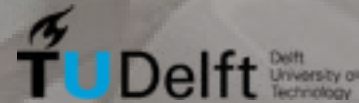




# REUSE OF INDUSTRIAL HERITAGE

Kirsten van Zeijl  
Heritage & Architecture  
Presentation 5





Context

History / Future

Function

Design

Construction

Climate design

Summary







# LOCATION

## MAASTRICHT



Maastricht



City center



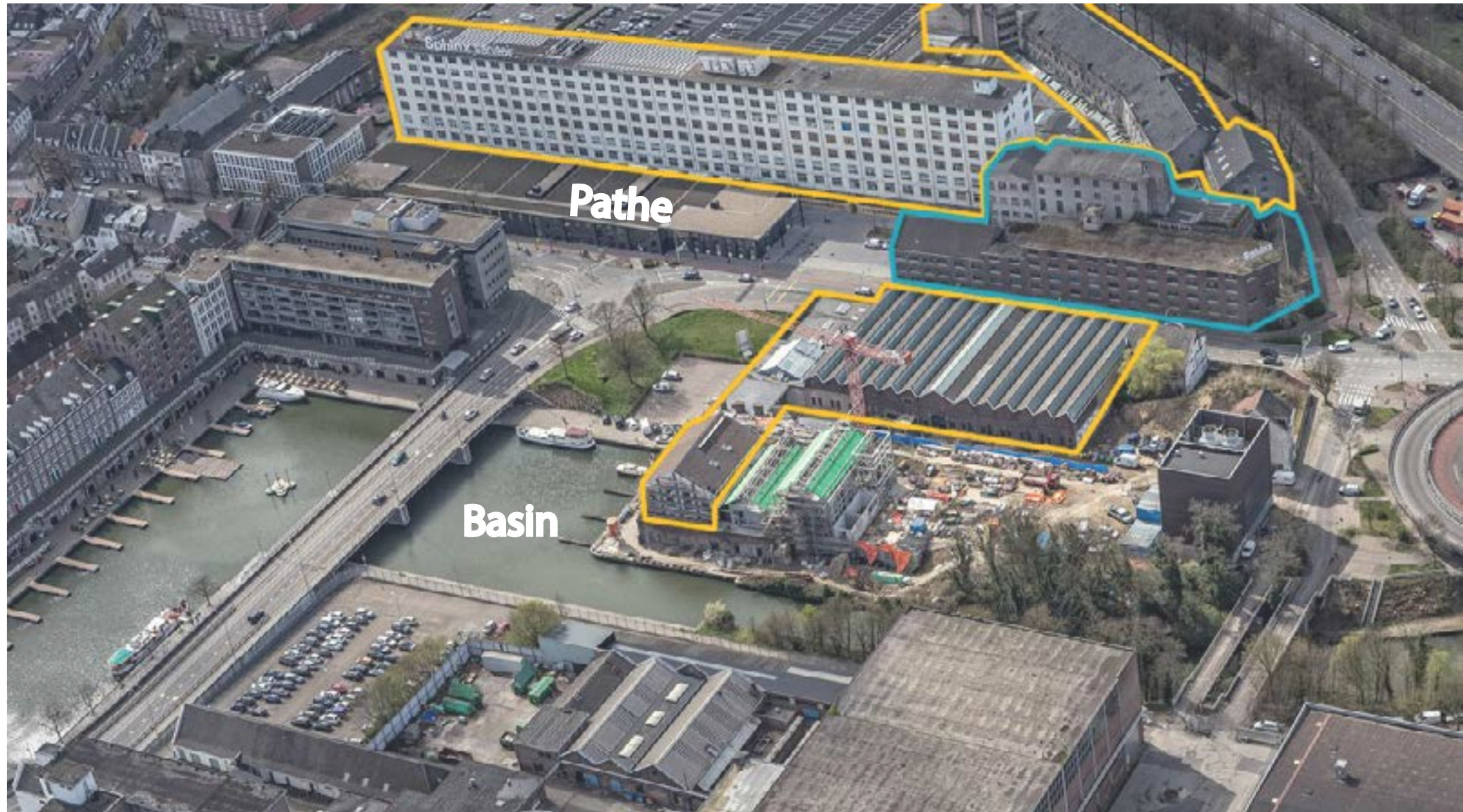
# LOCATION

## SPHINX FACTORY



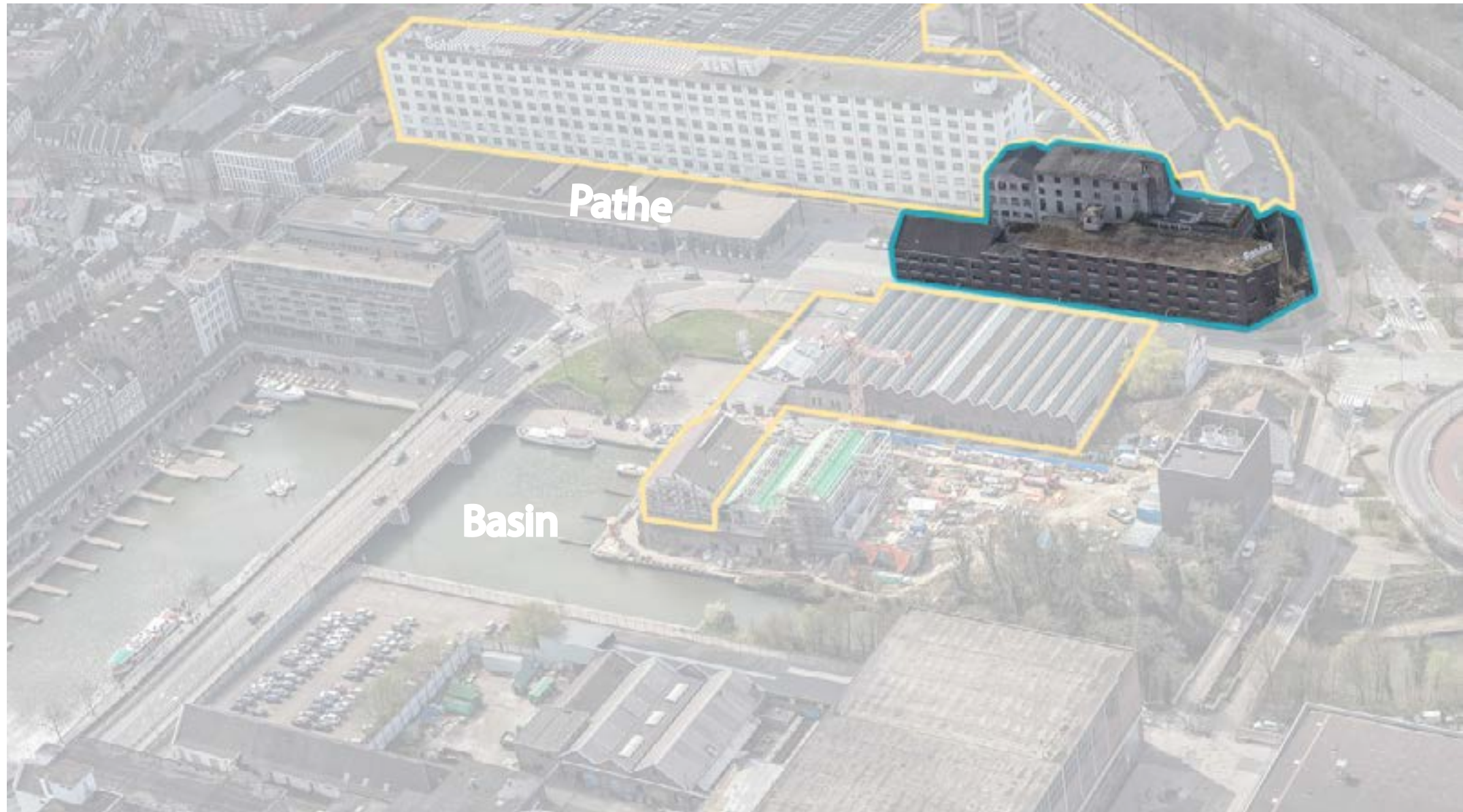


# SPHINXKWARTIER TODAY



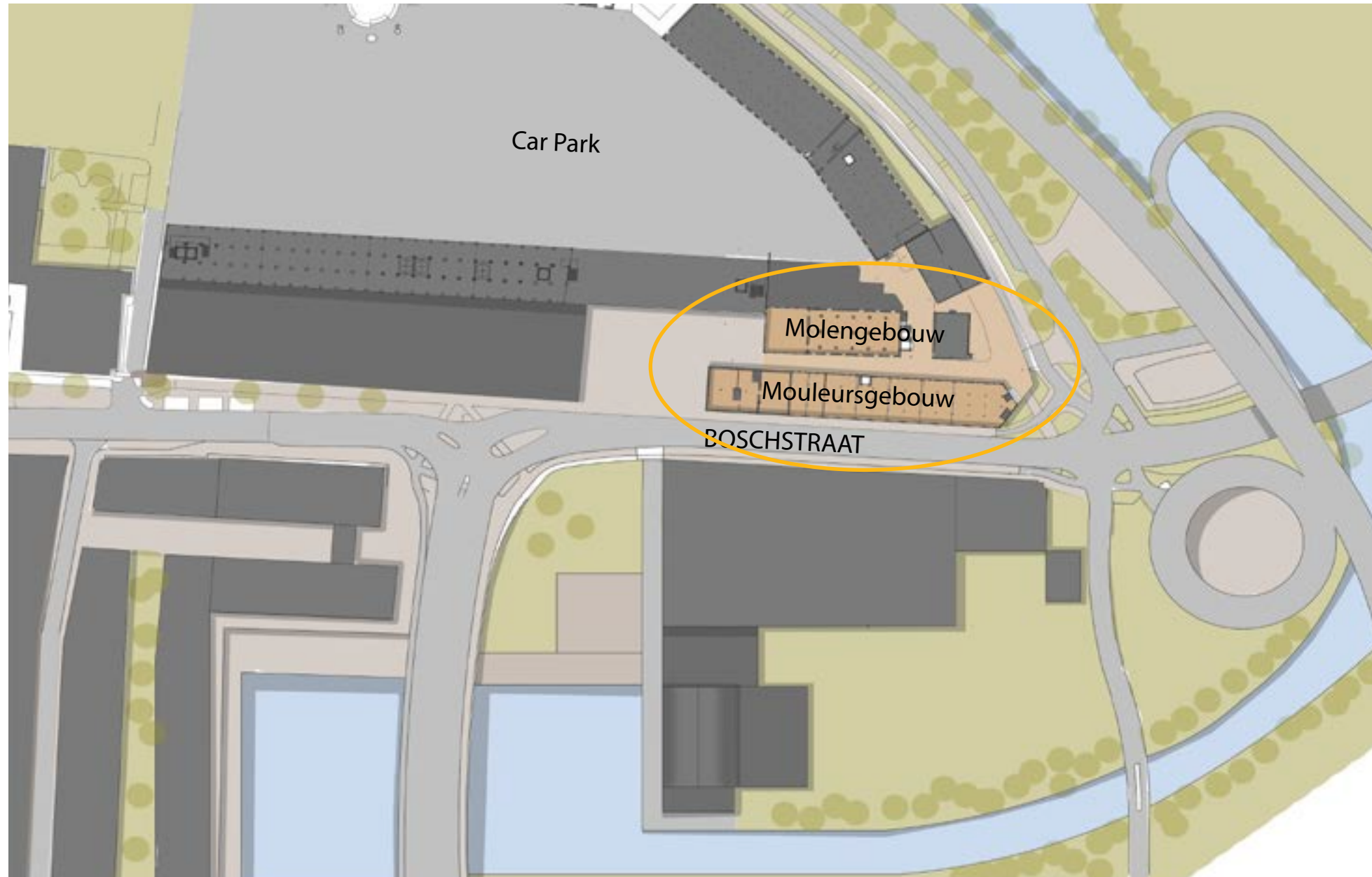


# SPHINXKWARTIER TODAY

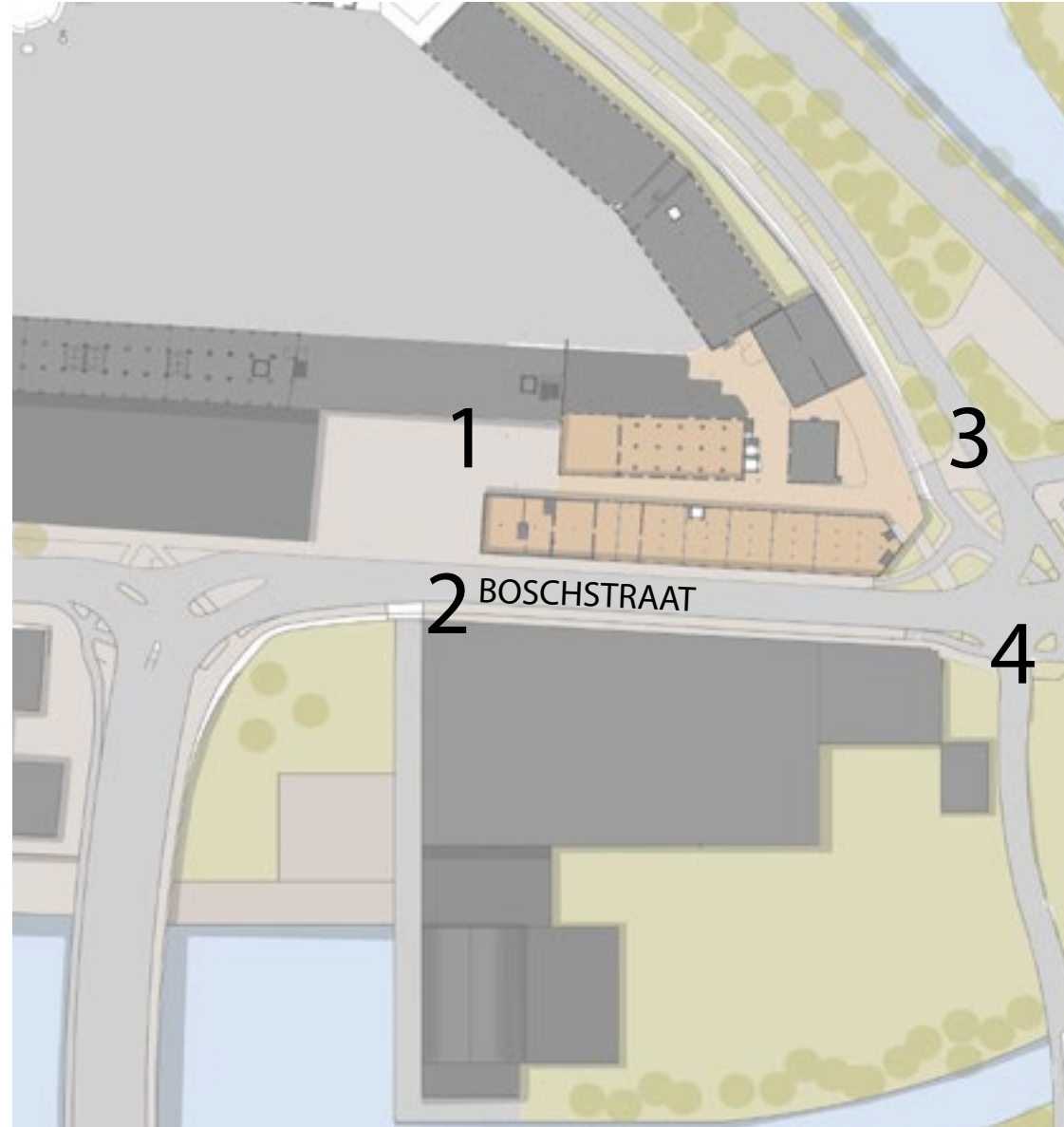




# CONTEXT



# CONTEXT



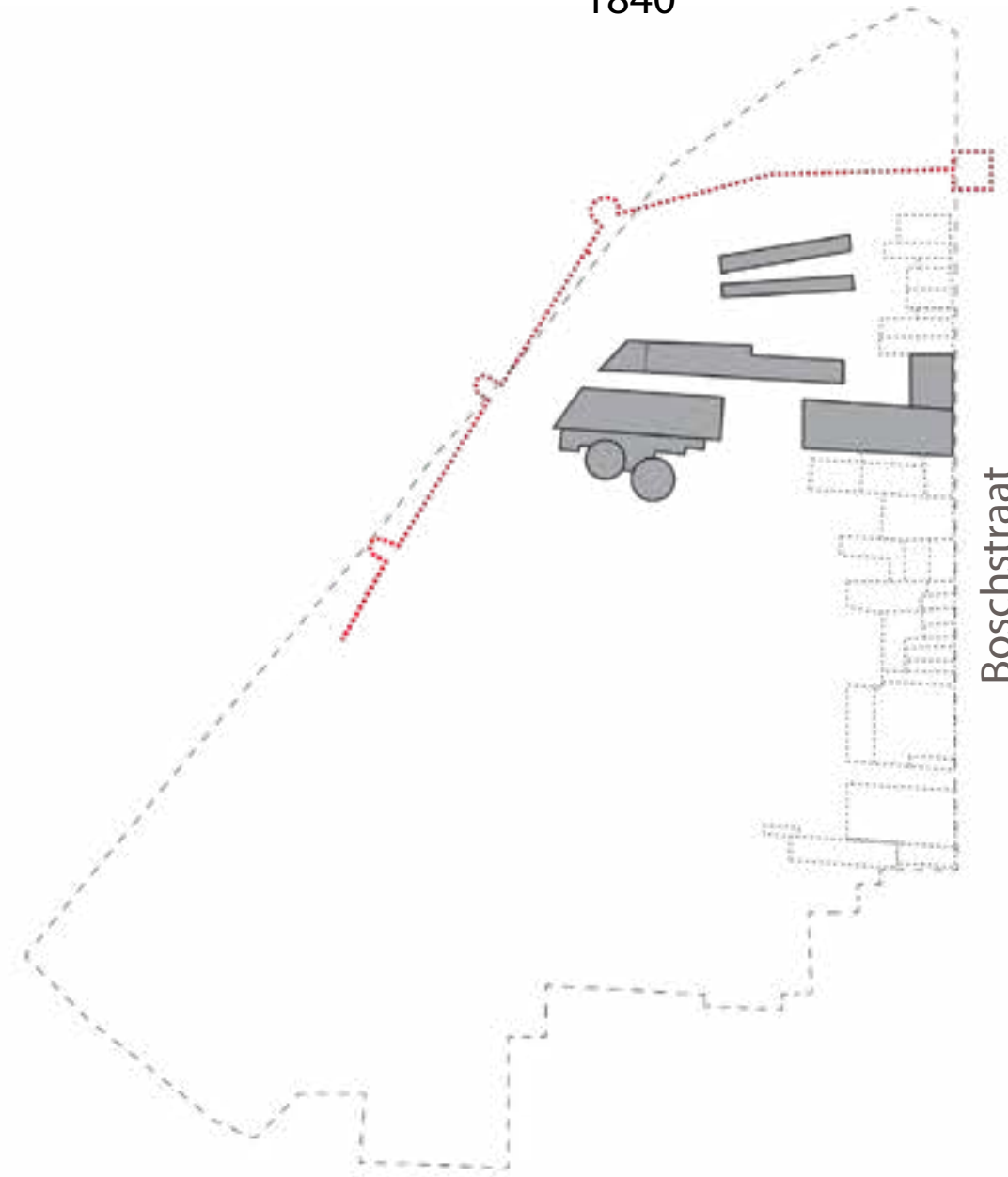


# HISTORY



# SPHINX SITE

1840



- Former city wall
- Factory buildings

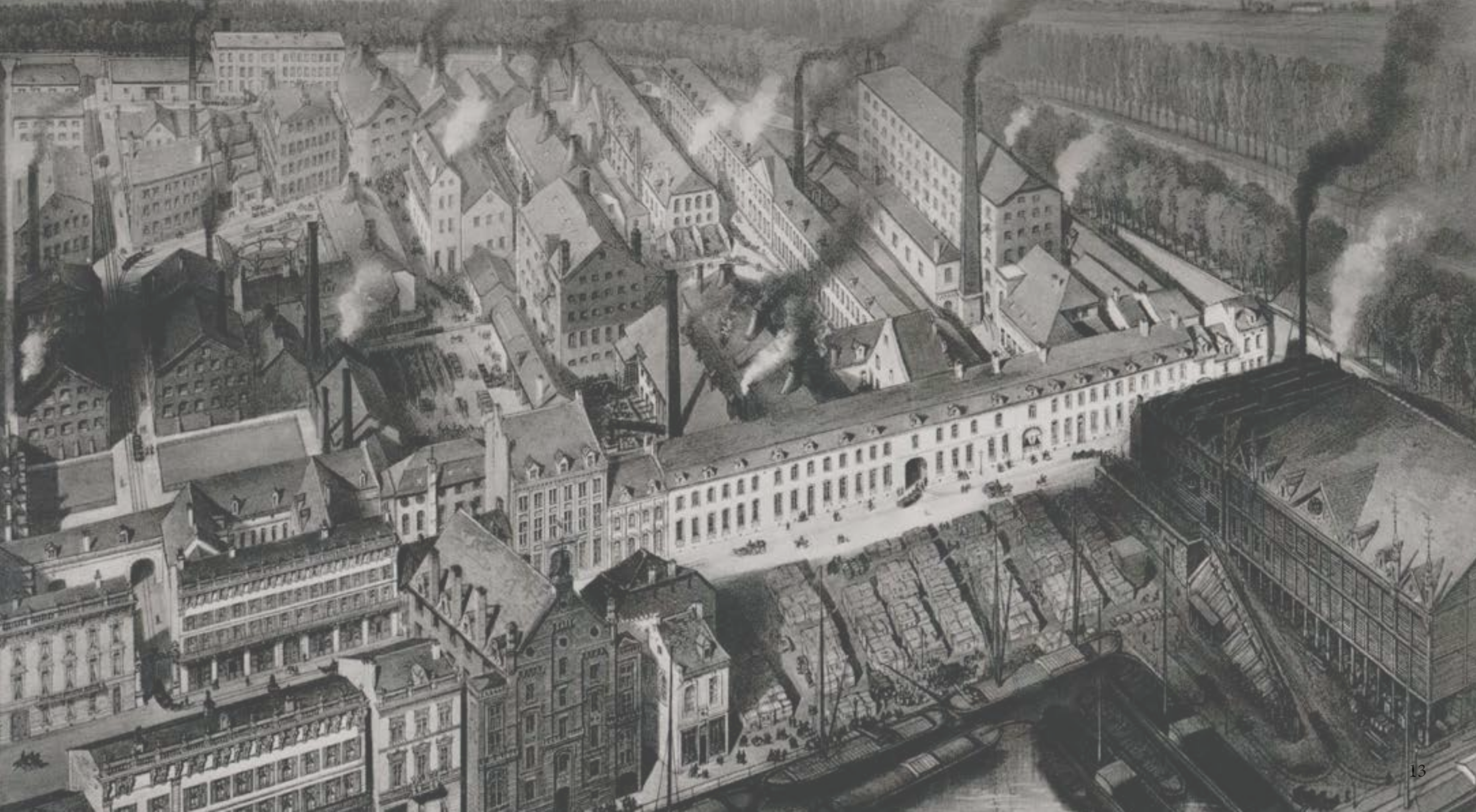
# SPHINX SITE

1870



- Former city wall
- Factory buildings

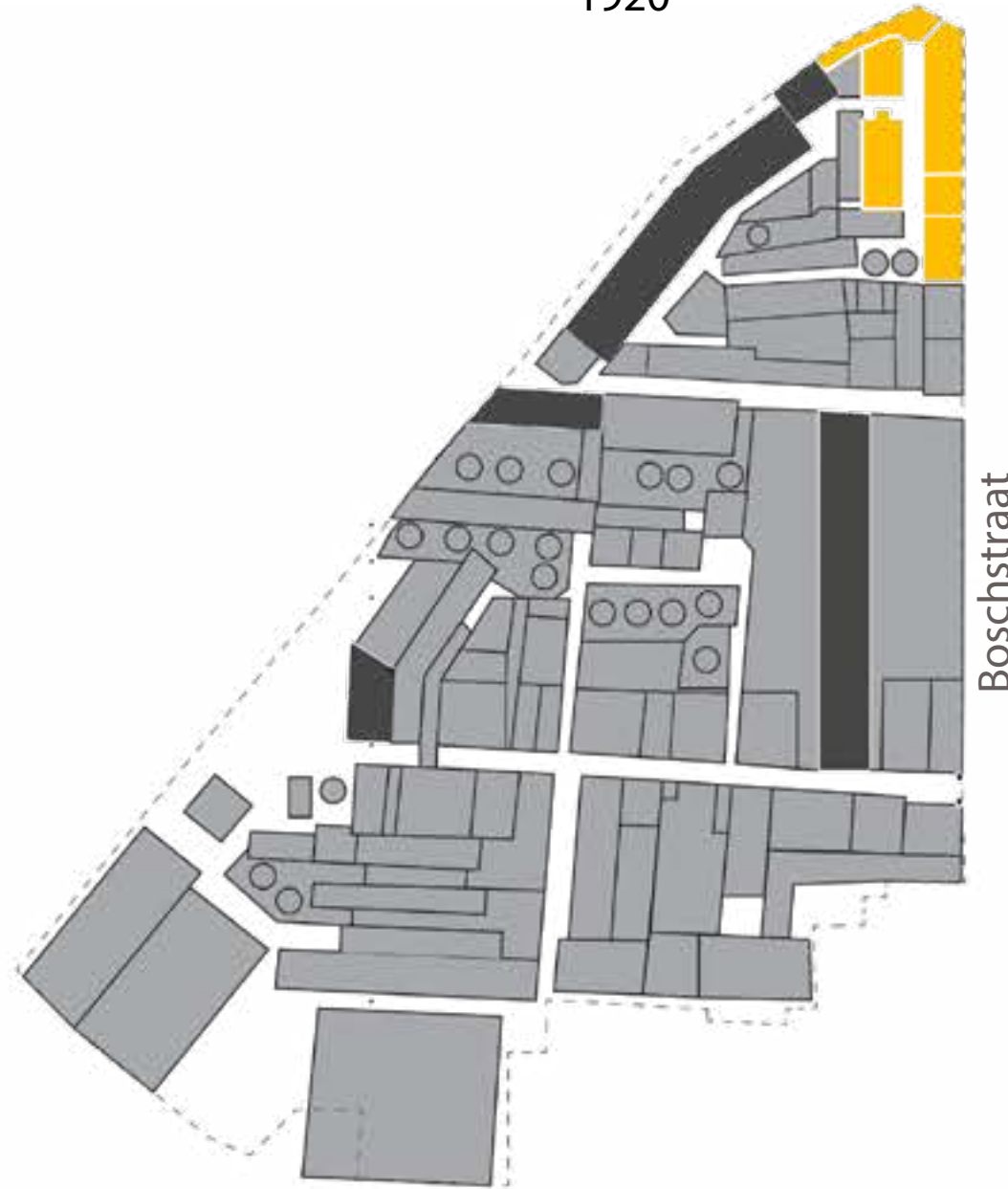






# SPHINX SITE

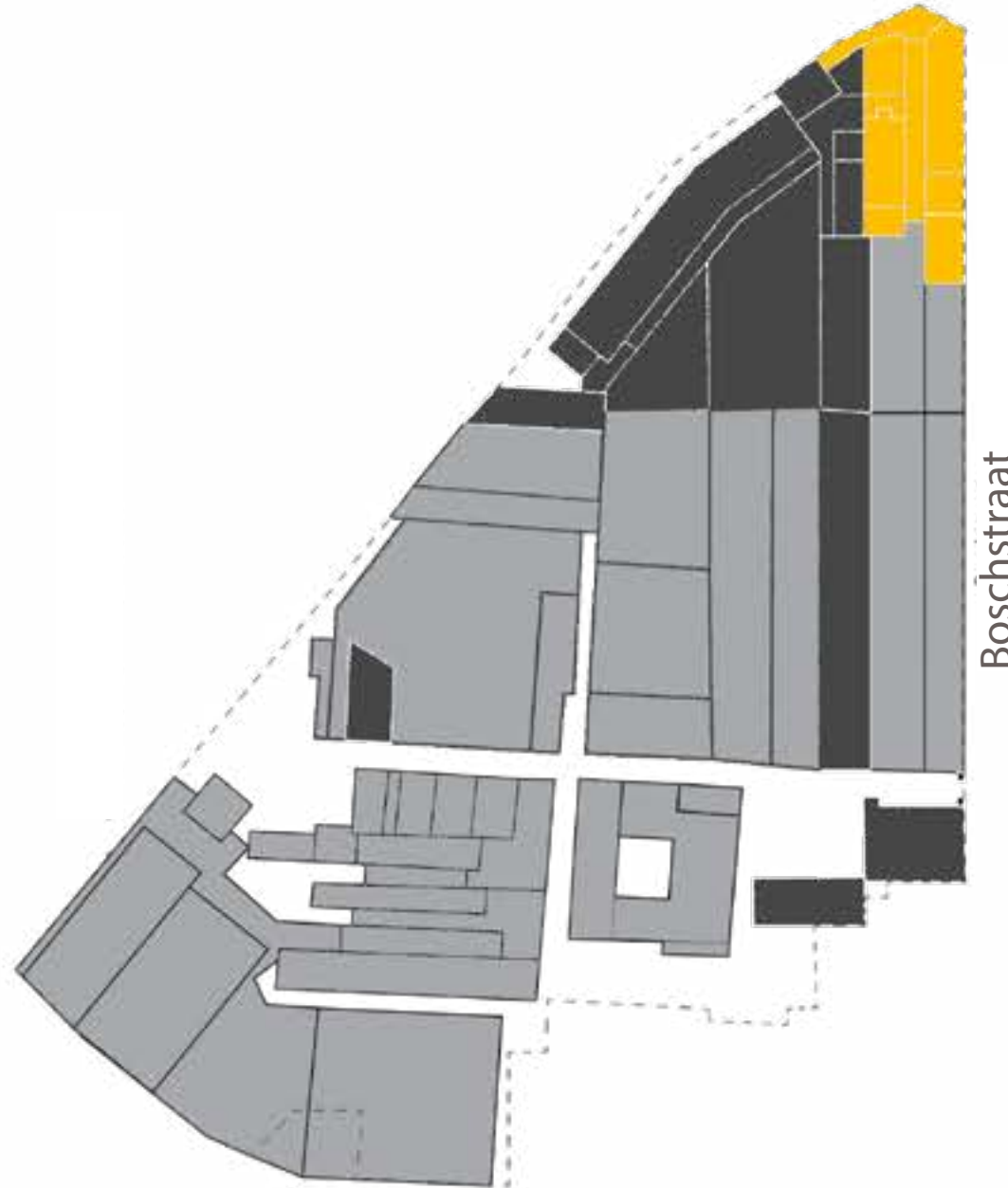
1920



- Factory buildings
- Existing buildings
