



# Rethinking the Infra- Culture space

bridging, providing, enhancing

Mashhad City.Iran

Borders & Territories

Graduation Studio 2020-2021

Hend Charaf





"Cities accumulate and retain wealth, control and power because of what flows through them, rather than what they statically contain"  
Beaverstock et al



So what flows through Mashhad?

Fast flow

Slow flow



## Fast flow

Regional scale

Mass flow

Connectivity

## Slow flow

## Fast Flow

### People



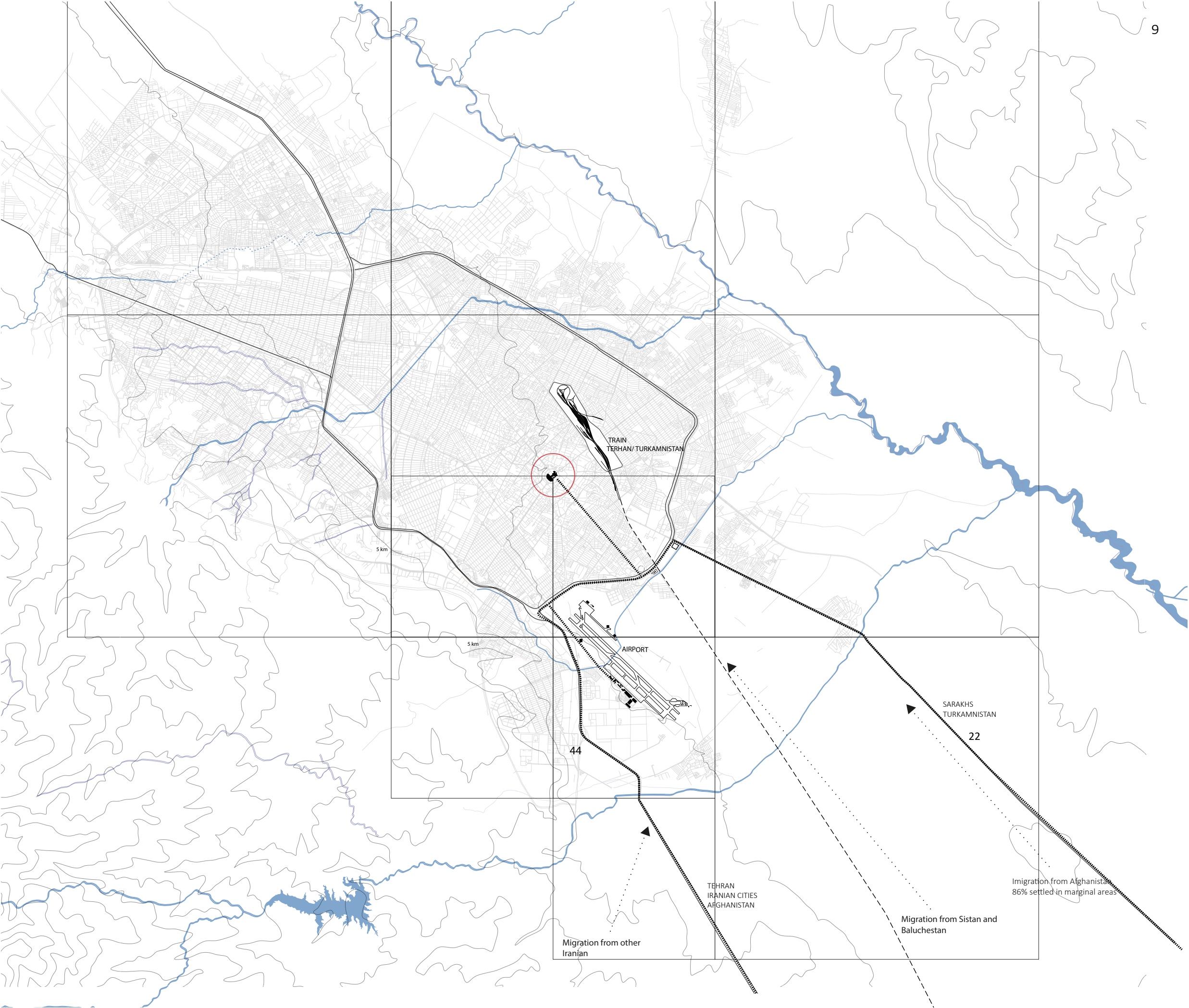
Pilgrims



Migrants



Fast Flow  
People





## Fast Flow

Goods



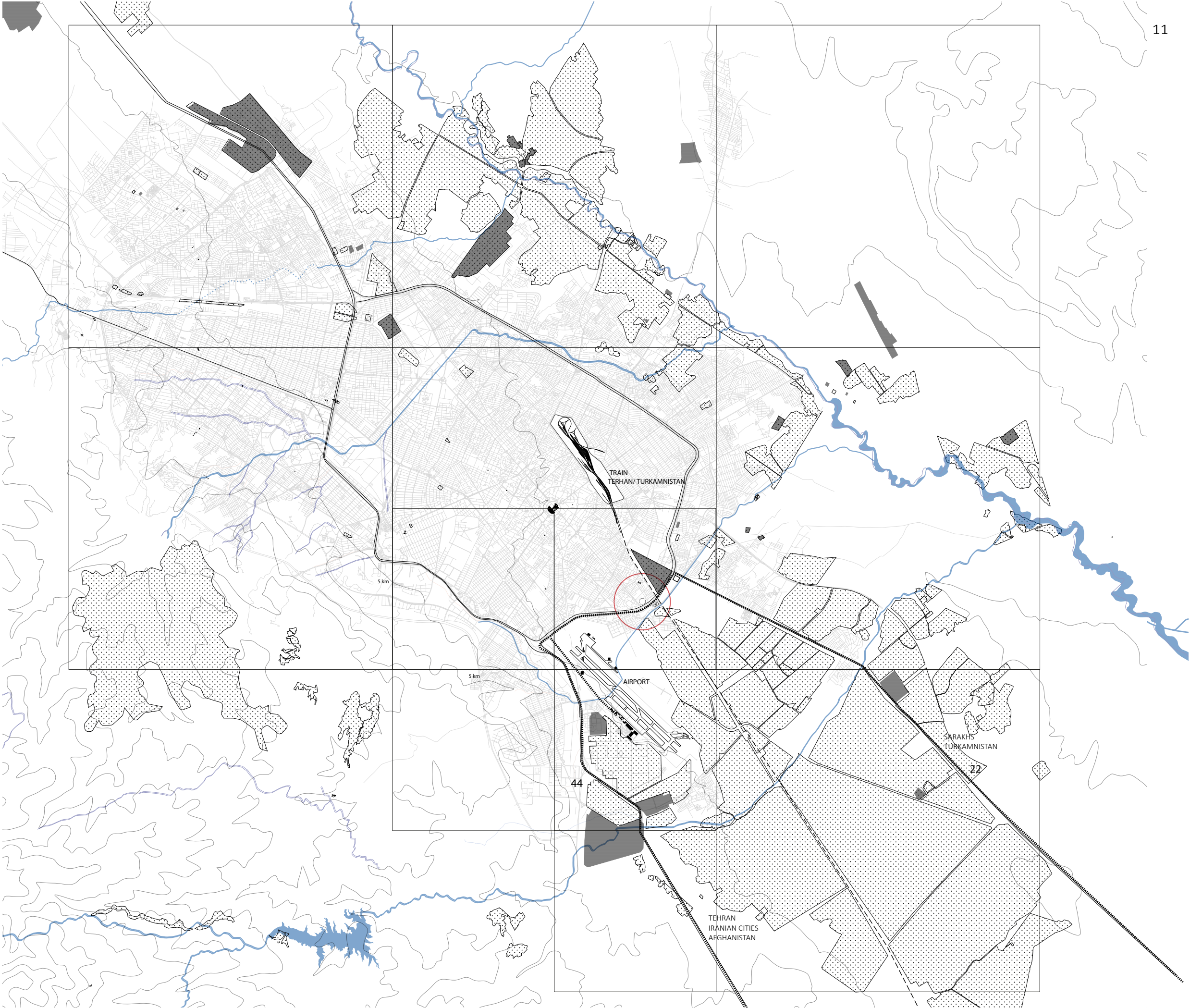
Industry



Agriculture

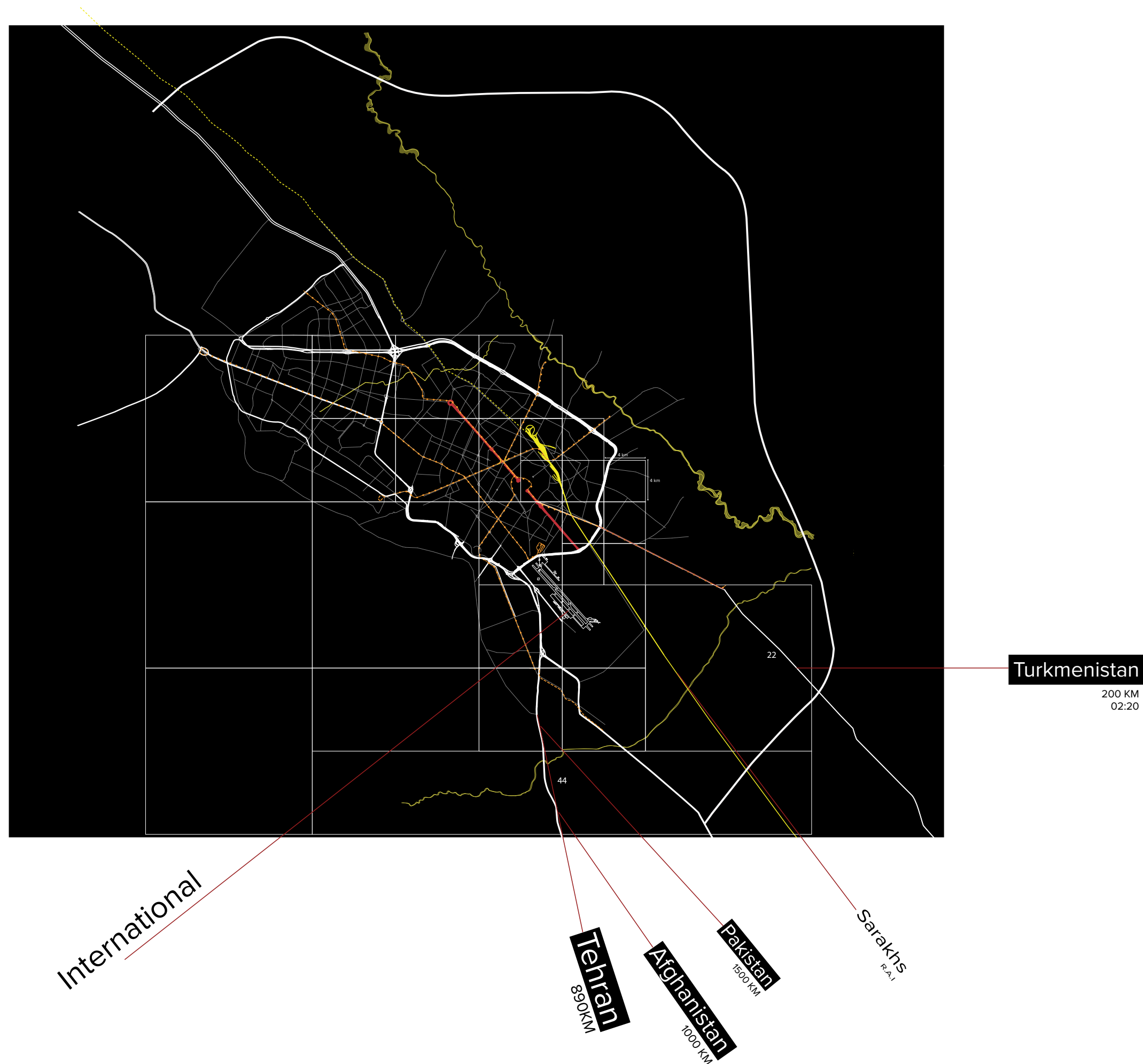


Fast Flow  
Goods



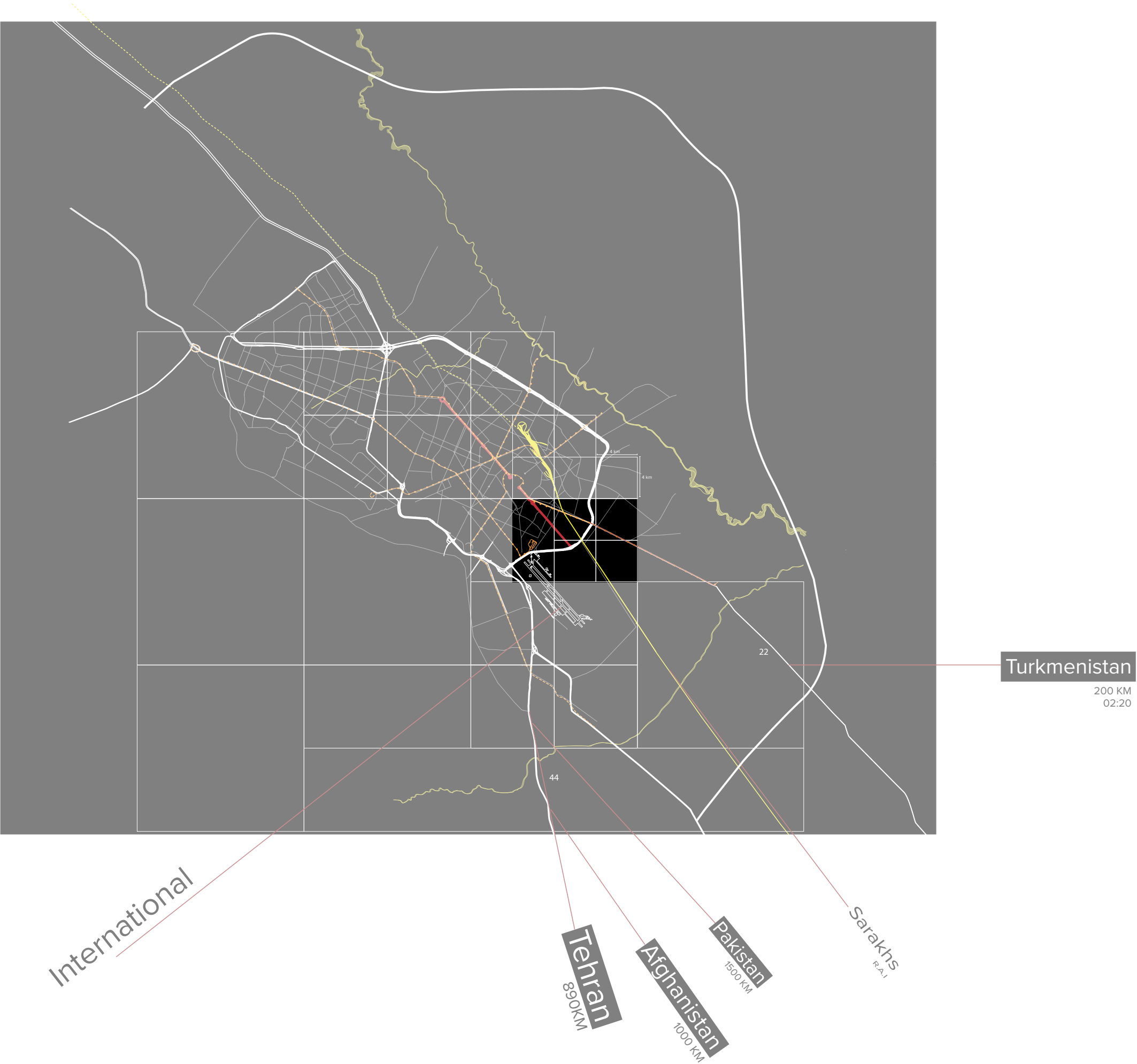
## Fast Flow

Regional territory



Fast Flow

Conclusion





## Fast flow

Regional scale  
Macro  
Mass flow  
Connectivity  
Speed, Time

0 3 5 km

## Slow flow

Domestic scale  
Quality of space  
Everyday life



Flows  
Spaces  
People

# District 6

Flows



Mousala Blvd  
1



Ghadir highway  
2



Elevated railway  
3



Canal, Kala Kar  
4



District 6

Spaces



Mashhad Power plant  
1

Mosalla market  
2

Industrial zone  
3

Agricultural lands  
4

Marginal settlement  
5



## District 6

People

Socio-economic status





## District 6

### Problems in living environment

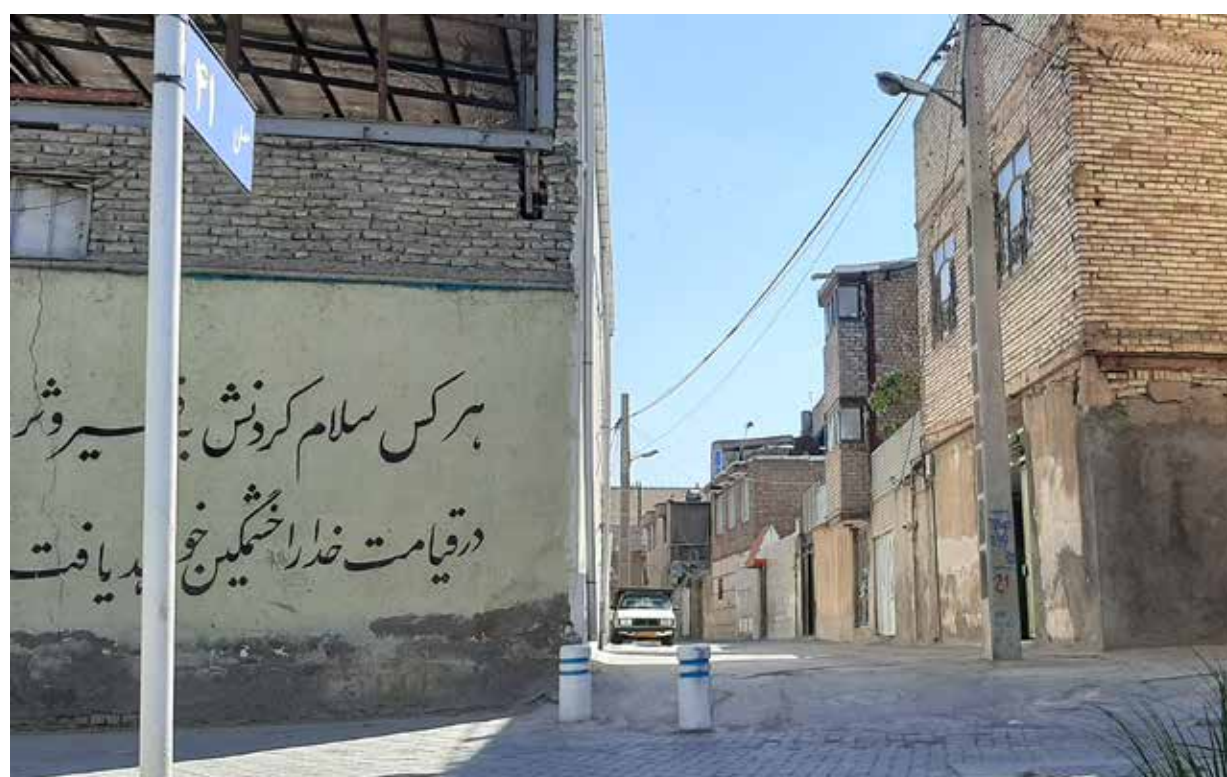
Polluted environment



Lack of water



Unsafe crossing



Living conditions



## District 6

Natural hazards

### Floods in Iran – Dangerous floodwaters reaches Mashhad in the northeast

IRAN NEWS 4/6/2019 Author:Shamsi Saadati



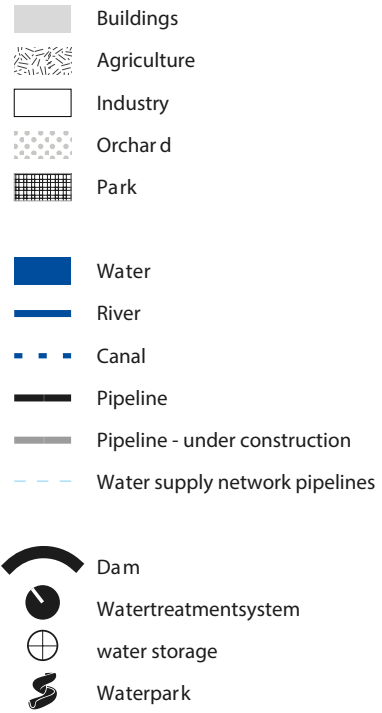
Flooding

Drinking water

Nitrate contamination

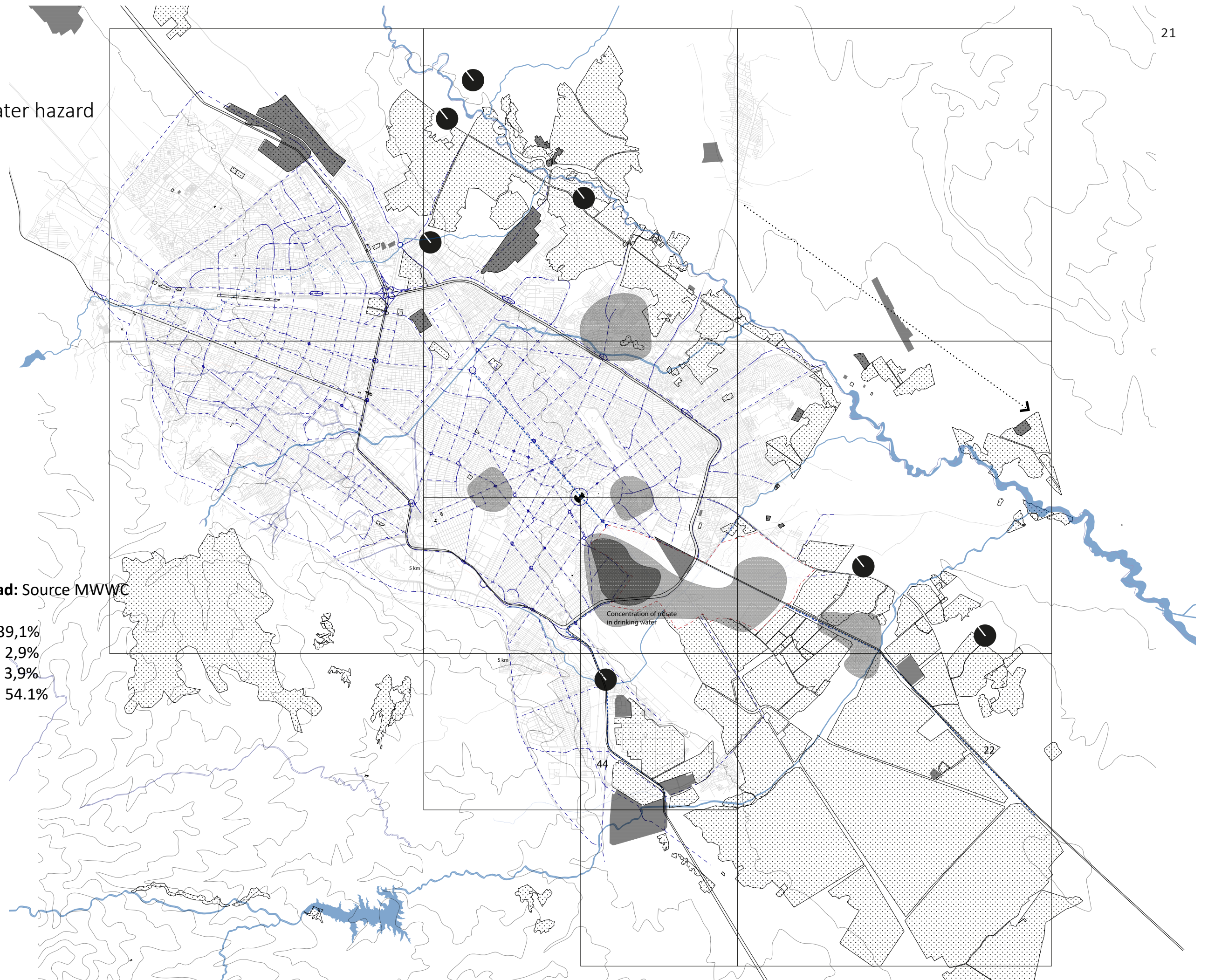
# District 6

## Understanding the water hazard



### Water Sources for Mashhad: Source MWWC

Dusti Dam	39,1%
Torogh Dam	2,9%
Spring and Aqueduct	3,9%
Wells	54.1%

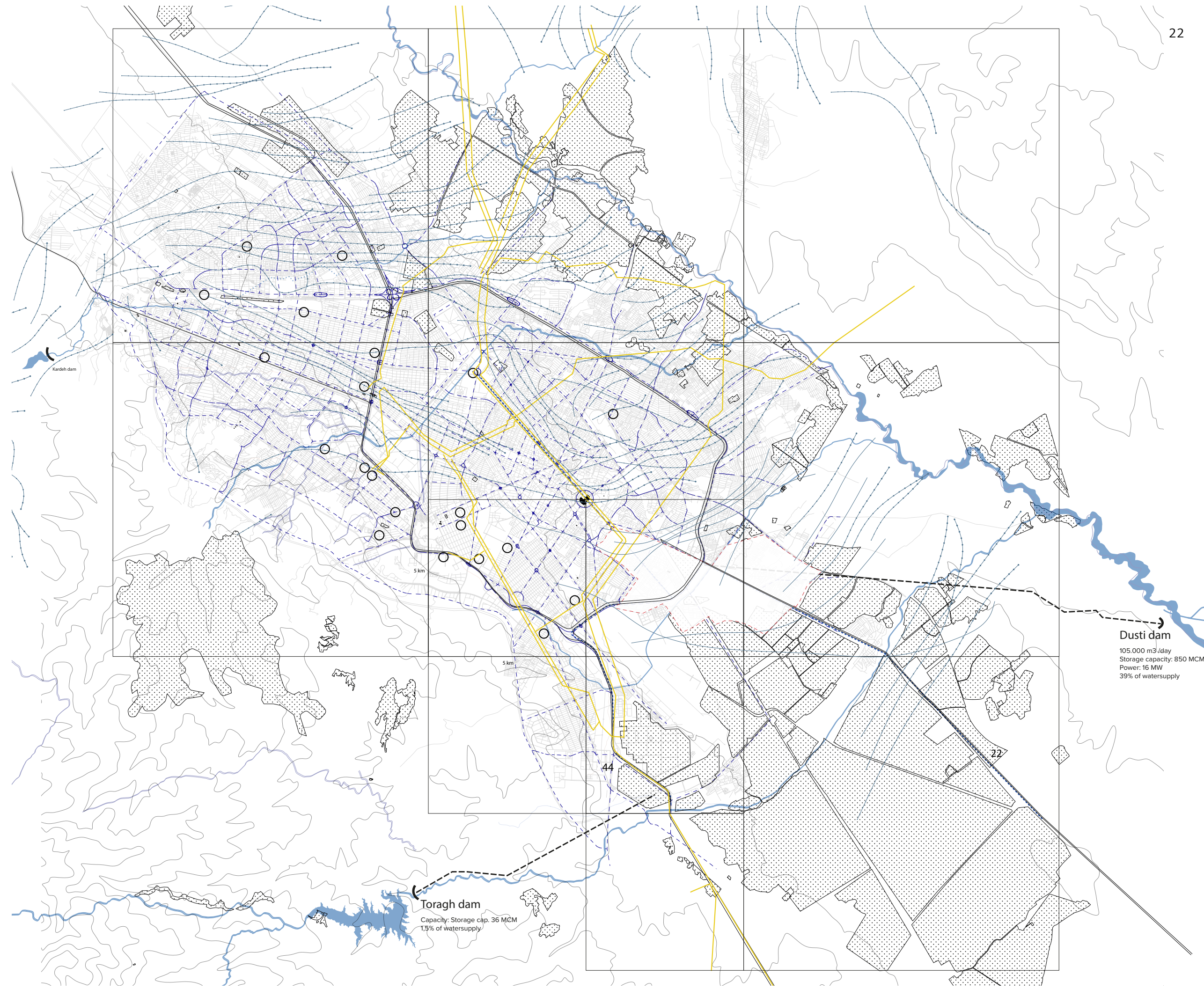




# District 6

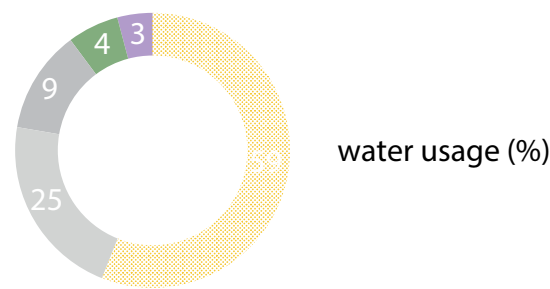
## Access to water

- Buildings
- Agriculture
- Industry
- Orchard
- Park
- Water
- River
- Canal
- Pipeline
- Pipeline - under construction
- Water supply network pipelines
- Dam
- Wassertreatmentssystem
- water storage
- Waterpark



