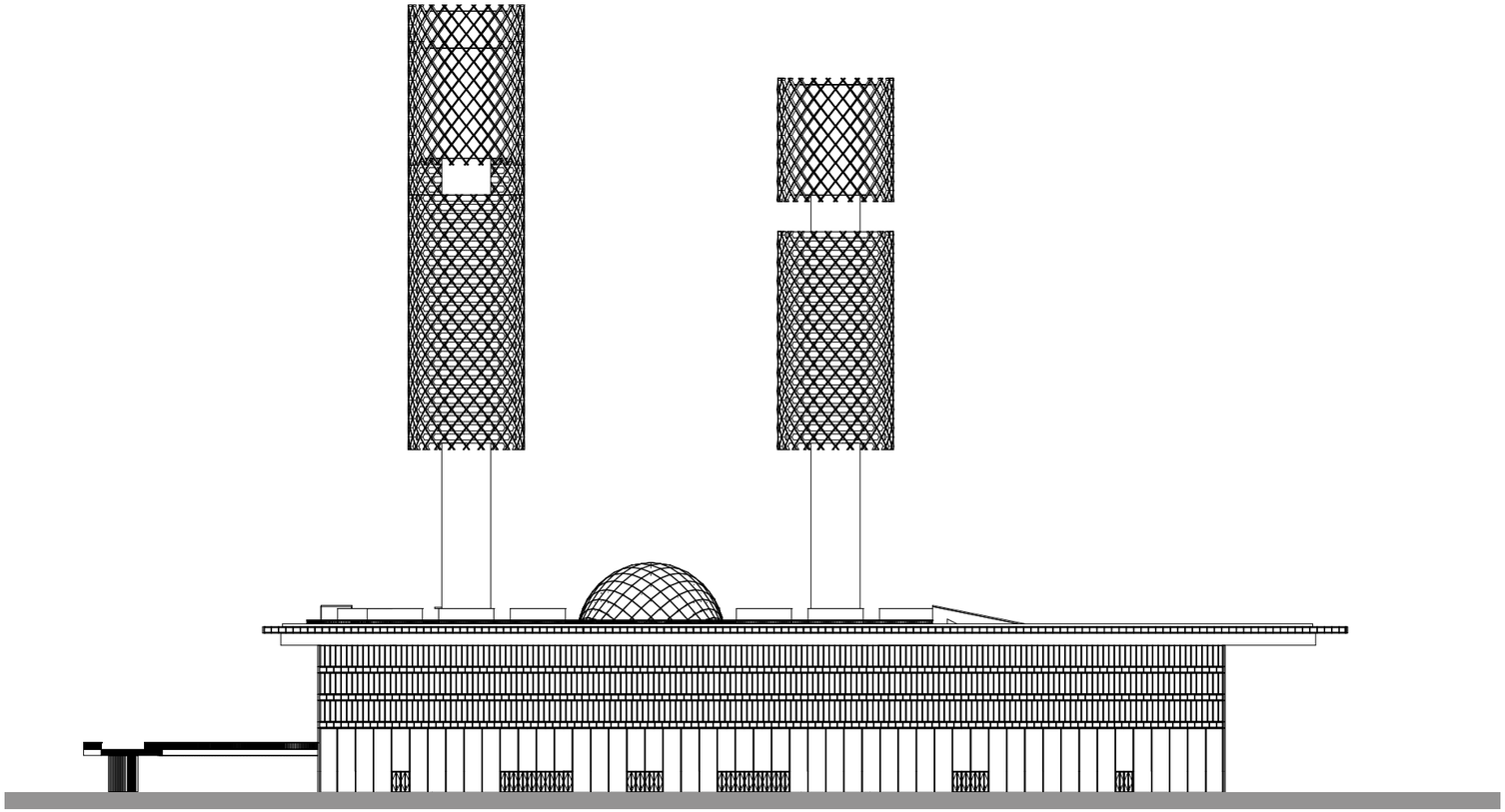
FACADE DETAILING

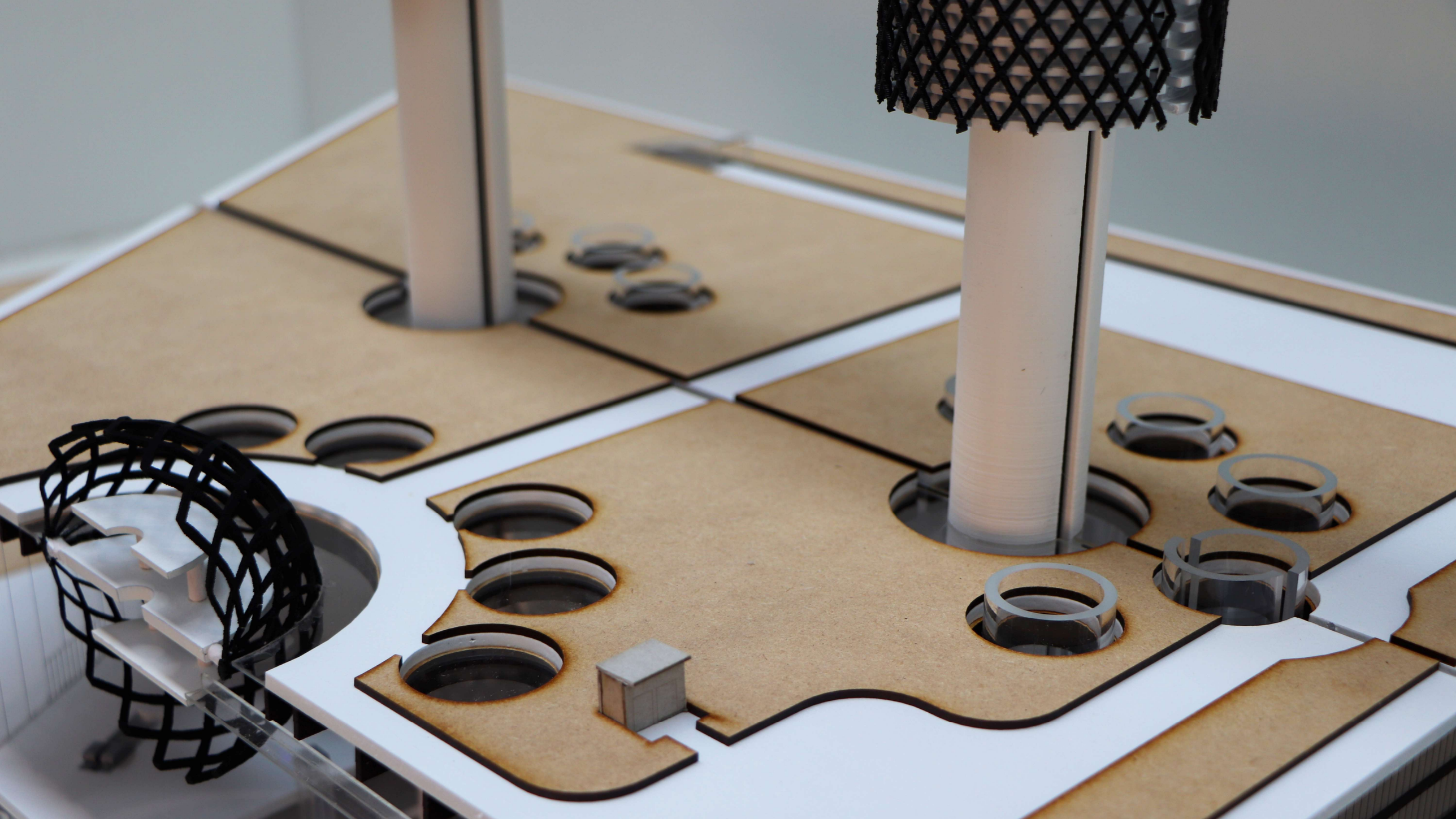


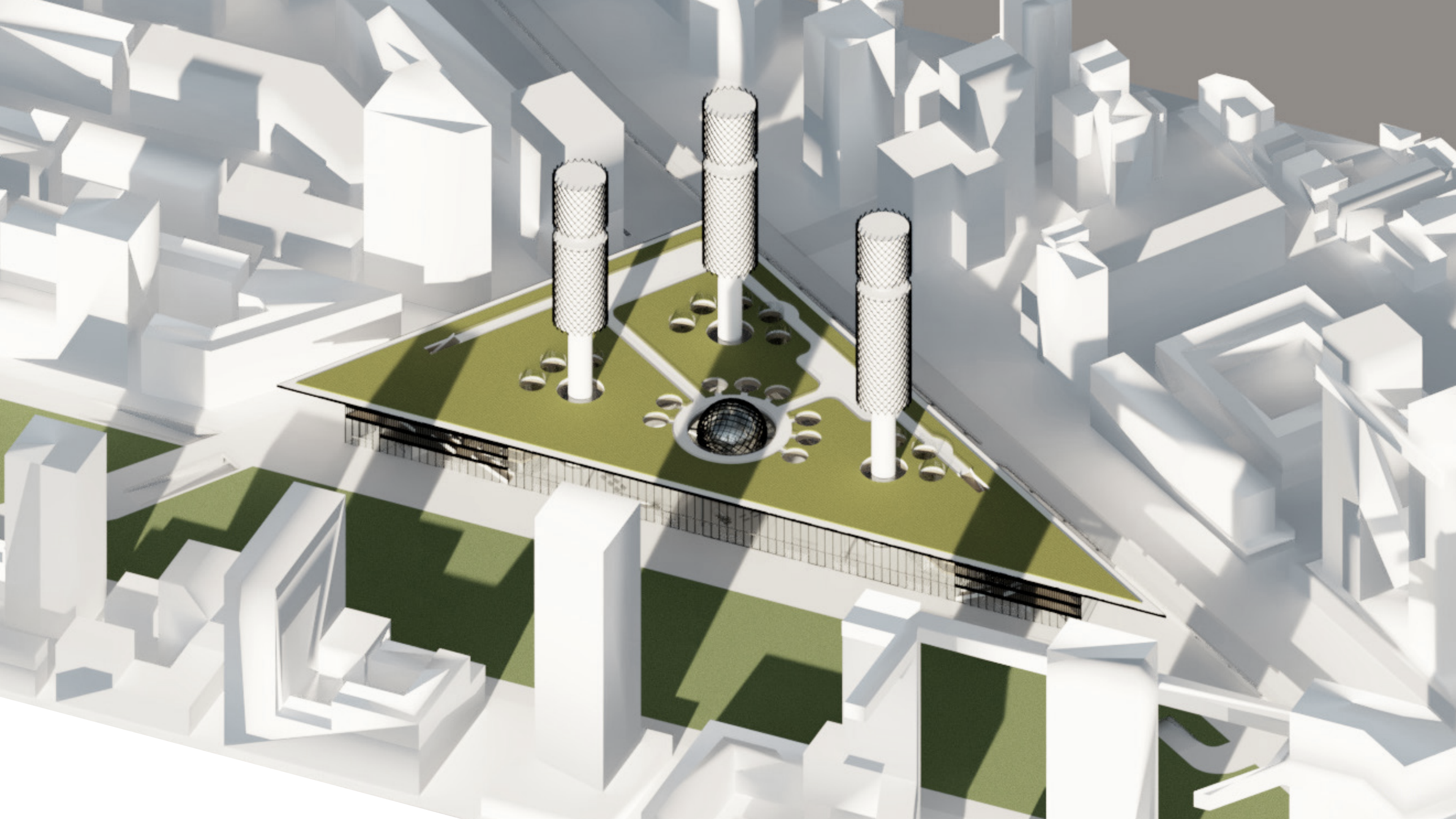
ELEVATION NORTH



ELEVATION WEST

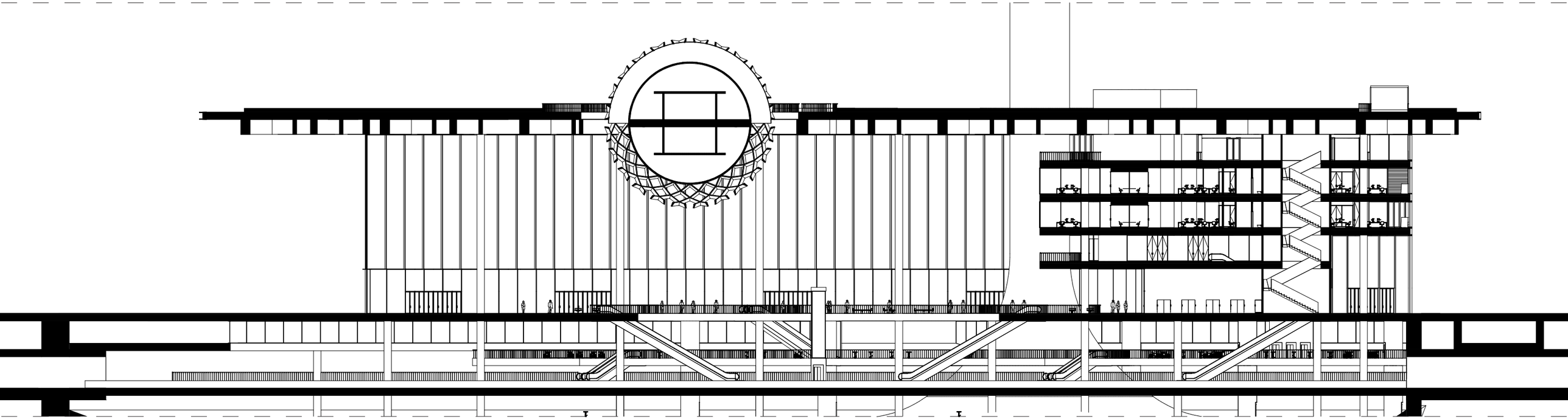


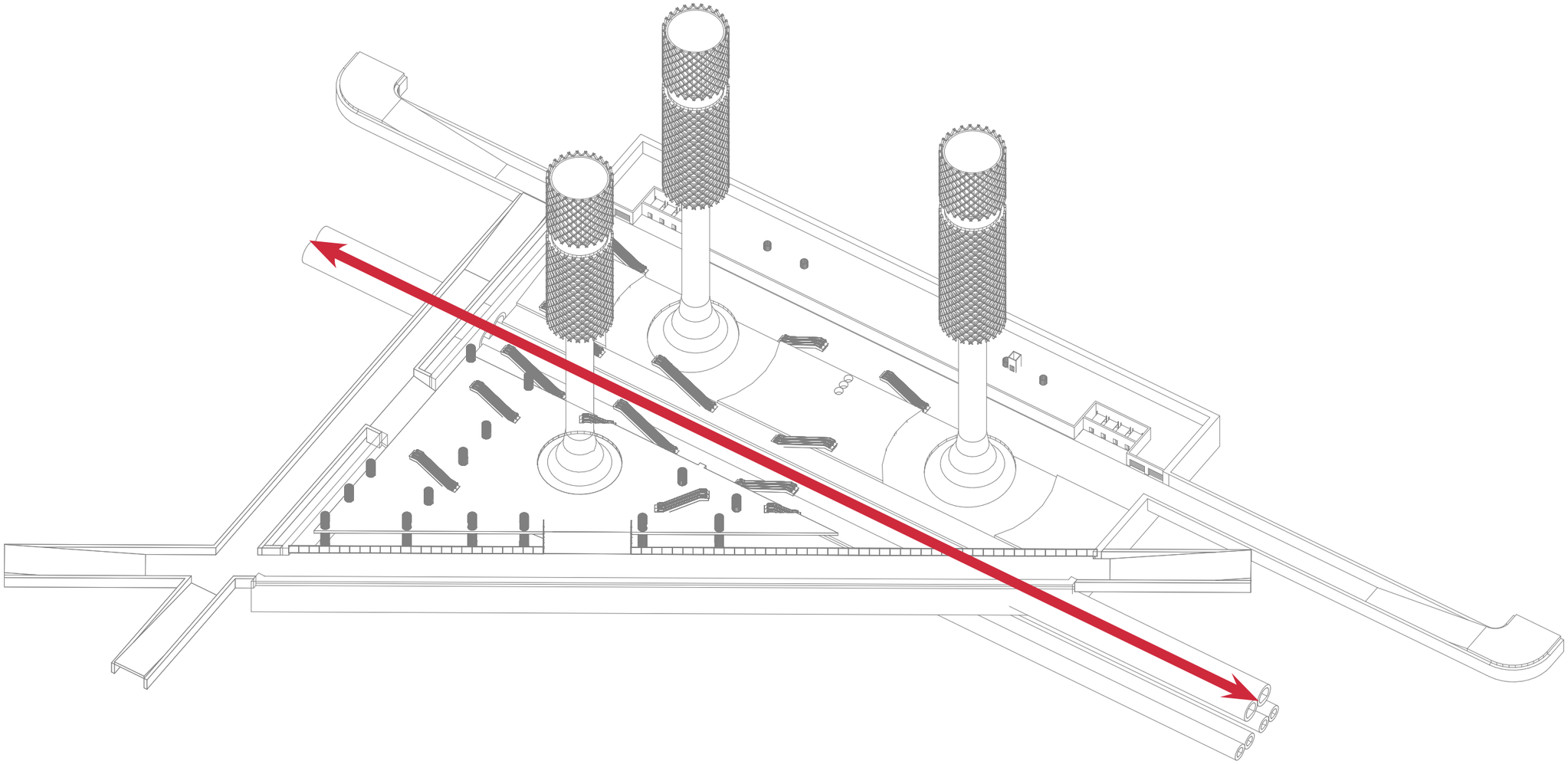




A TRAVELLER...