- Mouleurs- & Molenbuilding

# SPHINX SITE

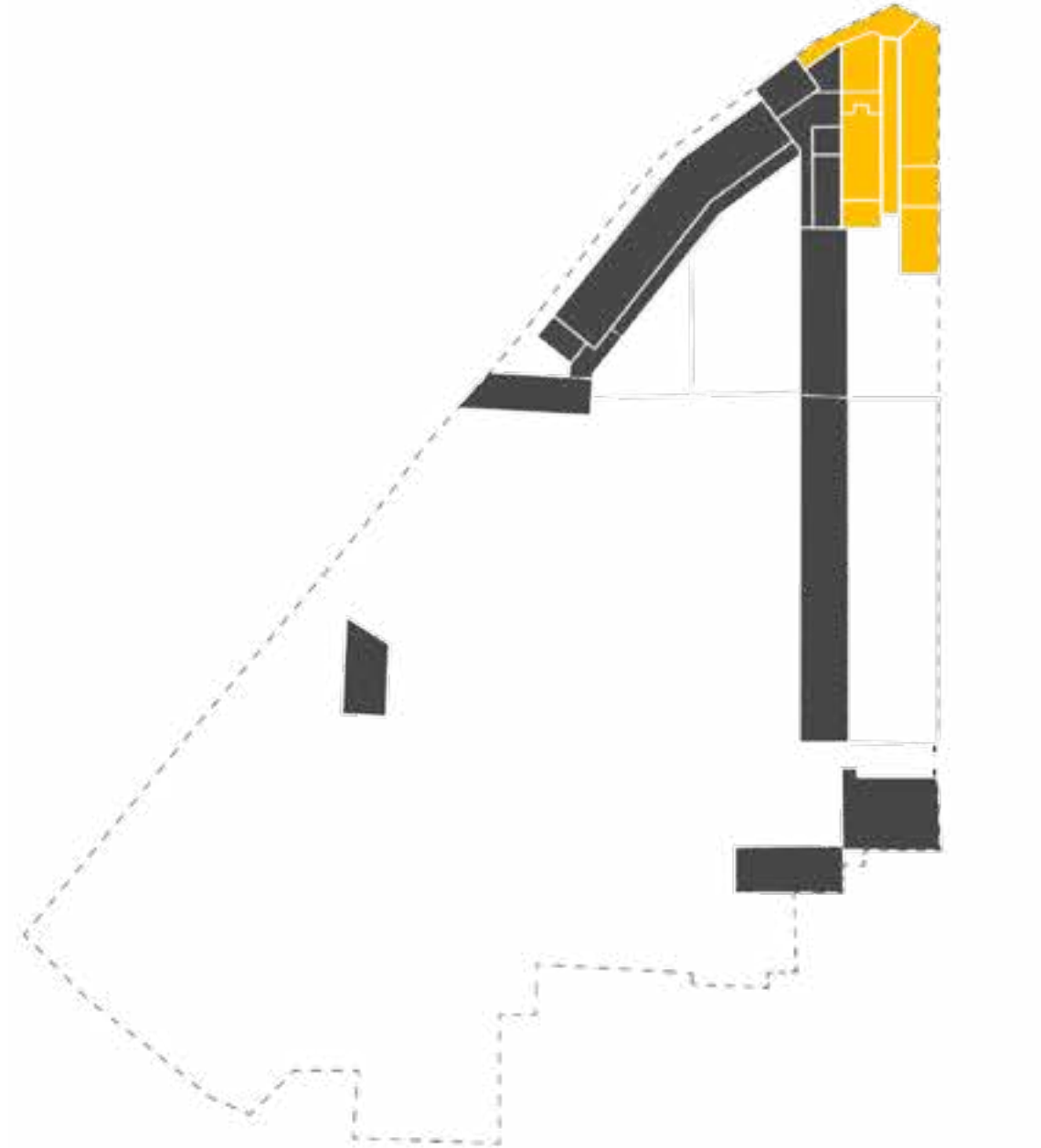
1960



- Factory buildings
- Existing buildings
- Mouleurs- & Molenbuilding

# SPHINX SITE

2016

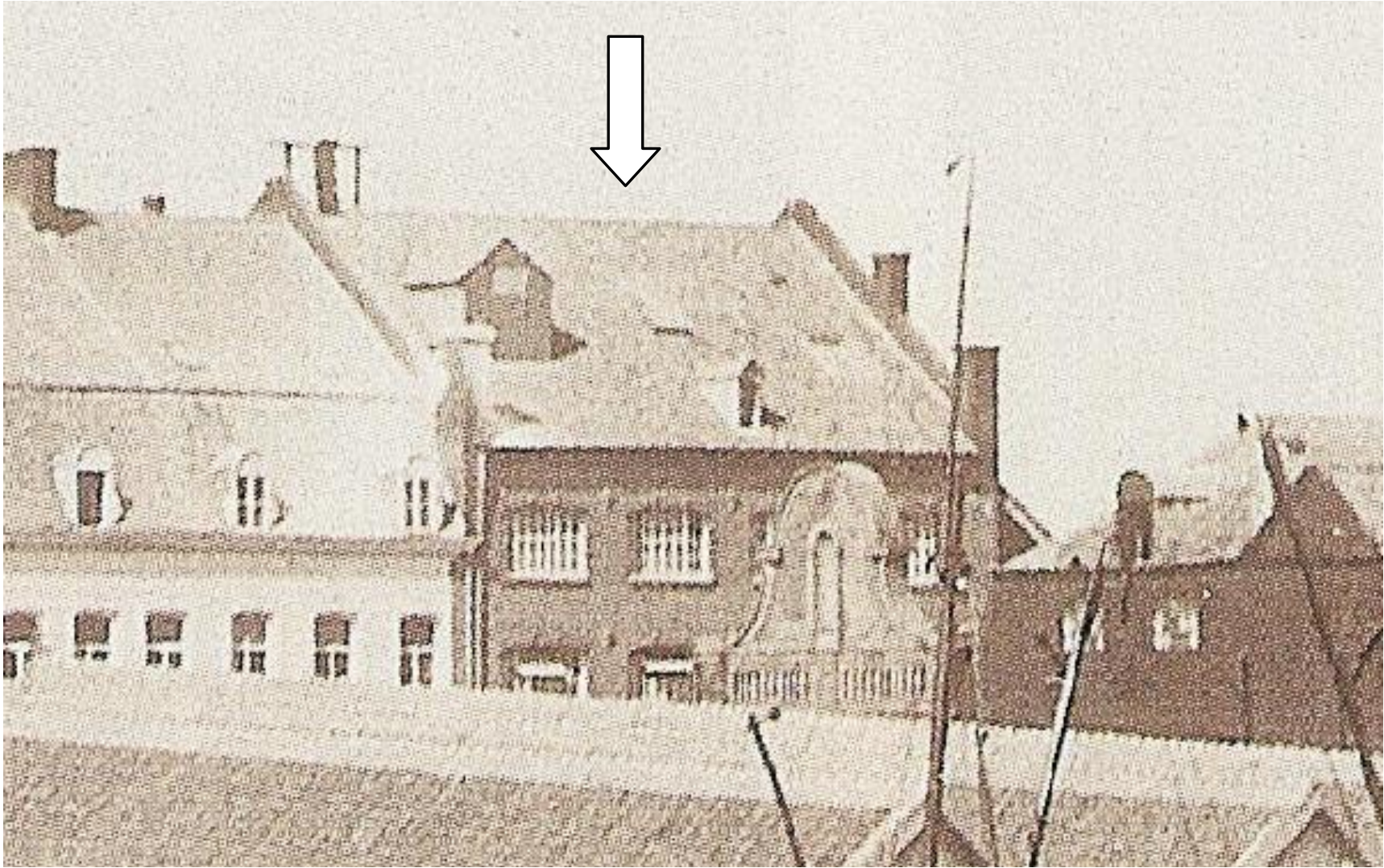


- Existing buildings
- Mouleurs- & Molenbuilding



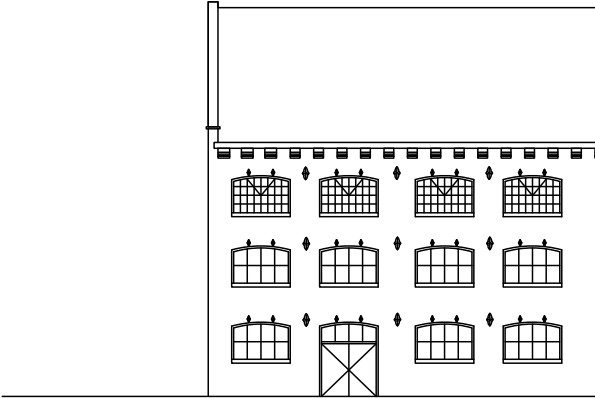
# BUILDING PHASES

1877



# BUILDING PHASES

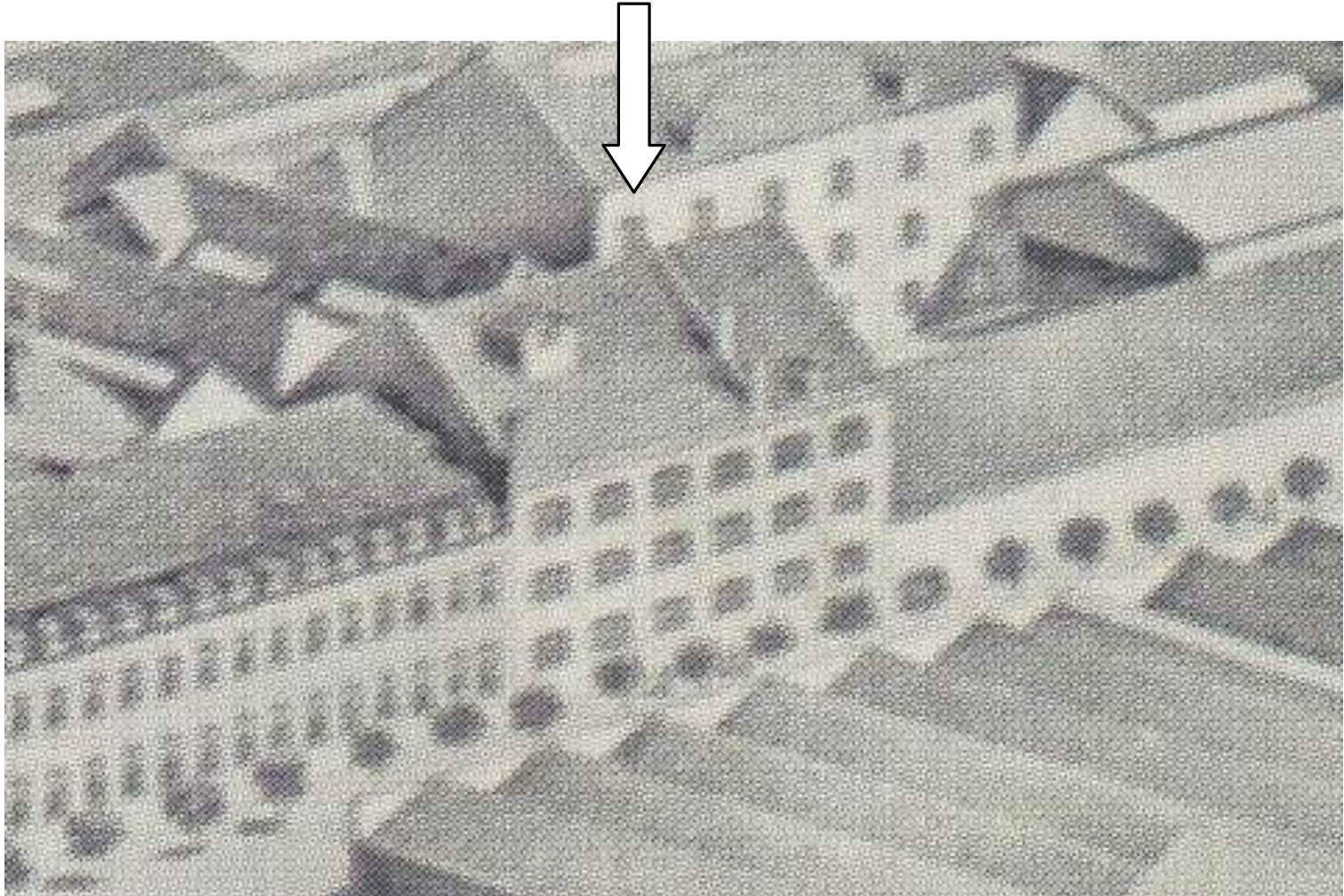
1877





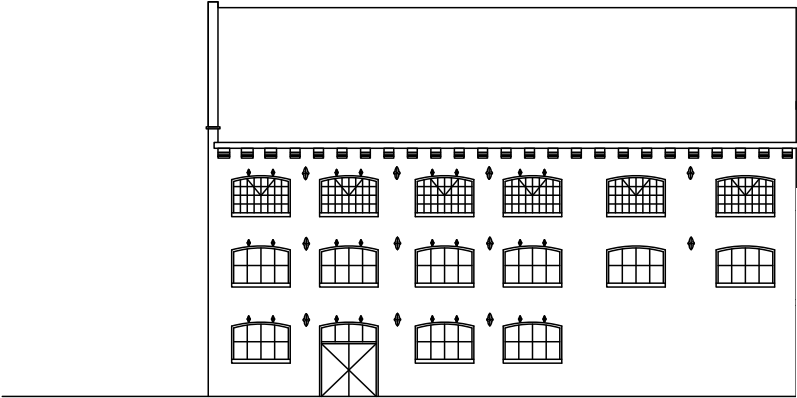
# BUILDING PHASES

1877 - 1900



# BUILDING PHASES

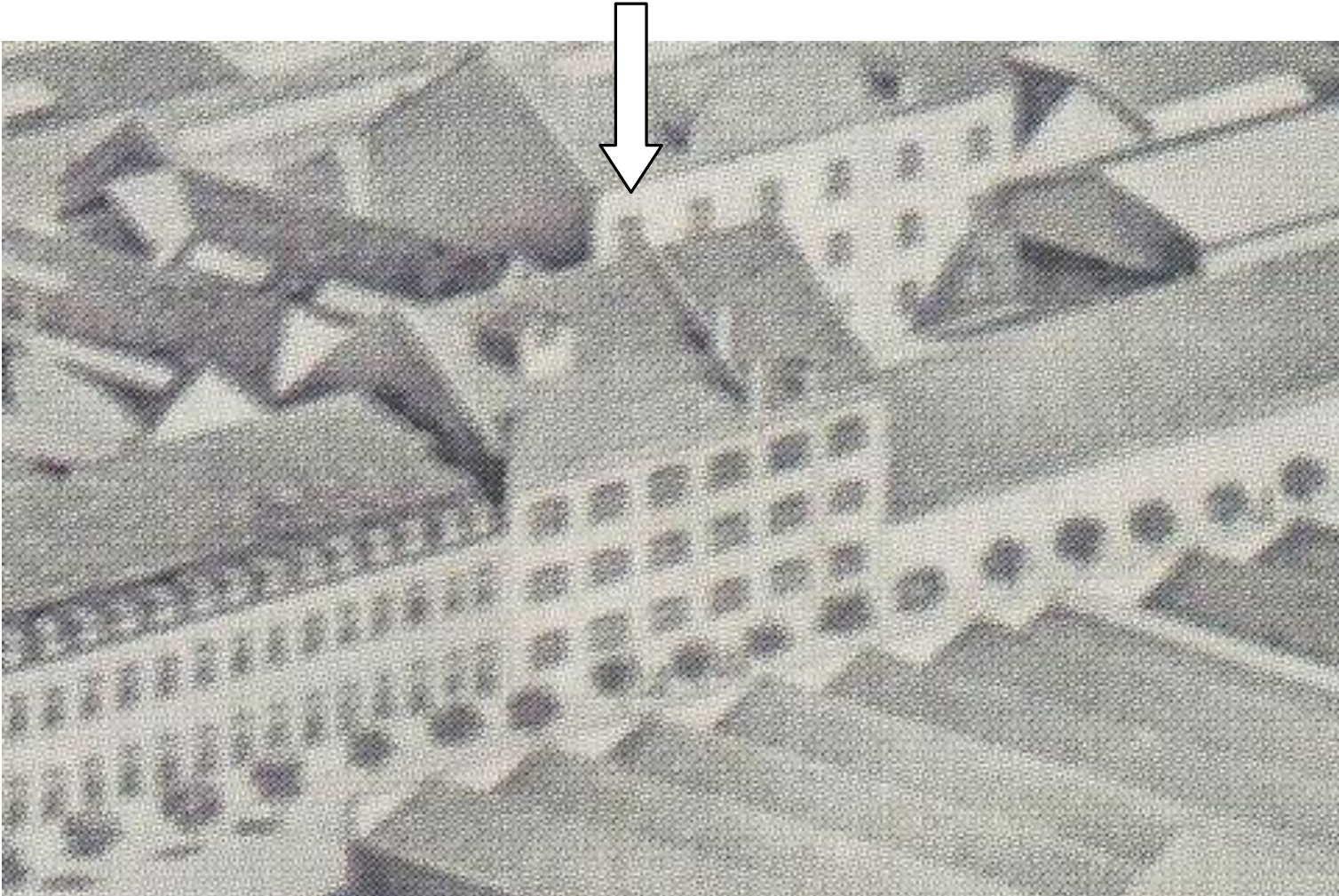
1877 - 1900





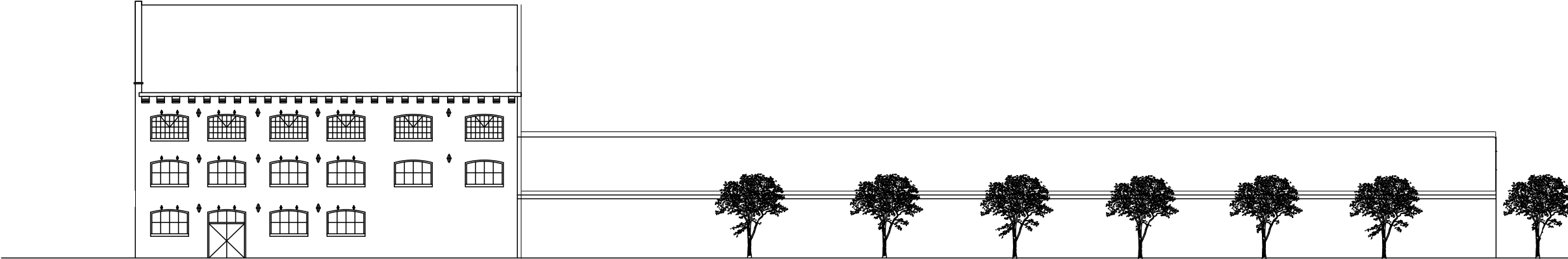
# BUILDING PHASES

1906 - 1916



# BUILDING PHASES

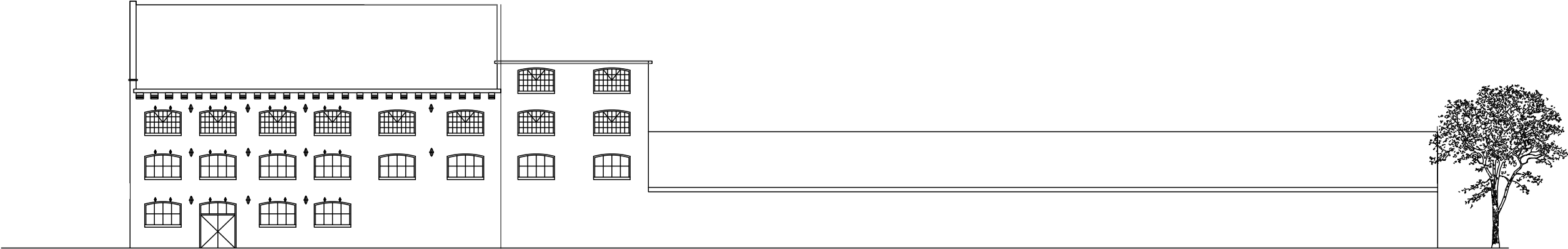
1906 - 1916





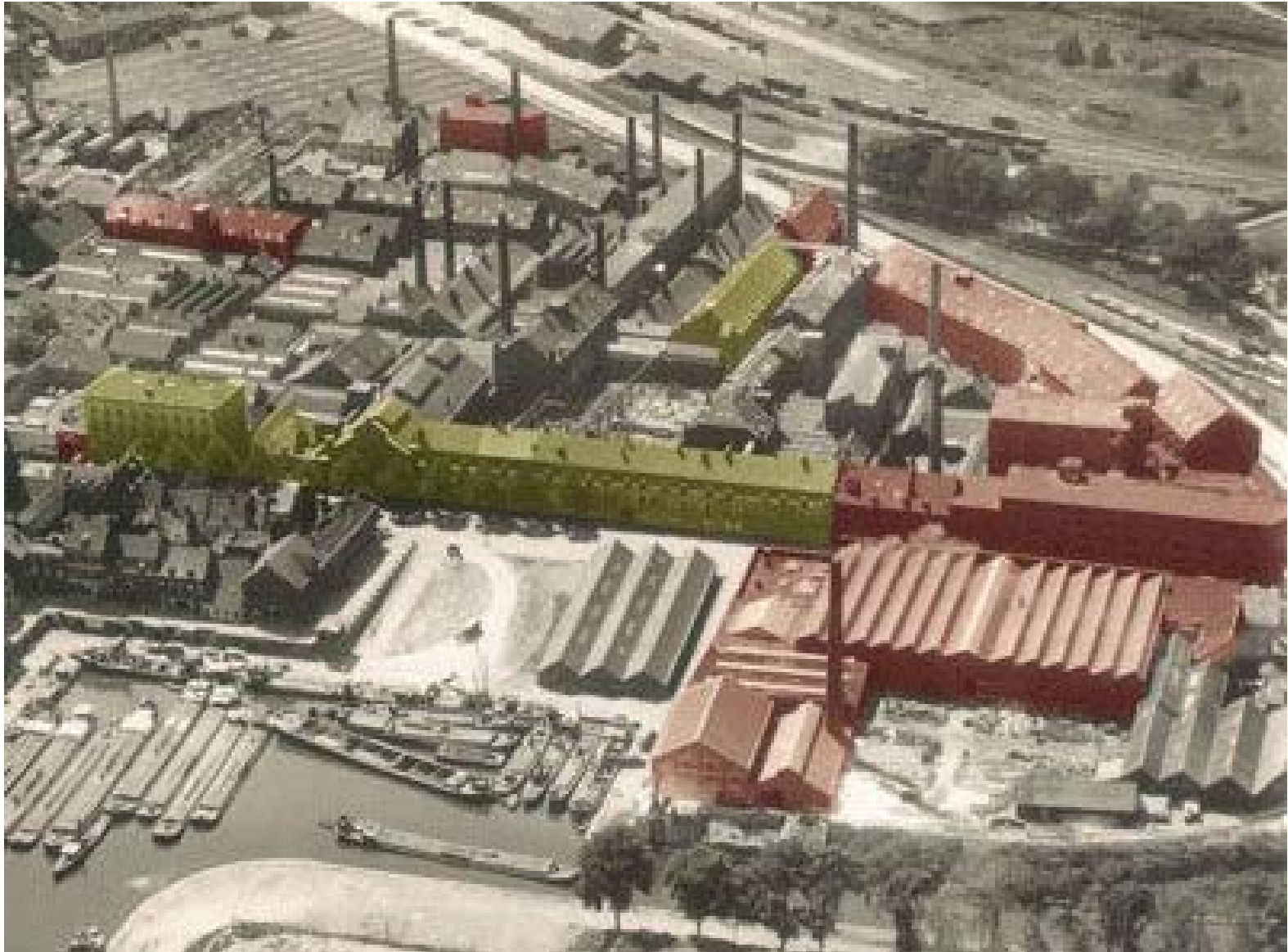
# BUILDING PHASES

1906 - 1916



# BUILDING PHASES

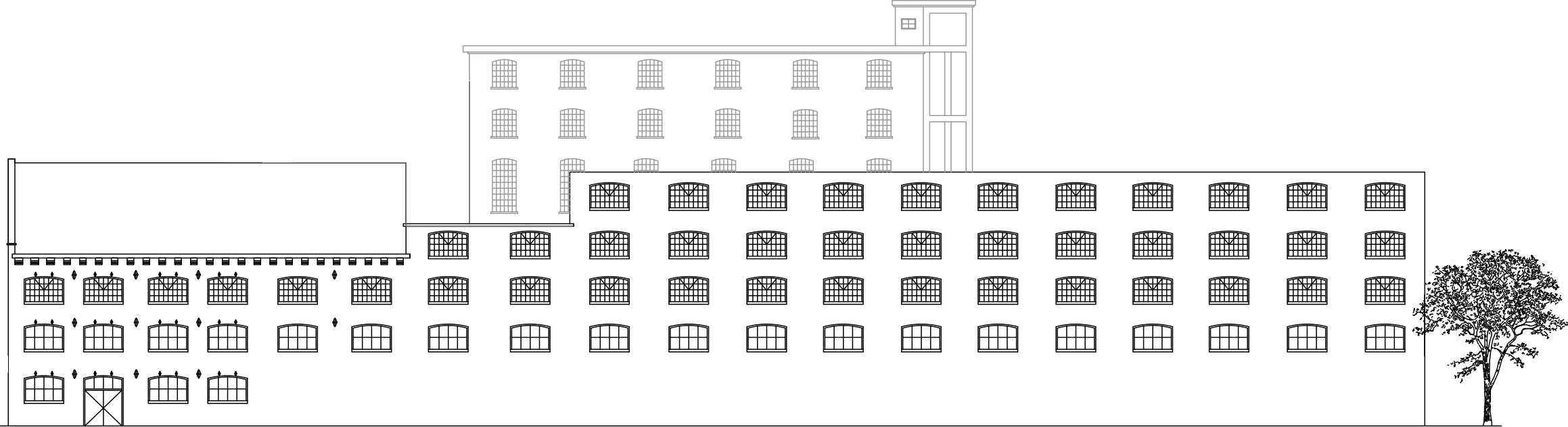
1917 - 1918





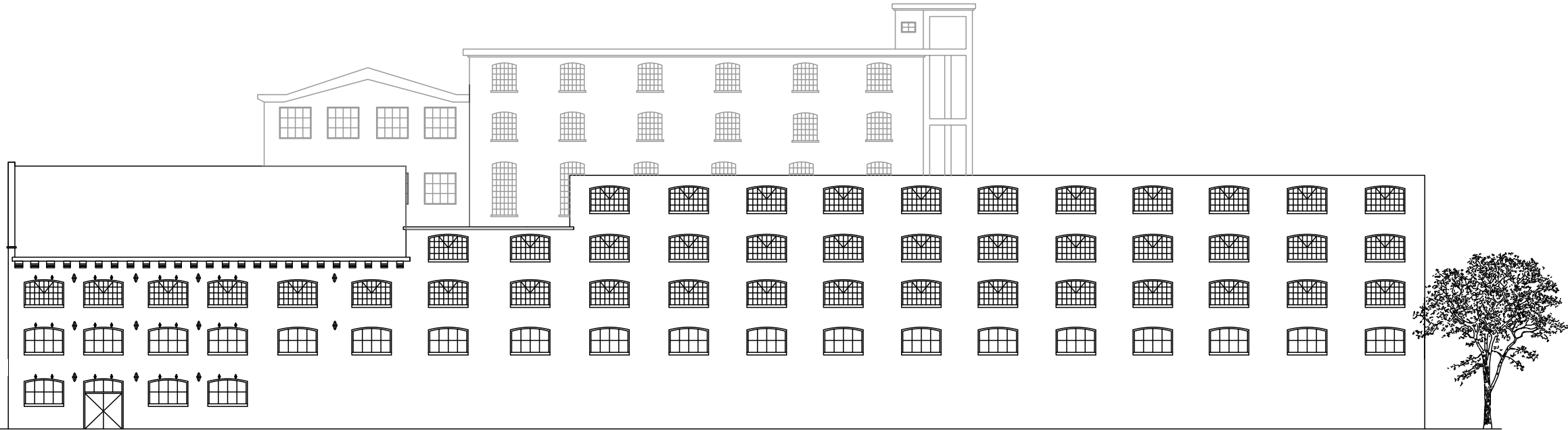
# BUILDING PHASES

1917 - 1918



# BUILDING PHASES

1935





