

**P5**

**ARCHITECTURE OF PRODUCTION:  
JUÁREZ GARMENT FACTORY**

**Niek van Laere**

**14.12.2016**

# **BORDERS**

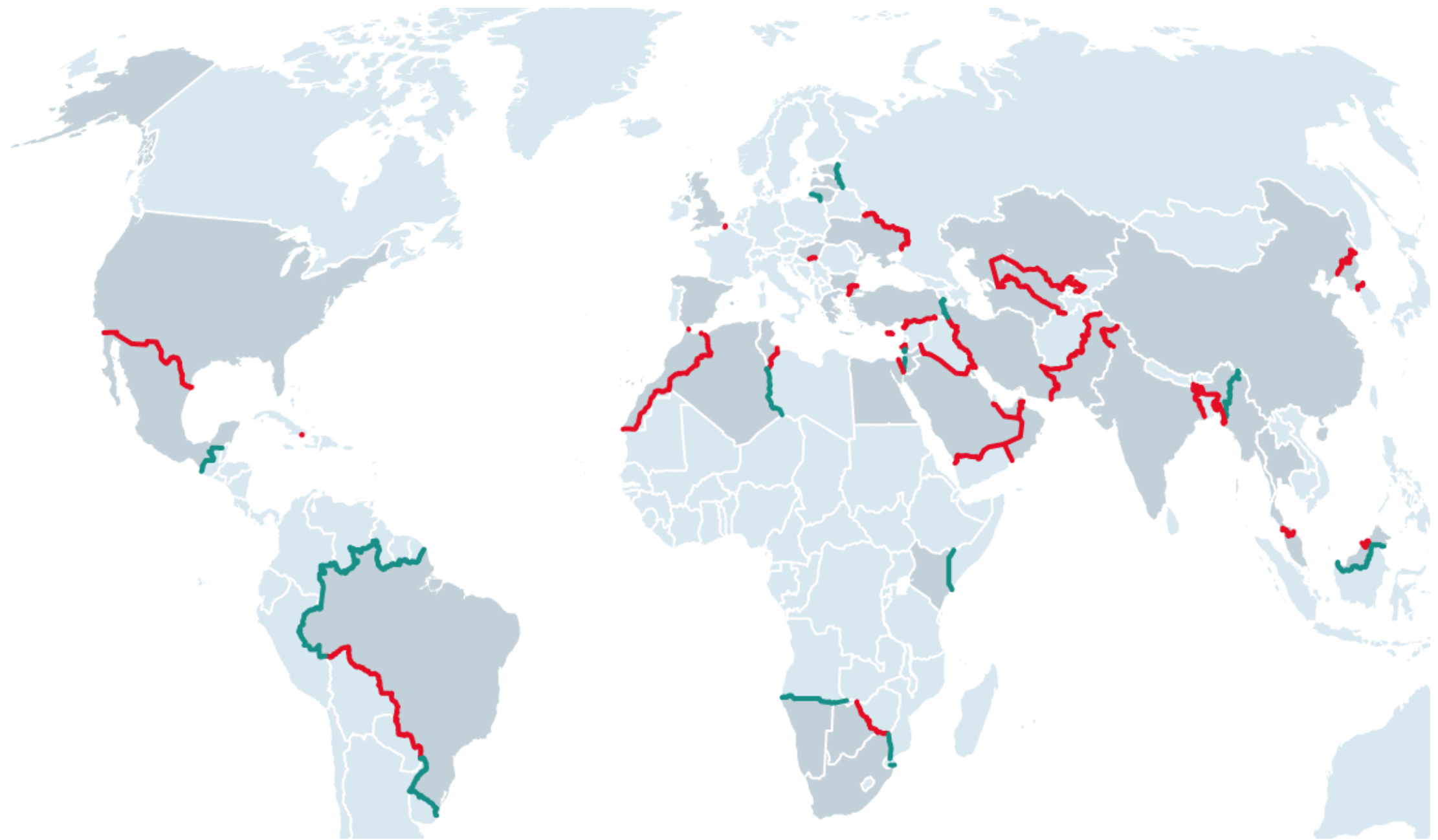


**GLOBALISATION**  
**FREEDOM**  
**FREE MOVEMENT OF GOODS AND PEOPLE**





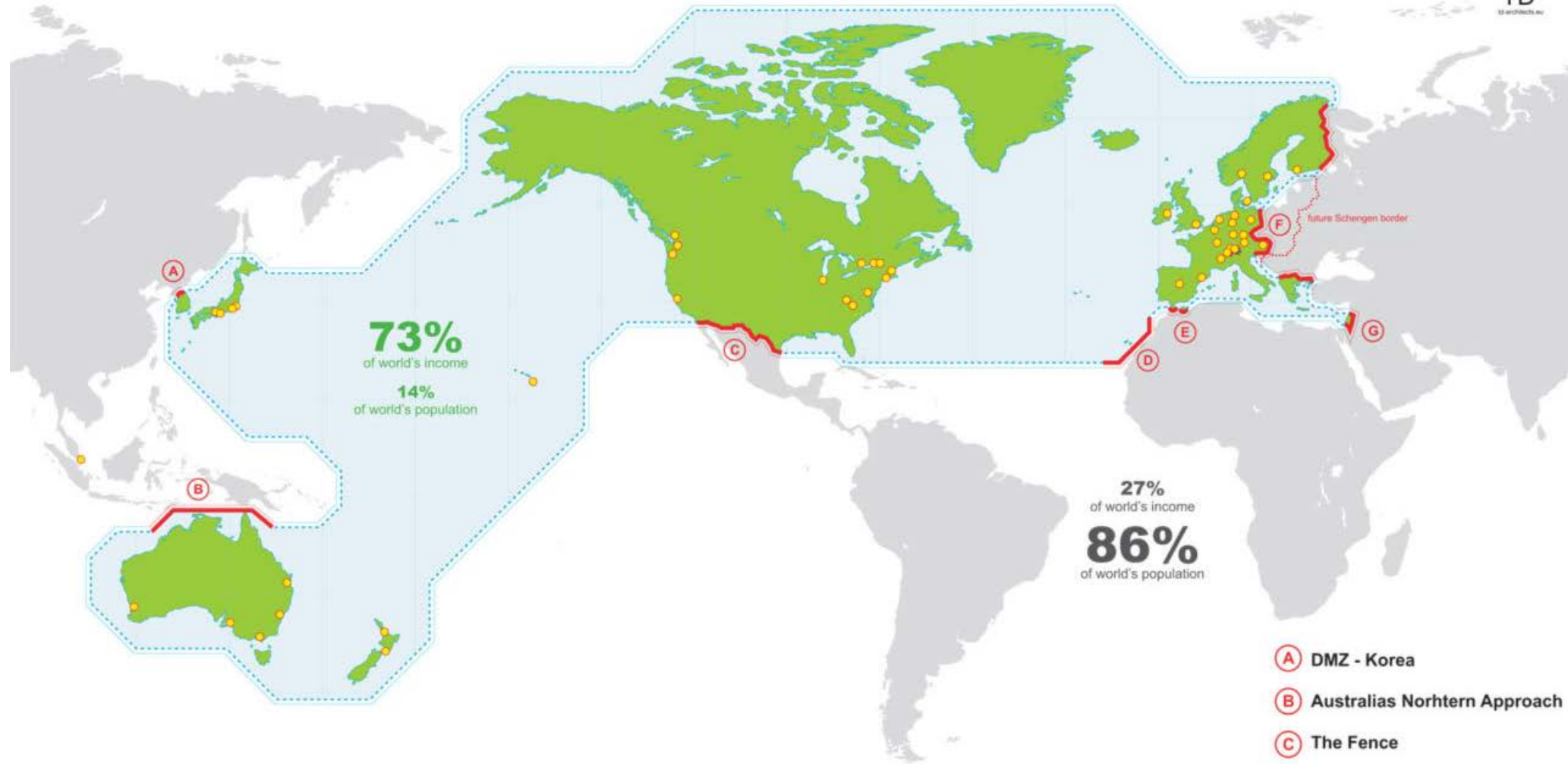




**TRADE YES**

**PEOPLE NO**

# Walled World



● World's top 50 Quality of Life cities

■ heavily guarded border zone

■ Switzerland voted in 2005 for the membership to the Schengen community and will become "Schengen-country" soon

- (A) DMZ - Korea
- (B) Australias Norhtern Approach
- (C) The Fence
- (D) EU Maritime Borders
- (E) Melilla & Ceuta fences
- (F) Schengen Borders
- (G) The Palestinian Wall