SECTION METRO



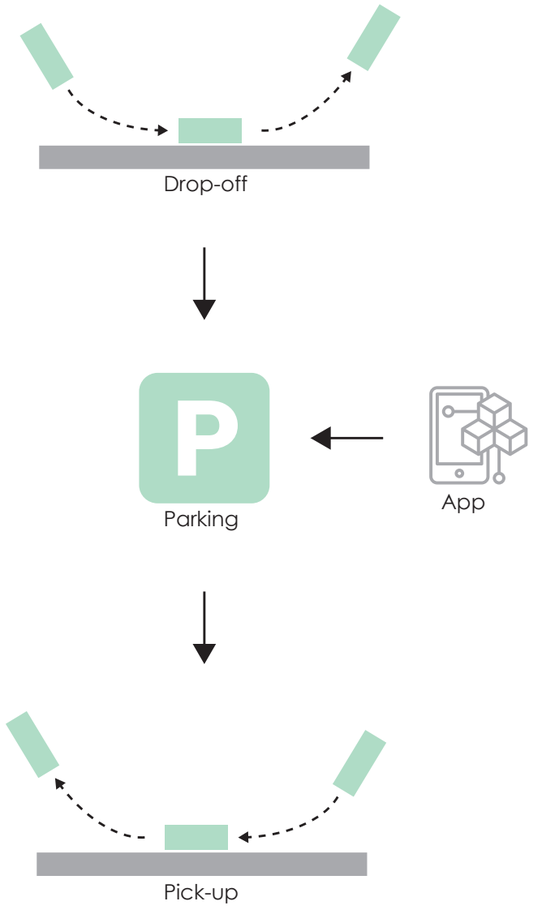



AREN
SALE

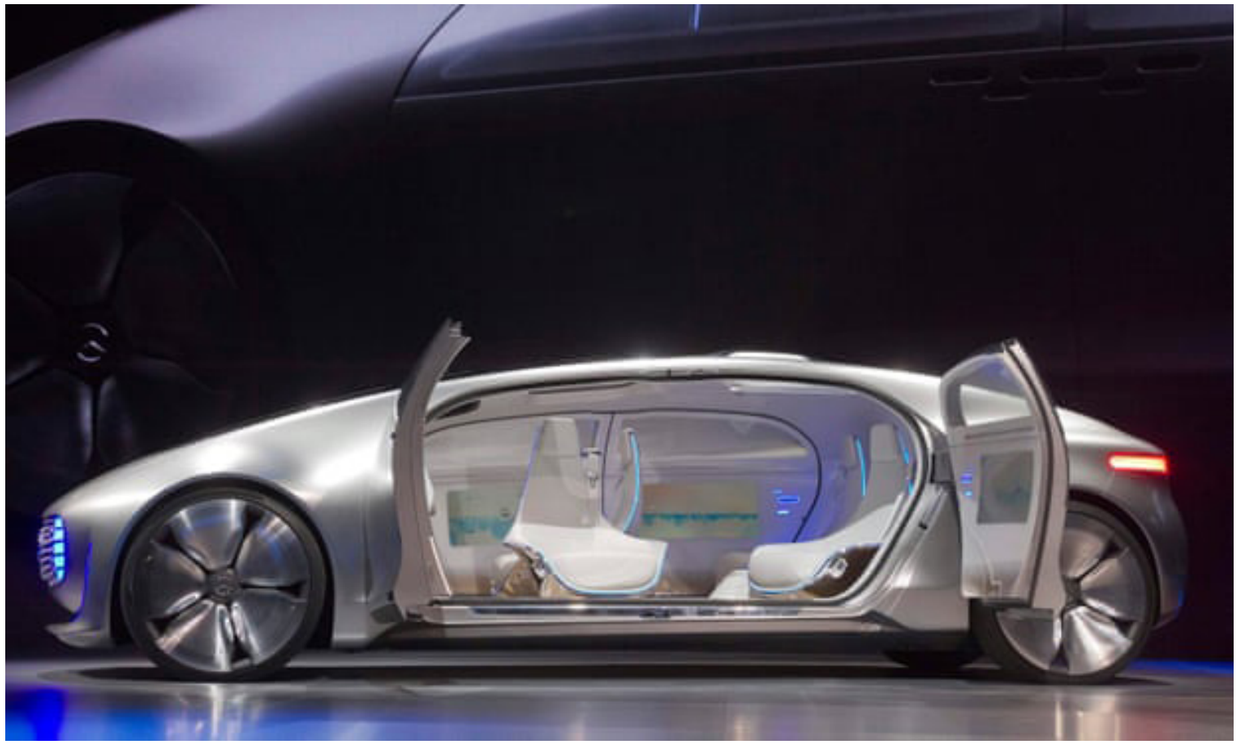
BUS

BUS TERMINAL 2100

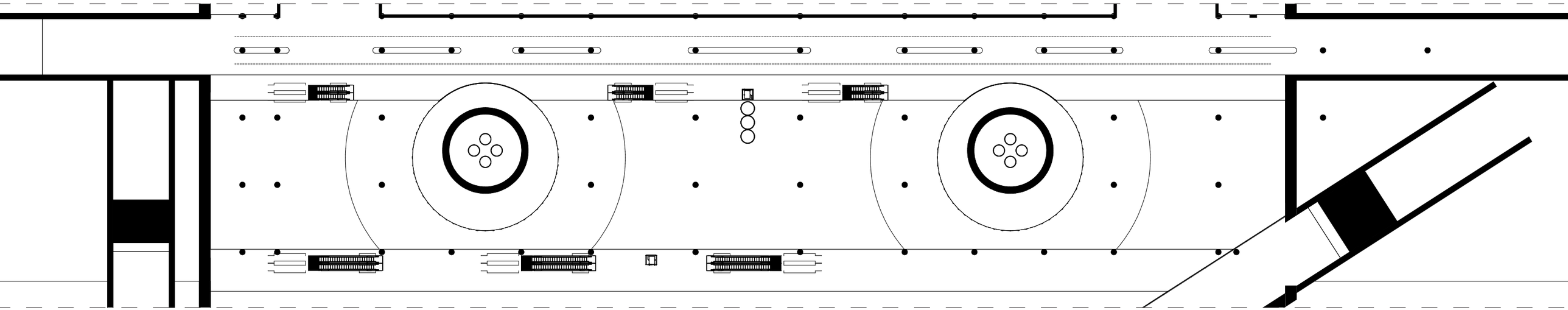
CAR

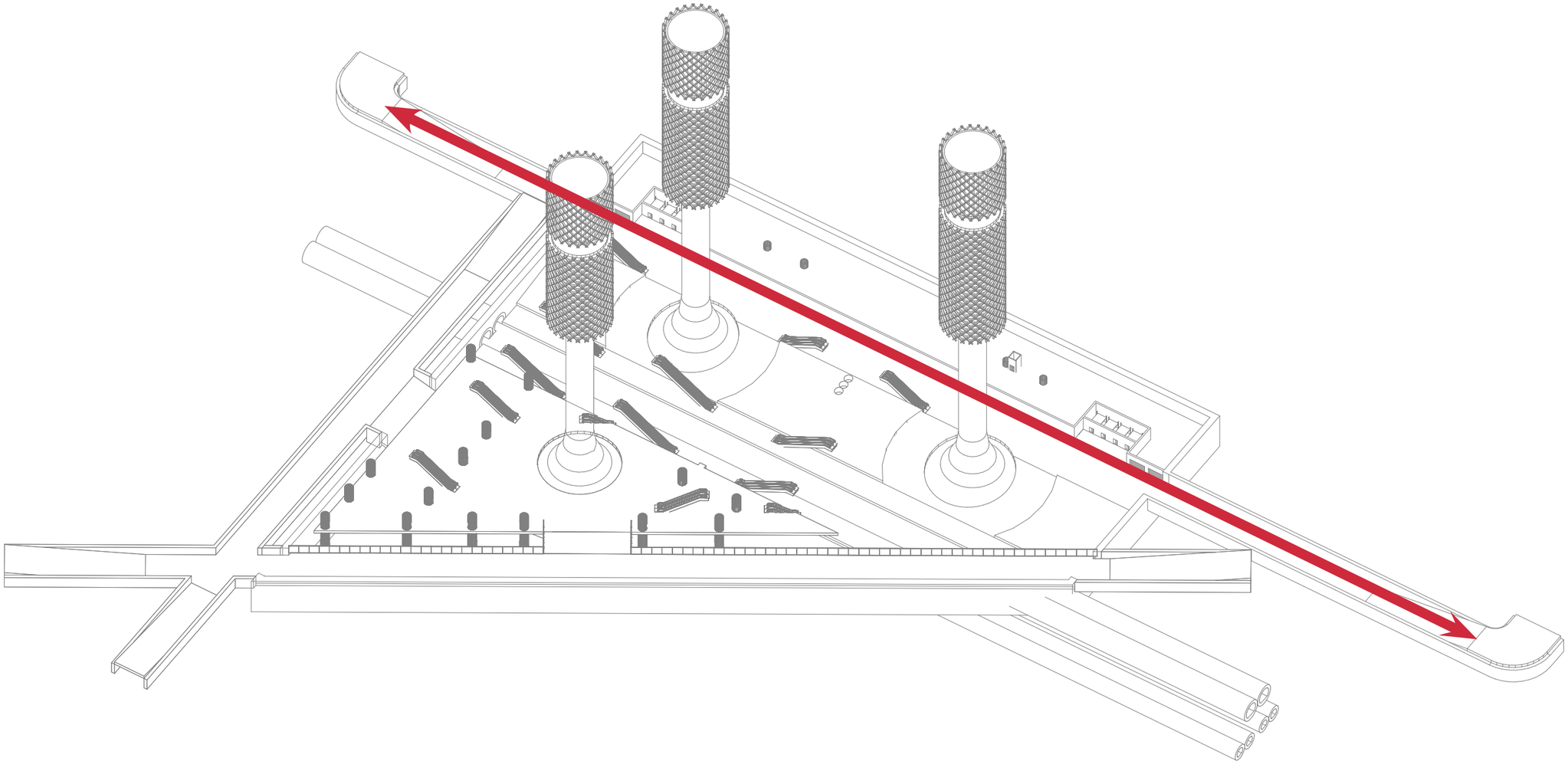


AUTONOMOUS CAR PARKING CONCEPT



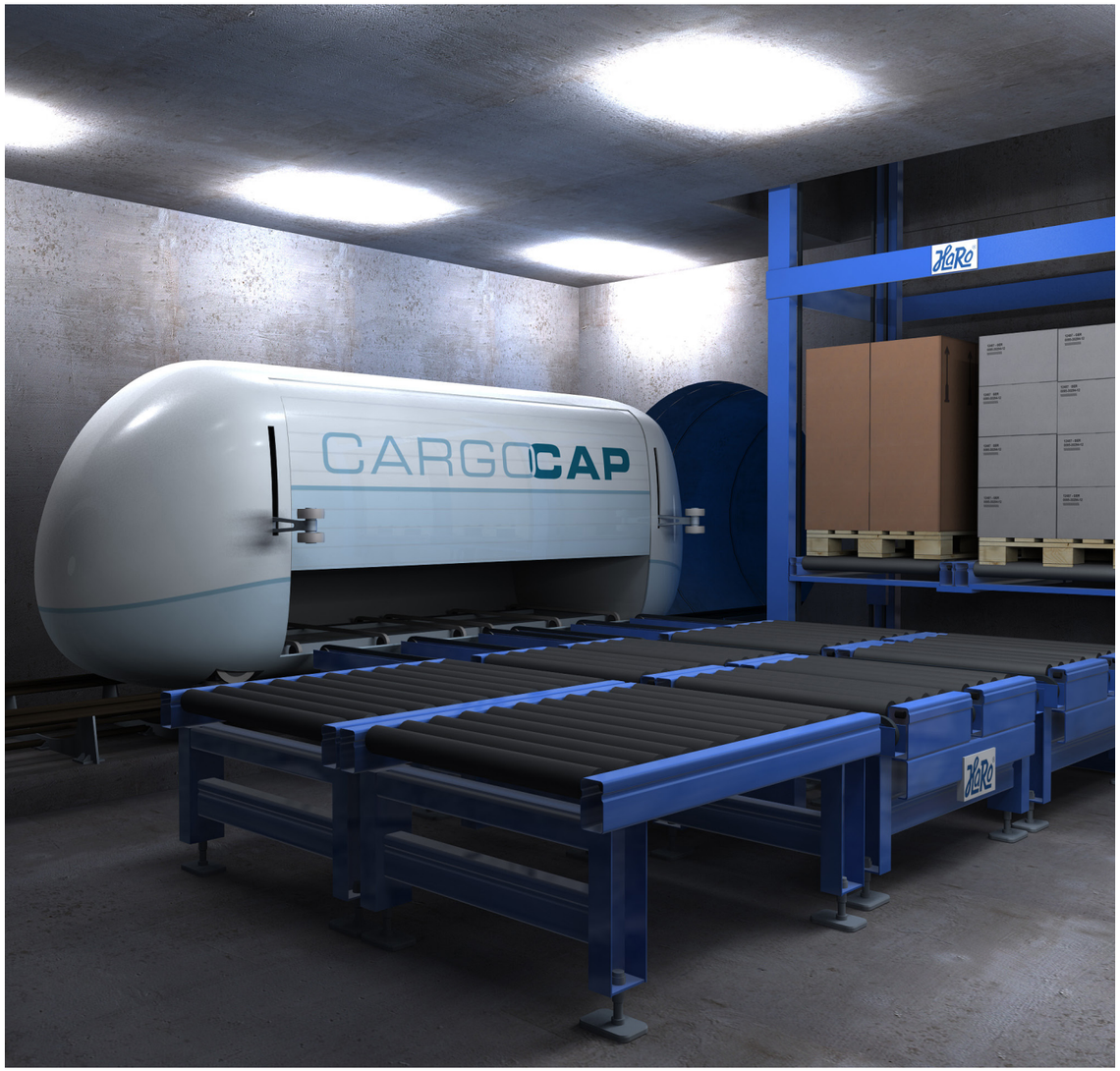
PLAN BUS & CAR TERMINAL



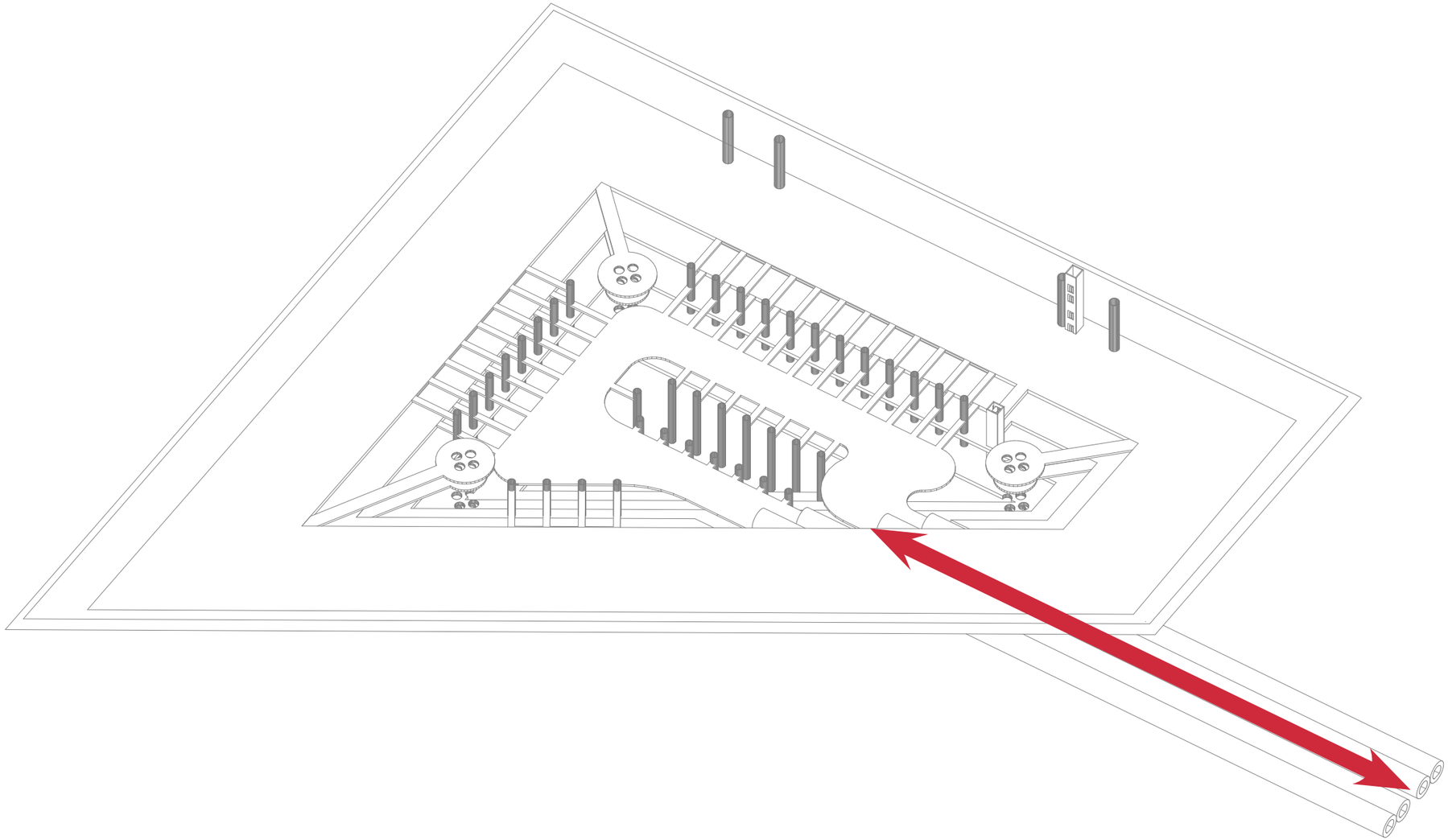


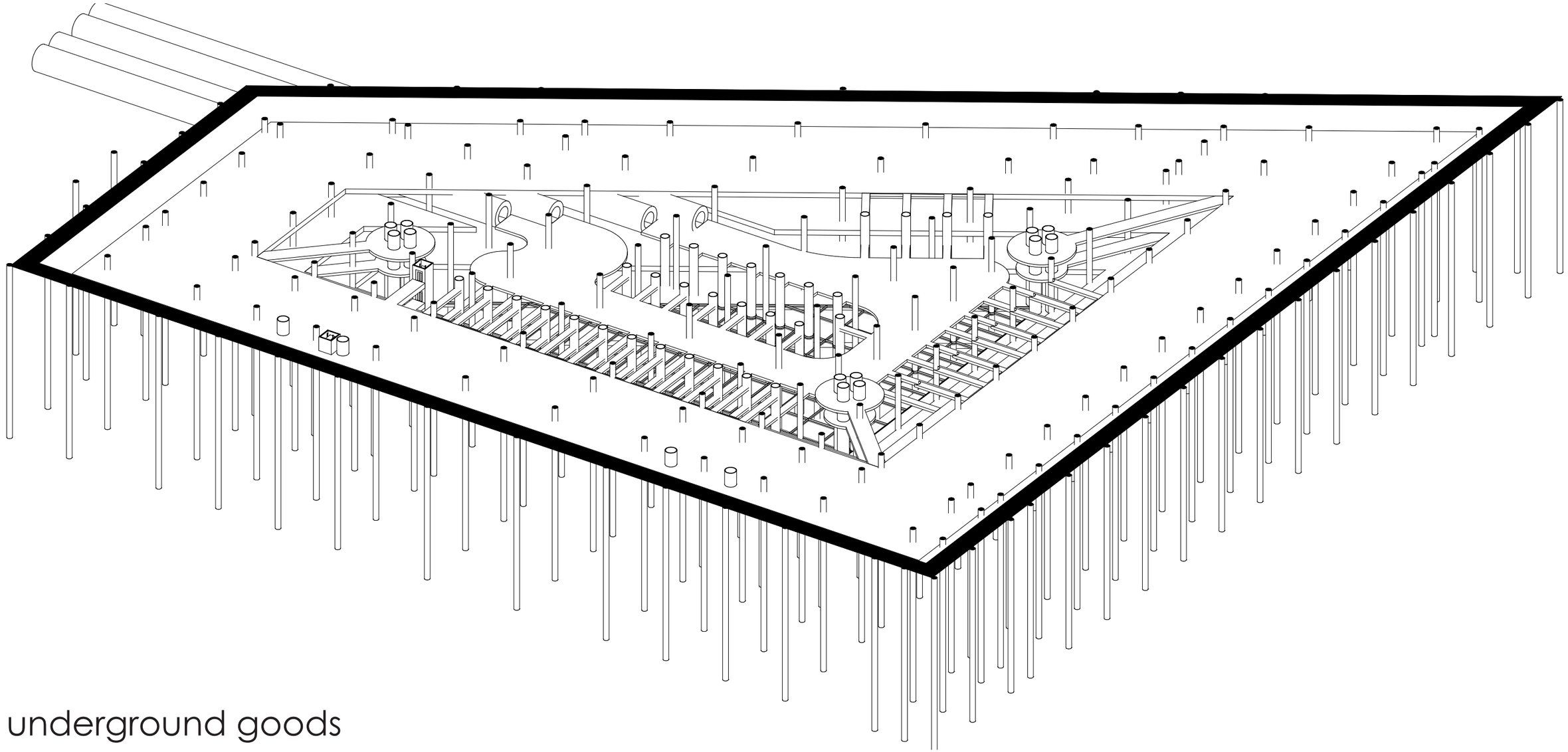
A PACKAGE...