# RESEARCH QUESTION

‘What is characteristic for the factories of the Sphinx?’

# CONTRAST



CONSTRUCTION

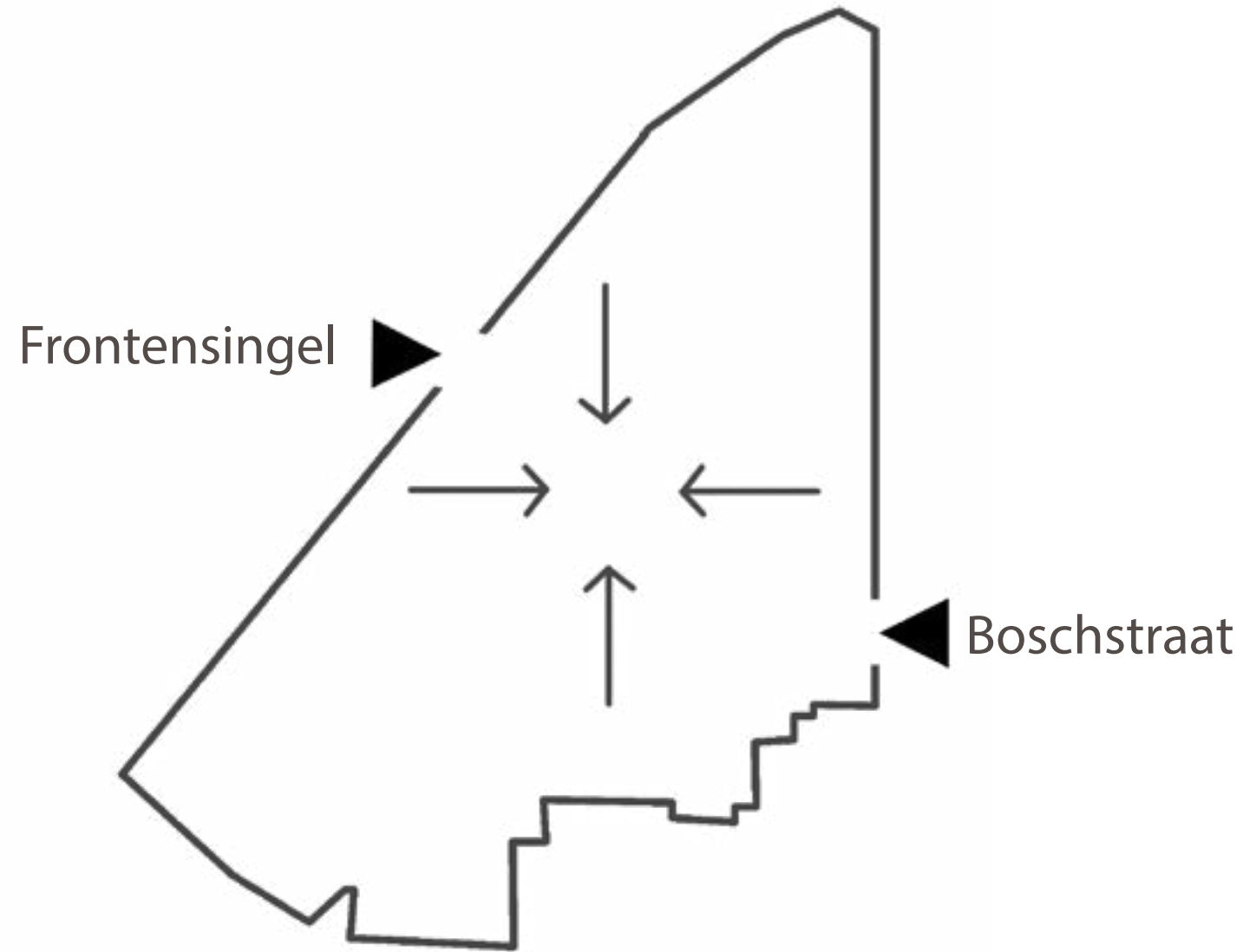
FACADE

LIGHT

ROOF

# CLOSED PLINTH

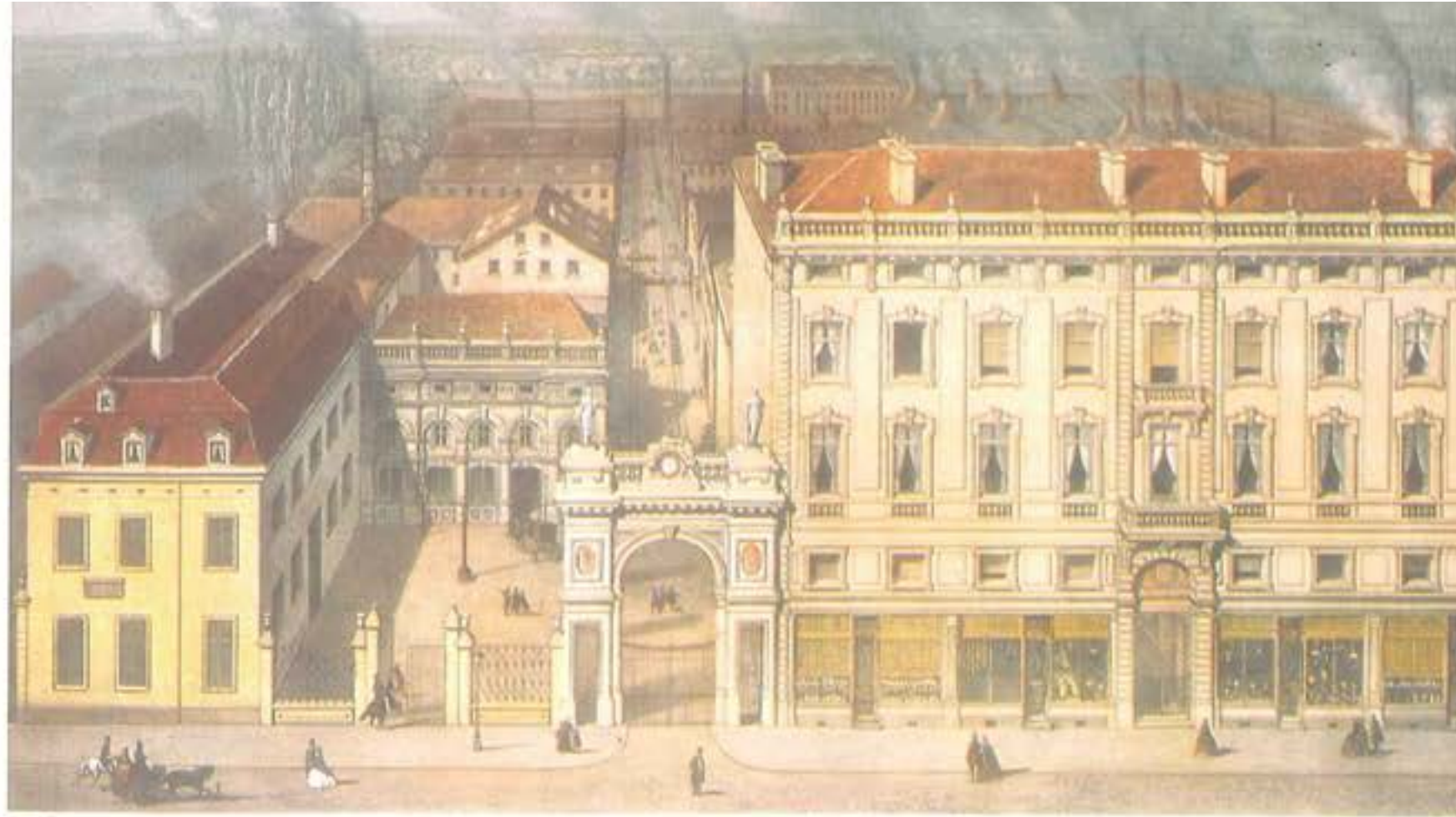
only accessible for employees





# SHOWFACADE

North French, Belgium factory typology



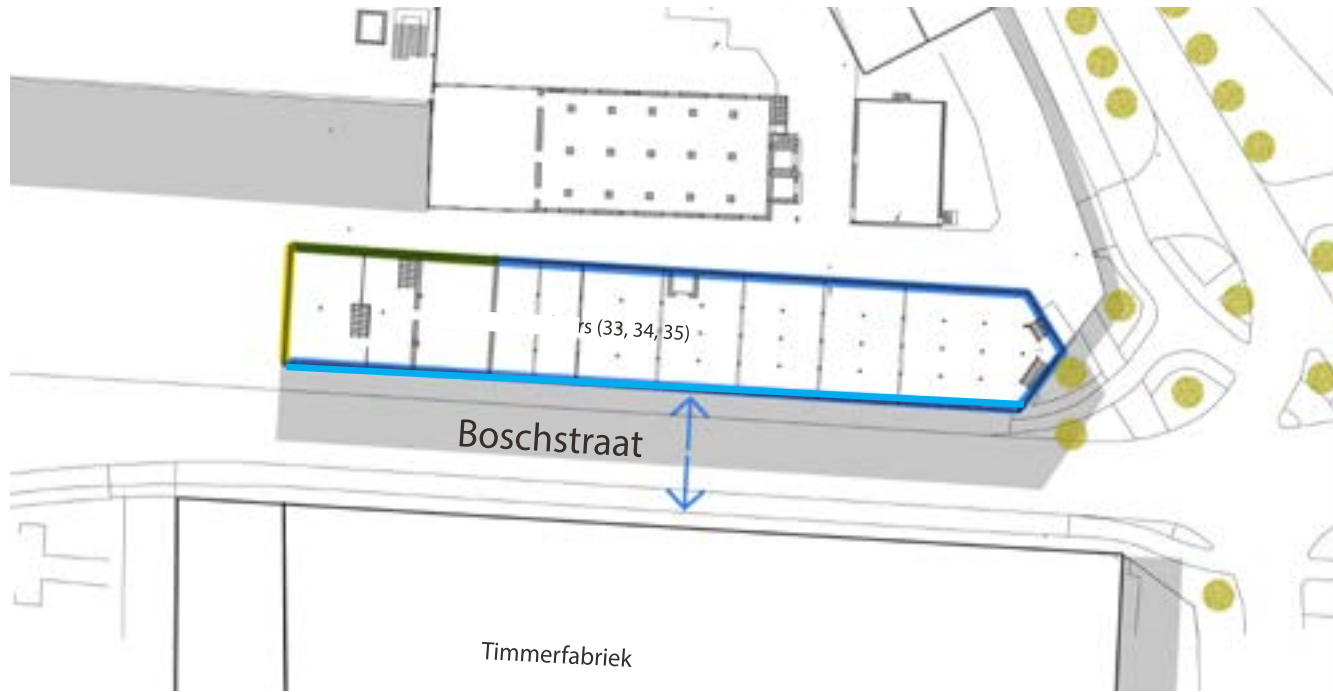
# SHOWFACADE



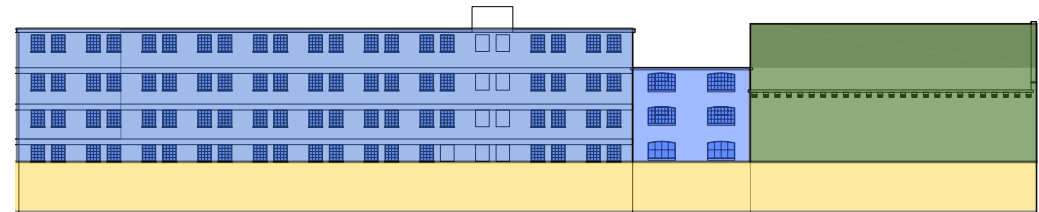
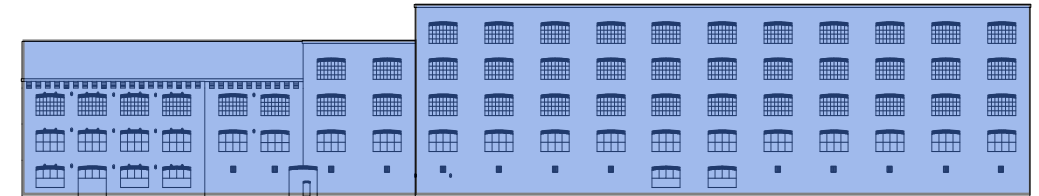


# VALUE ASSESSMENT

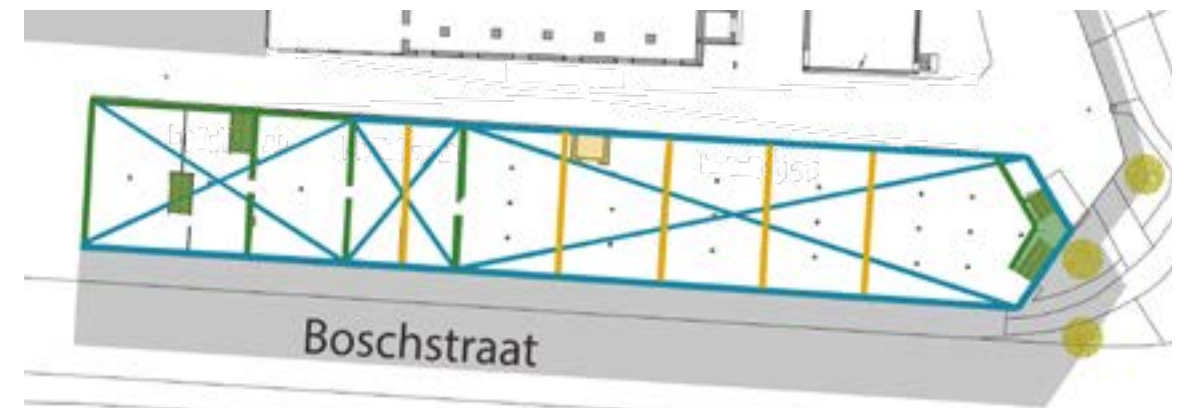
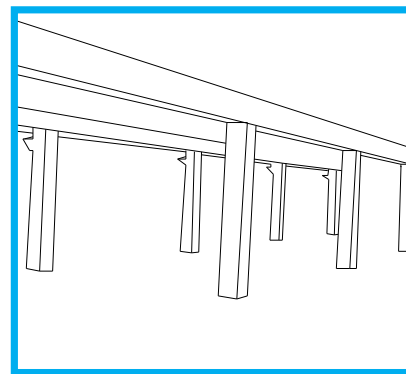
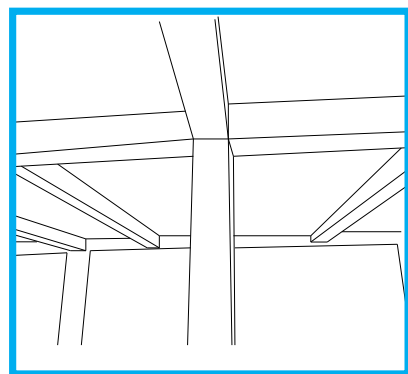
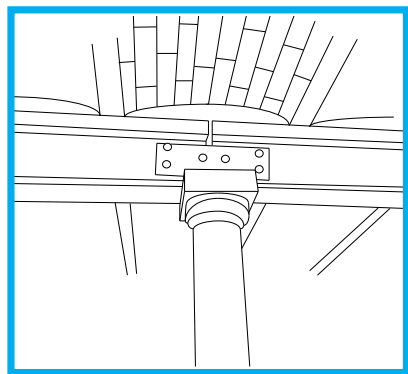
## URBAN SCALE



## ARCHITECTURAL SCALE



## CONSTRUCTION SCALE



- High value
- Positive value
- Indifferent value



# FUTURE

#SPHINXKWARTIER

#SPHINXKWARTIER



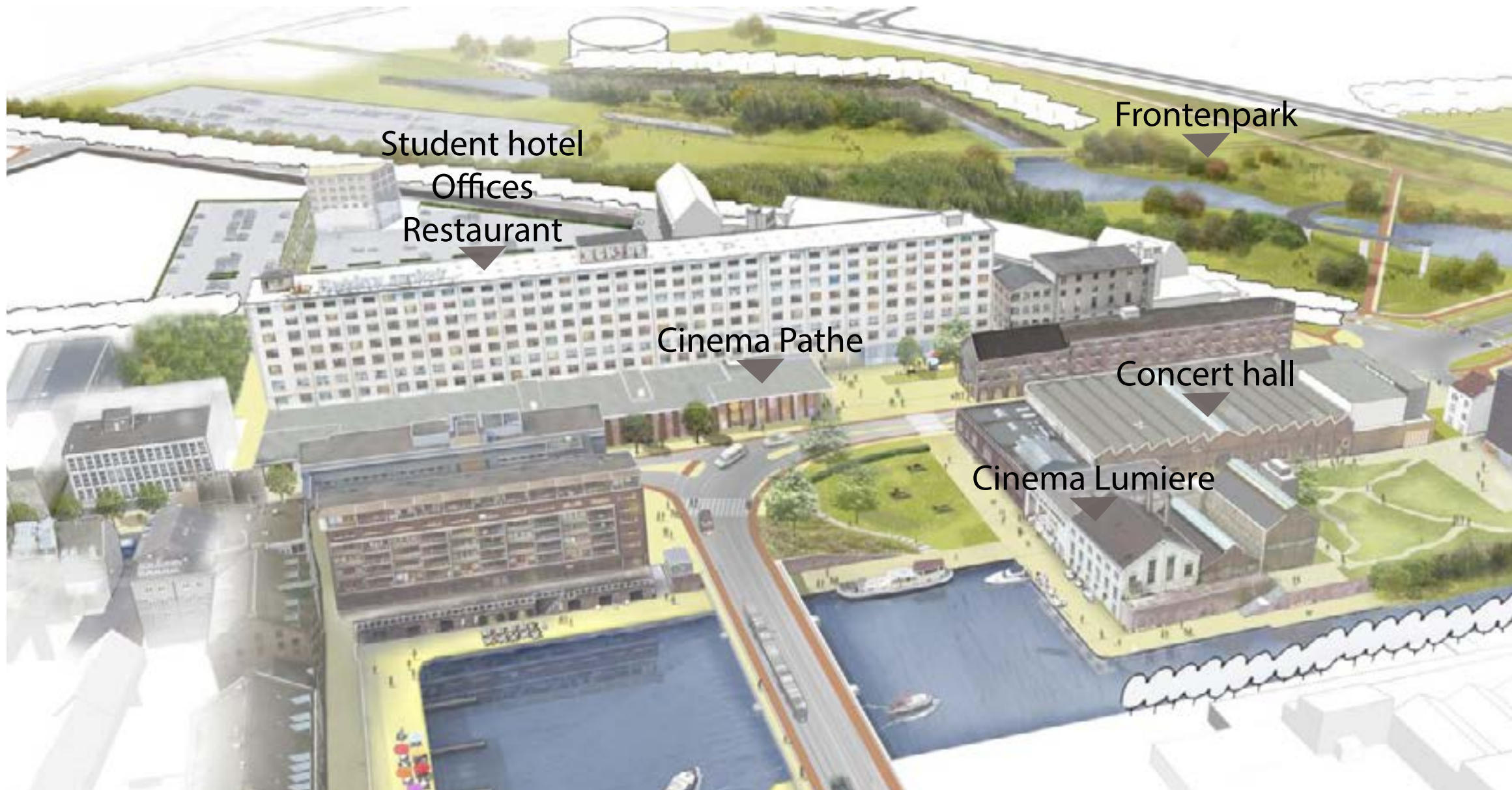
# FUTURE PLANS





# SPHINXKWARTIER

Creative & cultural center





# SPHINXKWARTIER

Loods 5?