# **U.S. - MEX BORDER**









# **TRADE AND PRODUCTION**

**LARGE SCALE INTERNATIONAL COMPANIES**

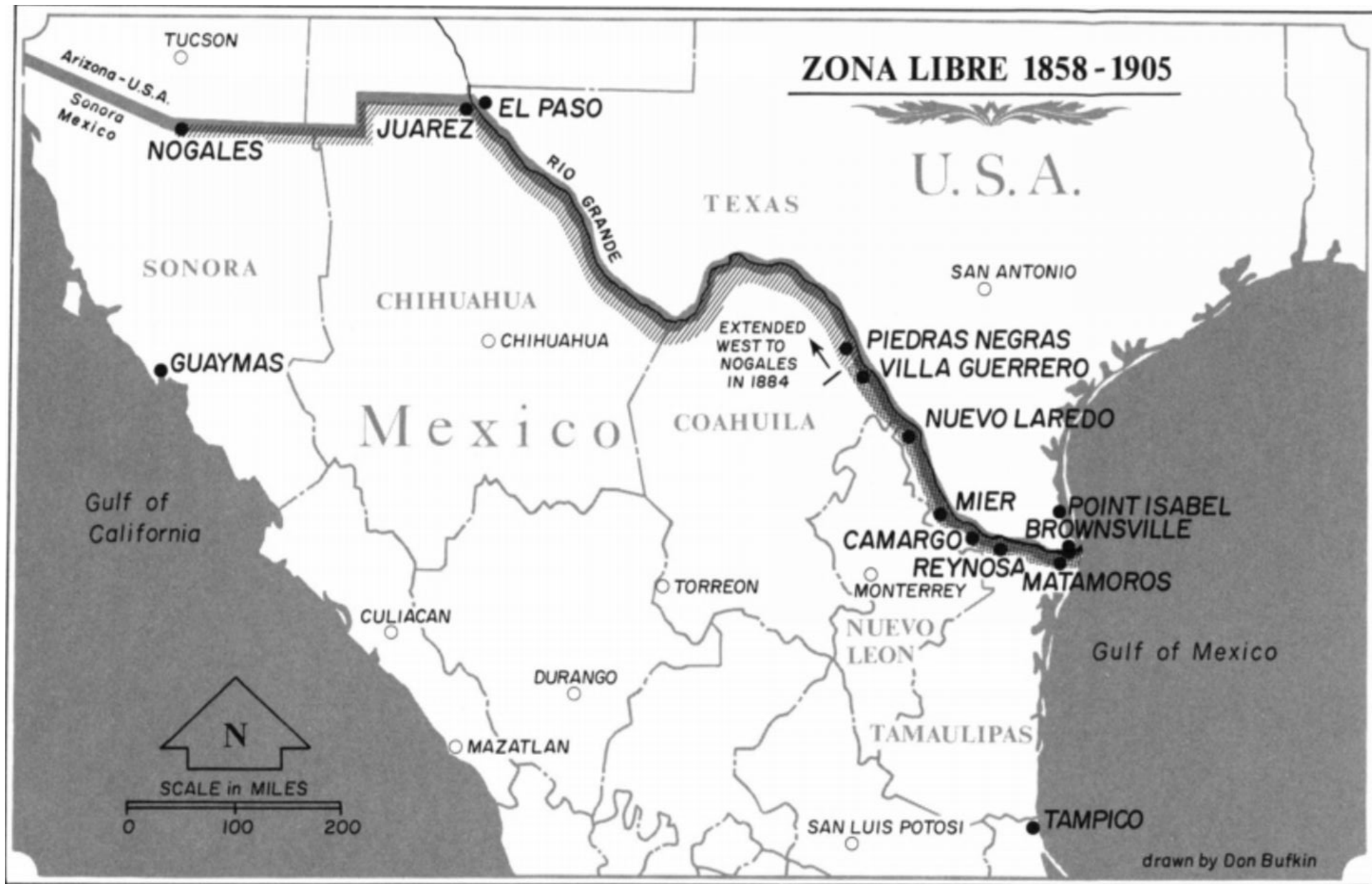


**MEXICAN LABOUR FORCE**

# TREATY OF HIDALGO



# ZONA LIBRE



## MEXICAN REVOLUTION



**BRACERO PROGRAM**



**1942-1961**

## BORDER INDUSTRIALISATION PROGRAM



1965

# NAFTA



**WORKING CONDITIONS**



## WORKING CONDITIONS

**“We were exposed to chemicals. The adhesive smelled horrible.  
My nose used to bleed from it”.**

Former employee of the closed Sanyo maquila in Tijuana

# POLLUTION



# POVERTY

WORLD JUNE 17, 2012

## Mexico's 'maquiladora' labor system keeps workers in poverty

### HIGHLIGHTS

Some four decades after welcoming foreign assembly plants and factories, known as maquiladoras, Mexico has seen only a trickle of its industrial and factory workers join the ranks of those who even slightly resemble a middle class. Instead, poverty still clutches them.



Employees work the production line at a factory in Ciudad Acuna, Coahuila state, Mexico. MCT



By Tim Johnson · McClatchy Newspapers



By day, Sergio Martinez labors in a modern air-conditioned factory a few miles from the Texas border, a human cog in the global supply chain that helps build pickups and tractor-trailer cabs. He wears a smart uniform at work.



At night, he comes home to a dirt-floor shack with a bare light bulb and no indoor plumbing. Mosquitoes buzz incessantly. He and his family live like poor dirt farmers.



His salary of \$7.50 a day is enough to provide for the family dinner table, the cost of bootleg water and electricity, and an occasional article of discarded clothing for his wife or two girls, but rarely anything else.



### VIDEOS



about 2 months ago

Beijing celebrates 70th anniversary of WWII end with military might



about 2 months ago

Assad's days have been "numbered" for a very long, long time.



about 2 months ago

In China: Bonding through parkour



about 11 hours ago

Sacramento police chief provides details in Spencer Stone stabbing arrest

[VIEW MORE VIDEO](#)

