

# THE ELEVATOR DIAGRAM

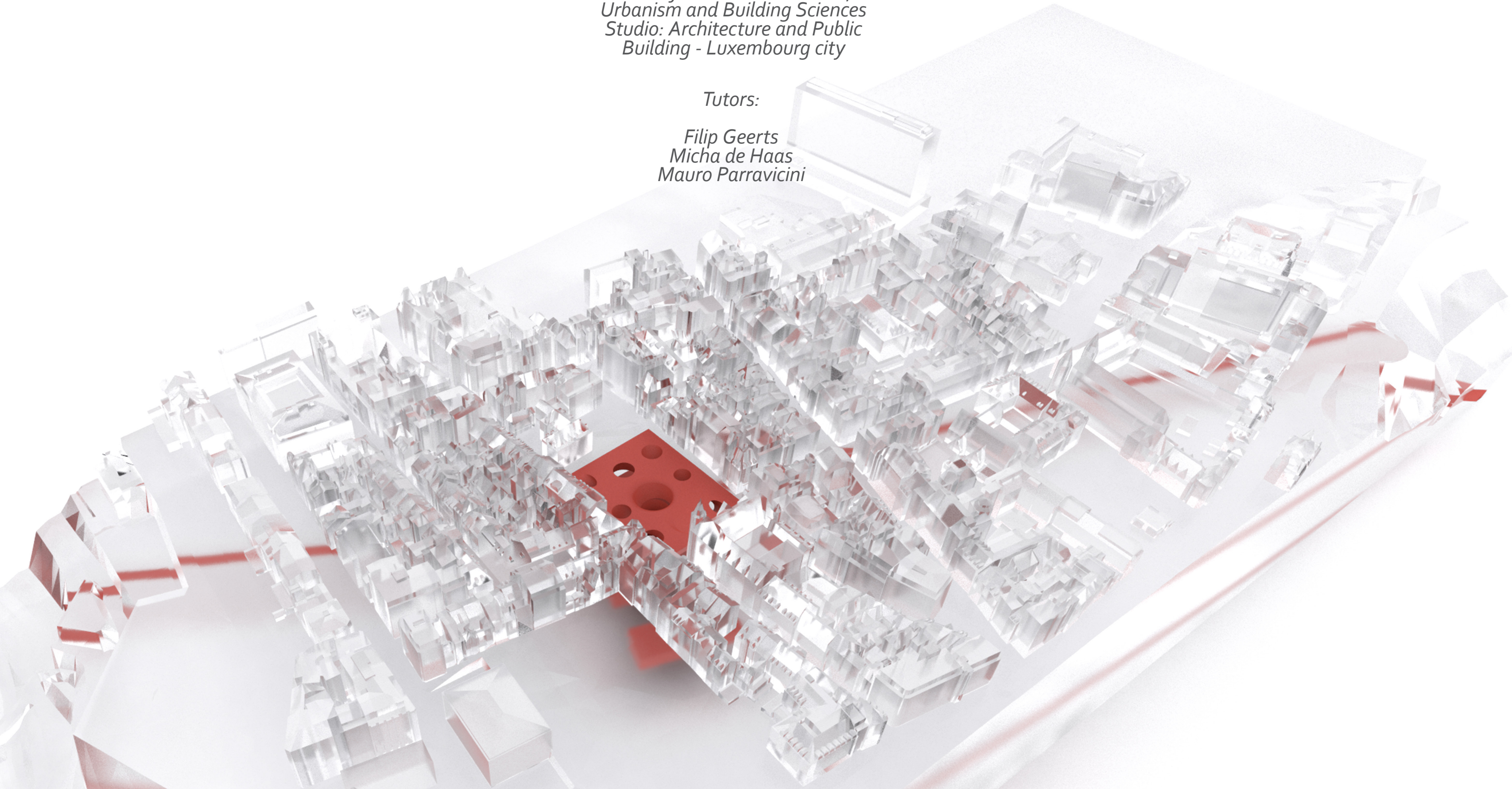
a food hub for Luxembourg city

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Micha de Haas  
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1. The generic city
2. Site
3. The elevator diagram
4. The underworld
  - I. Reusing the existing
  - II. A climate strategy
  - III. The machine (architectural experience)
  - IV. The structure
6. The promenade
7. The food Production chain

# THE GENERIC CITY

*'Identity centralizes; it insists on an essence, a point. Its tragedy is given in simple geometric terms. As the sphere of influence expands, the area characterized by the center becomes larger and larger hopelessly diluting both strength and the authority of the core; inevitably the distance between center and circumference increases to the breaking point'*

REM KOOLHAAS, THE GENERIC CITY, 1992.

*The **blasé attitude** of Simmel is a state that help people to deal with "rapidly changing and closely compressed contrasting stimulations of the nerves." In other words, there is so much going on in a city at one time, that people eventually shut down and begin to ignore everything that is happening around them in order to stay sane.*

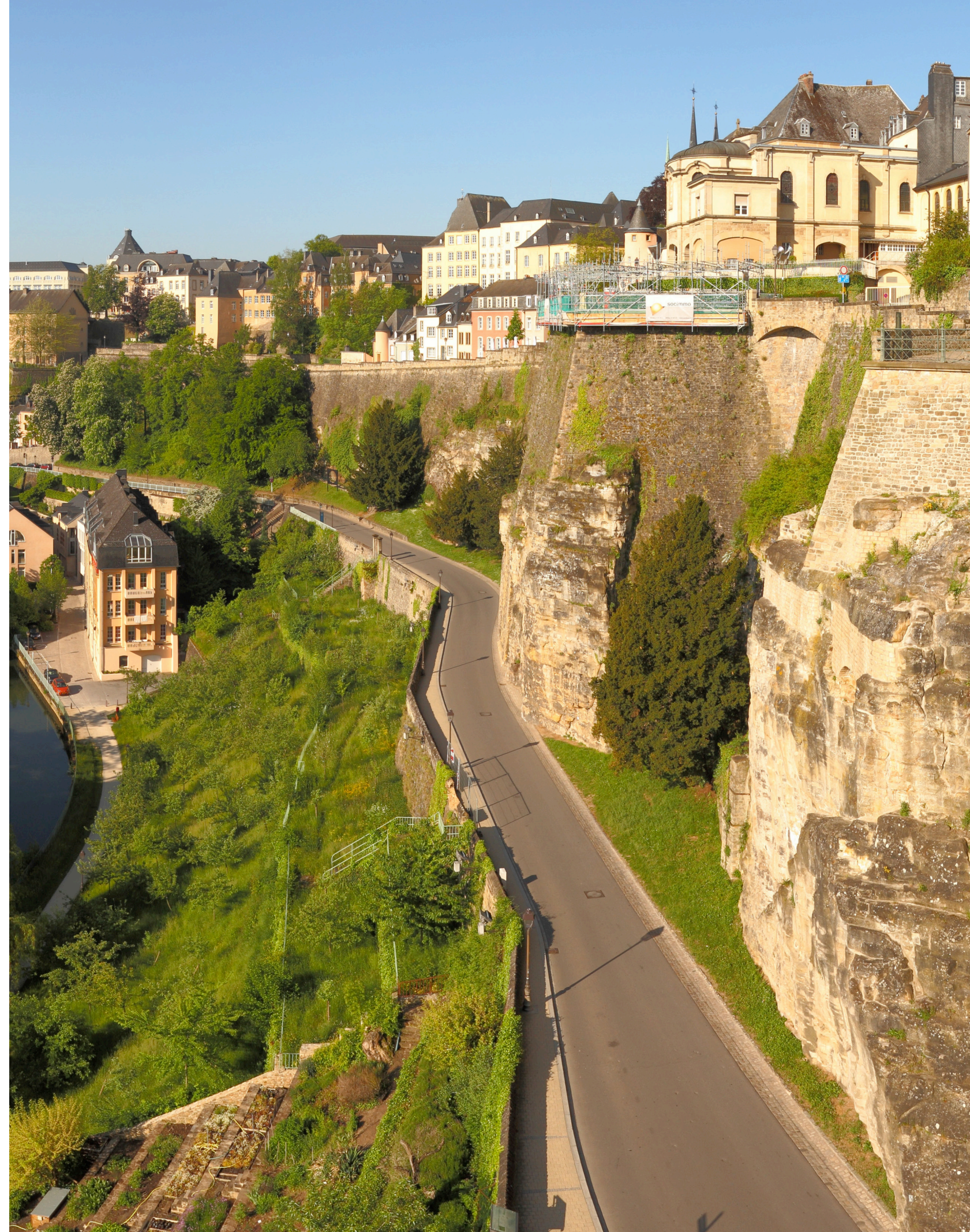
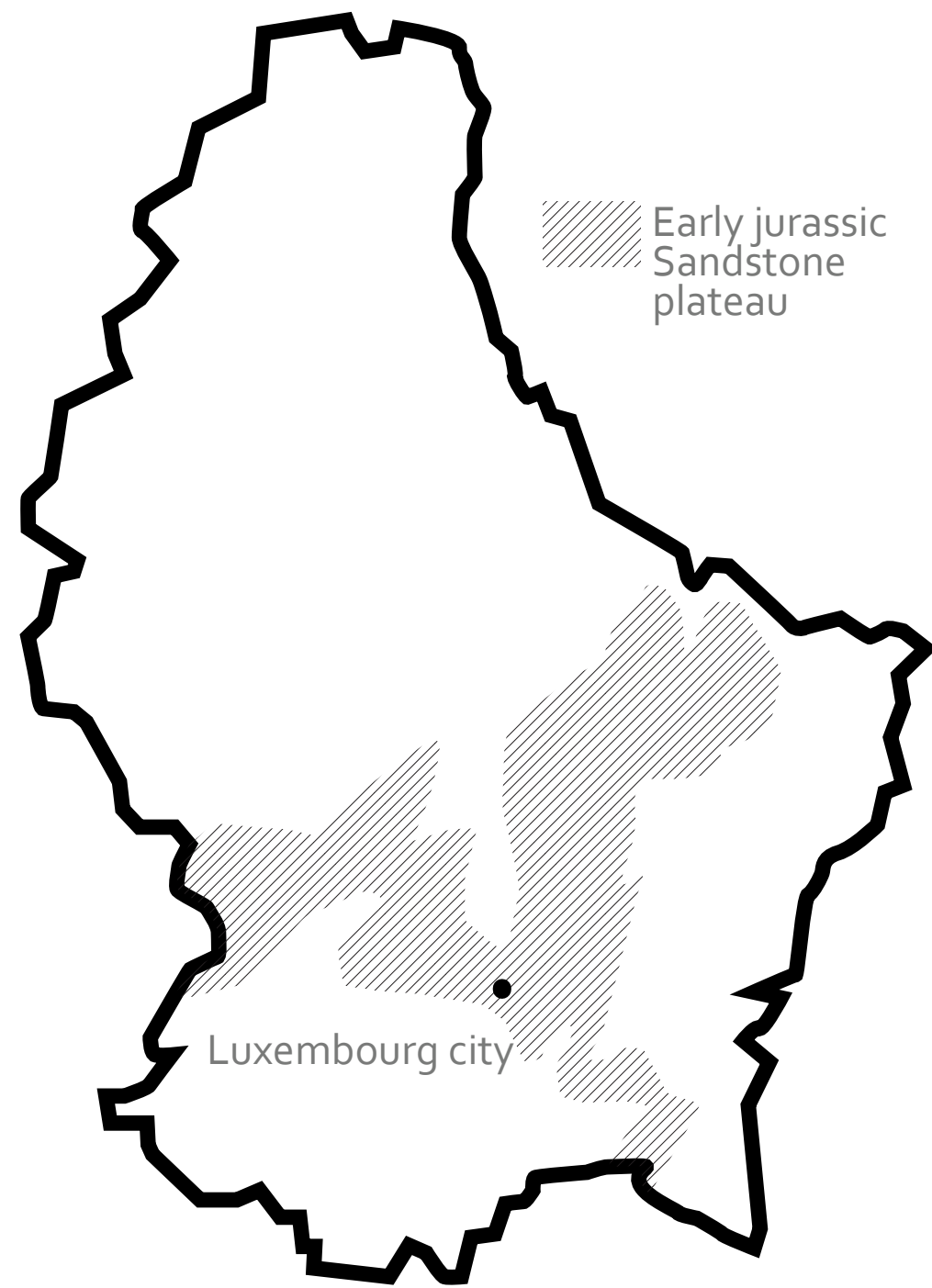
GEORG SIMMEL, ON INDIVIDUALITY AND  
SOCIAL FORMS, 1972

*The writing of the city may be indecipherable, flawed, but that does not mean that there is no writing; it may simply be that we developed a new illiteracy a new blindness. **Patient detection reveals the themes, particles, strands [...]***

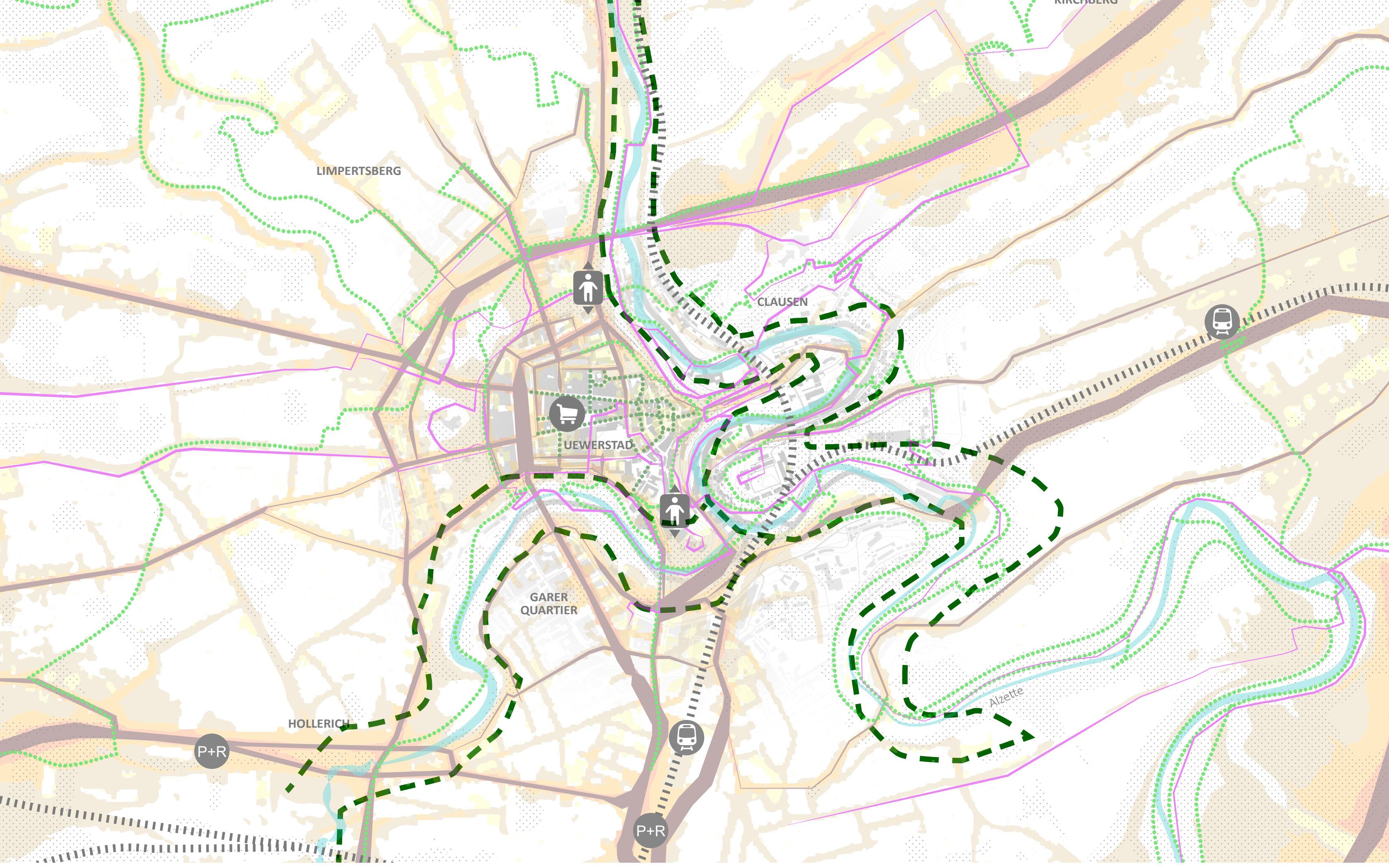
REM KOOLHAAS, THE GENERIC CITY, 1992.

**S I T E**

# The specificity







LIMPERTSBERG

CLAUSEN

UEWERSTAD

GARER  
QUARTIER

HOLLERICH

Alzette



P+R

P+R

The Plateau

Buffer Zone

The Valley



# Types Of Buffer Zone



Partially  
urbanized

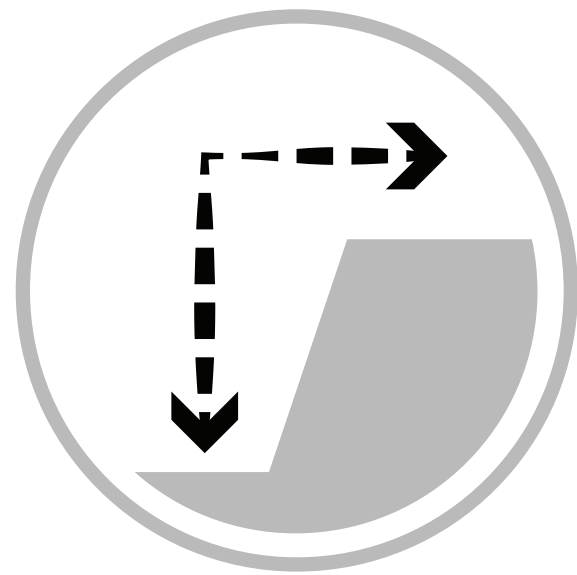


Fortress  
remains

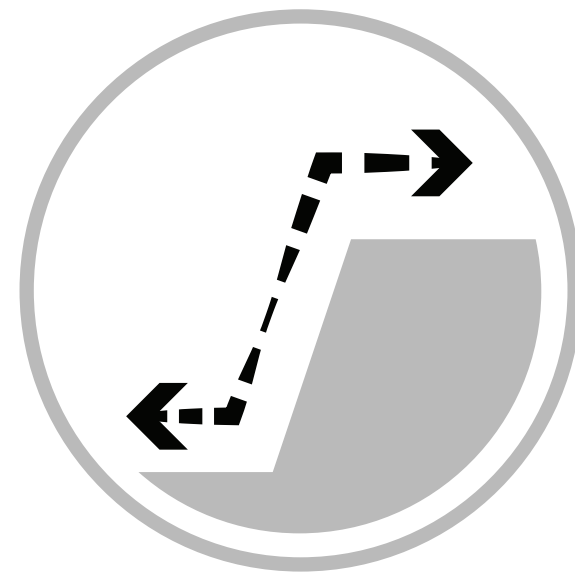


Natural  
Barrier

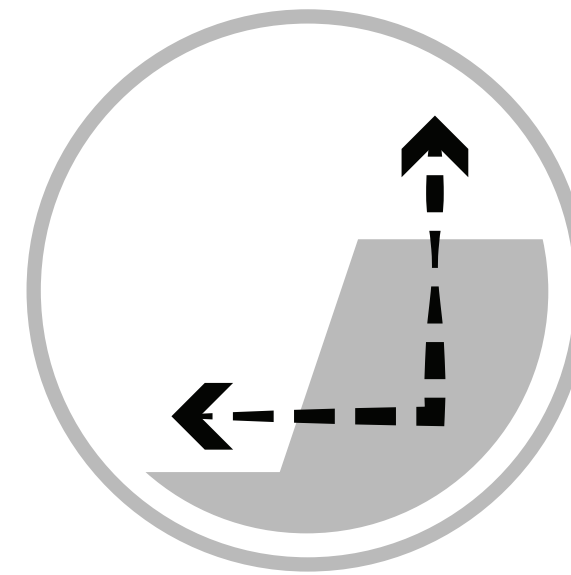
# Types Of Intervention



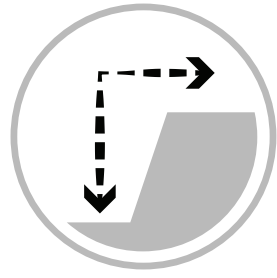
Above ground



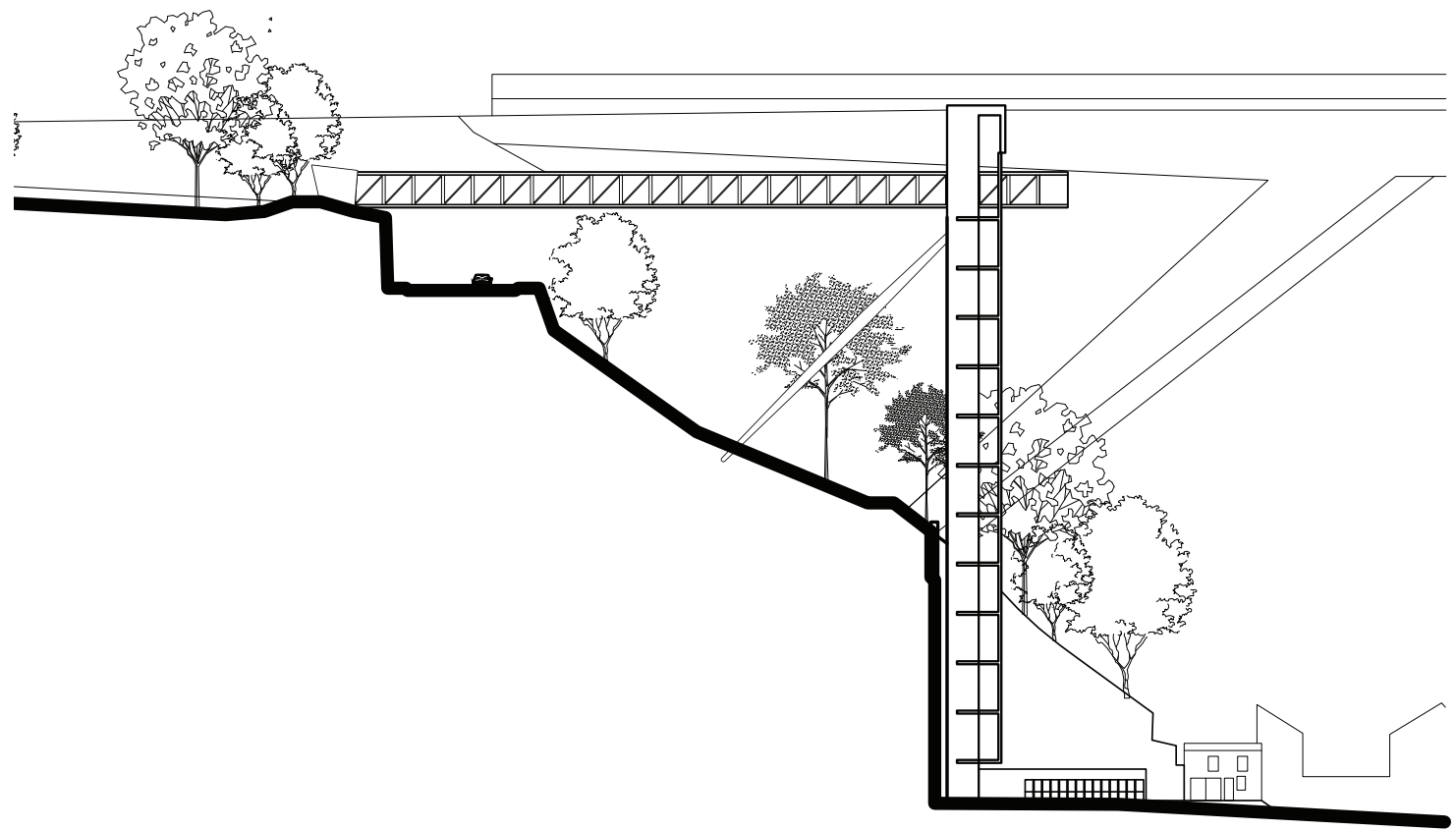
On-ground



Underground



Above-ground



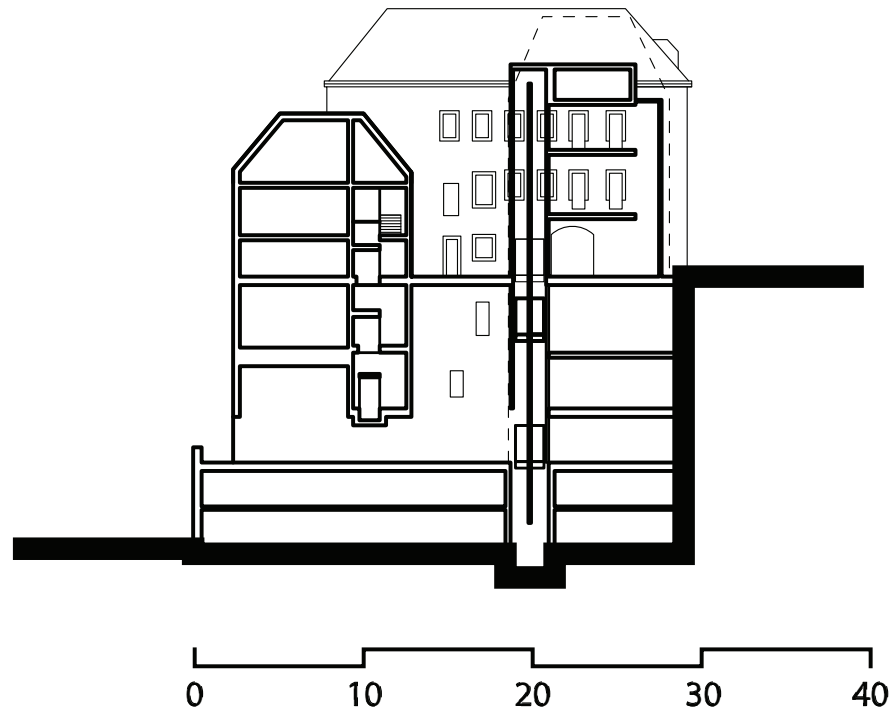
0 10 20 30 40

Pfaffental elevator/ SteinMetzdeMeyer



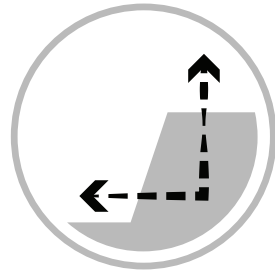


On-ground

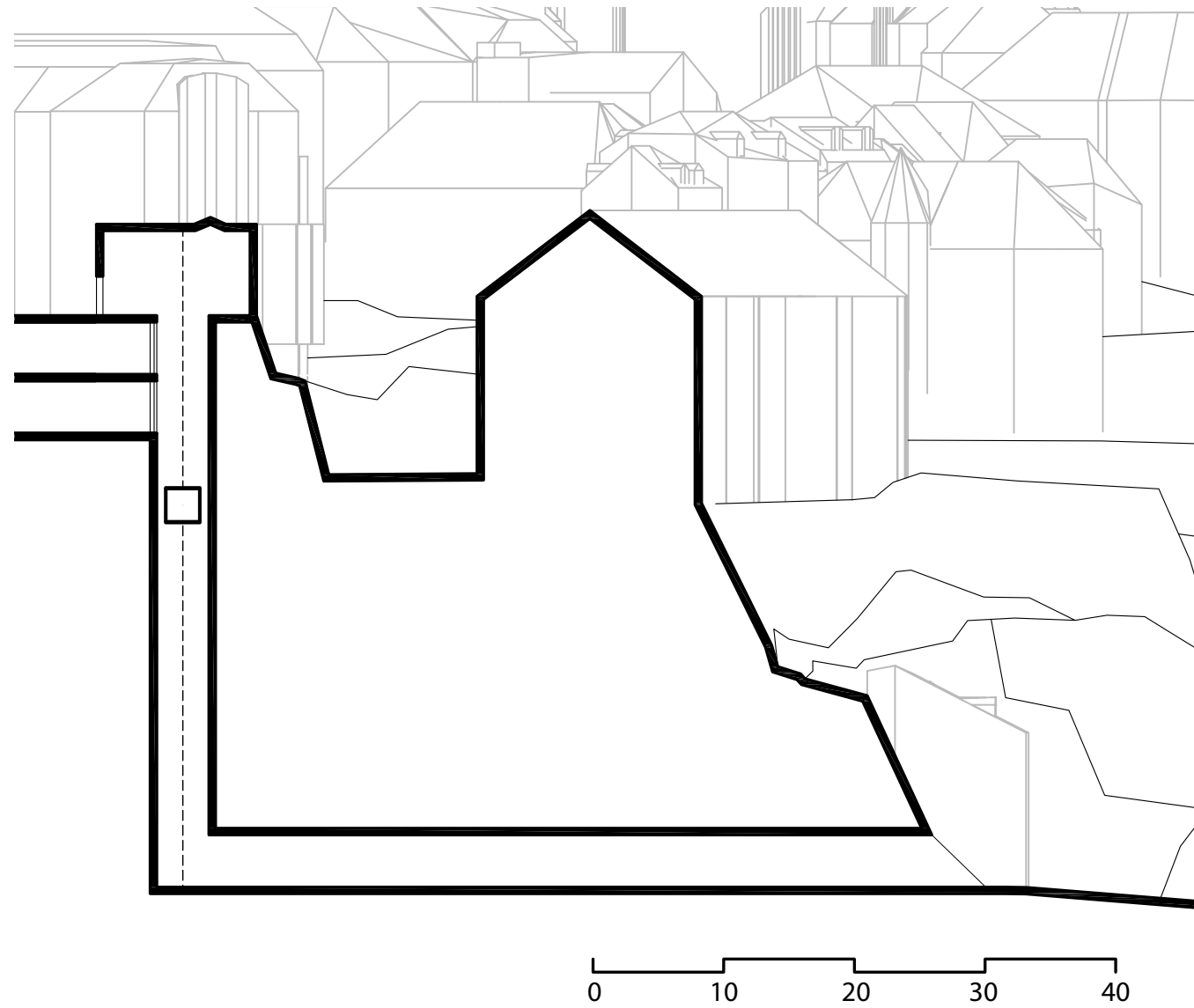


Musee de historie de la ville de Luxembourg / Conny Lentz





Underground



Elevator - Ville De Haute



# THE ELEVATOR DIAGRAM



# the entrance

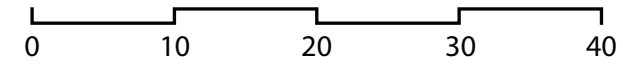
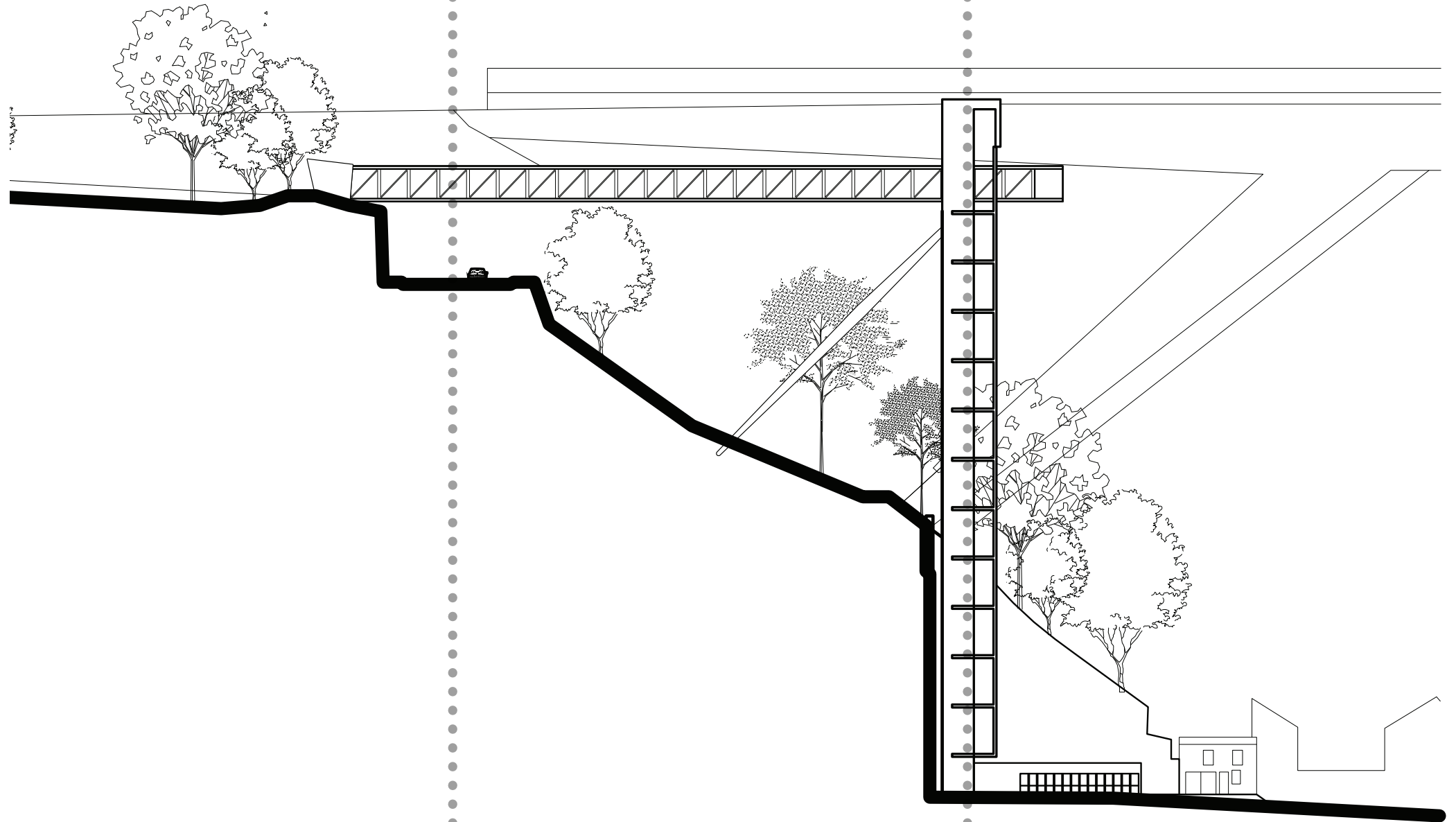
The moment when one is still aware of the initial space-time reality.