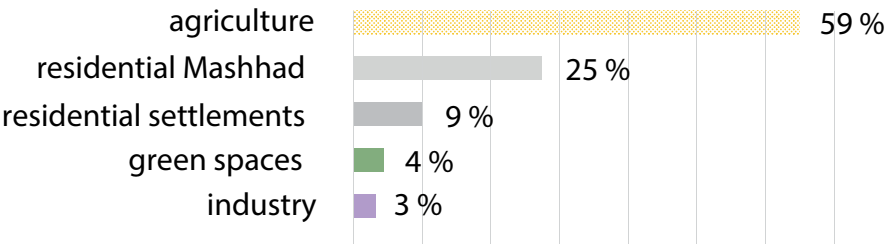
# District 6

water consumption

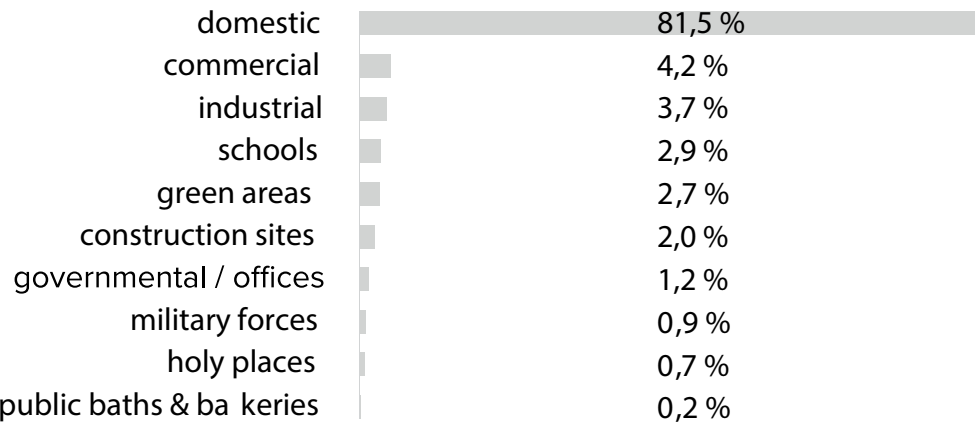


water usage (%)

1: Water usage in Mashhad plain per user group



2: Water usage in Mashhad per function



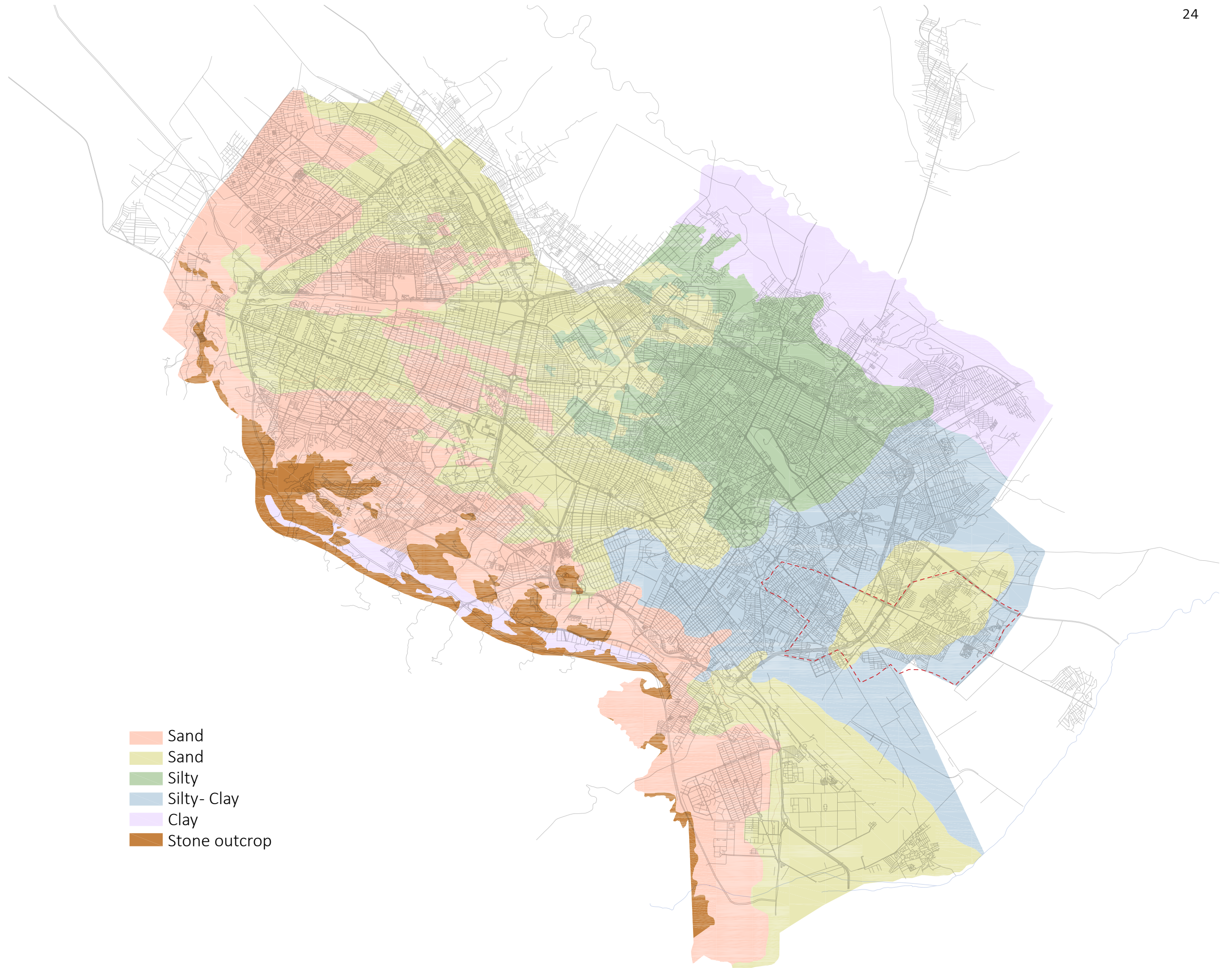
220 million cubic metres of water are needed to satisfy the annual domestic demand of the city.

A total of 2.2 billion m3/year of water is supplied to the city per year. The total capacity of these reservoirs has to be increased from 500,000 m3 to 1,200,000 m3.



## District 6

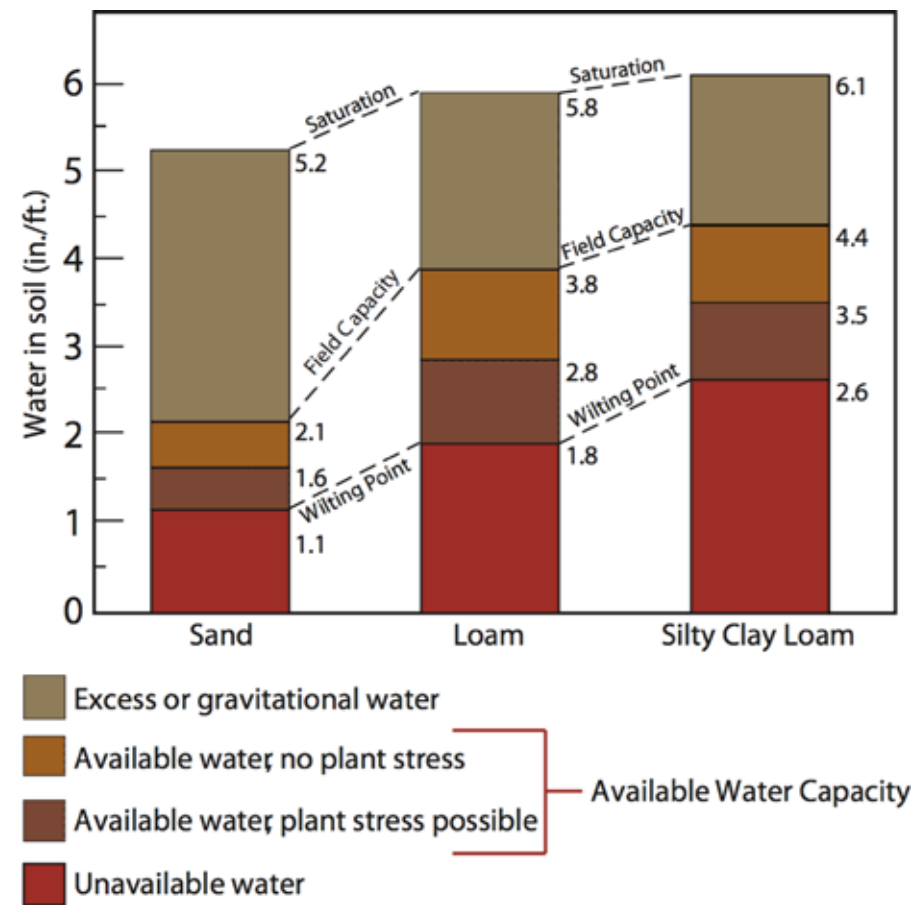
Soil type zonation map

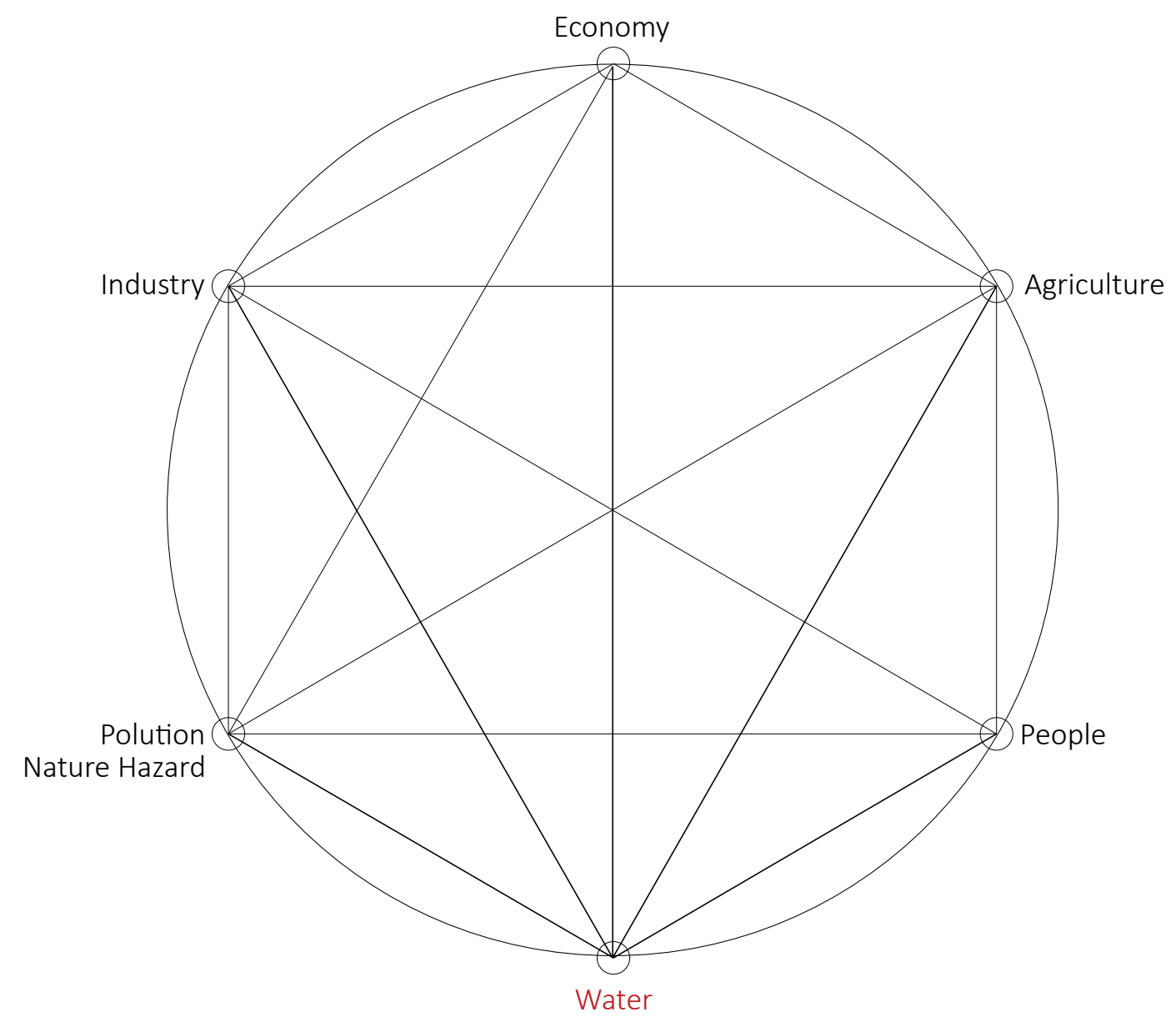




## District 6

The relation between the soil type and water







District 6

Conclusion

Flows

Continuity on a regional scale  
Discontinuity in local scale

Spaces

Economically driven  
Poor living conditions

People

Vulnerable society

**District 6**  
Intervention

Flows

Continuity on a regional scale  
Discontinuity in local scale

Spaces

Economically driven  
Poor living conditions

People

Vulnerable society

Bridging

Providing

Enhancing

How?  
where?  
what?



“Spatializing culture is a way of revealing how social relations are grounded by aspects of space and place.

The production of space and the construction of its sociocultural inform the social complexity of interactions of people, the built environment and how everyday realities are enacted.

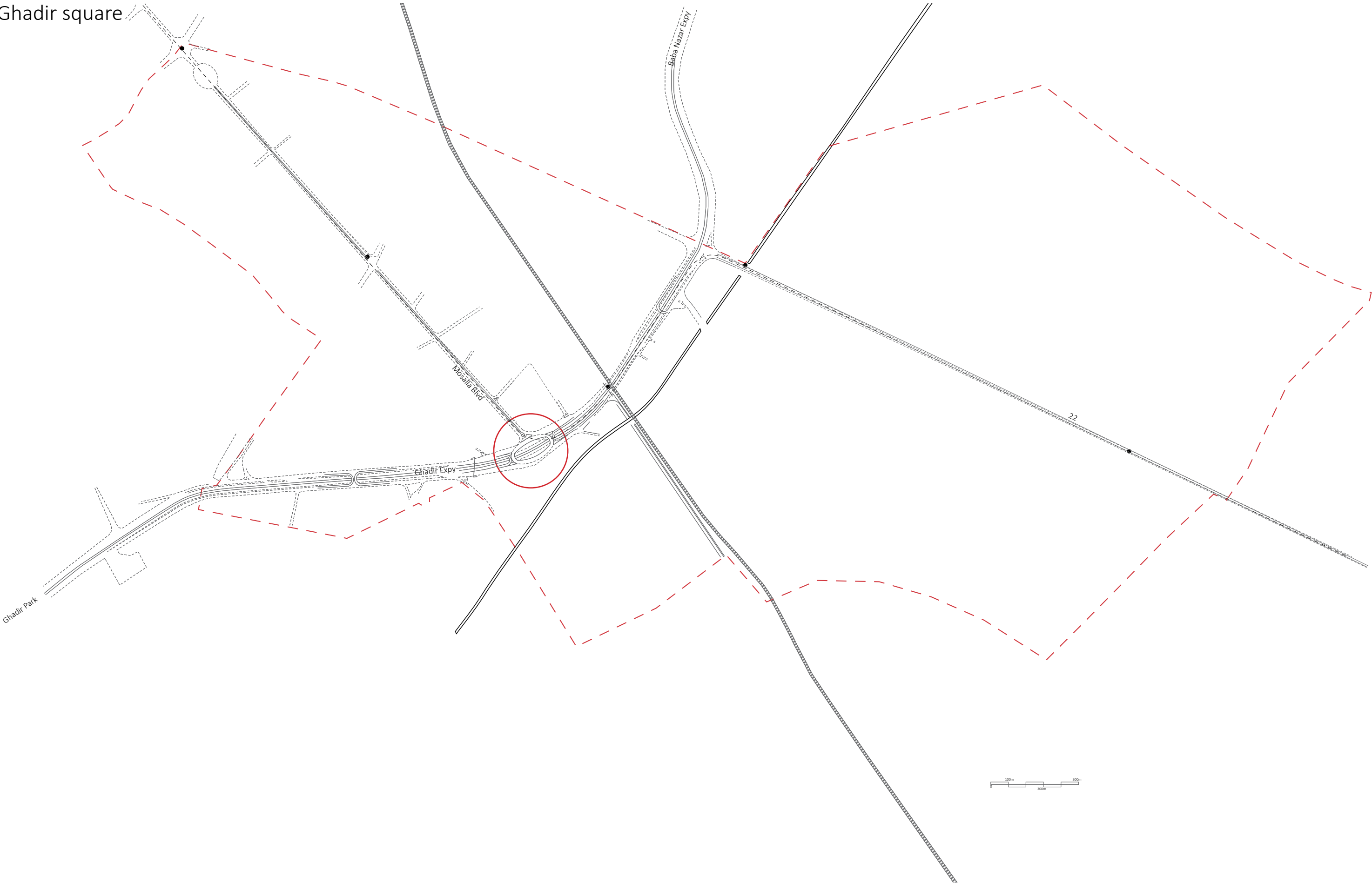
The activities people engage in, the meanings they give to spaces, and the opportunities.

are all informed by the complex dynamics embodied in places and spaces. Behavior settings whereby certain settings inform if not enforce certain types of behaviors.”  
- Setha Low (Gieseeking, et al., 2014)

where?