## AREAS OF PRODUCTION



**ALIENATION OF PRODUCTION**



## CELEBRATION OF PRODUCTION



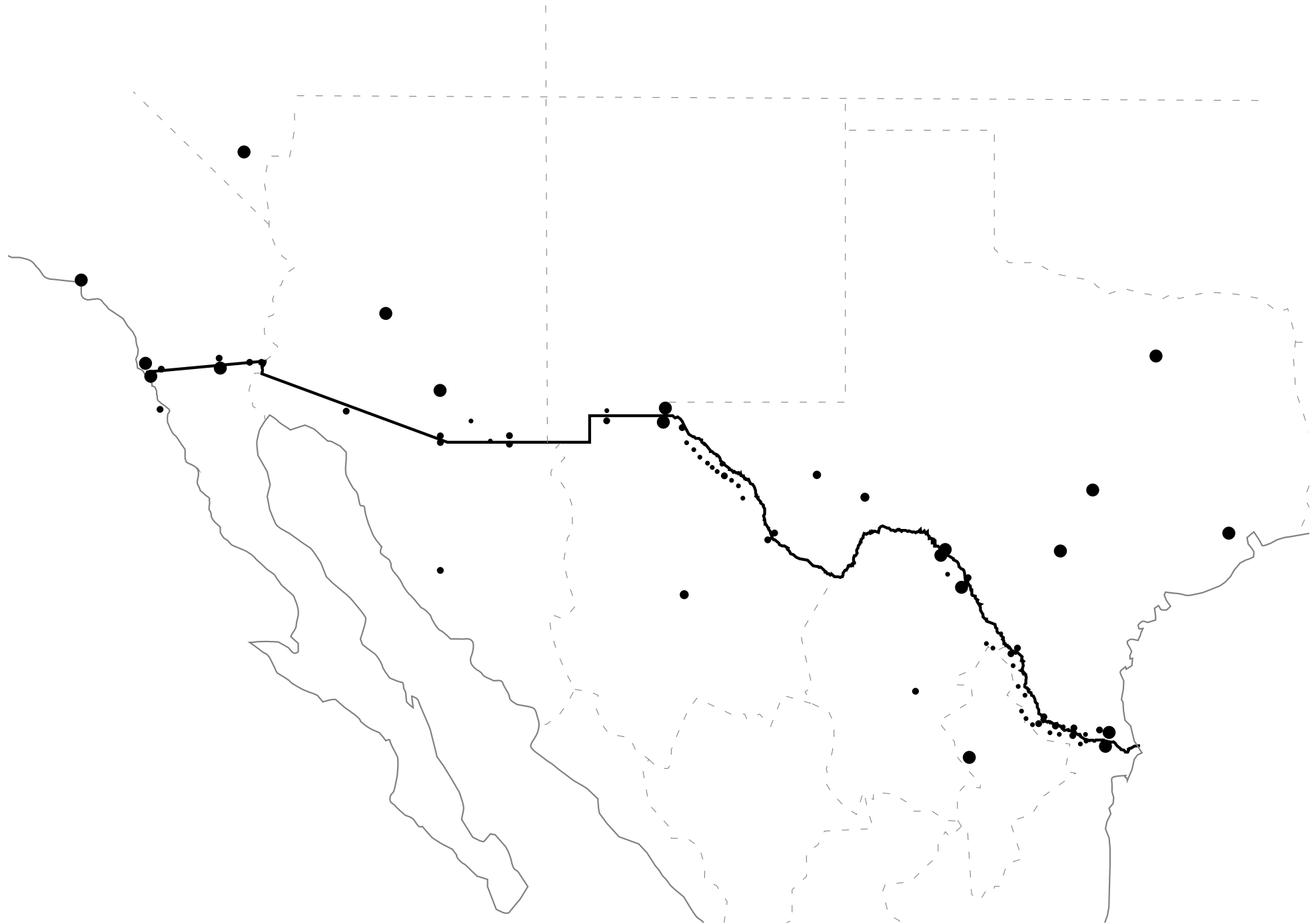
## CELEBRATION OF PRODUCTION



**RETHINK THE FACTORY**

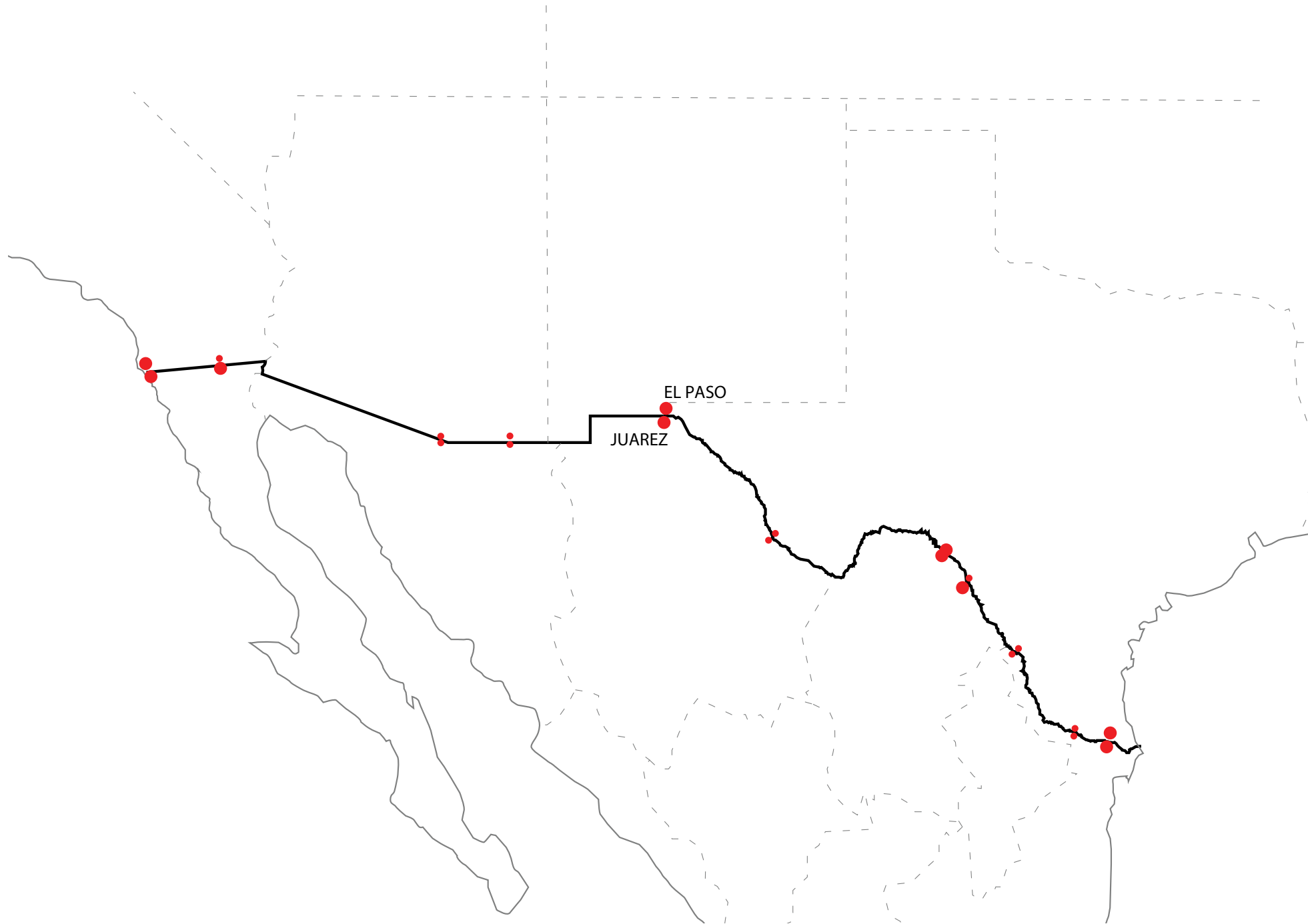
**JUAREZ - EL PASO**

# BORDER REGION

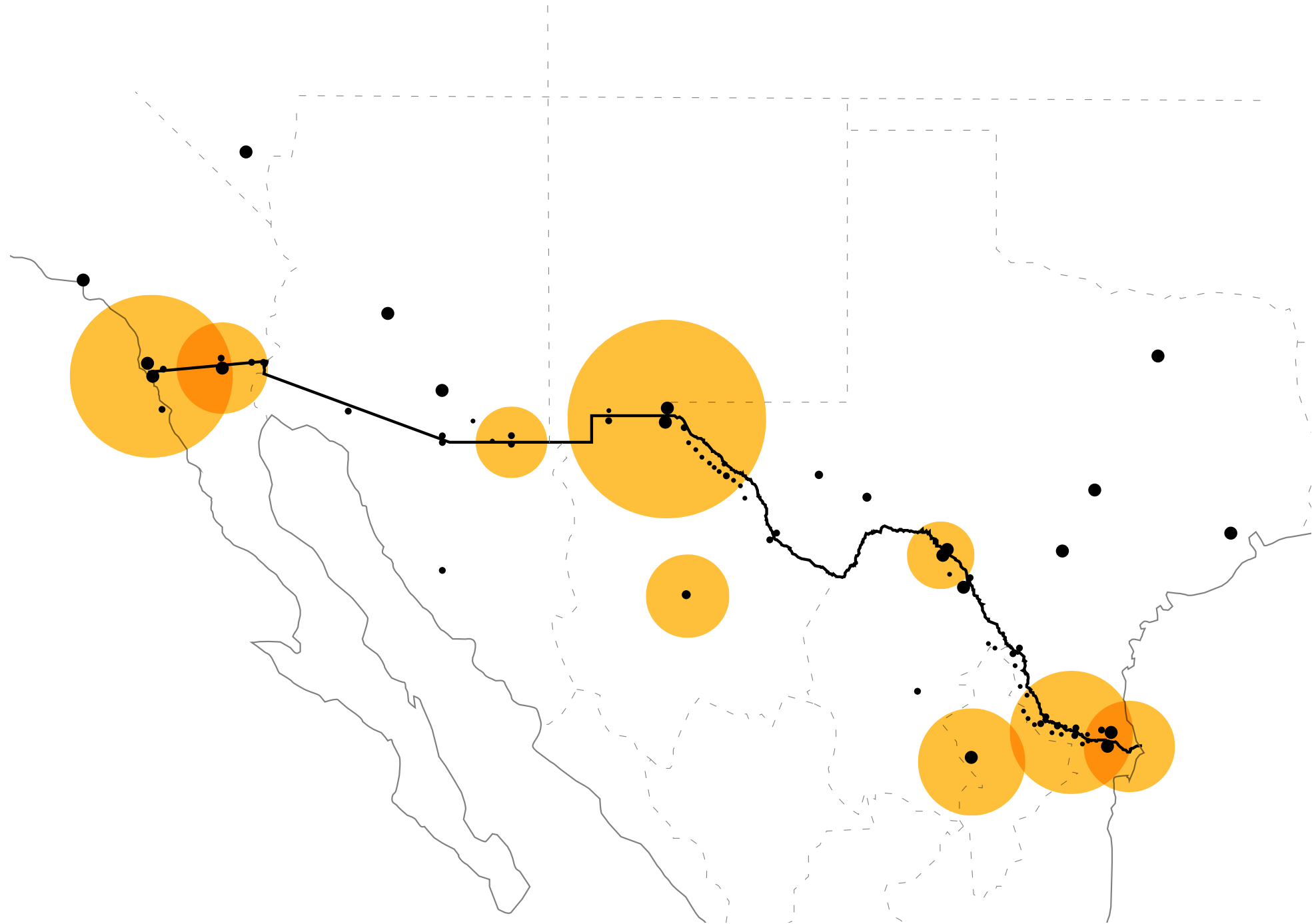




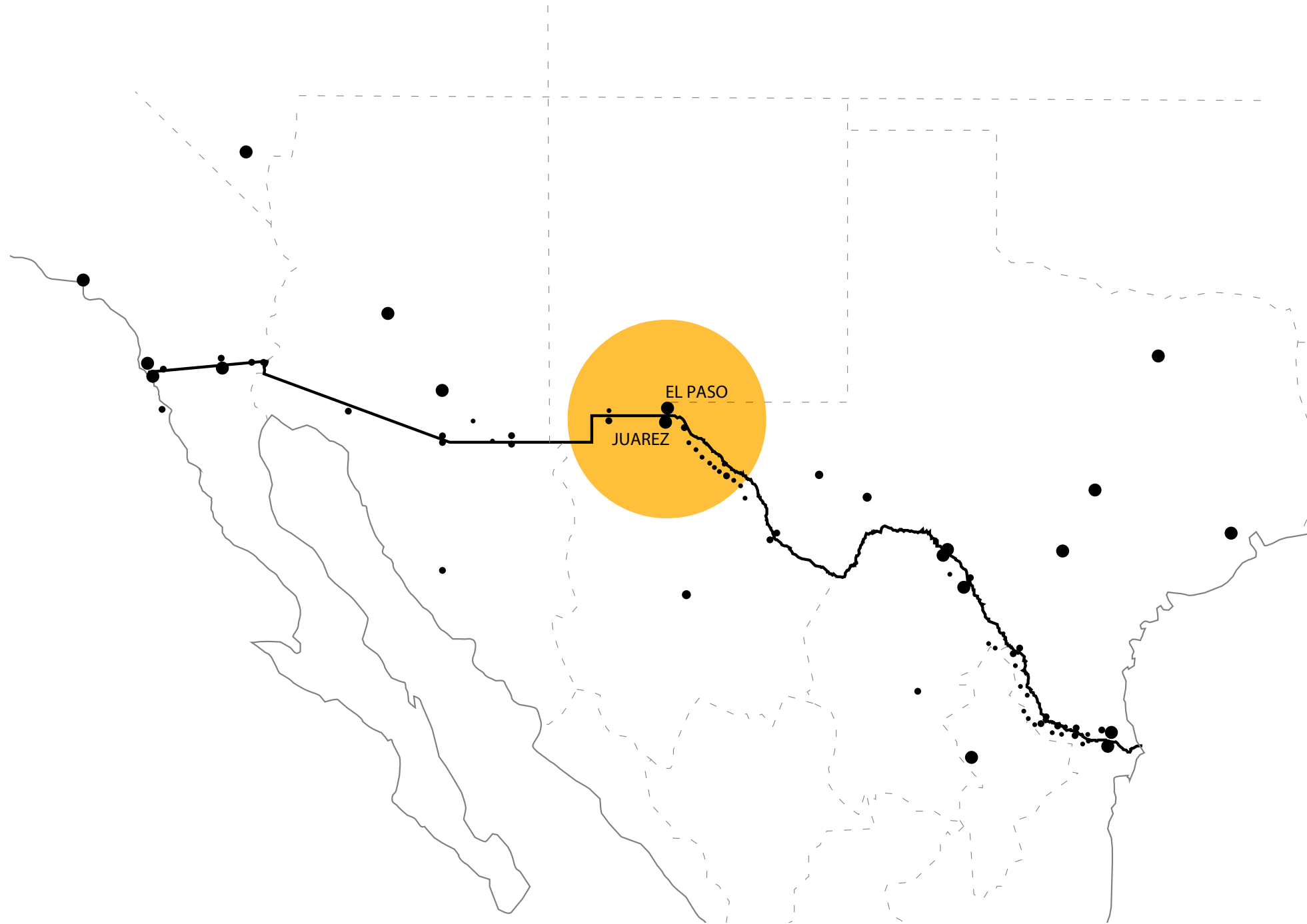
# JUAREZ - EL PASO



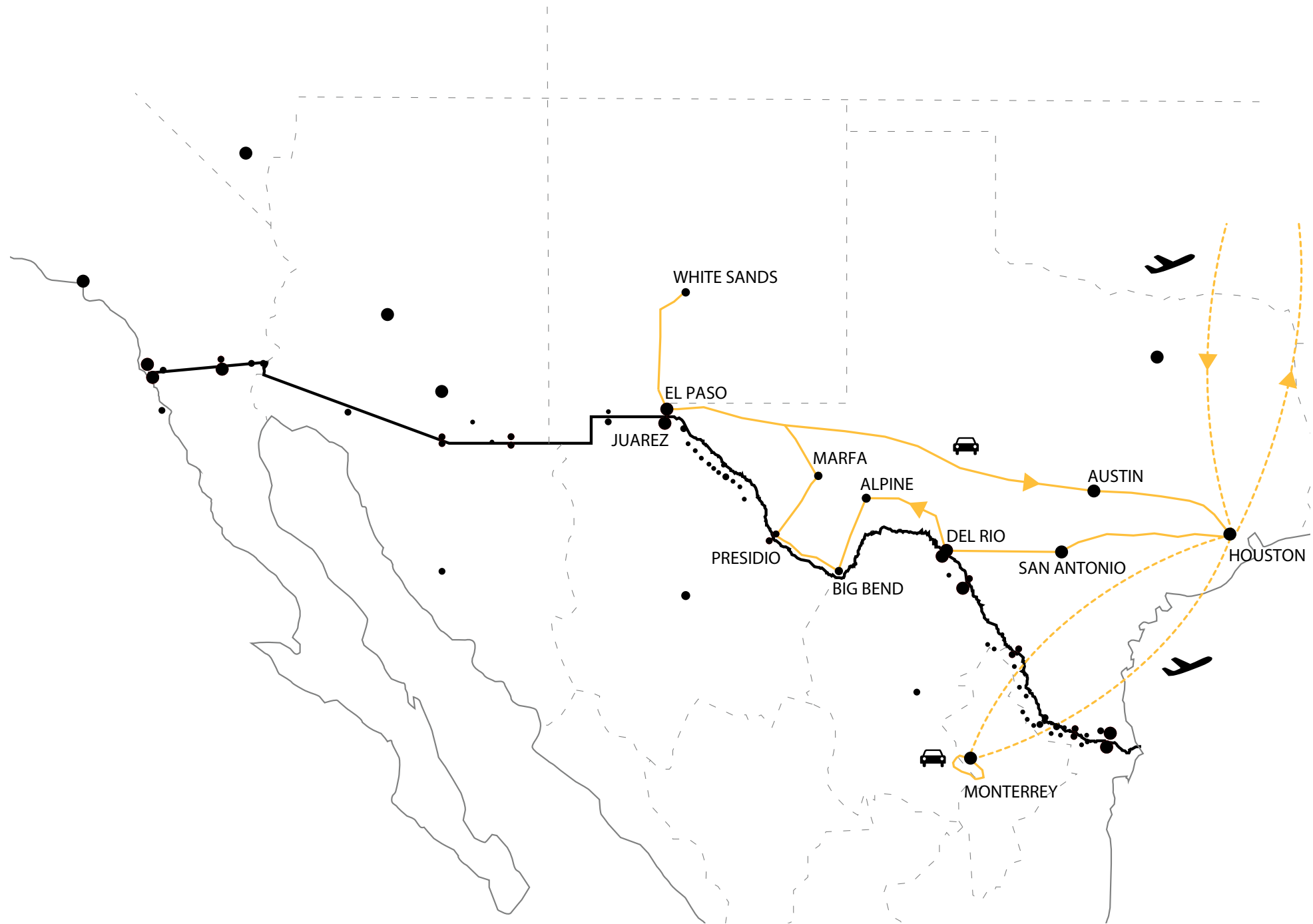