FREIGHT PODS

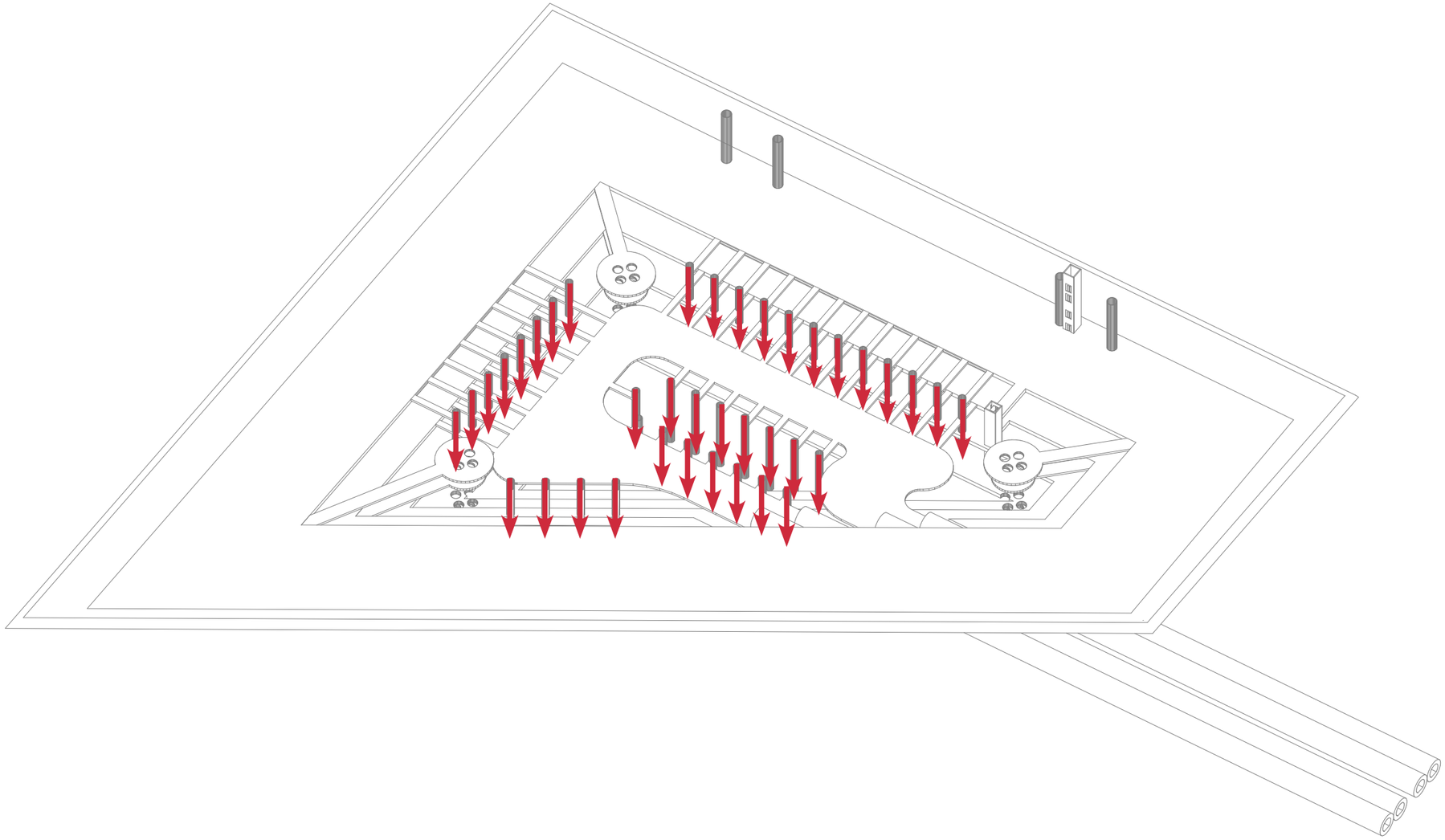


(CargoCap, 2007)