Location

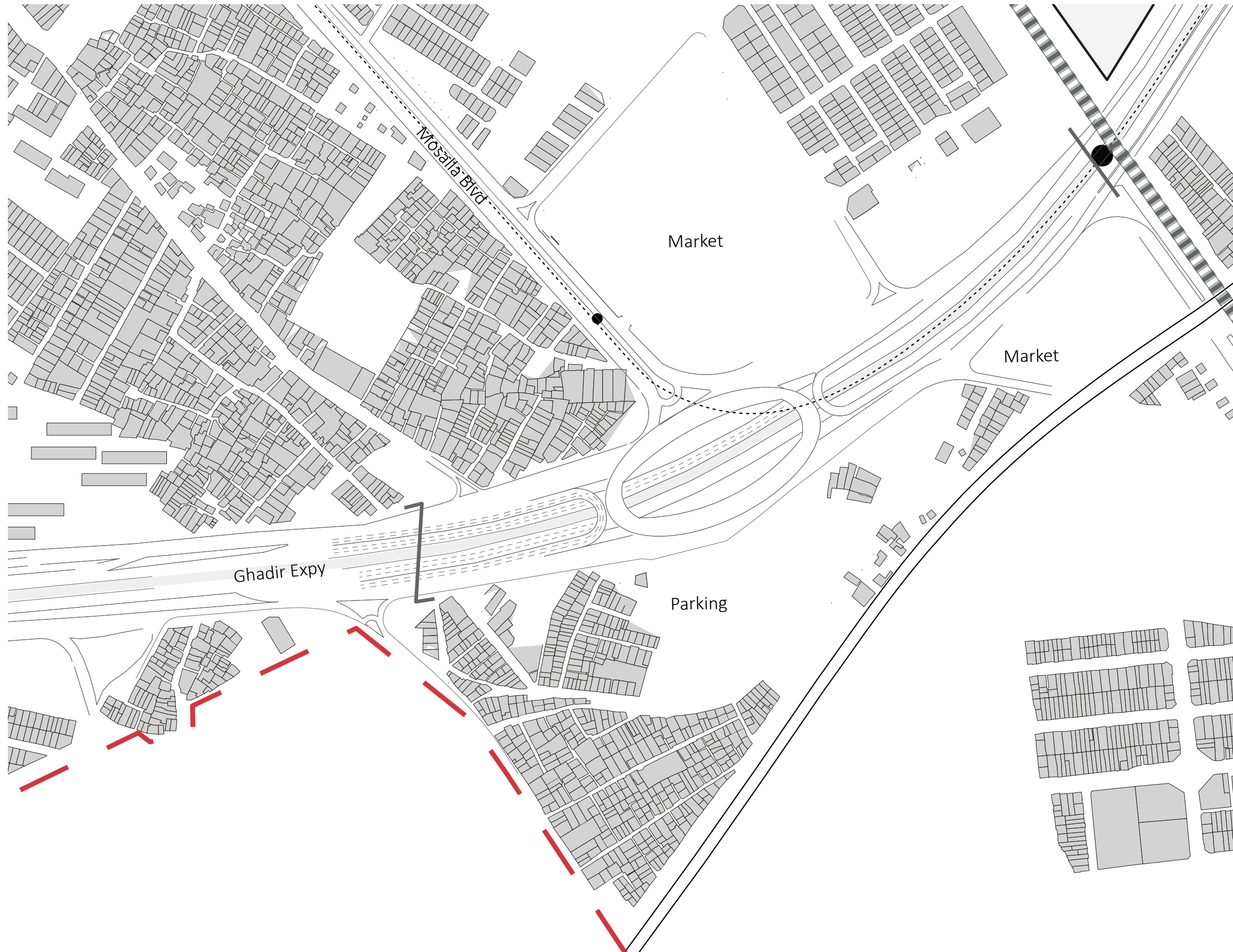
Ghadir square





## Site location

Ghadir square

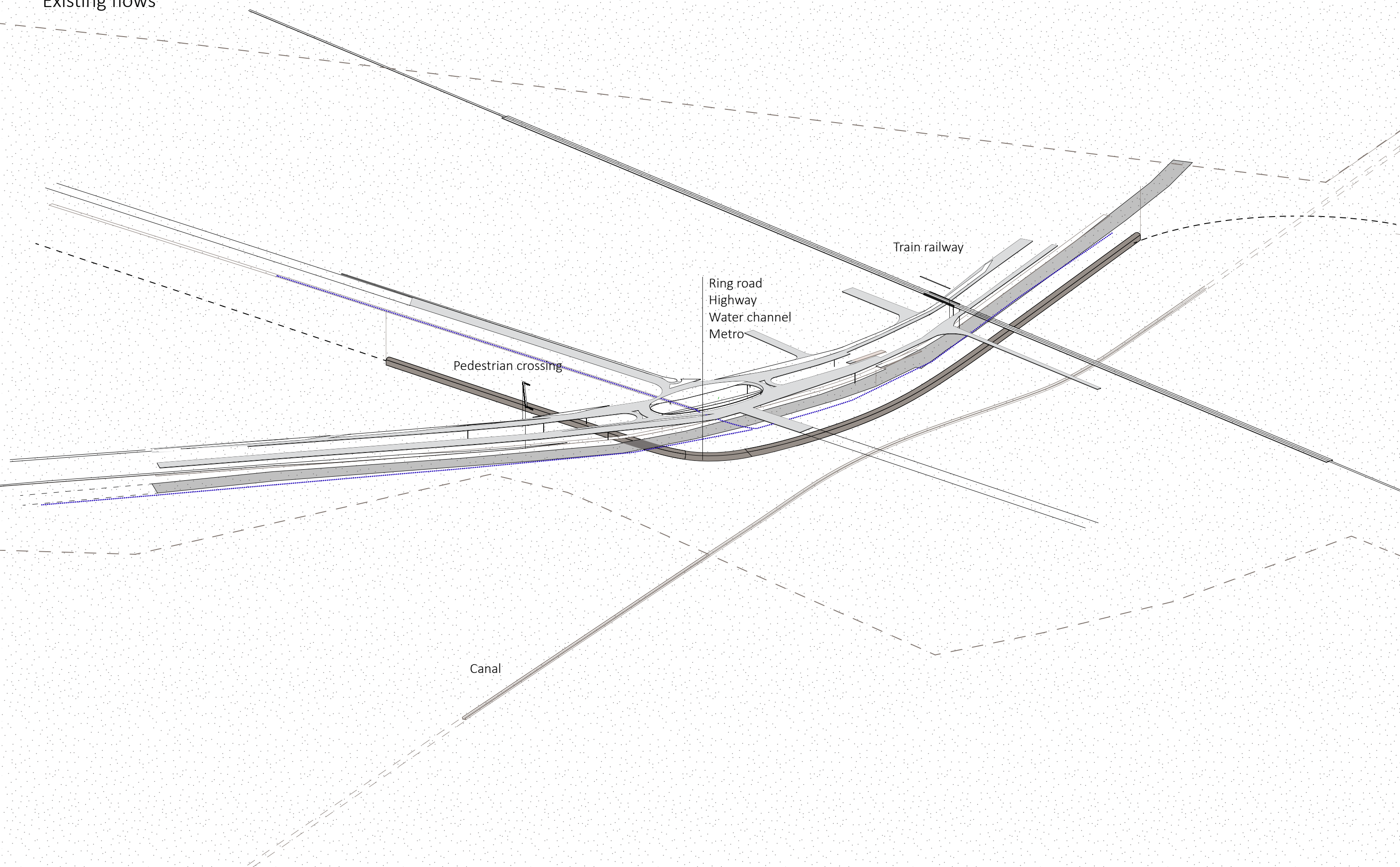








Existing flows



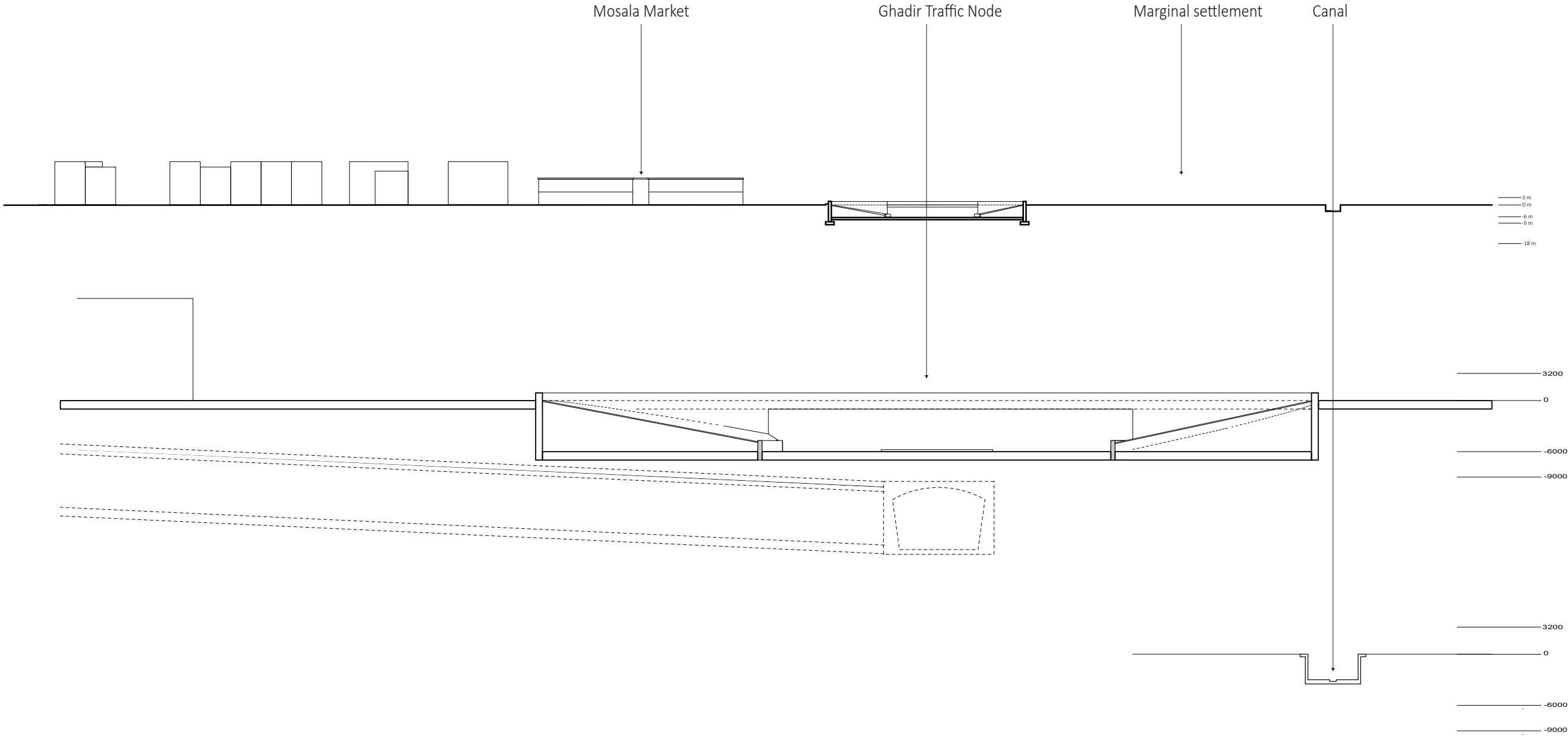
Train railway

Ring road  
Highway  
Water channel  
Metro

Pedestrian crossing

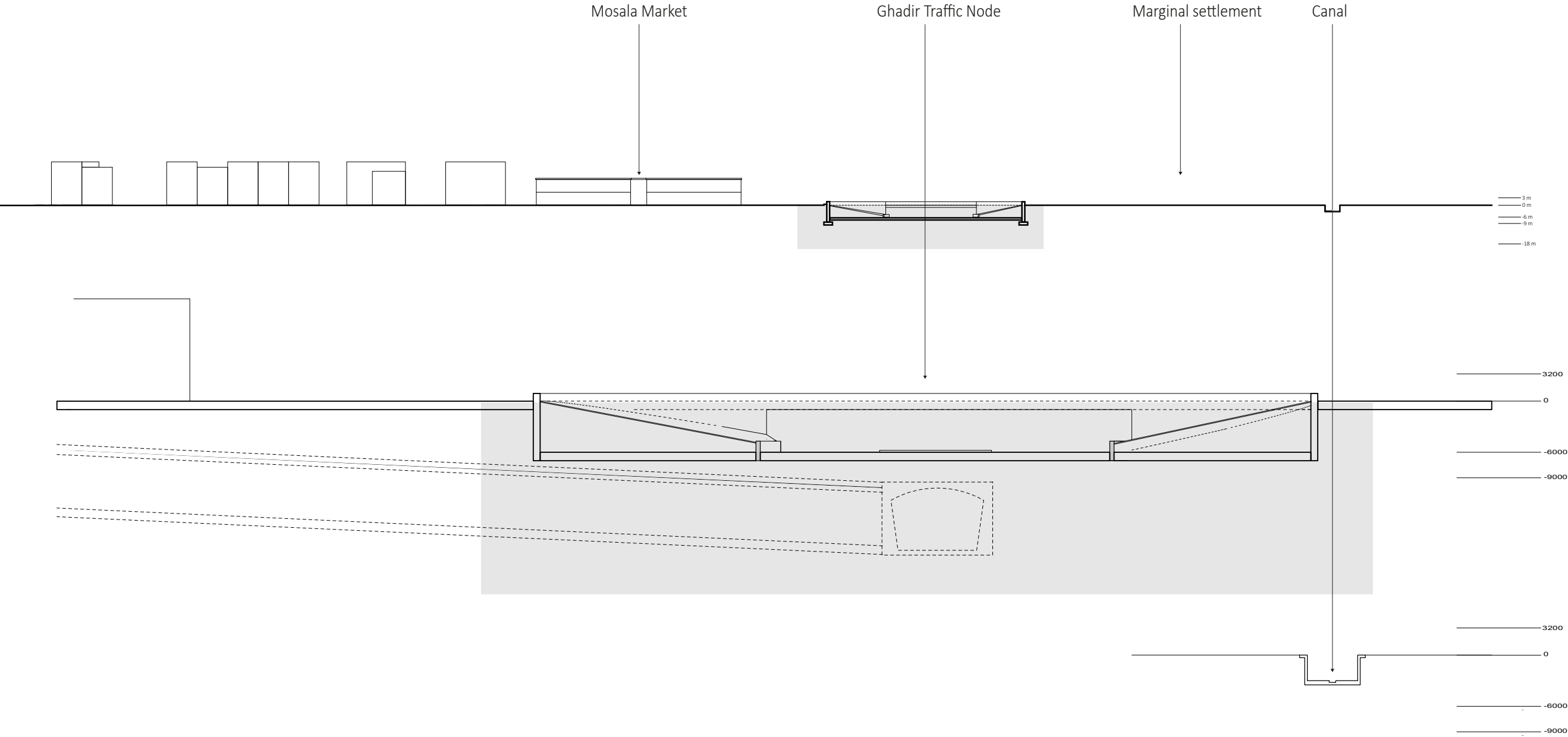
Canal

Street section



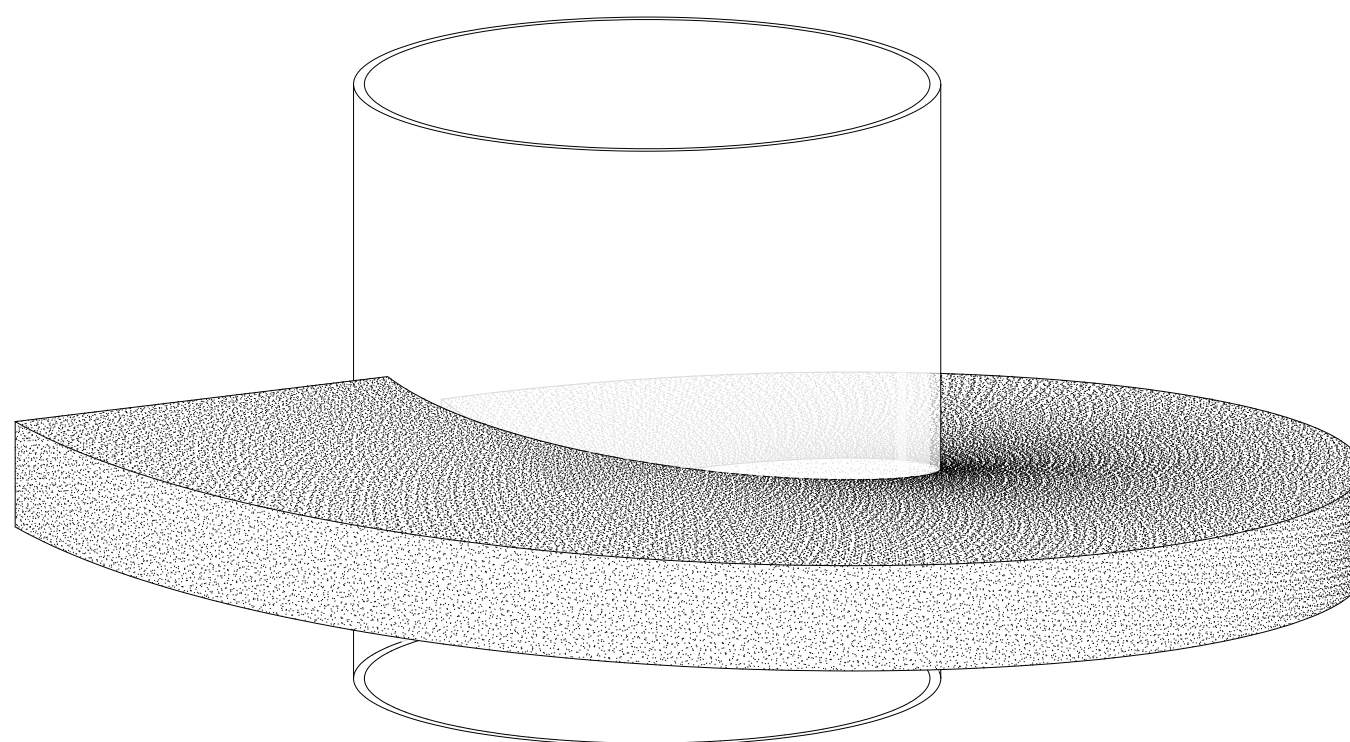


Intervention



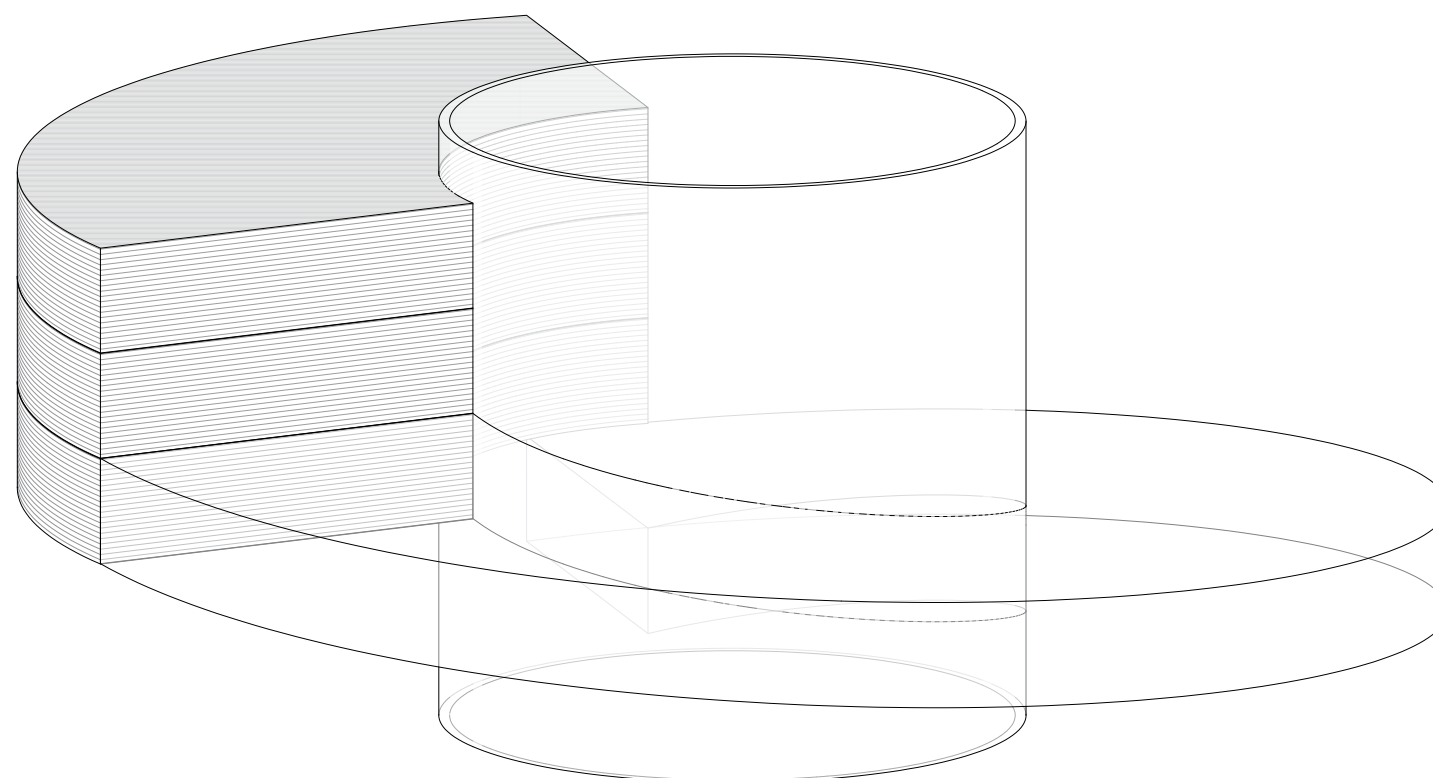
## Program

water filtration system



## Program

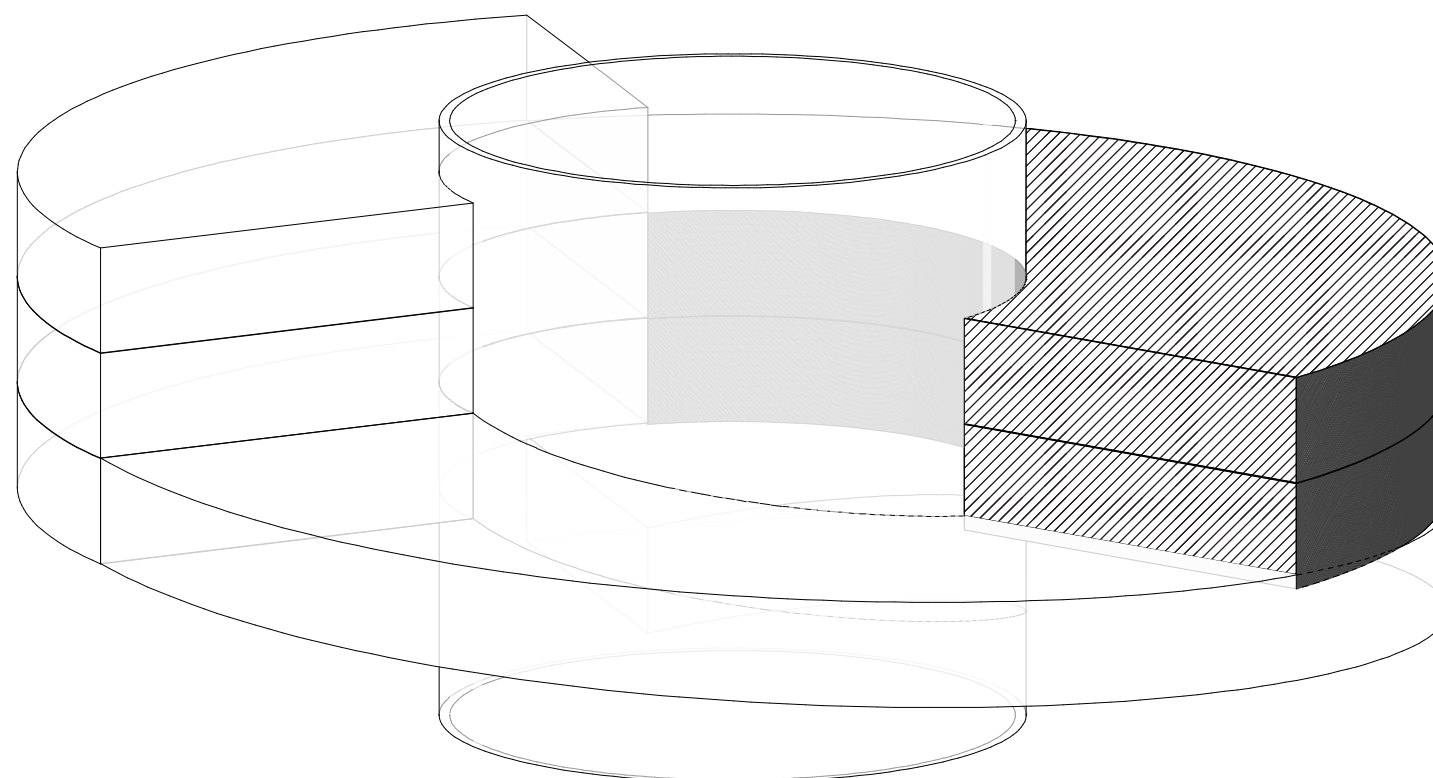
Metro station





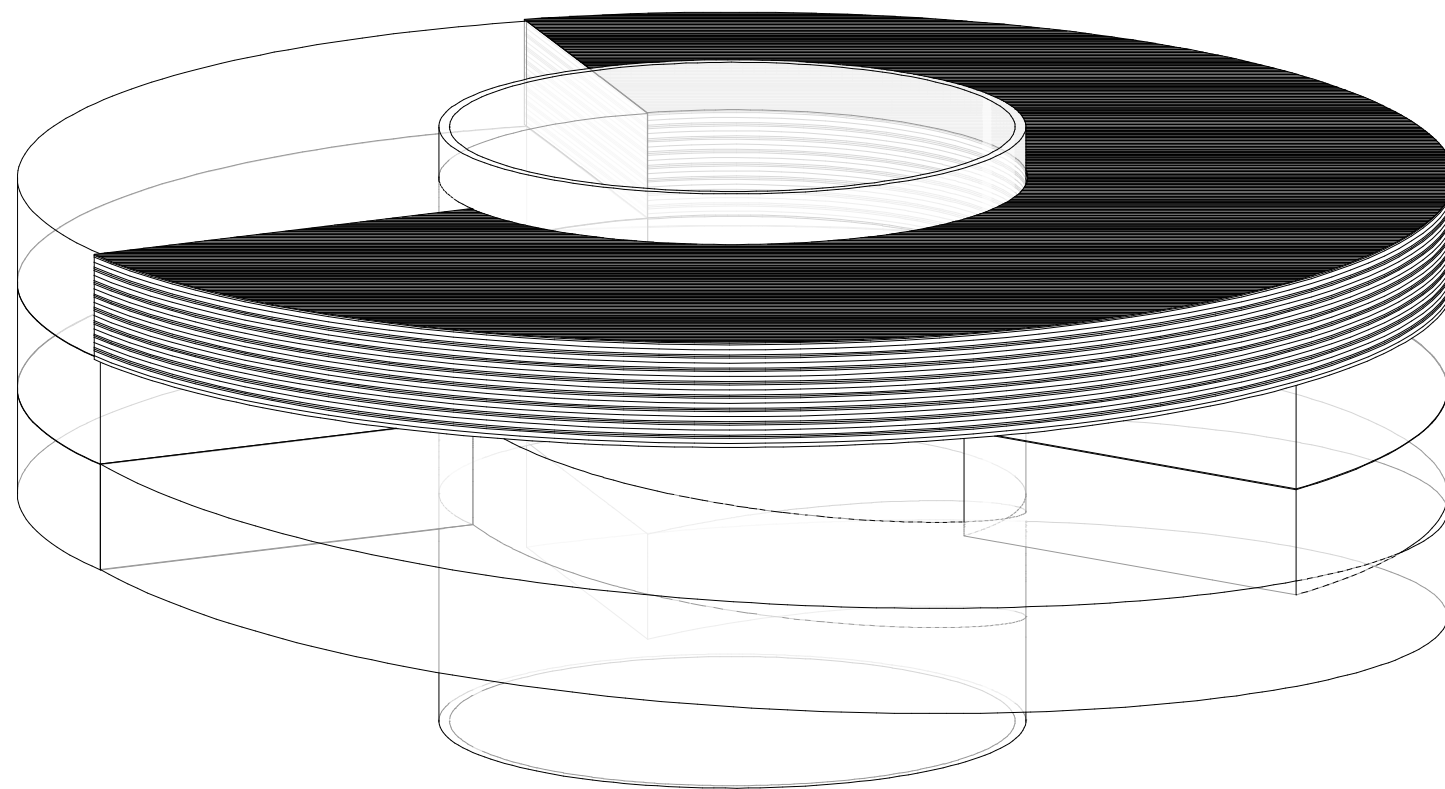
## Program

Education center



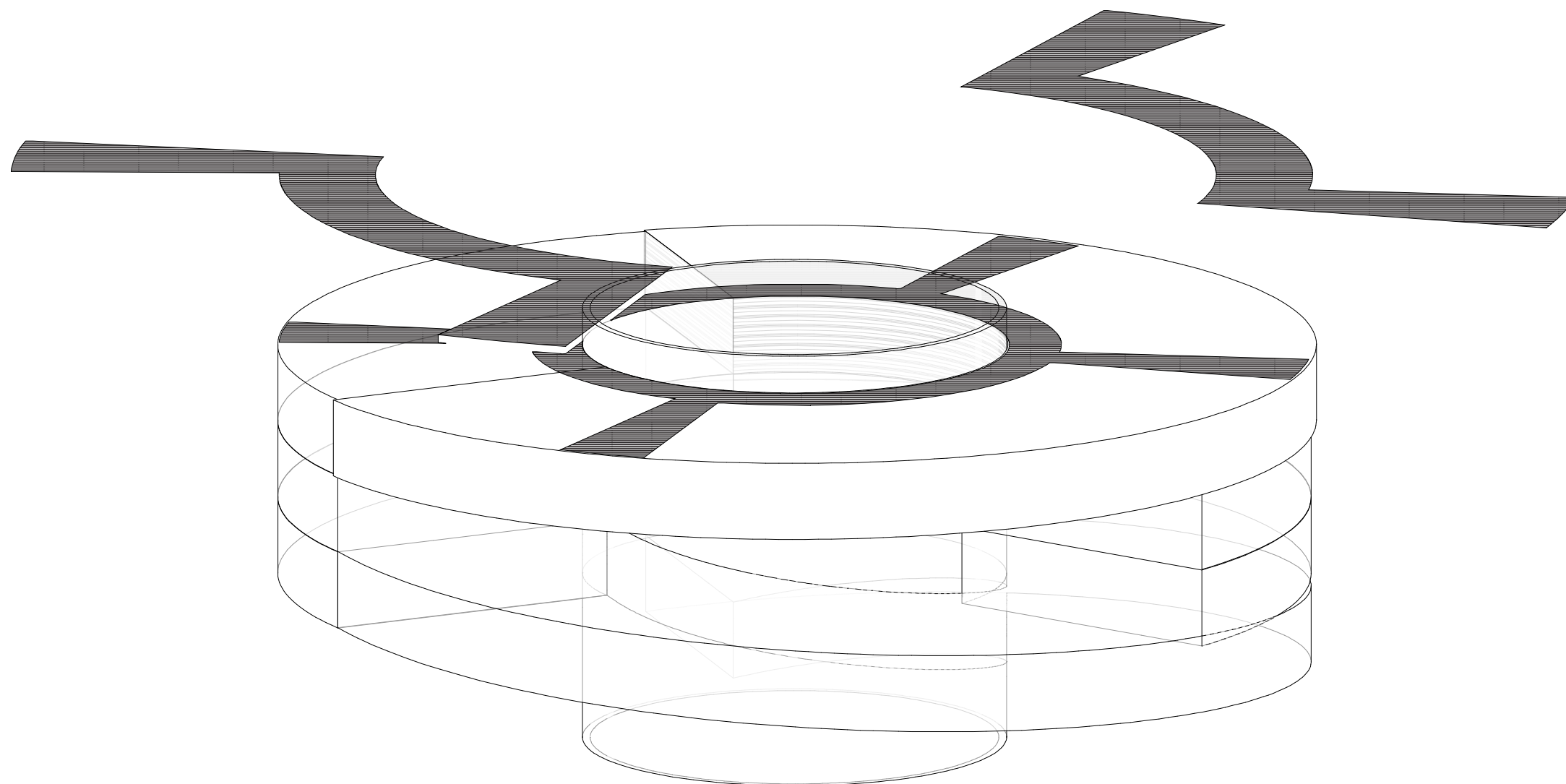