# PRODUCTION CLUSTERS



# PRODUCTION CLUSTERS



# FIELD TRIP





# JUAREZ

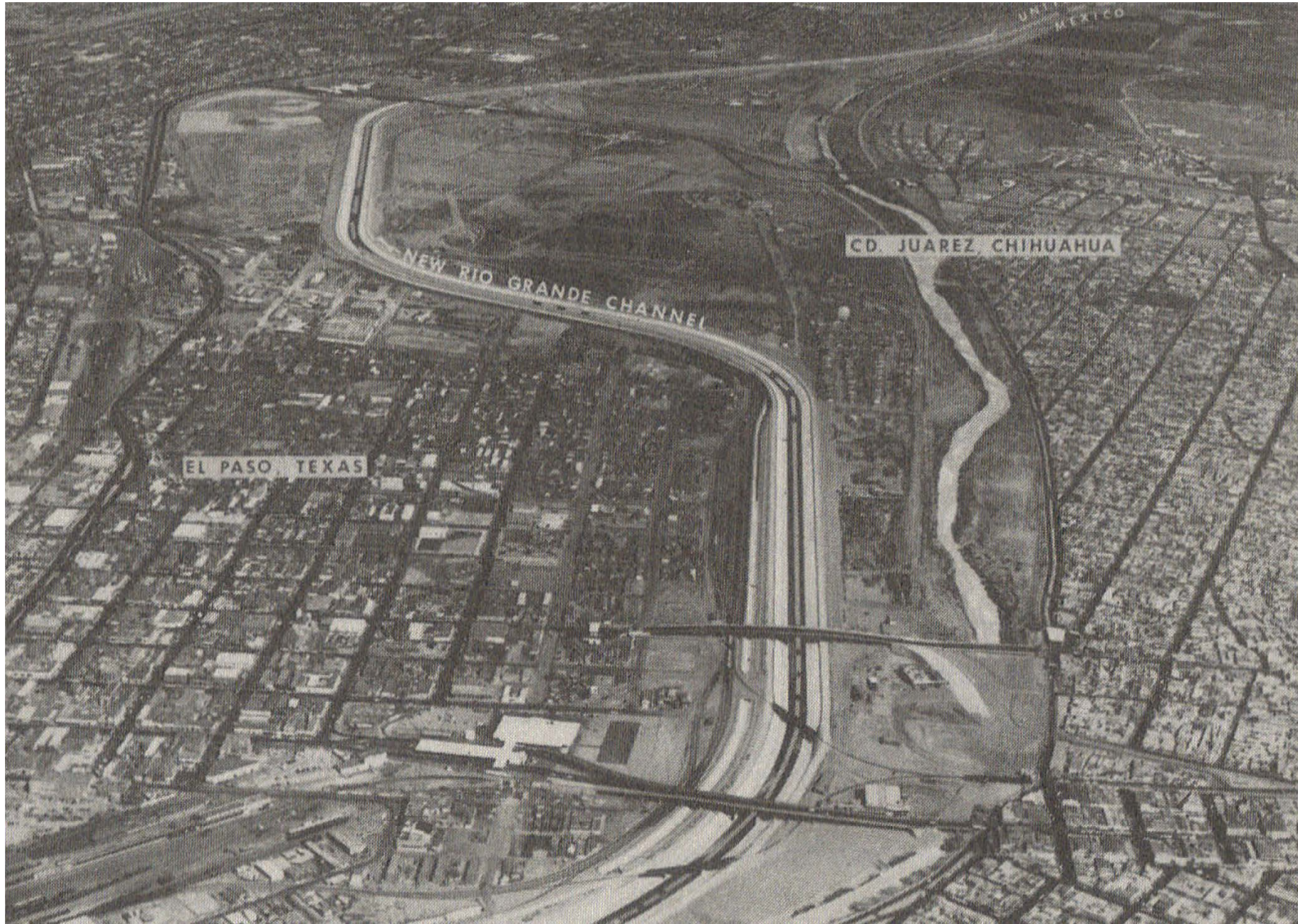


EL PASO



**BORDER**





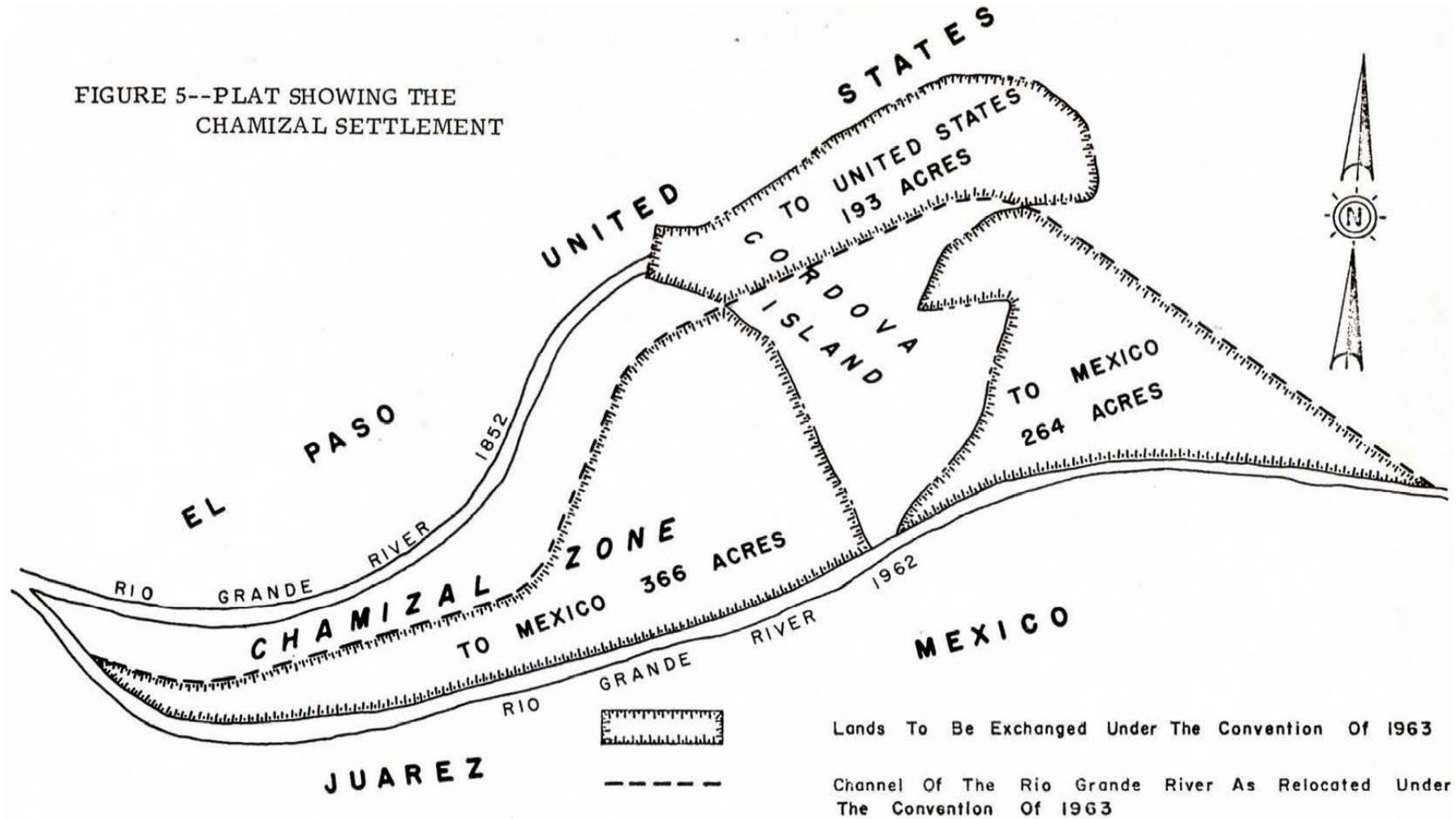
EL PASO TEXAS

NEW RIO GRANDE CHANNEL

CD. JUAREZ, CHIHUAHUA

UN. MEXICO

FIGURE 5--PLAT SHOWING THE  
CHAMIZAL SETTLEMENT





**DEALING WITH THE COMPLEX CONDITIONS OF THE U.S. - MEXICO  
BORDER REGION WITH THE CHAMIZAL ZONE AS PROJECT SITE**

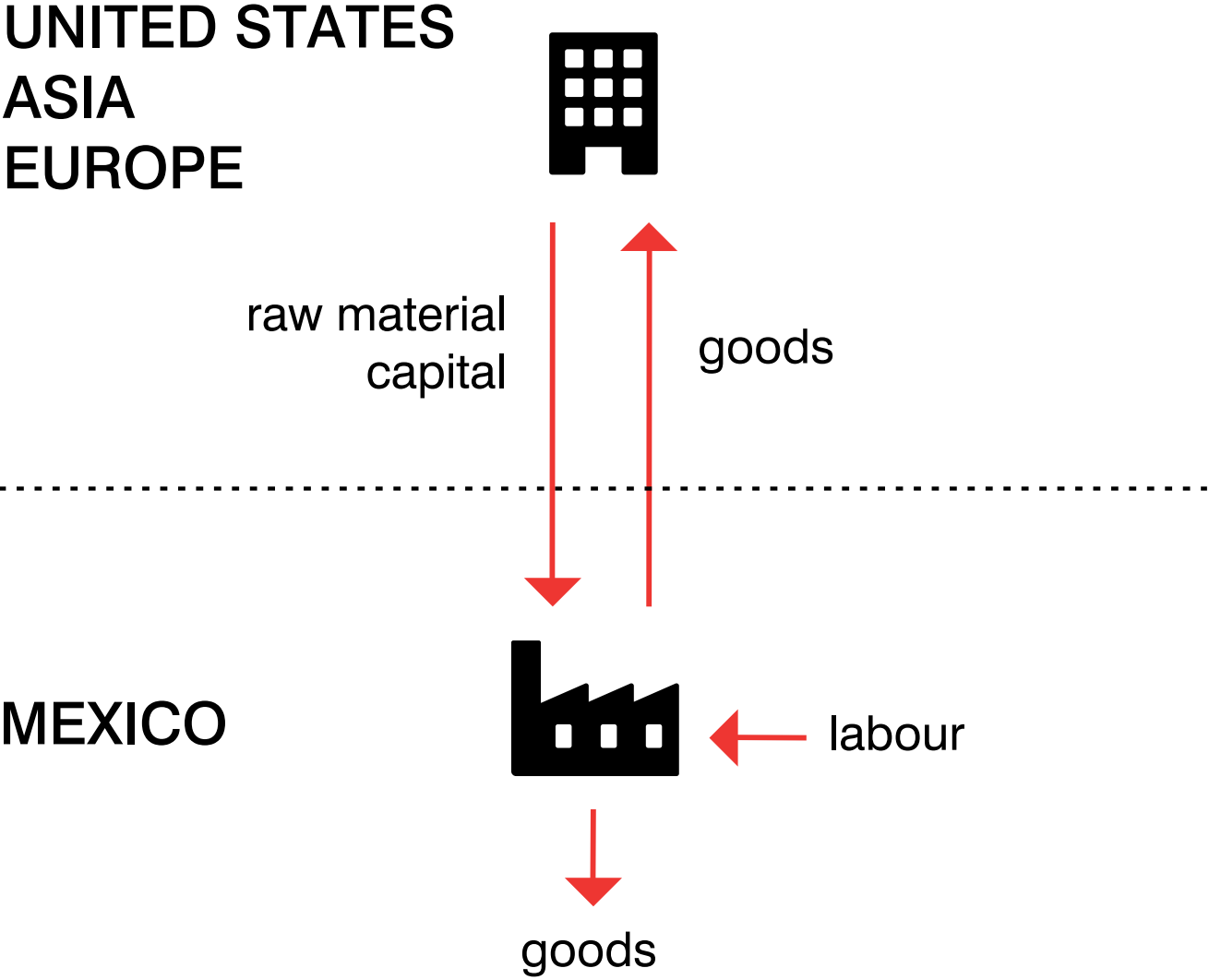
Studio interest