# The Interstice

The space in between where there is a transition of strata

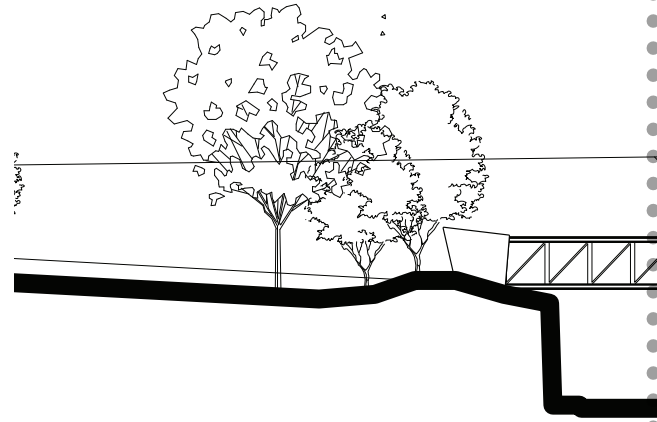
# The Opening

Exposure to the new ground



# the entrance

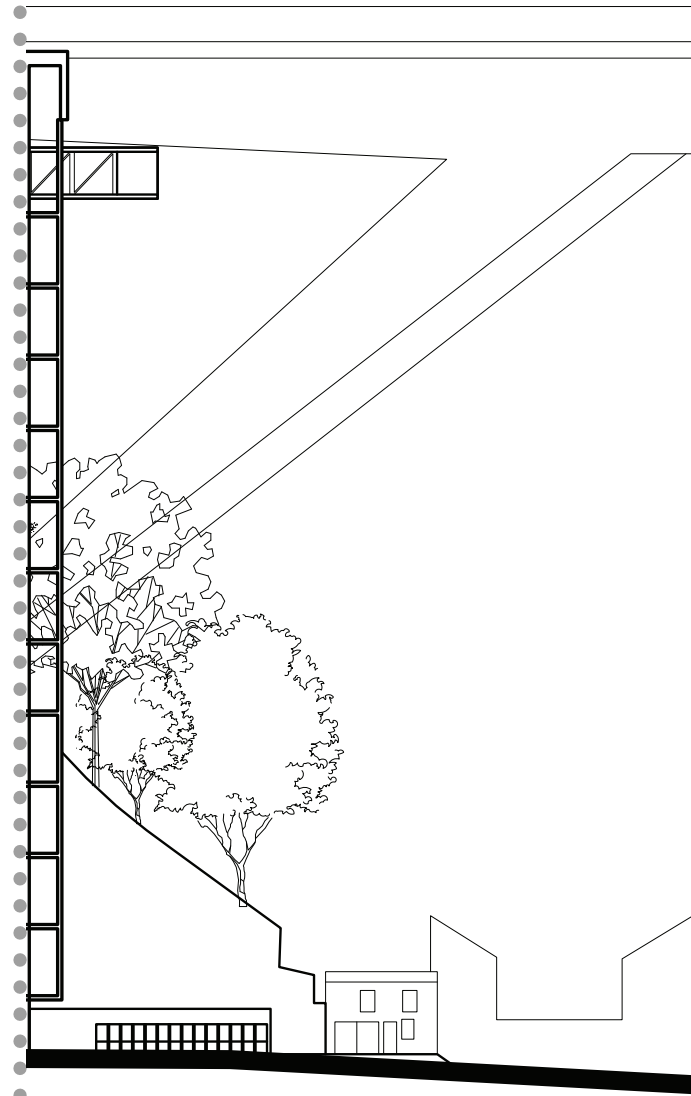
The moment when one is still aware of the initial space-time reality.





# The Opening

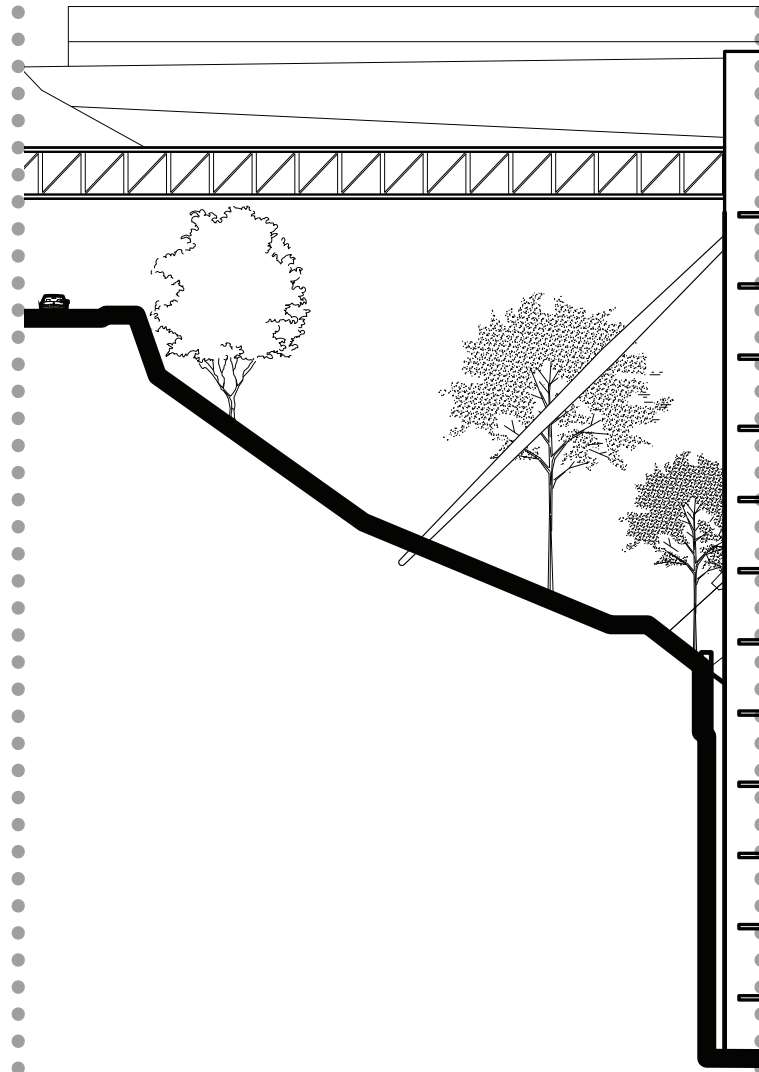
Exposure to the new ground



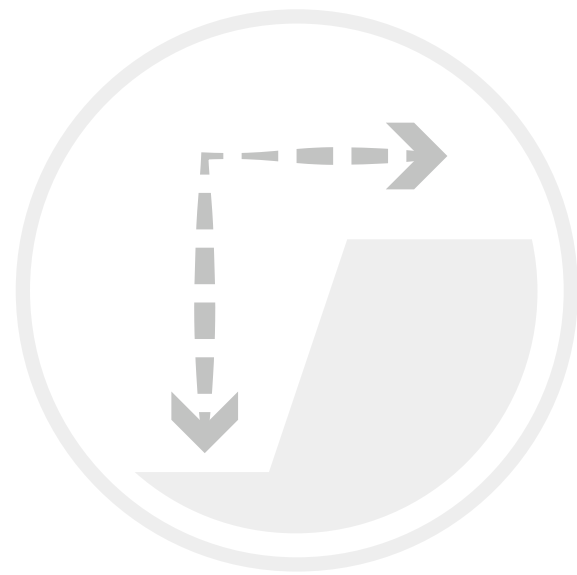


# The Interstice

The space in between  
where there is a transition  
of strata



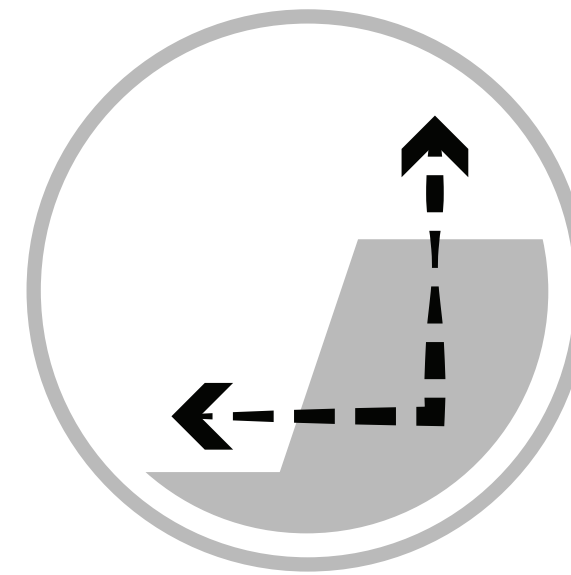
# Types Of Intervention



Above ground



On-ground

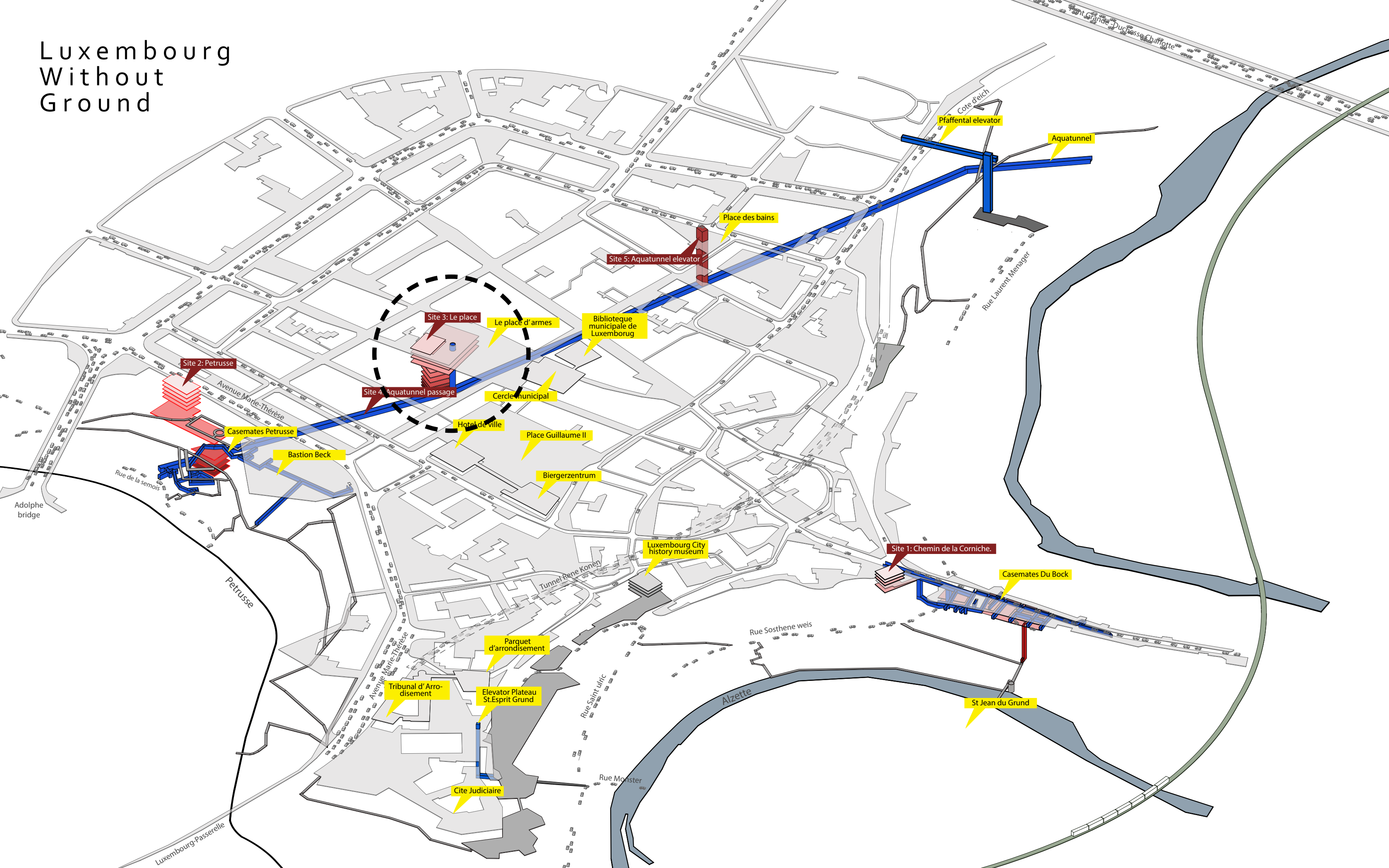


Underground

**T H E U N D E R W O R L D**

I. Reusing the existing

# Luxembourg Without Ground



Adolphe bridge

Petrusse

Luxembourg-Passerelle

Site 2: Petrusse

Casemates Petrusse

Bastion Beck

Site 4: Aquatunnel passage

Hotel de ville

Place Guillaume II

Biergerzentrum

Site 3: Le place

Le place d'armes

Cercle municipal

Bibliothèque municipale de Luxembourg

Site 5: Aquatunnel elevator

Place des bains

Luxembourg City history museum

Site 1: Chemin de la Corniche

Casemates Du Bock

St Jean du Grund

Cite Judiciaire

Elevator Plateau St. Esprit Grund

Tribunal d' Arrondissement

Parquet d'arrondissement

Rue Sosthene weis

Rue Monster

Rue Saint ulric

Tunnel Rene Koenig

Pfaffental elevator

Aquatunnel

Cote d'eich

Rue Laurent Manager

Rue de la semois

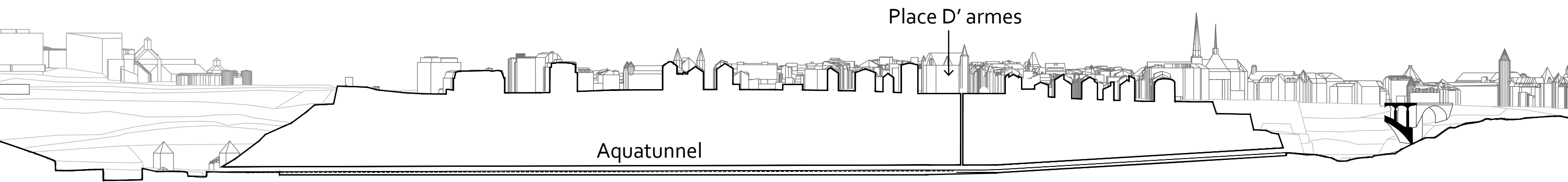
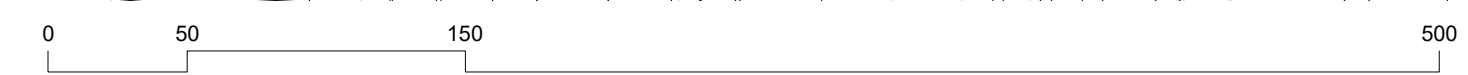
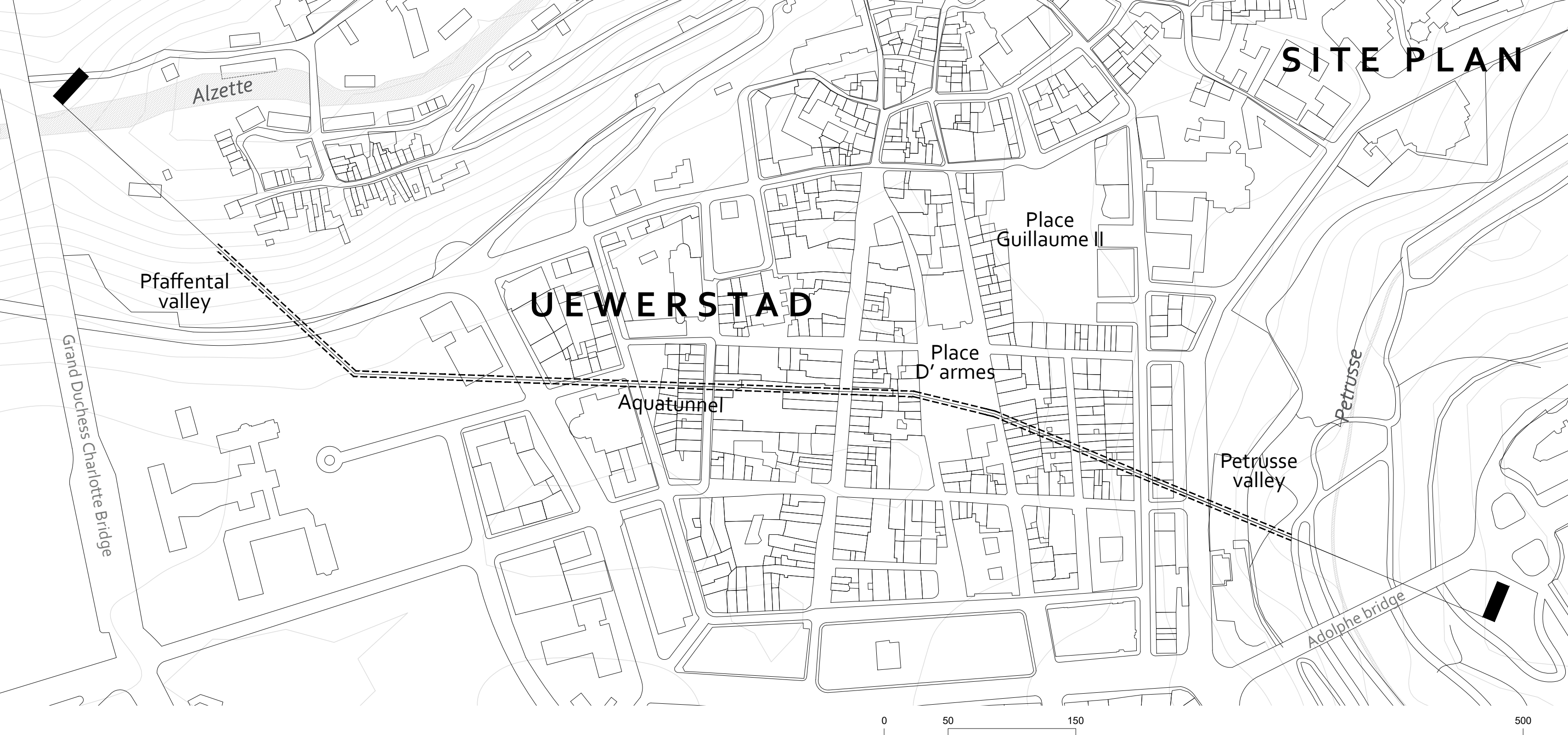
Avenue Marie-Thérèse

Rue de la Grande Duchesse Charlotte

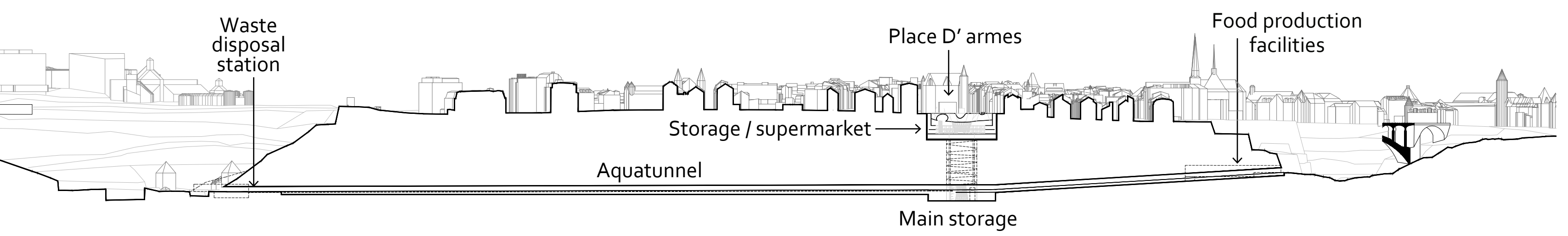
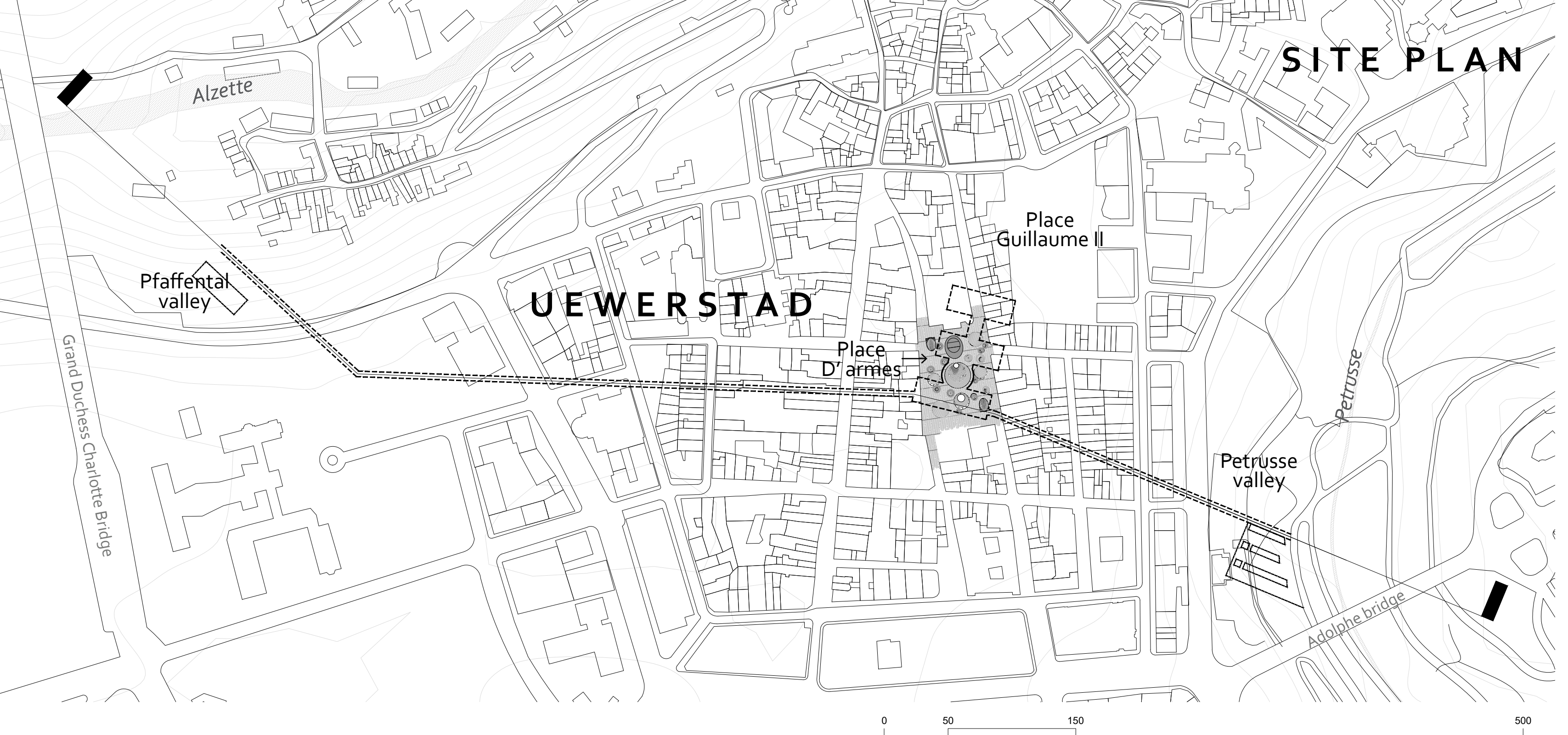
Alzette

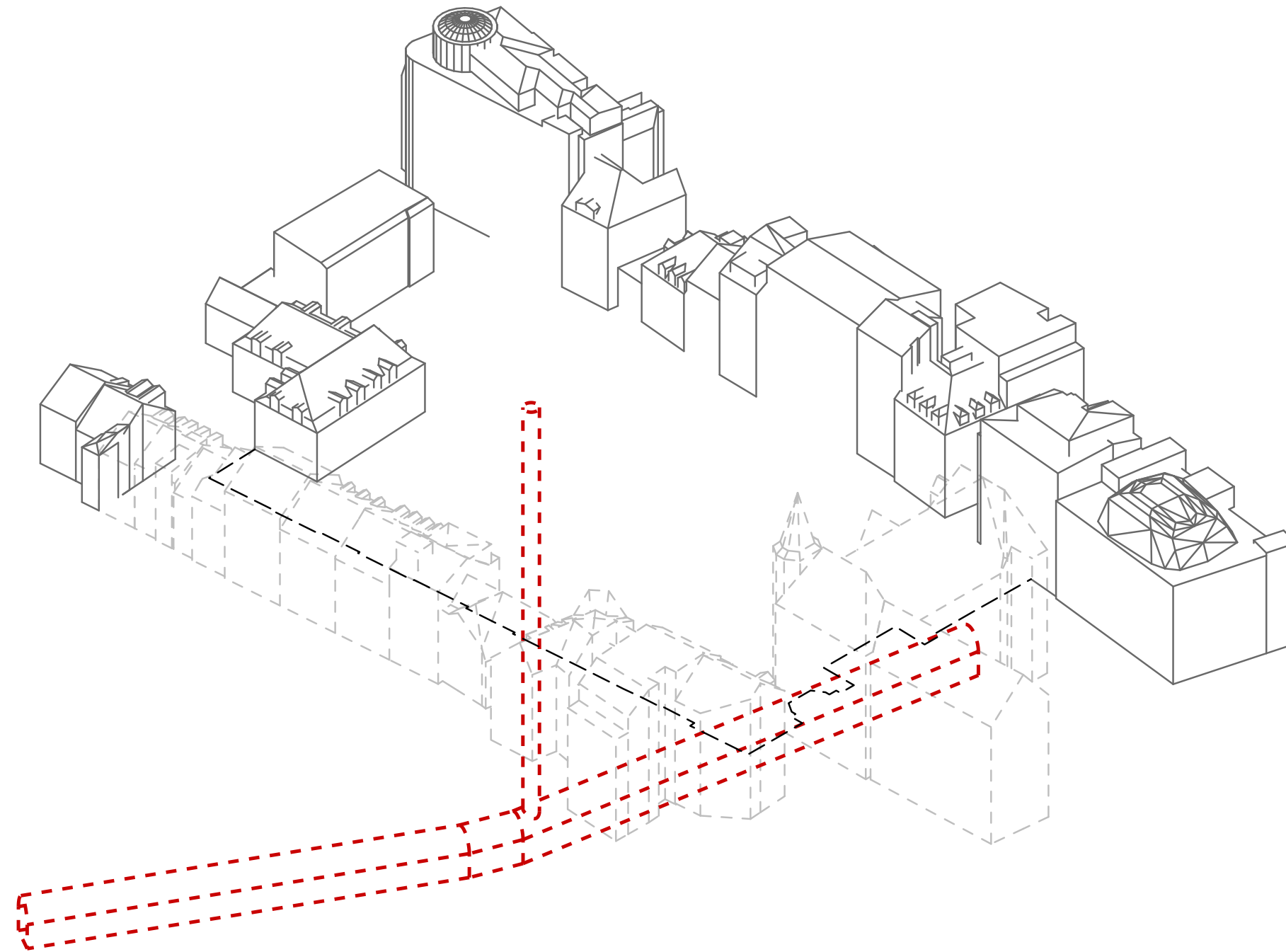


# SITE PLAN



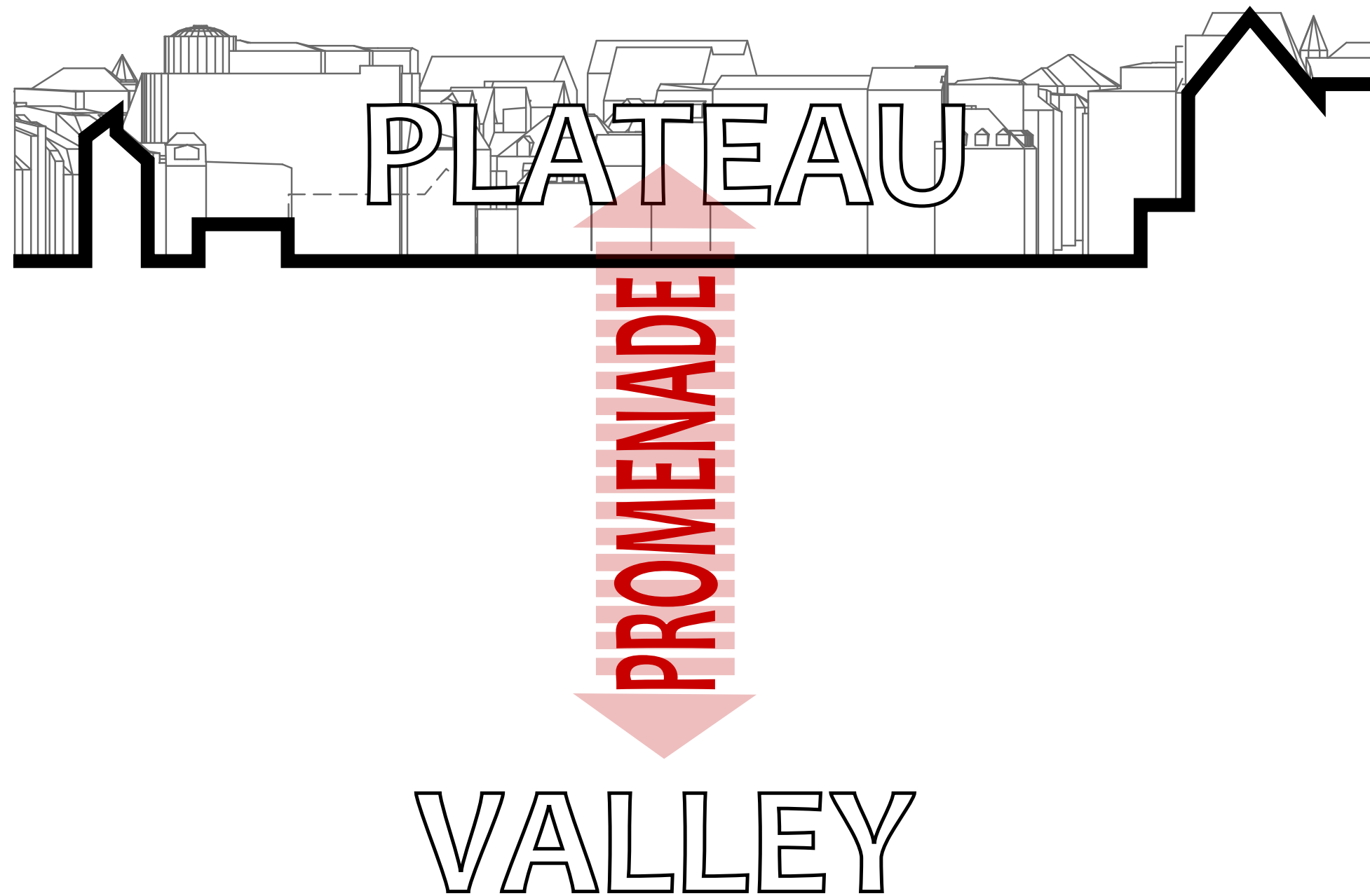
# SITE PLAN





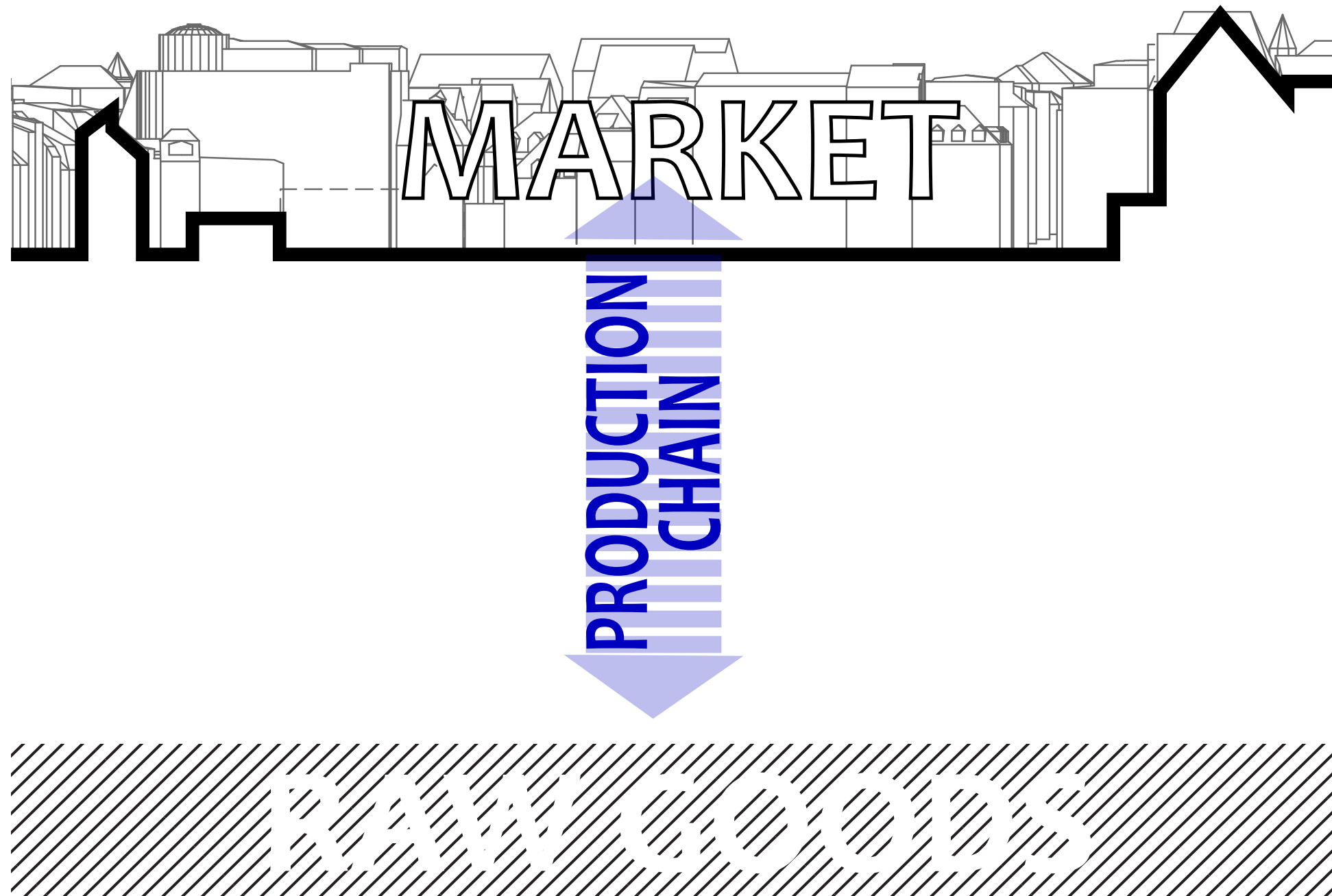
## CONNECTION

The 'aquatunnel' connects through the underground the valleys around the city center plateau and it also has two vertical connections originally made for ventilation. This creates a link between the city center and the valley.