# Program

Market



# Program

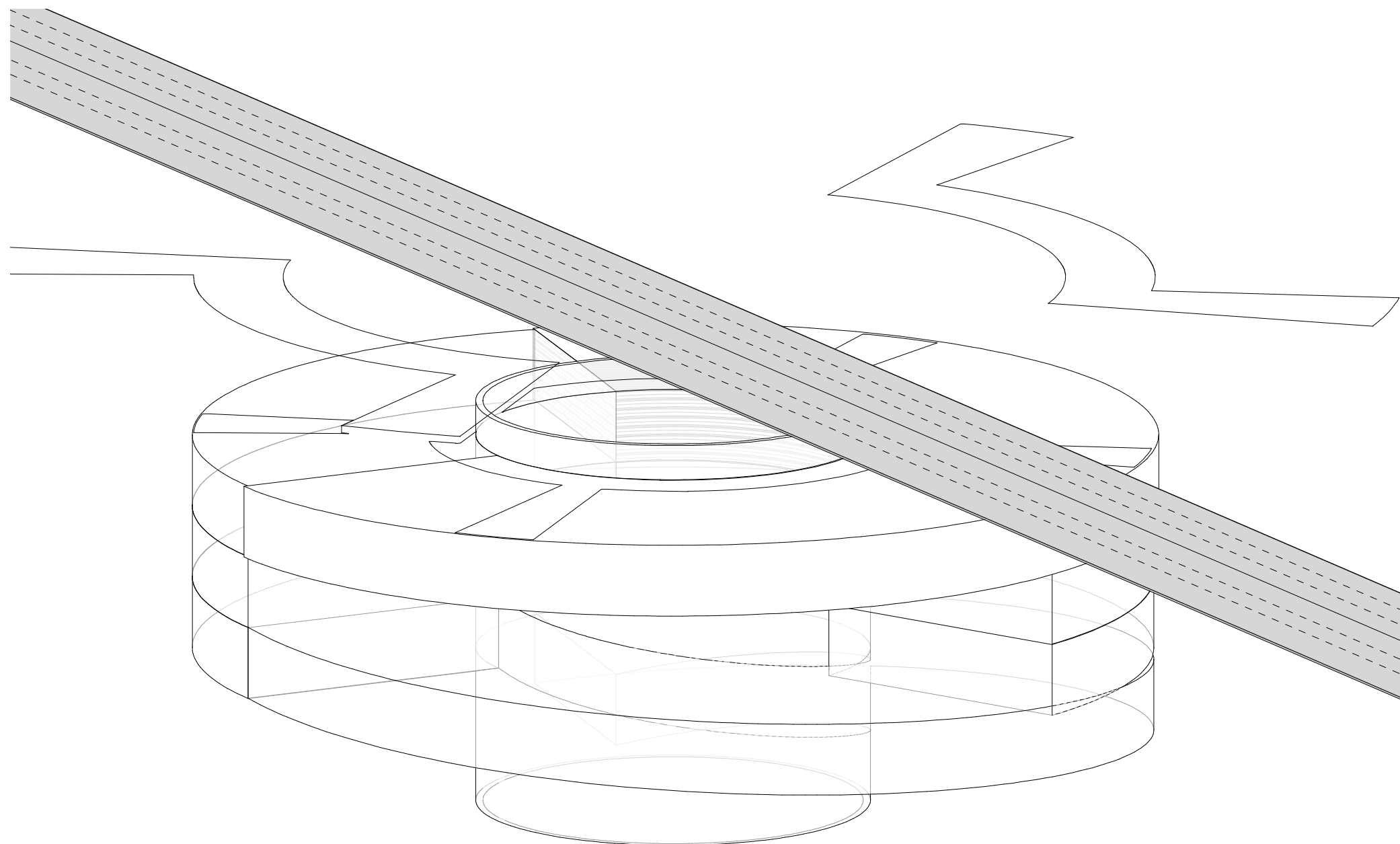
Bridges





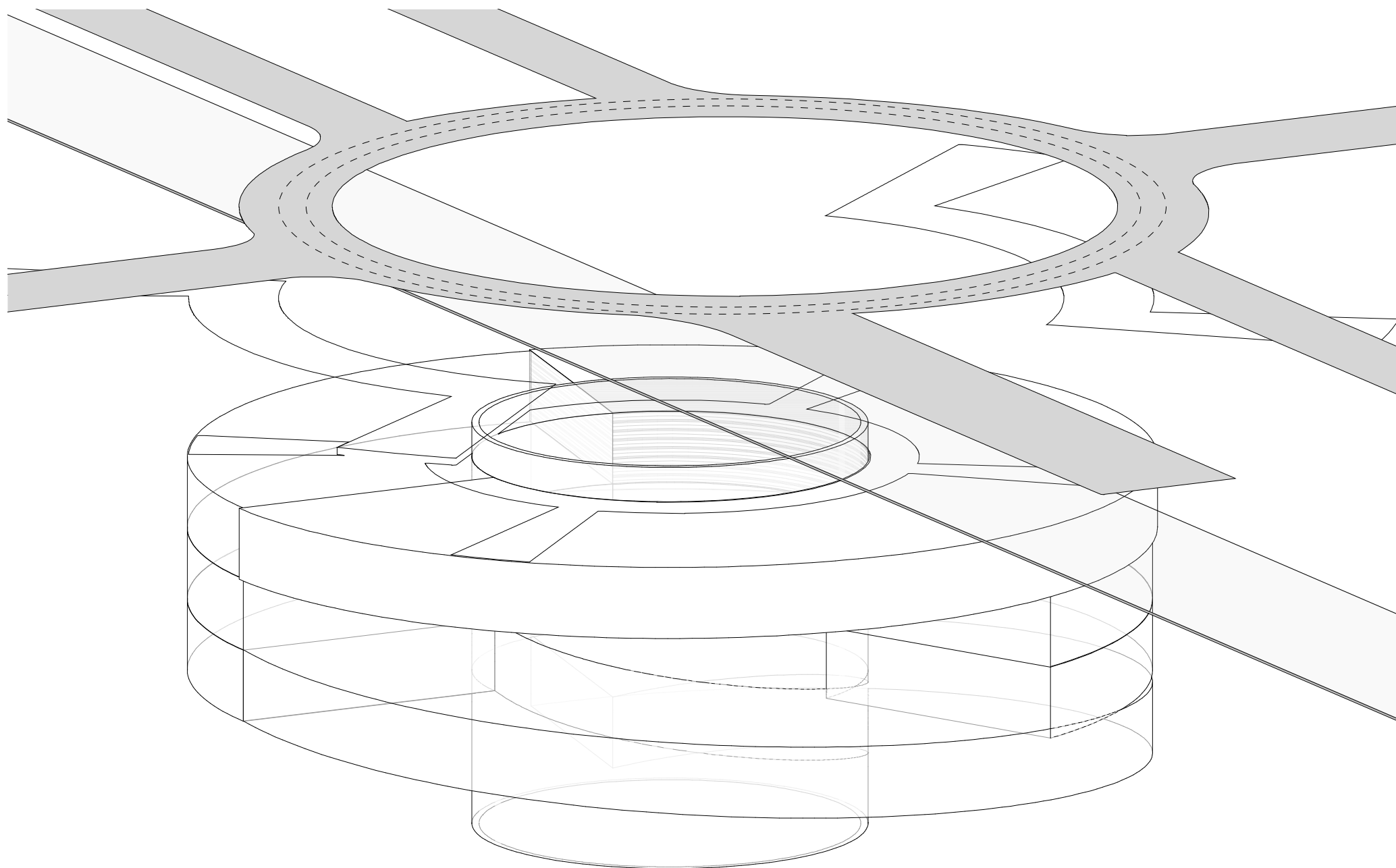
# Program

Highway



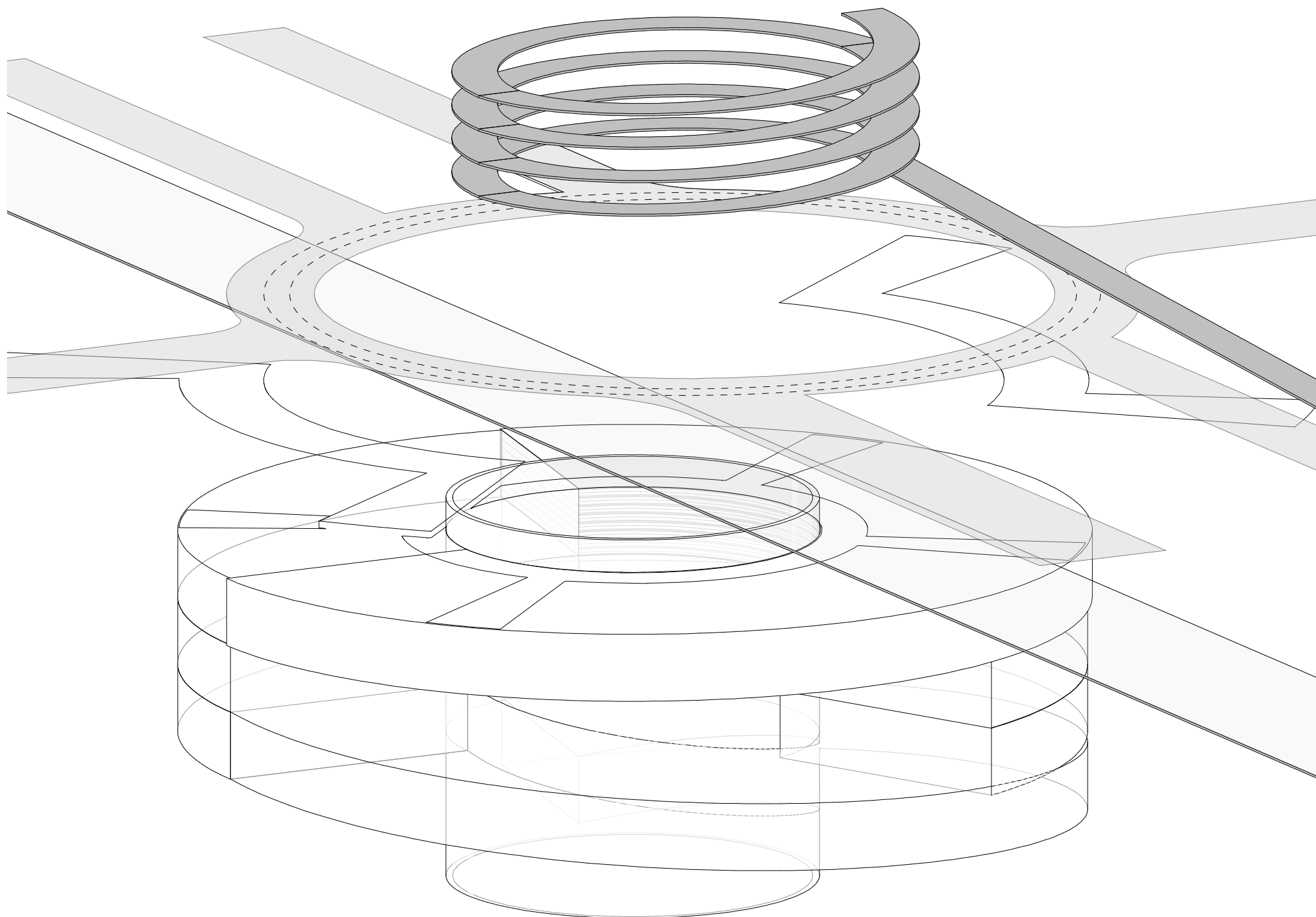
## Program

### Roundabout



## Program

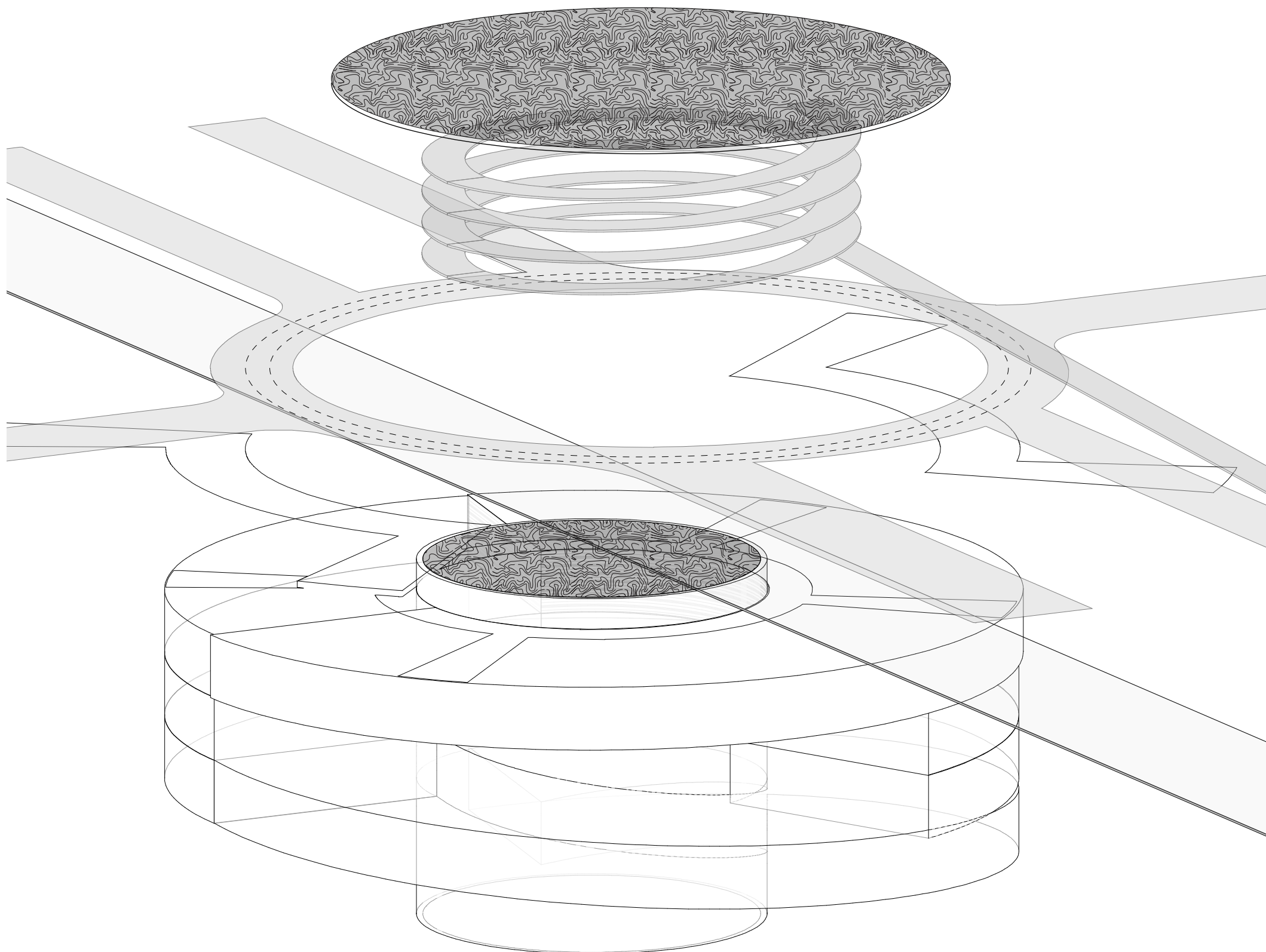
Parking

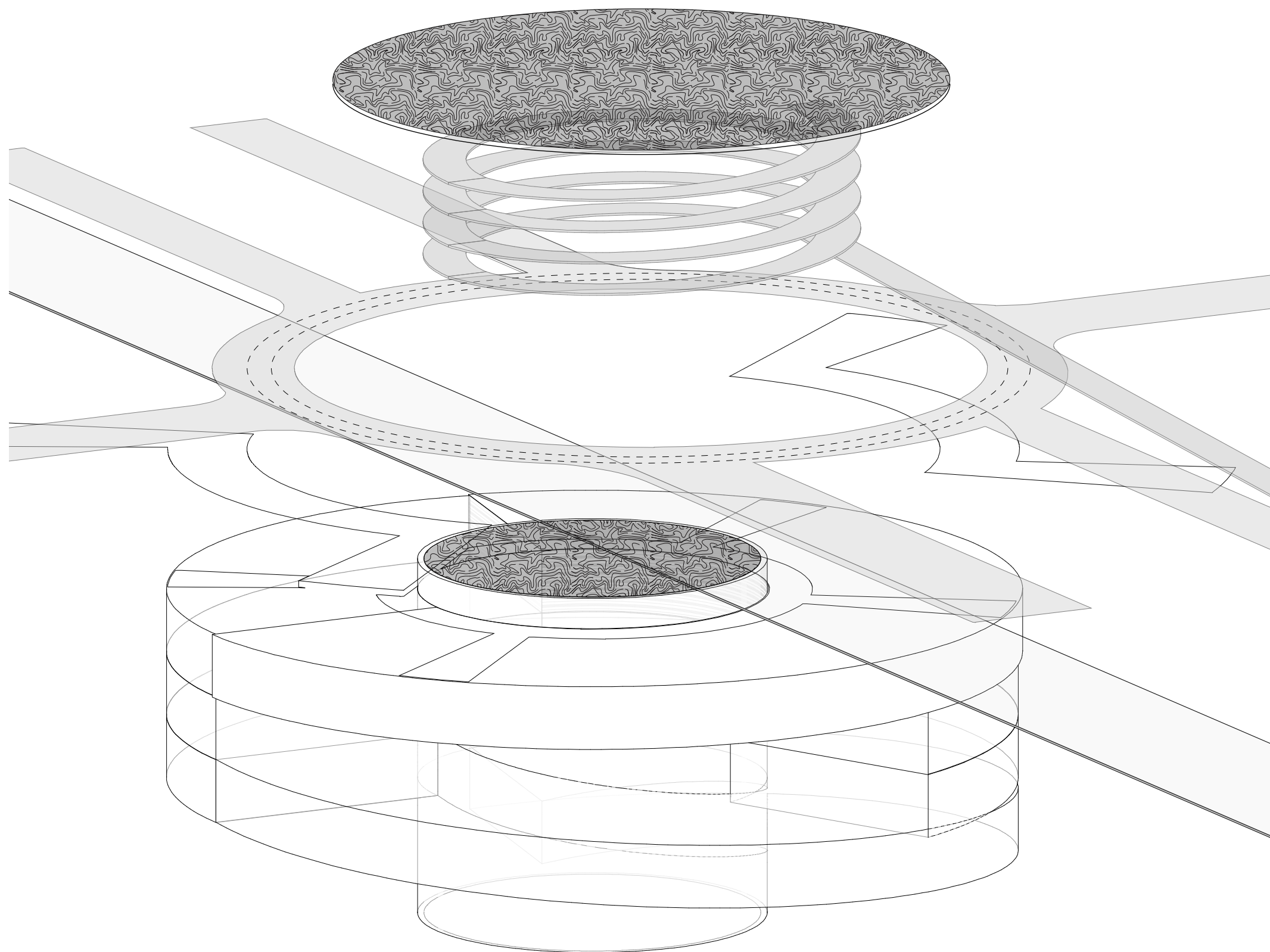




## Program

Communal spaces

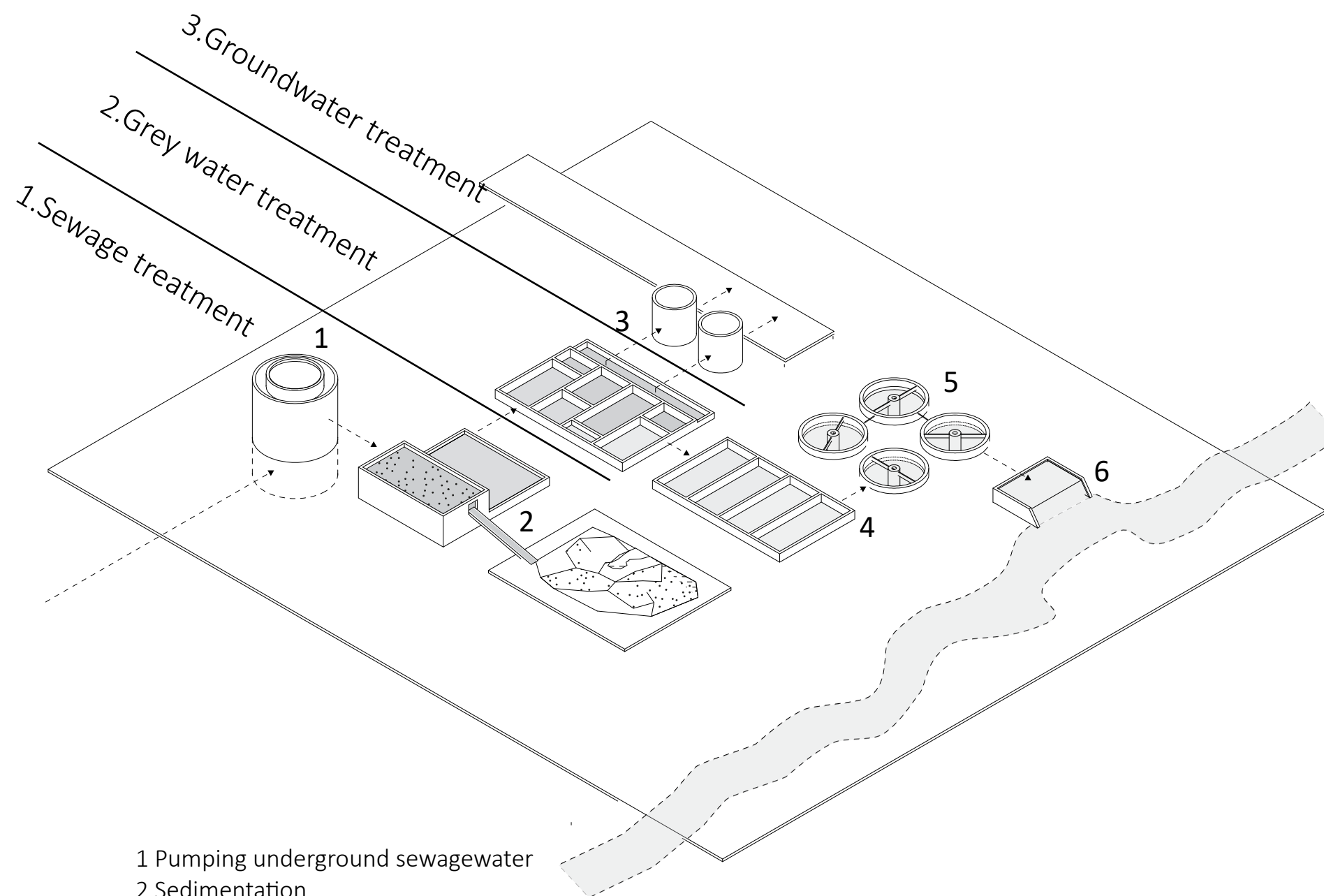




Water filtration system

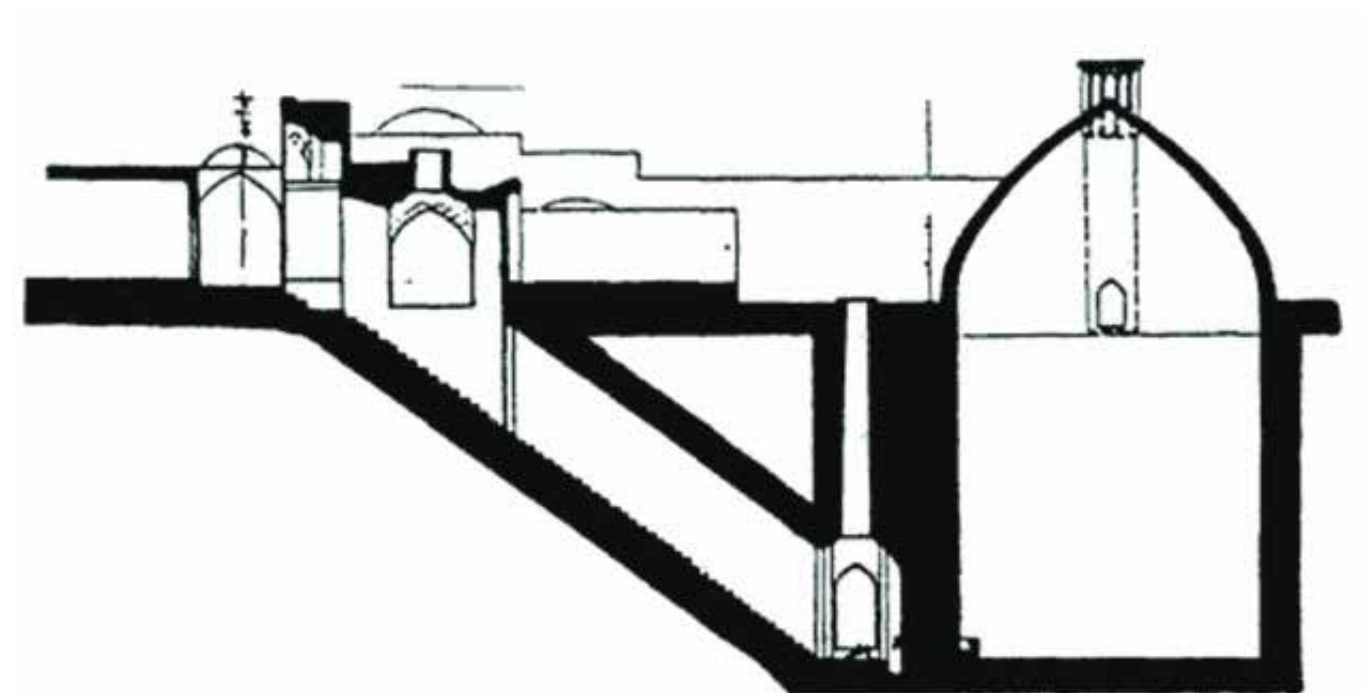


## Water filtration systems

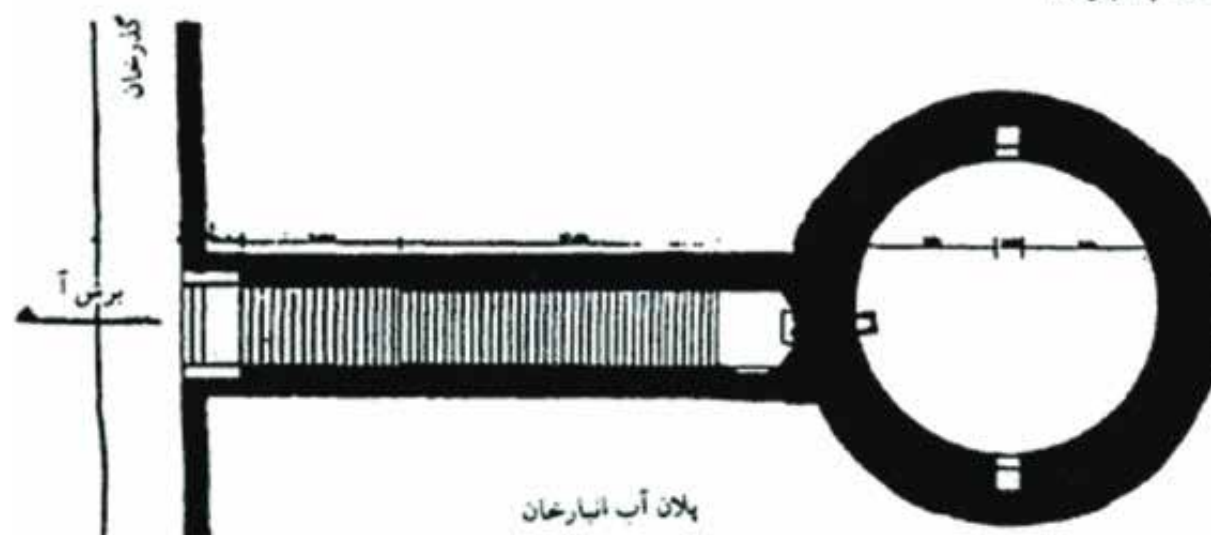


- 1 Pumping underground sewagewater
- 2 Sedimentation
- 3 Decantation
- 4 Filtration
- 5 Mechanical filtration
- 6 Disinfection