**MAQUILADORA**

**MAQUILADORA / MAQUILA**  
**MAQUILA = TO ASSEMBLE**

**BORDER INDUSTRIALISATION PROGRAM**



# INDUSTRY

1.900.000



5100



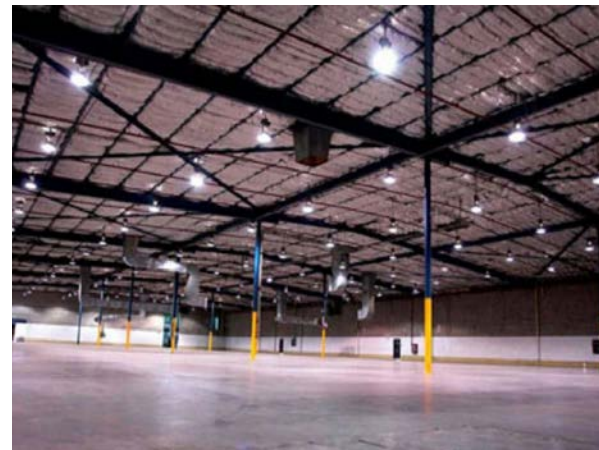
# FACTORY OWNERSHIP



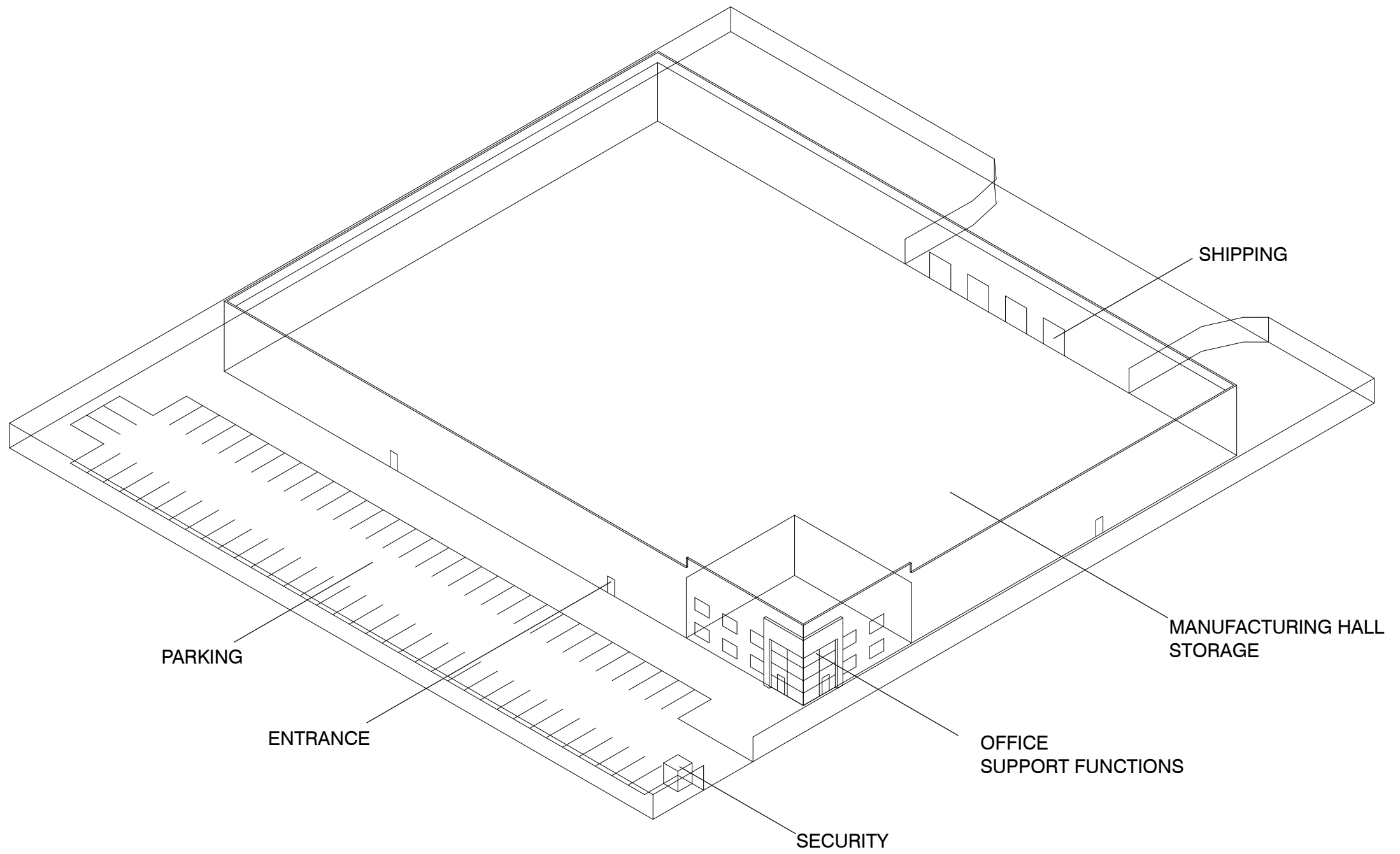
















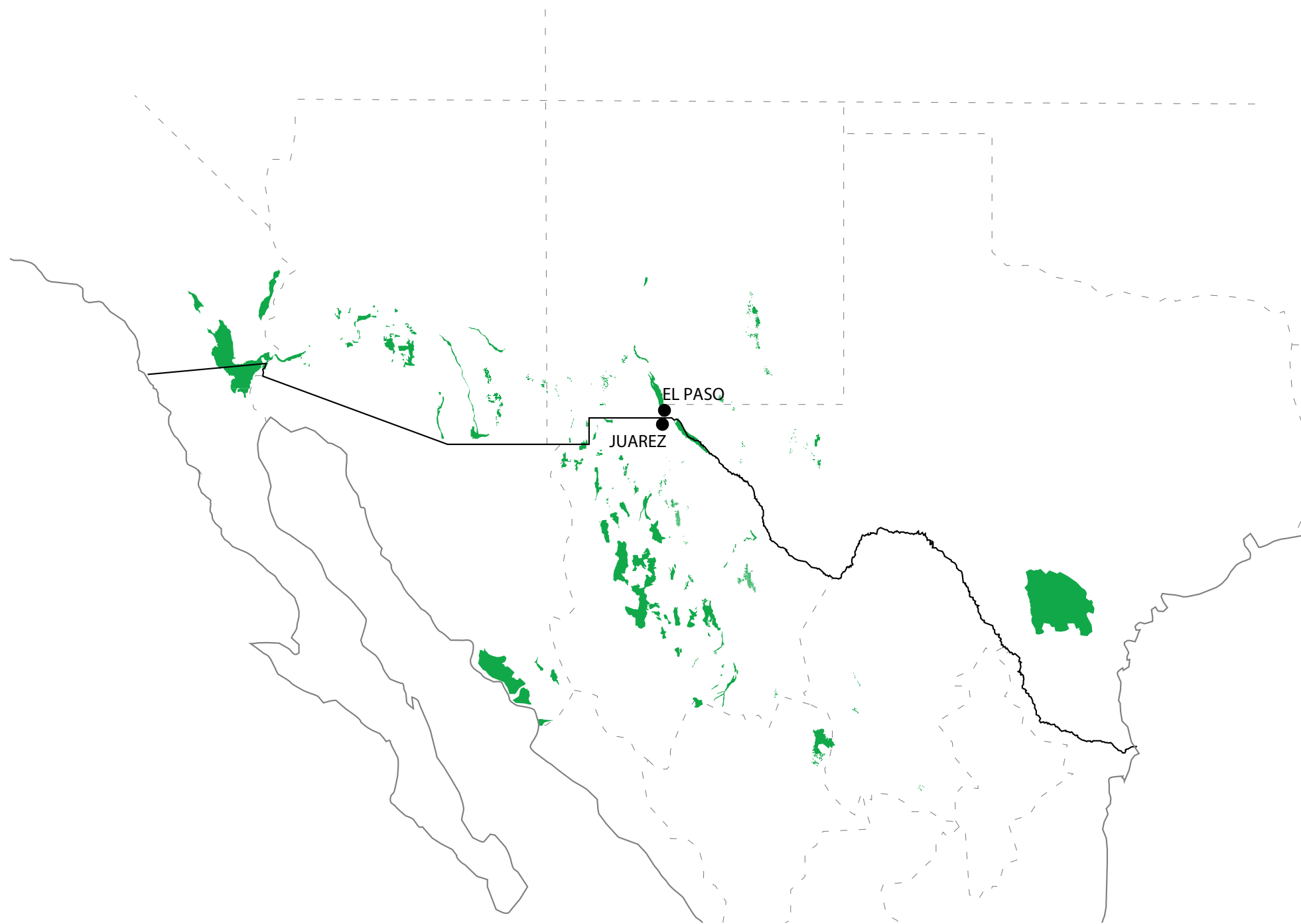


**HOW TO DEVELOP A FACTORY THAT USES THE POTENTIAL OF THE REGION, BUT ALSO TACKLES THE PROBLEMS THAT THE PRODUCTION IS FACING BOTH ON A LOCAL AND A GLOBAL SCALE?**