FUNCTION





# WILLKOMMEN IM **STILWERK** BERLIN

DAS IST LOS IM BERLINER DESIGNHAUS:  
LIEBLINGSSTÜCKE, STILEXPERTEN UND TREND-EVENTS –  
WIR ZEIGEN IHNEN DIE HIGHLIGHTS





# AND MORE ...



**EXPOSITIONS**  
Design week



**WORKSHOPS**  
Cooking demonstrations



**LECTURES**  
Holiday America, / Canada

# NECESSARY



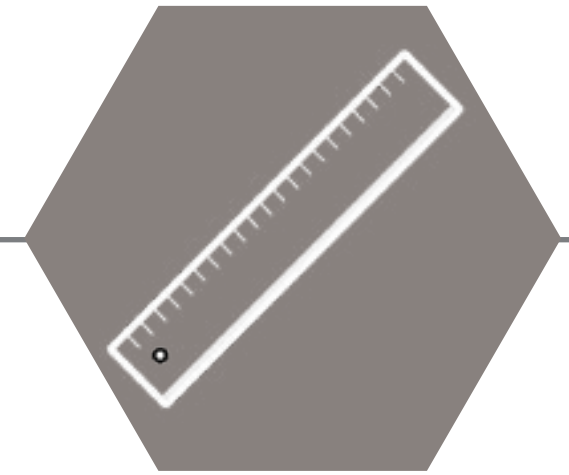
ATRIUM



SHOWROOMS



EXPOSITION ROOMS/  
FLEXIBEL ROOMS



+/- 10.000 M<sup>2</sup>

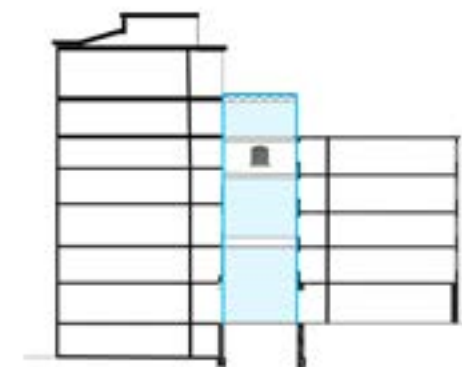
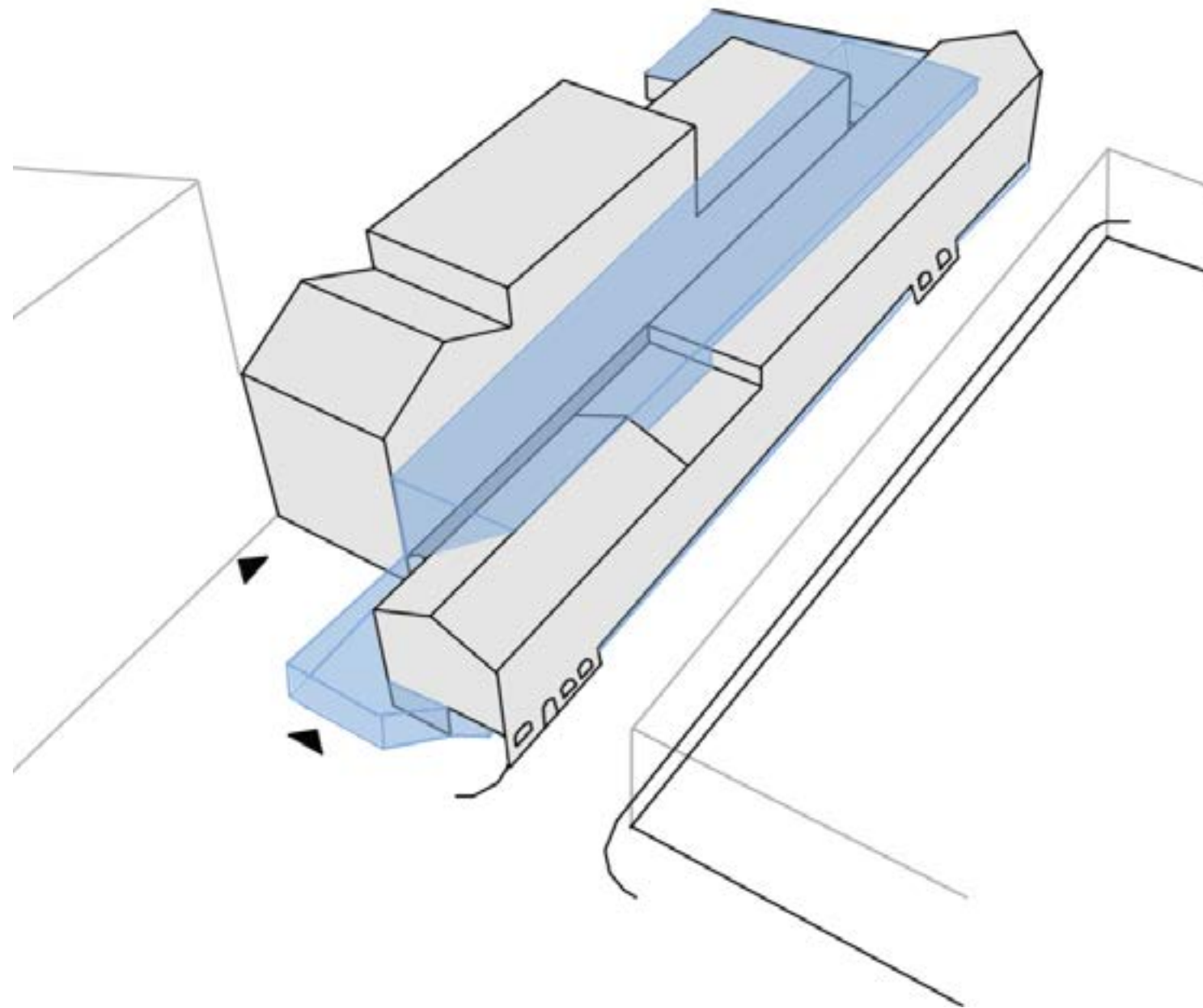
DESIGN





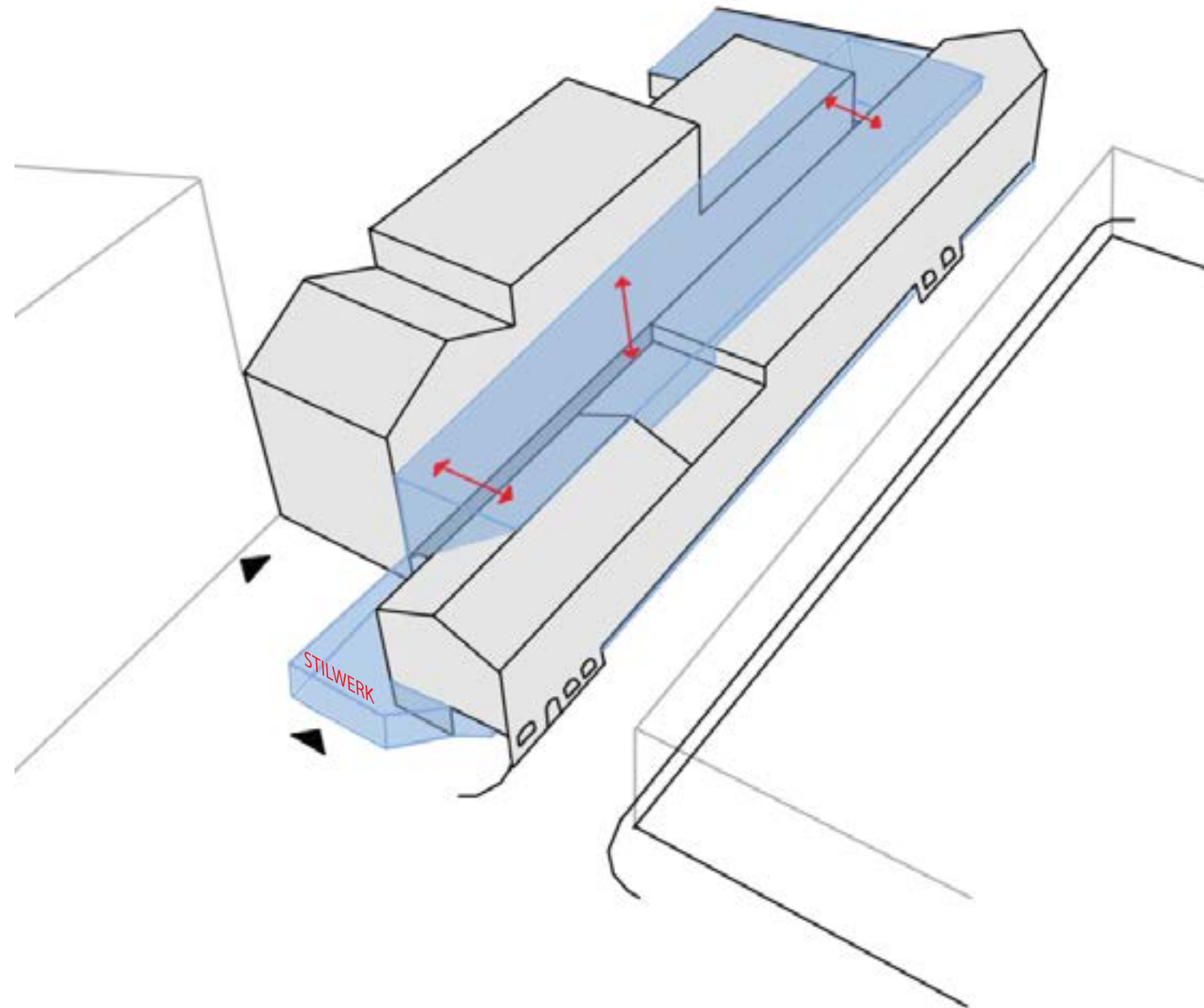
# 1. CONCEPT

## ADD ATRIUM



# CONCEPT

## ADD ATRIUM



# CONCEPT

## ADD ATRIUM



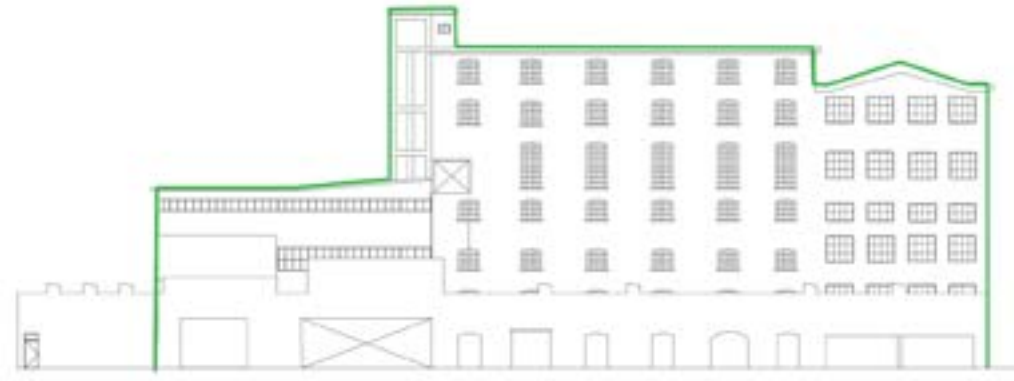


# CONCEPT

## ADD ATRIUM



MOULEURS BUILDING



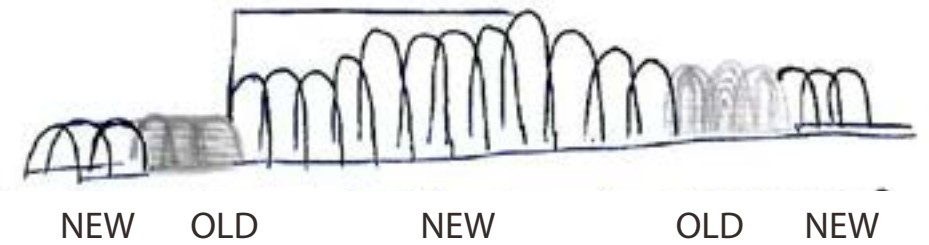
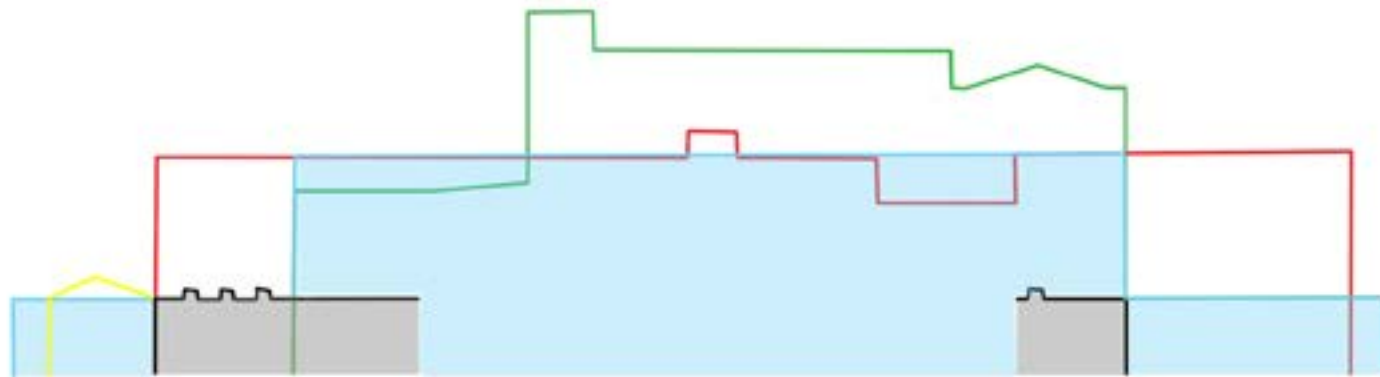
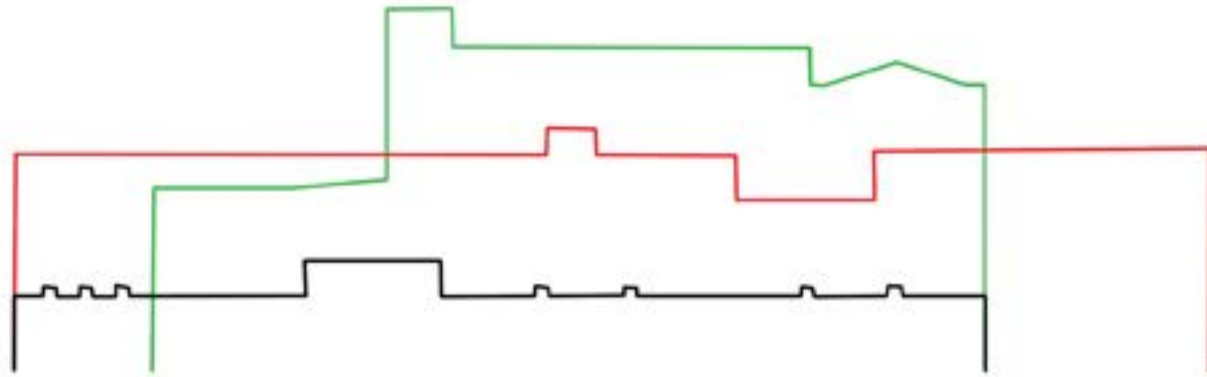
MOLEN BUILDING



CONCRETE VAULT

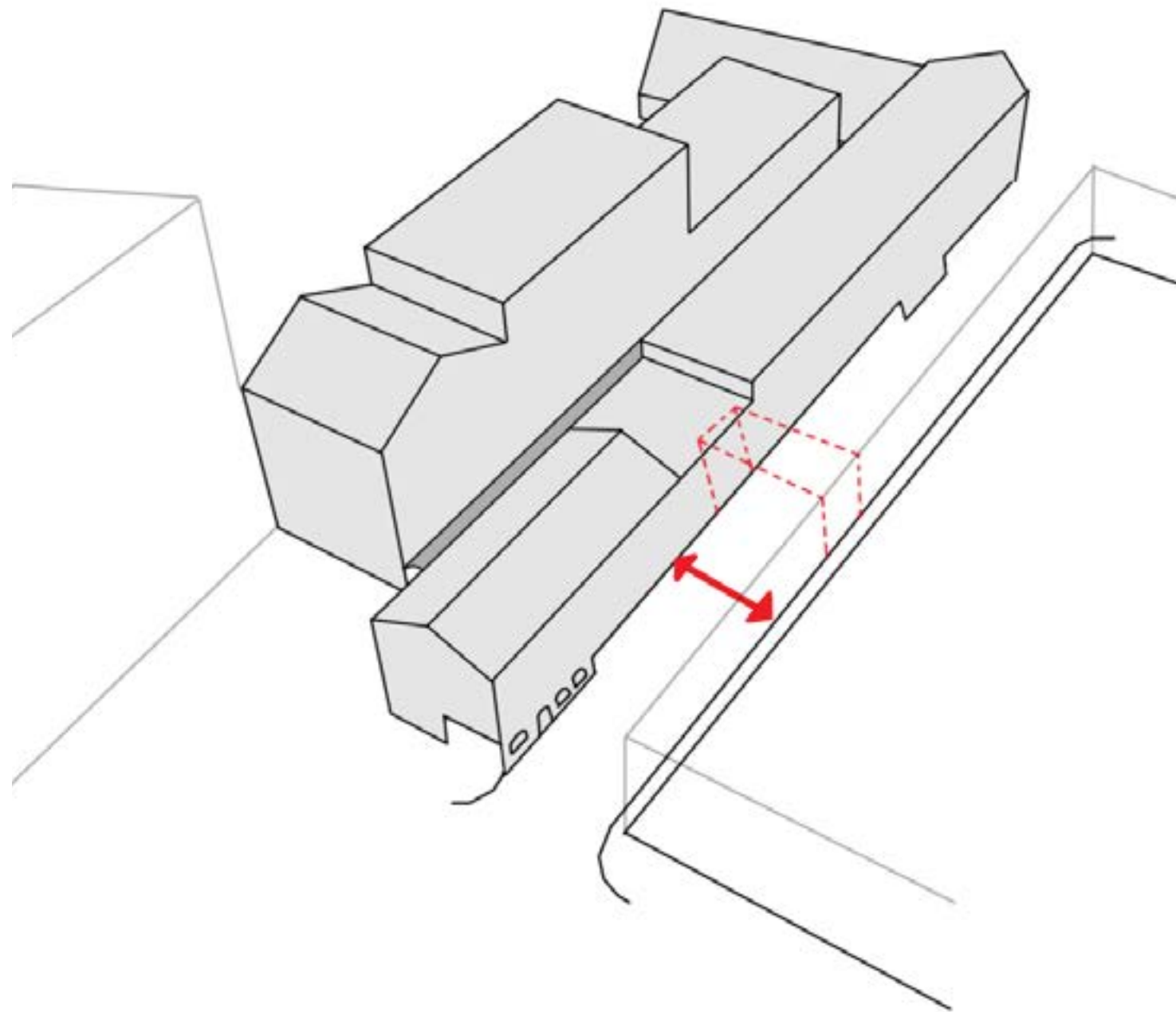
# DESIGN DECISION

## ADD ATRIUM



## 2. CONCEPT

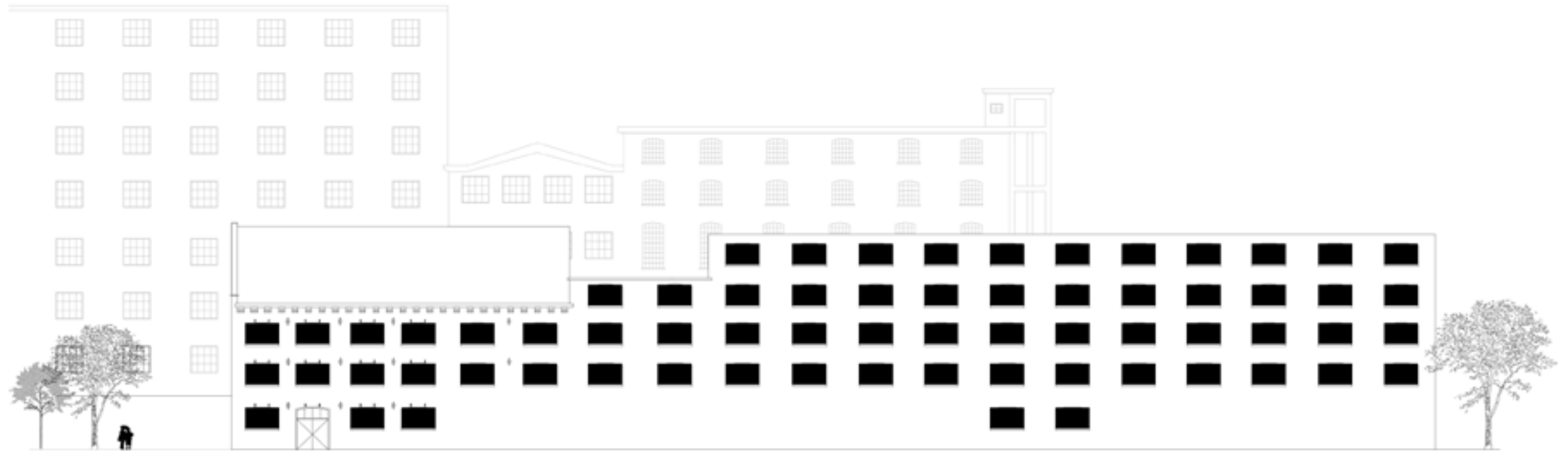
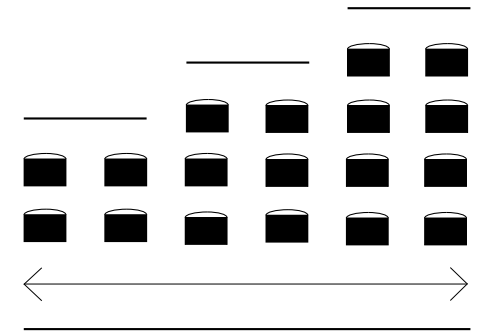
### CLOSED PLINTH





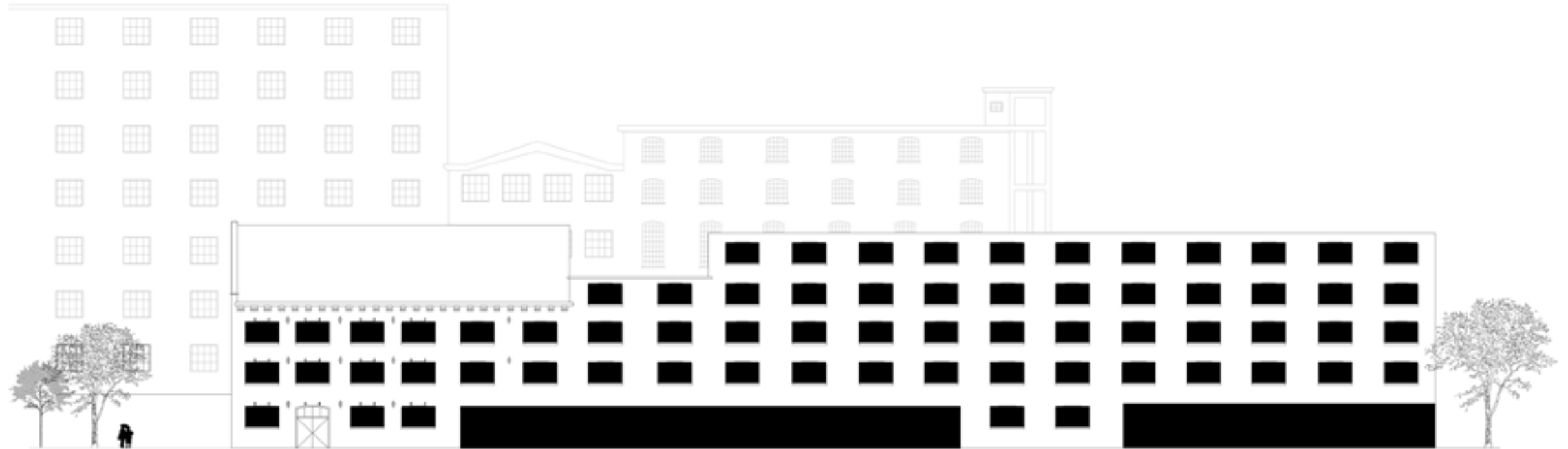
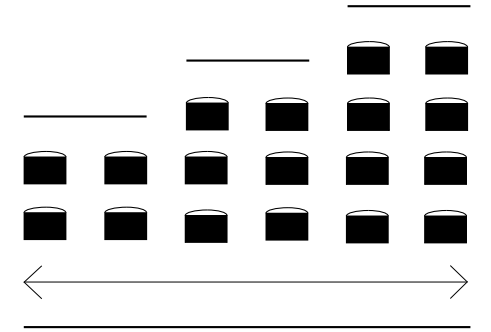
# CONCEPT