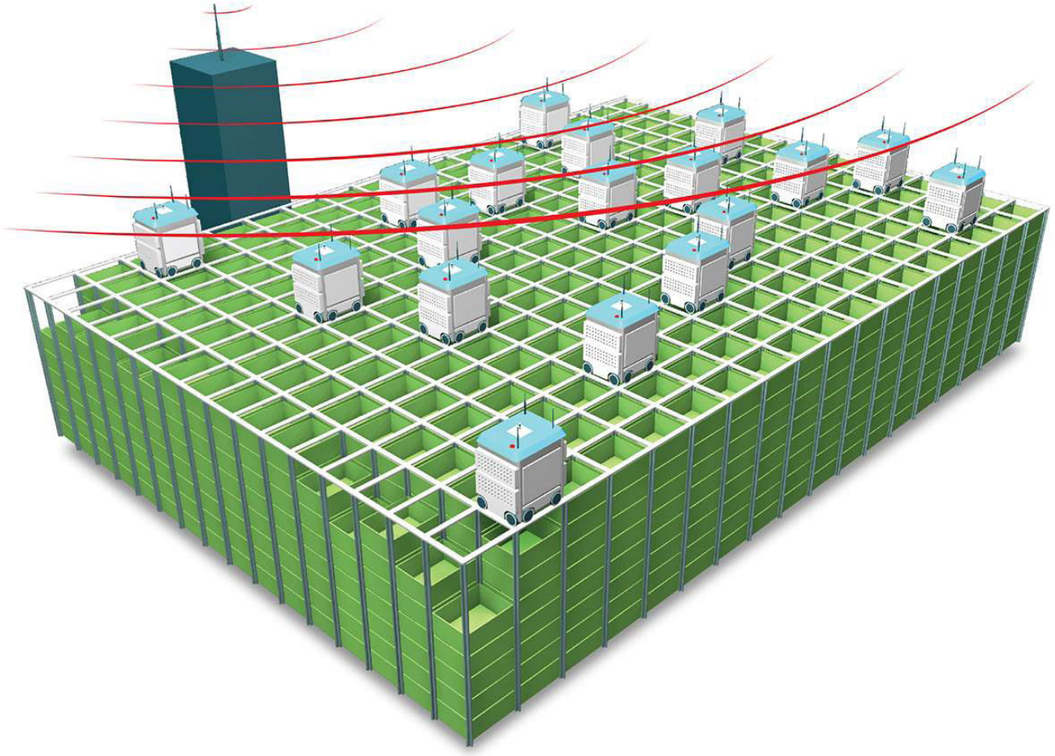


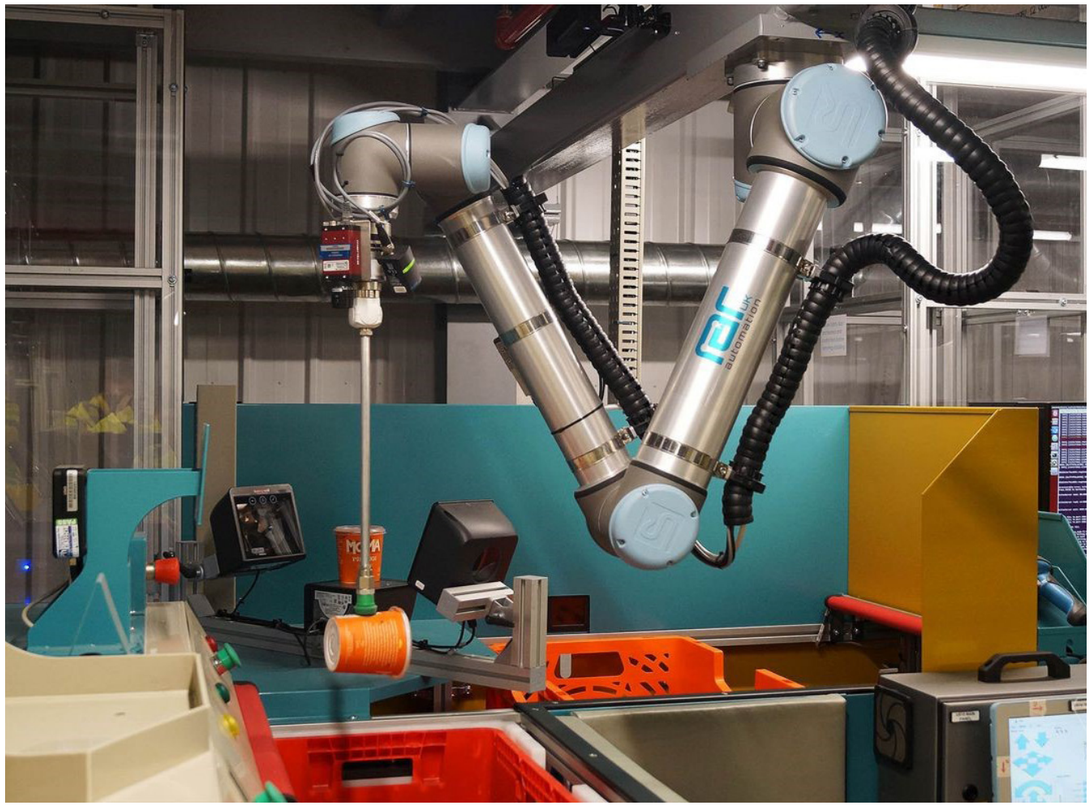


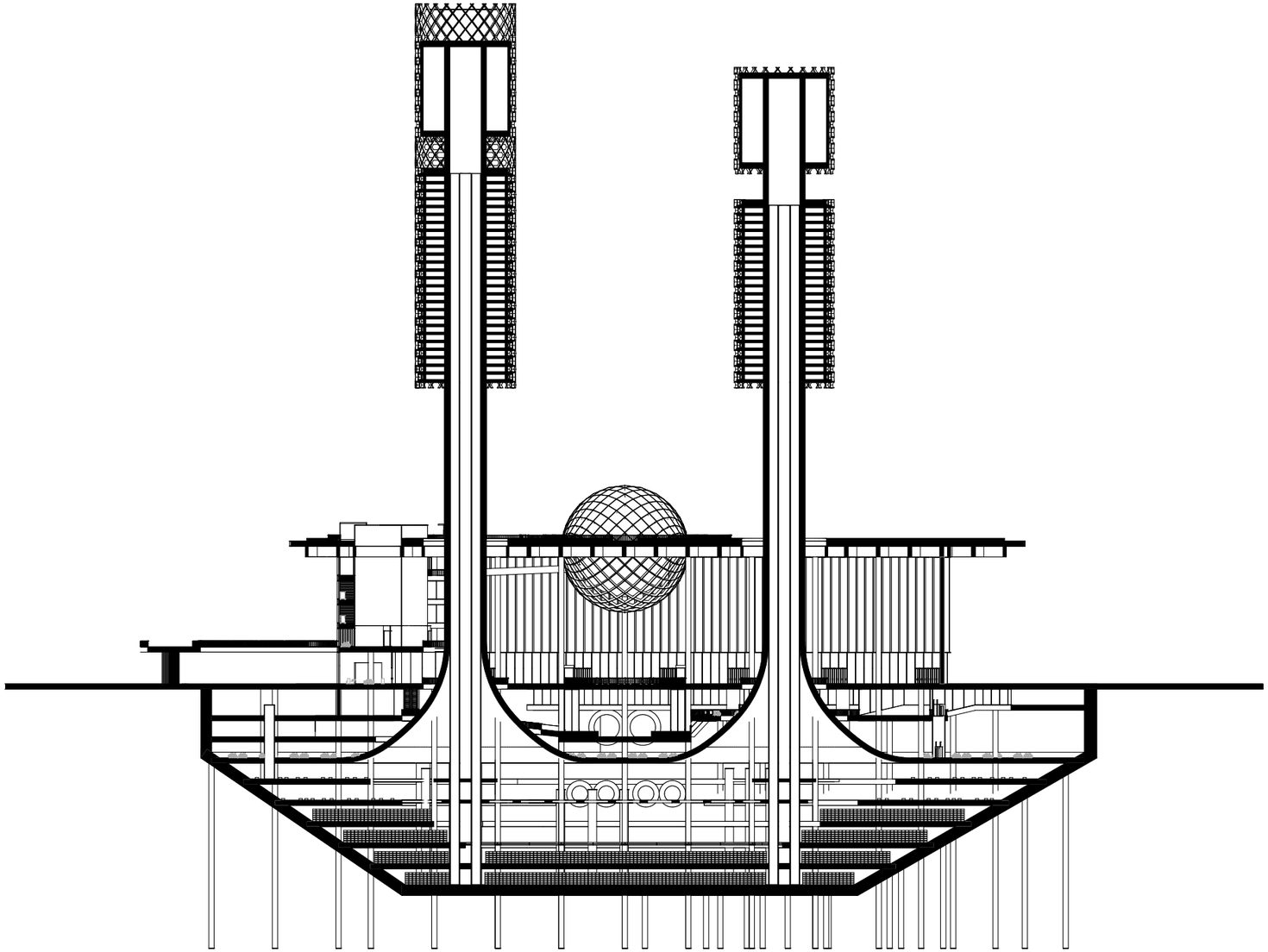
underground goods



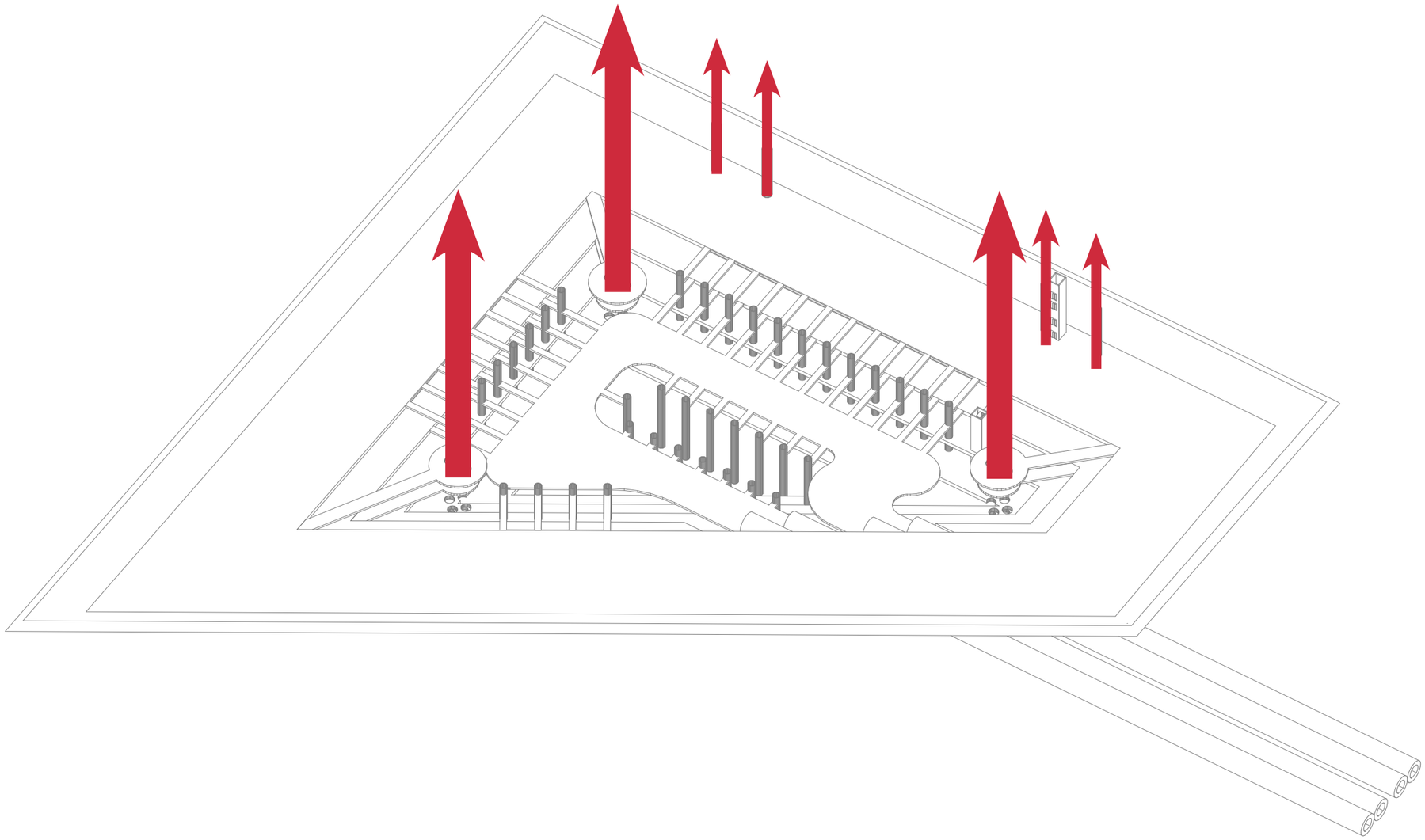

AA-A48 SP1
AA-C44 SP1
AA-B52 WP3

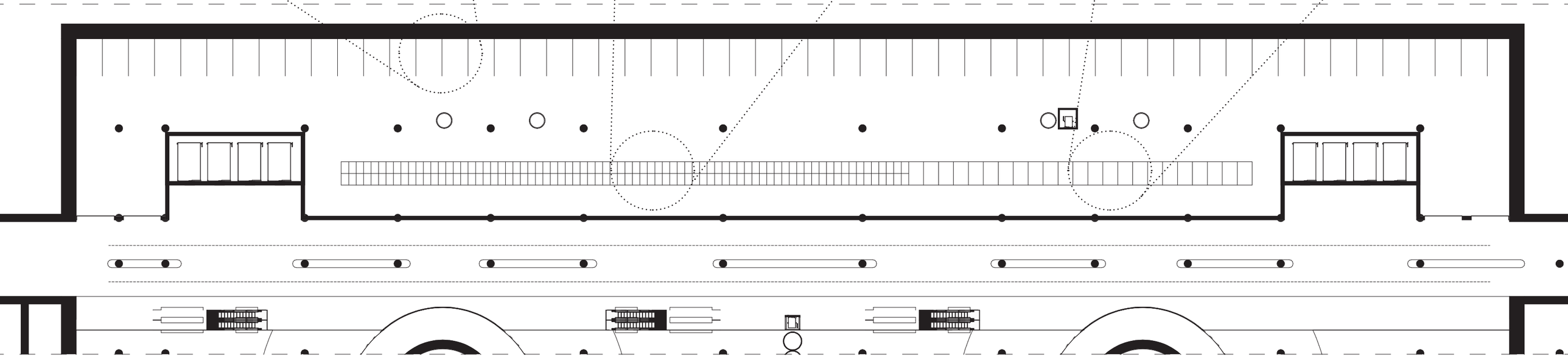