Research question

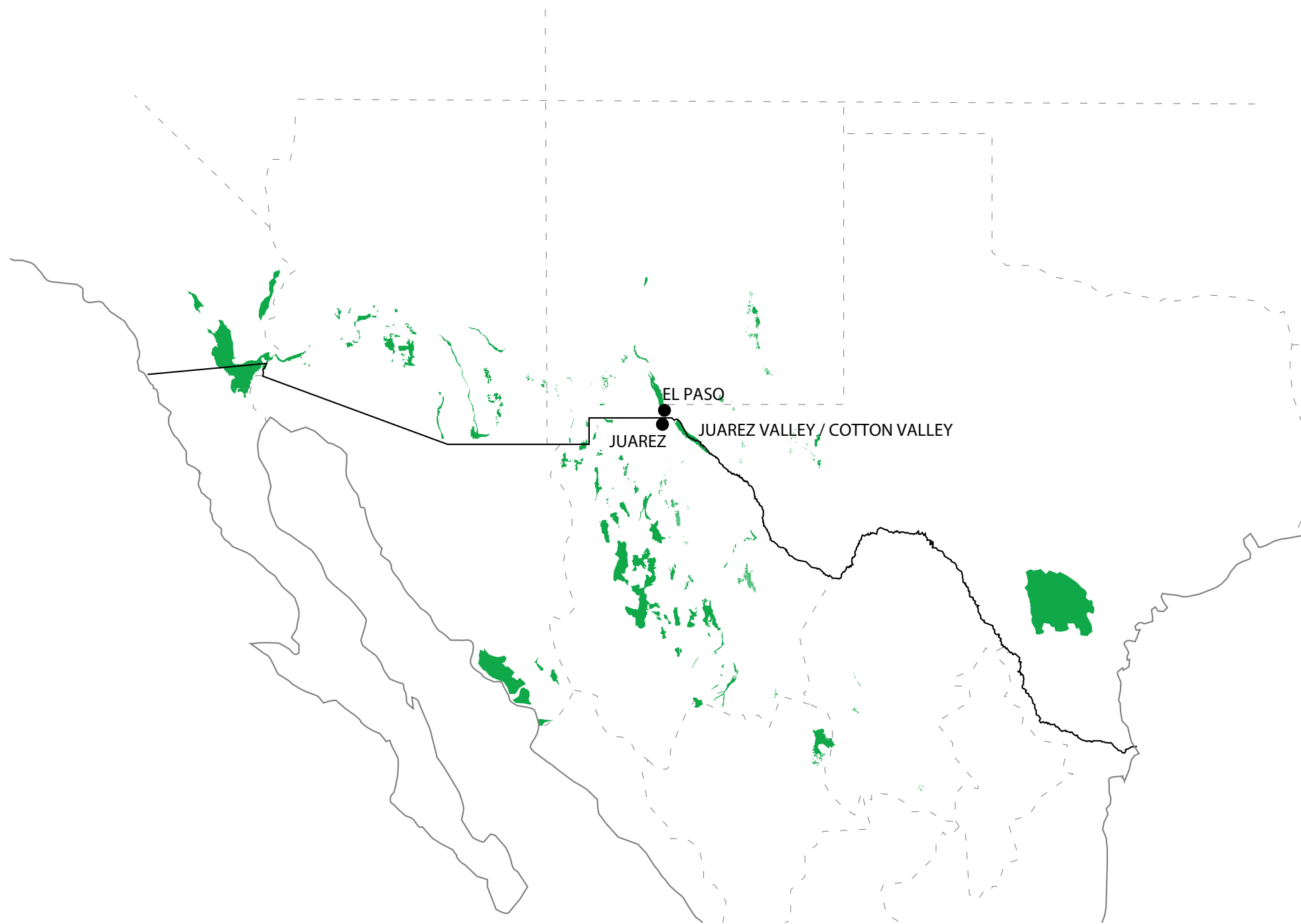
**(RENEWABLE)RESOURCE**

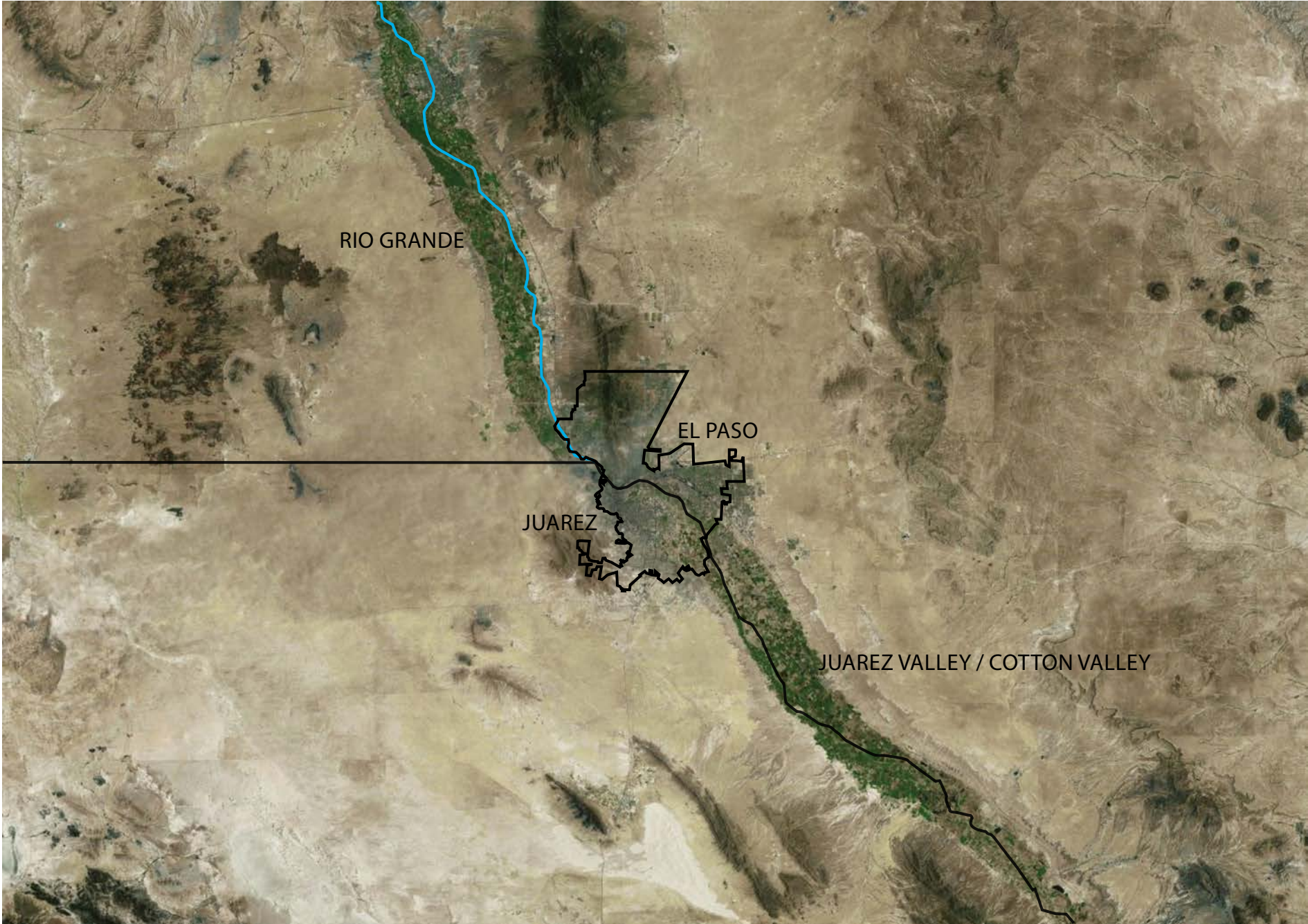




EL PASO

JUAREZ





RIO GRANDE

EL PASO

JUAREZ

JUAREZ VALLEY / COTTON VALLEY

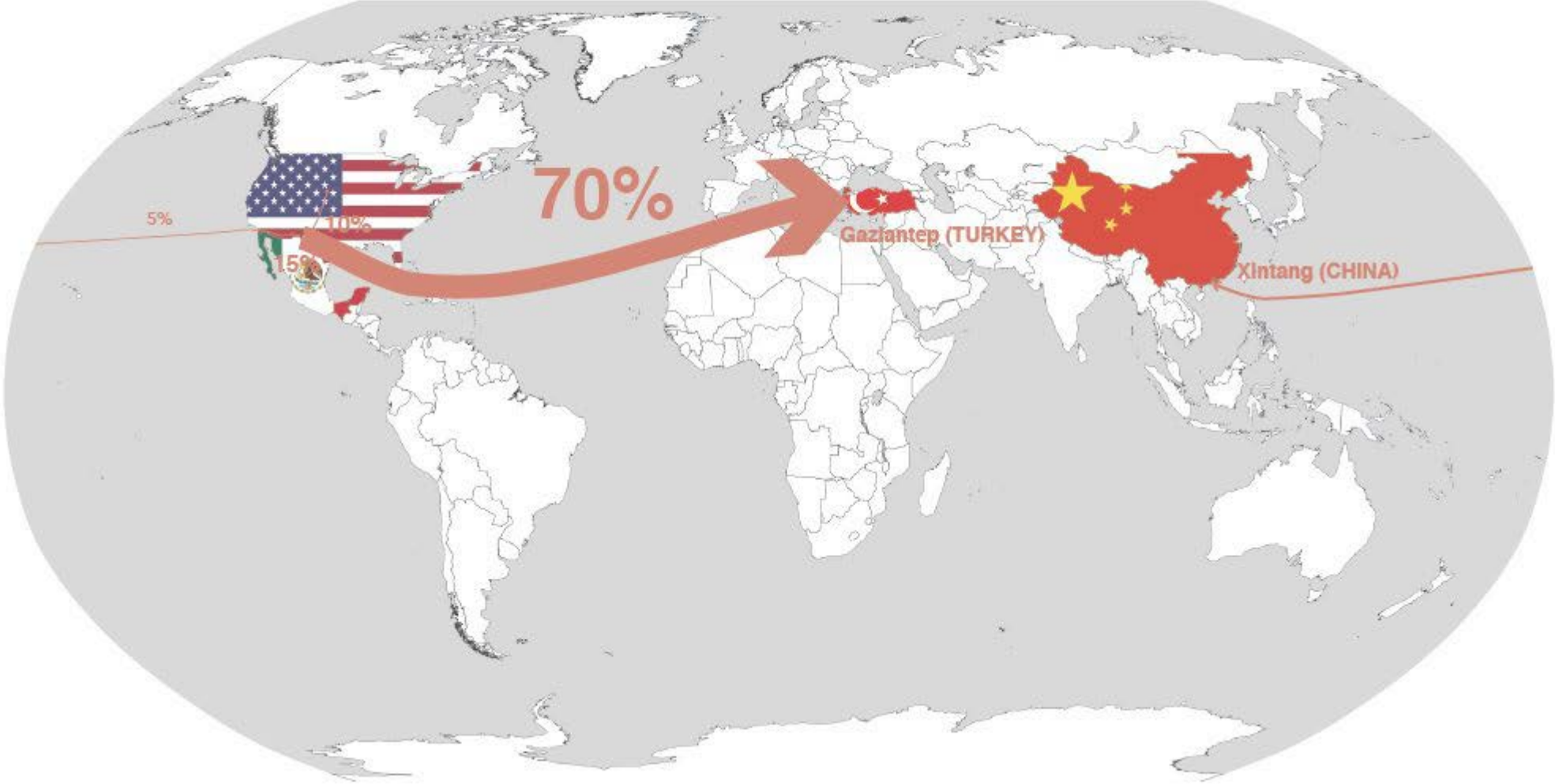








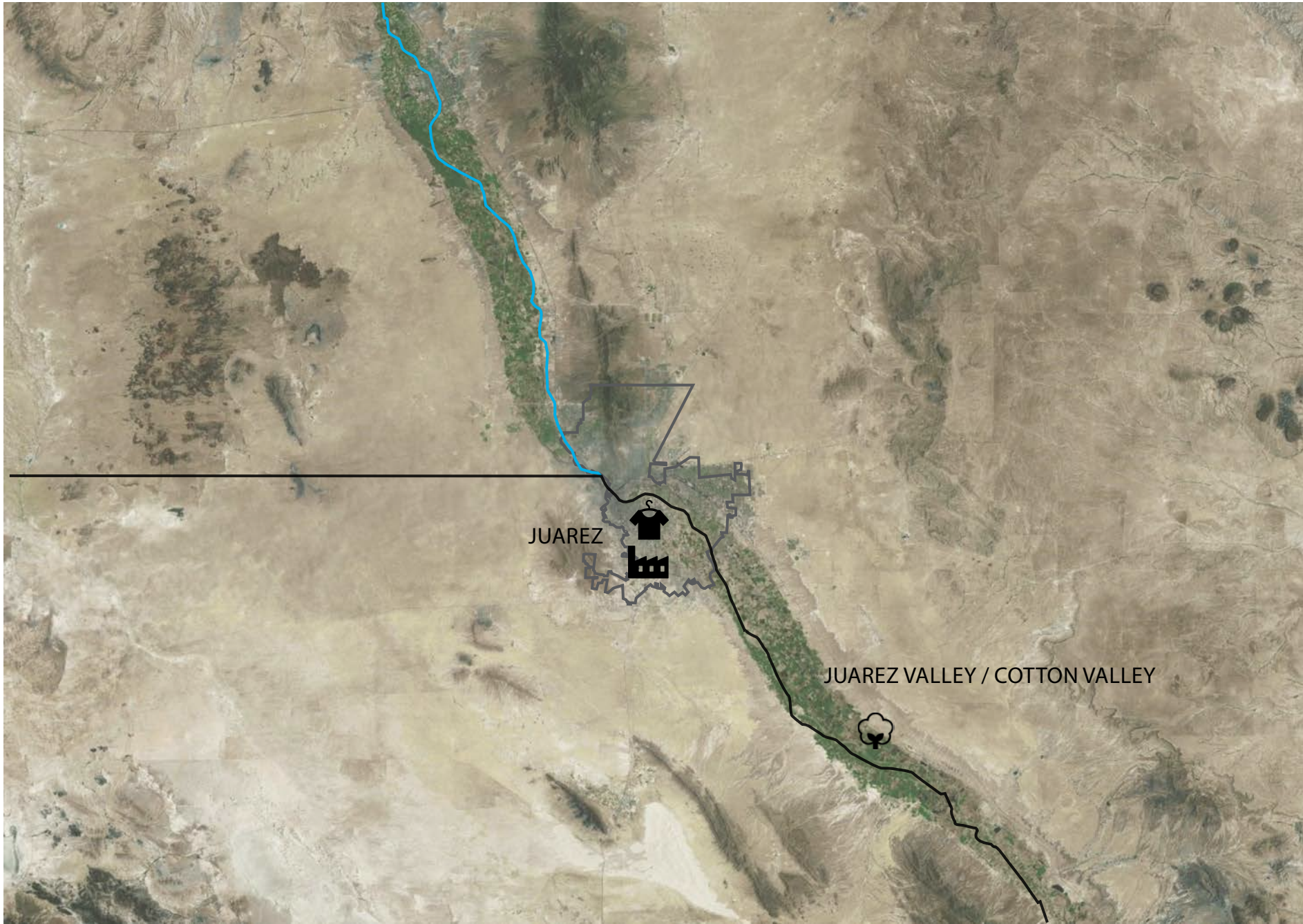
FROM COTTON TO RETAIL ± 20.000KM



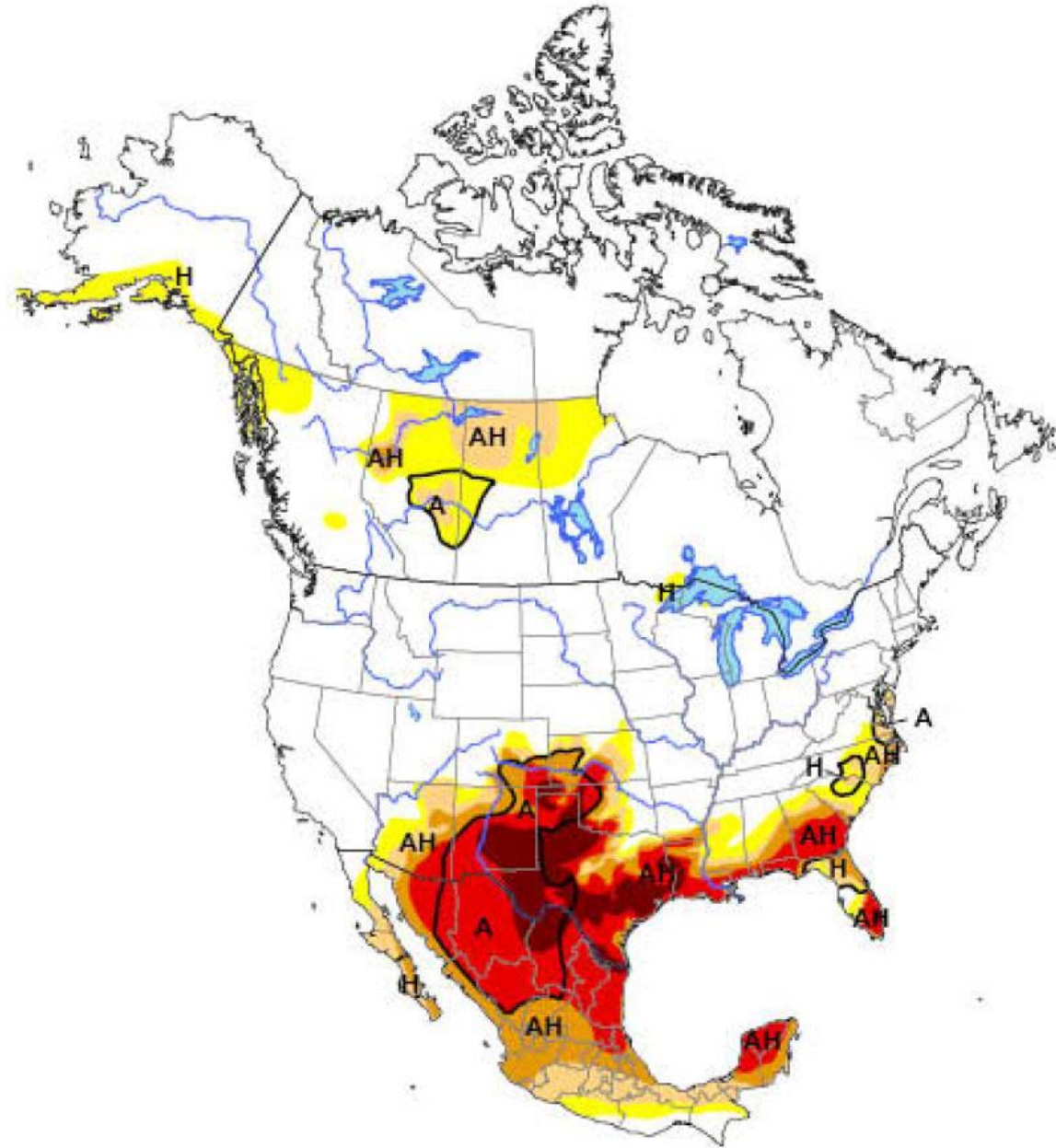
FROM COTTON TO RETAIL ± 40.000KM



FROM COTTON TO RETAIL ± 70KM



# DROUGHTS



# WATER FOOTPRINT

Sugercane  200 L/kg

Apples  800 L/kg

Maize  1200 L/kg

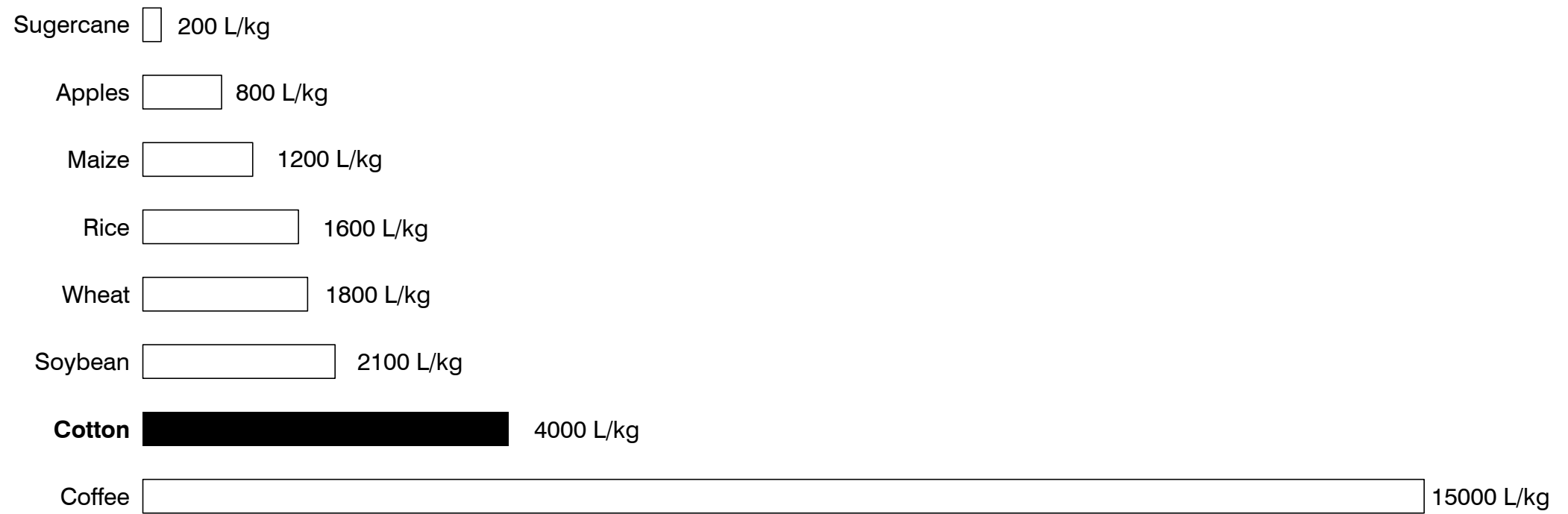
Rice  1600 L/kg

Wheat  1800 L/kg

Soybean  2100 L/kg