## CLOSED PLINTH



# DESIGN DECISION

## CLOSED PLINTH



# BOSCHSTRAAT FACADE

old vs new



OLD FACADE



NEW FACADE



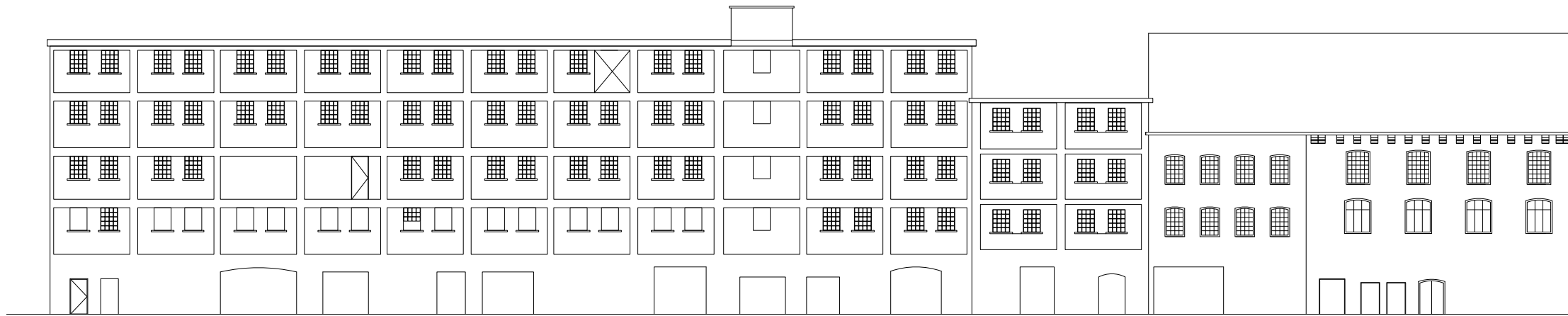
# BOSCHSTRAAT FACADE AT NIGHT



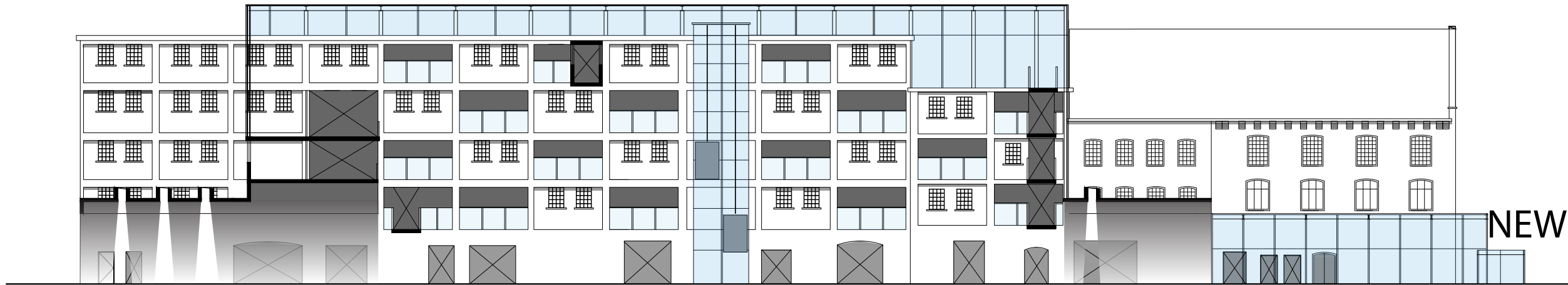
### 3. ATRIUM FACADE



# 3. ATRIUM FACADE



OLD FACADE

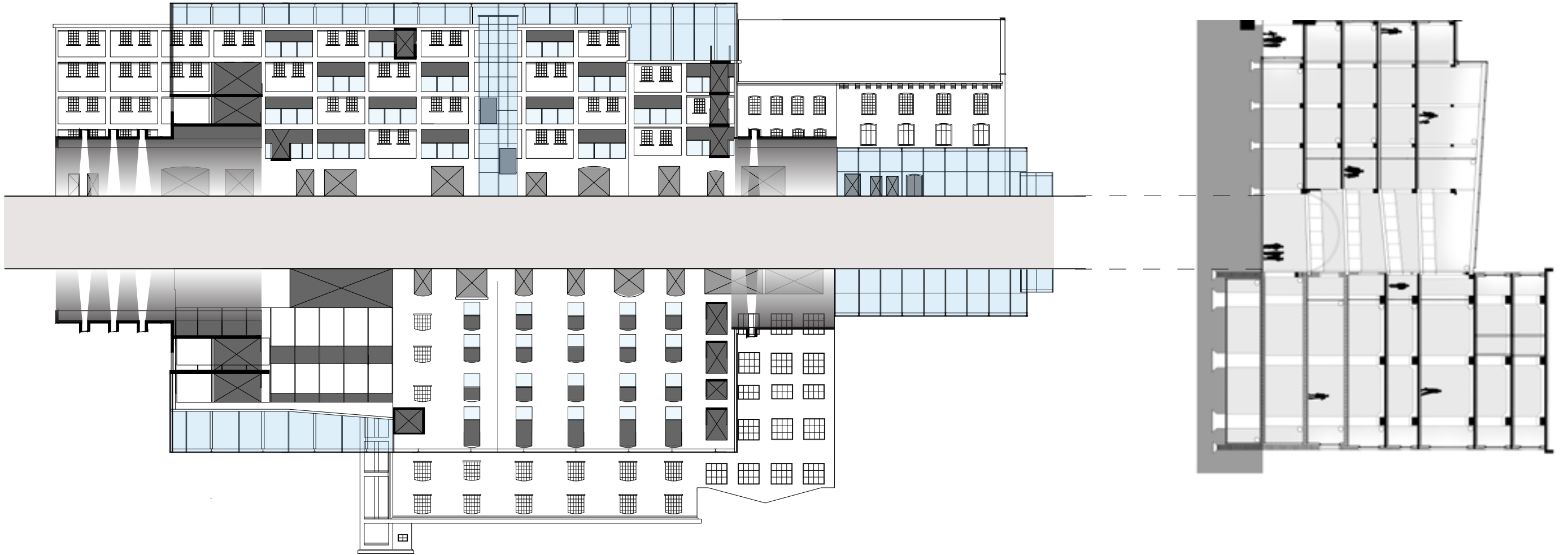


NEW FACADE



# DESIGN DECISION

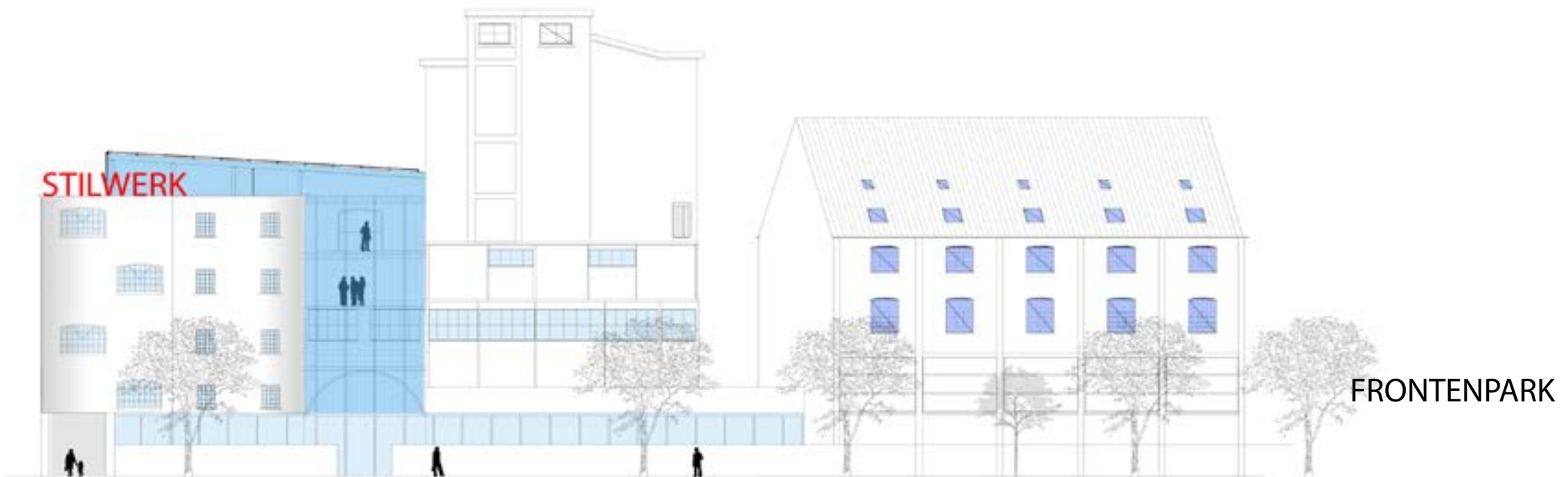
## ATRIUM FACADE



# ENTRANCES



CITY CENTER



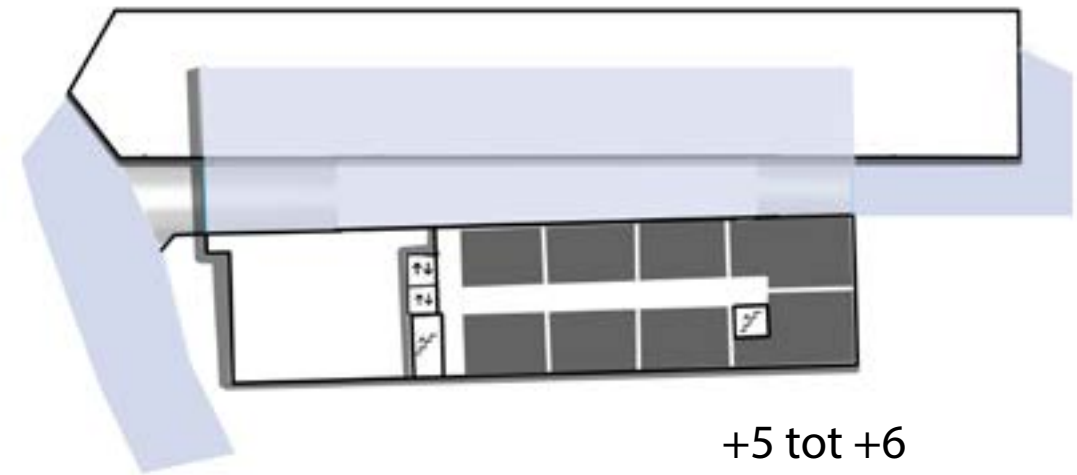
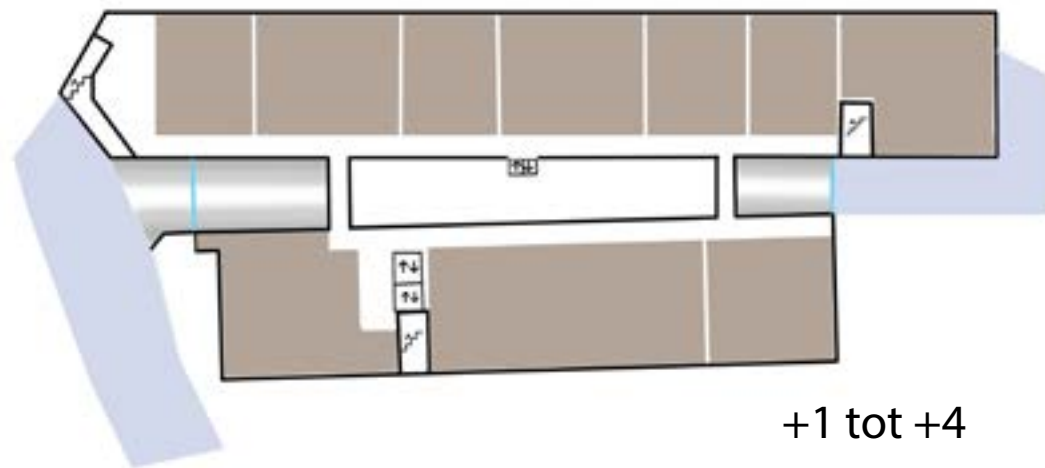
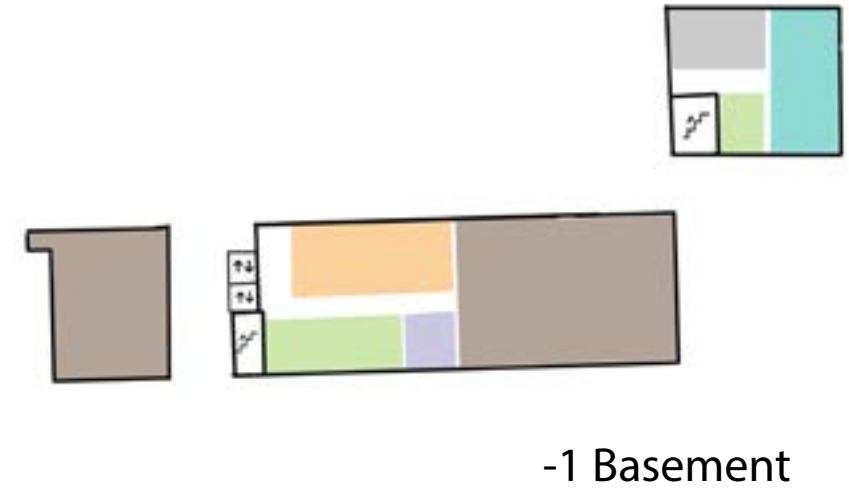
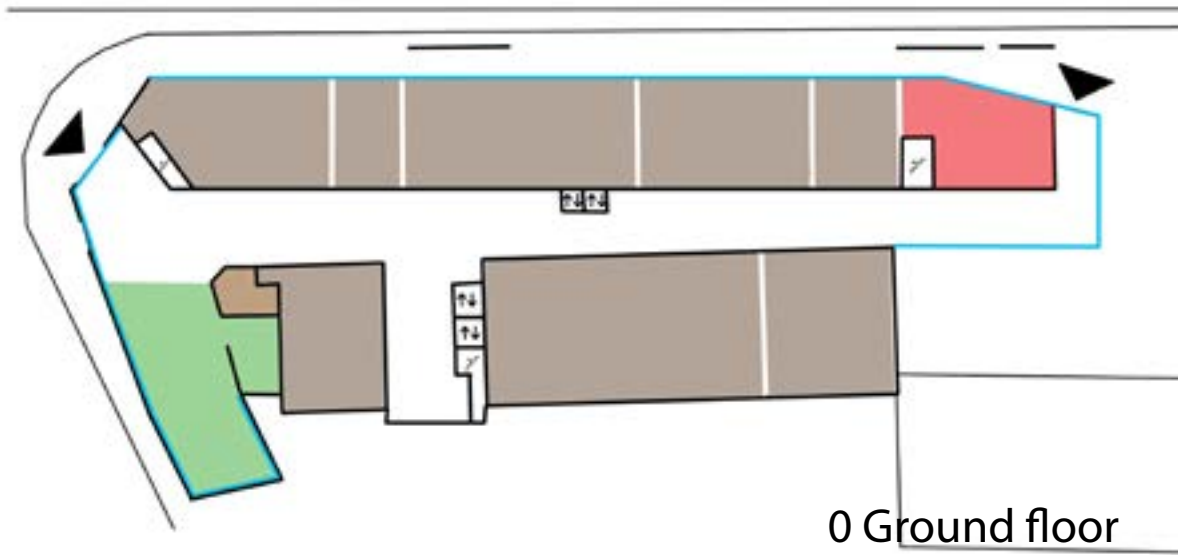
FRONTENPARK

DESIGN  
FLOOR PLANS

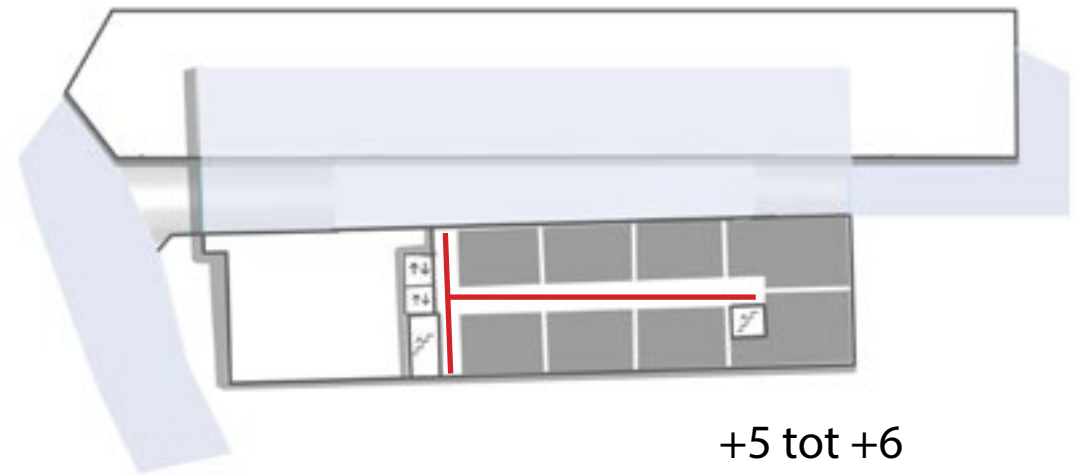
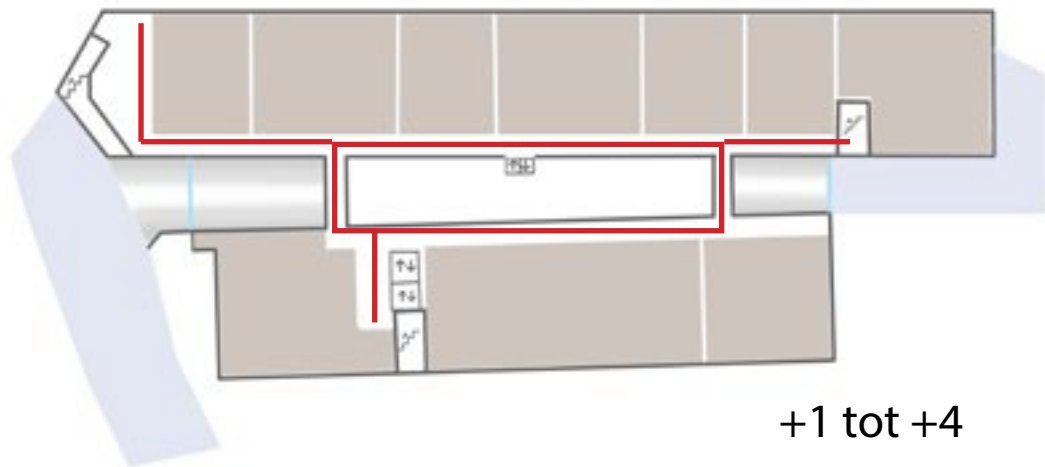
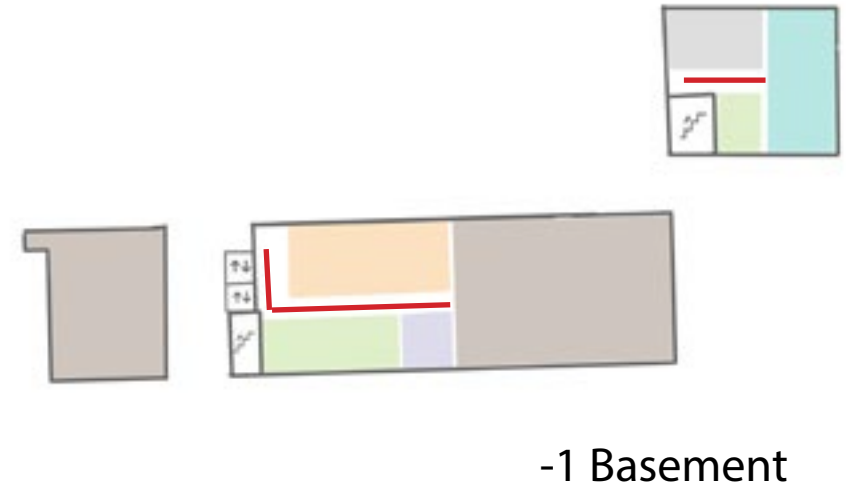
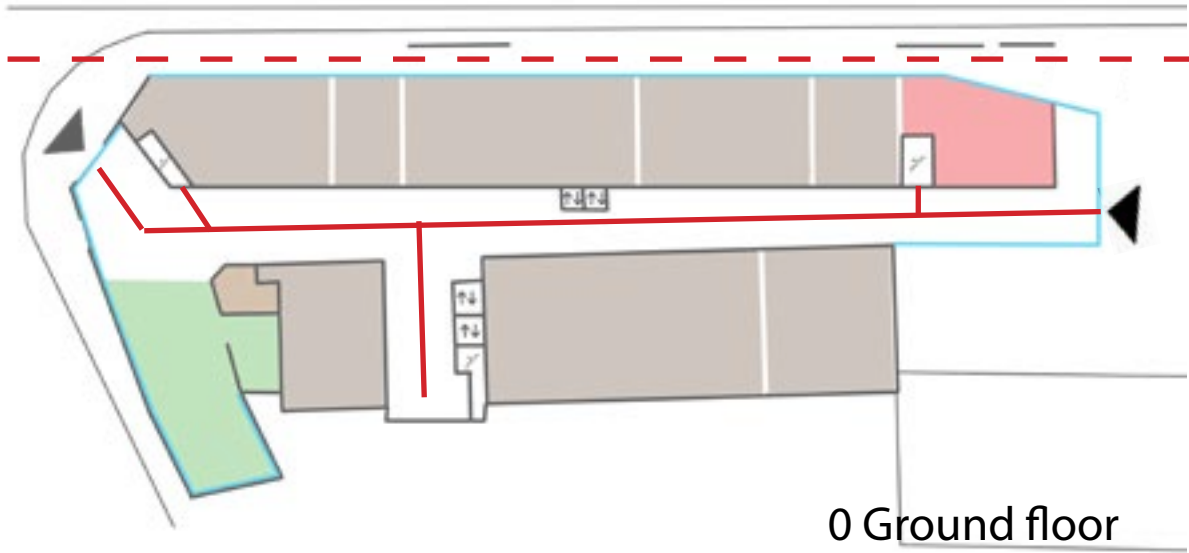




# PROGRAM

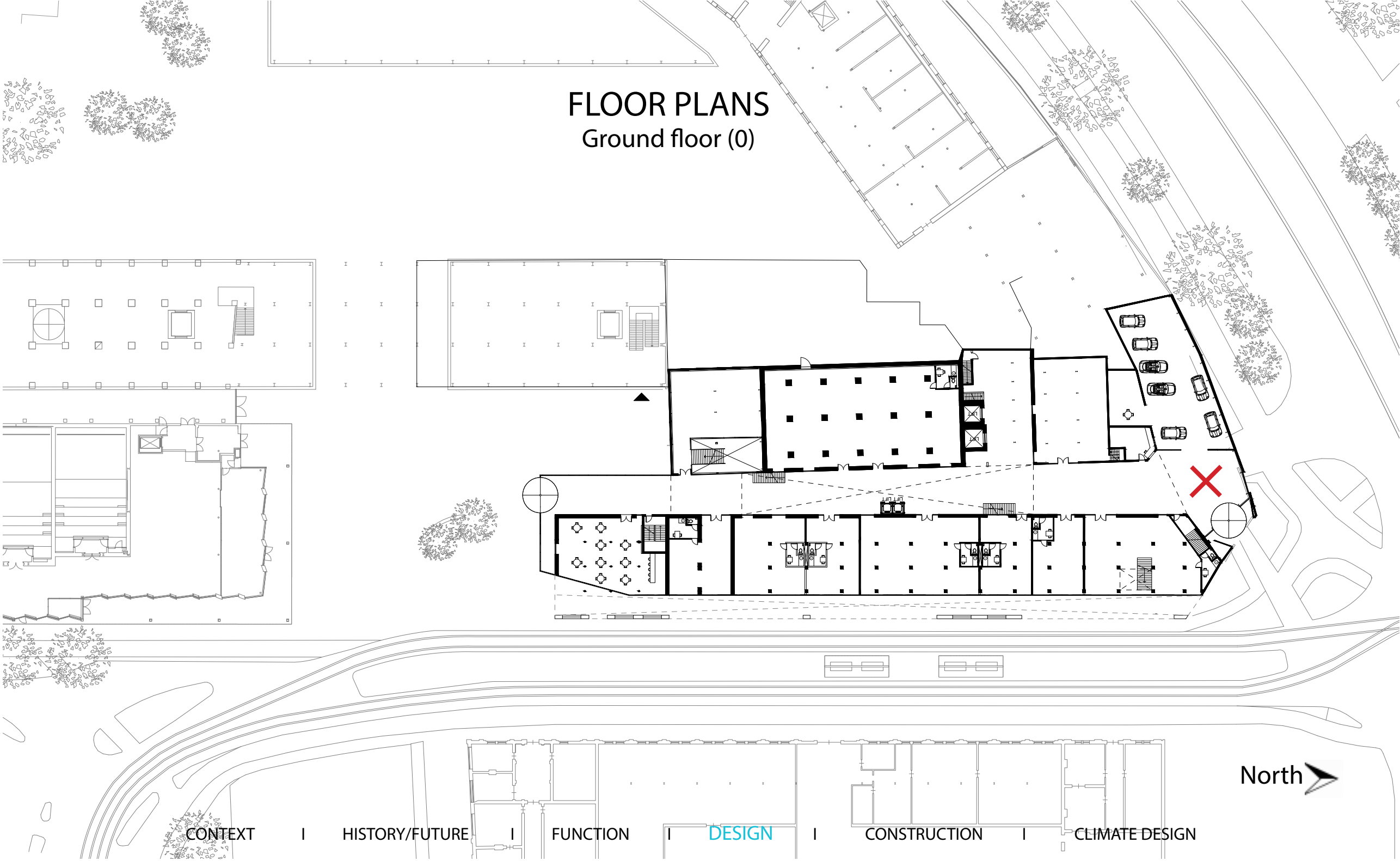


# CIRCULATION



# FLOOR PLANS

Ground floor (0)