Iranian cistern

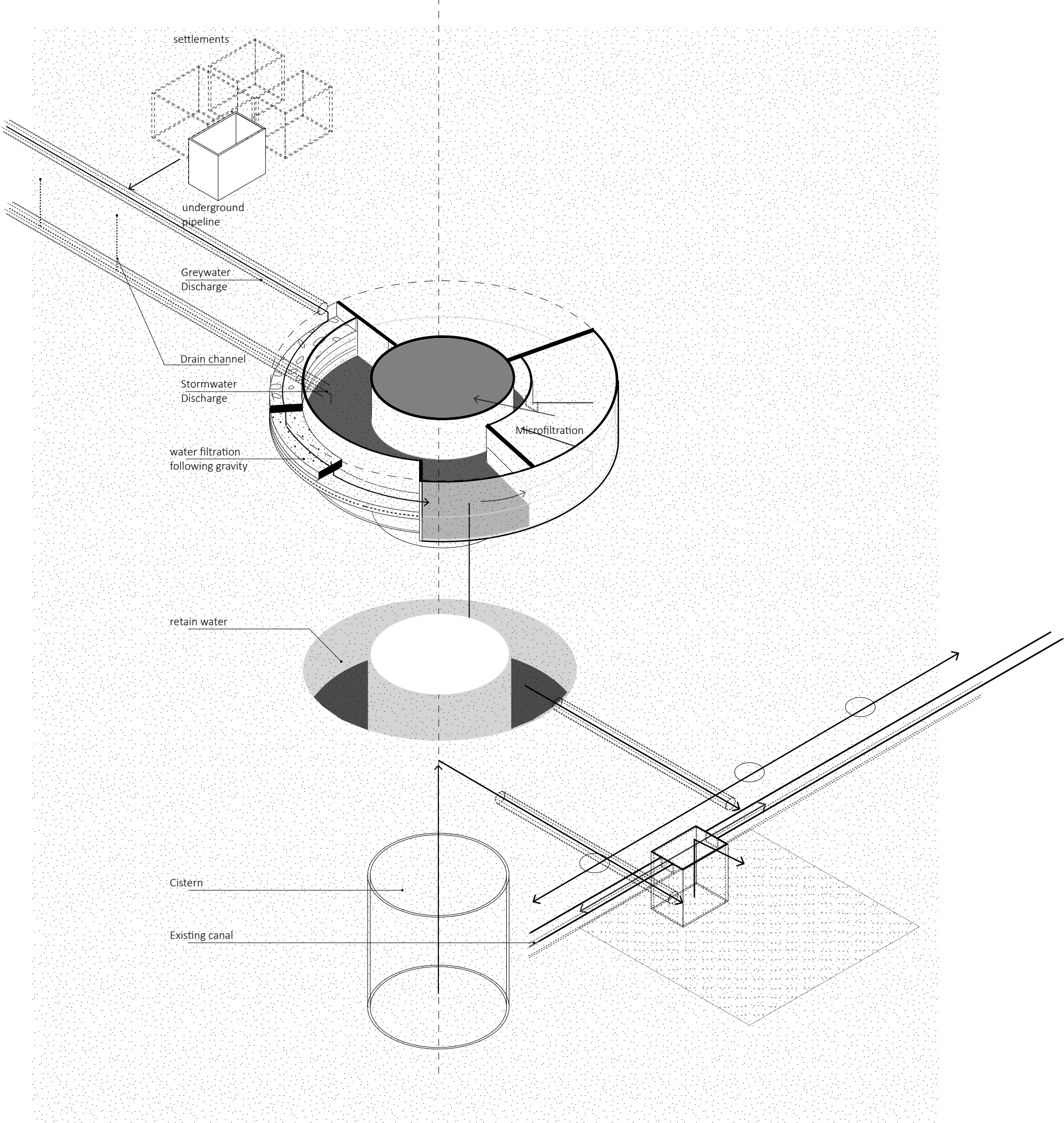


برش آ. از پلان آب انبارخان



پلان آب انبارخان

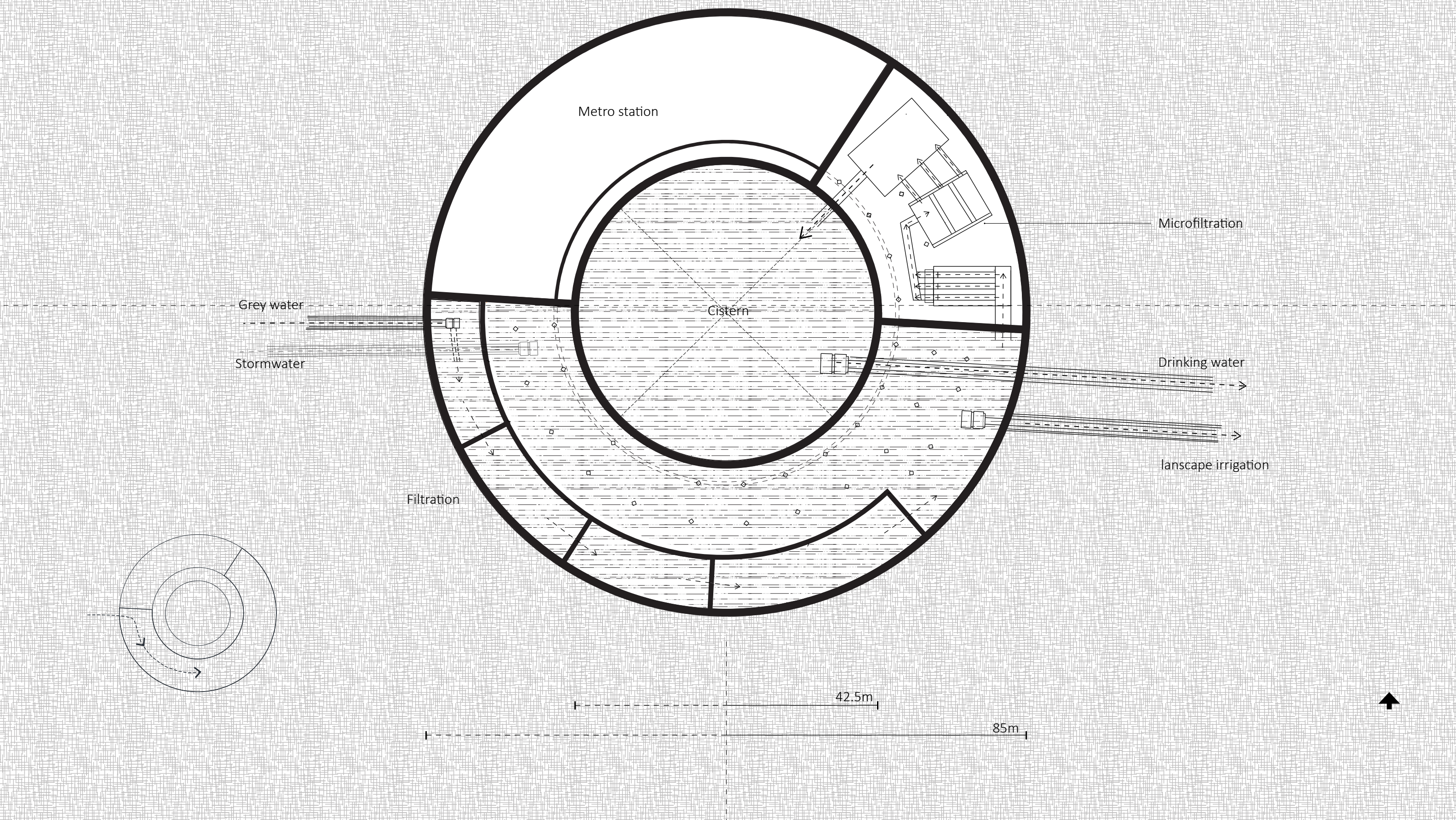
**Design**  
Water filtration systems





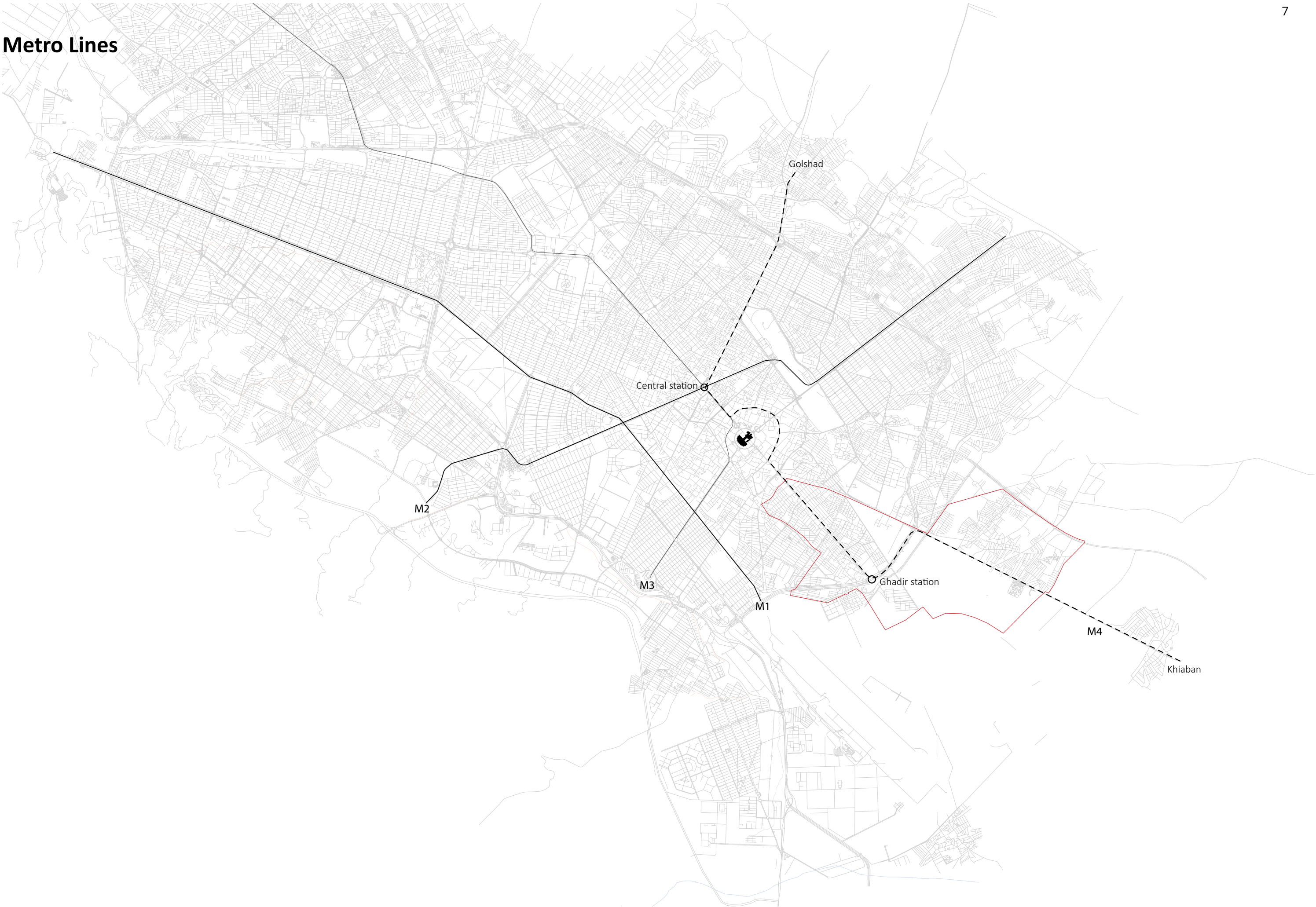
# Water filtration system

Plan



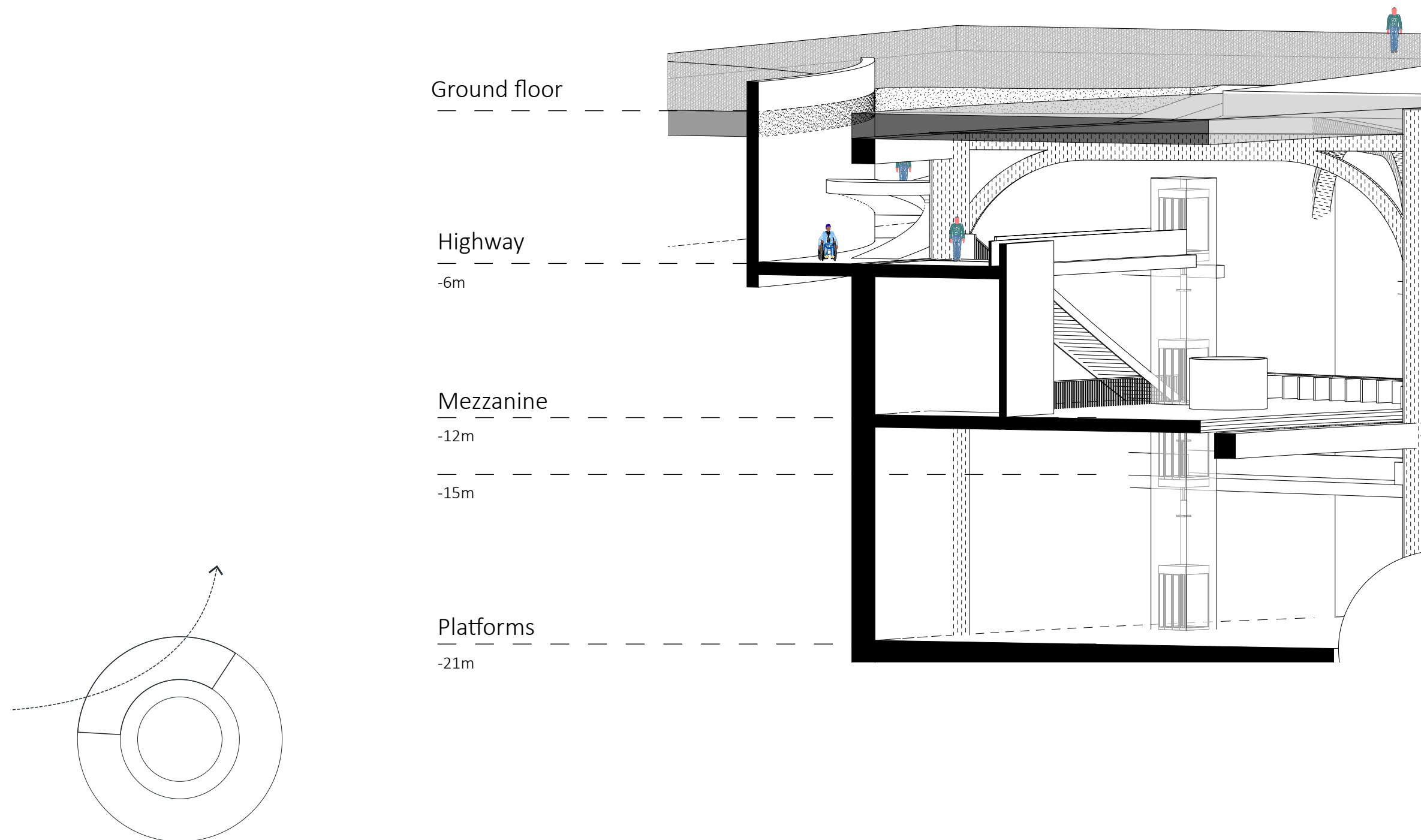
Metro station

Metro Lines





## Metro Station



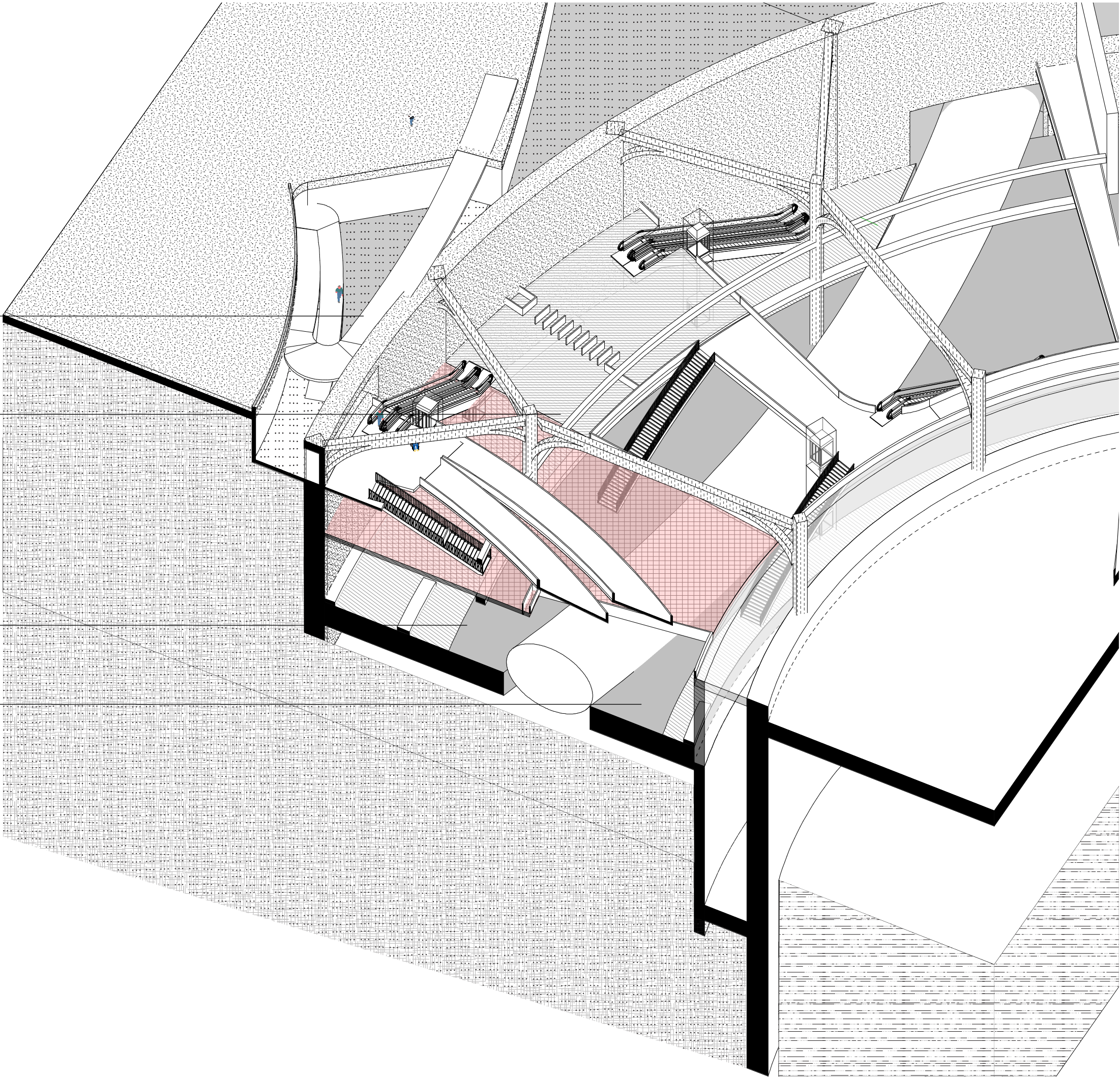
Metro Station

Transition space

Mezzanine

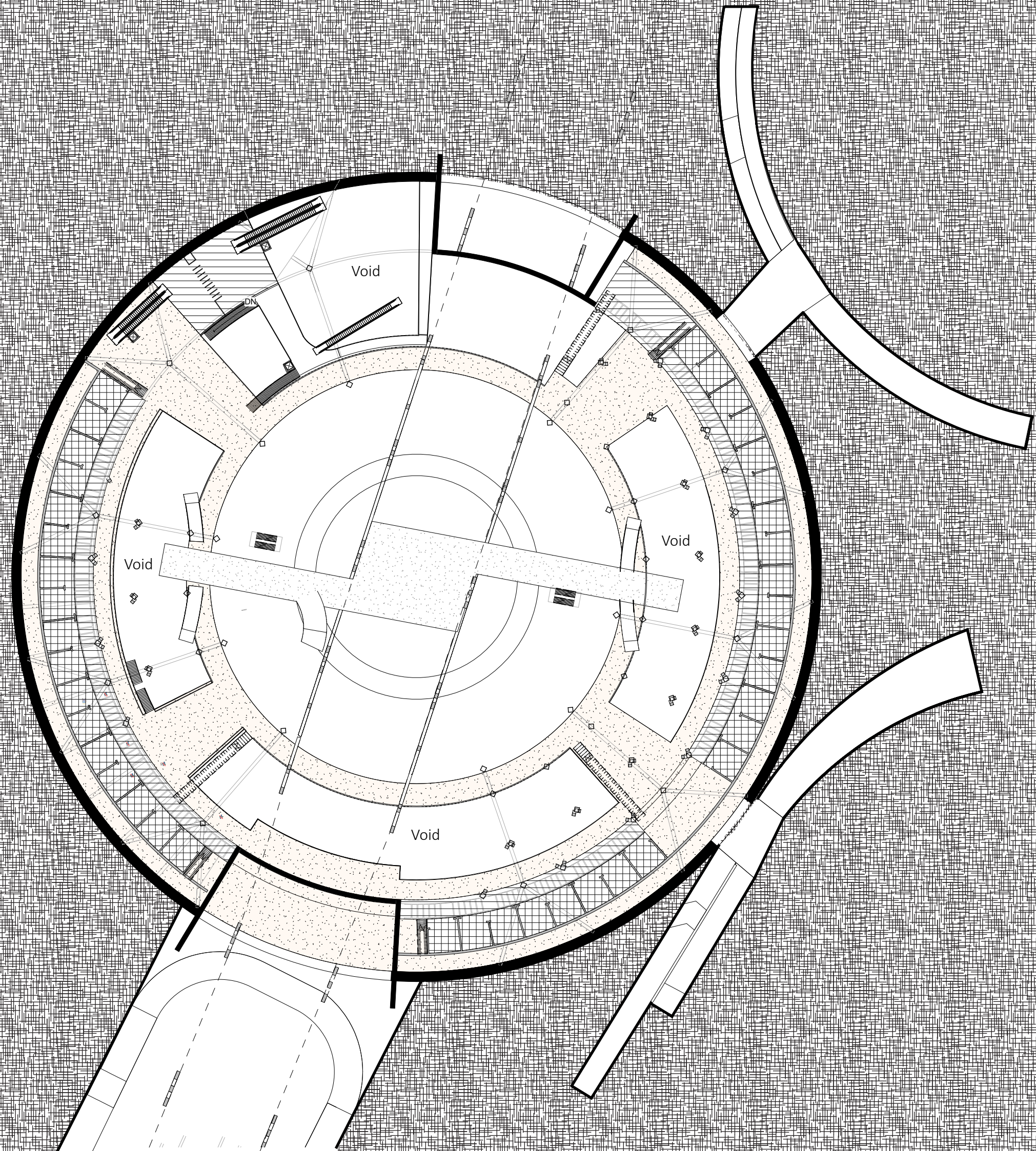
Platform 1

Platform 2



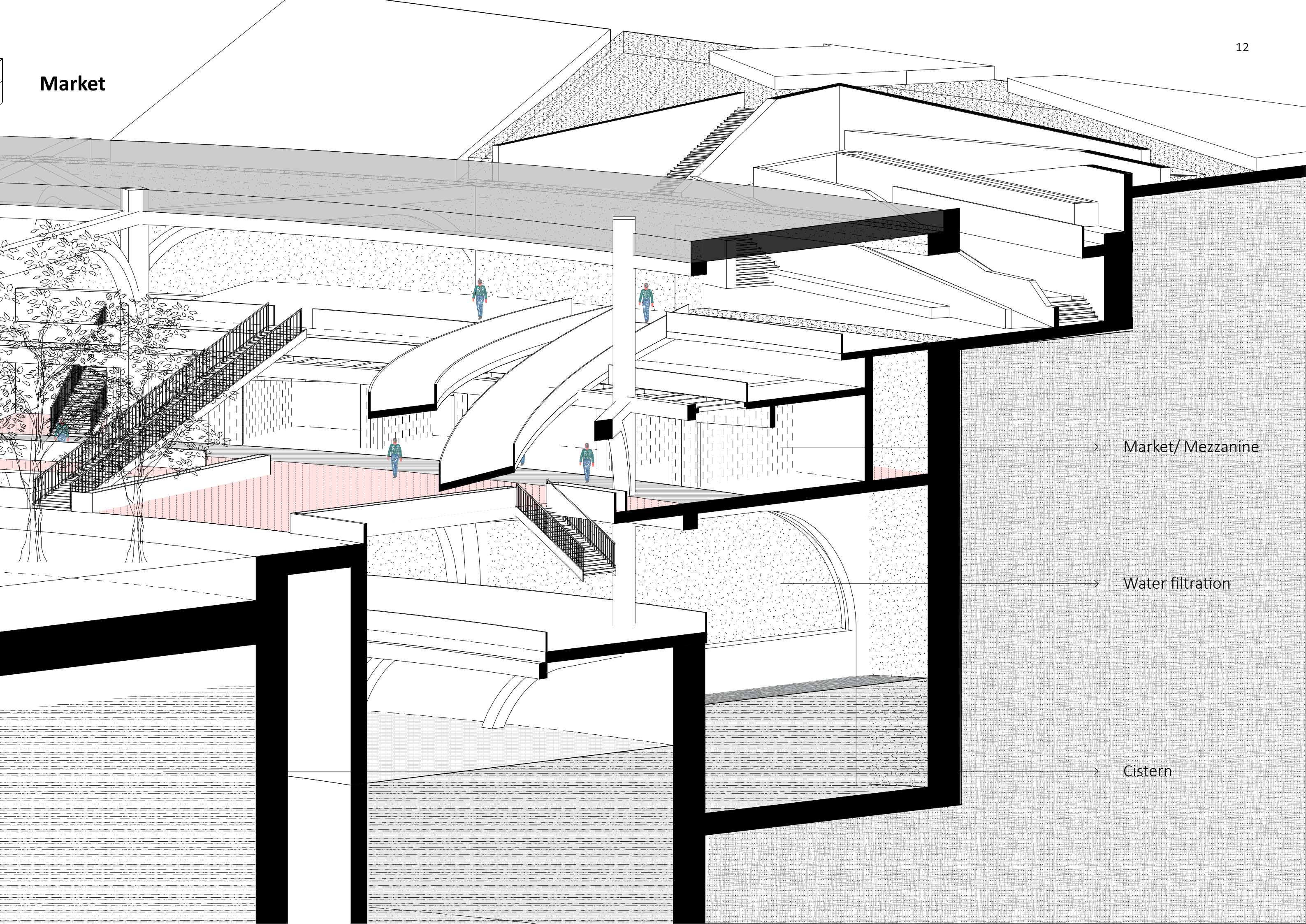
Market







Market



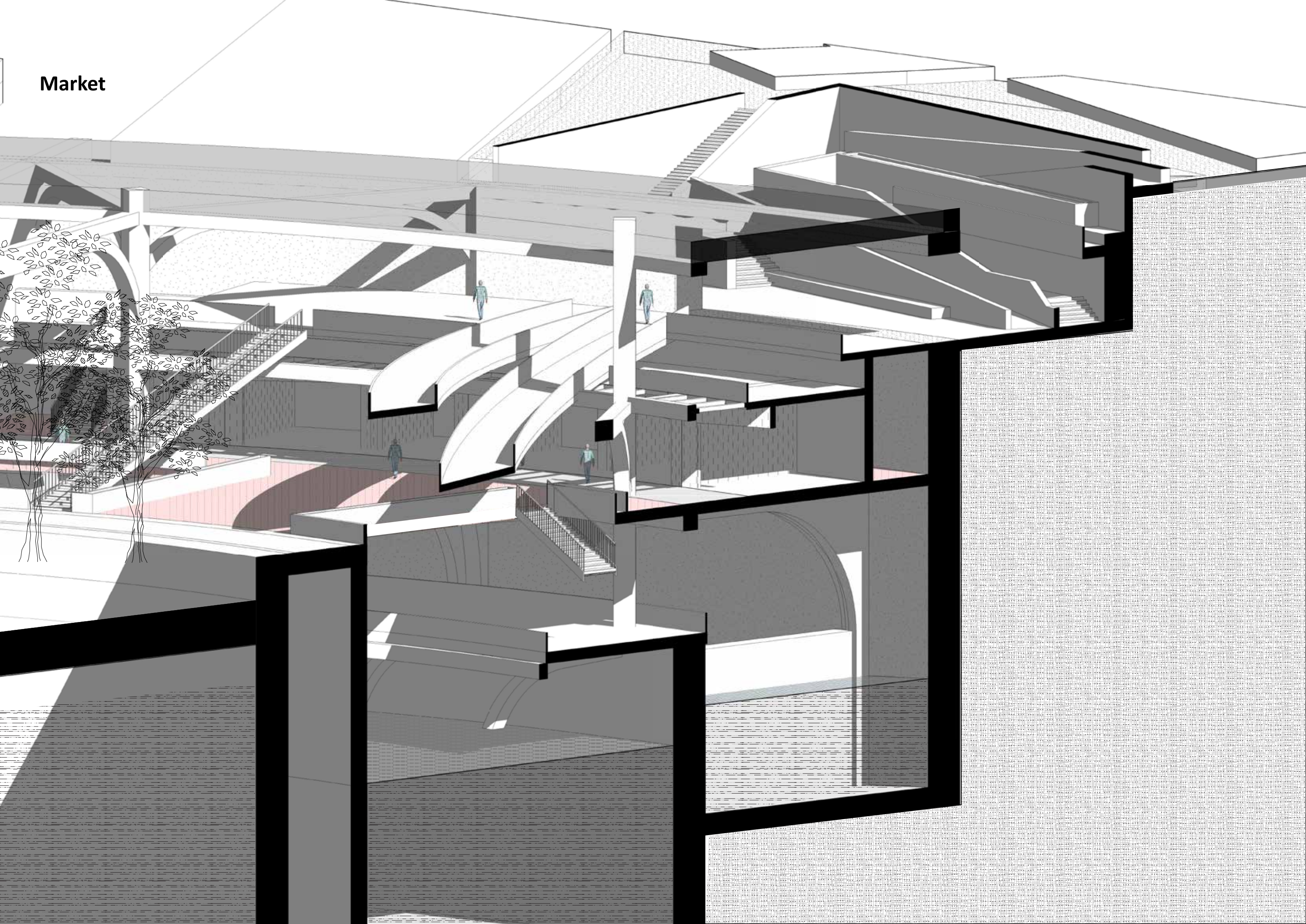