**Cotton**  4000 L/kg

Coffee  15000 L/kg



**DISCARDING CLOTHES**

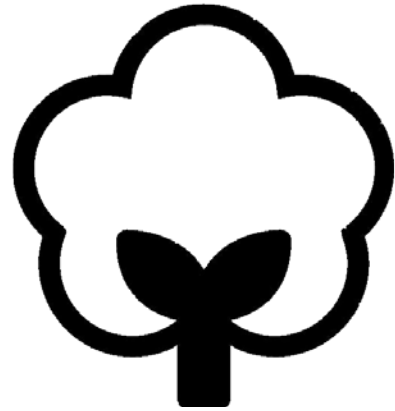
**30 KG**

**THE AMOUNT OF TEXTILES THE  
AVERAGE AMERICAN PERSON  
THROWS AWAY PER YEAR**

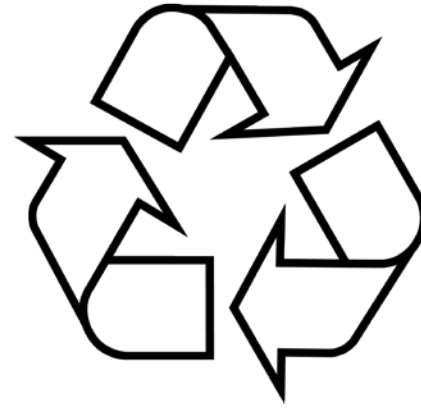
## DISCARDING CLOTHES



**FACTORY INPUT**



**RAW COTTON**



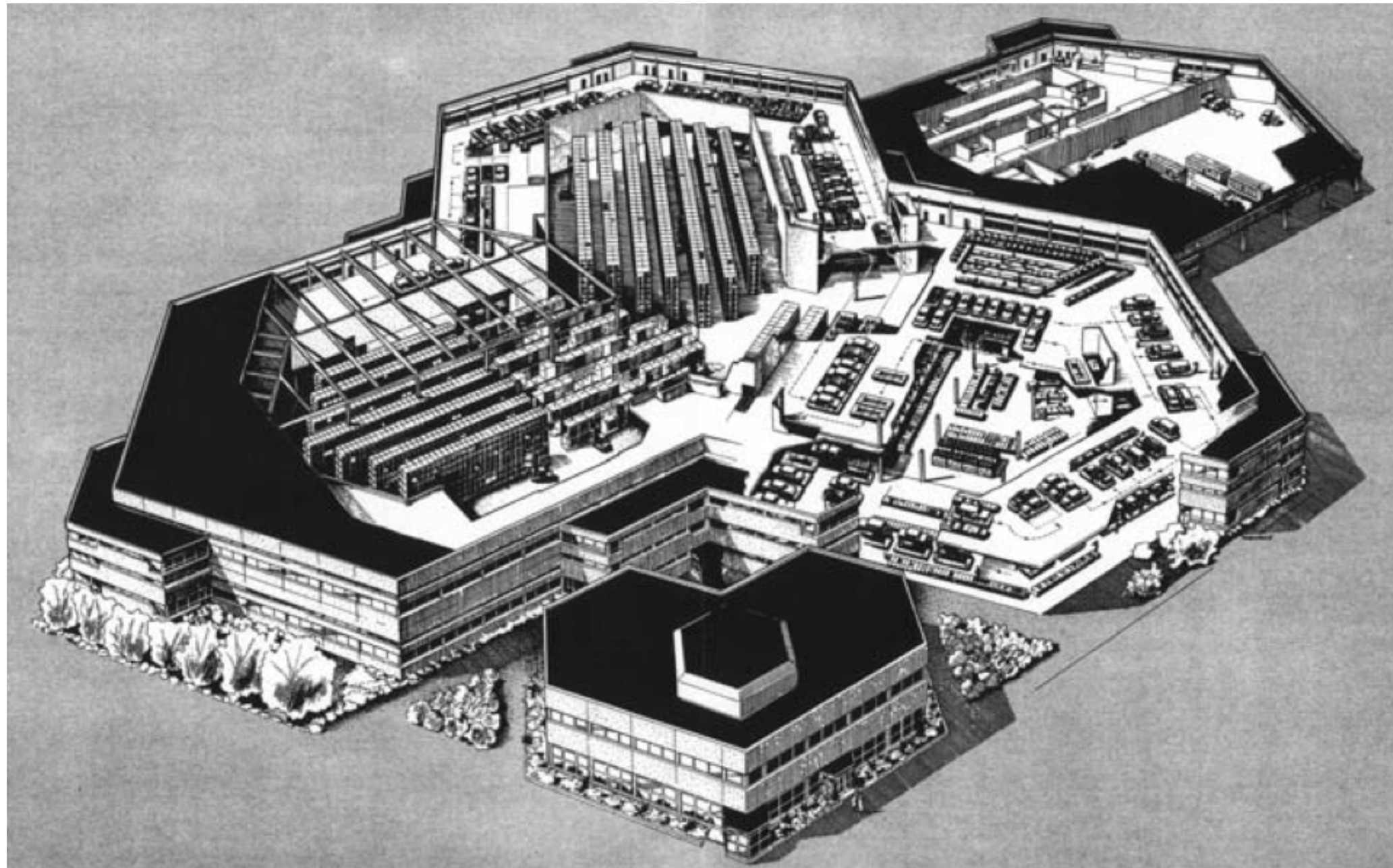
**DISCARDED CLOTHES**

# **DEVELOP A MODEL FACTORY FOR GARMENT PRODUCTION IN JUAREZ**

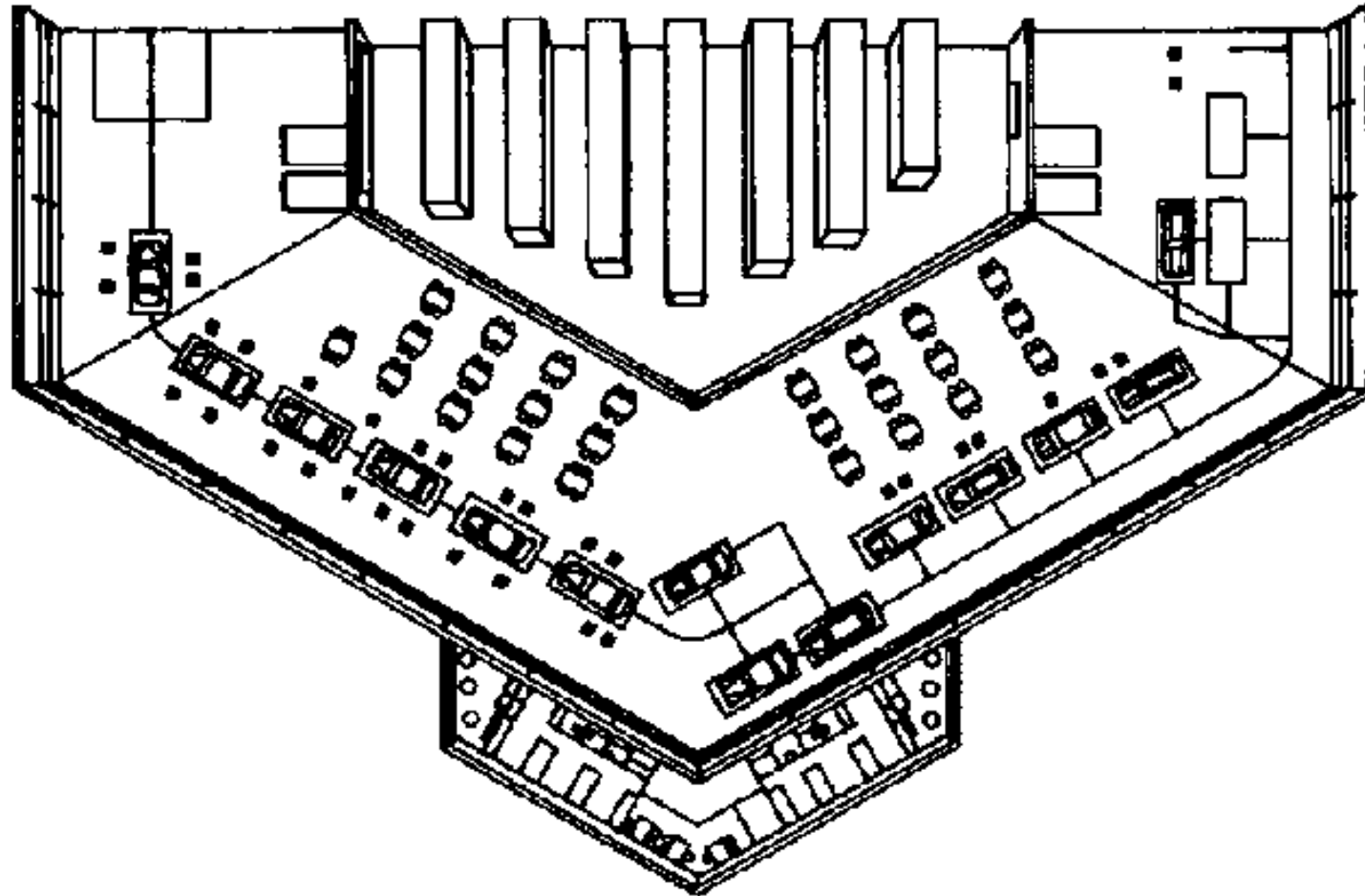
Ambition

# **JUAREZ GARMENT FACTORY**

**CASESTUDY:  
PRODUCTION AND WORKING CONDITIONS**



CASESTUDY:  
PRODUCTION AND WORKING CONDITIONS