## PROMENADE

This vertical connection to the tunnel and later to the valley represents a radical point, it creates a direct connection from the city center to the 'periphery' of the city. The connection is, therefore, a promenade to the valley.



## PROGRAM/ANALOGY

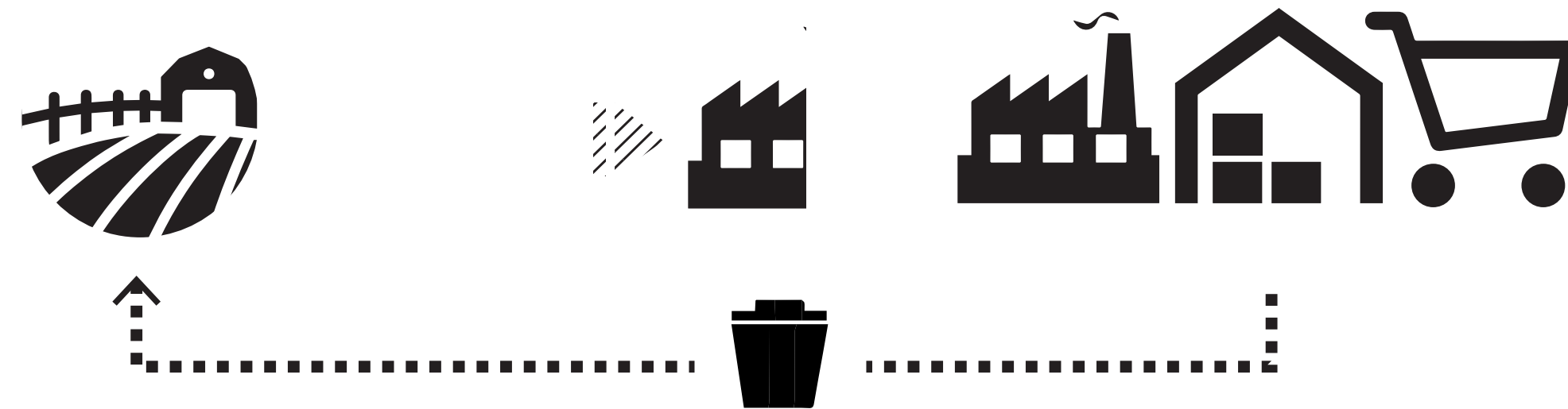
In order to relate the idea of this connection with an architectural intervention and based on the linearity of the promenade, the chosen program is a linear process. The food production also introduces a metaphor on how food is produced from the soil and taken to the surface.

COUNTRY |

CITY



FOODHUB



NEW SCHEME

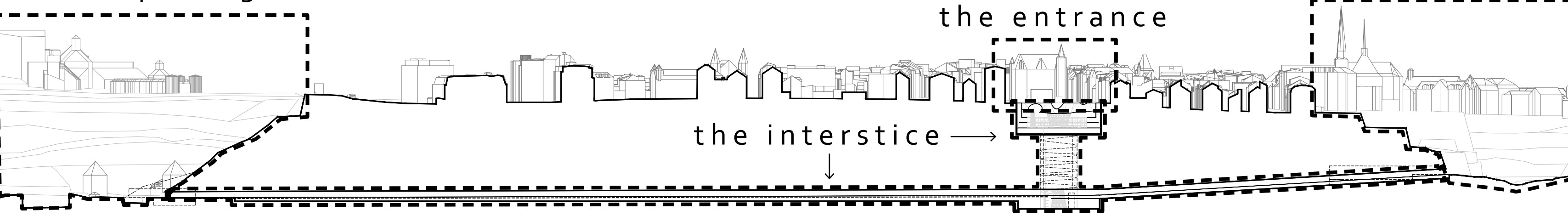
The food hub presents an alternative to the current food production chain, reduces economic and environmental costs by eliminating the transportation between middle-man entities including distributors, processors, and retailers.

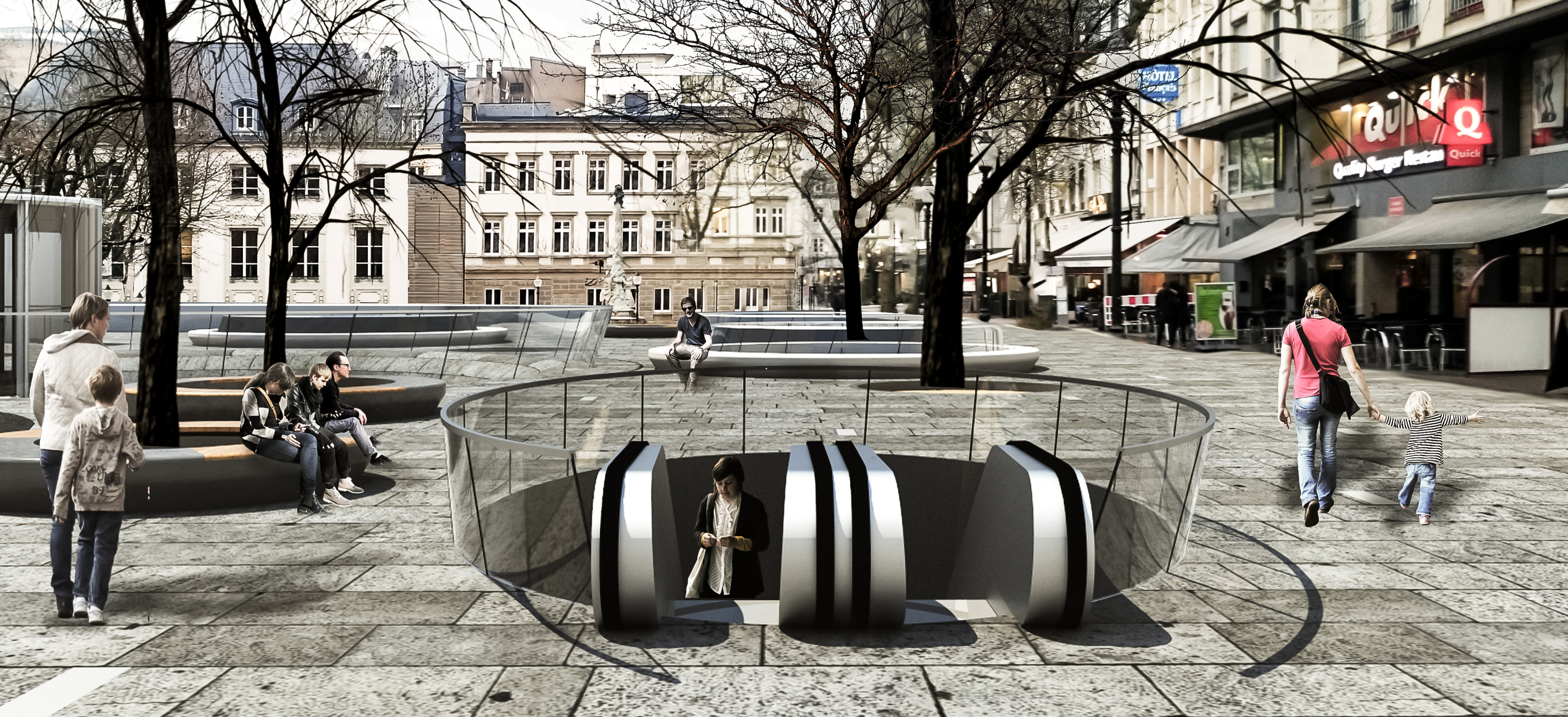
the opening

the opening

the entrance

the interstice





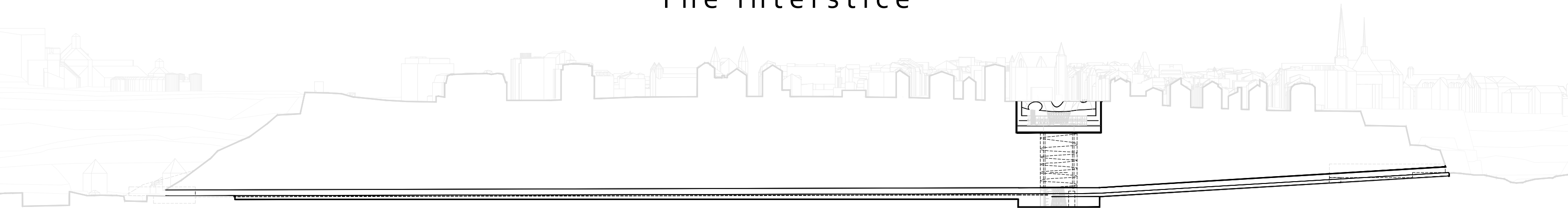
the entrance







The interstice



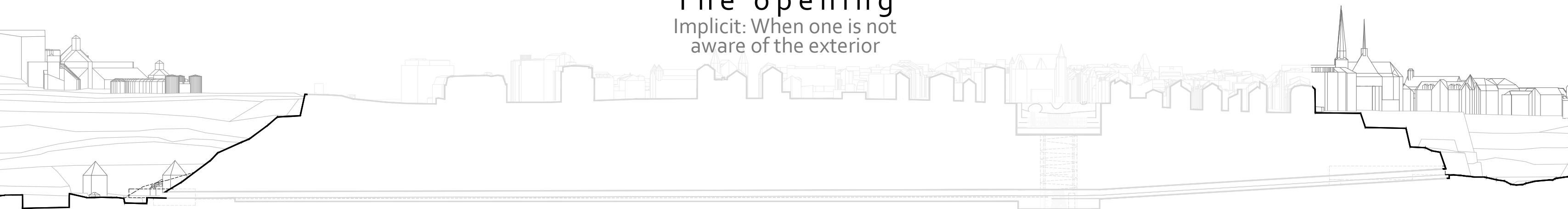


Pfaffental valley

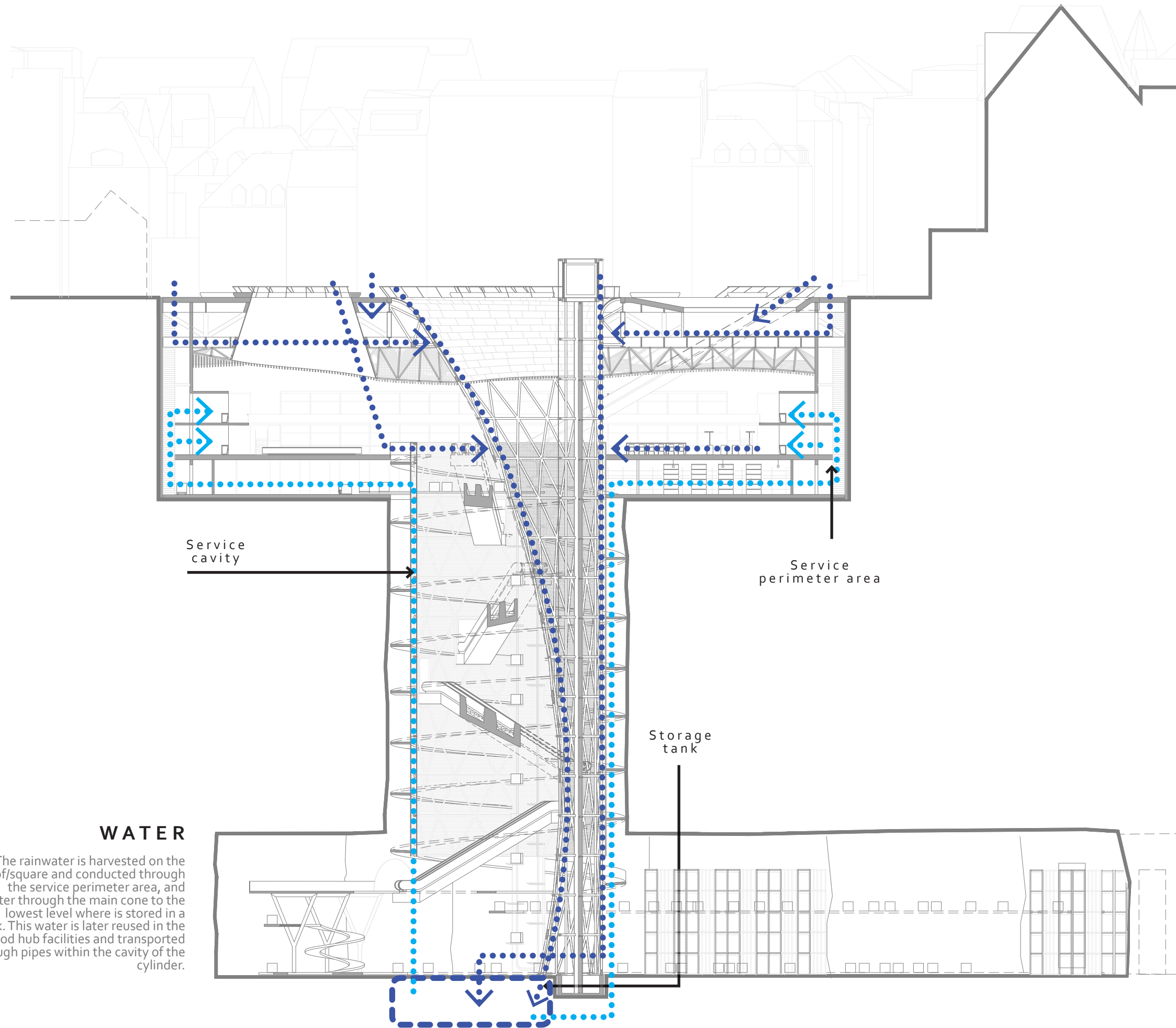


Petrusse valley

The opening  
Implicit: When one is not  
aware of the exterior

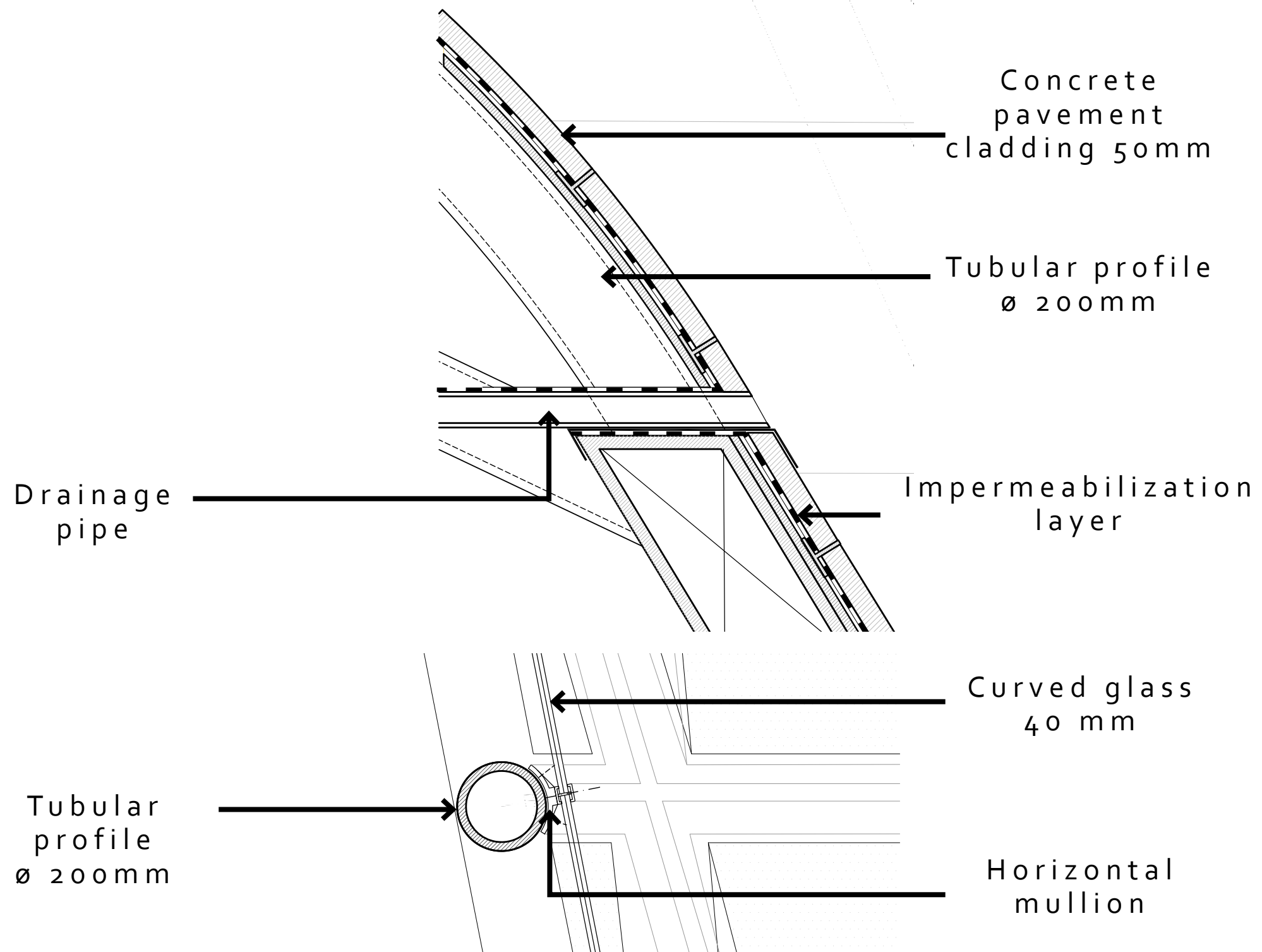


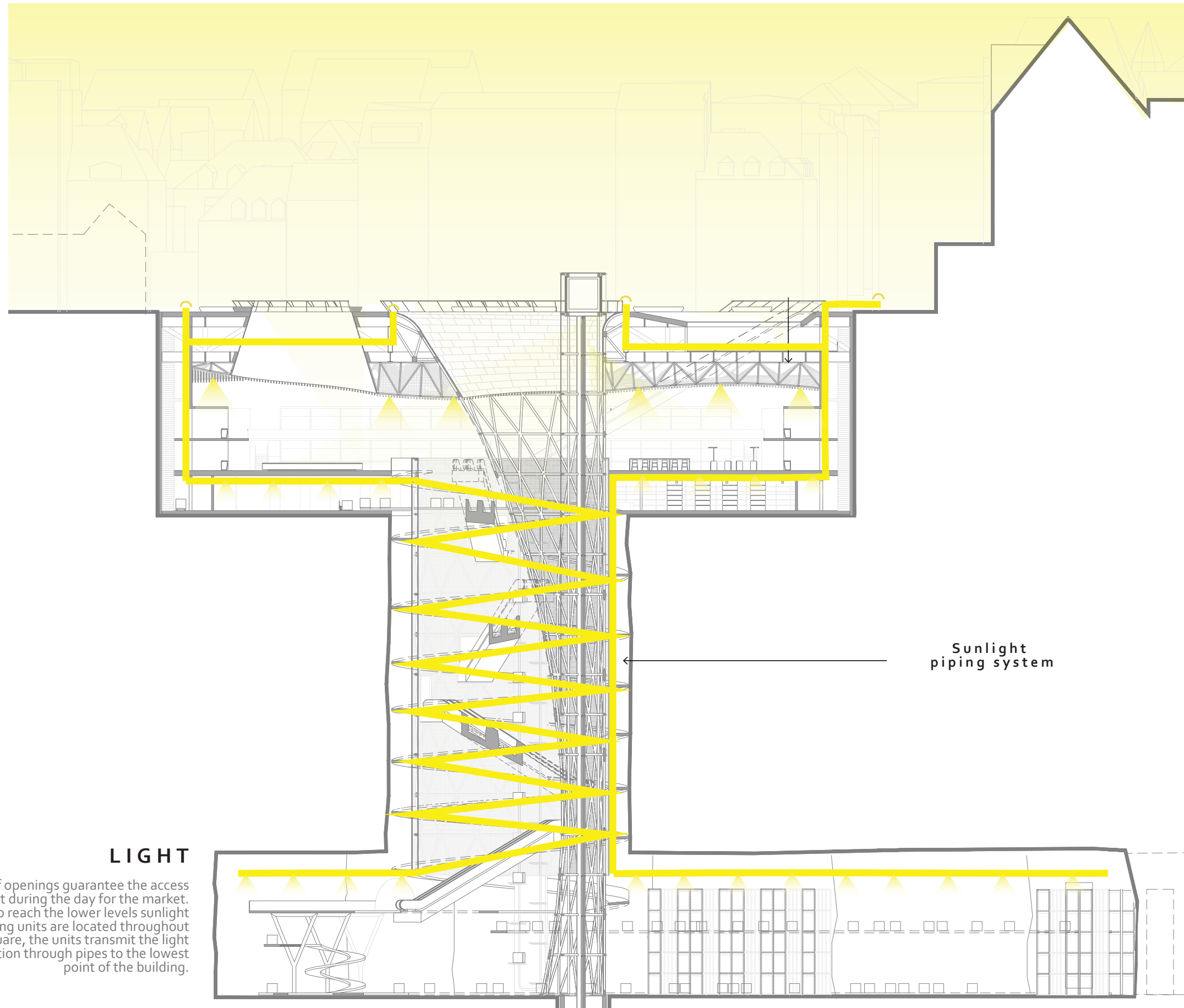
## II. A climate strategy



**WATER**

The rainwater is harvested on the roof/square and conducted through the service perimeter area, and later through the main cone to the lowest level where is stored in a tank. This water is later reused in the food hub facilities and transported through pipes within the cavity of the cylinder.



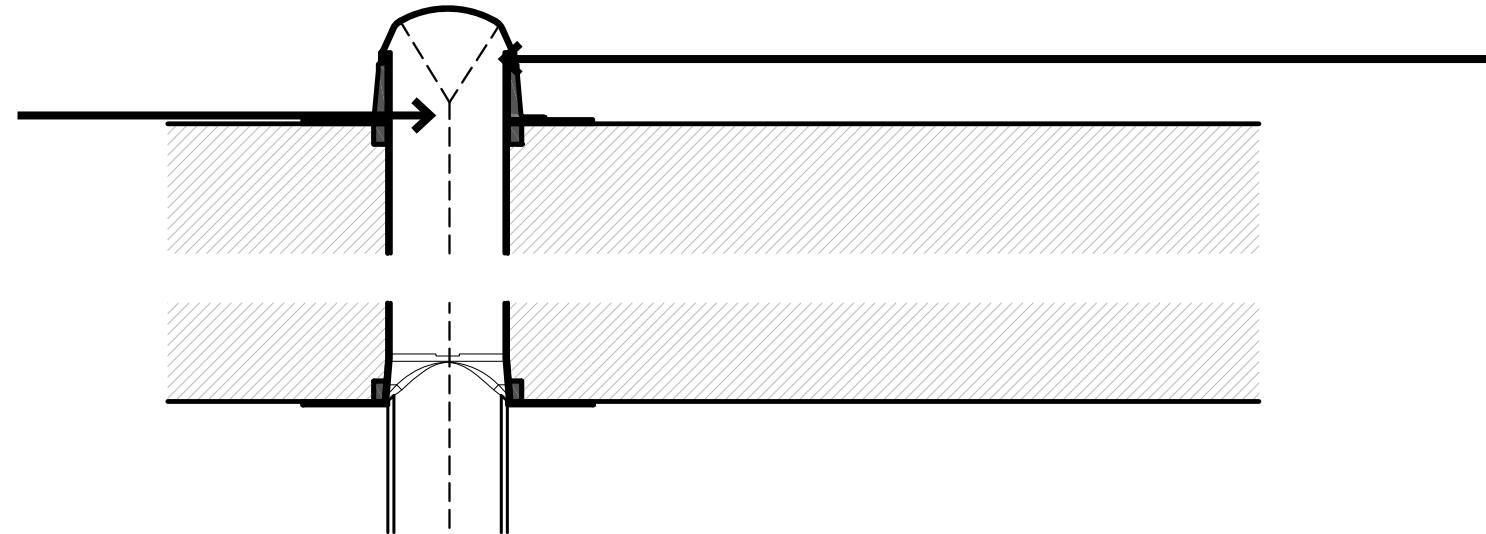


Sunlight piping system

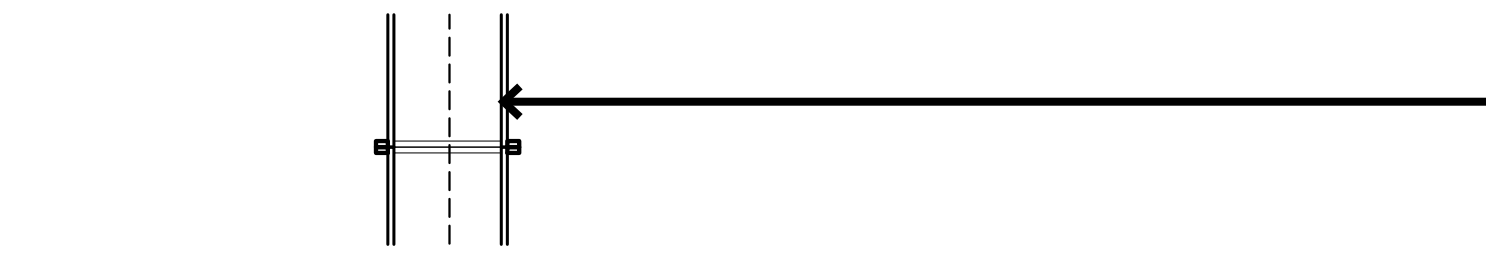
### LIGHT

The roof openings guarantee the access of light during the day for the market. To reach the lower levels sunlight harvesting units are located throughout the square, the units transmit the light by reflection through pipes to the lowest point of the building.