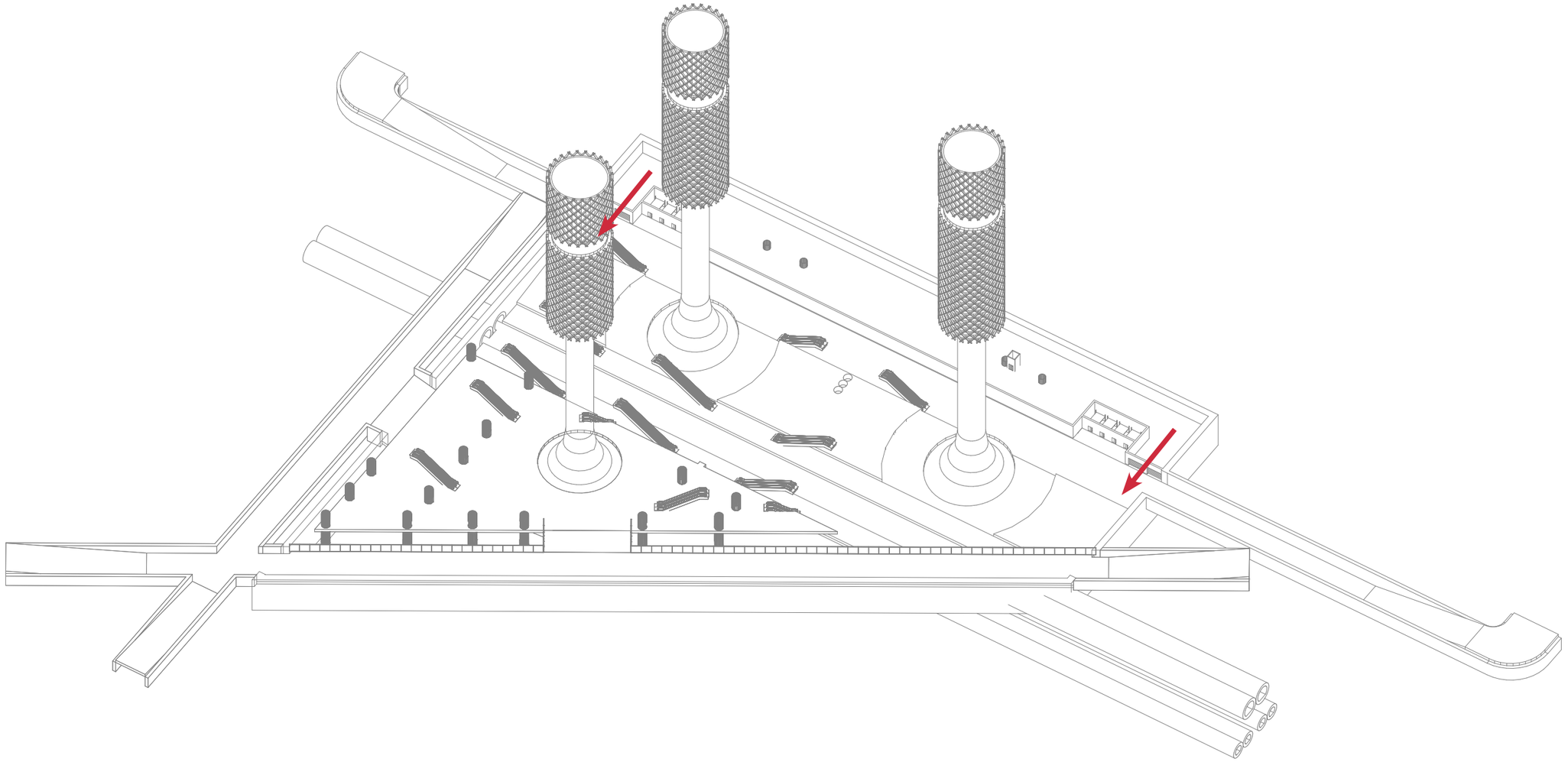


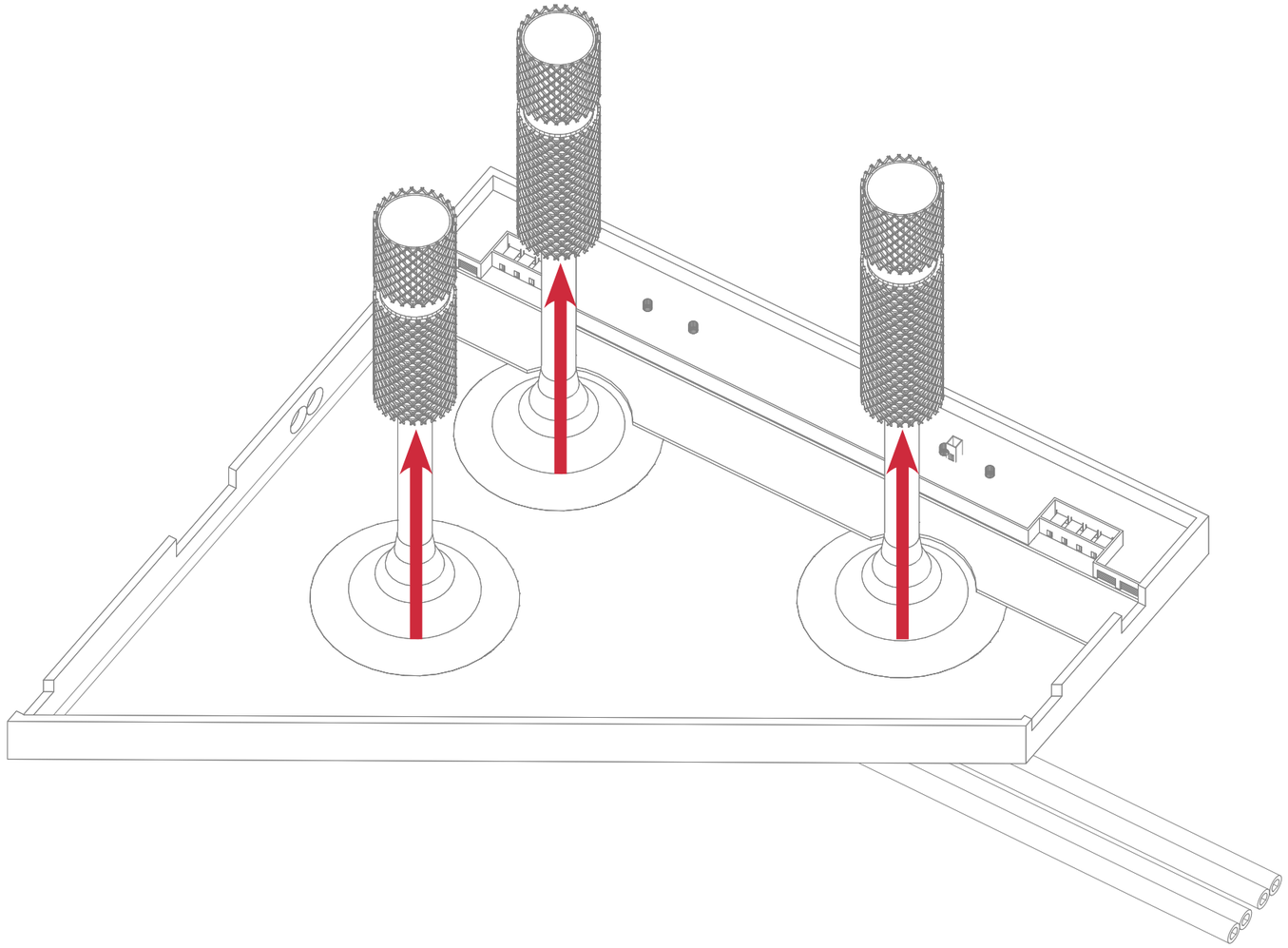
cross section

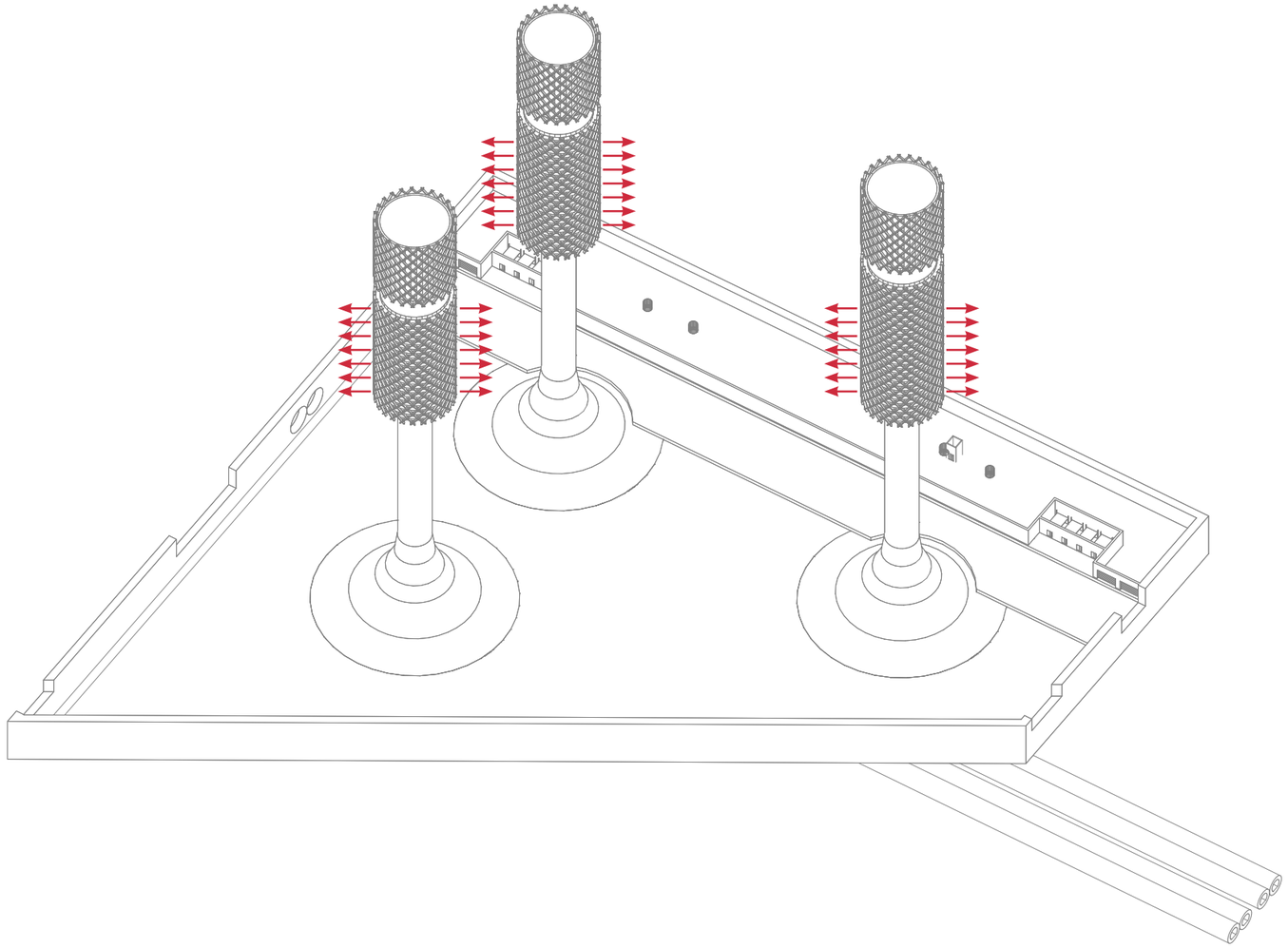




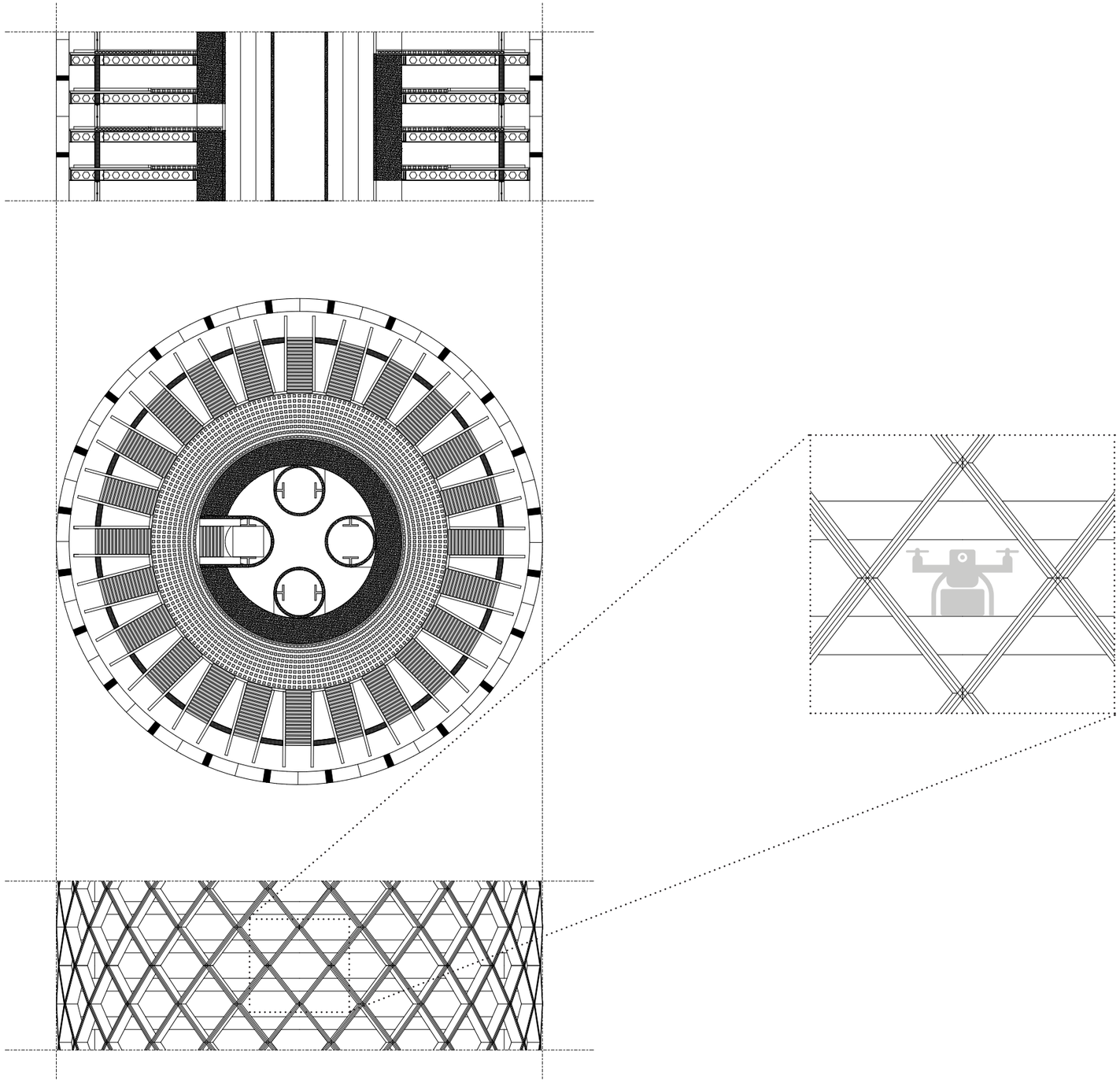
PLAN -1 LEVEL



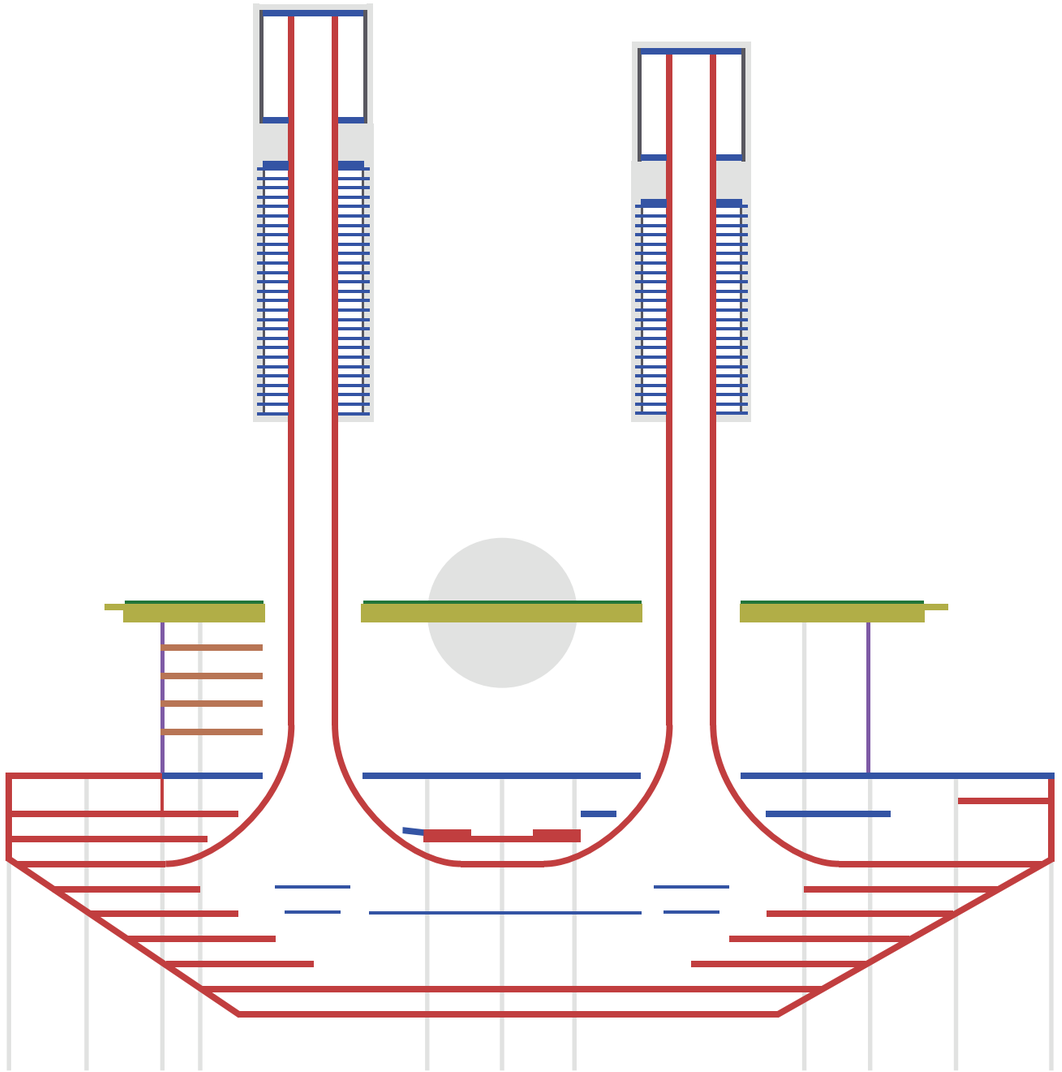




facade fragment

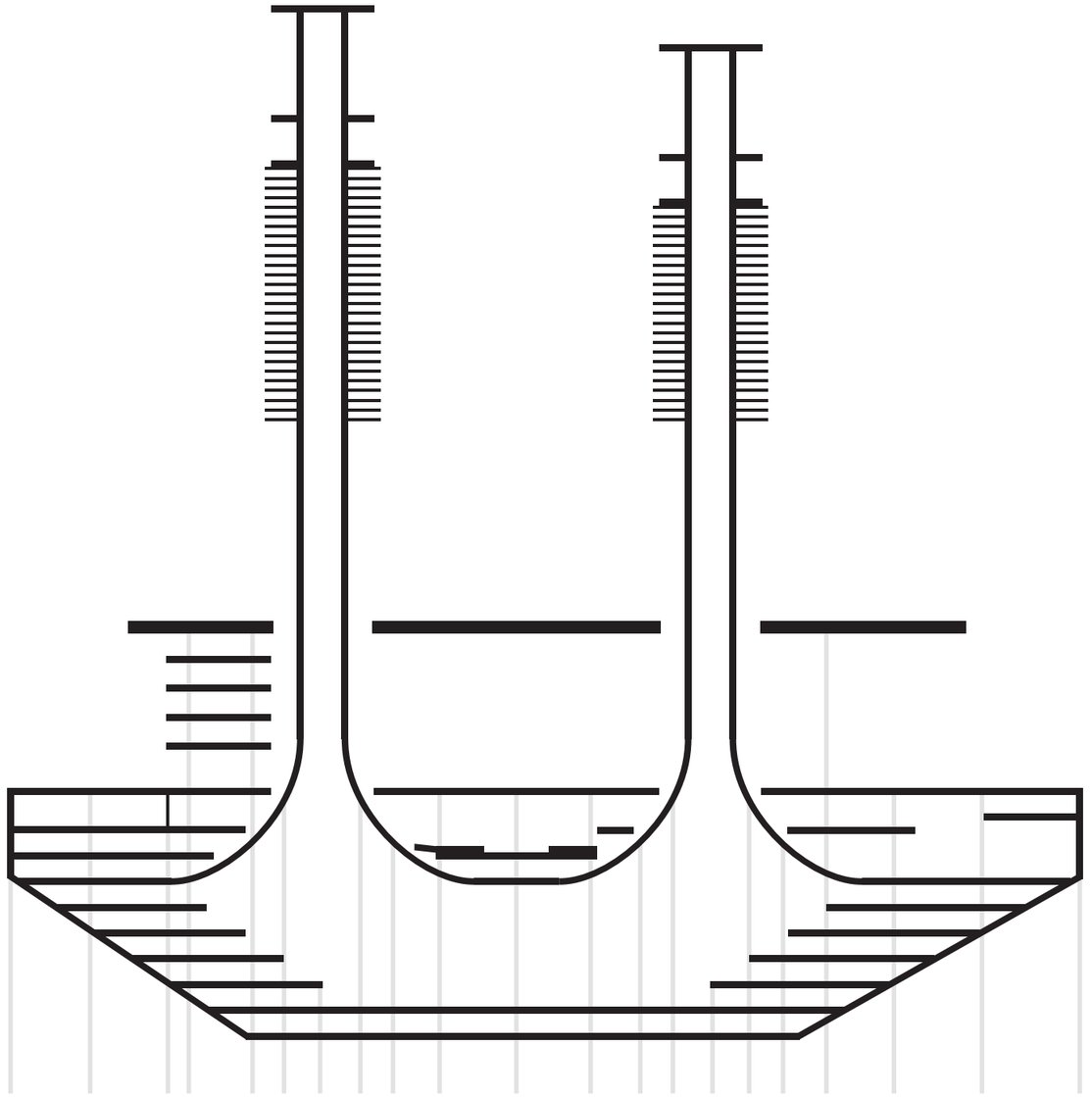