CONTEXT

HISTORY/FUTURE

FUNCTION

DESIGN

CONSTRUCTION

CLIMATE DESIGN





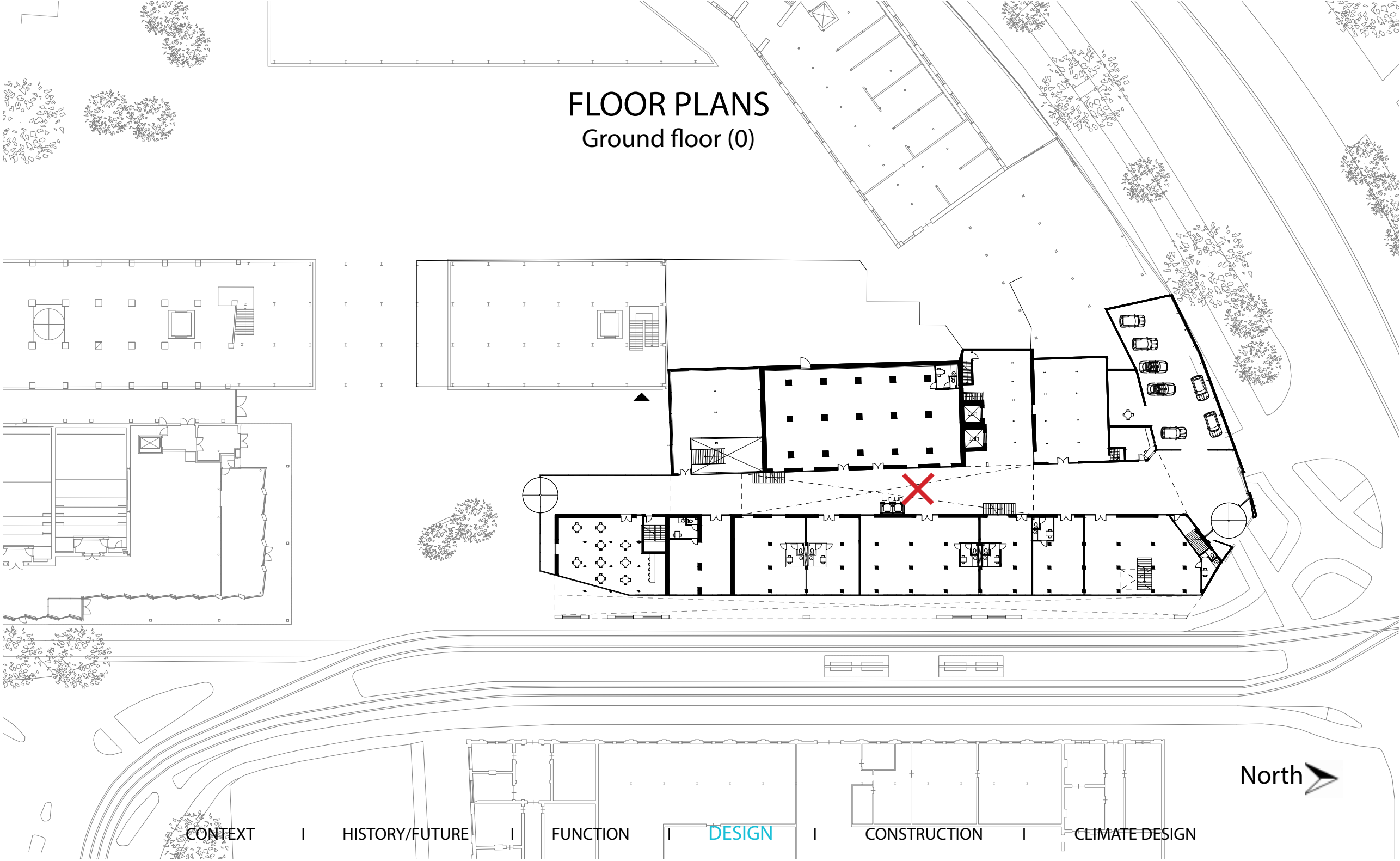






# FLOOR PLANS

Ground floor (0)



CONTEXT

HISTORY/FUTURE

FUNCTION

DESIGN

CONSTRUCTION

CLIMATE DESIGN

North





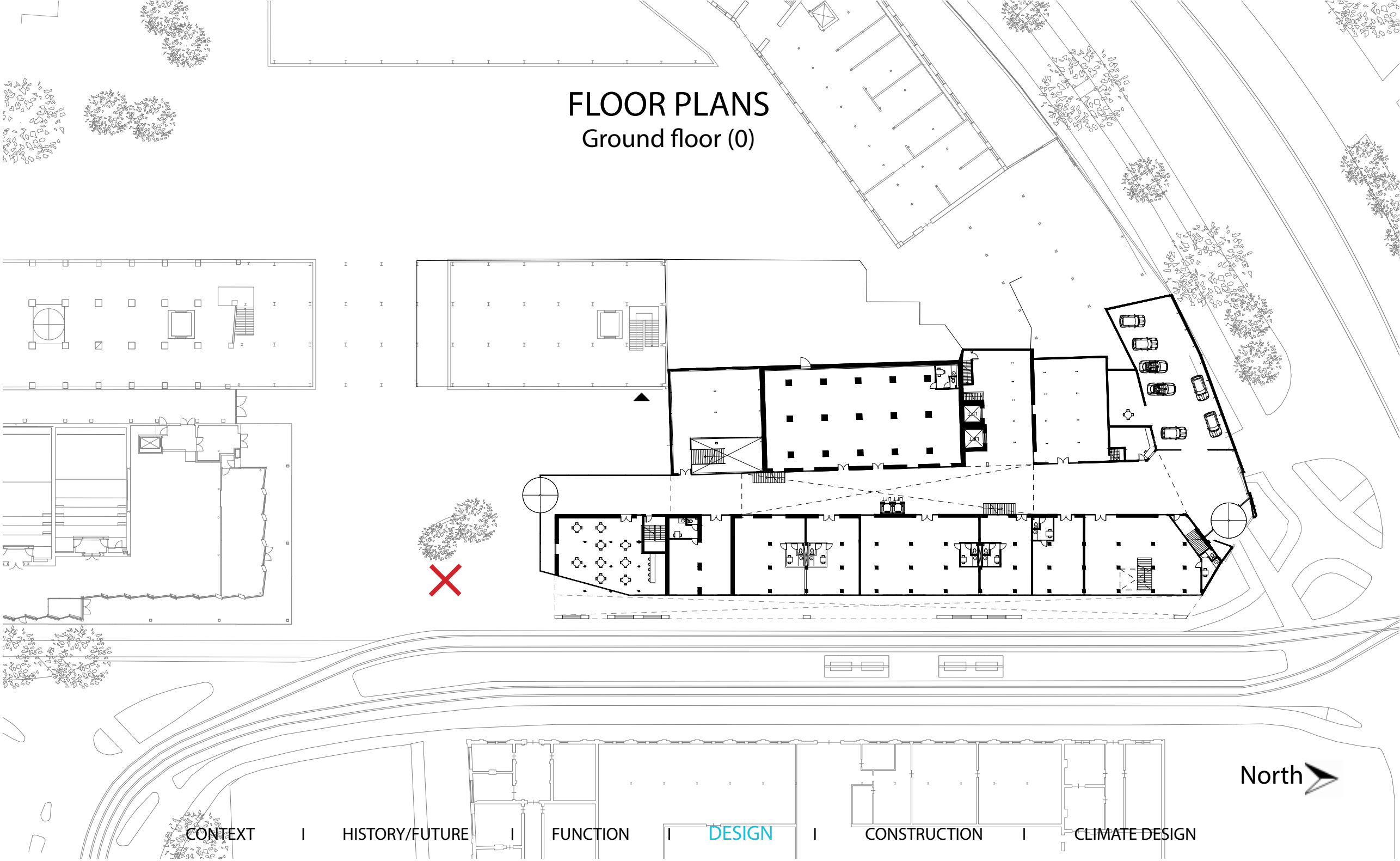






# FLOOR PLANS

Ground floor (0)



CONTEXT

HISTORY/FUTURE

FUNCTION

DESIGN

CONSTRUCTION

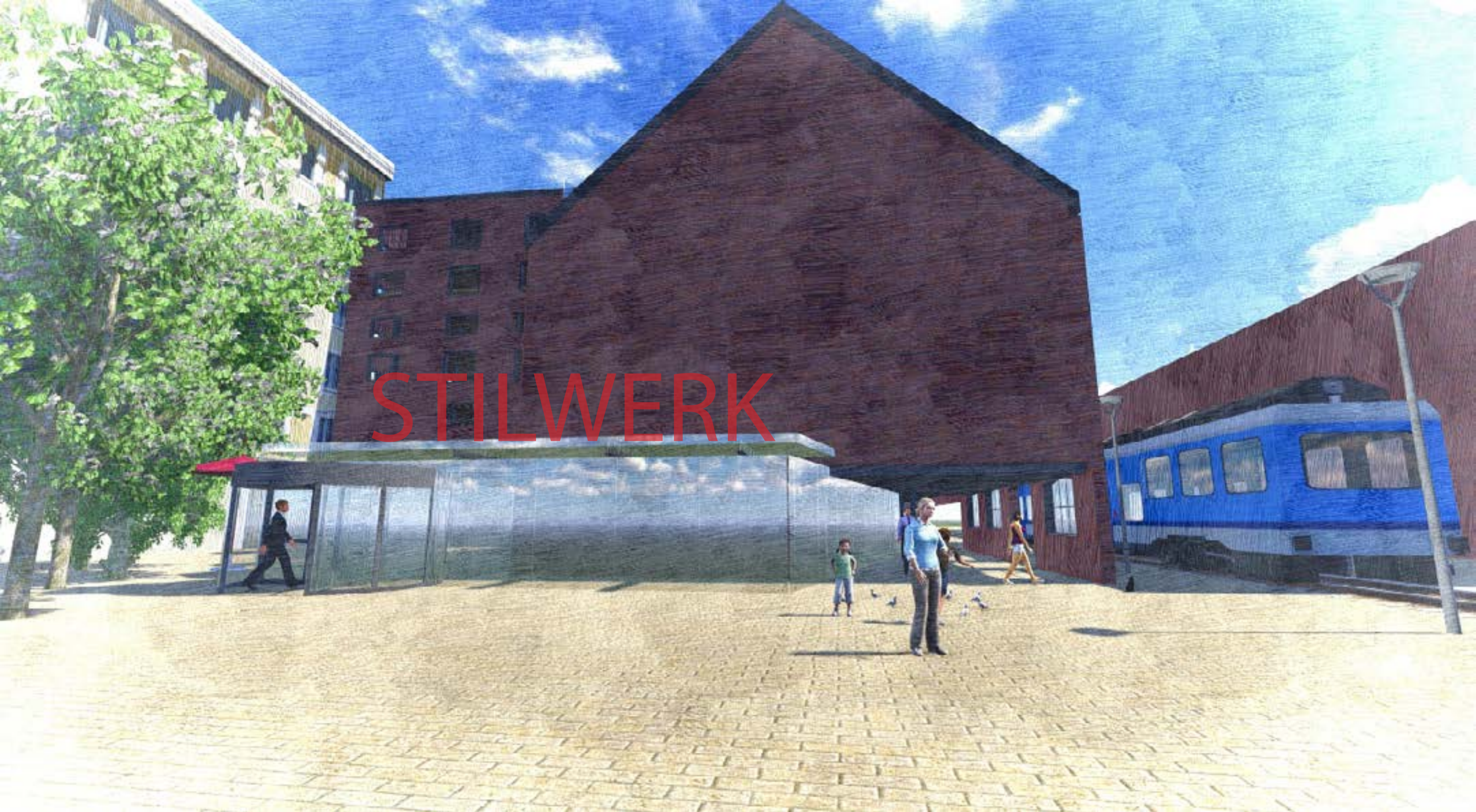
CLIMATE DESIGN







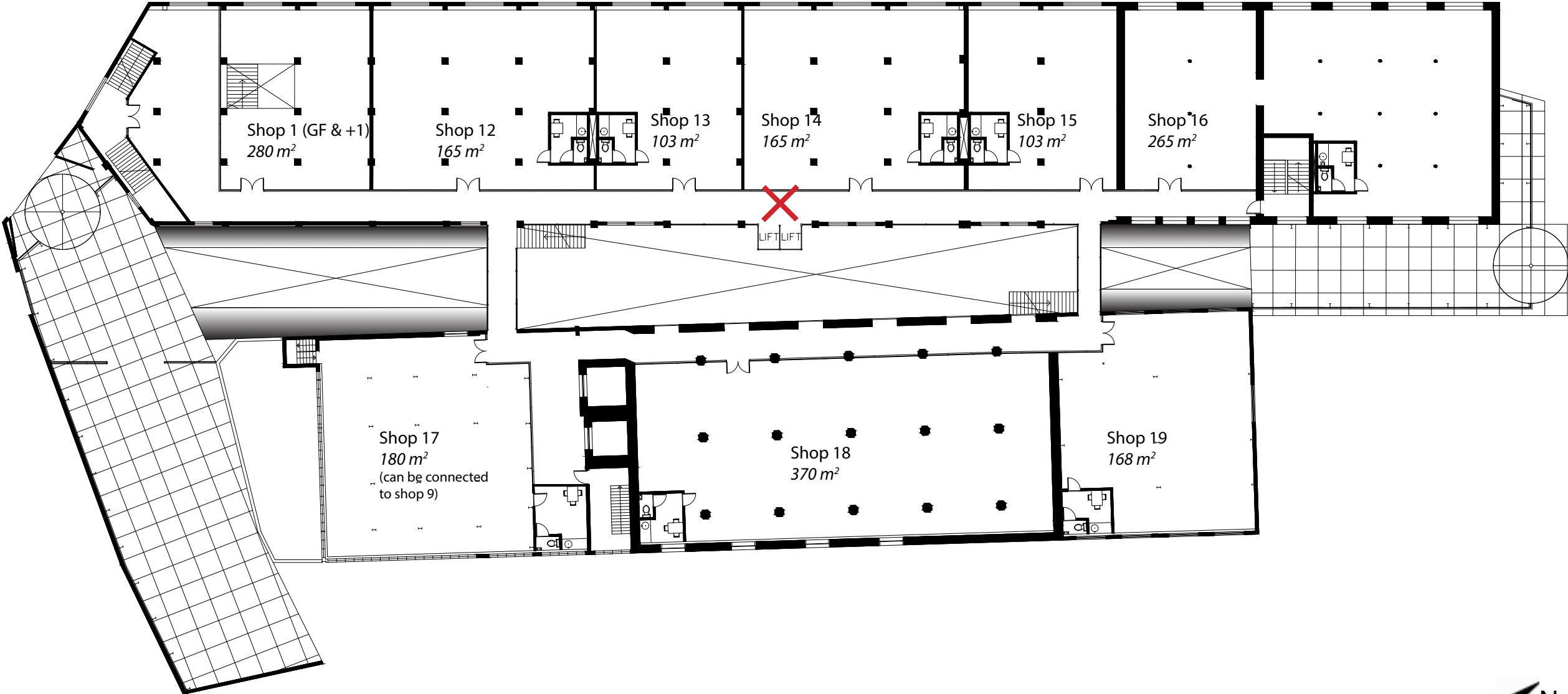
# STILWERK





# FLOOR PLANS

## First floor (+1)







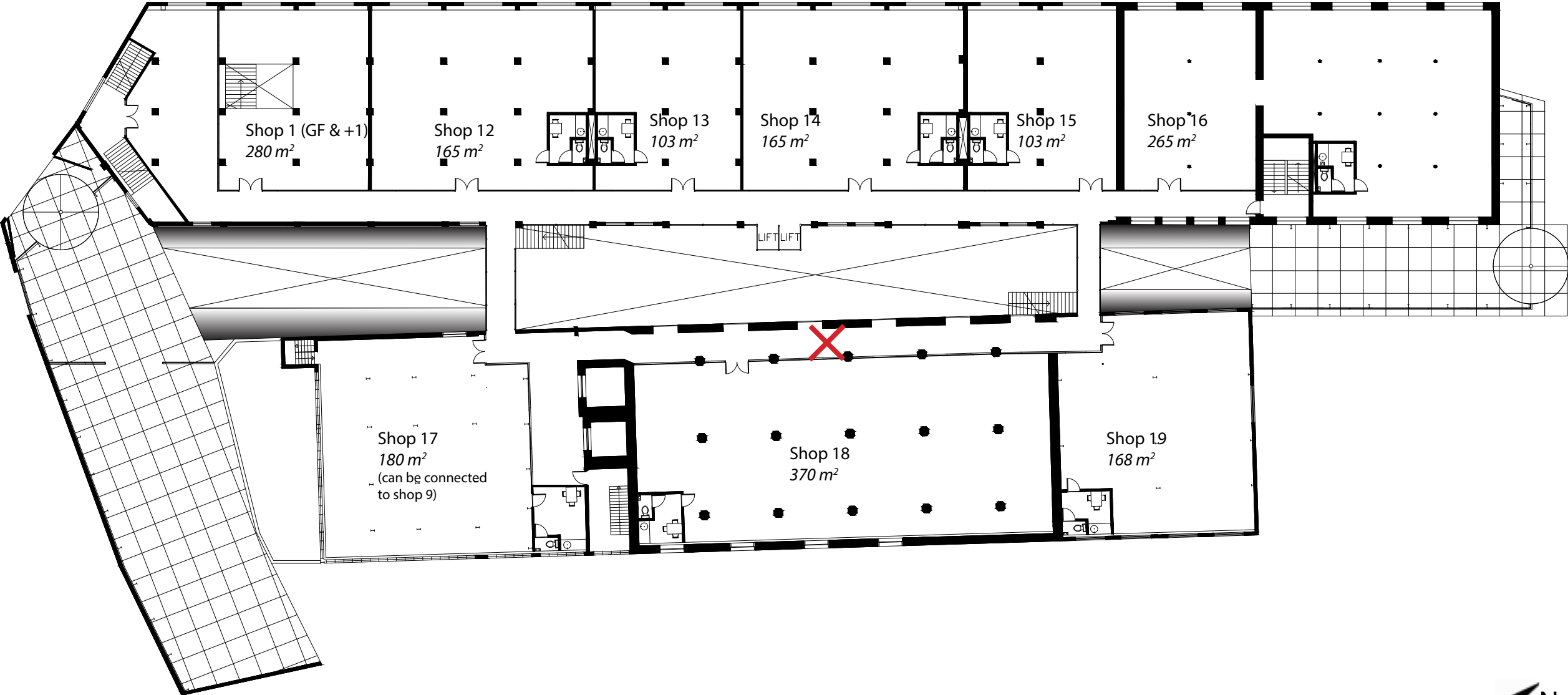






# FLOOR PLANS

## First floor (+1)





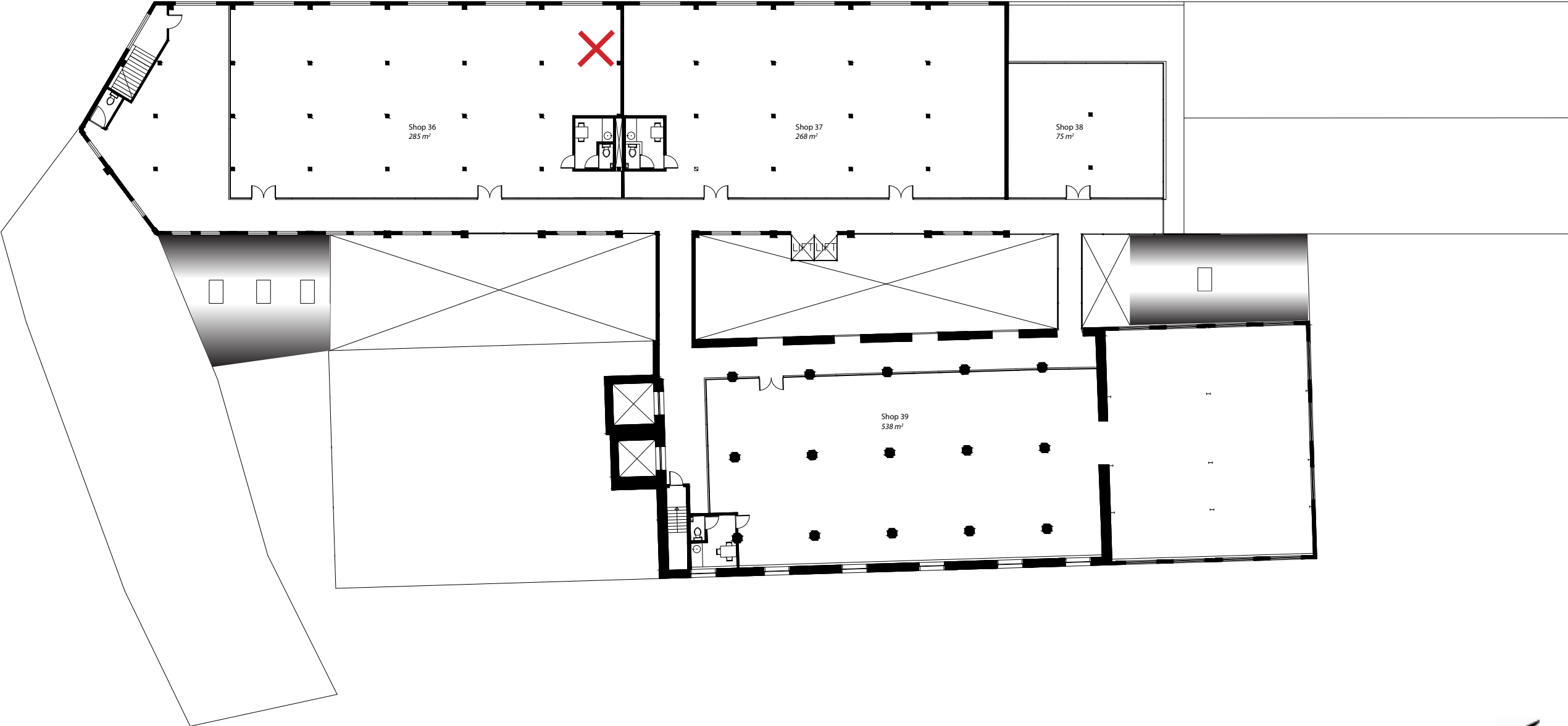




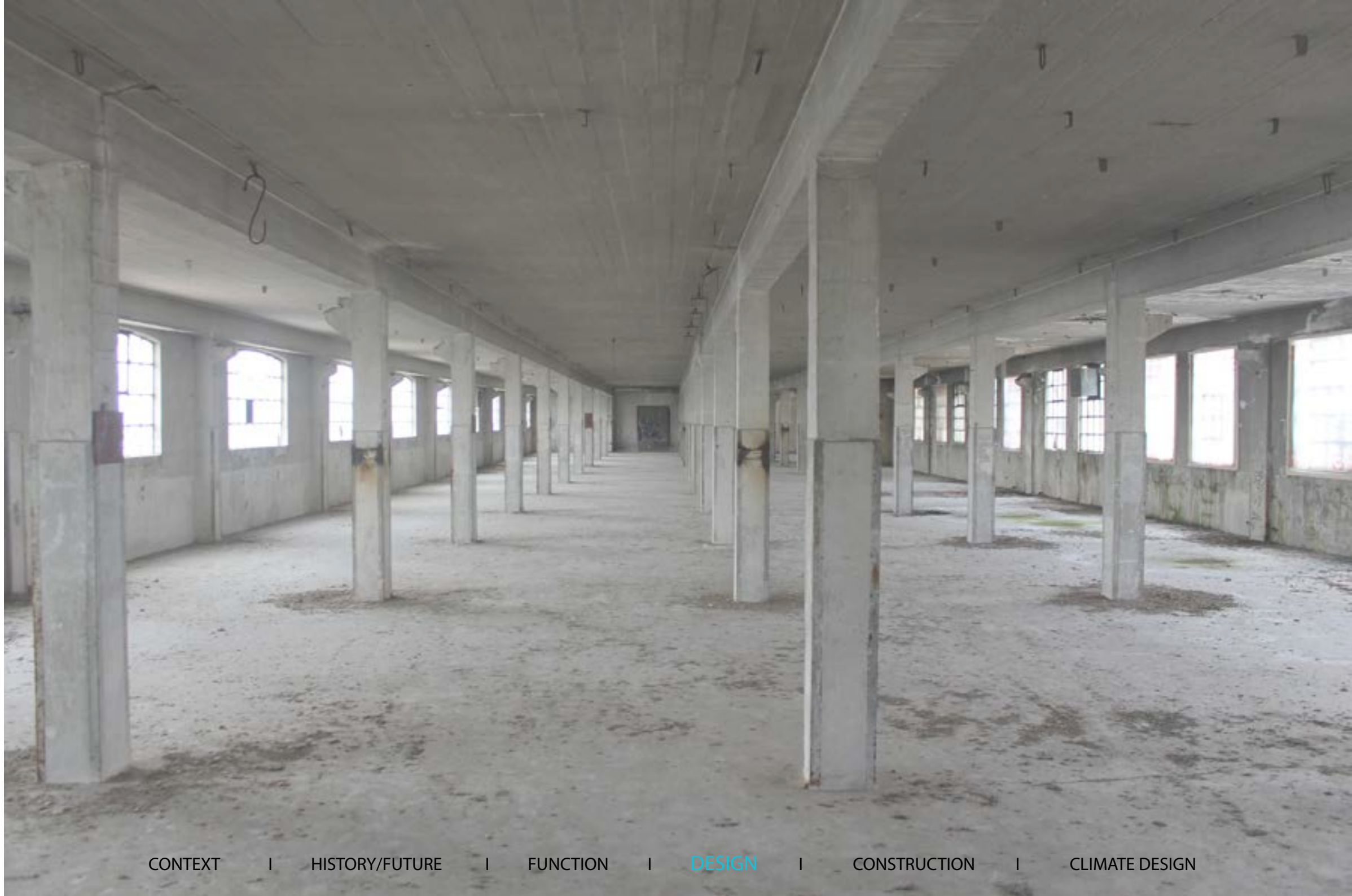


# FLOOR PLANS

Fourth floor (+4)