Condensation  
filter

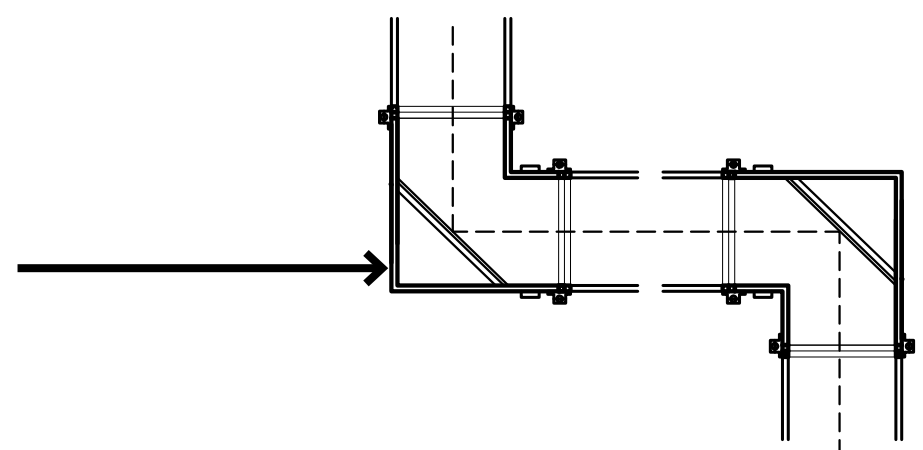


Uv and impact  
resistant  
outer dome

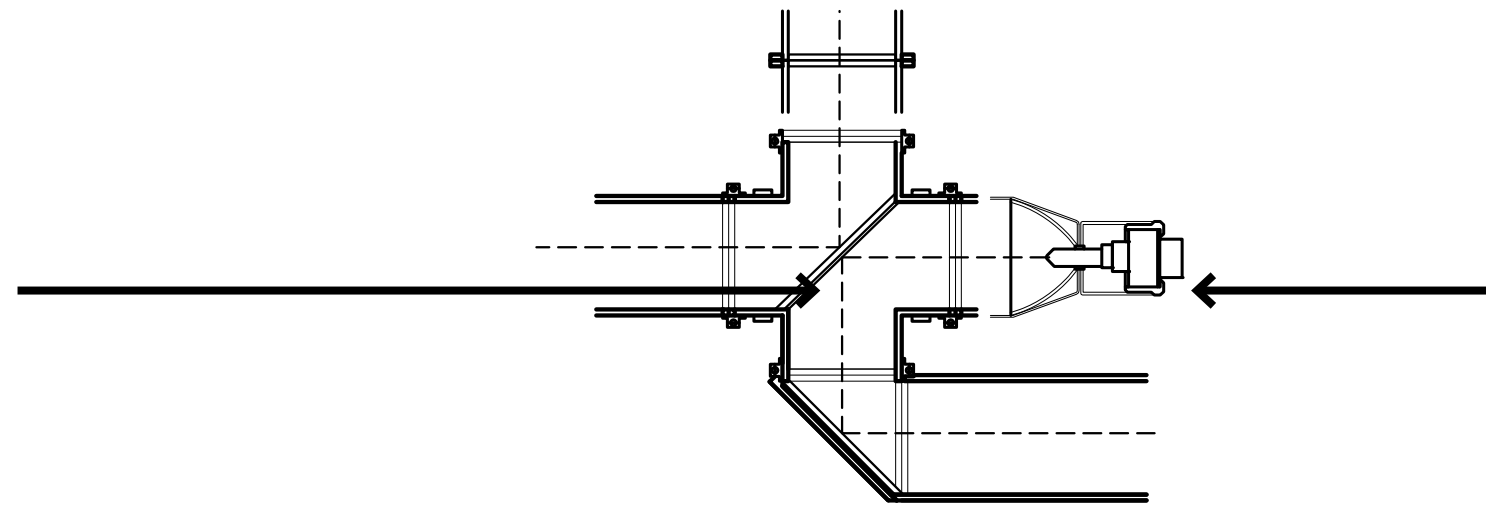


Acrylic pipe  
Ø 200mm

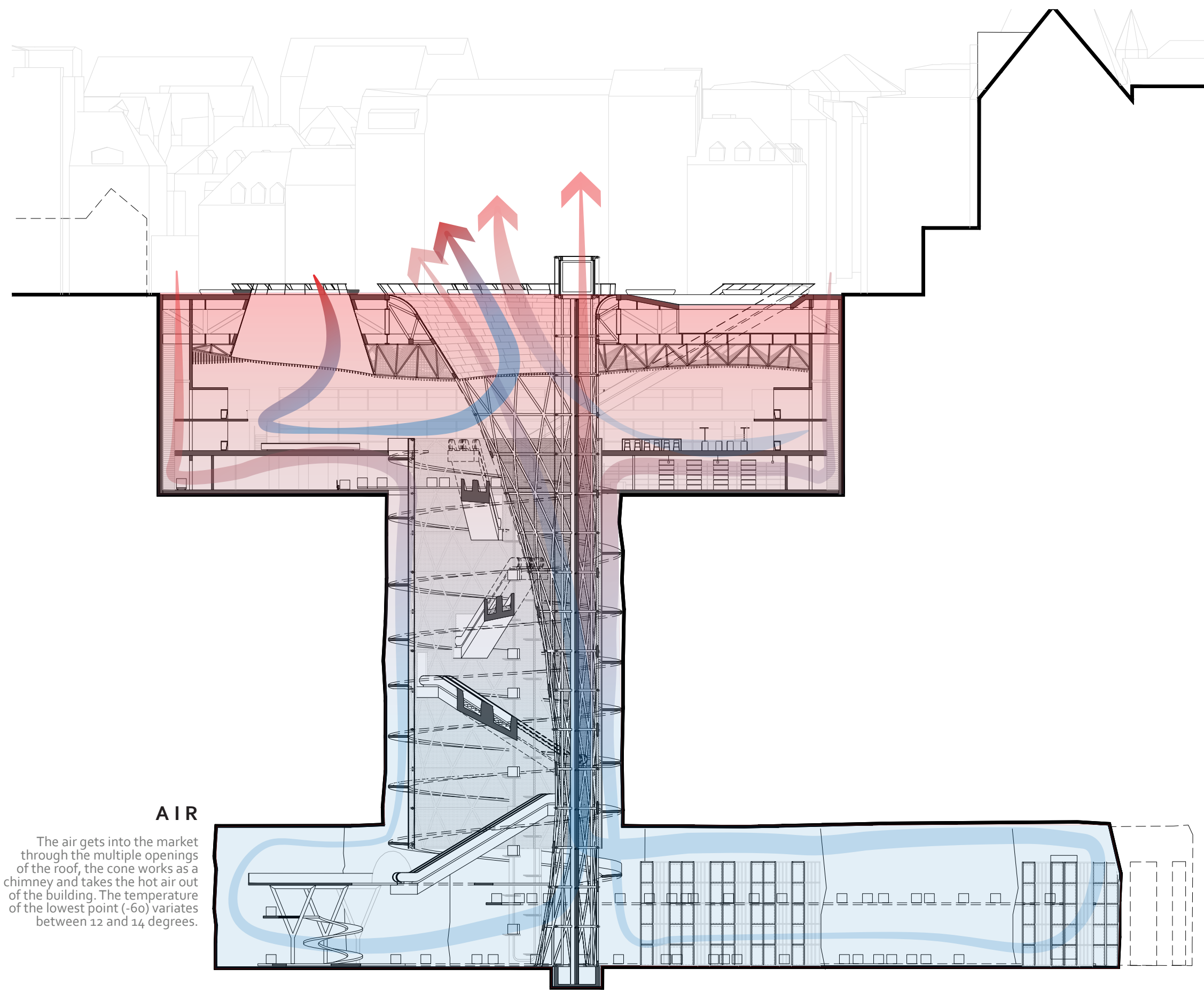
90° elbow  
with inner  
planar  
reflector



Double 90°  
elbow with  
inner planar  
reflector



Supplement  
and/or  
supplant the  
incoming  
sunlight.



**AIR**

The air gets into the market through the multiple openings of the roof, the cone works as a chimney and takes the hot air out of the building. The temperature of the lowest point (-60) varies between 12 and 14 degrees.



### III. The machine

*"Subterranean surroundings, whether real or imaginary, furnish a model of an artificial environment from which nature has been effectively banished...**human beings who live underground must use mechanical devices to provide the necessities of life: food, light, even air. Nature provides only space.** The underworld setting therefore takes to an extreme the displacement of the natural environment by a technological one. It hypothesizes human life in a manufactured world."*

NOTES ON THE UNDERGROUND, ROSALIND  
WILLIAMS, 1990.

The mechanism to transmit the idea to the user of being inhabiting a machine is far from being a superficial aesthetic feature. On the contrary, it is intended to be transmitted by a process based on **signs** and the architectural experience.

*"Signs are the object of a temporal apprenticeship, not of an abstract knowledge. To learn is first of all to consider a substance. An object, a being as if it emitted signs to be deciphered, interpreted"*

GILLES DELUZE, 1964



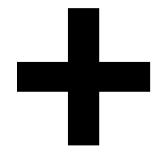
*The big duck. Flanders, New York.*



*Oakley headquarters in Foothill Ranch, California*

**Assembling nature**

Manipulation of form towards a  
given pattern.



**Pattern**

Sign or Idea recognizable by the  
user.

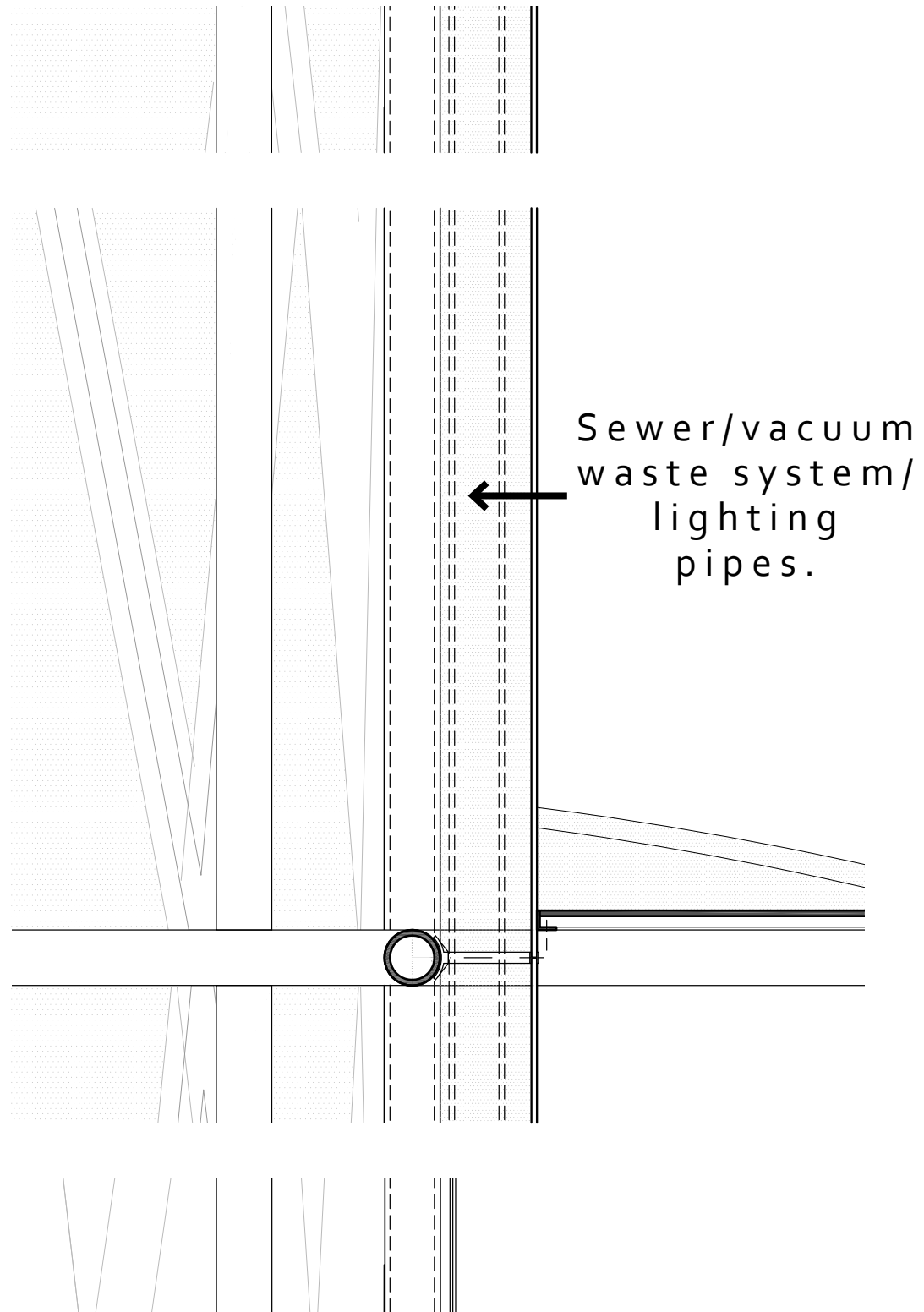


**Common  
framework**

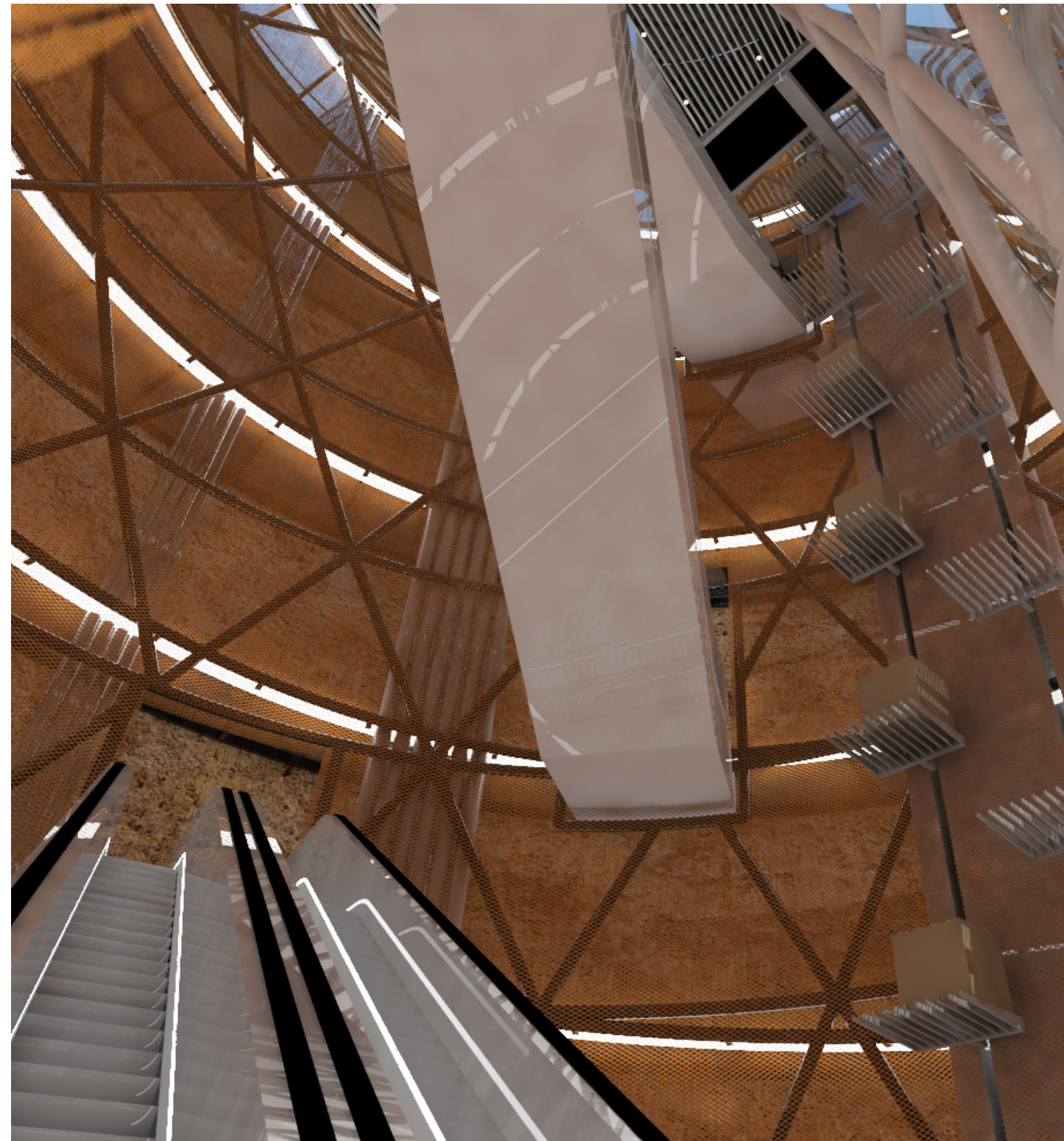
A limit established by the pattern  
where  
subjective perceptions are  
conceived.

# Architectural Experience

Assembling nature



Pattern

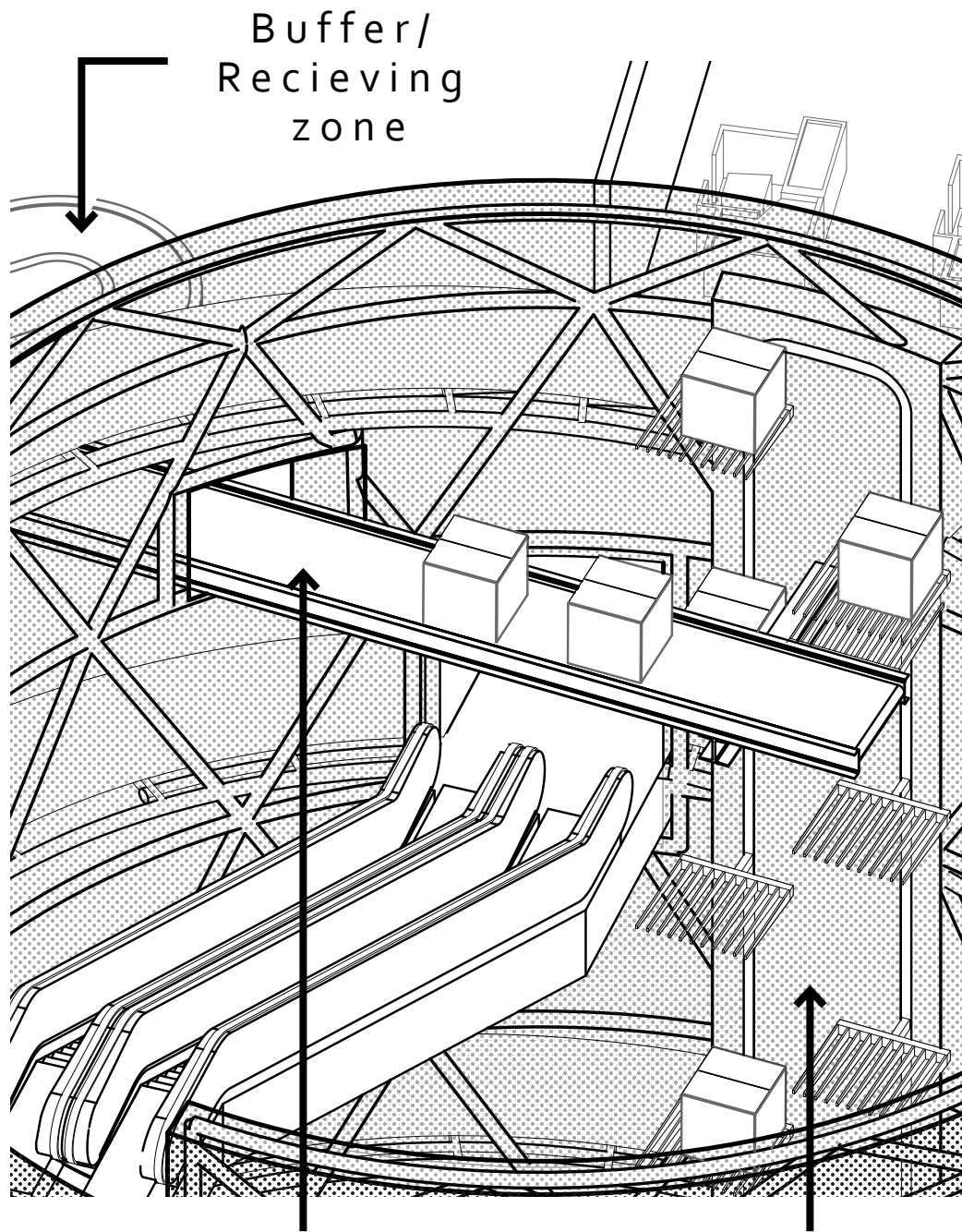


Common framework

The sensation of getting in and out of the machine

# Architectural Experience

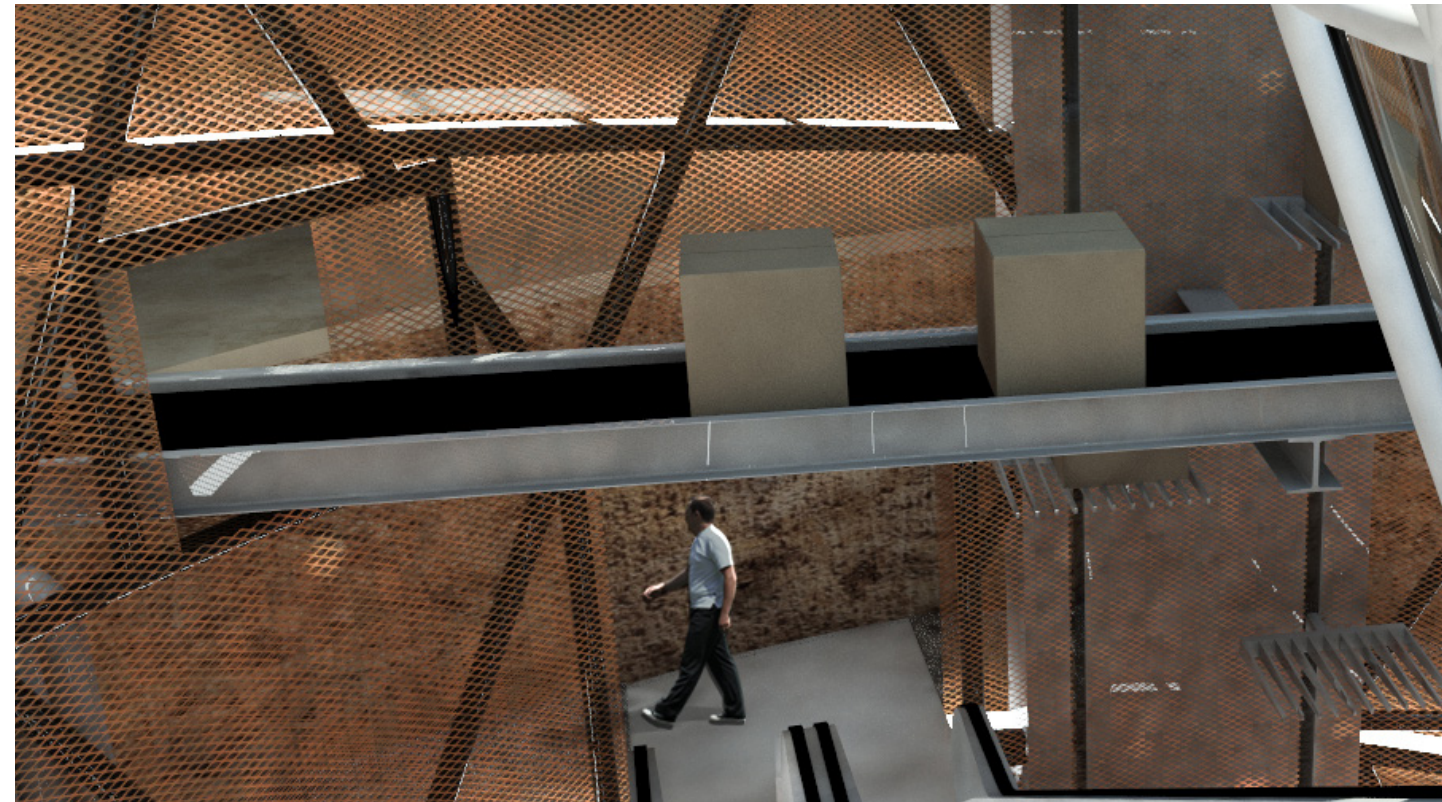
Assembling nature



Horizontal conveyor to buffer zone

Vertical conveyor system

Pattern



Common framework

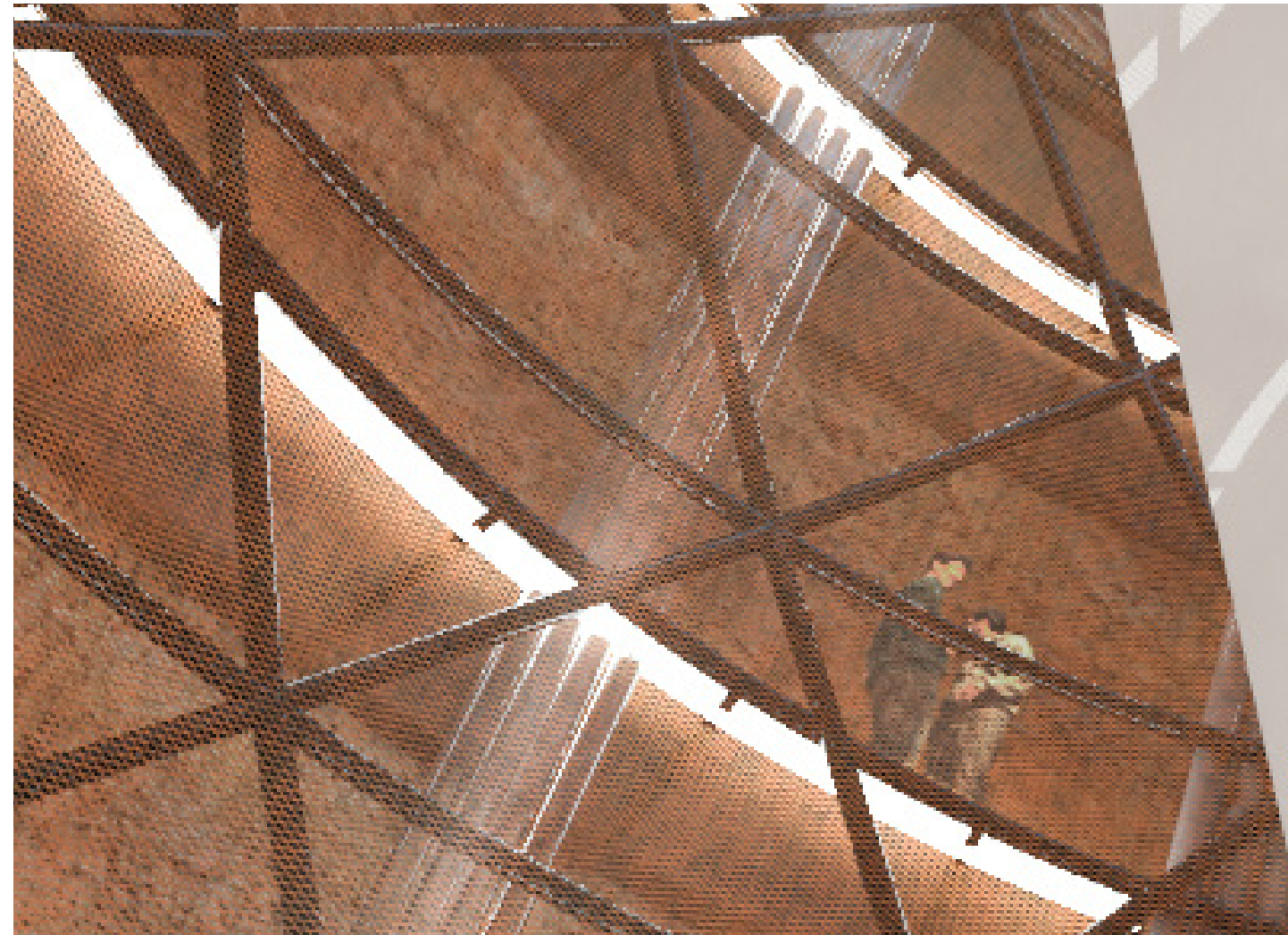
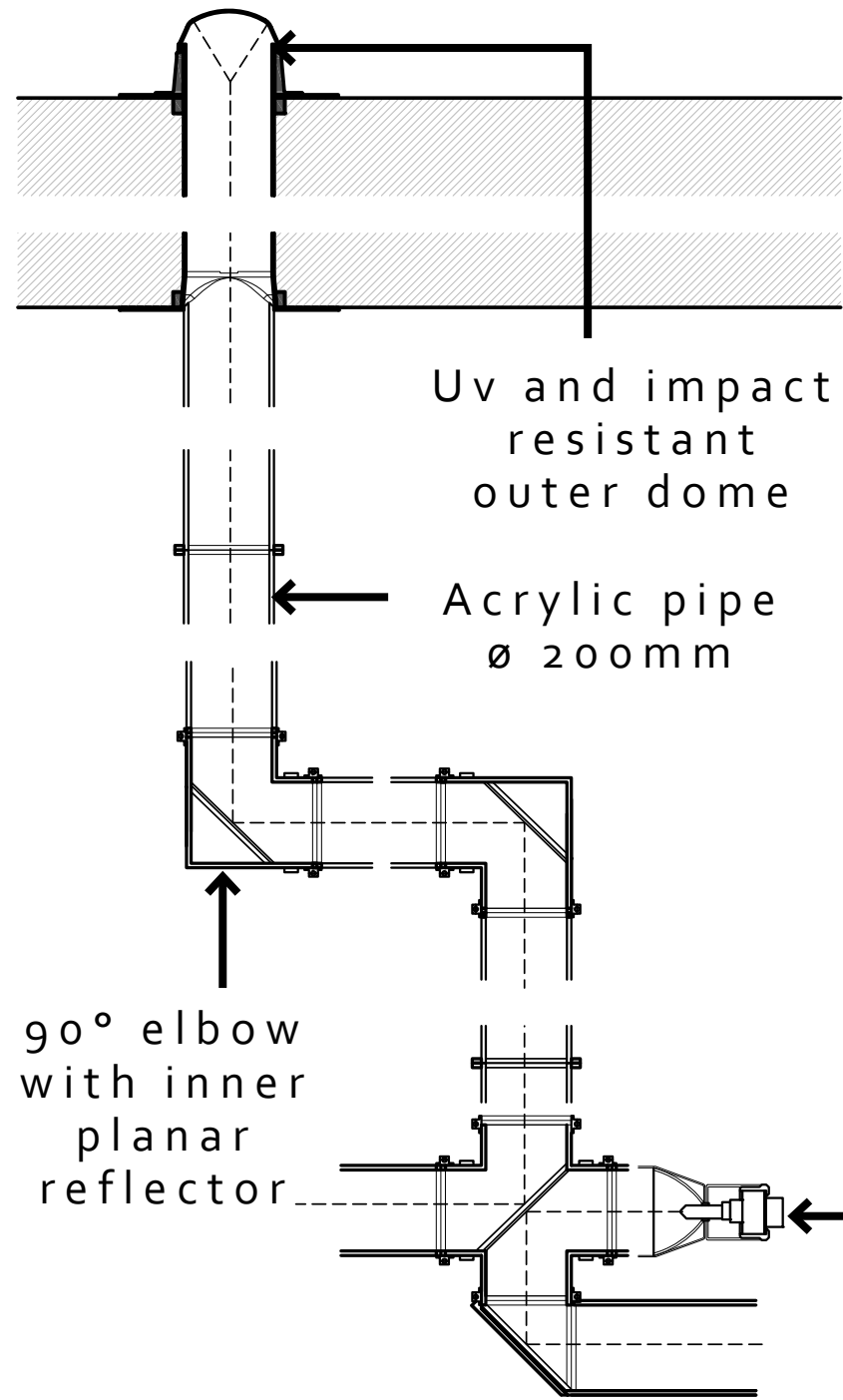
Evidence of the food processing chain. (the purpose of the machine)

# Architectural Experience

Assembling nature

Pattern

Common framework



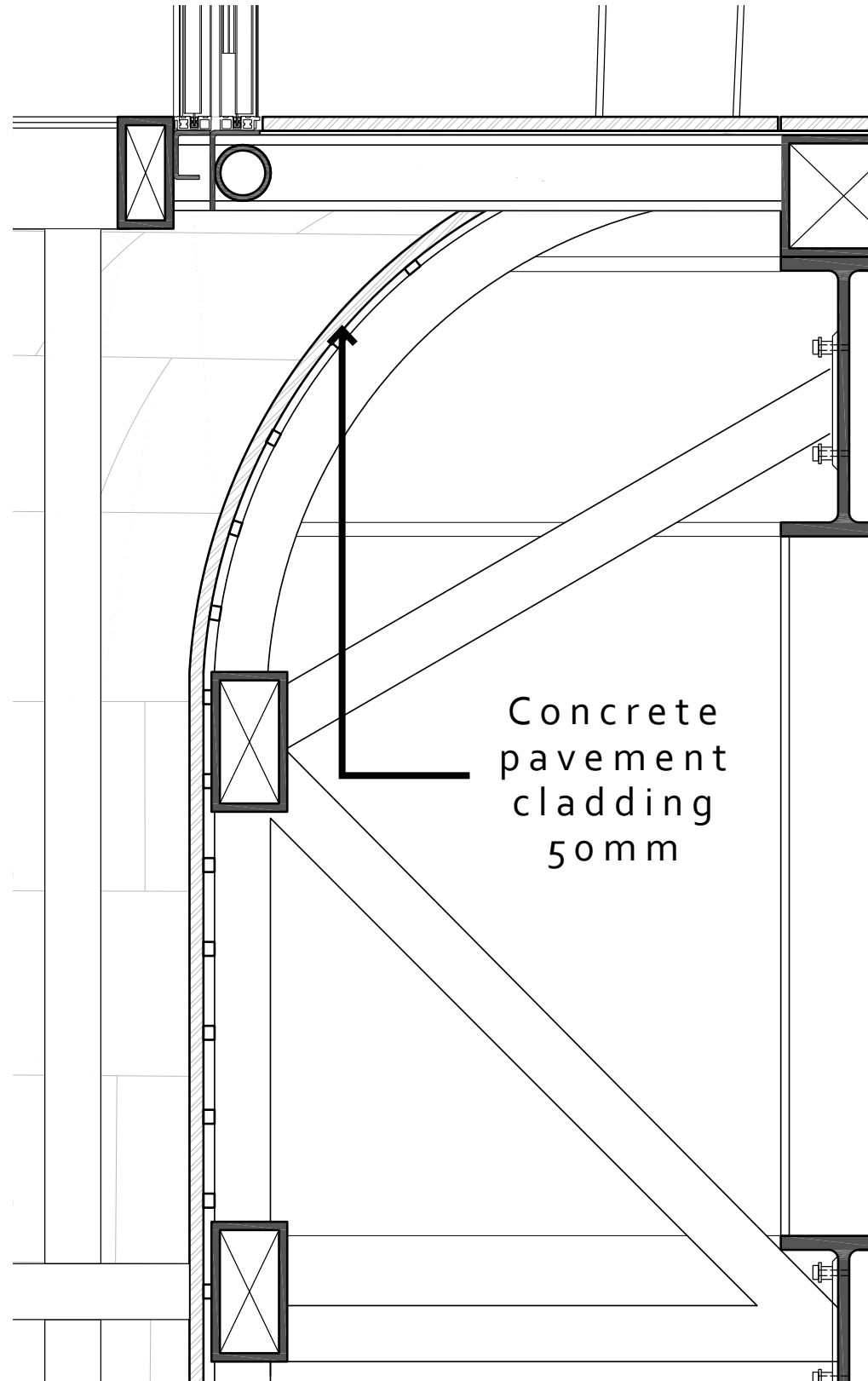
Resemblance with a rough service light or trouble light bulb (used for emergency inspections or industrial applications)

Supplement and/or supplant the incoming sunlight.