MATERIAL CONCEPT

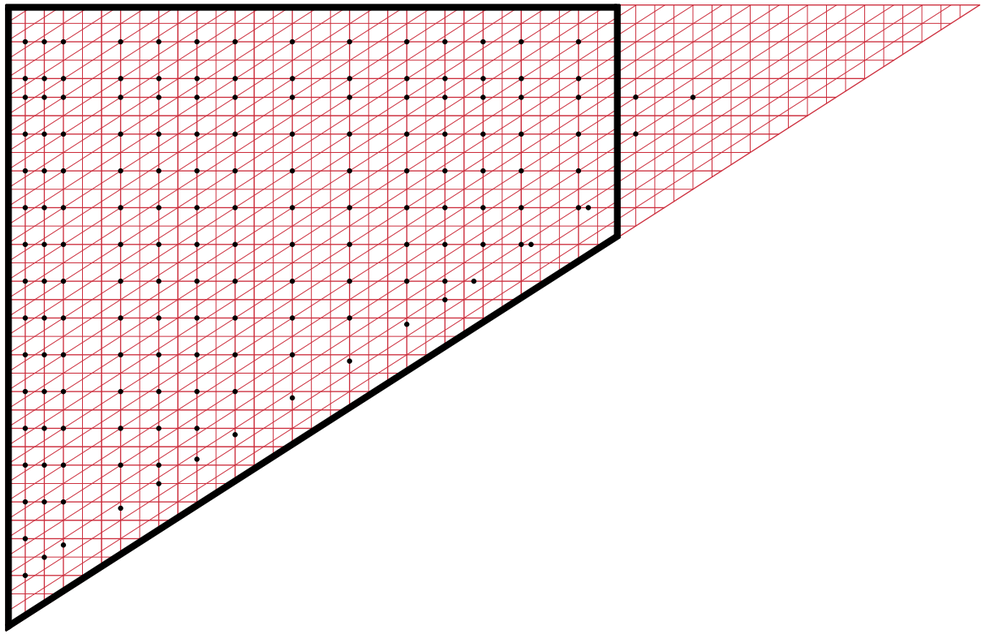


GFRP/concrete
Wood/GFRP
Wood
GFRP panels
GFRP/glass
Green
GFRP
Concrete

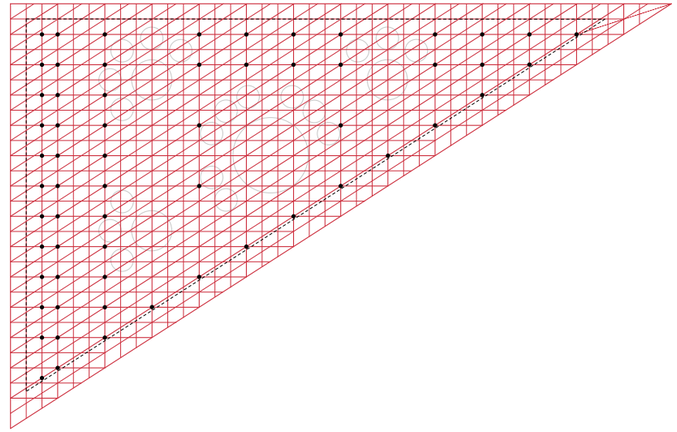
LOAD-BEARING STRUCTURE



GRID = 6*6.2 METERS

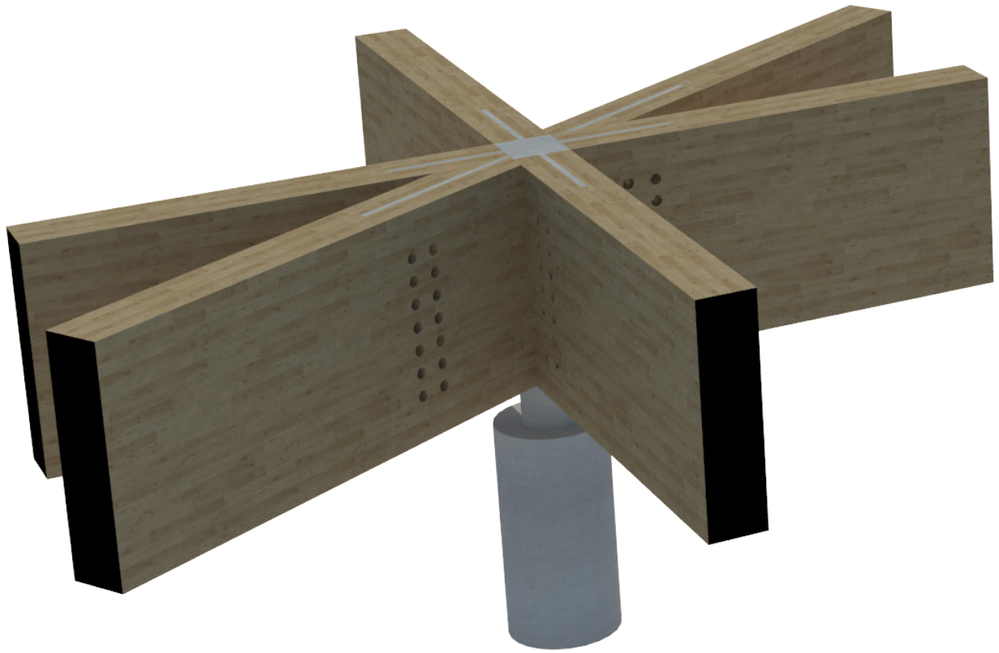