# FLOOR PLANS

## Fifth floor +5















# BUILDING TECHNOLGOY



# MATERIALIZATION



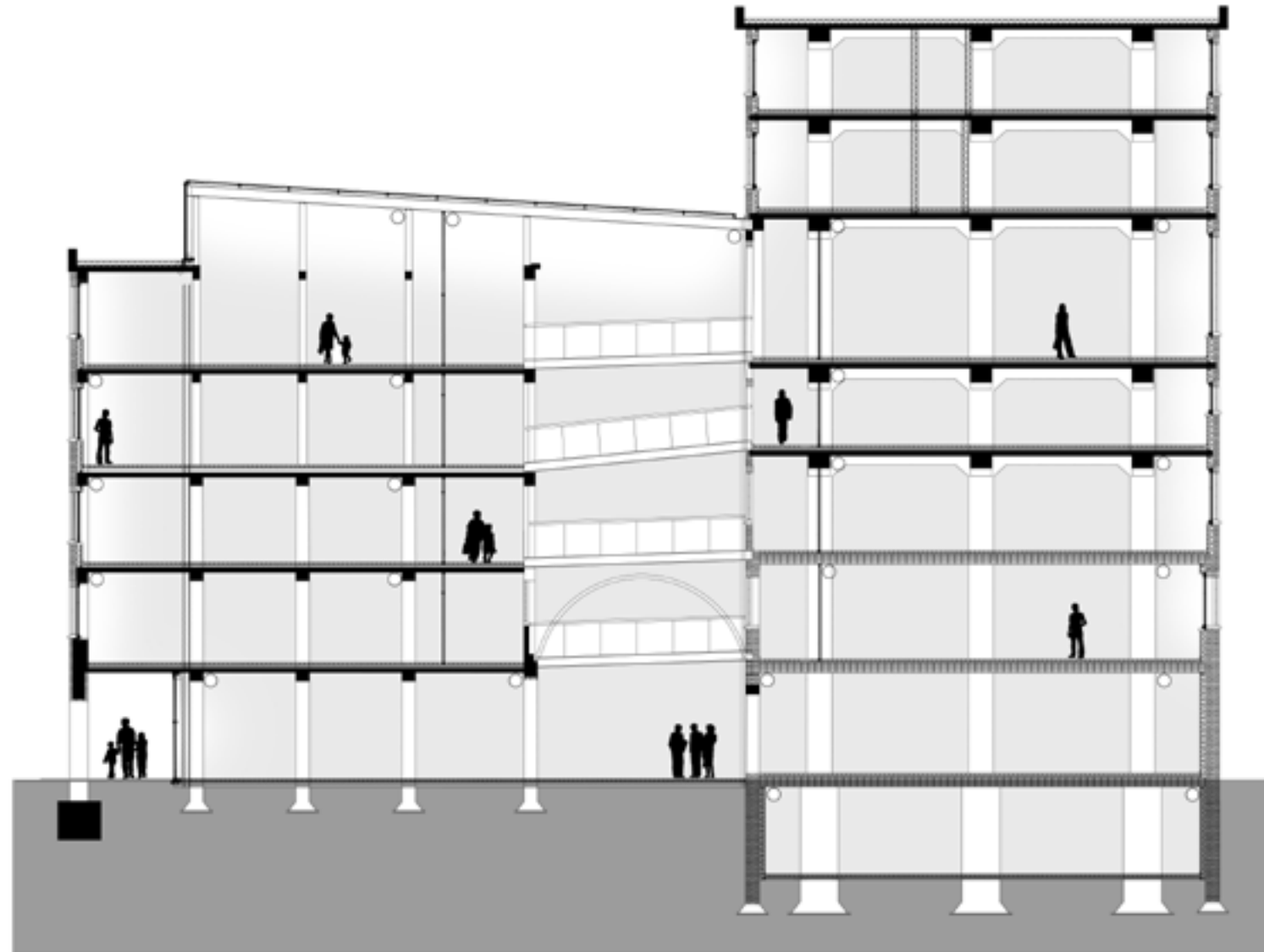
ATRIUM ROOF



FLOOR IN THE SHOPS



NEW WINDOWS



POLISHED CONCRETE FLOOR  
IN CIRUCULATION AREAS



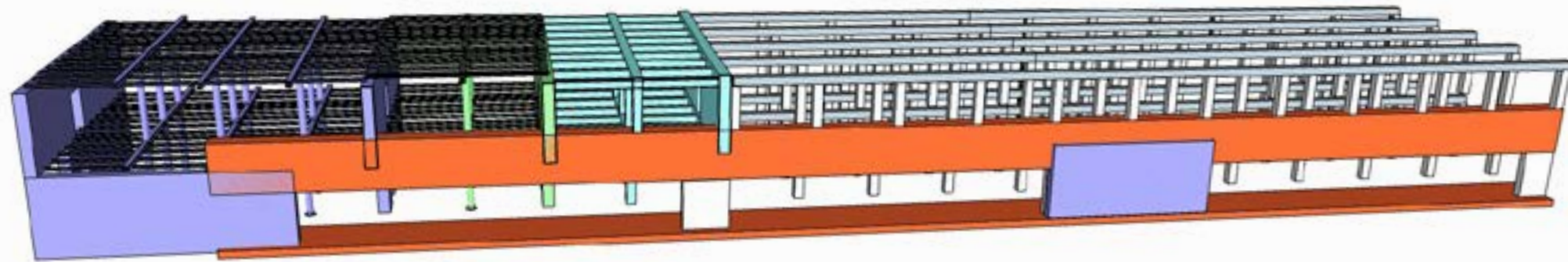
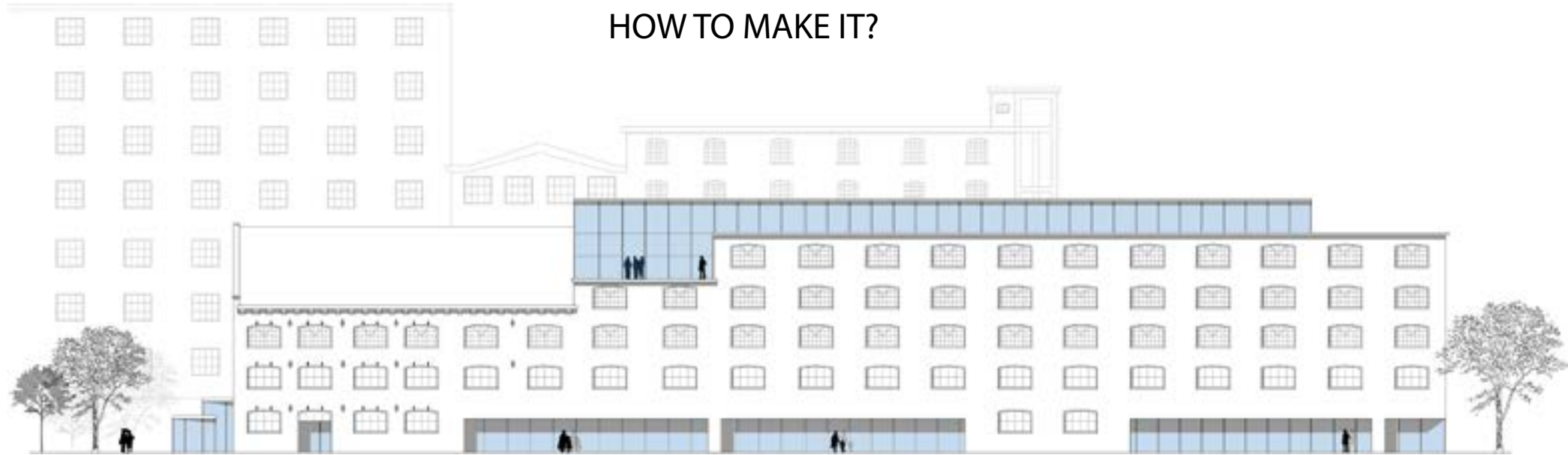
NEW PLINTH OF GLASS



GLASS BALUSTRADES

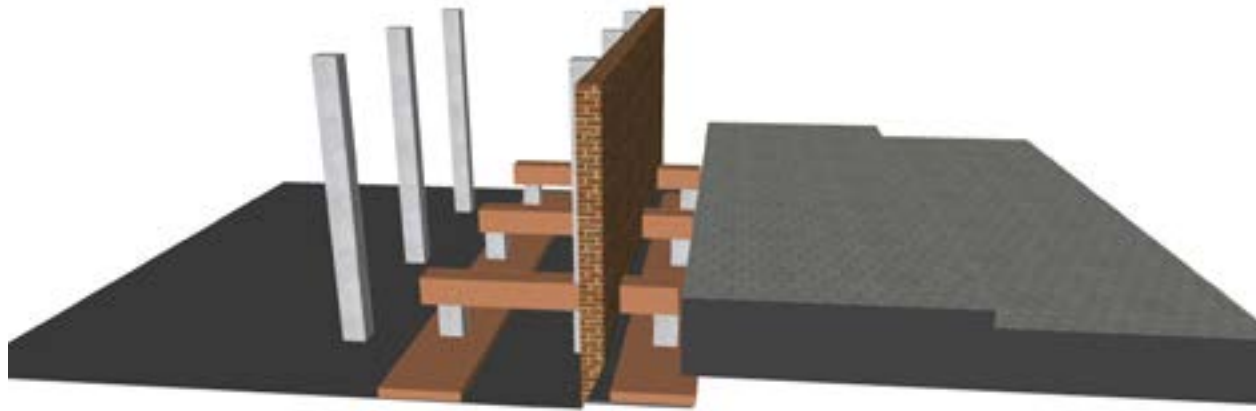
# OPEN PLINTH

## HOW TO MAKE IT?

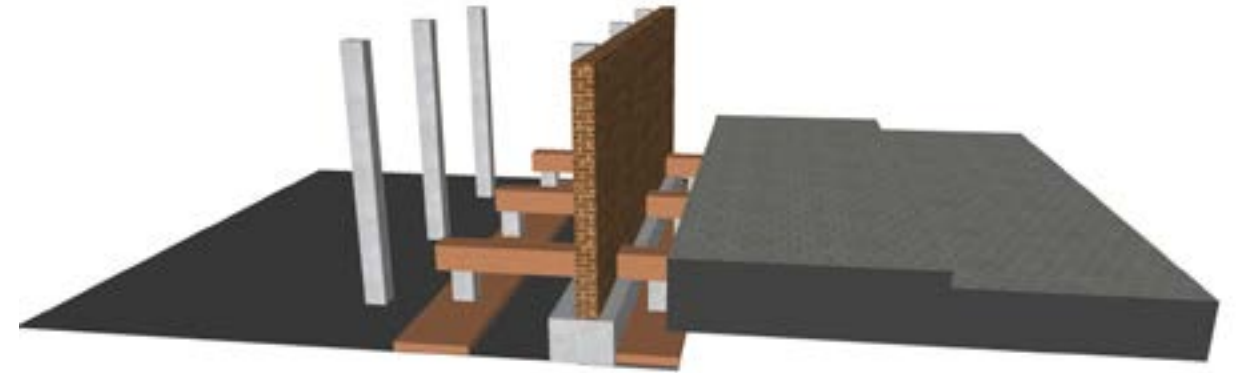


# OPEN PLINTH

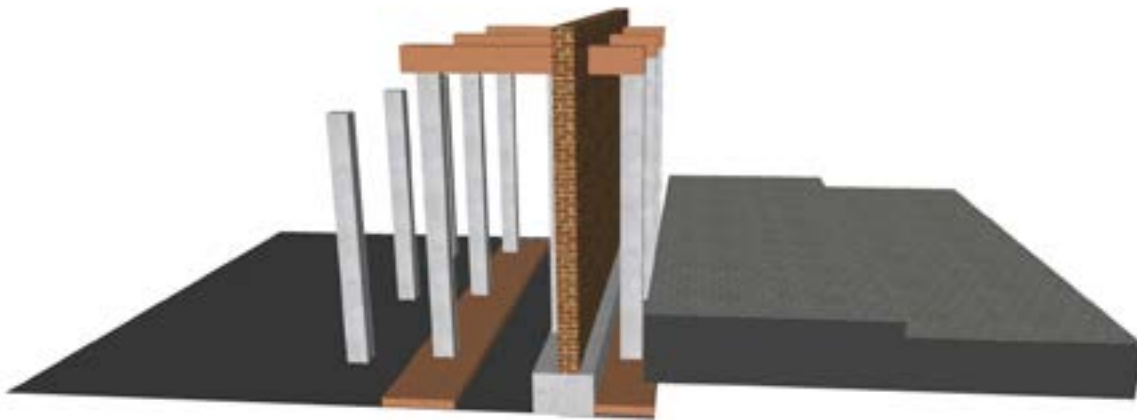
## HOW TO MAKE IT?



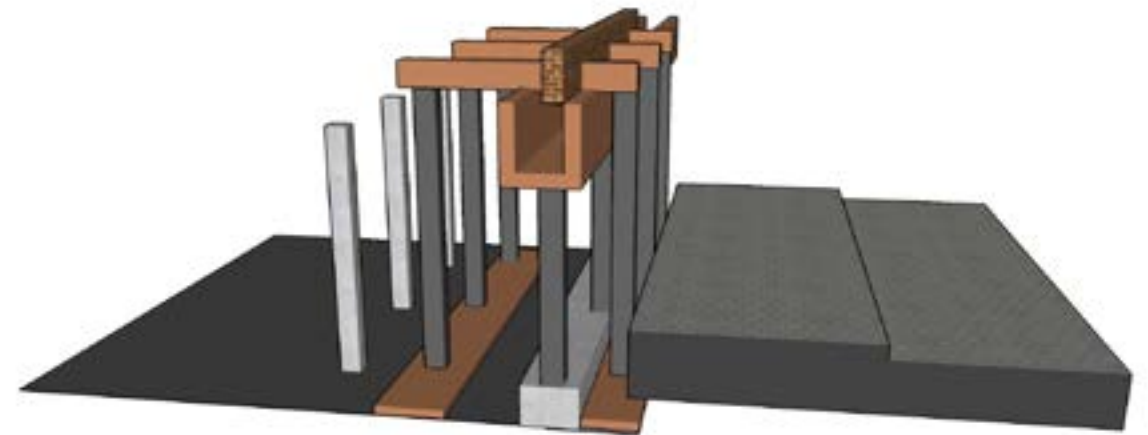
STEP 1



STEP 2



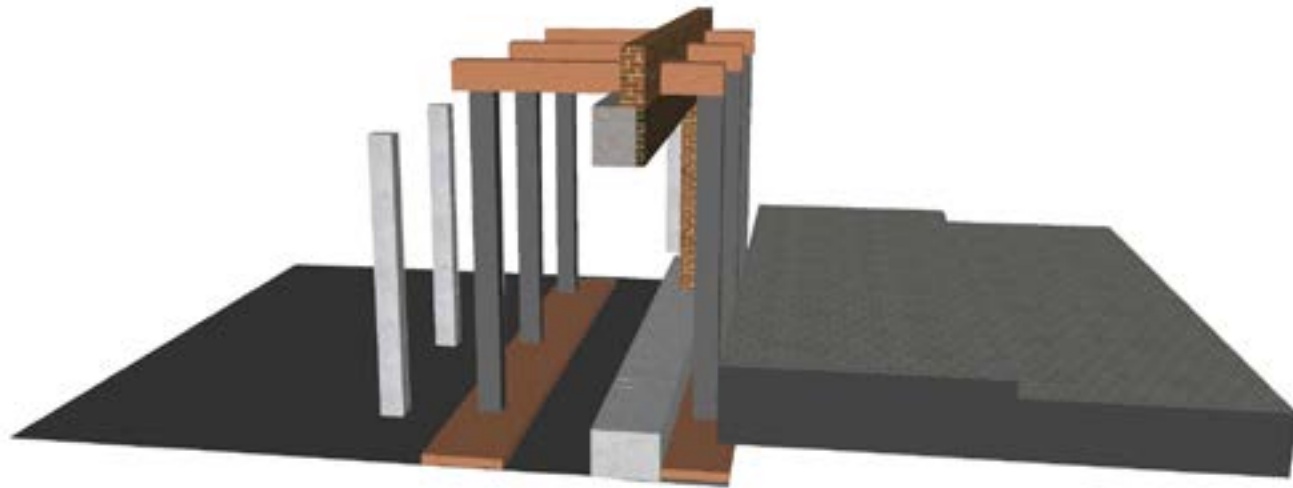
STEP 3



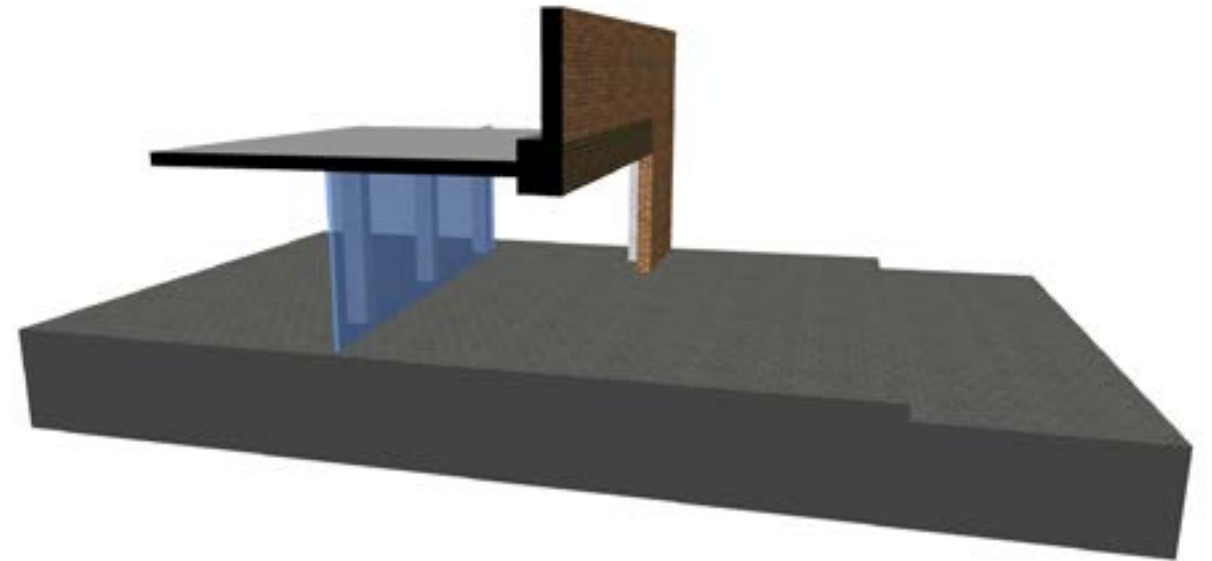
STEP 4



# OPEN PLINTH HOW TO MAKE IT?

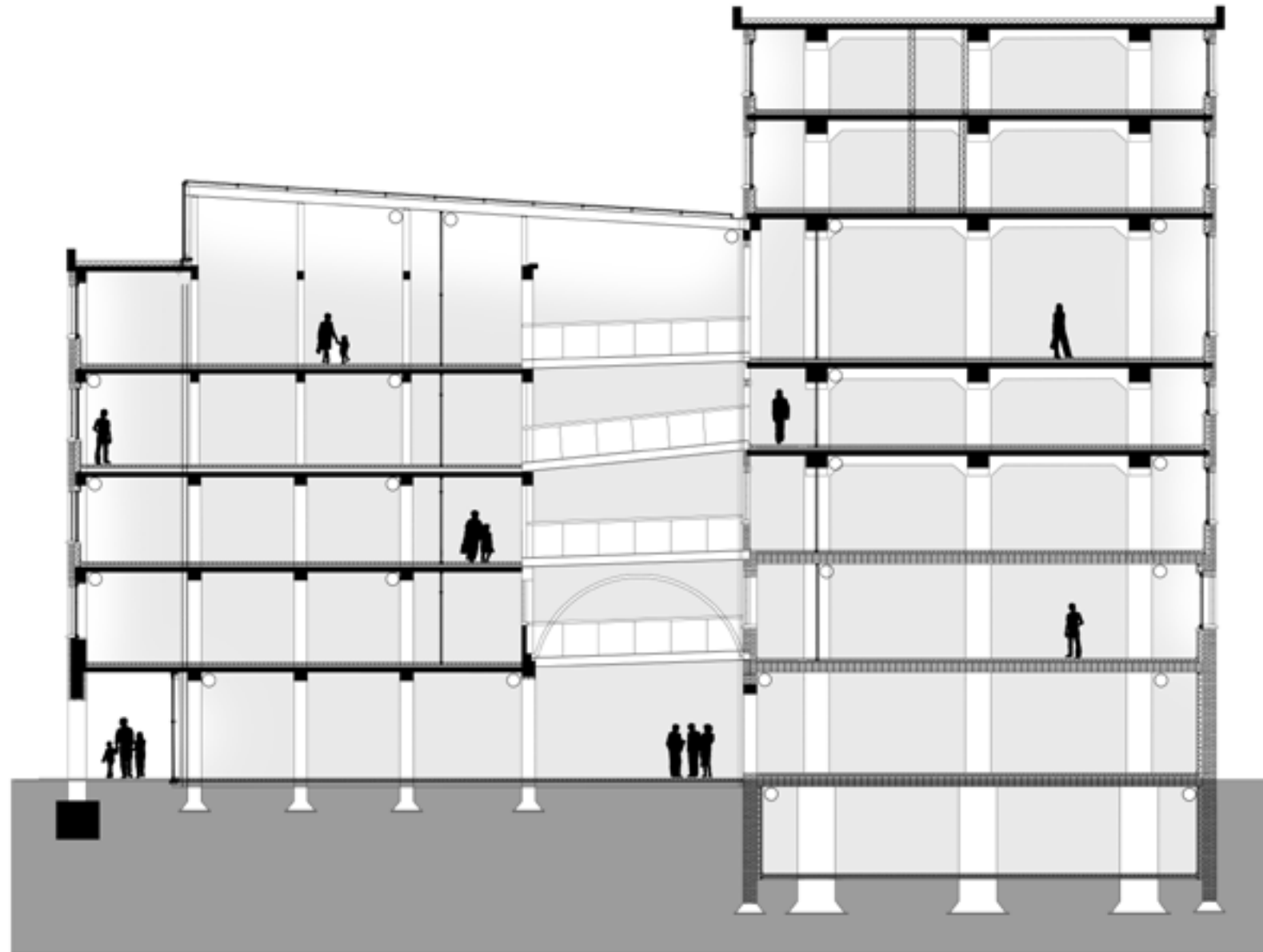


STEP 5

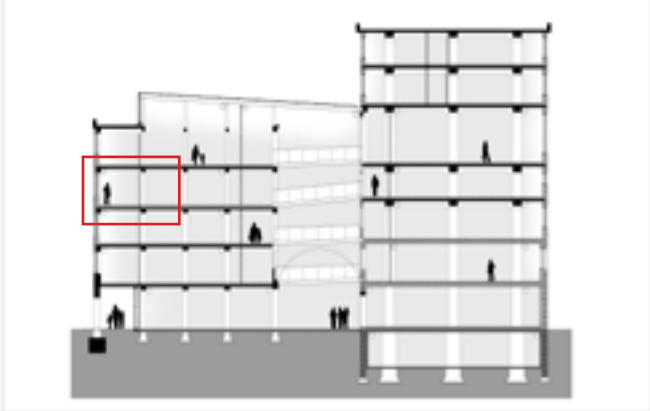
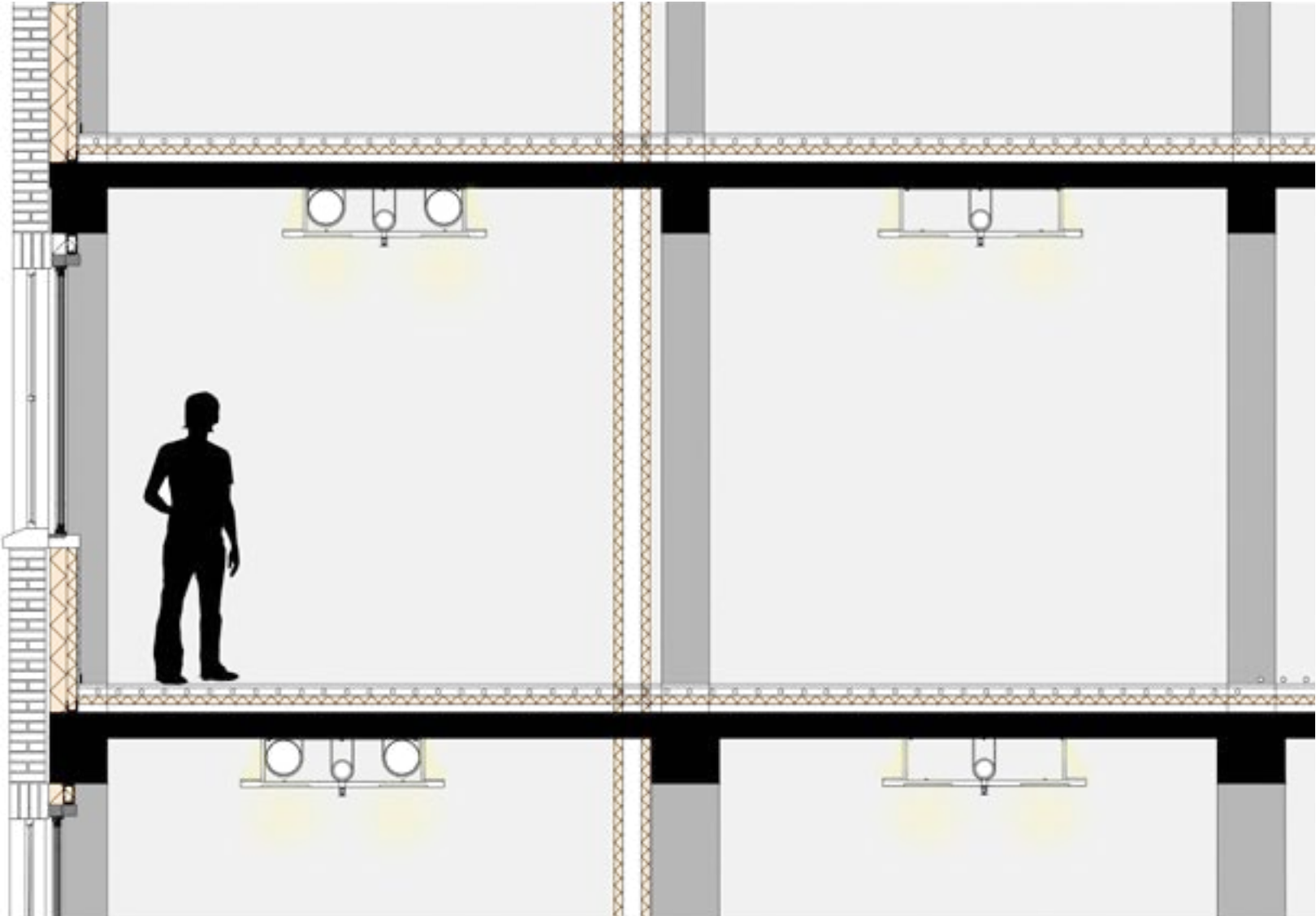