# Architectural Experience

Assembling nature

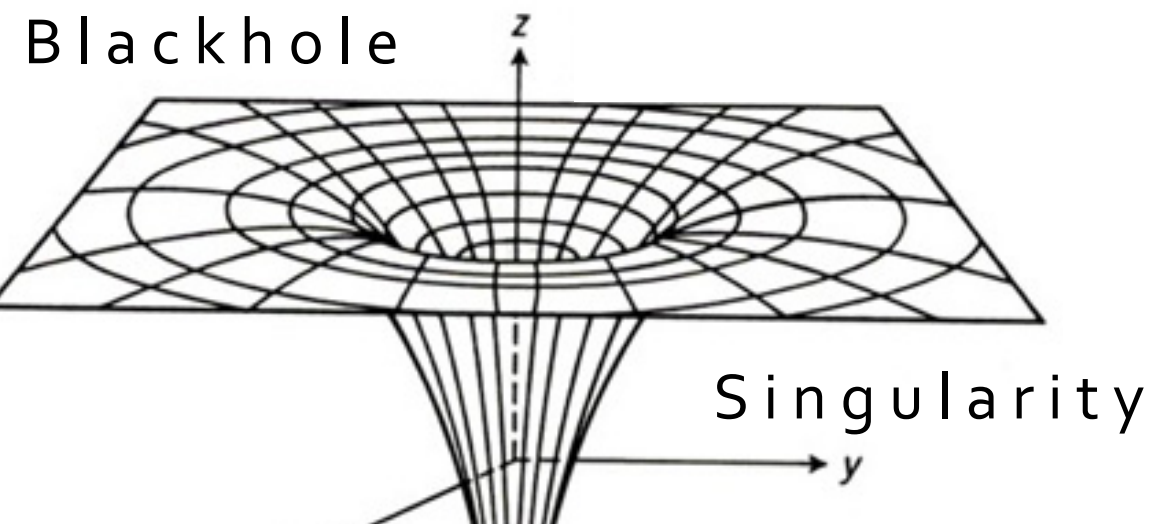


Pattern



Common framework

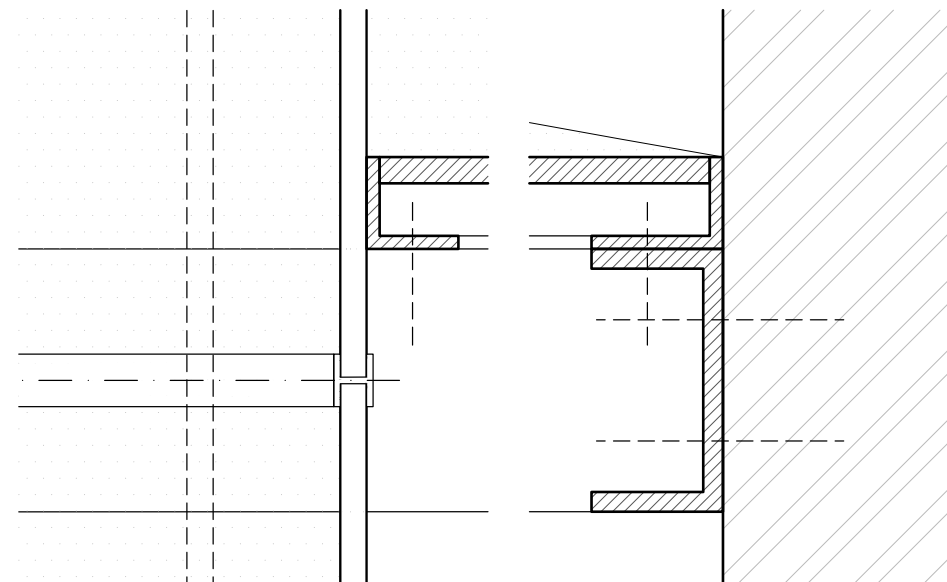
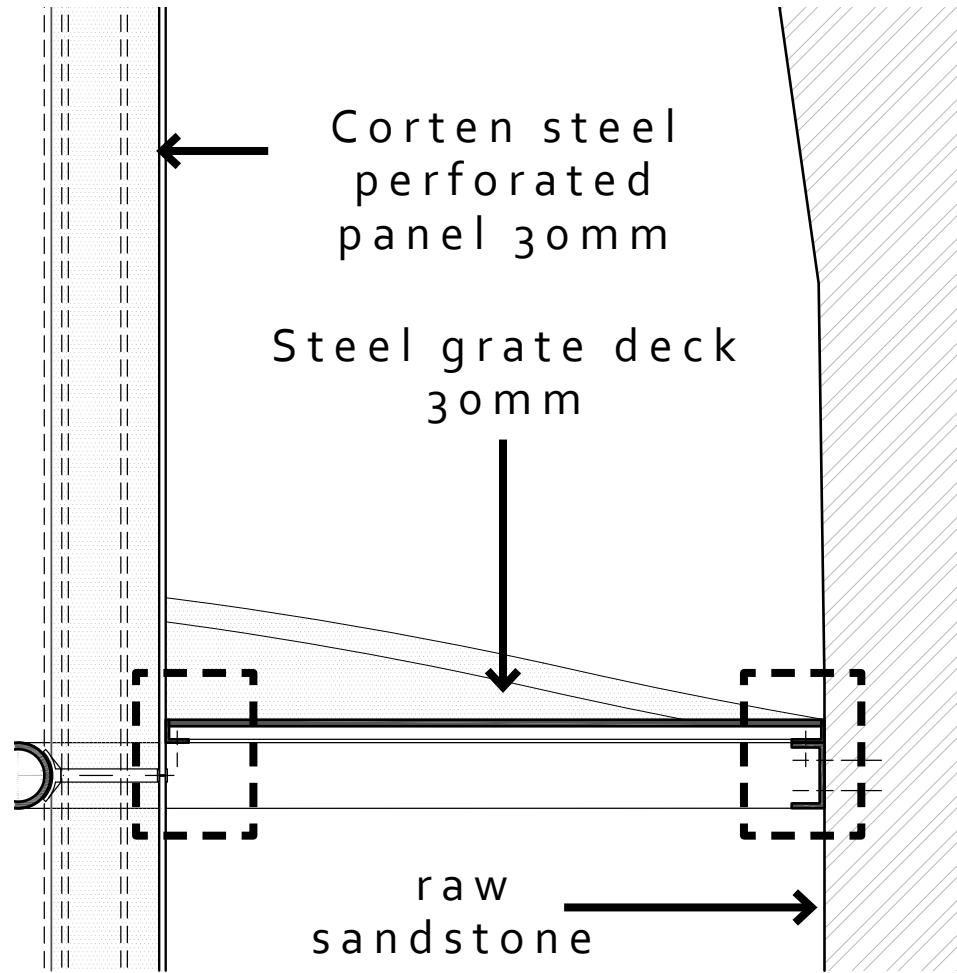
Identification with the conceptual image of a black hole (A change of dimension)





# Architectural Experience

Assembling nature



Pattern

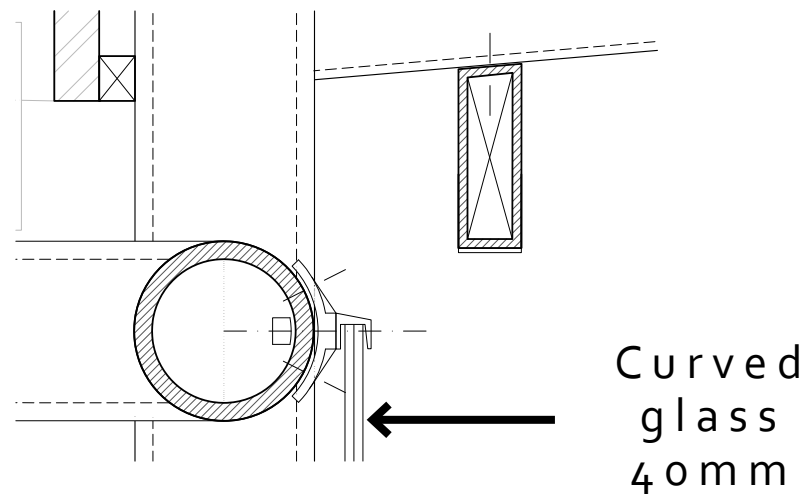
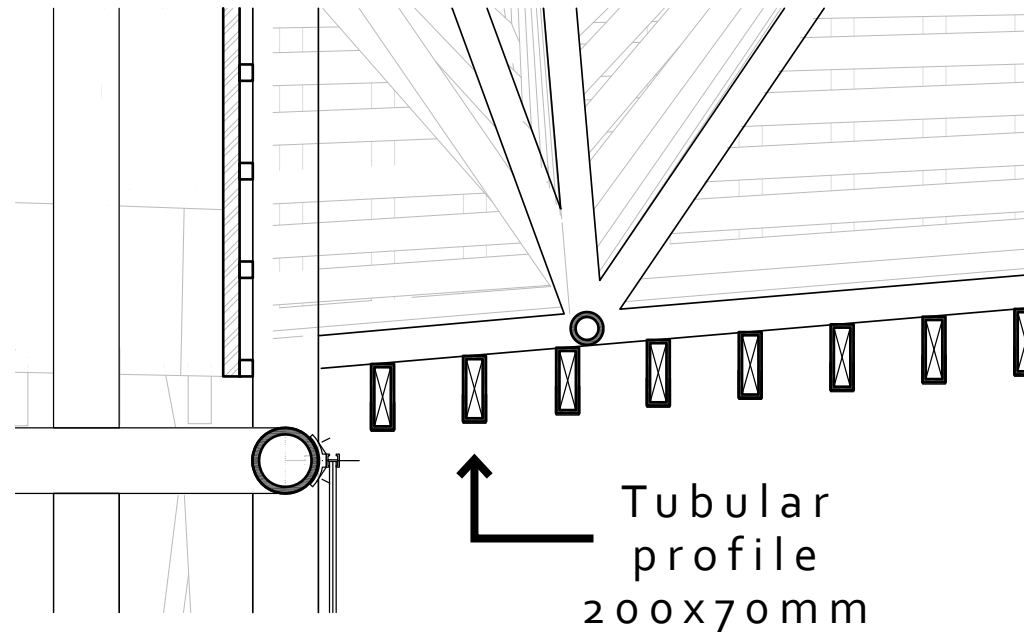


Common framework

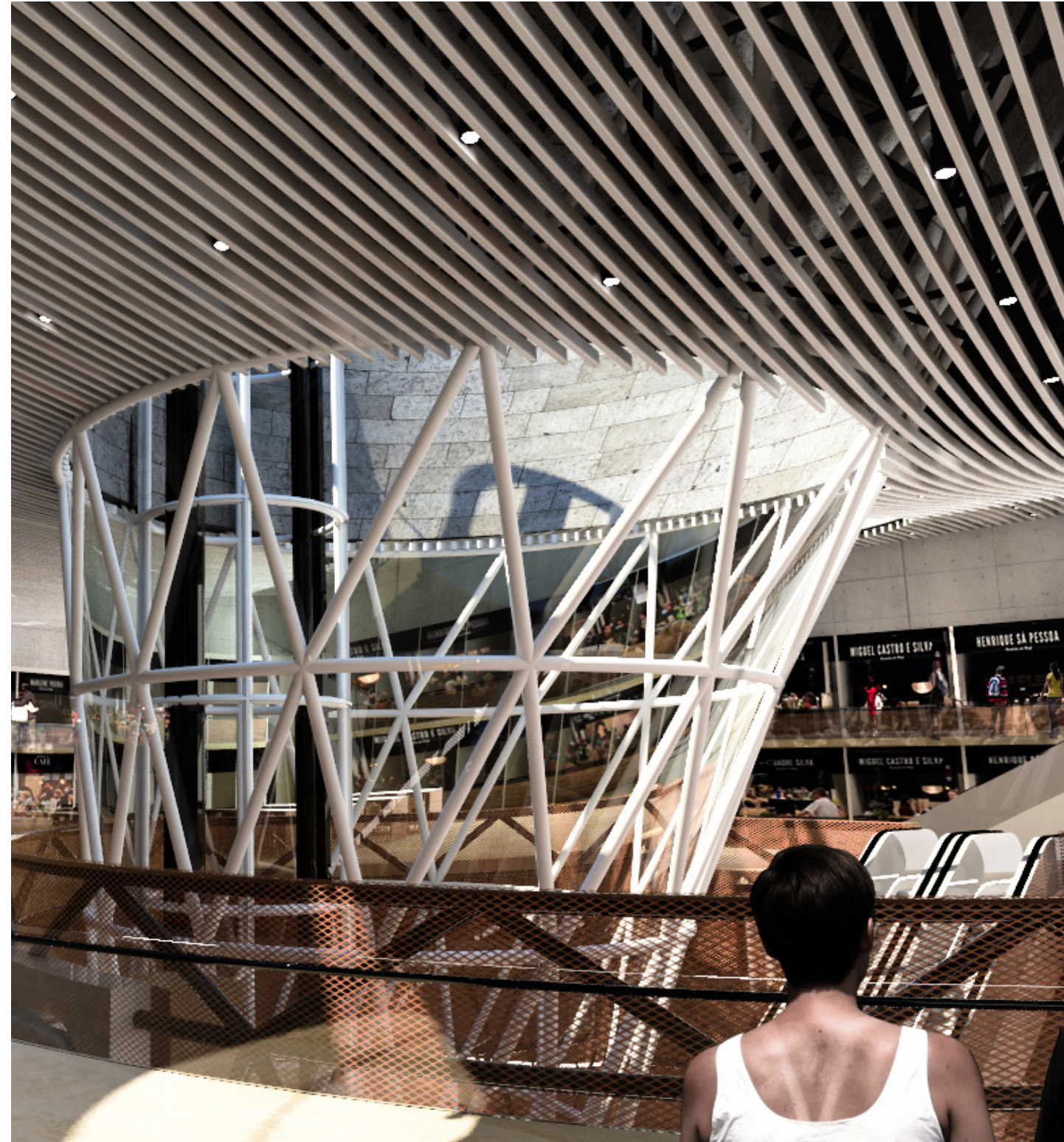
Remembrance of the act of the underground descent.

# Architectural Experience

Assembling nature



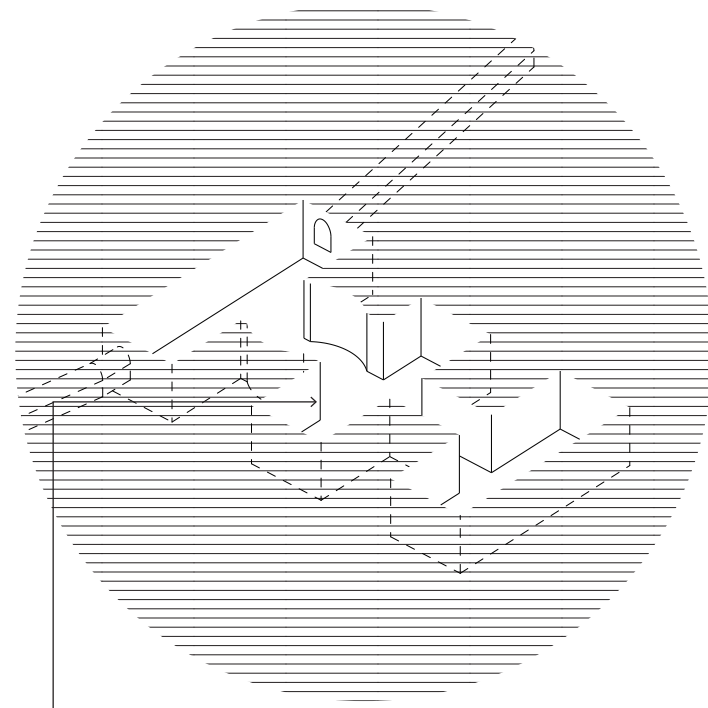
Pattern



Common  
framework

The evidence of the structure that may suggest an emphasis on how it works rather than how it looks (like in a machine)

## IV. The structure



Room and pillar grid  
18x18m.

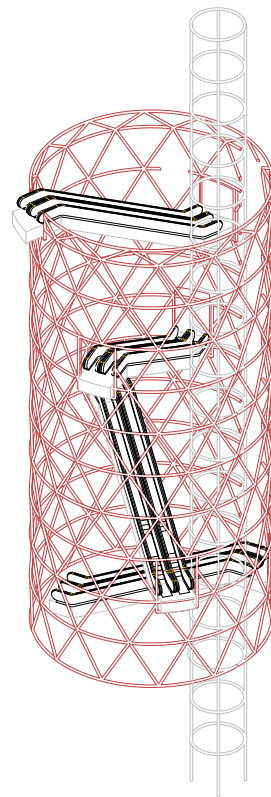
### THE UNDERGROUND

The underground structures are supported by a technique used in mining called Room and pillar, where the "pillars" of untouched material are left to support the roof overburden, and open areas or "rooms" are extracted underground;



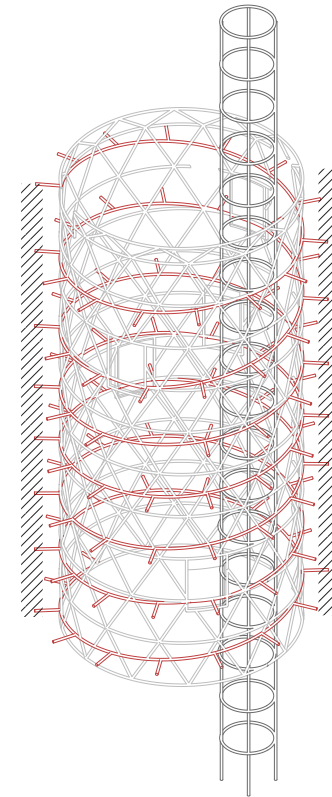
### THE CORE

The elevator's structure is the main structural element and starting point.



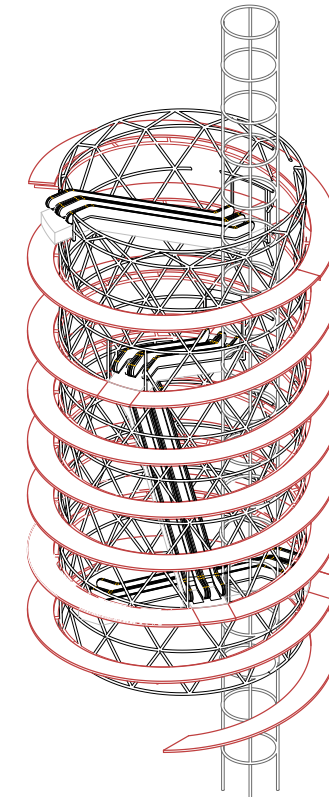
### THE CYLINDER

A secondary structure is attached to the core to support the landings of the escalators, and create a visible gap between the main cylinder and the sandstone.



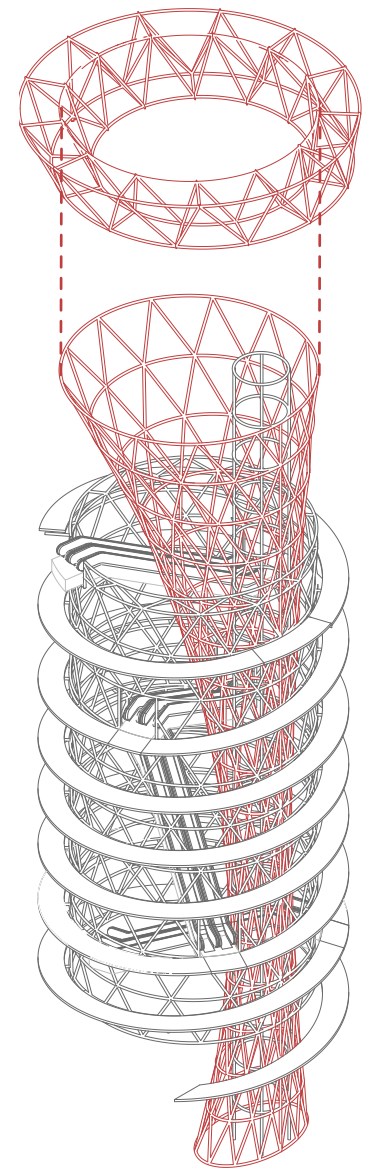
### THE SPIRAL

A tubular spiral wraps the cylinder and attaches it to the underground sandstone by small perpendicular beams.



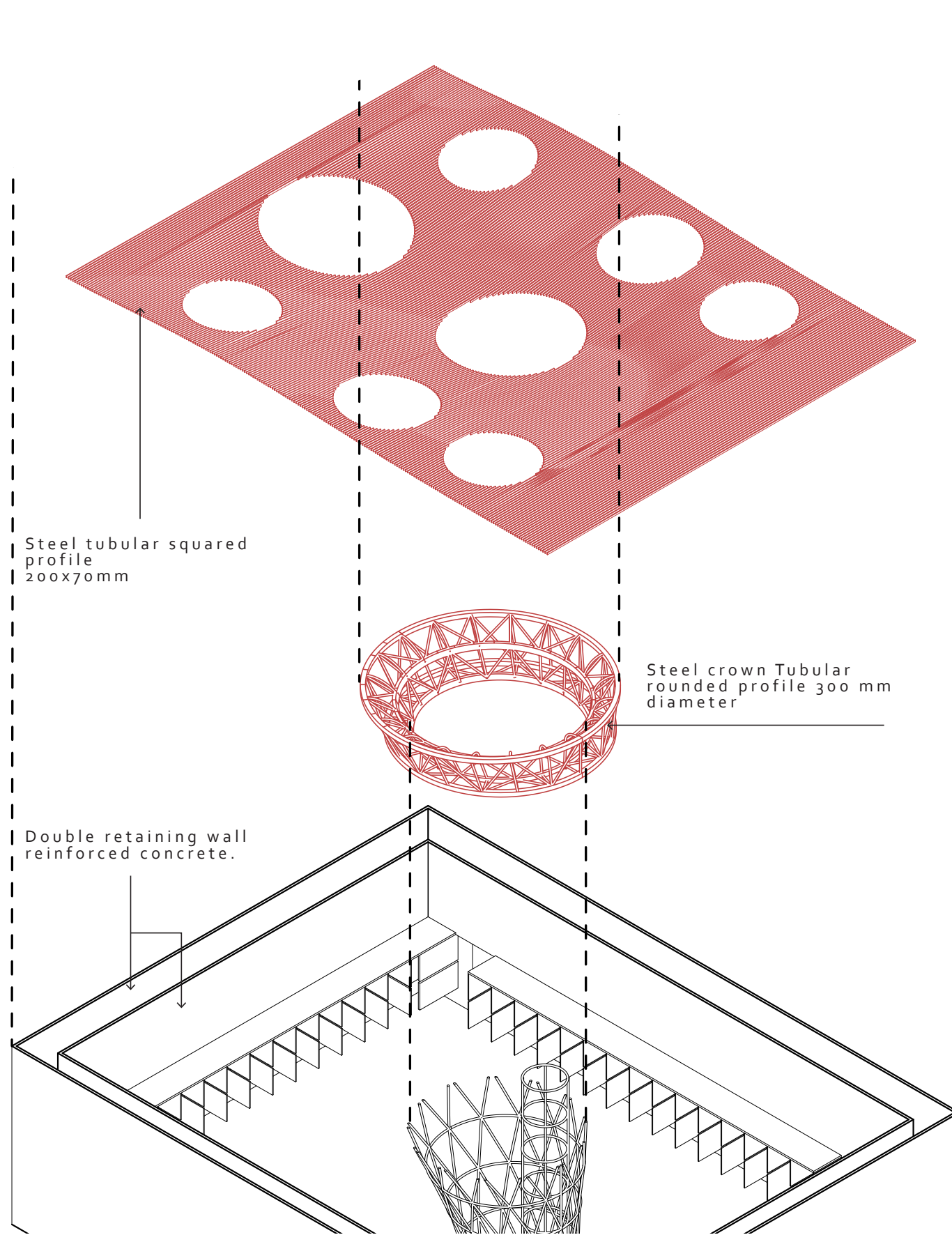
### THE RAMP

The ramp lies on top of the beams coming from the spiral and also works as a structural element.



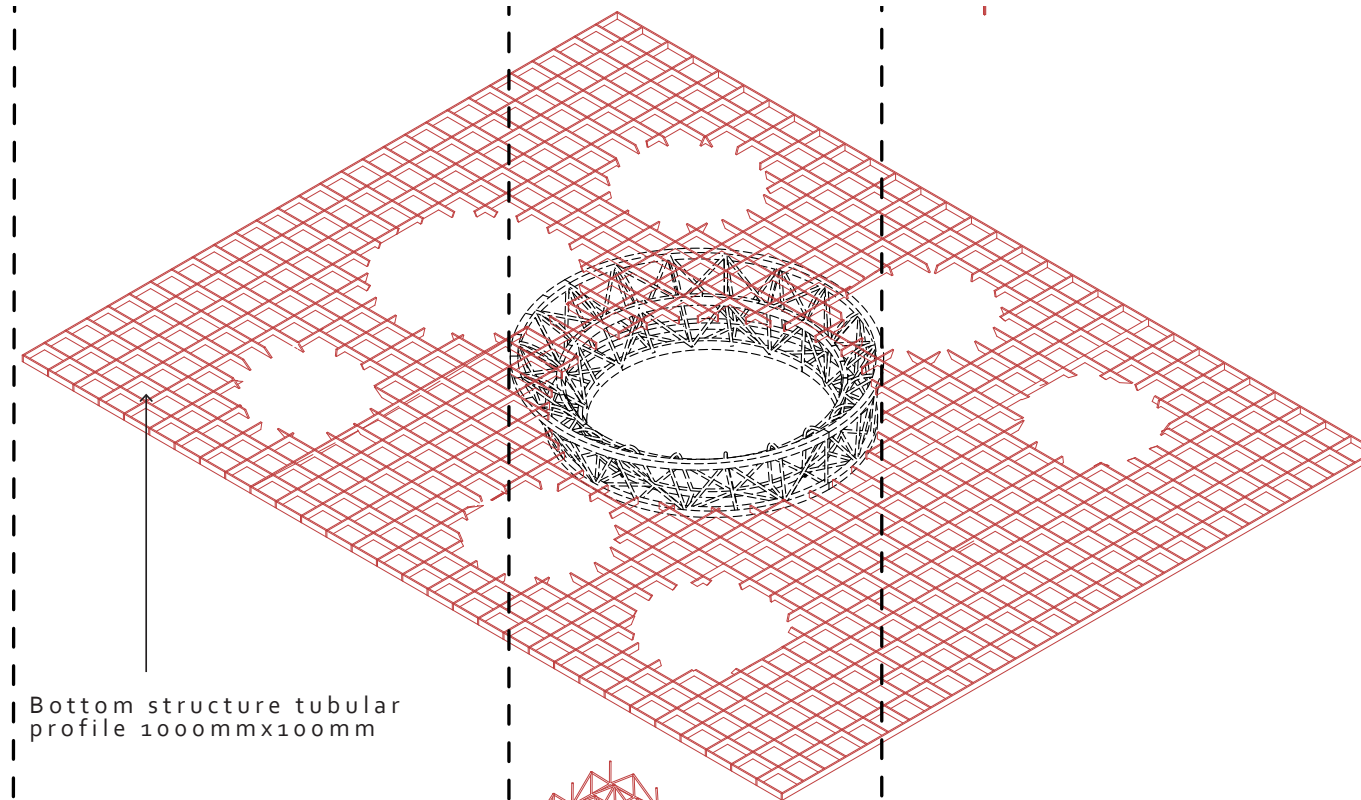
### THE CONE

The conical shape also wraps the core and the cylinder providing extra stiffness and it extends to the top of the crown where it is surrounded by a crown that works as an interface between it and the roof.