Market/ Mezzanine

Water filtration

Cistern



Market





Highway and Threshold

Infrastructure flow



Highway level

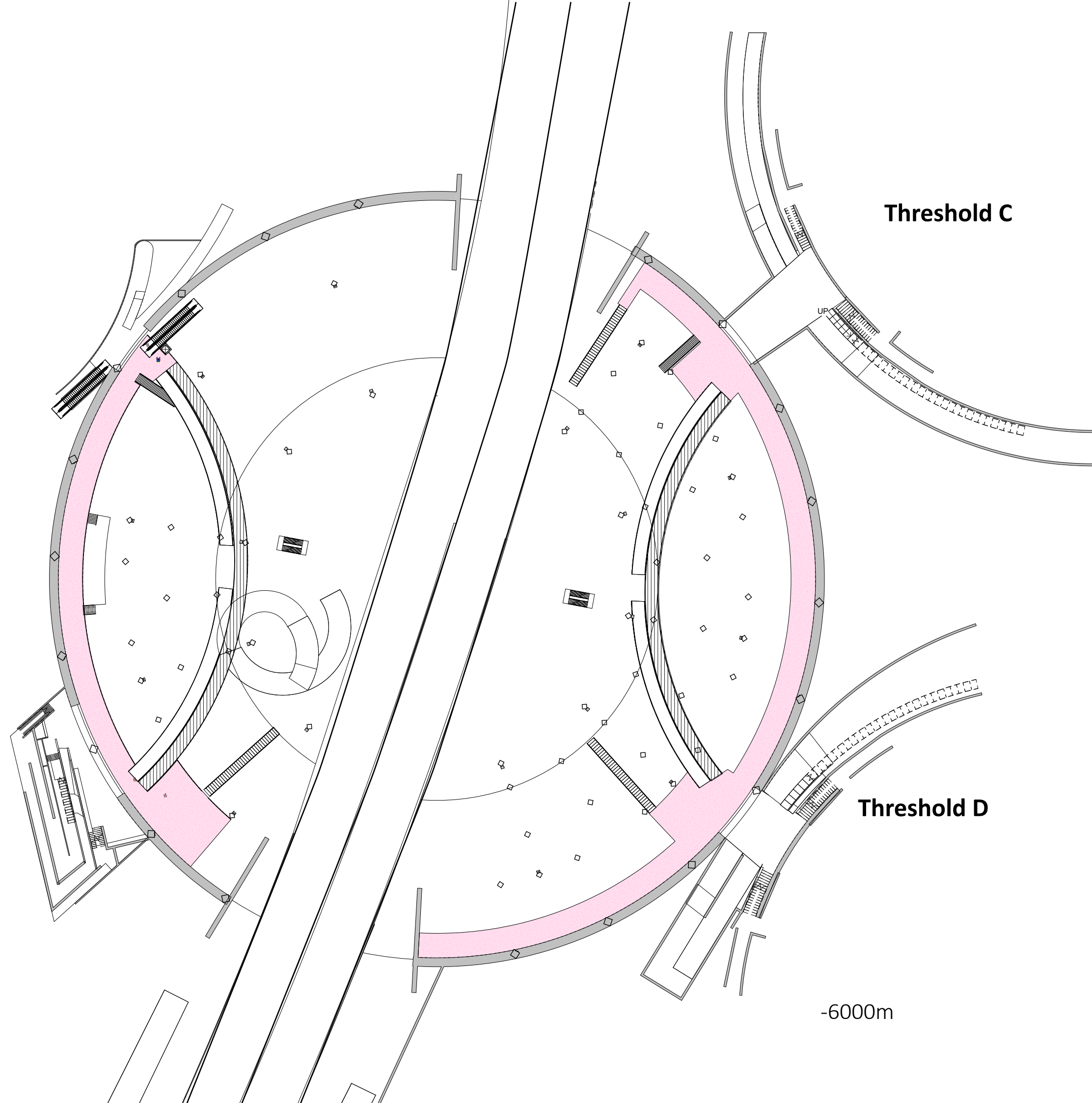
Threshold A

Threshold B

Threshold C

Threshold D

-6000m





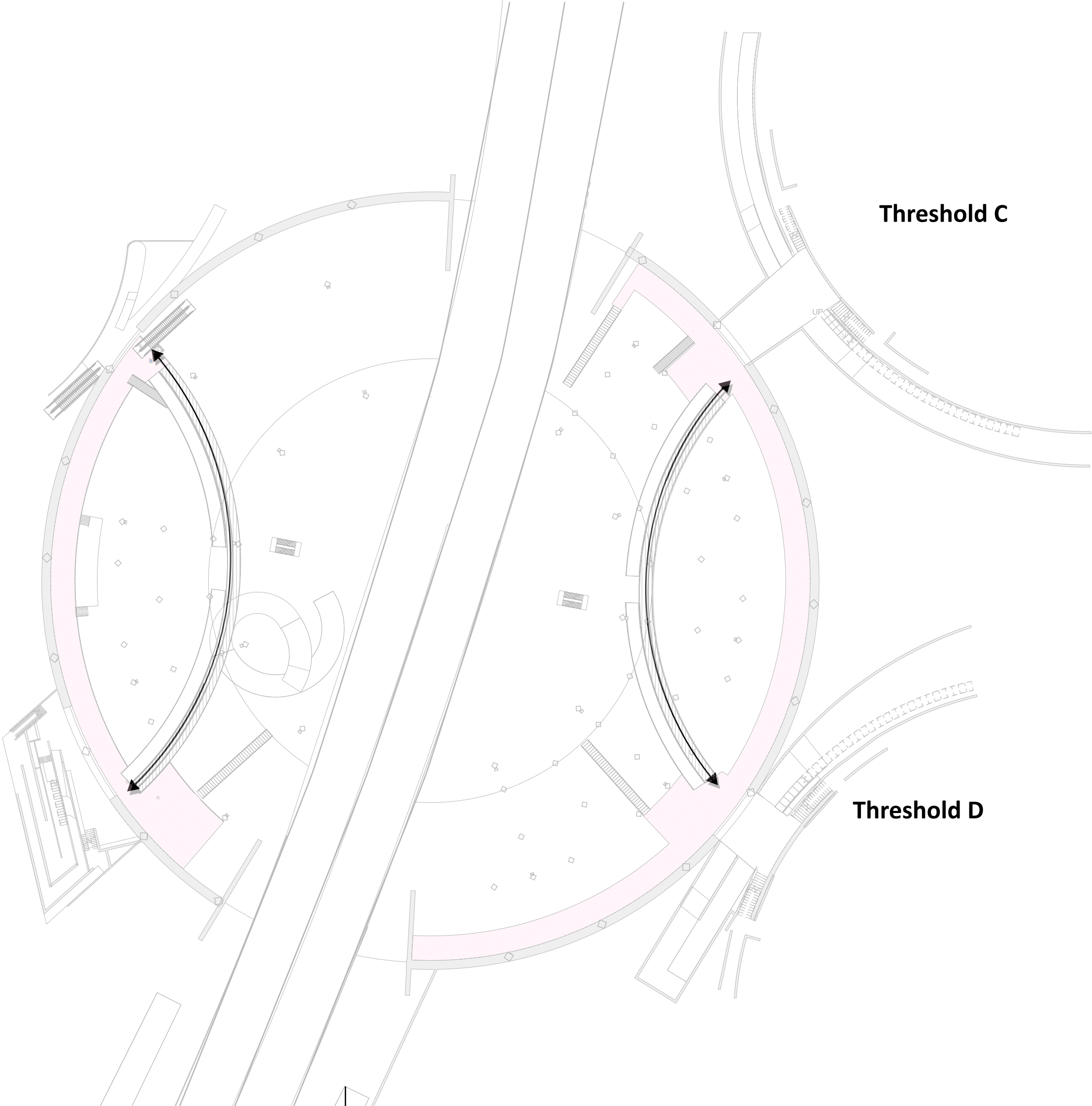
Highway level

Threshold A

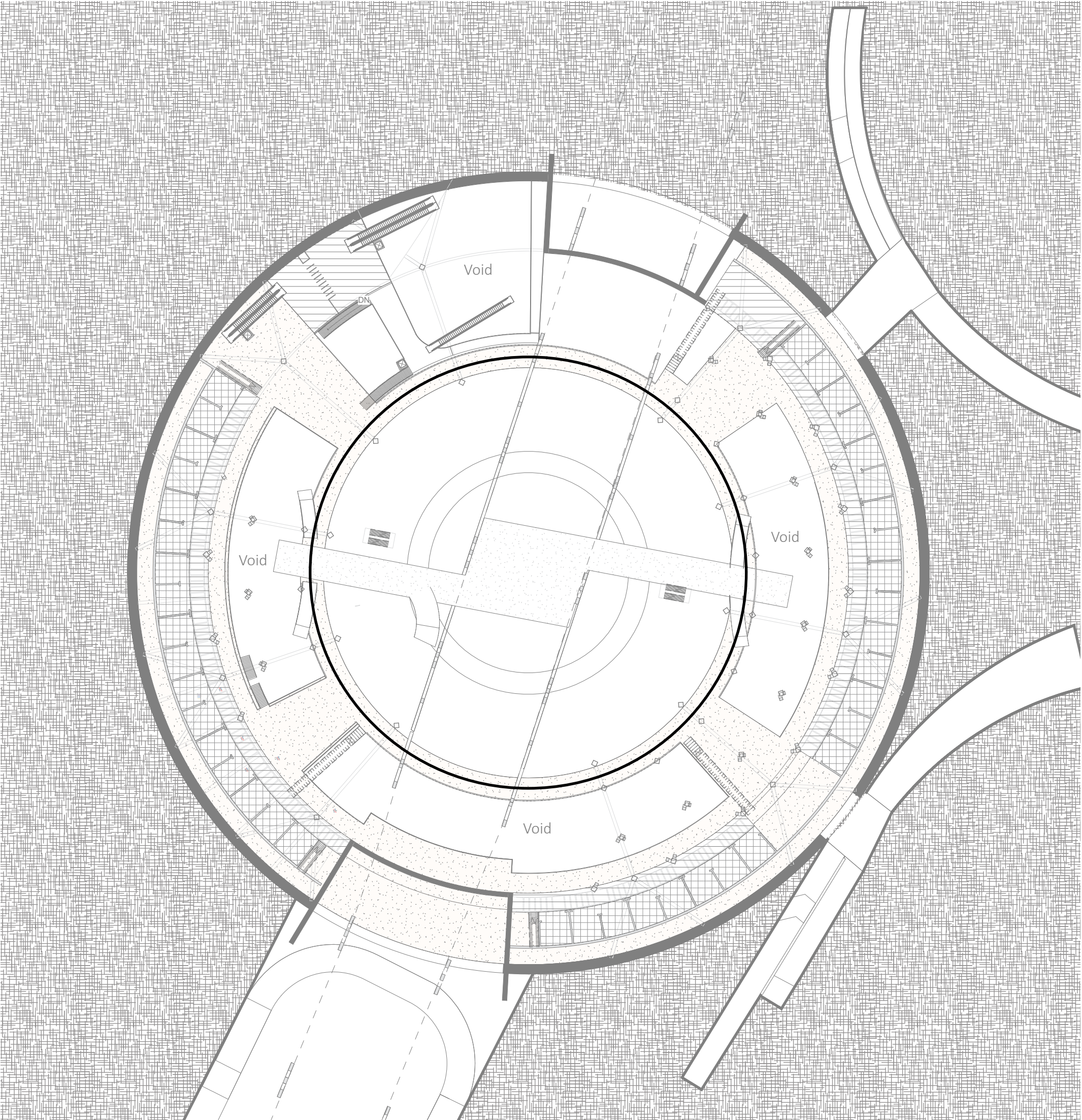
Threshold C

Threshold B

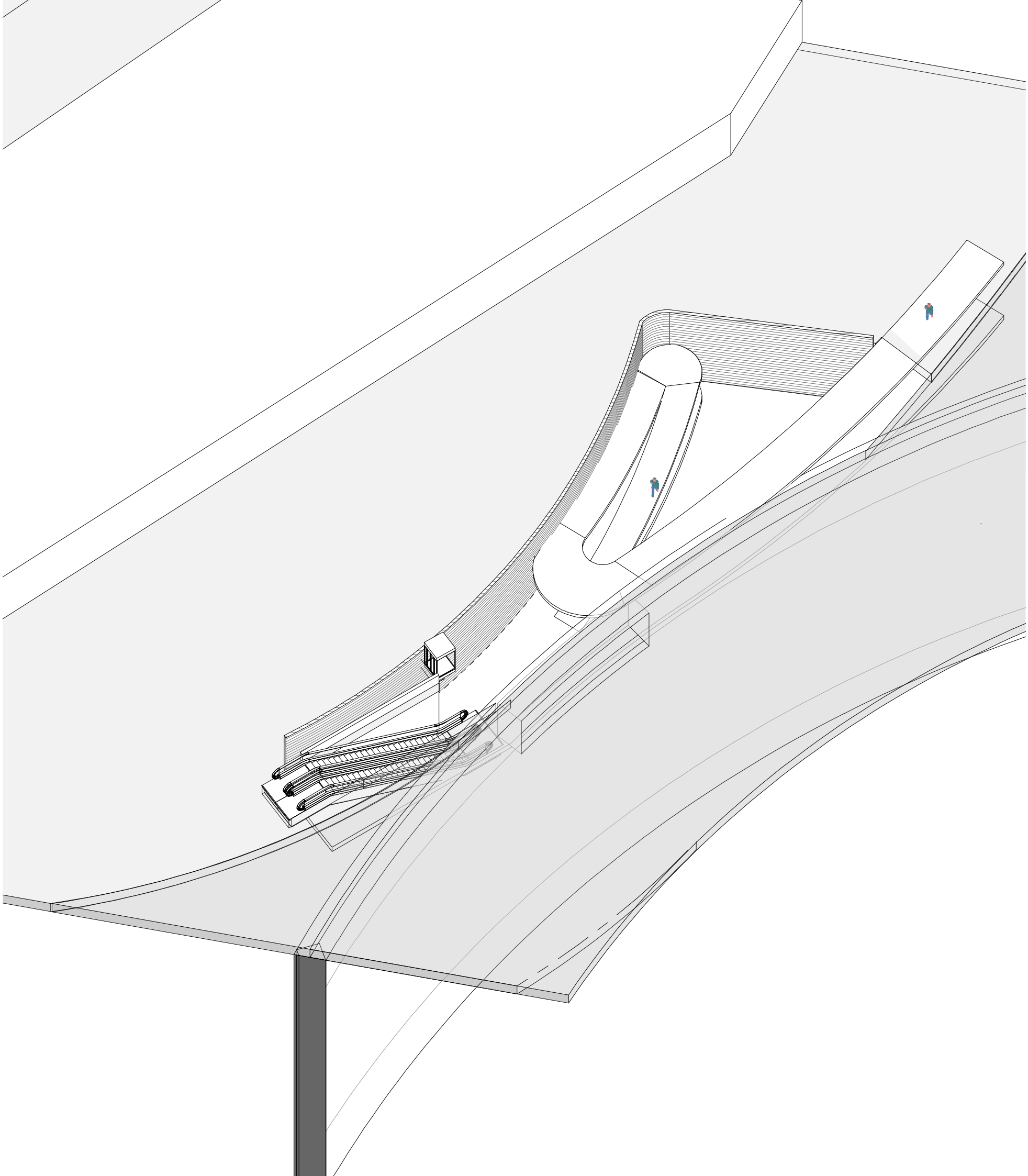
Threshold D



Mezzanine level

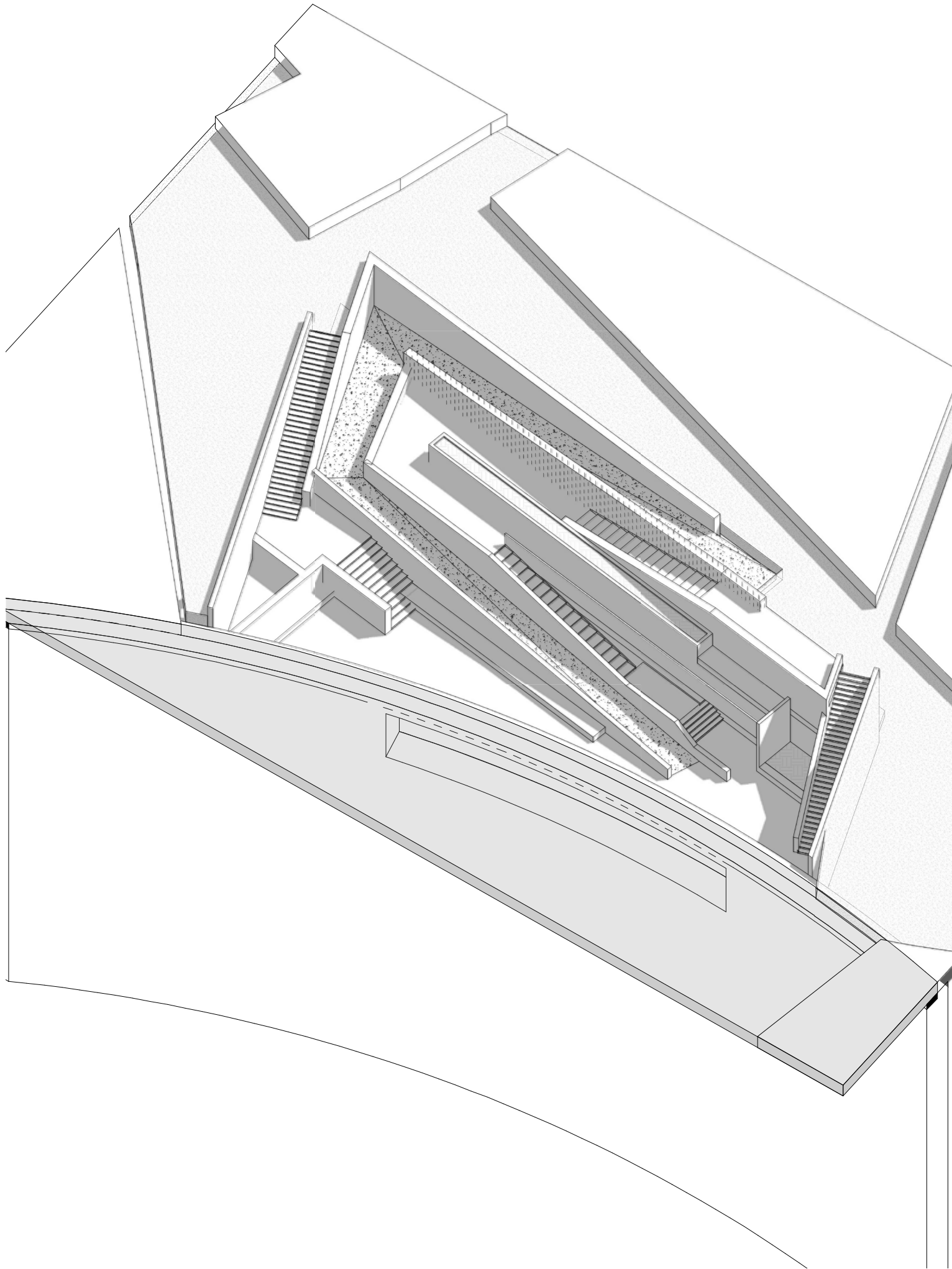


Threshold A

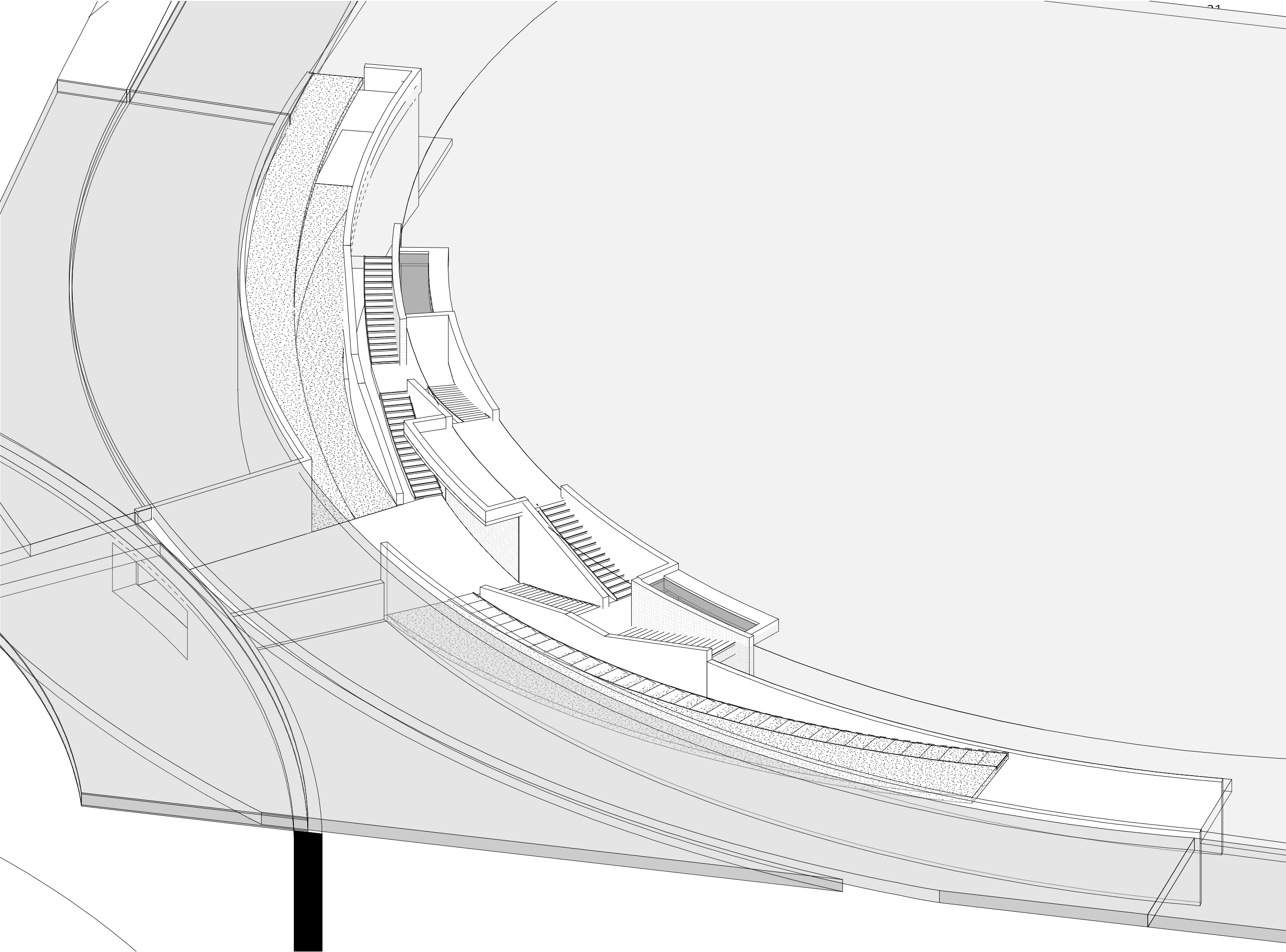




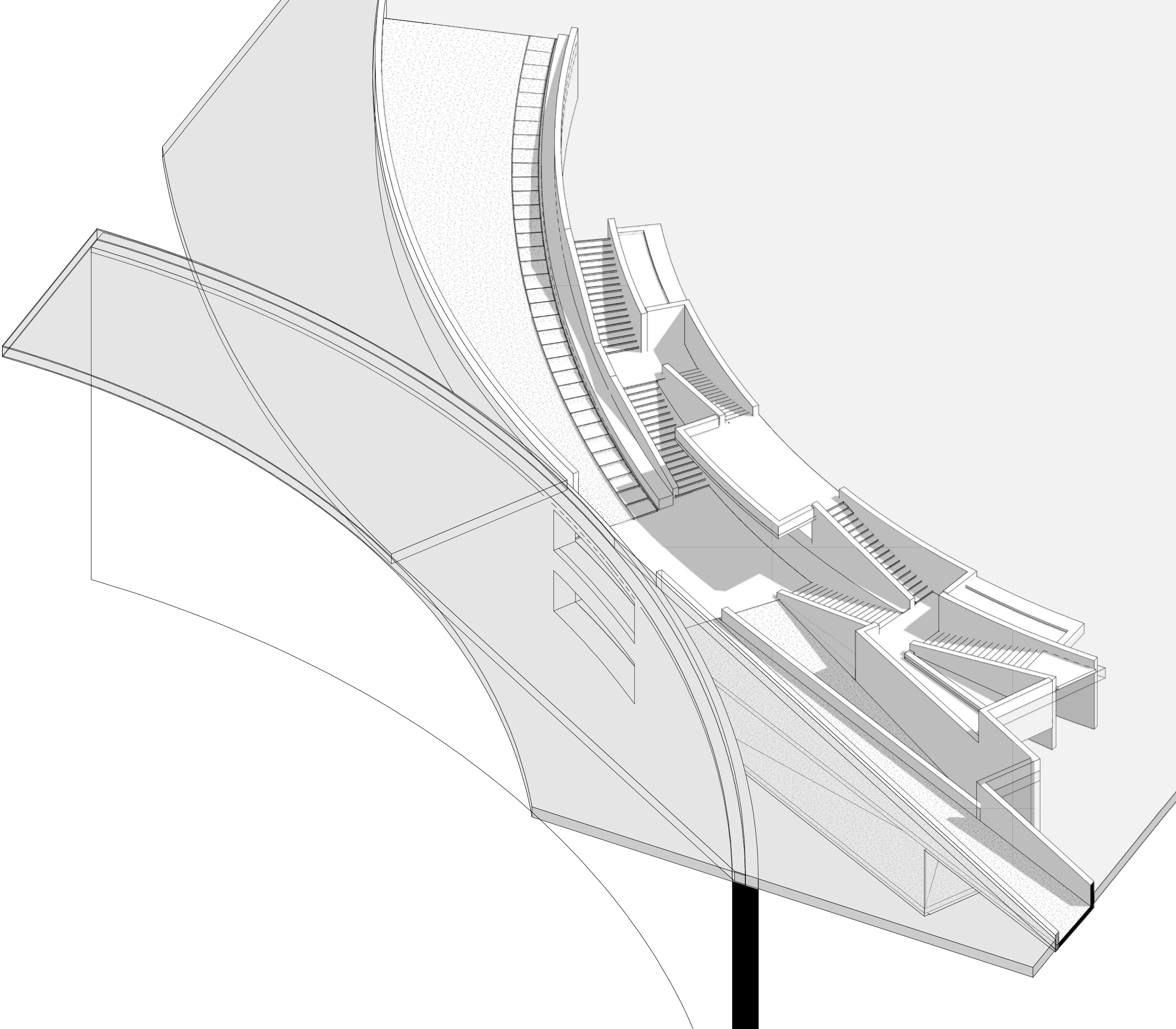
Threshold B



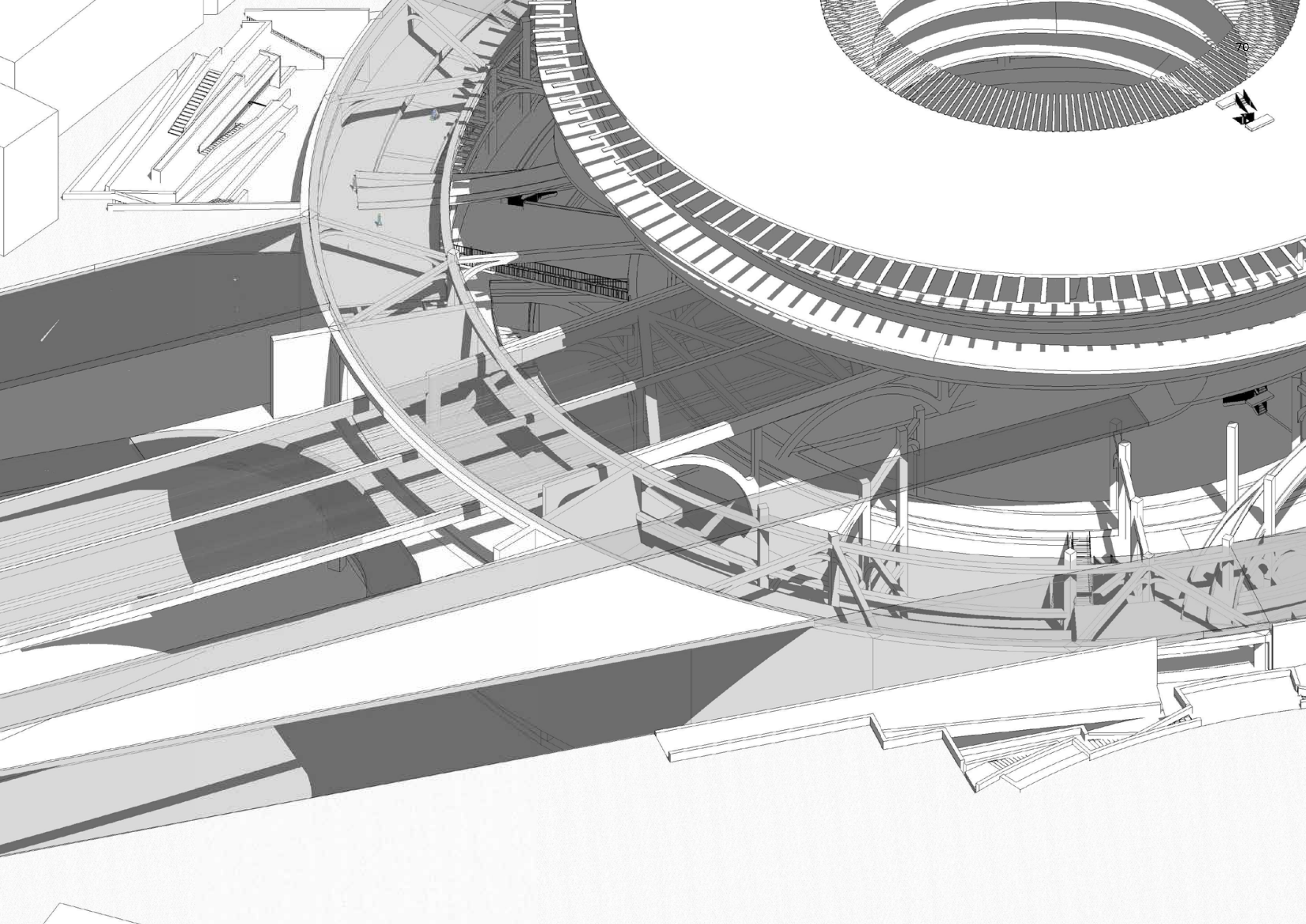