STEP 6

# SECTION



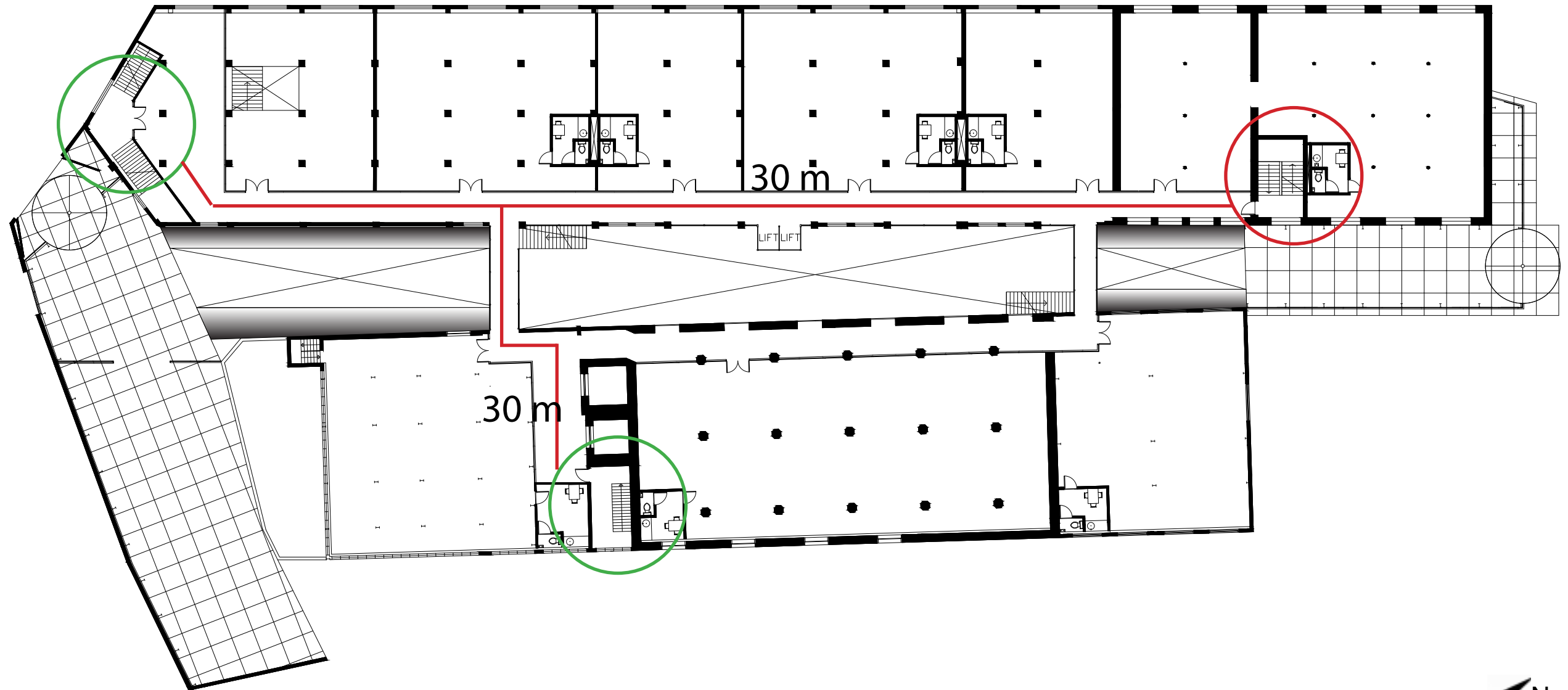
# SECTION FACADE DETAIL





# FIRE SAFETY

## First floor (+1)



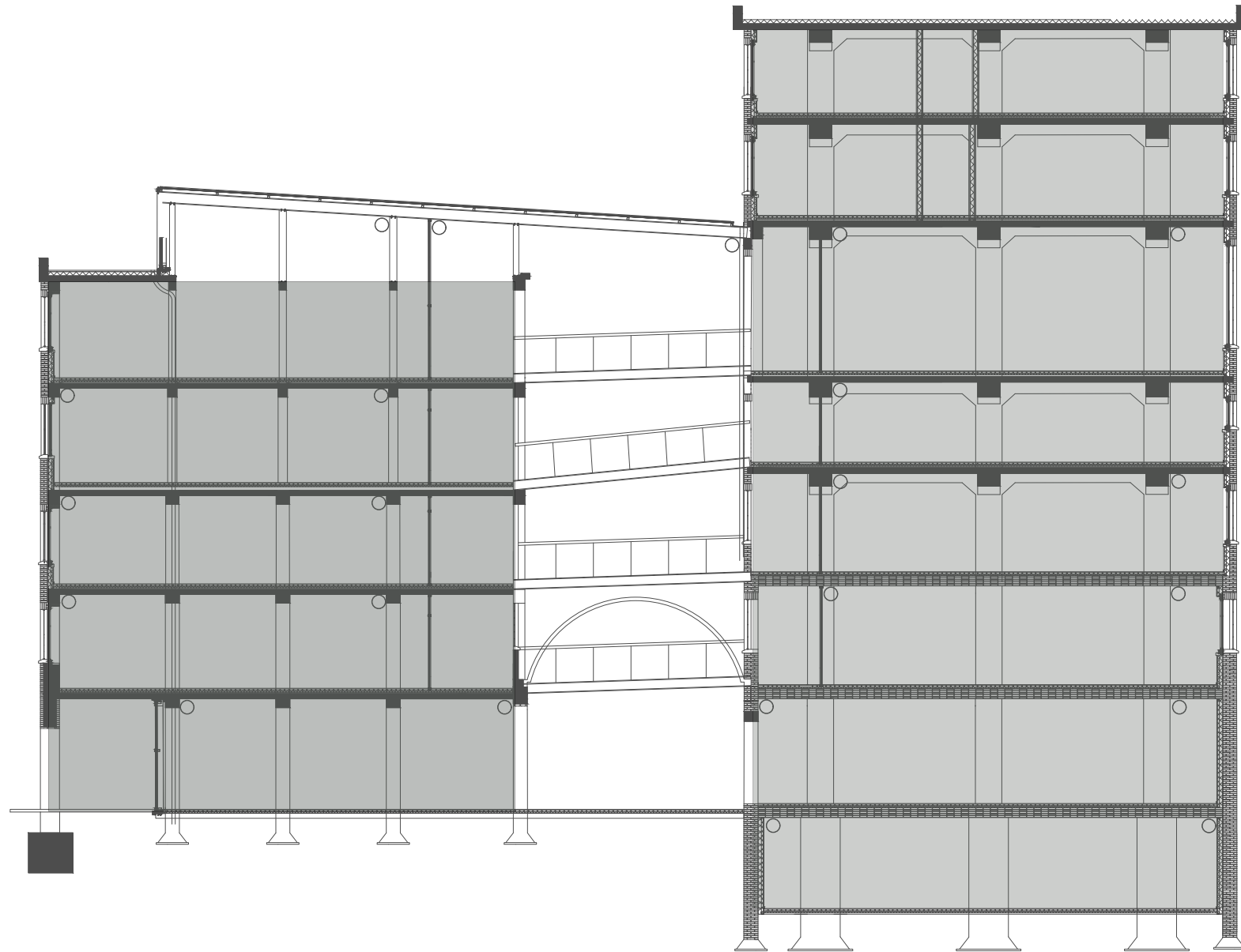


# SUSTAINABILITY



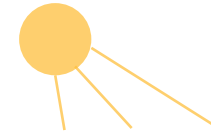
# HERITAGE

social / cultural

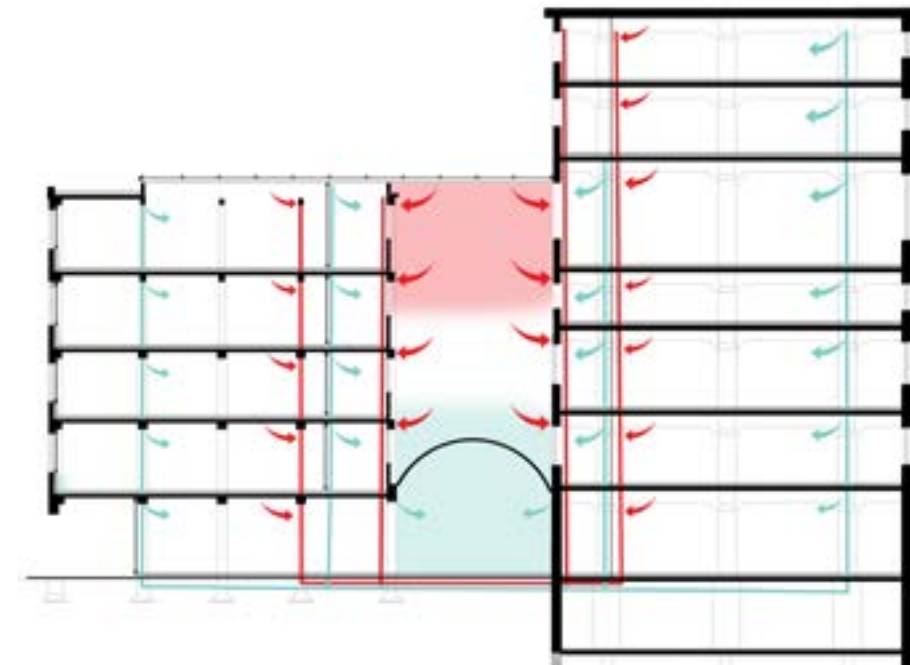




# CLIMATE DESIGN



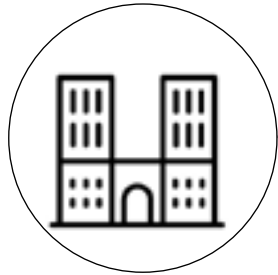
Heating



Mechanical ventilation

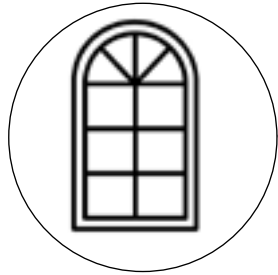


TEMPERATURE  
WINTER > 0°

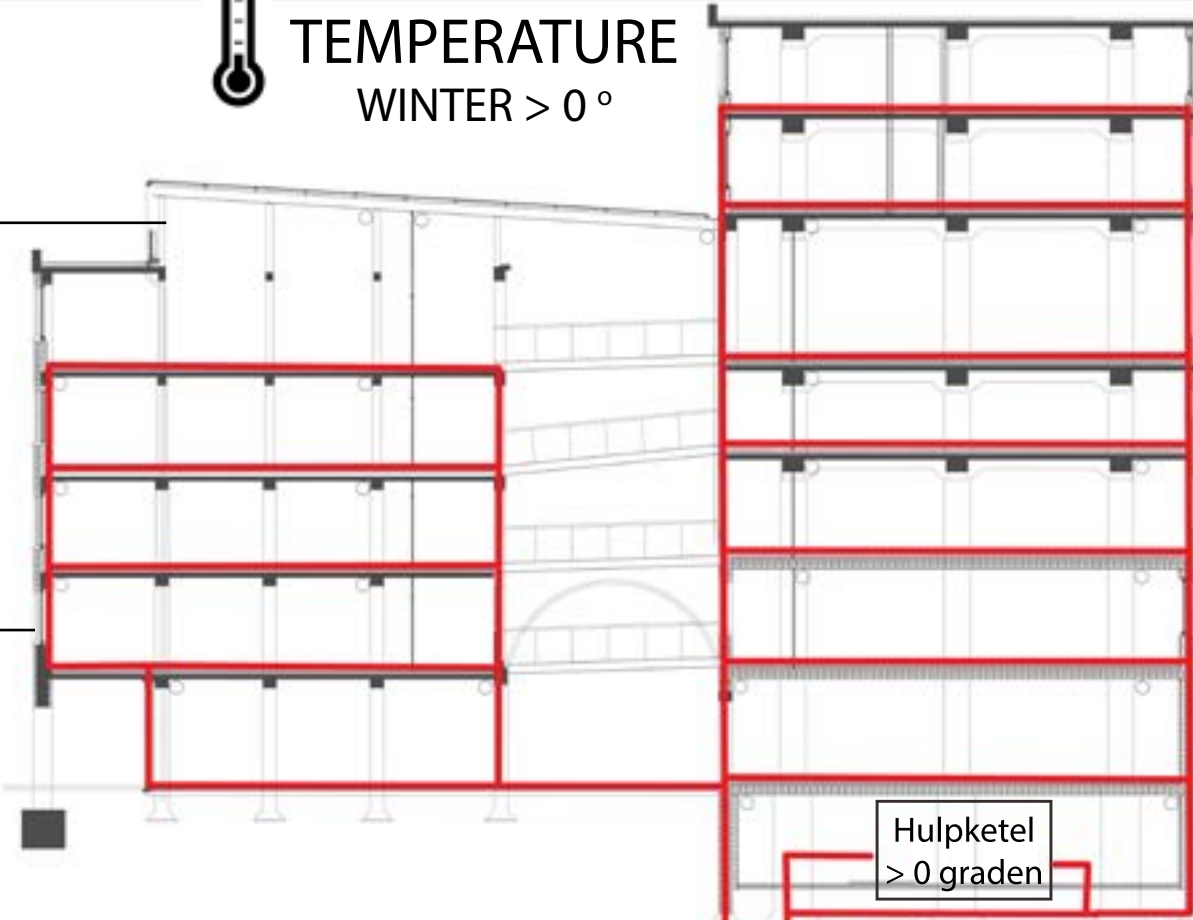


ATRIUM

34% LESS OUTSIDE FACADE



THERMAL WINDOWS  
REDUCES HEIGHT LOSS,  
INCREASE DAYLIGHT



Restwarmte/koude  
Papierfabriek Sappi

Hulpketel  
> 0 graden

Warmtepomp  
> 13 graden

TSA  
(warmtewisselaar)



FLOOR HEATING  
MORE COMFORT  
SAVES ENERGY WITH 15%



TEMPERATURE  
SUMMER > 30 °



NATURAL VENTILATION

Restwarmte/koude  
Papierfabriek Sappi

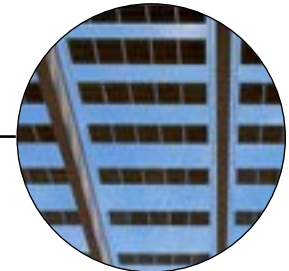
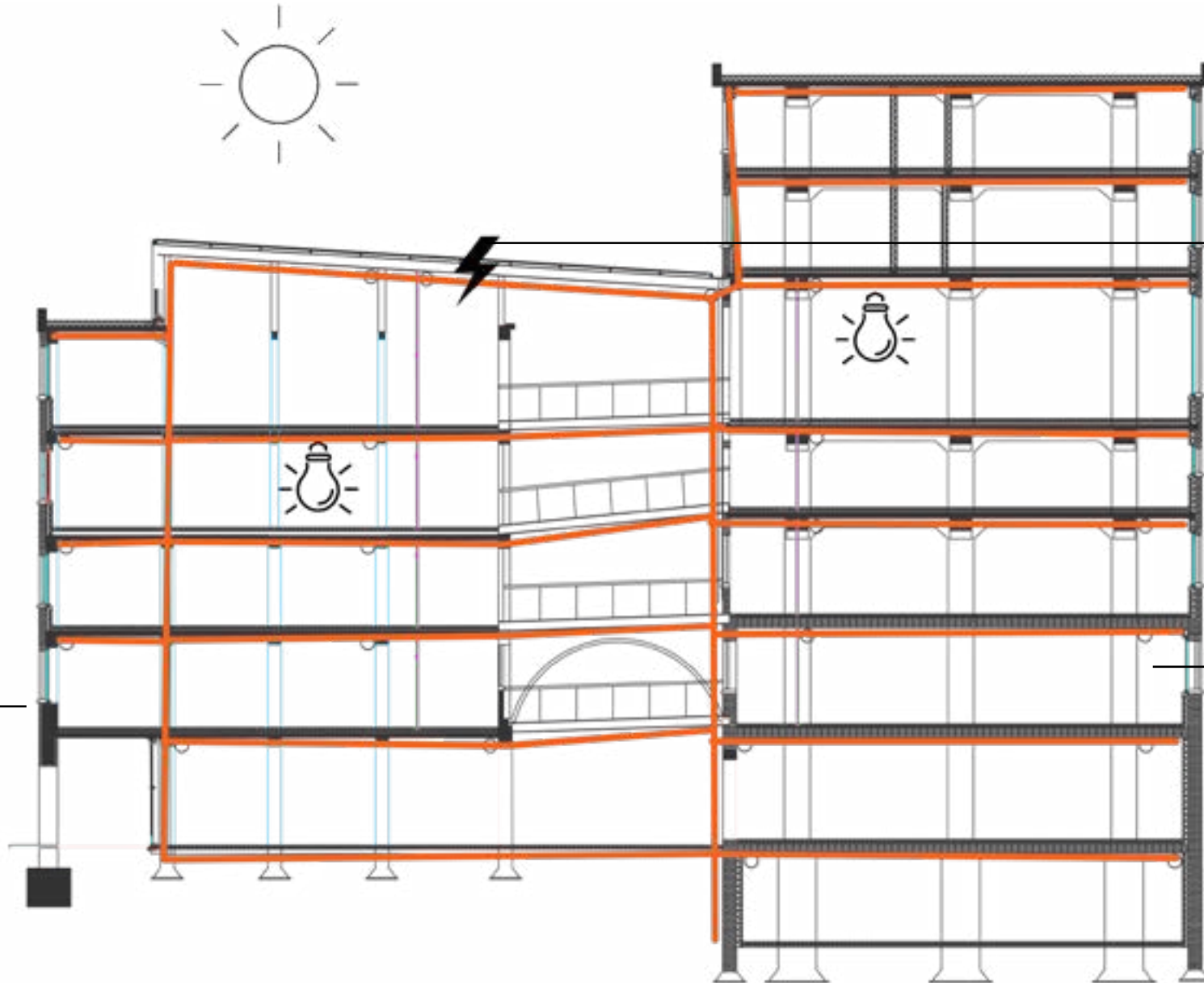
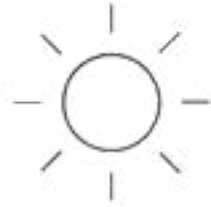
Warmtepomp  
> 13 graden

TSA  
(warmtewisselaar)

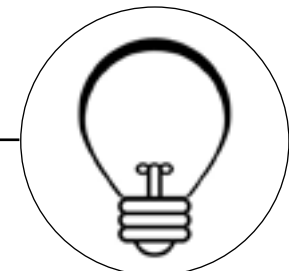
TSA



# ⚡ ELECTRICITY



**SOLAR PANELS**  
CONVERT SUNLIGHT INTO  
ELECTRICITY

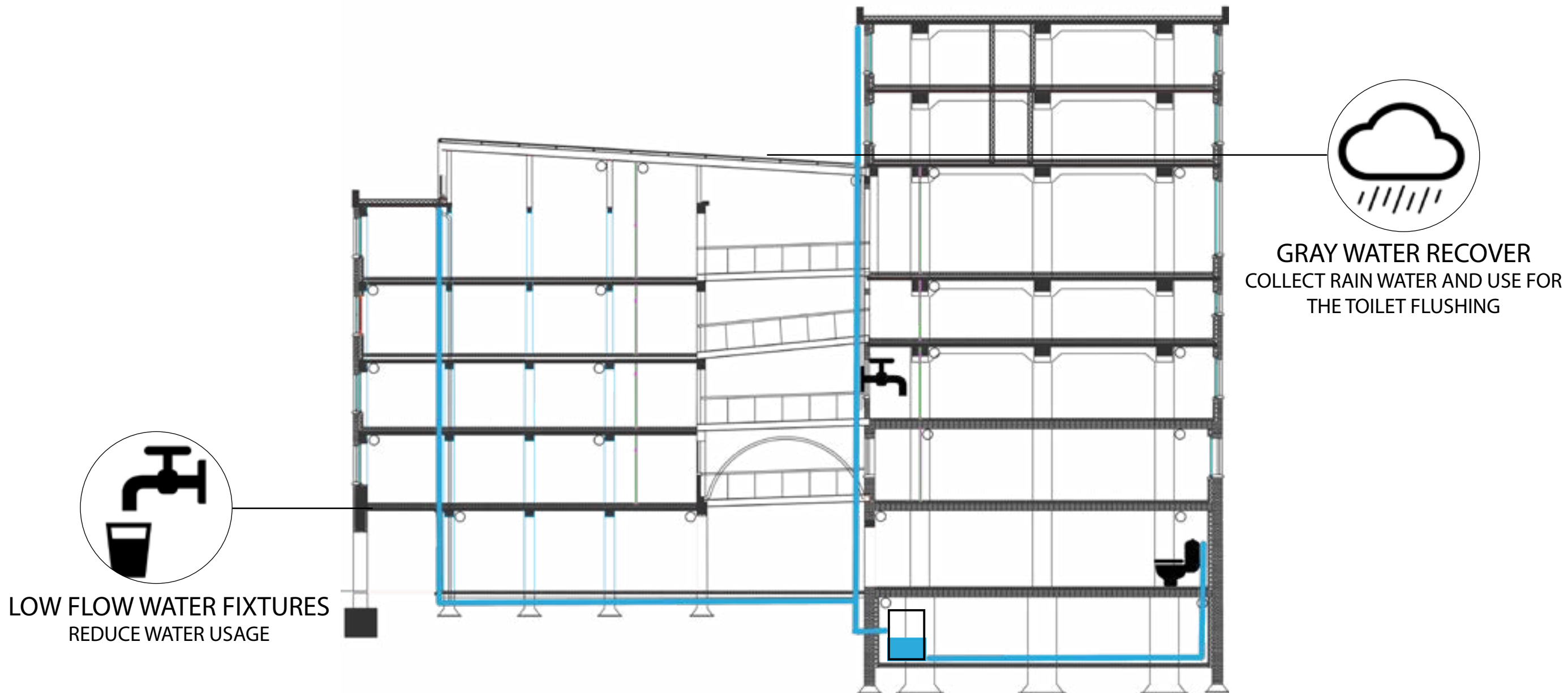


**ENERGY EFFICIENT LIGHTING**  
LED, CFL AND OLED LIGHTING,  
MOTION SENSORS IN TOILETS



**SUSTAINABLE ENERGY**  
BELVEDERE SUN, WIND AND  
BIOMASSA ENERGY

WATER



LOW FLOW WATER FIXTURES  
REDUCE WATER USAGE

GRAY WATER RECOVER  
COLLECT RAIN WATER AND USE FOR  
THE TOILET FLUSHING



# SUMMARY







Thank you

Kirsten van Zeijl  
Heritage & Architecture