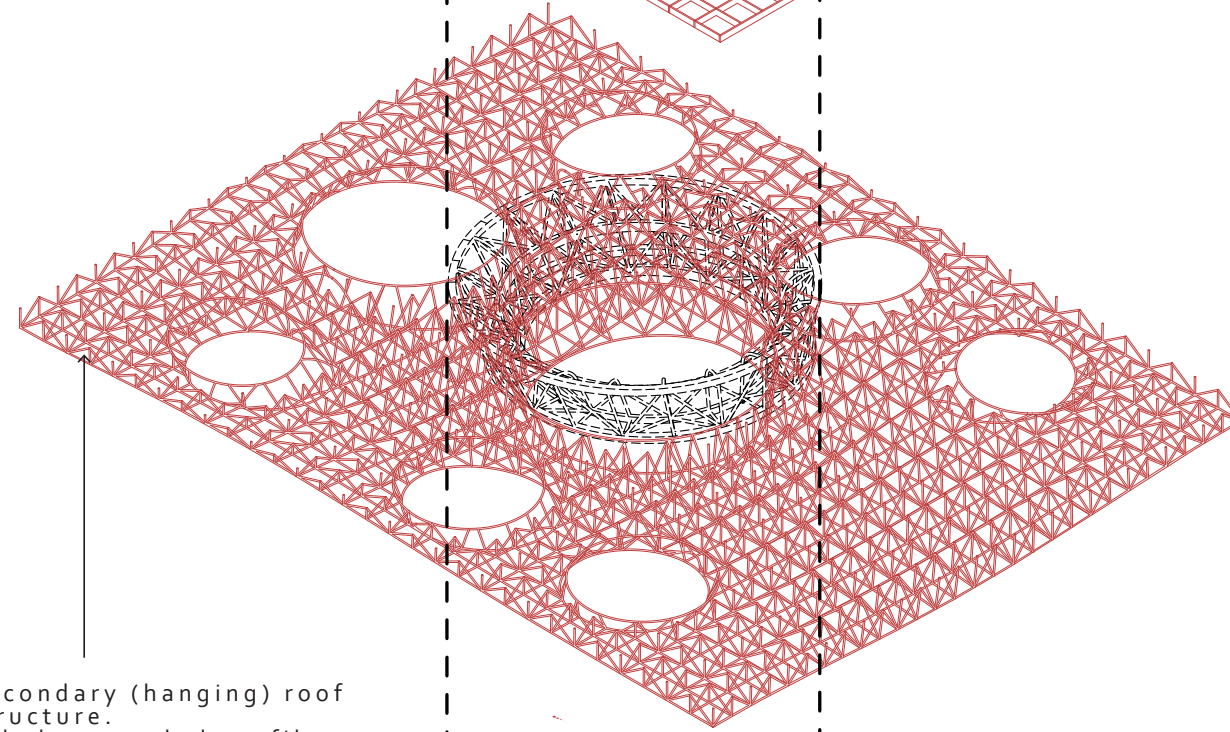


### THE ROOF

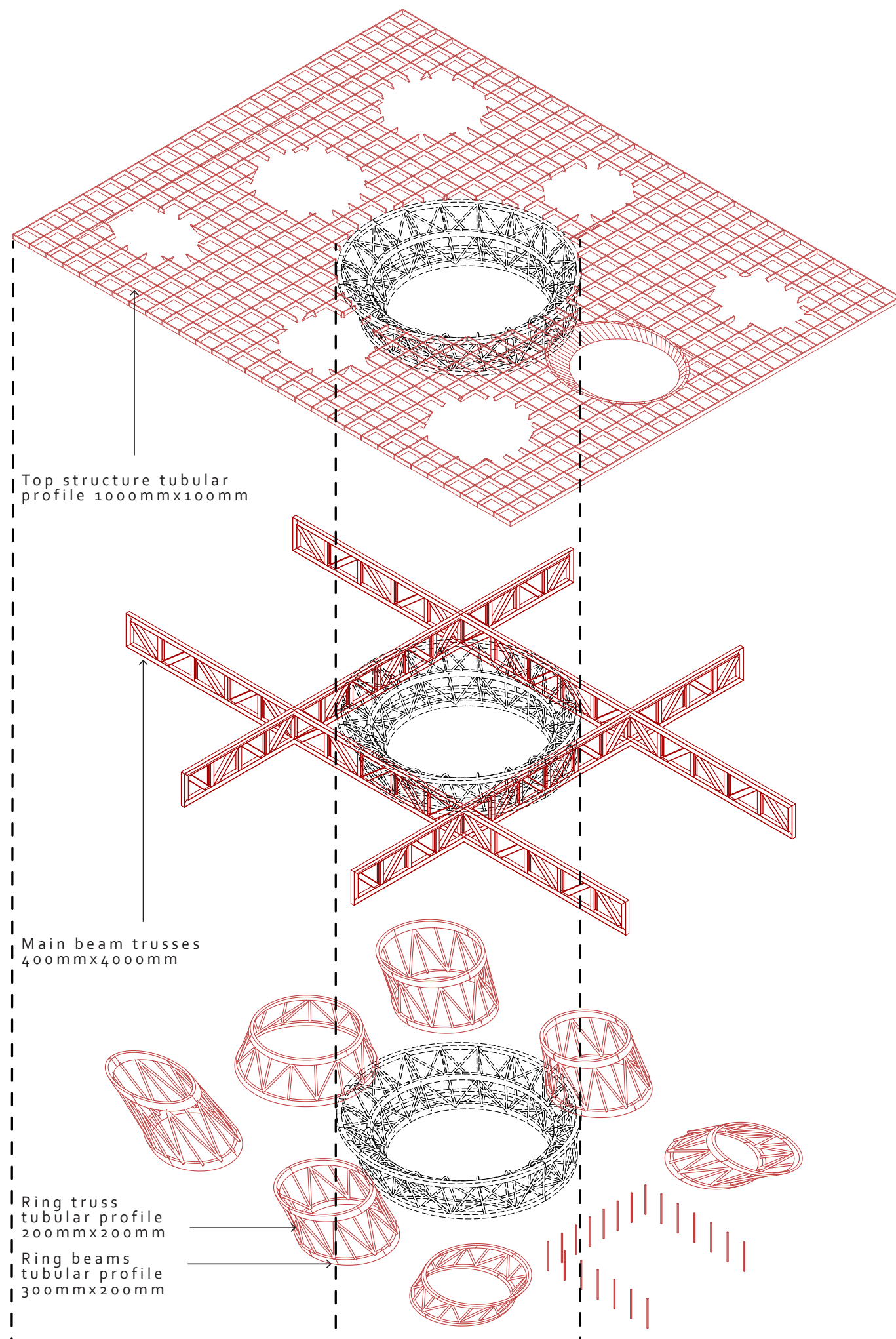
The crown connects the cone with the main structure of the roof, a similar scheme is used for the other perforations, a secondary structure hangs from the main one as a ceiling from which a series of parallel profiles bend. The whole roof structure lies on the concrete walls that surround the market.

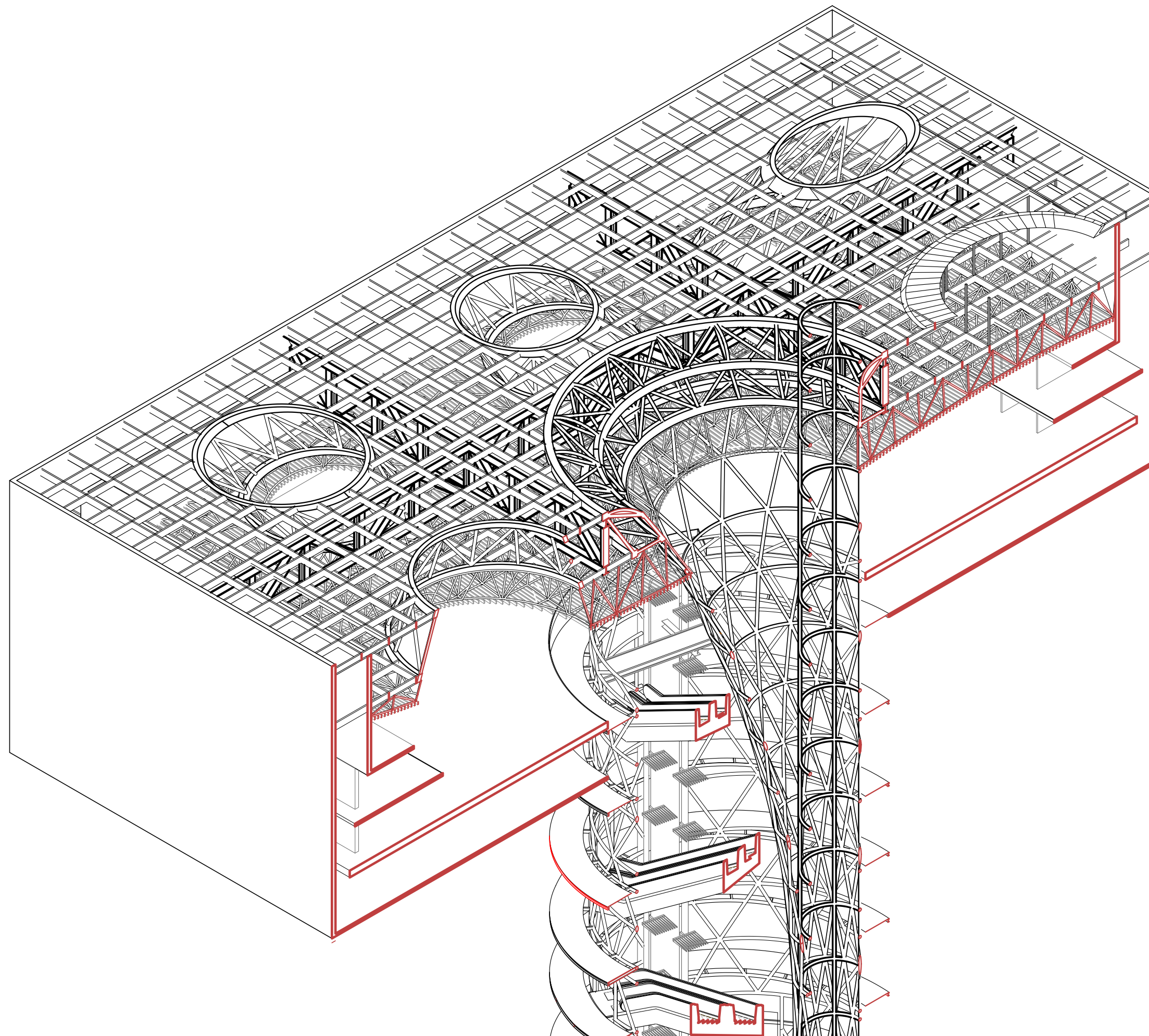


Bottom structure tubular  
profile 1000mmx100mm



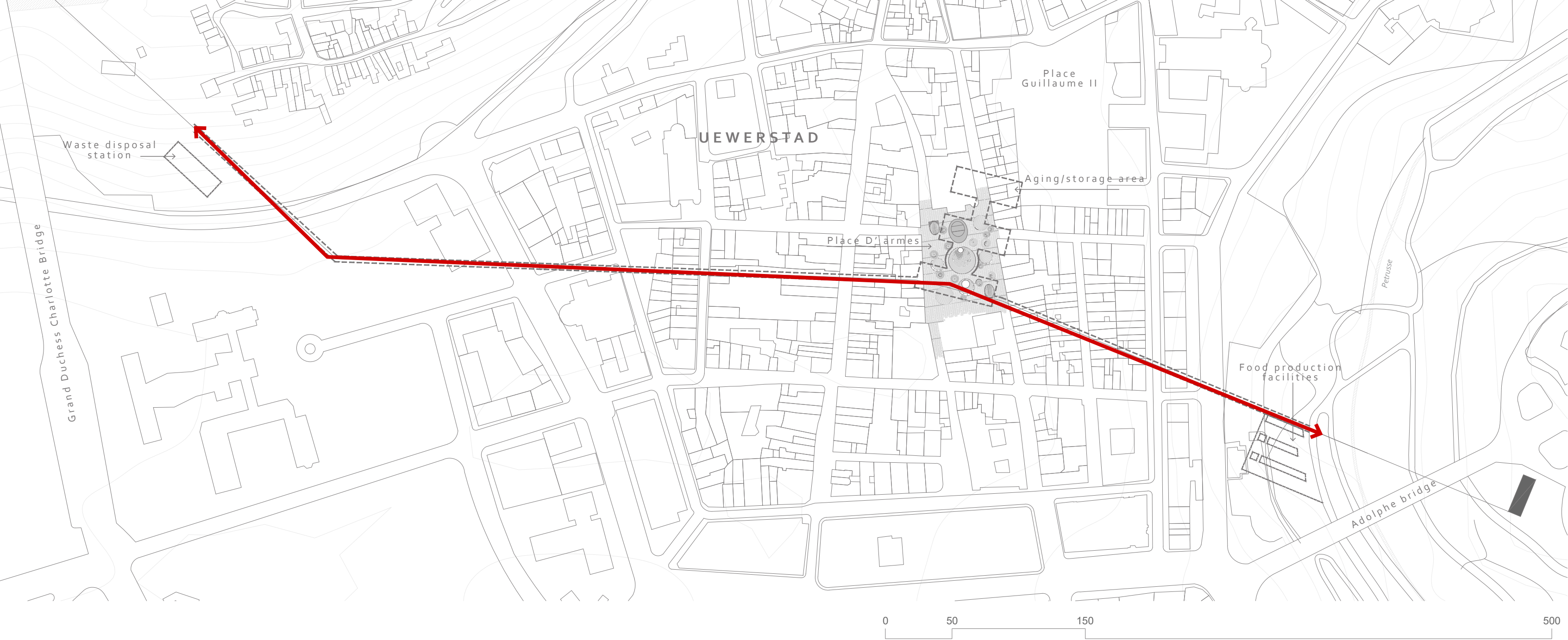
Secondary (hanging) roof  
structure.  
Tubular rounded profile  
100 mm diameter





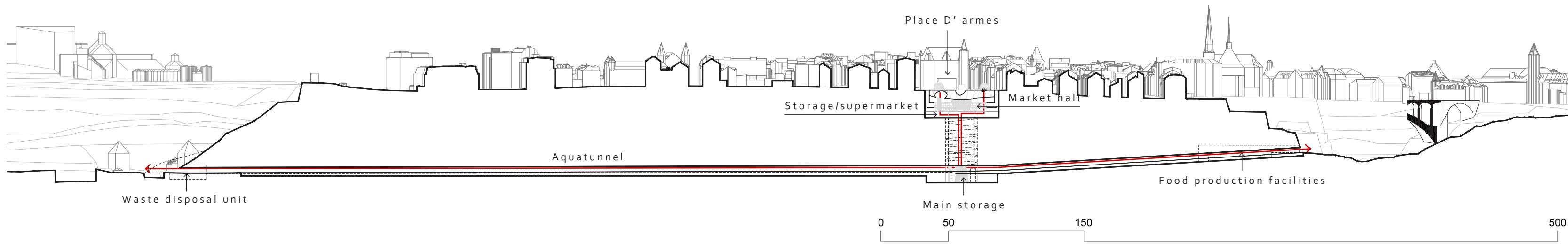


# THE PROMENADE



**SITE PLAN**

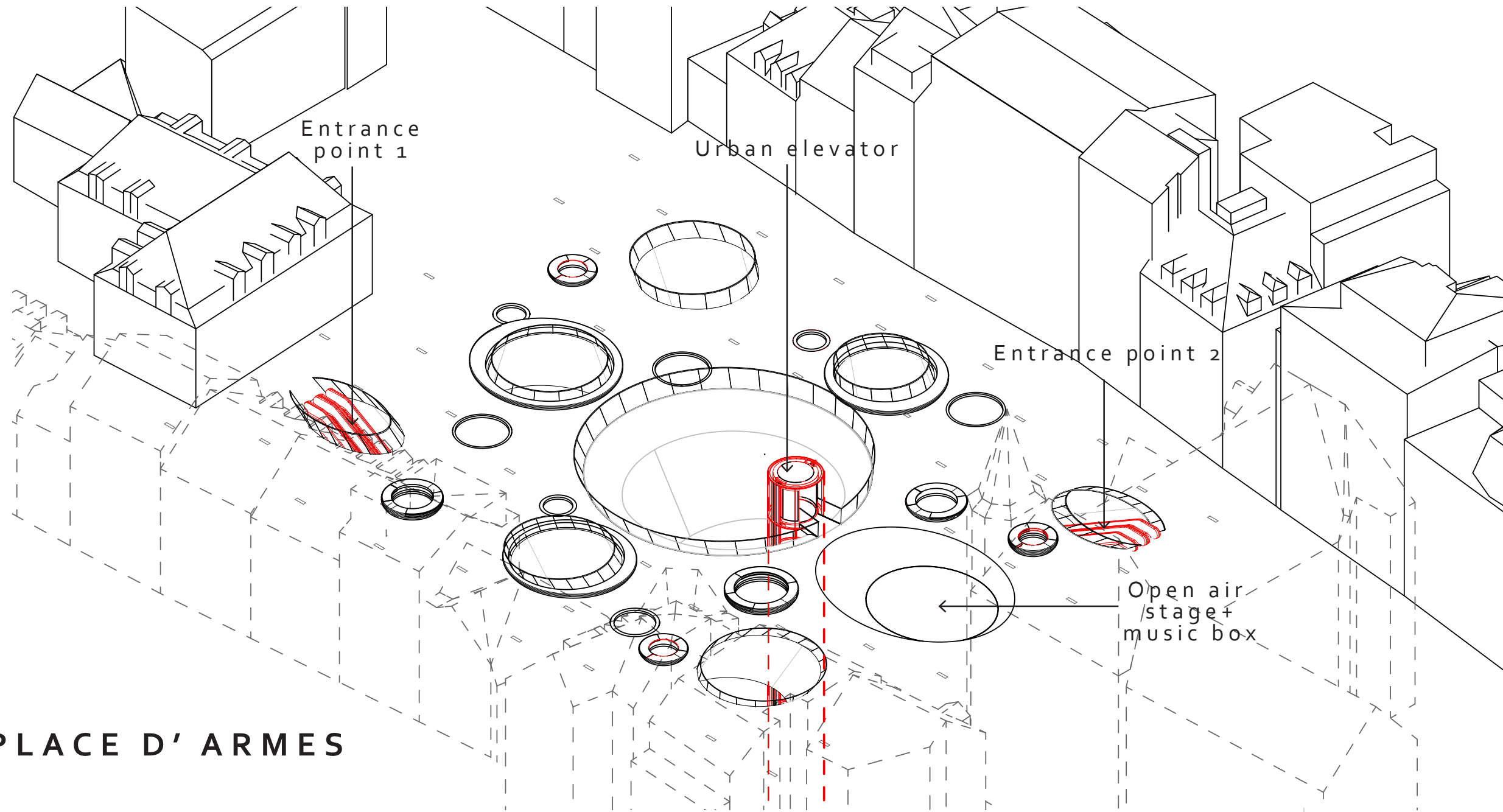
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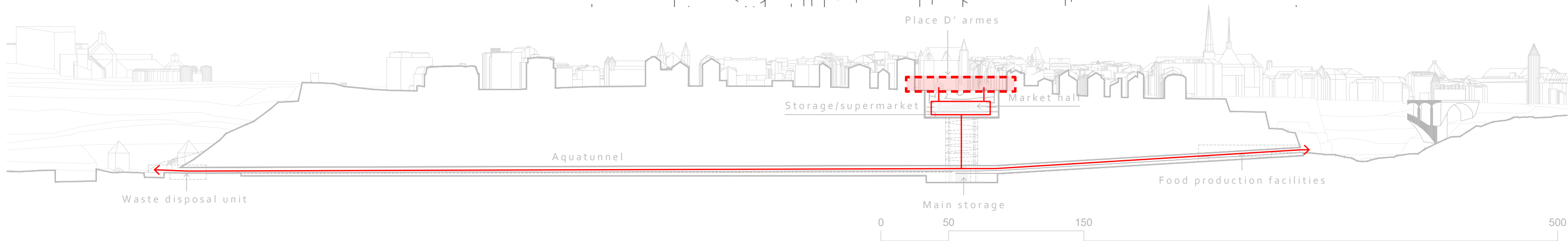
**SITE SECTION PLAN**