Threshold C



Threshold D











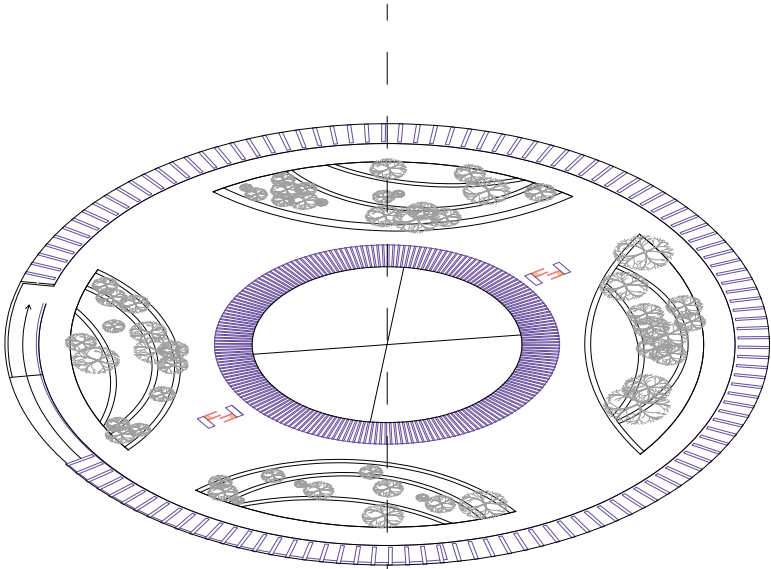




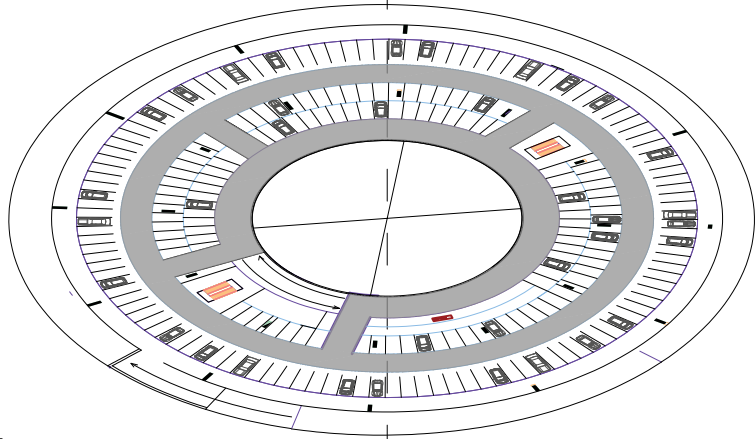


Parking

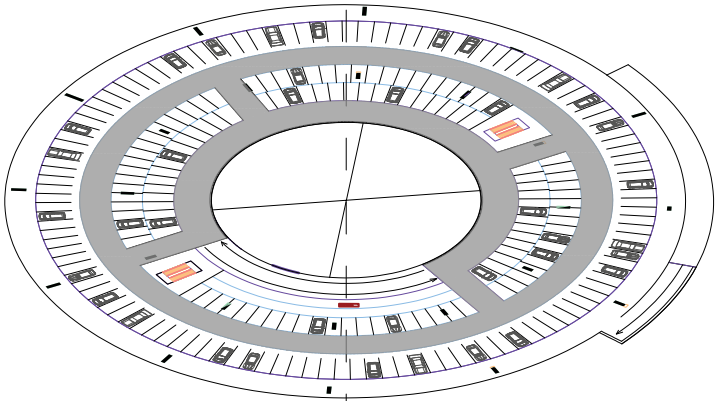
Roof



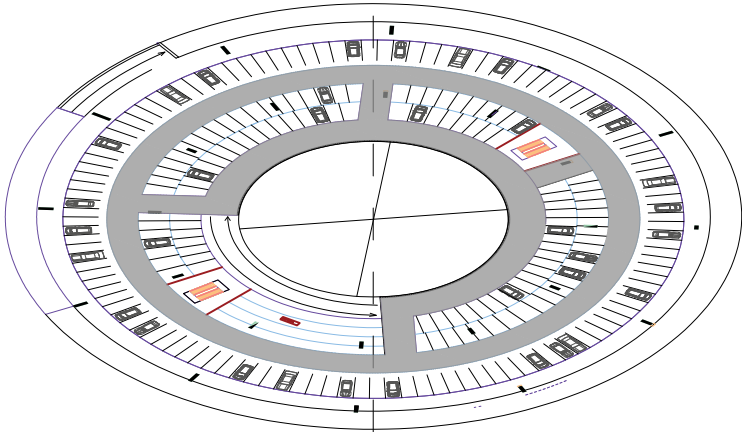
Parking 05



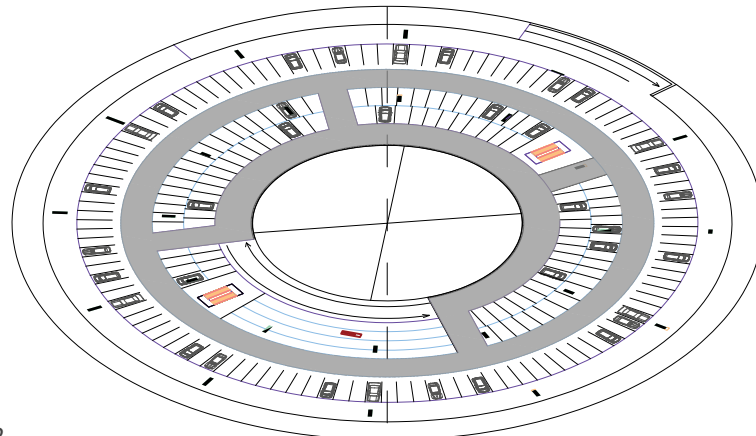
Parking 04



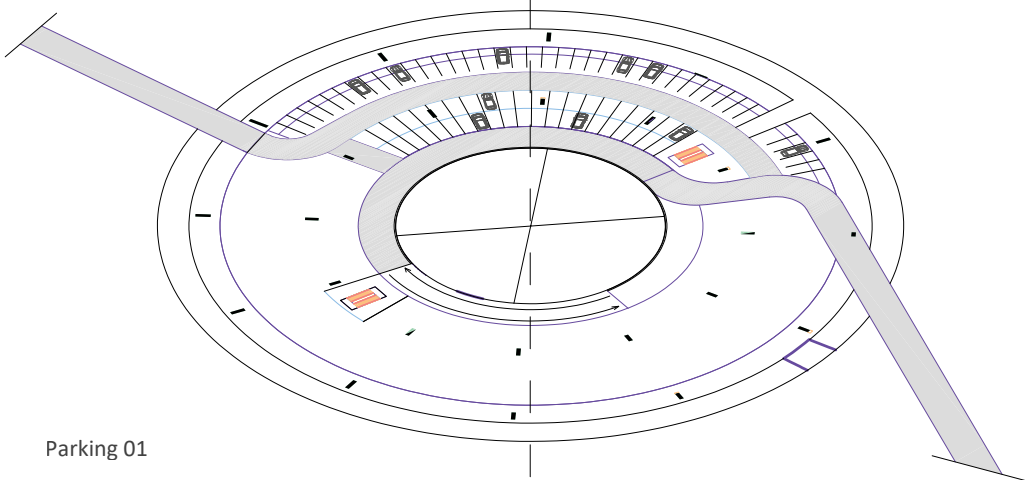
Parking 03



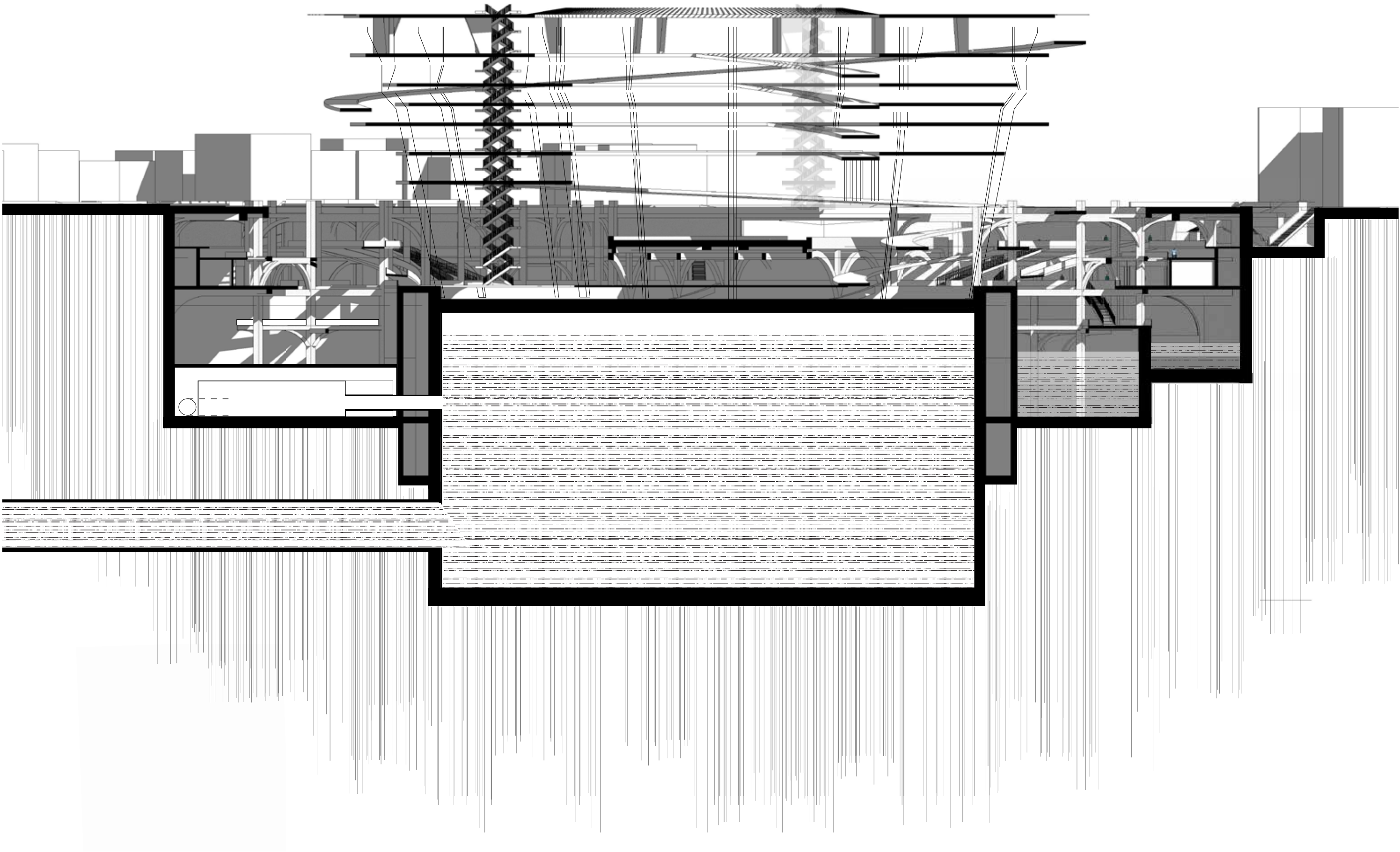
Parking 02

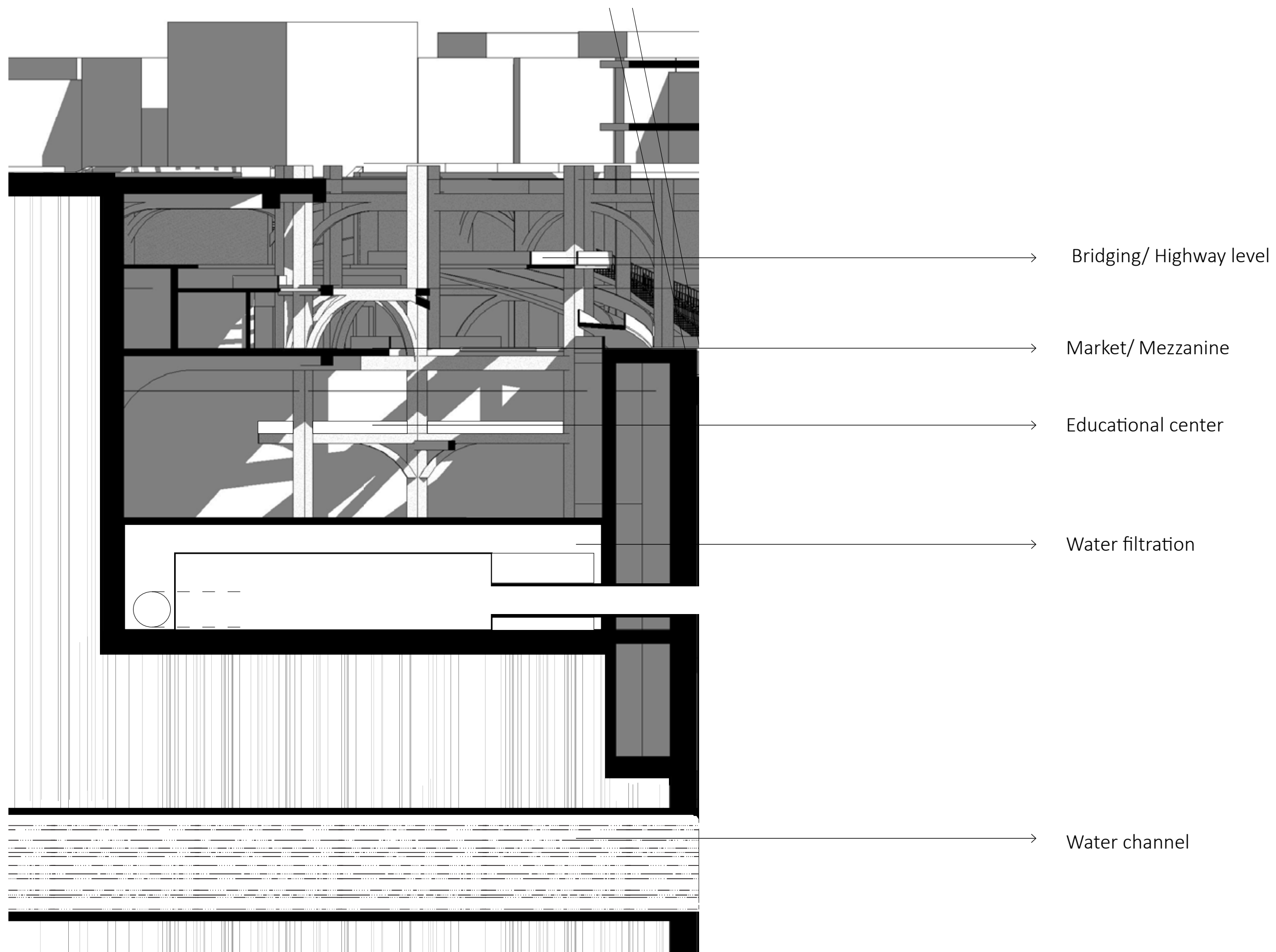


Parking 01

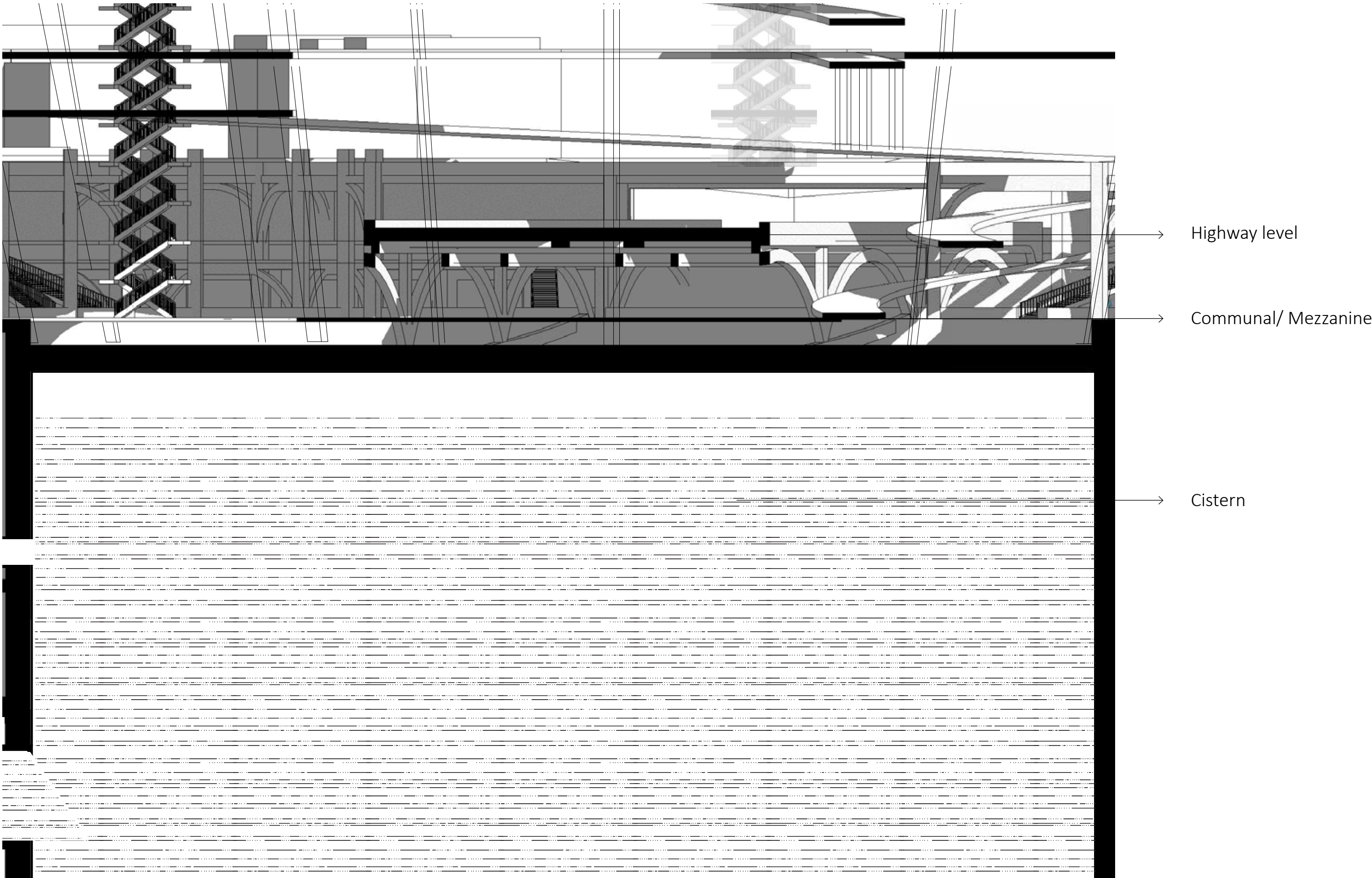


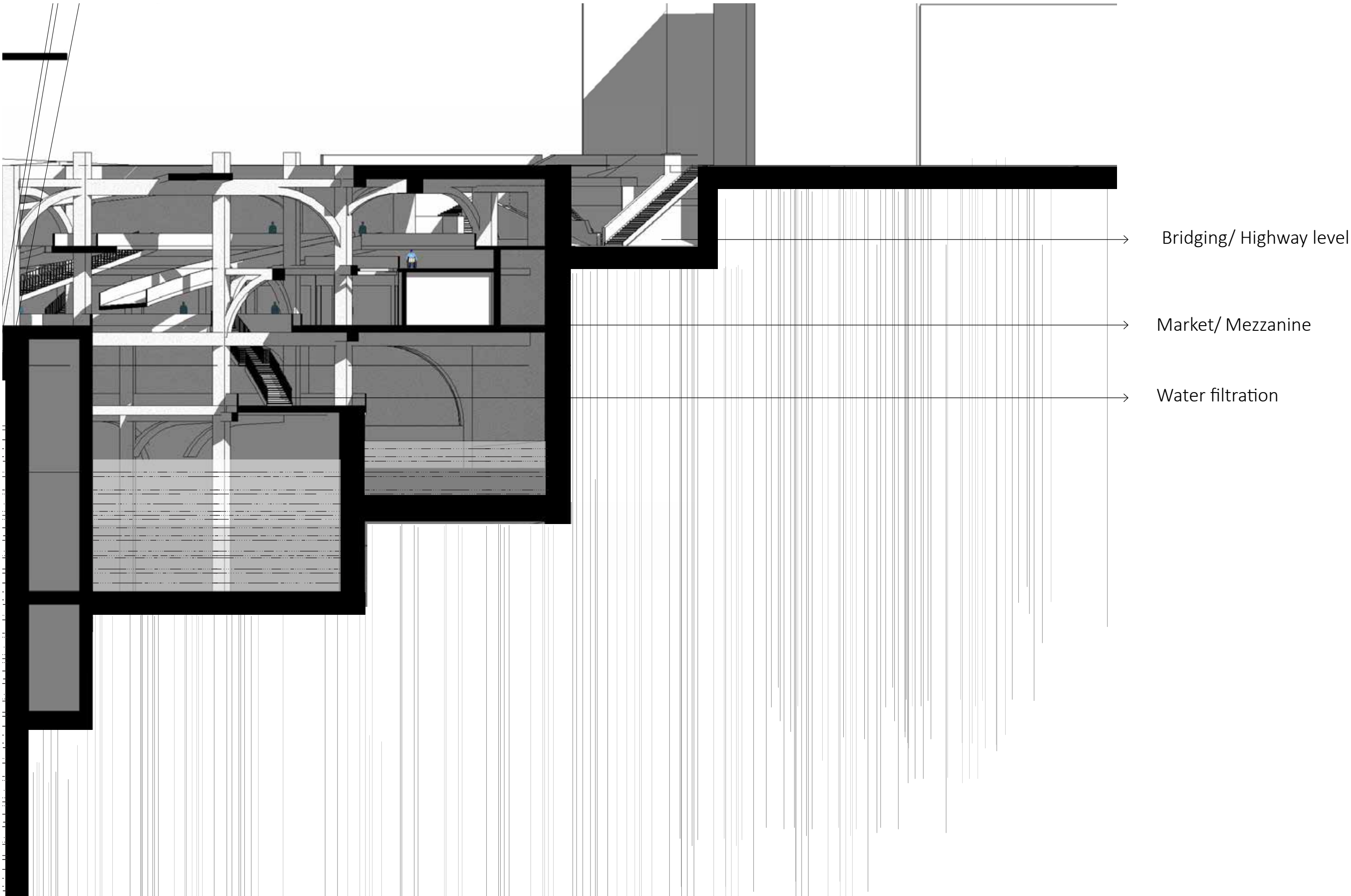
Cross Section



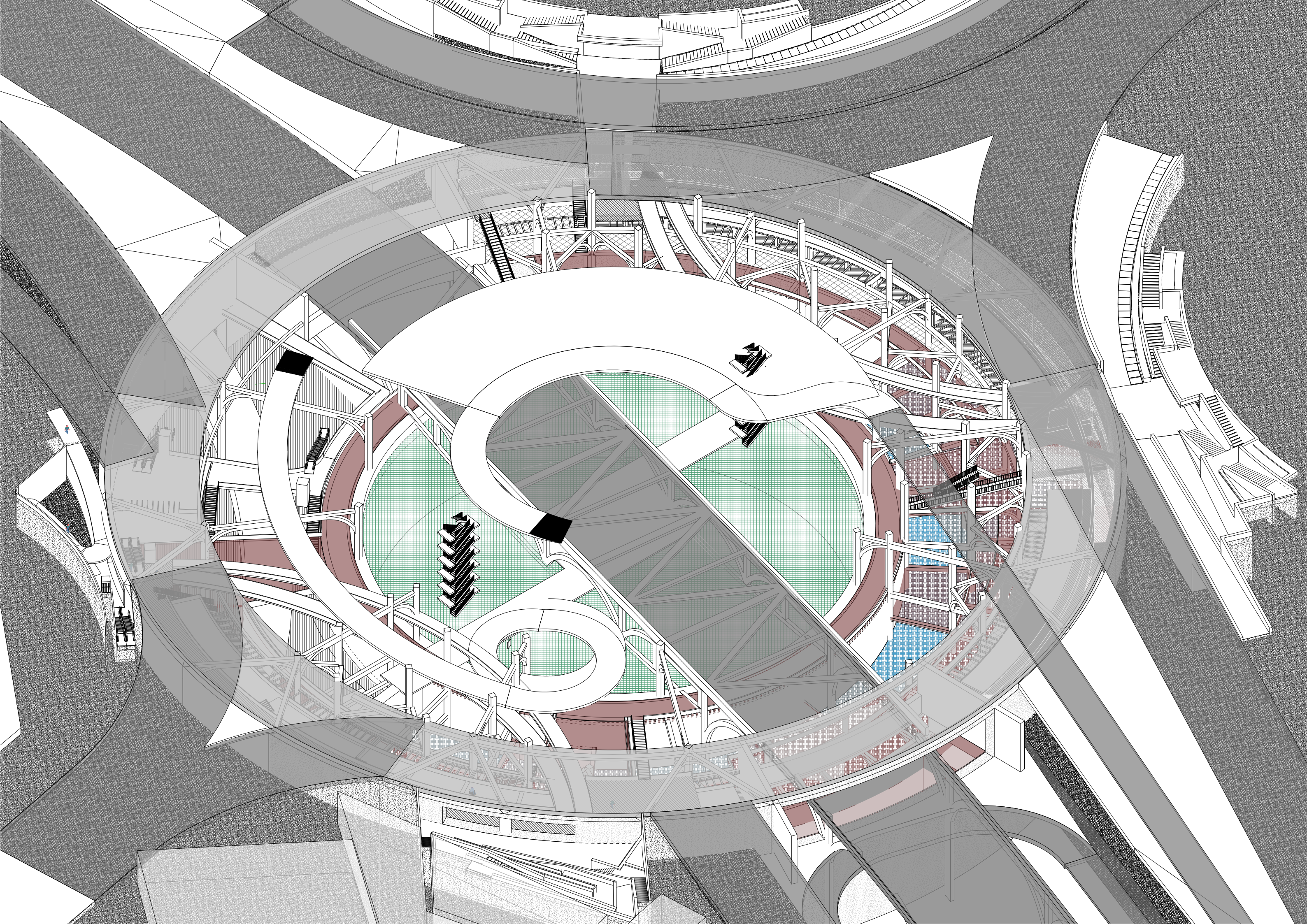