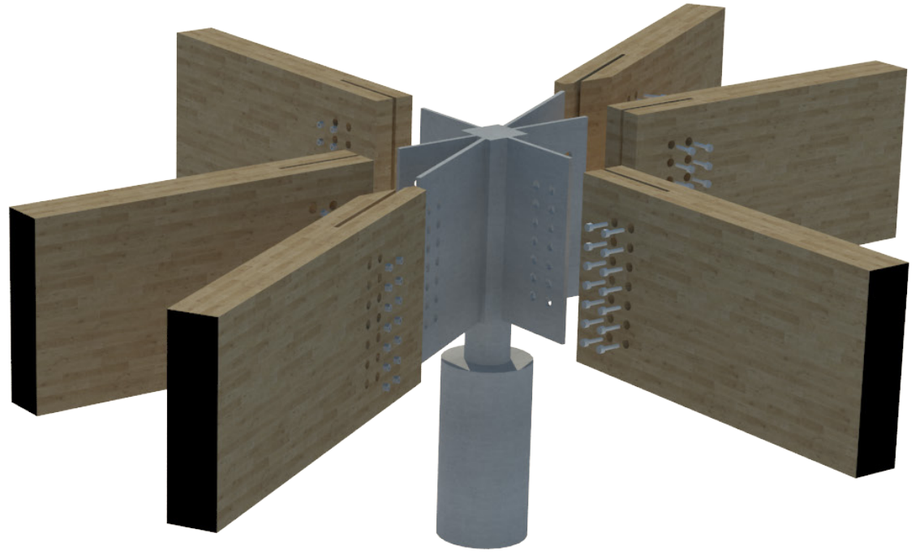
BUILDING STRUCTURE



ROOF STRUCTURE

BEAM CONNECTION





A LEISURER...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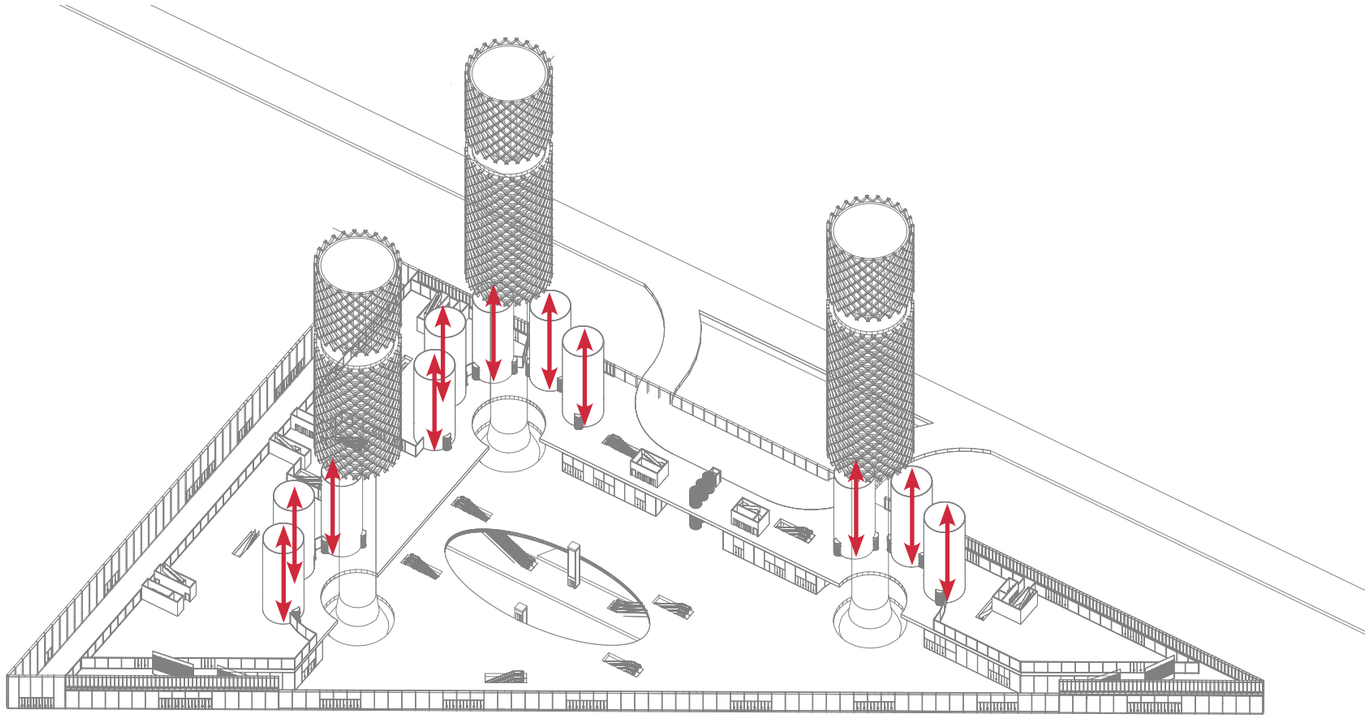
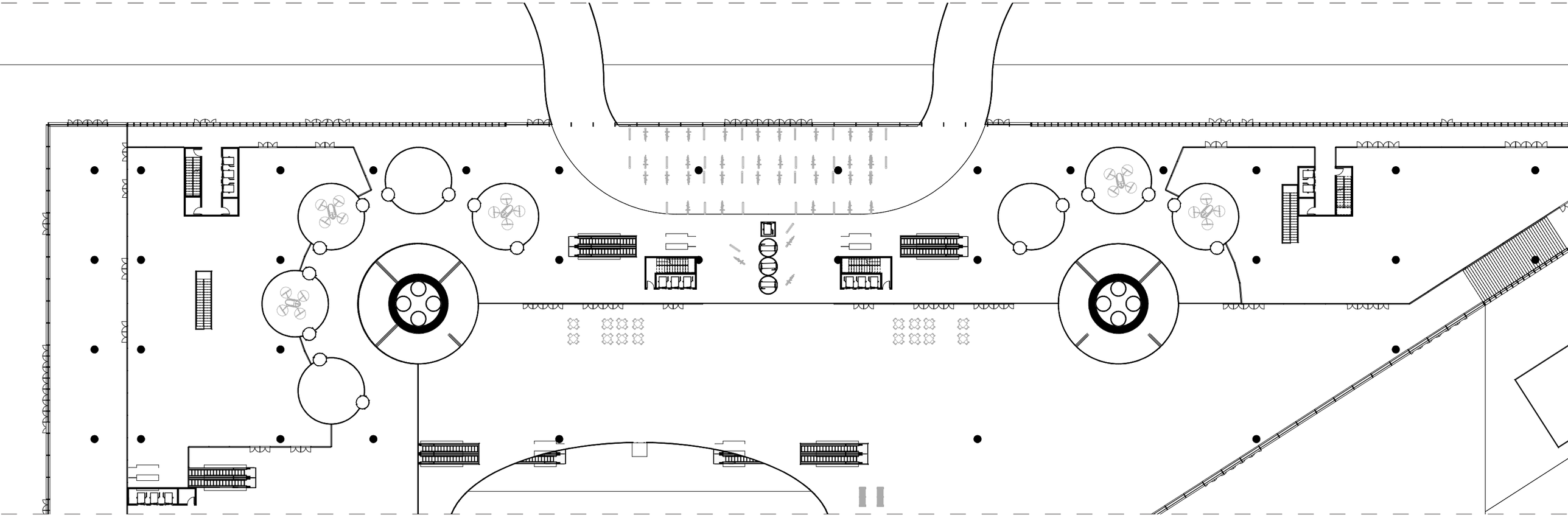
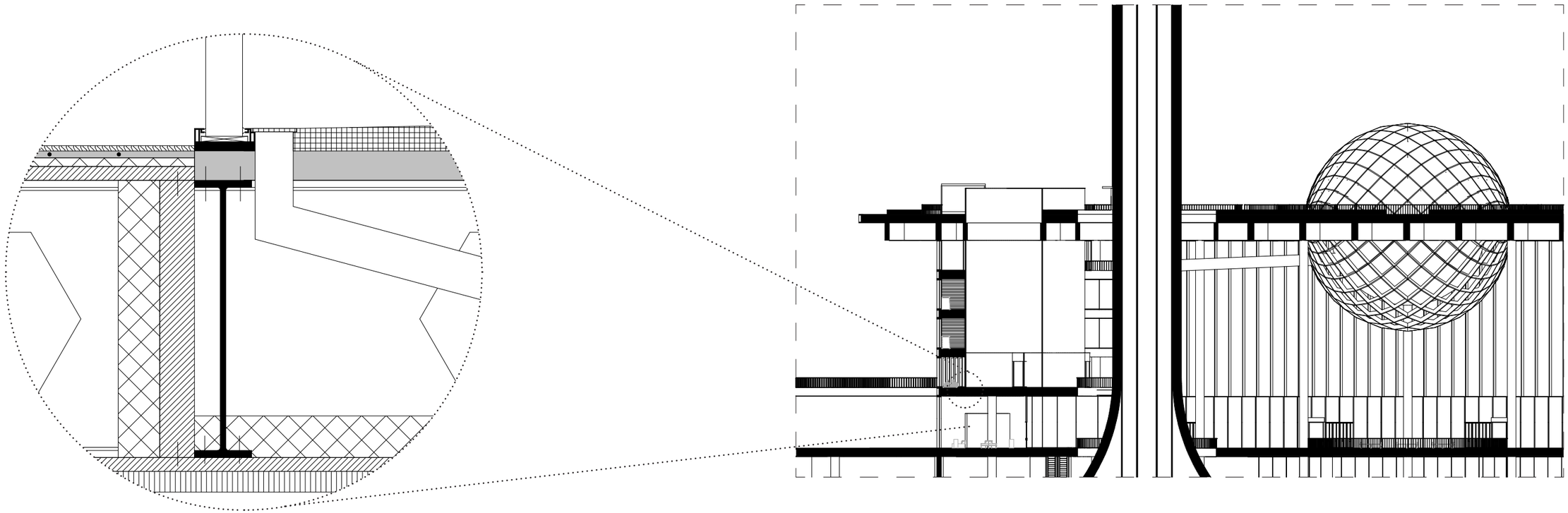