scale 1:1500

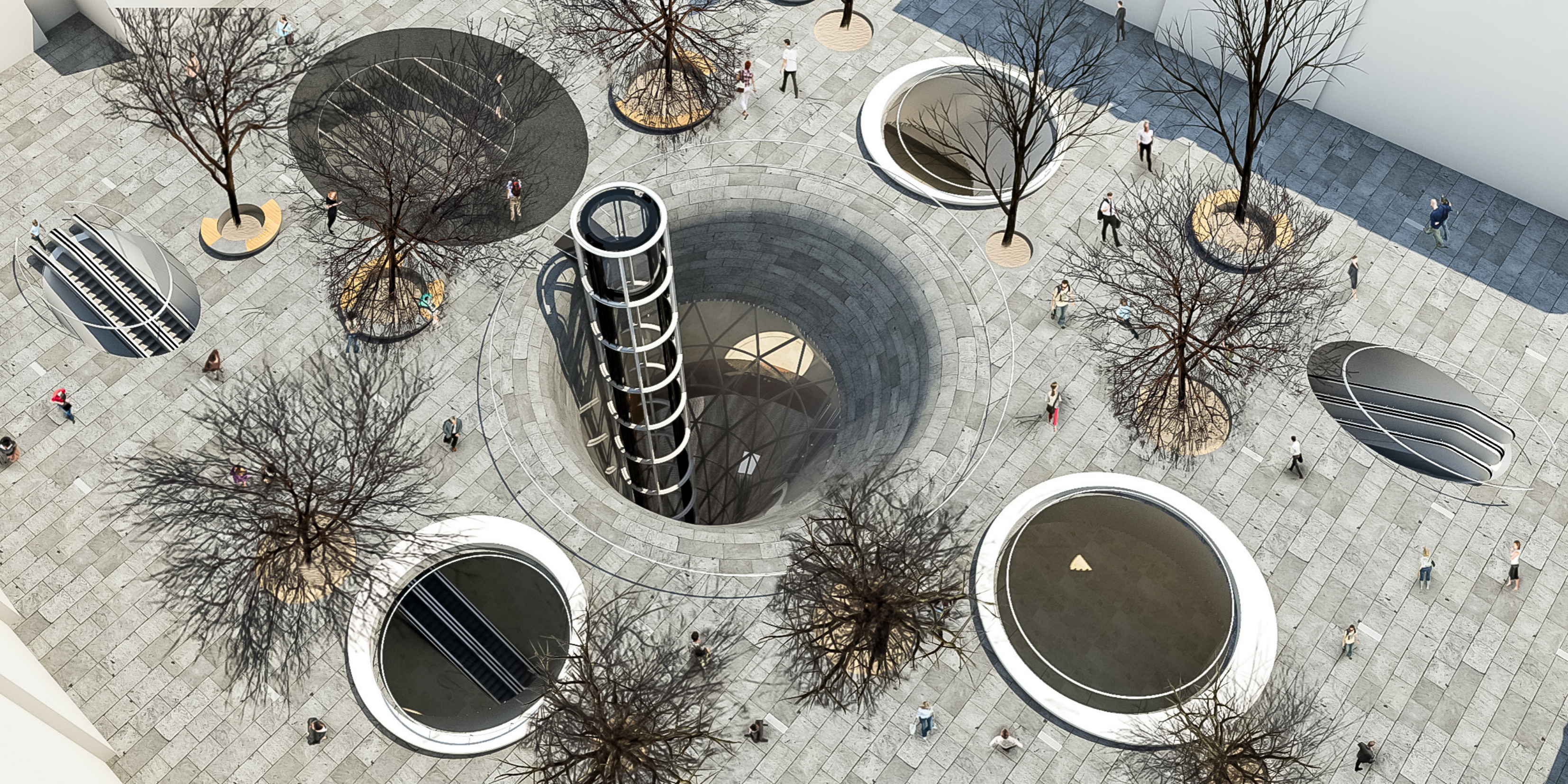
# PROMENADE

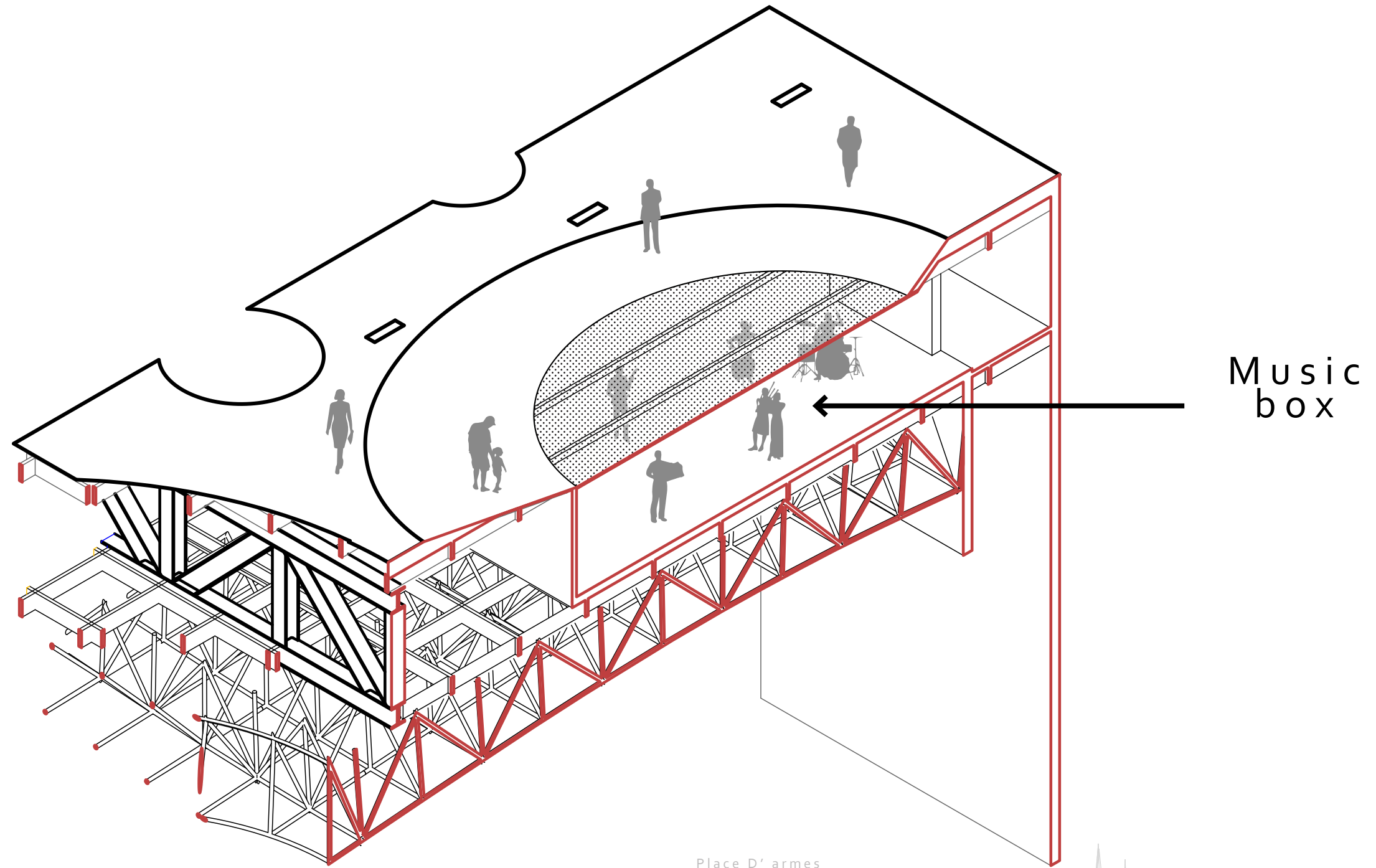


# PLACE D' ARMES



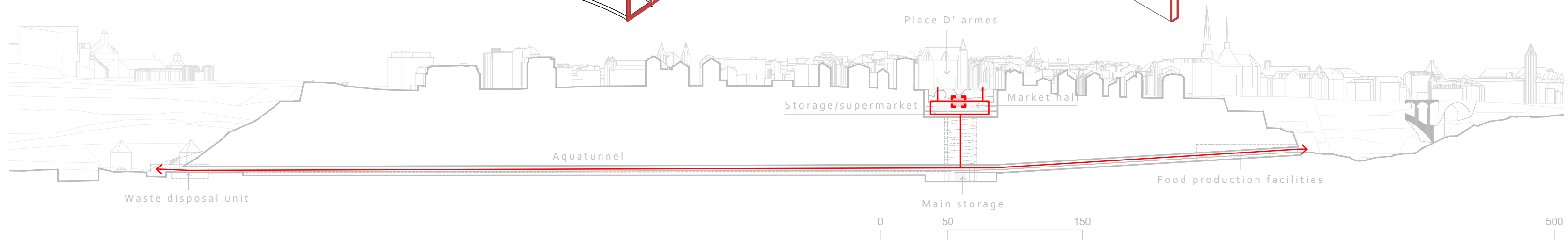
scale 1:1500





Music  
box

scale 1:1500



Waste disposal unit

Aquatunnel

Place D' armes

Storage/supermarket

Market hall

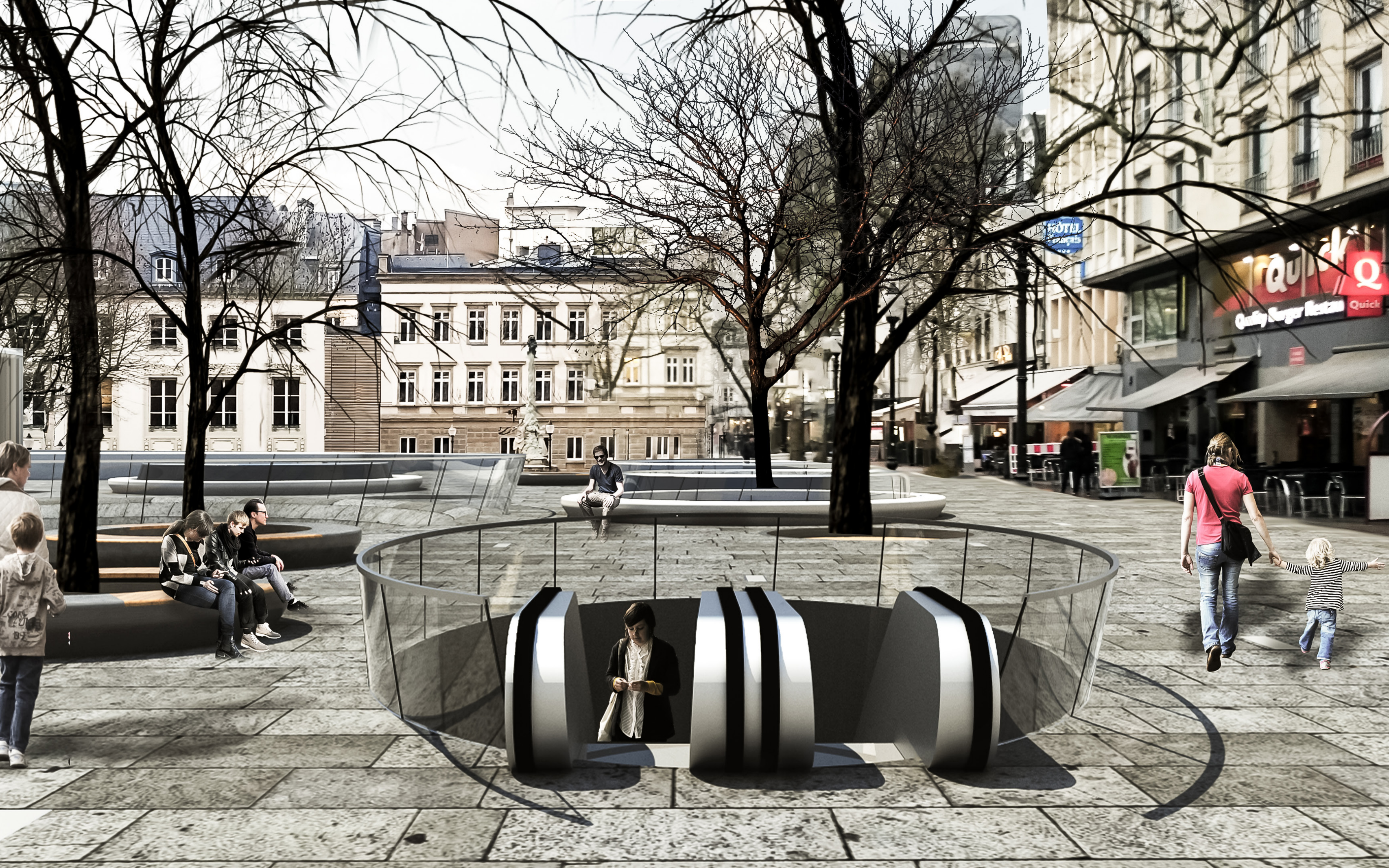
Main storage

Food production facilities



SITE SECTION PLAN  
scale 1:1500





Main ramp

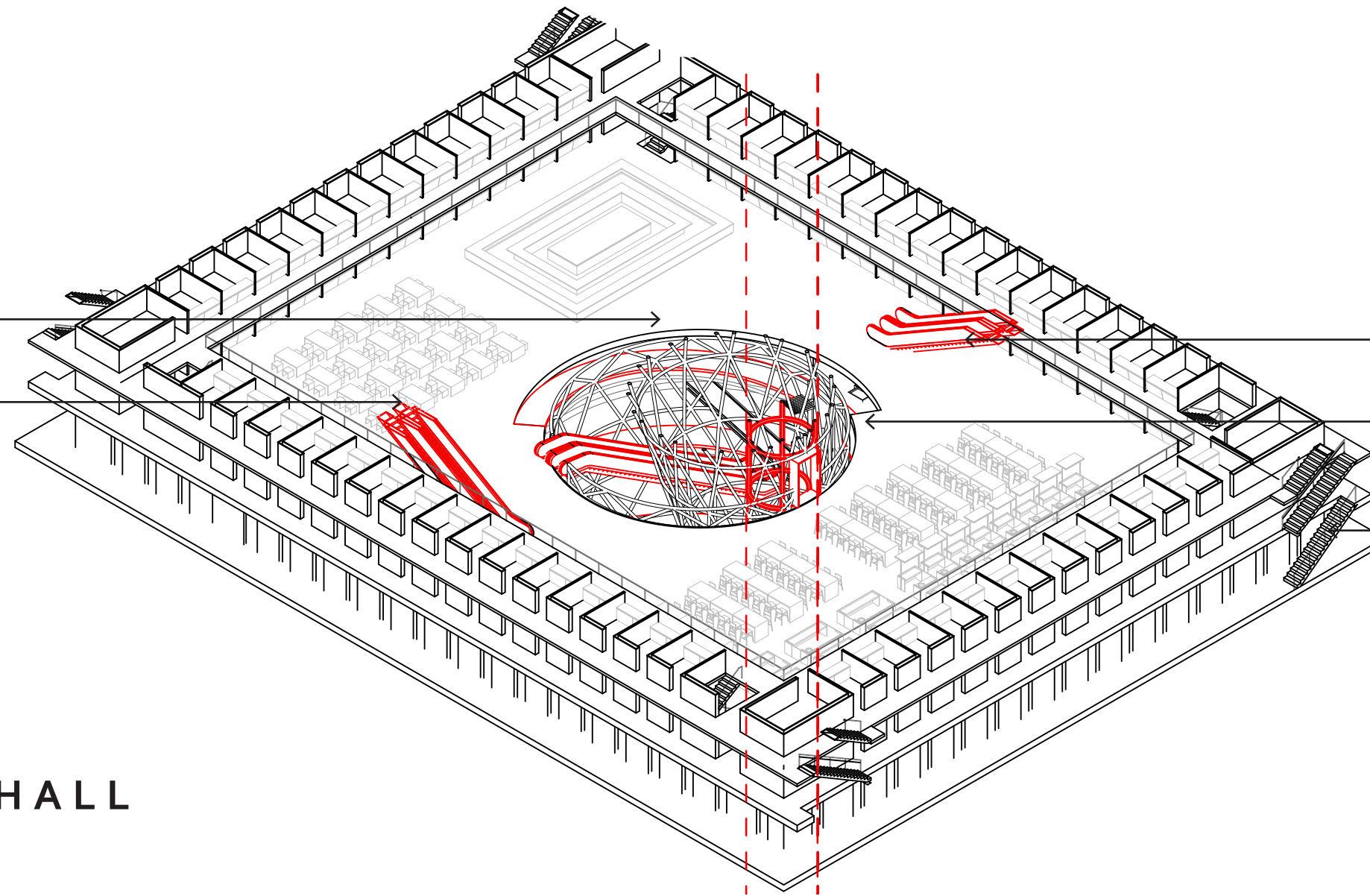
Entrance escalator 2

Entrance escalator 1

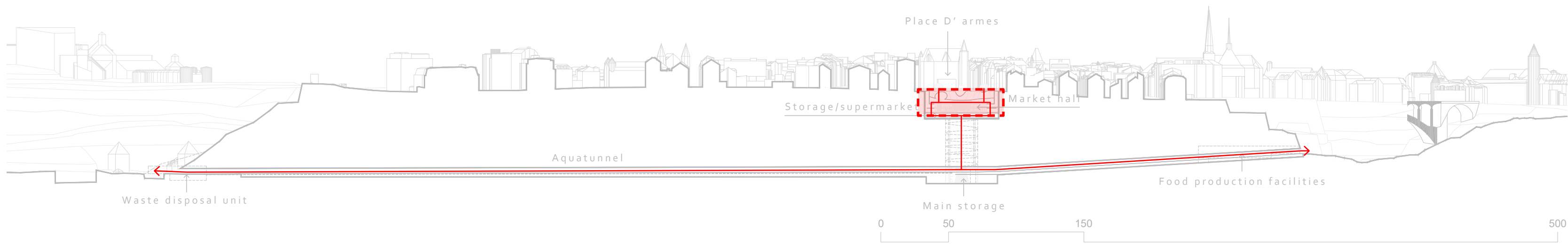
Urban elevator

Emergency exit

# MARKET HALL

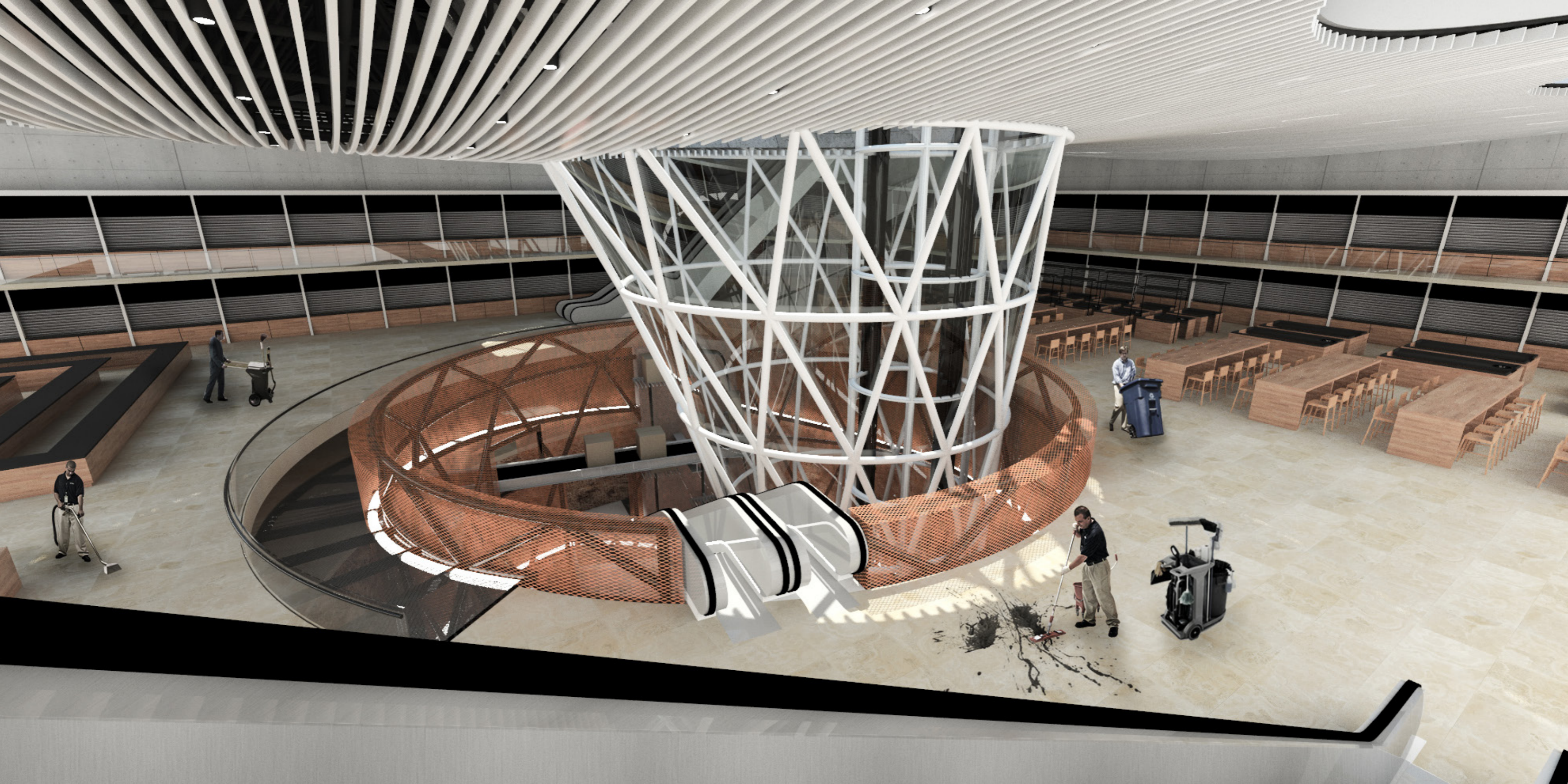


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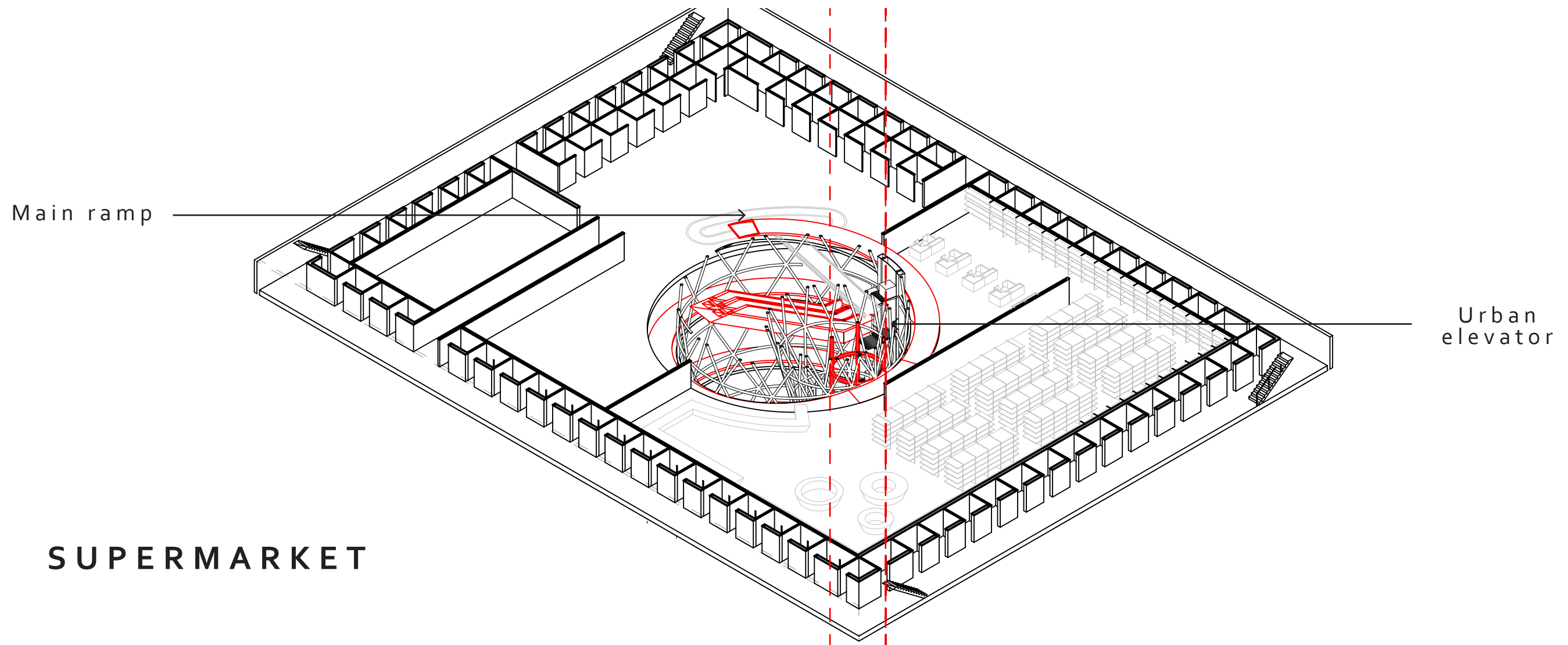


SITE SECTION PLAN  
scale 1:1500



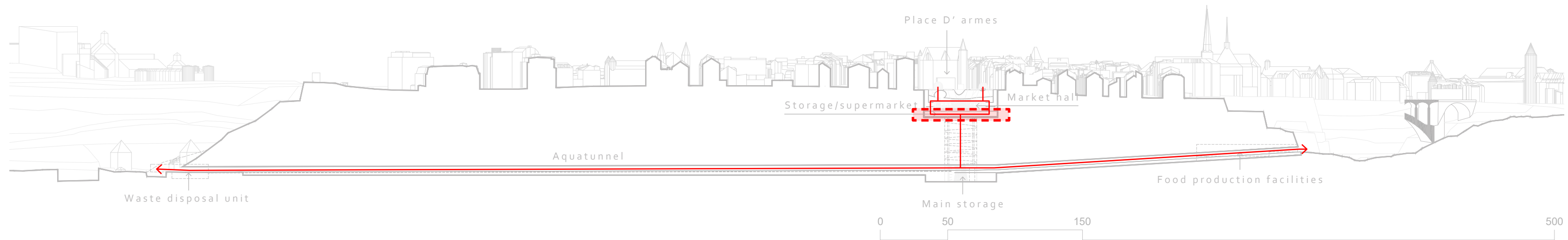






**SUPERMARKET**

scale 1:1500



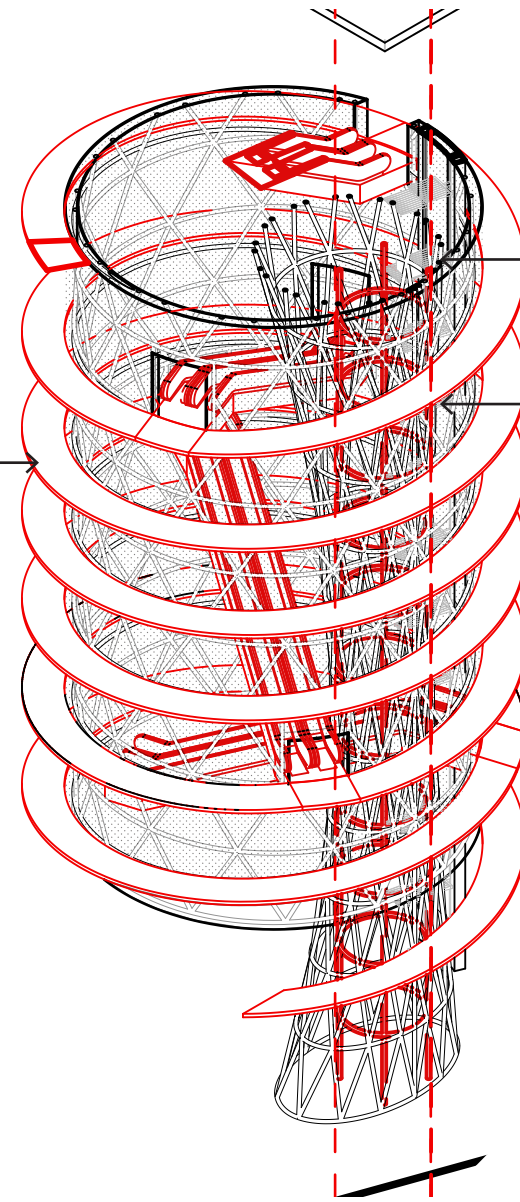
**SITE SECTION PLAN**  
scale 1:1500

Main ramp

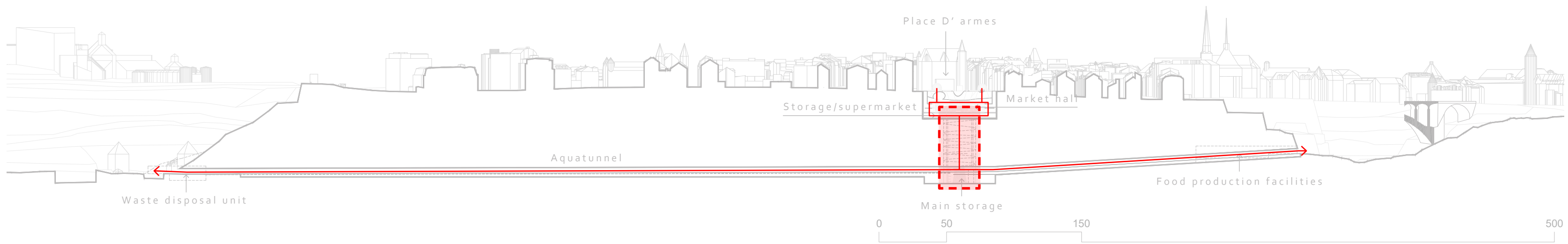
Urban  
elevator

Perforated  
panel

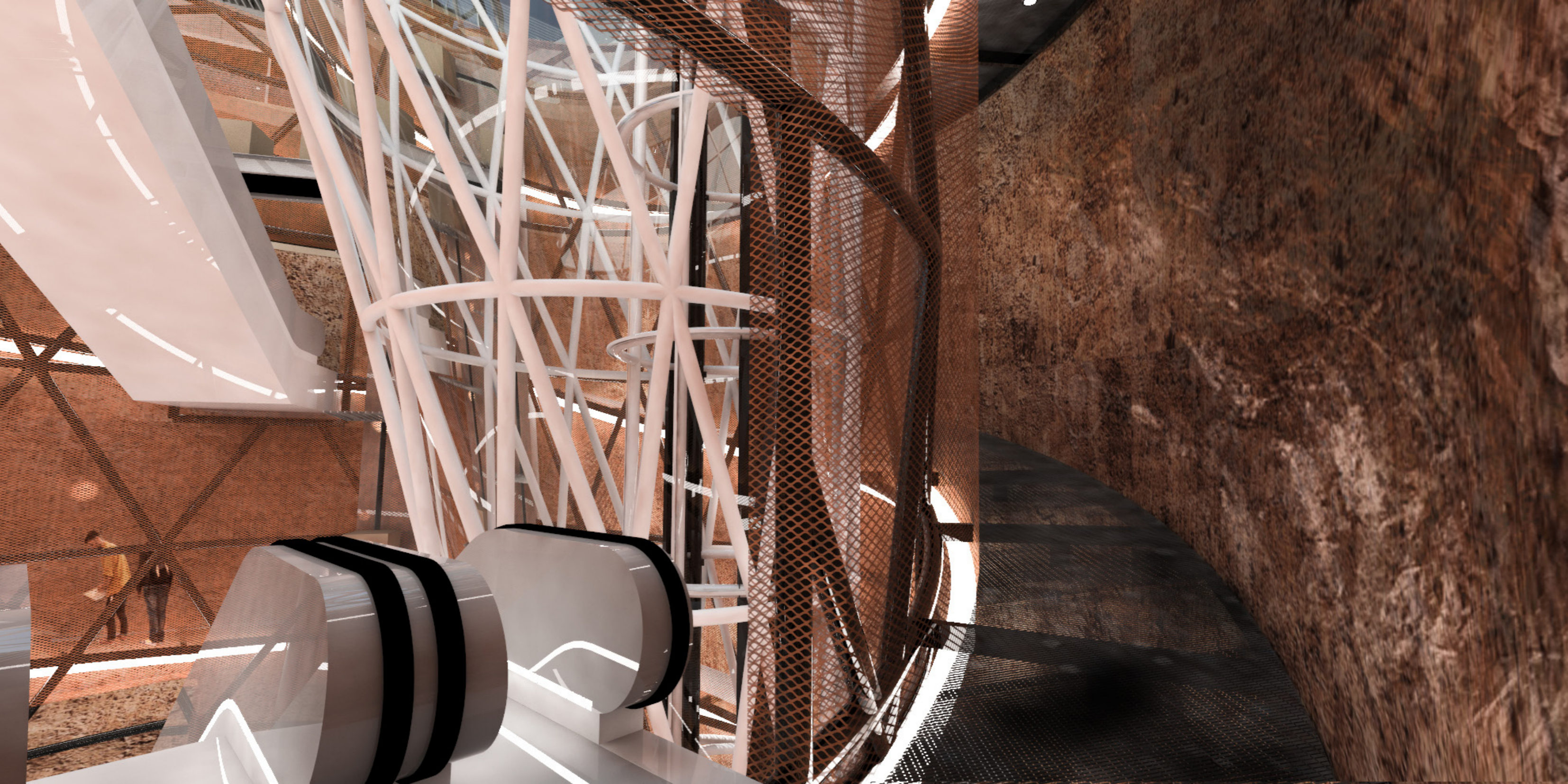
# VERTICAL CONNECTION

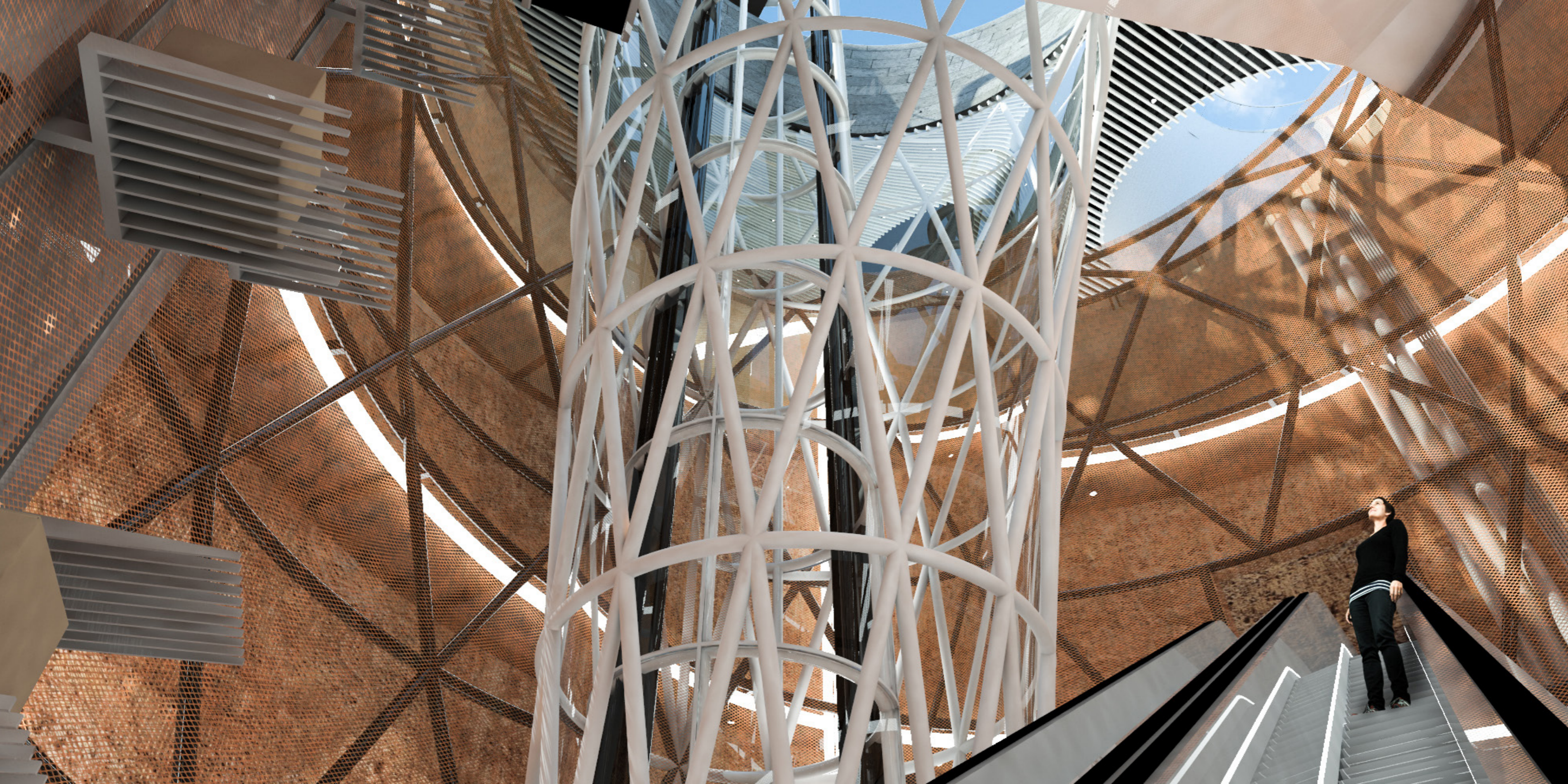


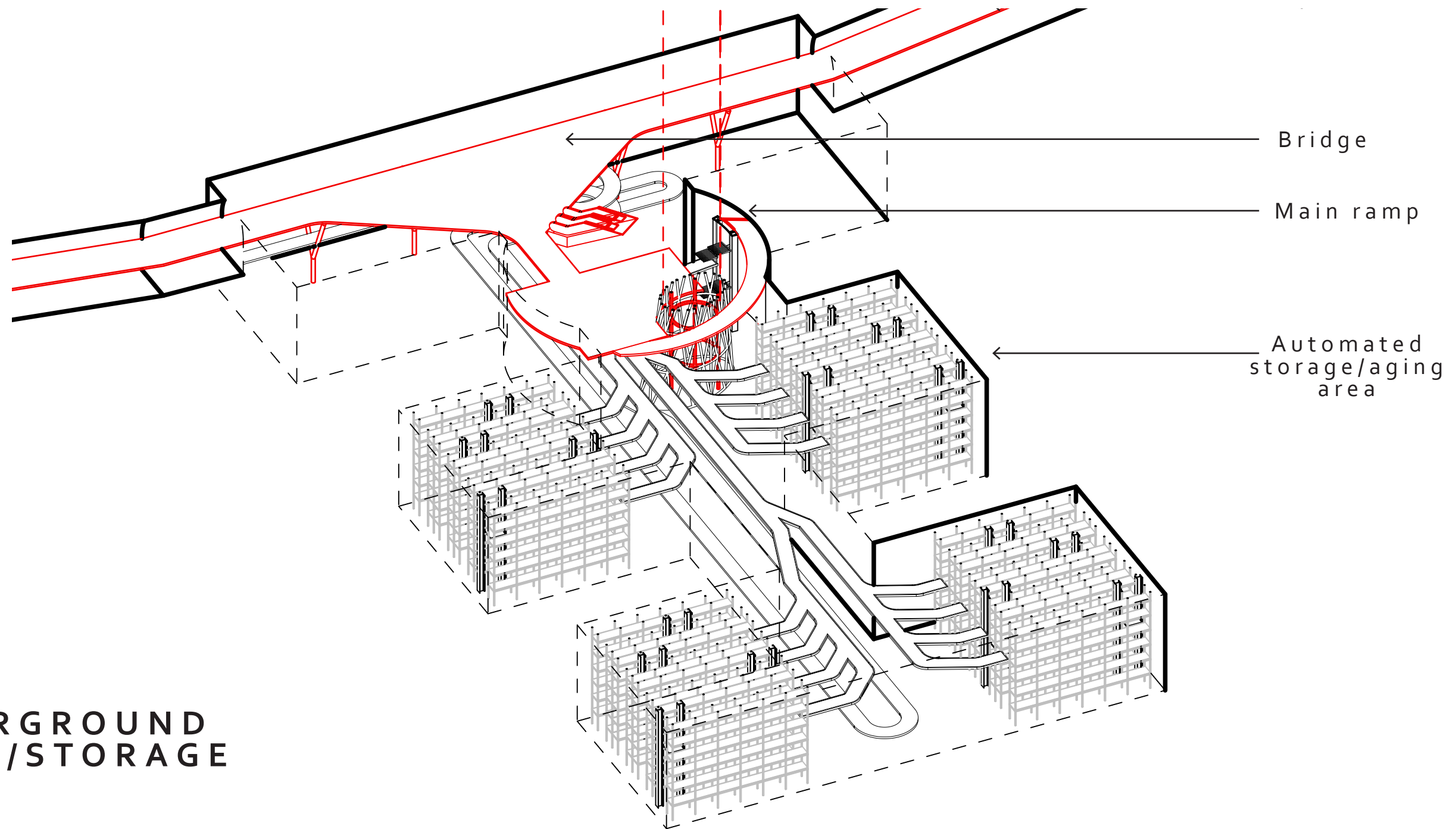
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SITE SECTION PLAN  
scale 1:1500

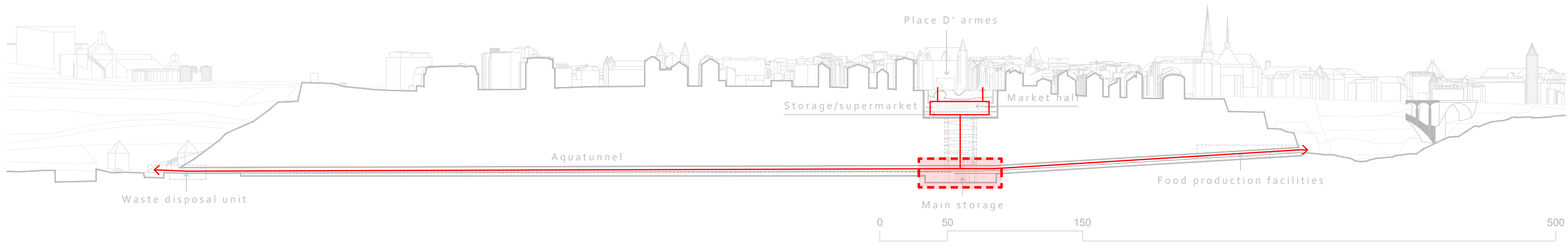






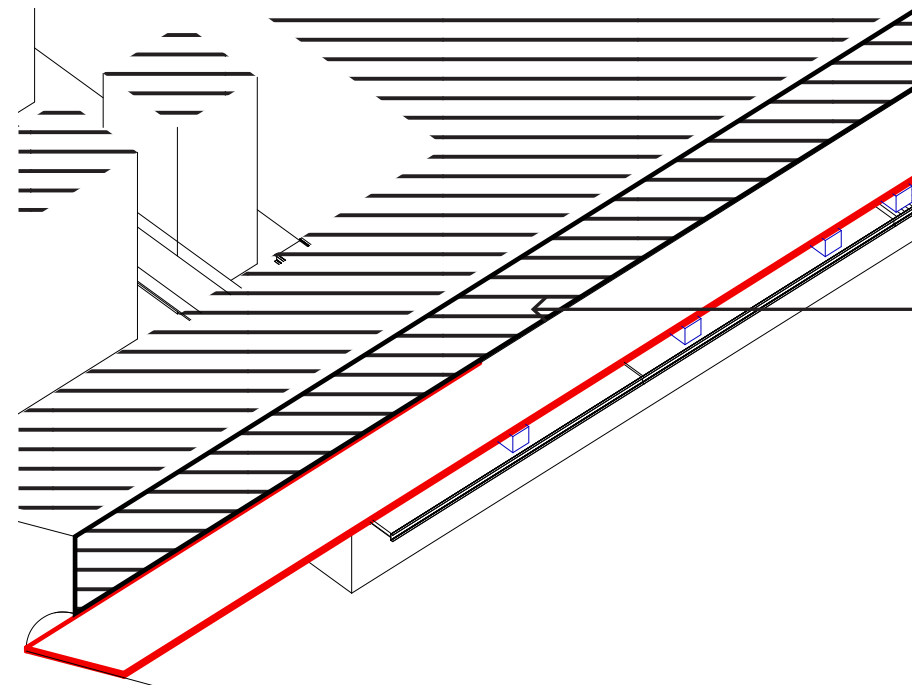
# UNDERGROUND AGING/STORAGE

scale 1:1500



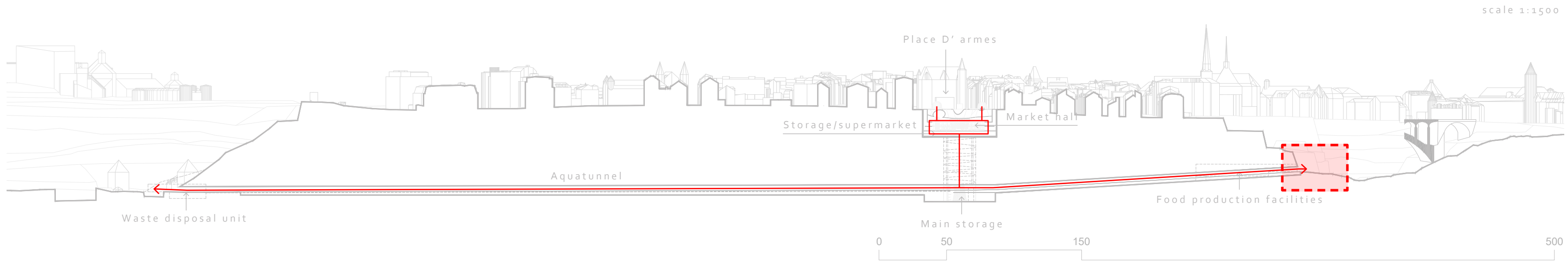






Cycling and pedestrian route

# AQUATUNNEL PETRUSSE VALLEY.

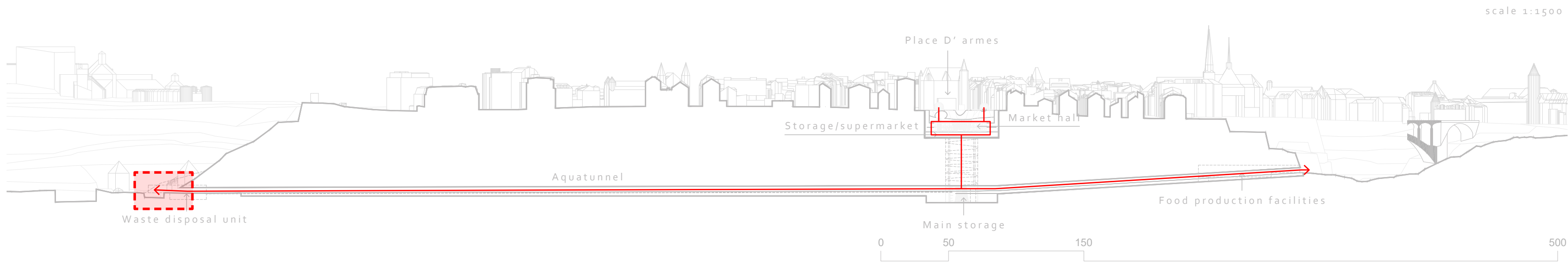
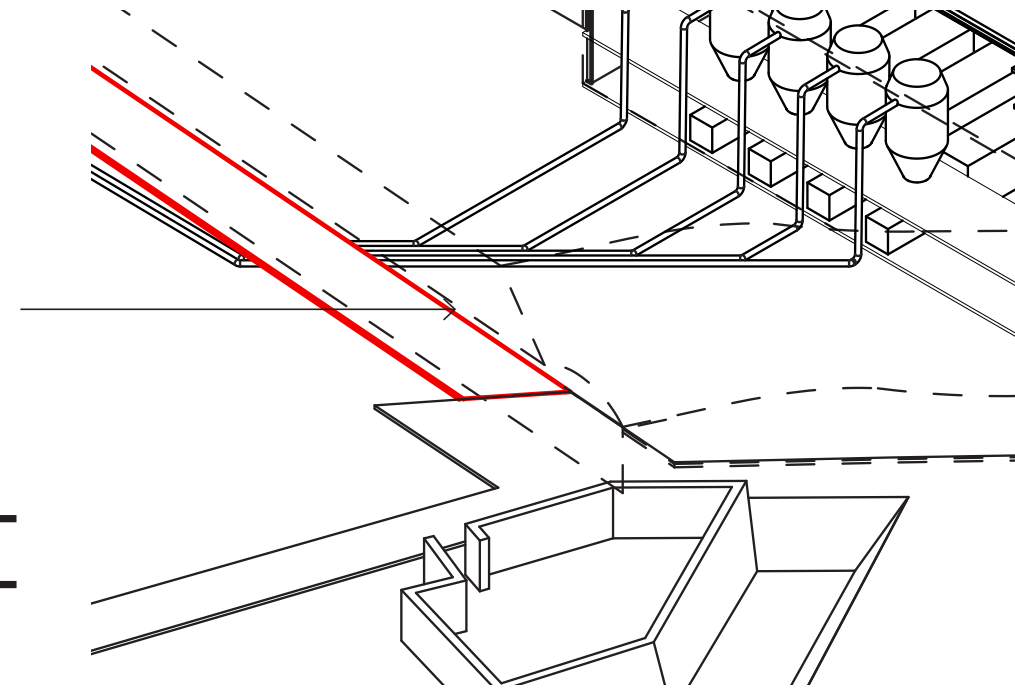