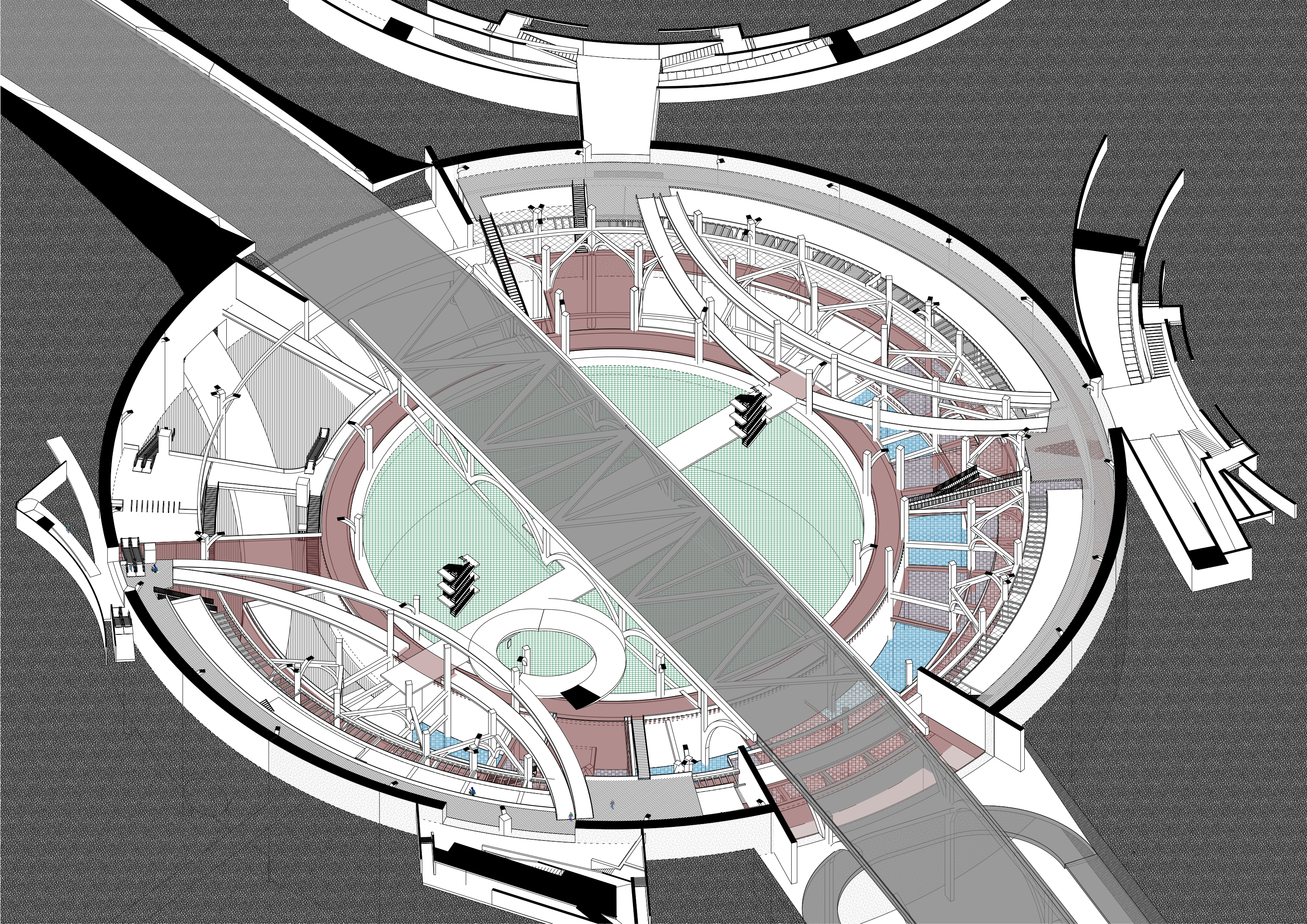




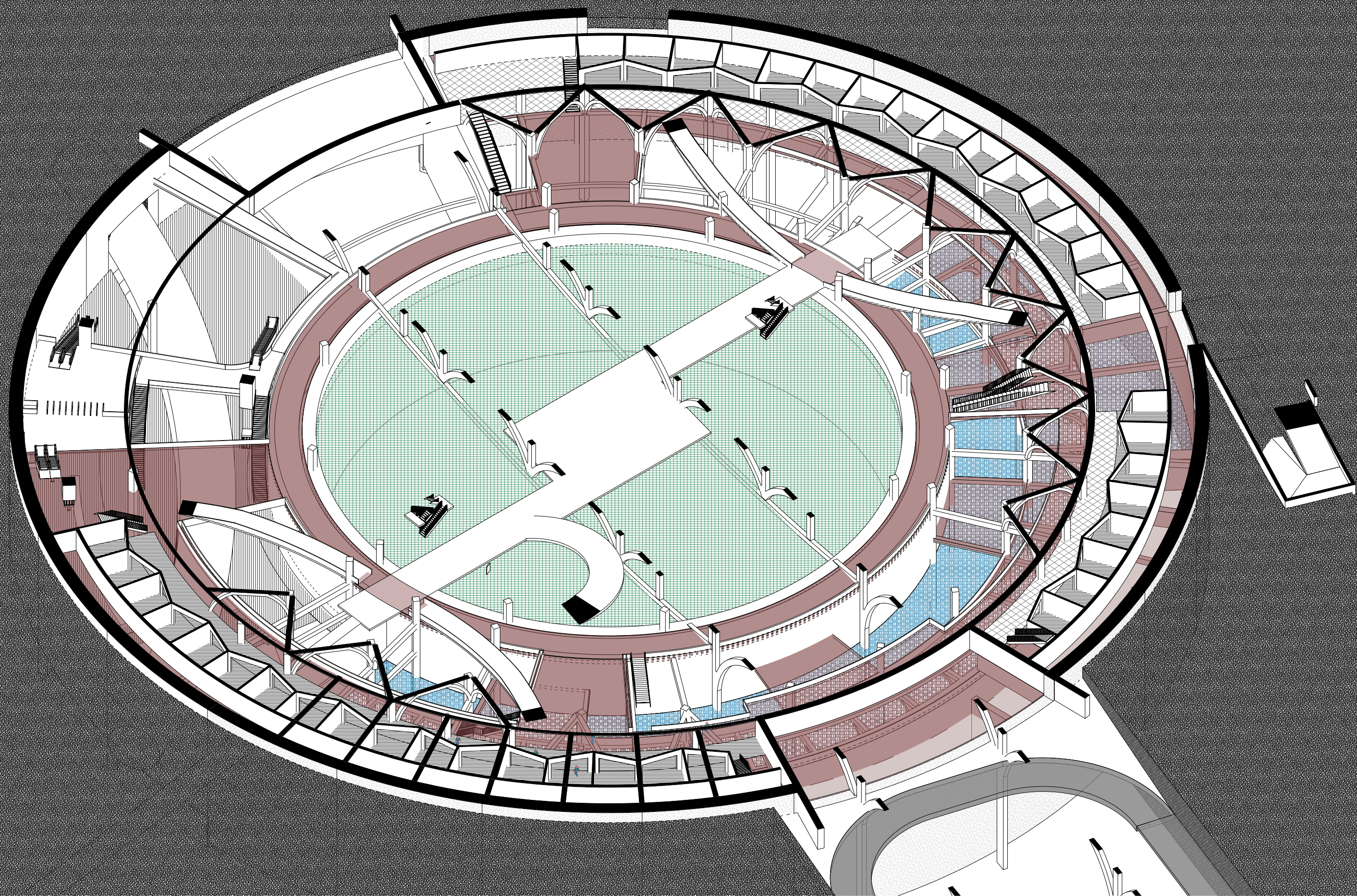




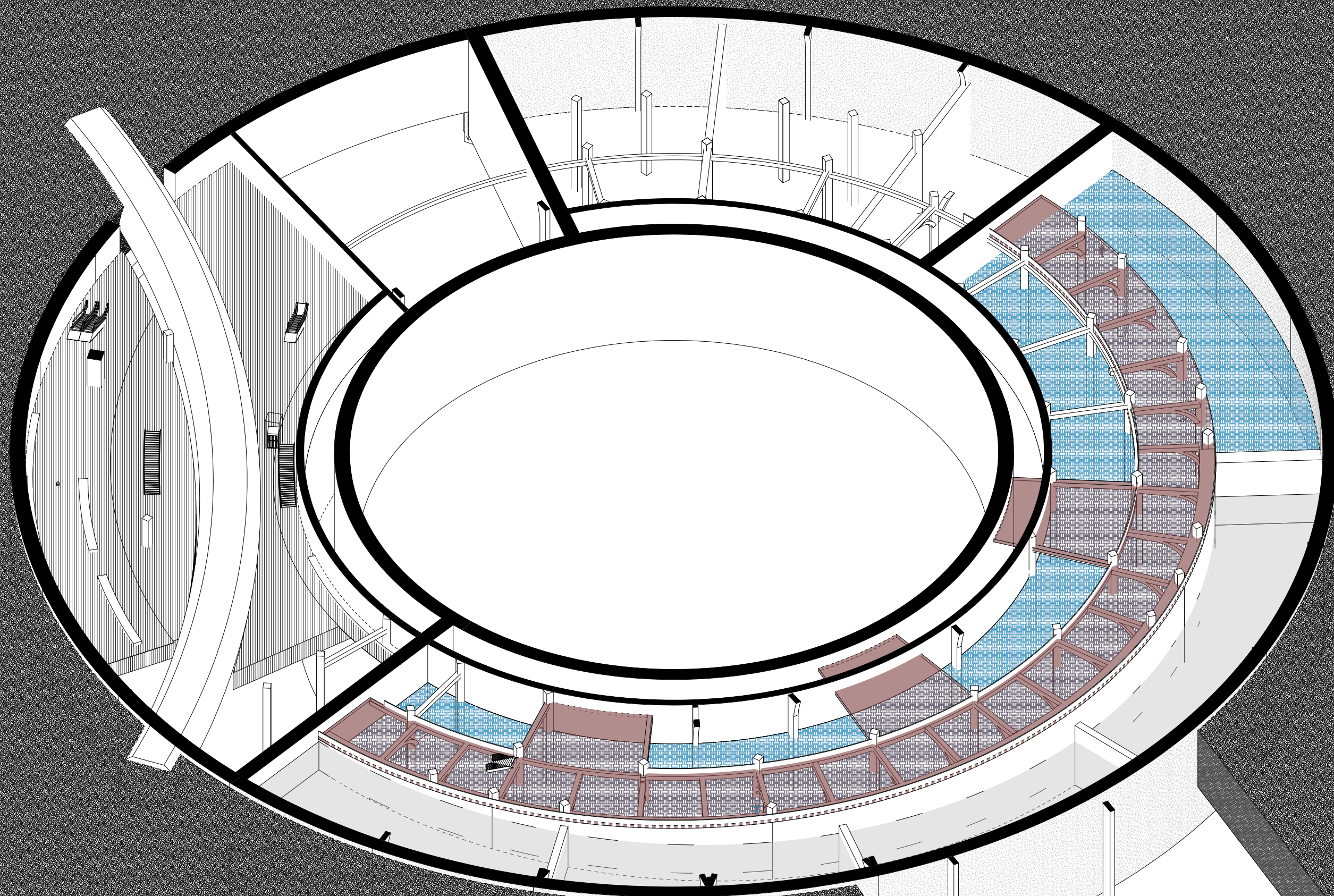




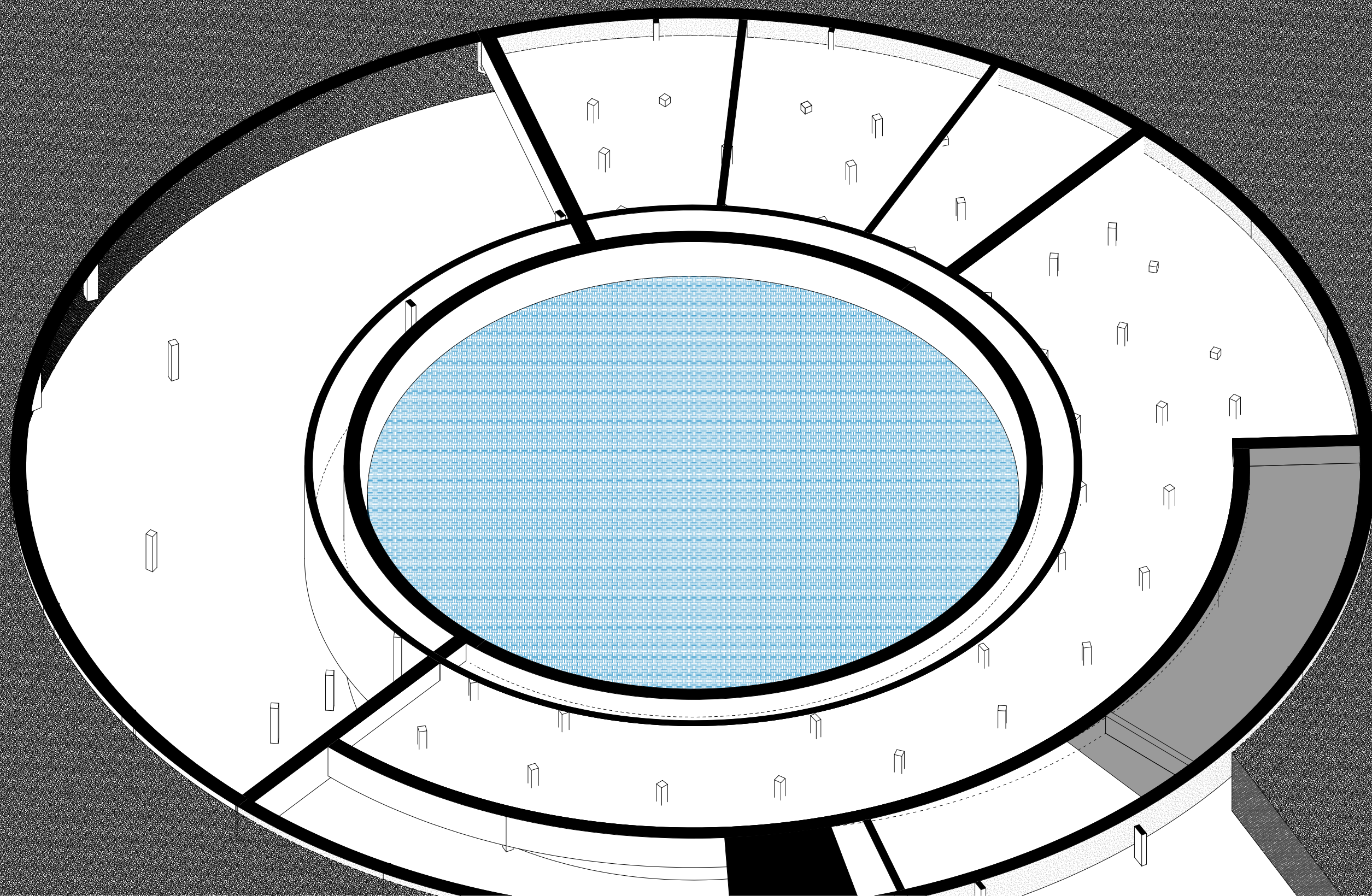




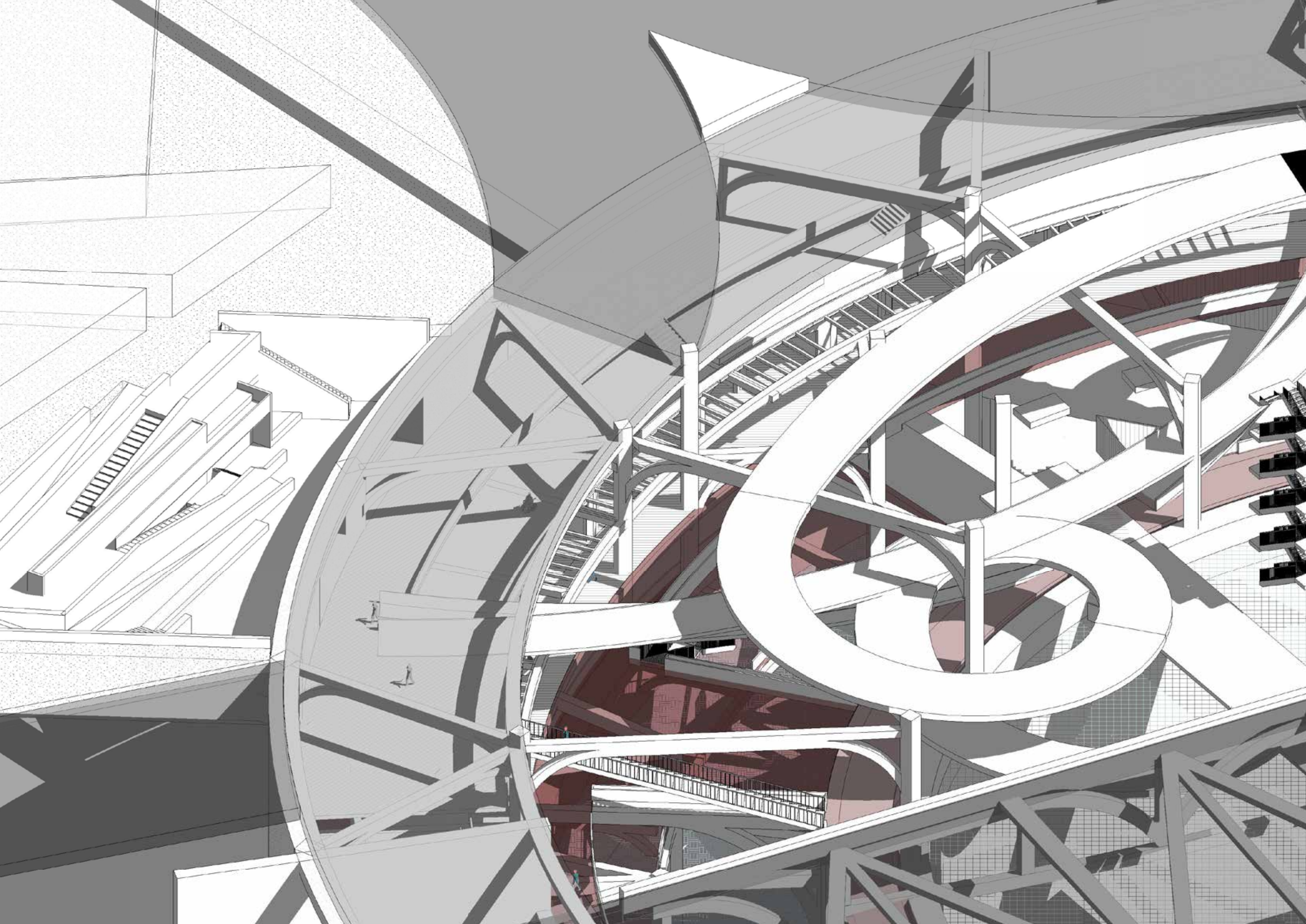




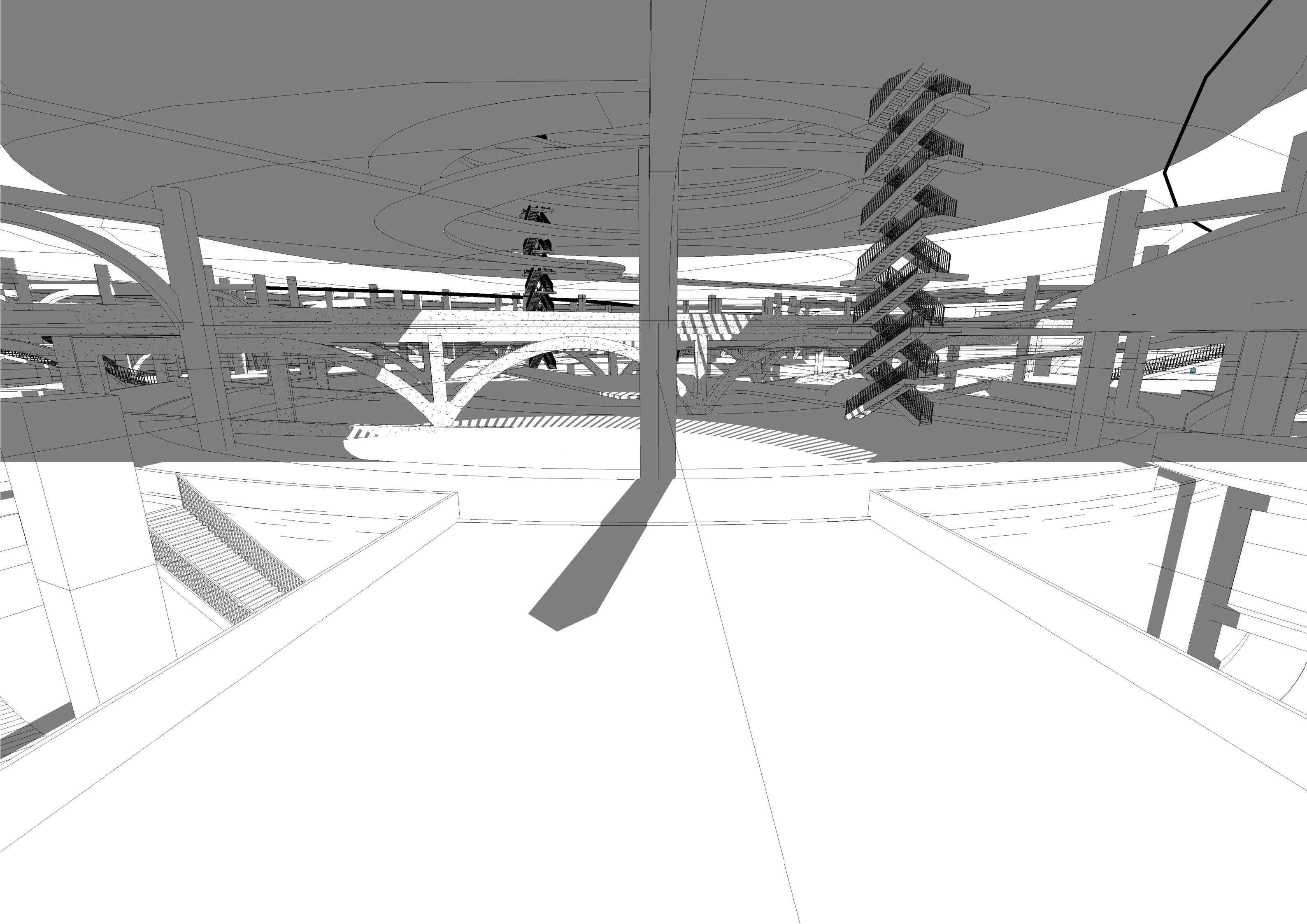




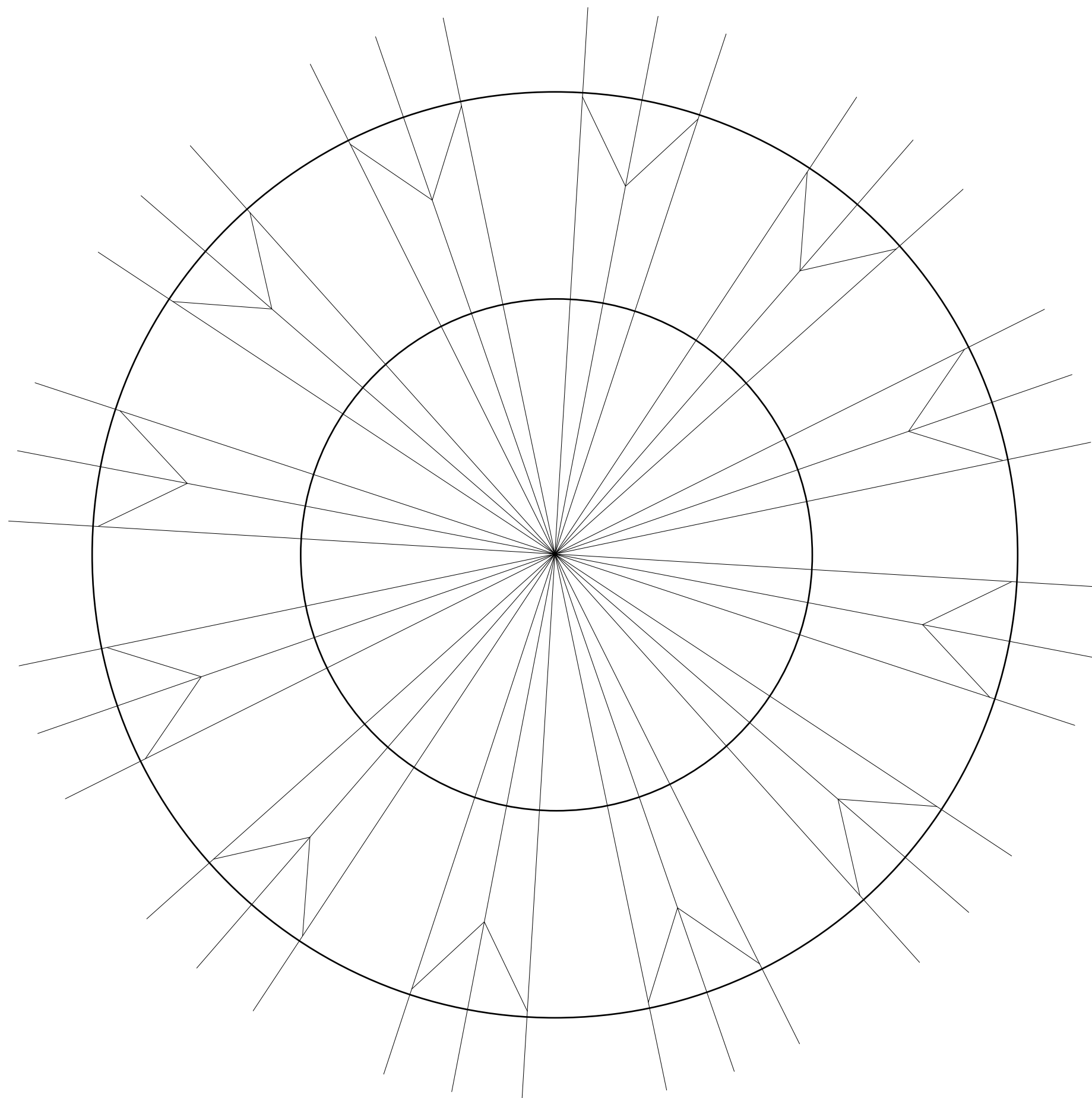




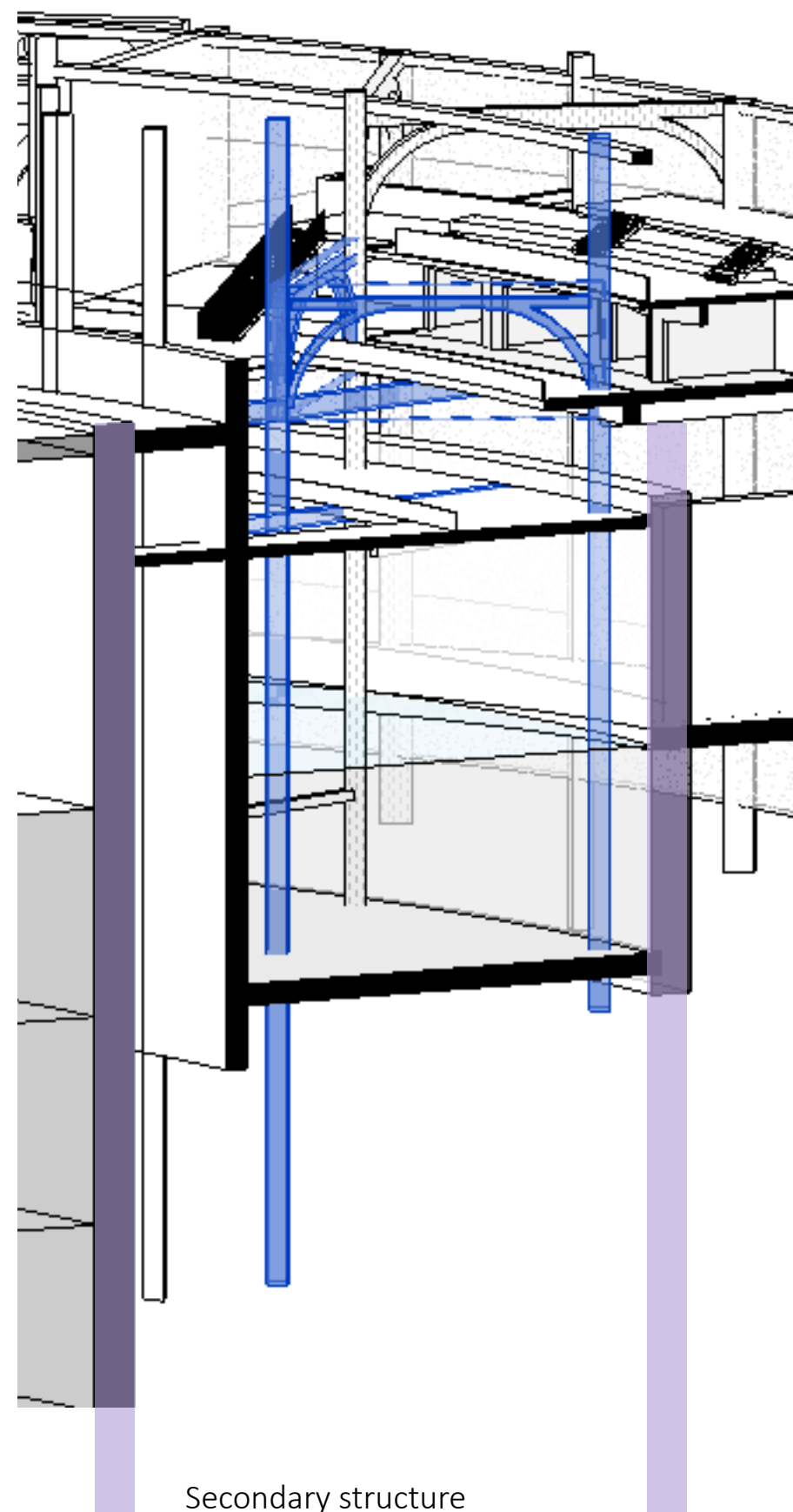
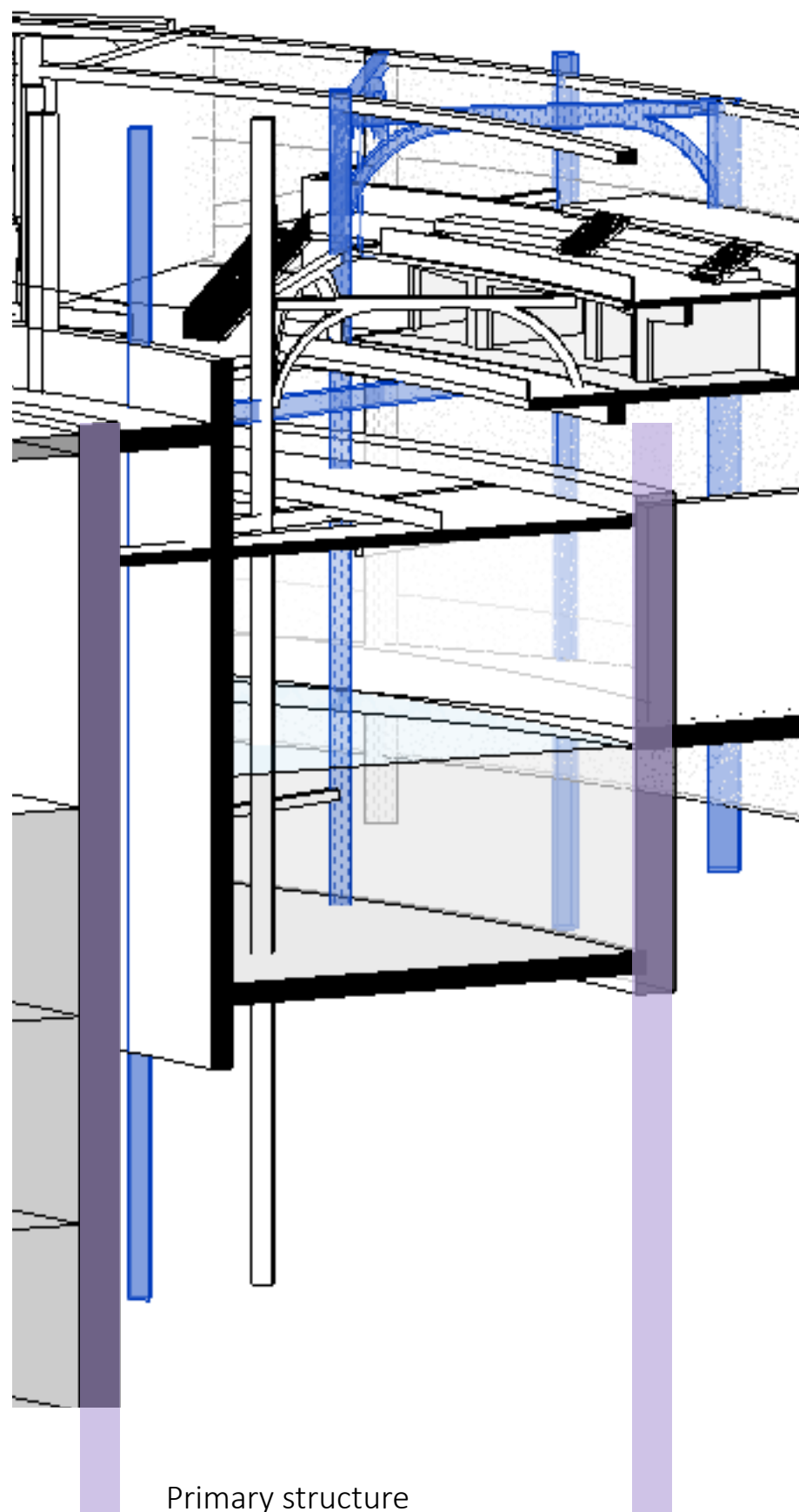




## Structure Grid









1.800 \$

1 kilo Saffron → 2.170 flowers

1 kilo Saffron dried → 78 Kilo fresh flowers

236 tons Iran → 212.4 tons Mashhad

212400 K Saffron → 460.908.000 flowers → 16.567.200 kilo of fresh flowers