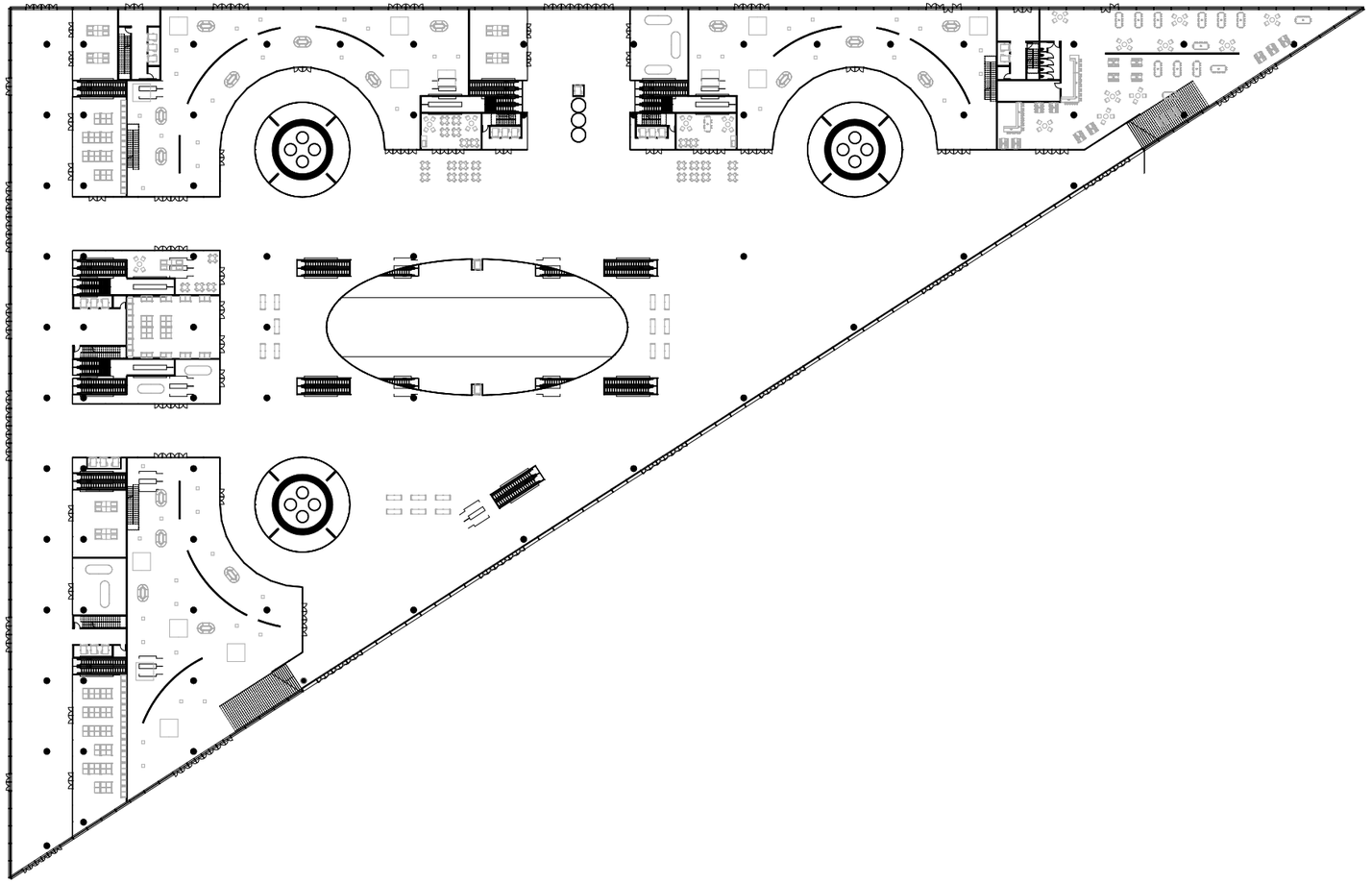
PLAN +1 LEVEL



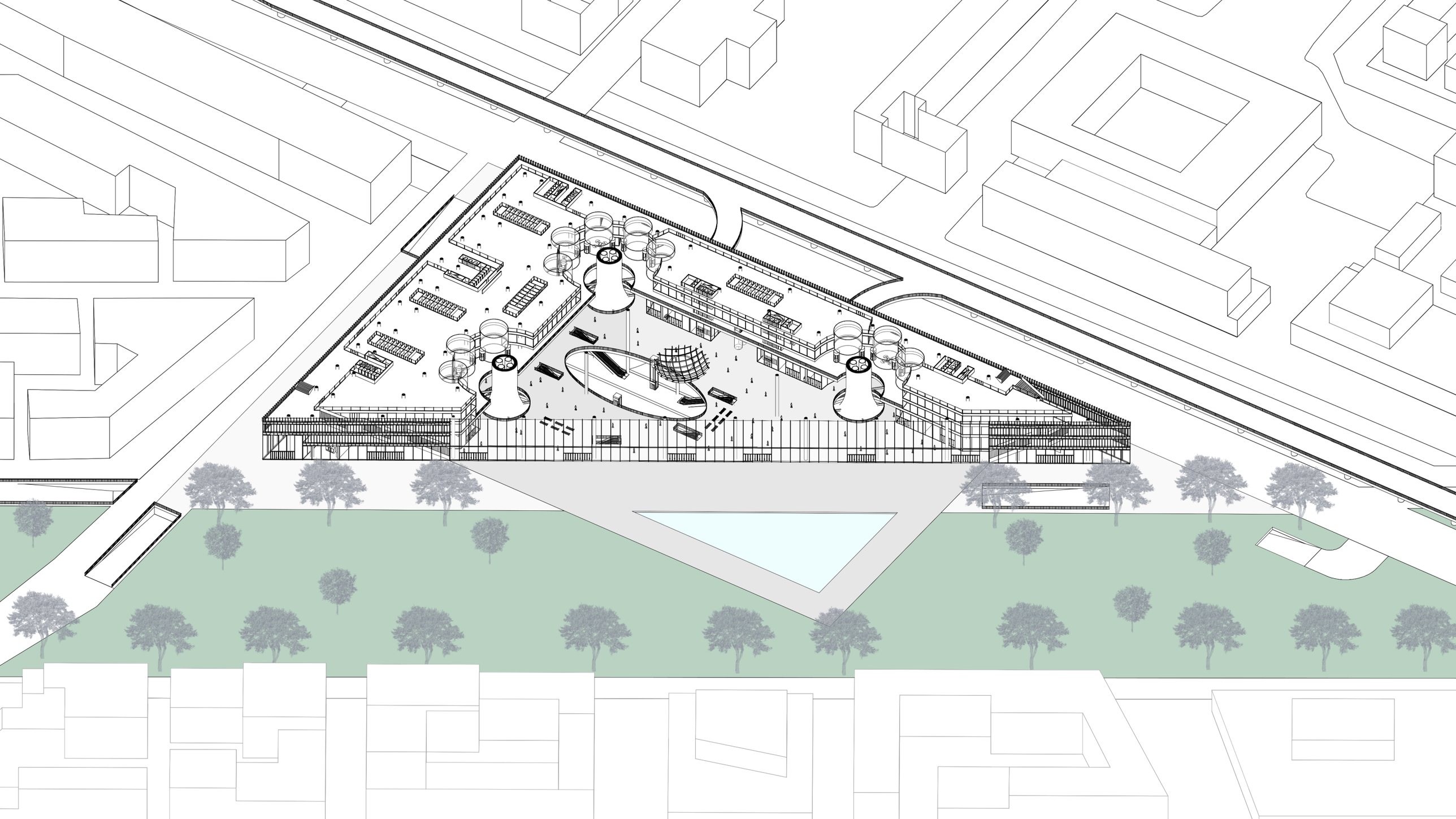
CROSS SECTION PASSENGER DRONE



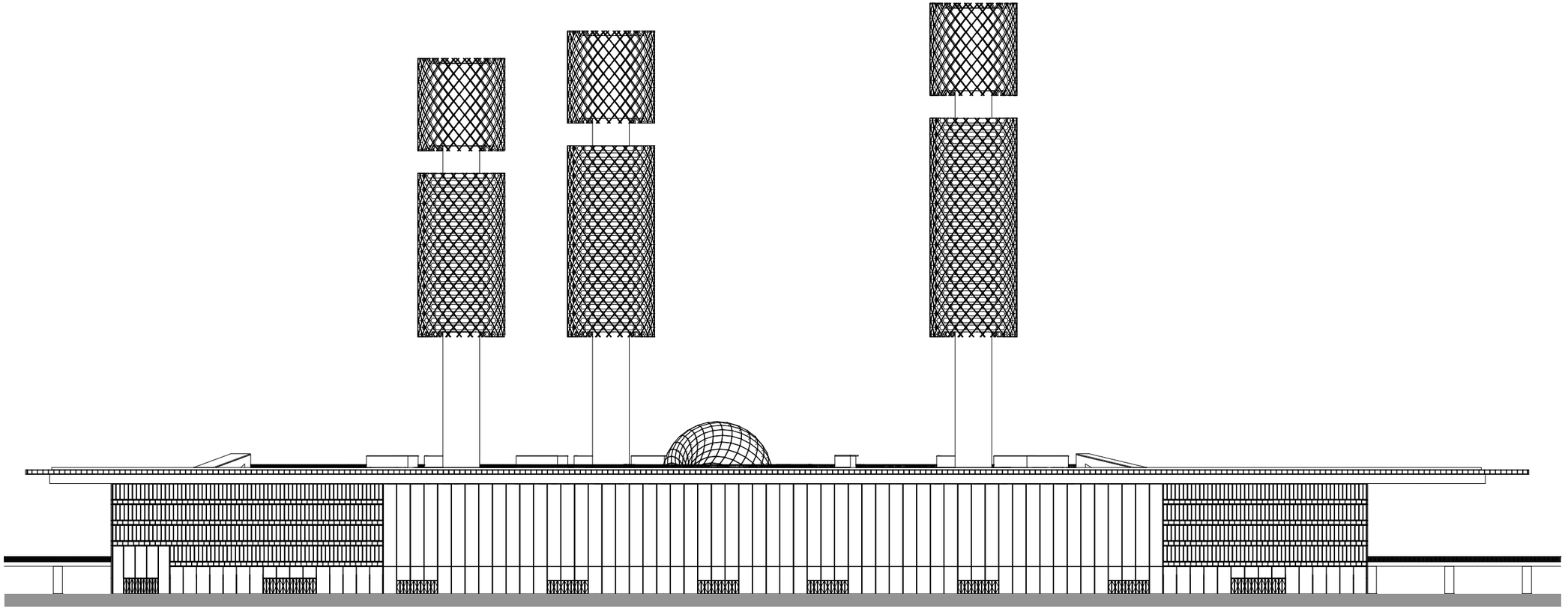
SHOPS




NEWS
SUCCESS
BALDR.
NETWORK
NEWS
NEWS
NET



ELEVATION SOUTHEAST



FACADE DETAILING