SITE SECTION PLAN  
scale 1:1500



# AQUATUNNEL PFAFFENTAL

Cycling and  
pedestrian route



scale 1:1500

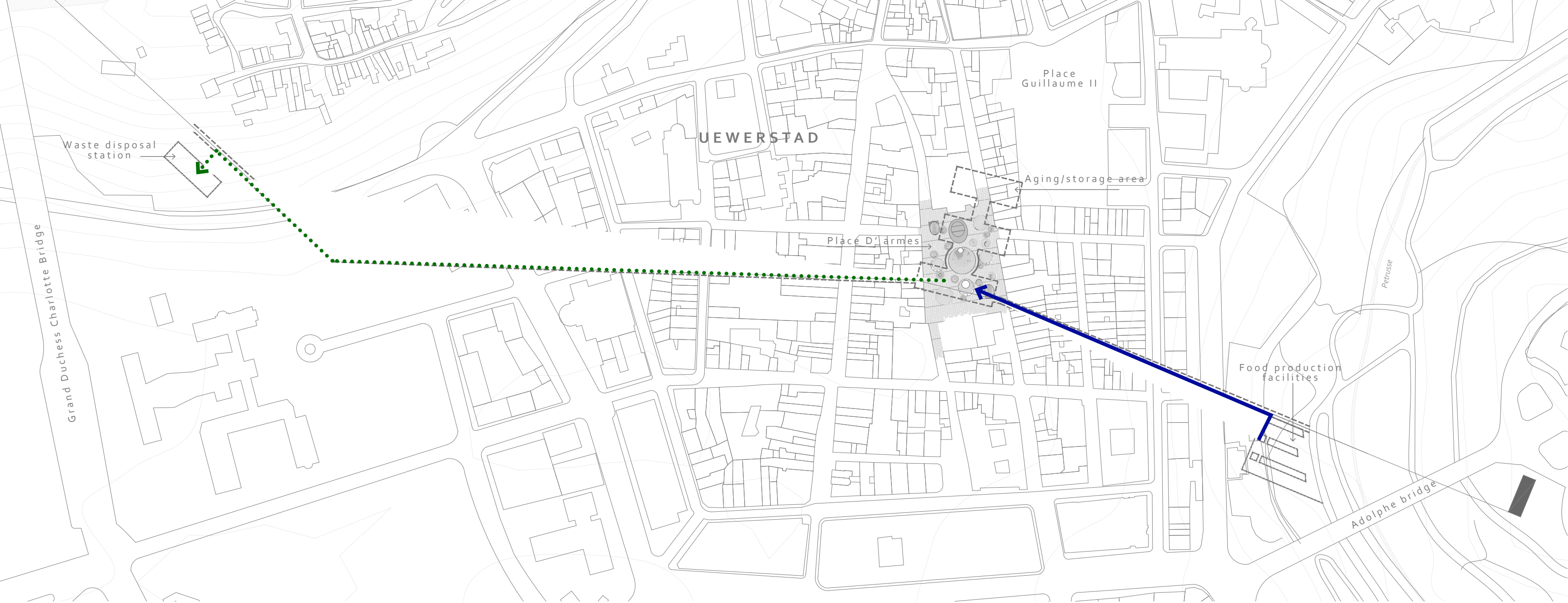
SITE SECTION PLAN  
scale 1:1500



centre-ville

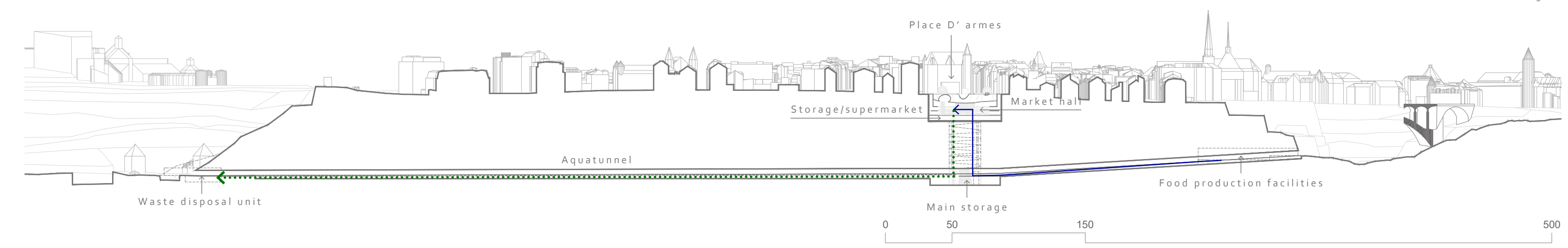


# THE FOOD PRODUCTION CHAIN



**SITE PLAN**

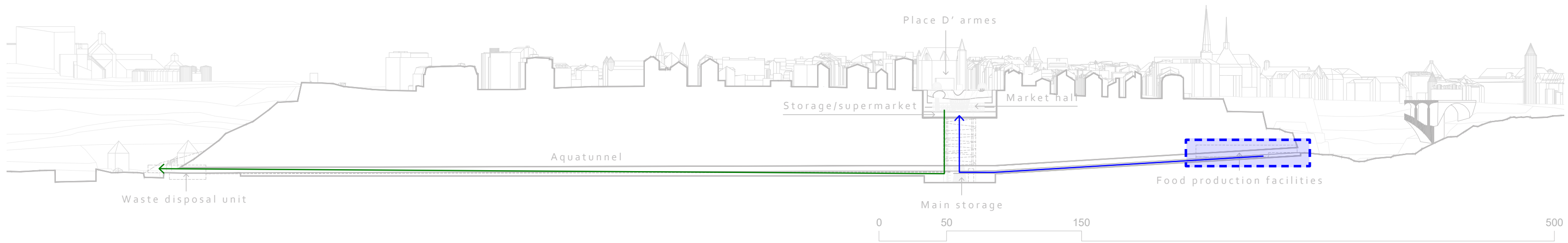
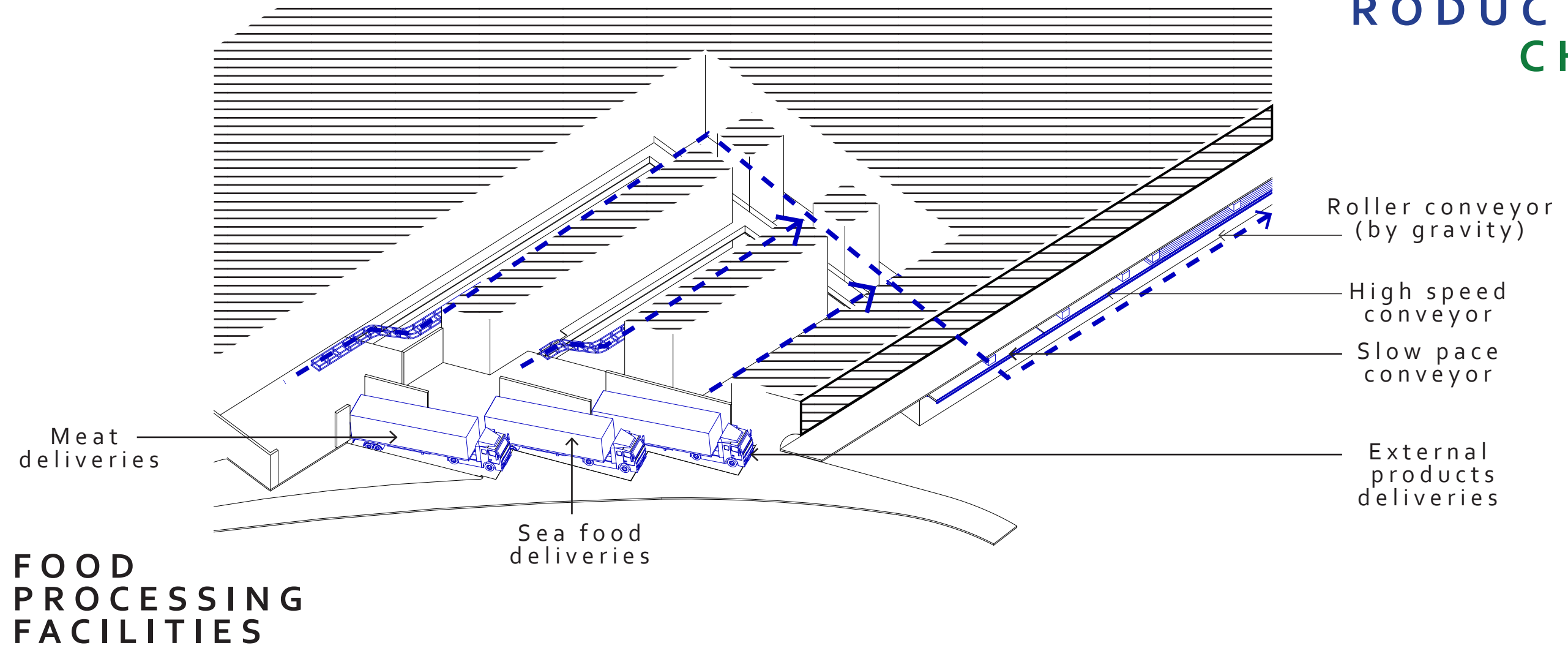
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**SITE SECTION PLAN**

scale 1:1500

# FOOD PRODUCTION CHAIN



**SITE SECTION PLAN**  
scale 1:1500

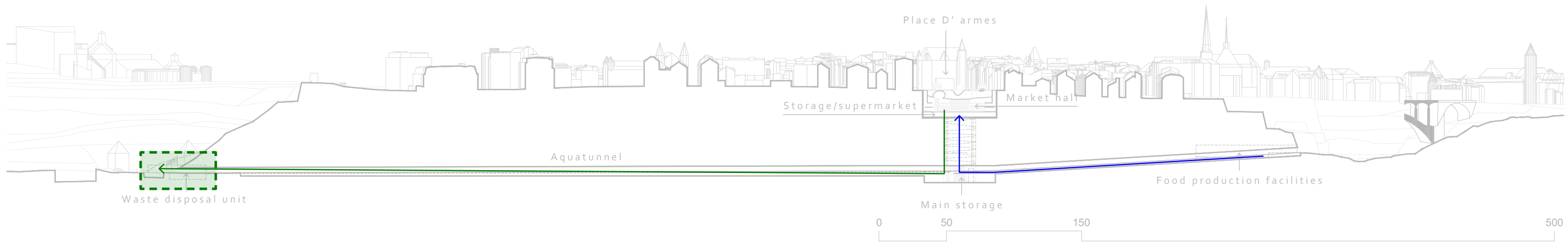
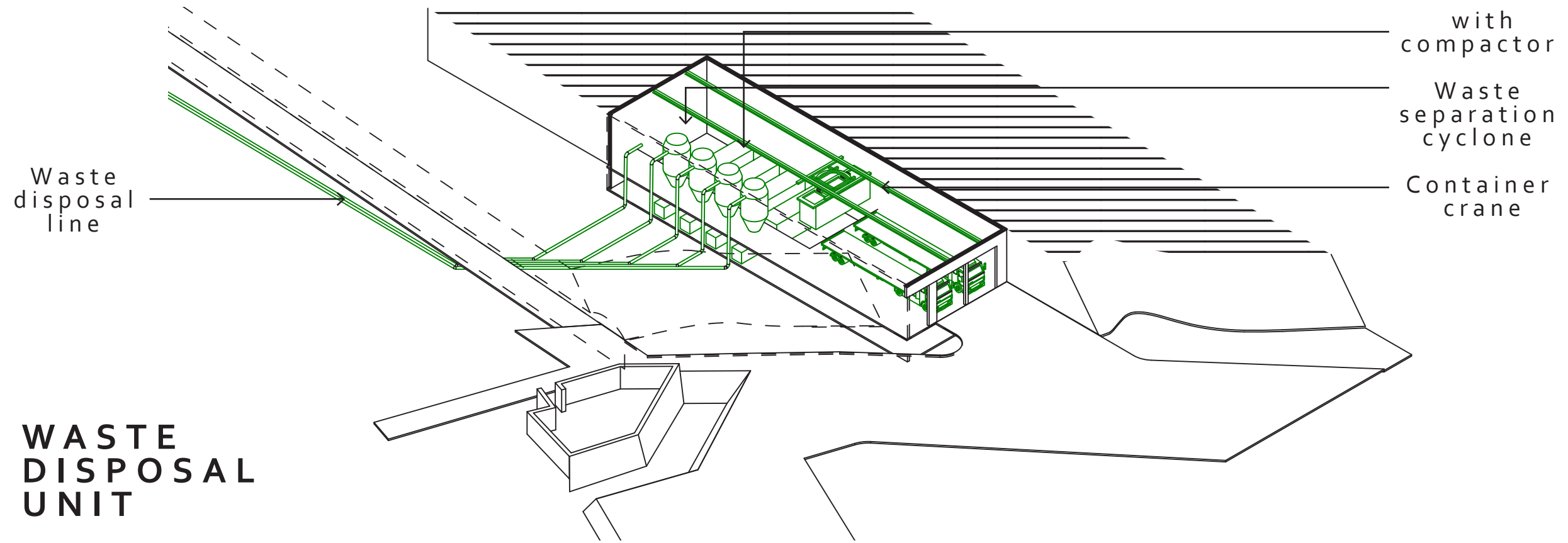
Asph

centre-ville  
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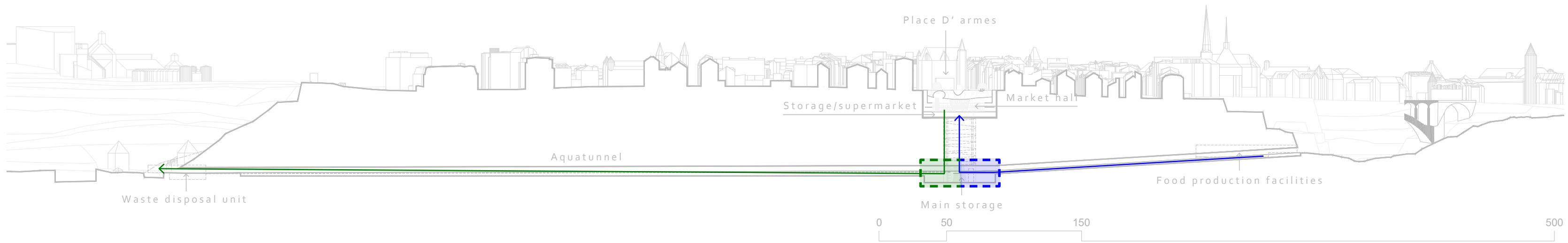
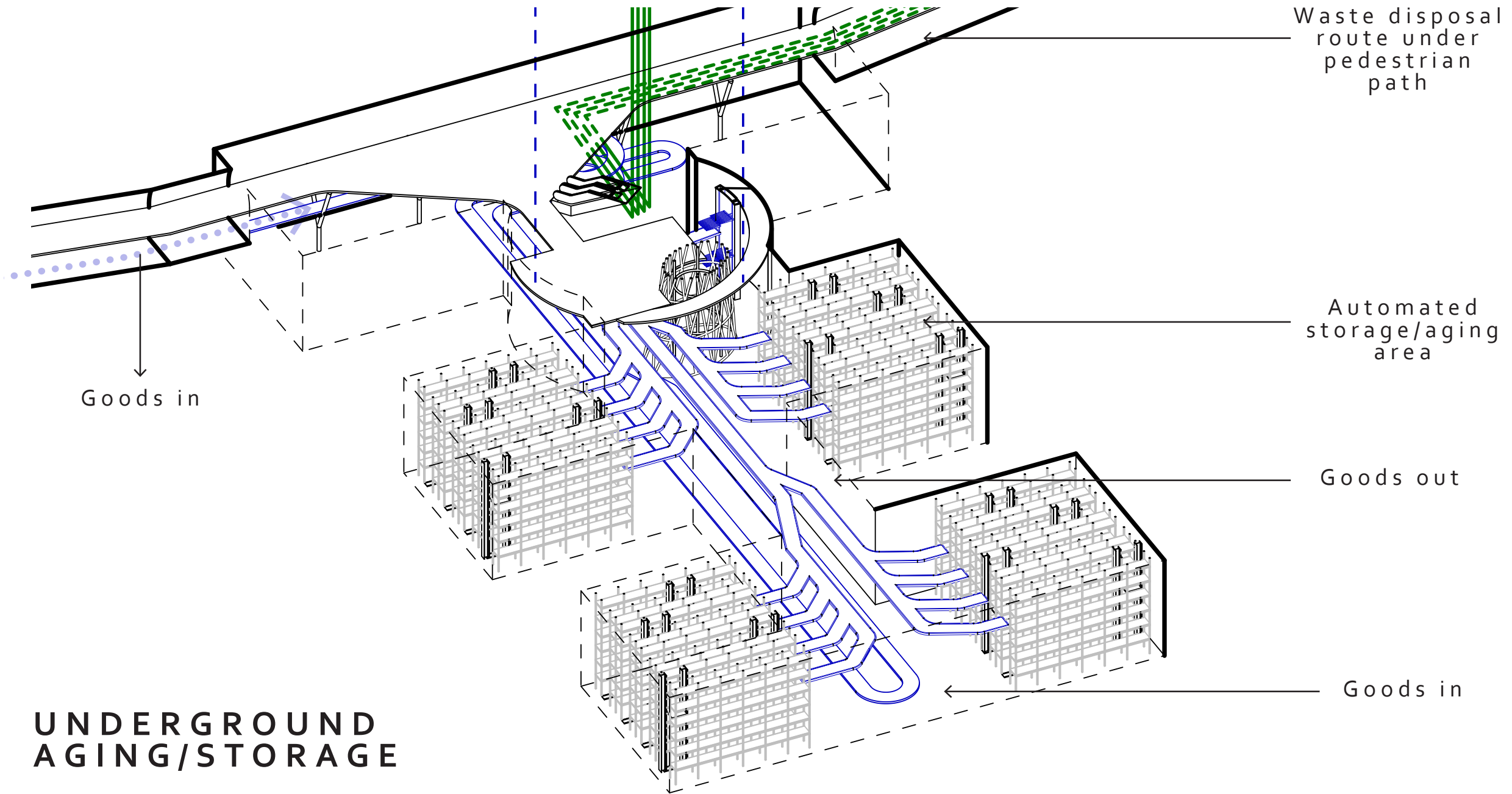




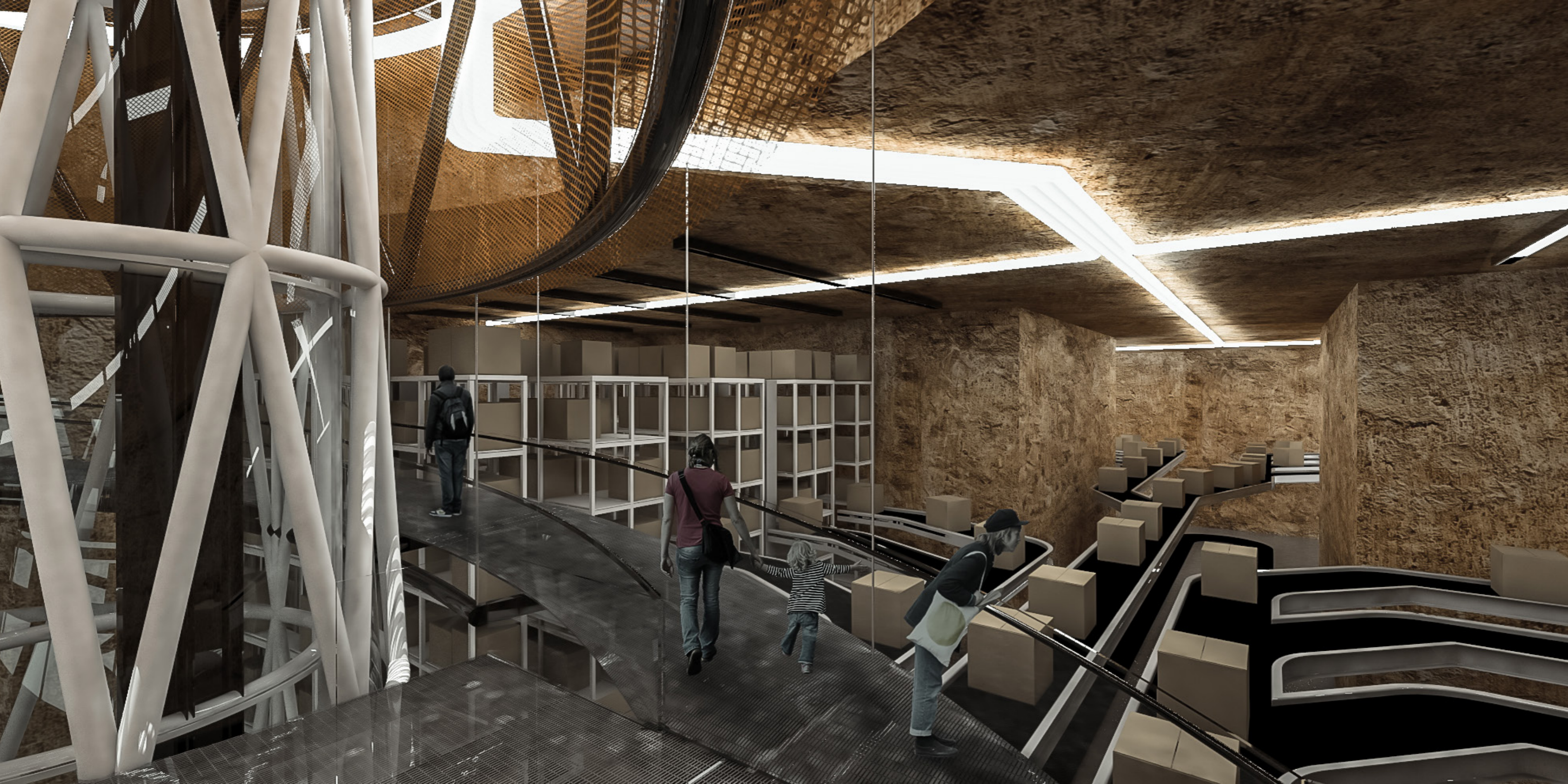
**SITE SECTION PLAN**  
scale 1:1500



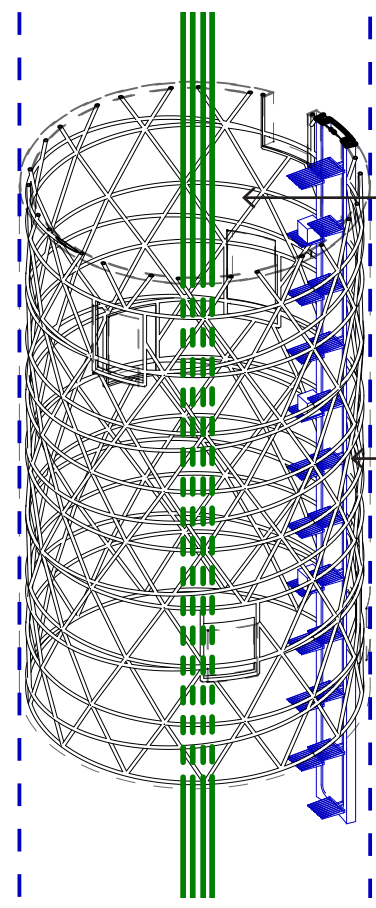
© 2014 Green's



**SITE SECTION PLAN**  
scale 1:1500

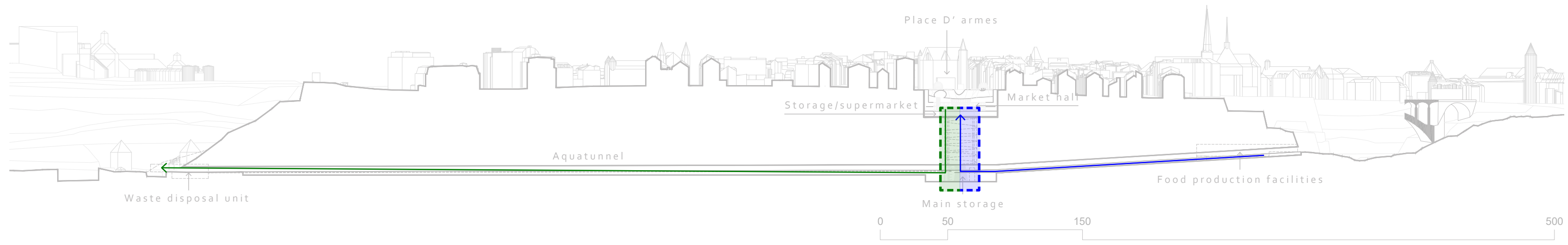


# VERTICAL ROUTE

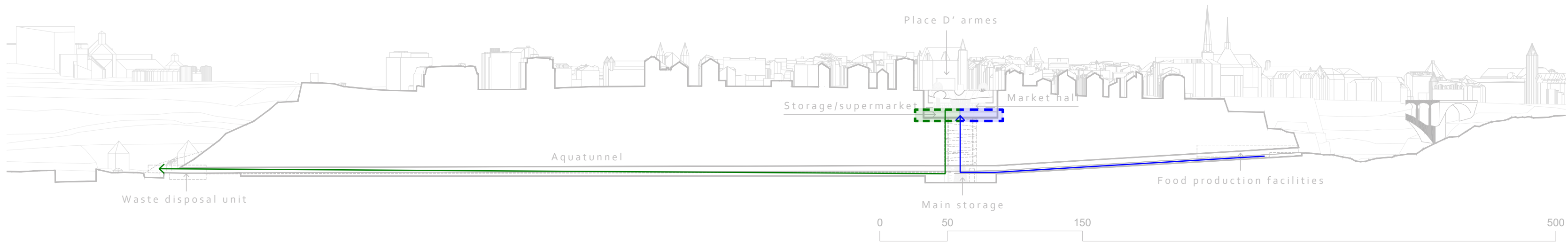
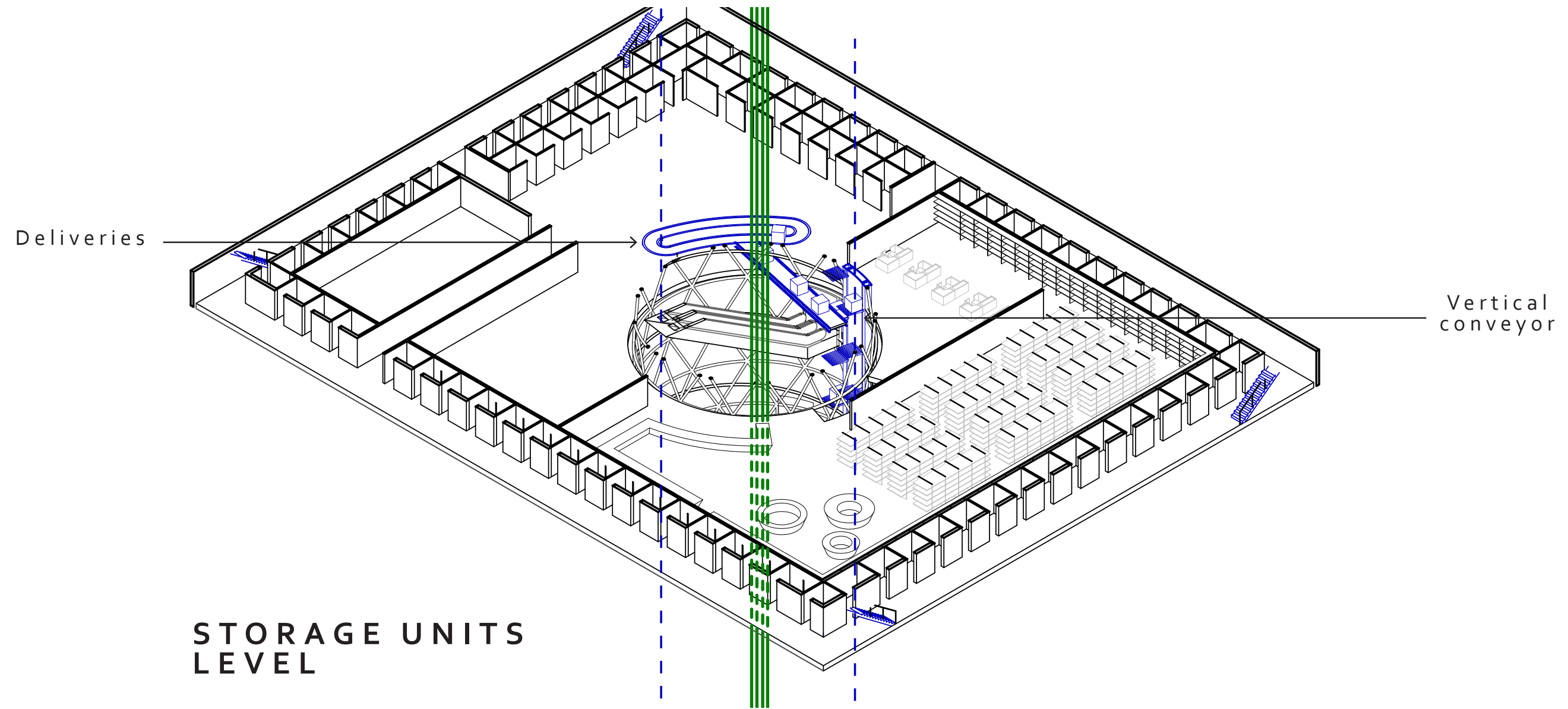


Waste disposal route through a vacuum system within the cavity of the perforated wall

Vertical conveyor







**SITE SECTION PLAN**  
scale 1:1500