**CASESTUDY:  
FACTORY FOR THE PUBLIC**



# **PRODUCTION**

**1 EQUAL EFFICIENCY**

# **WORKERS**

**2 COMFORTABLE WORKING CONDITIONS**  
**3 PLEASANT SUPPORT SPACES**

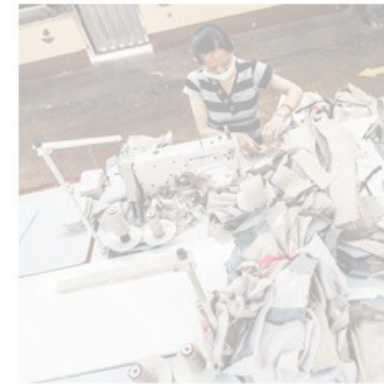
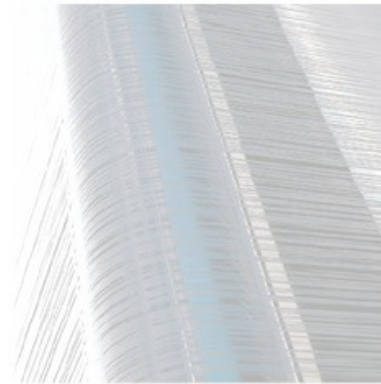
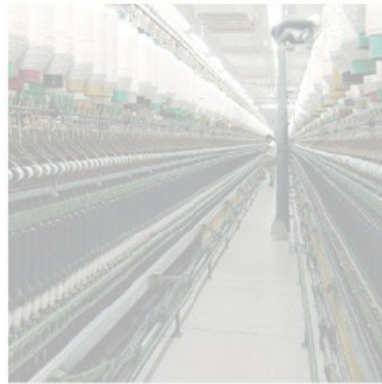
# **PUBLIC**

**4 SHOW THE PRODUCTION PROCESS**  
**5 CONNECT TO THE URBAN FABRIC**

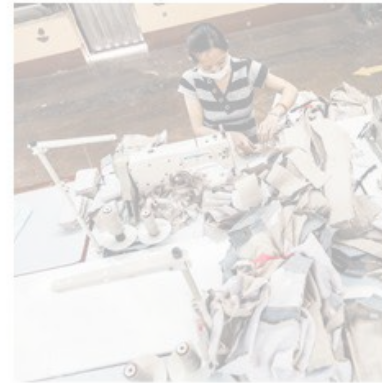
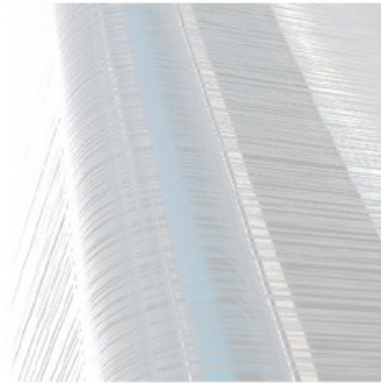
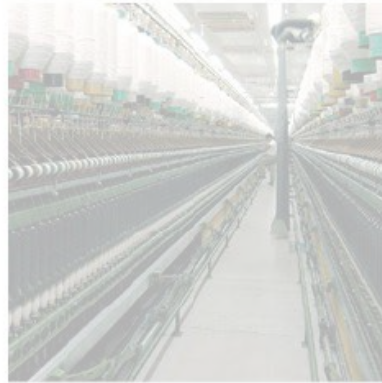
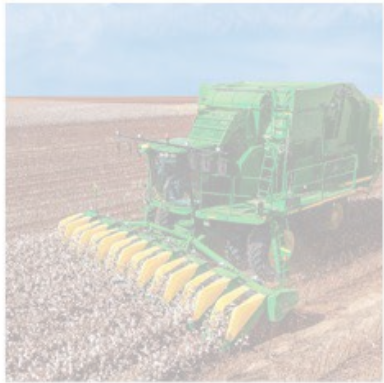
Ambition

**PRODUCTION**

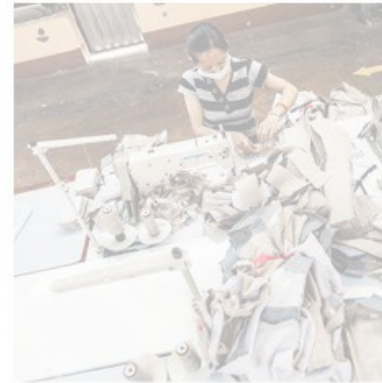
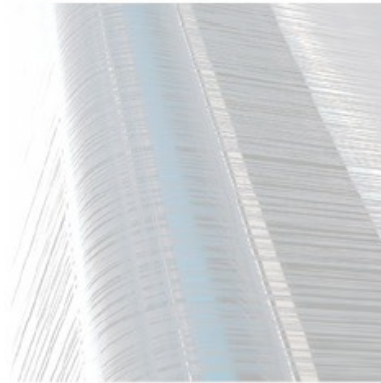
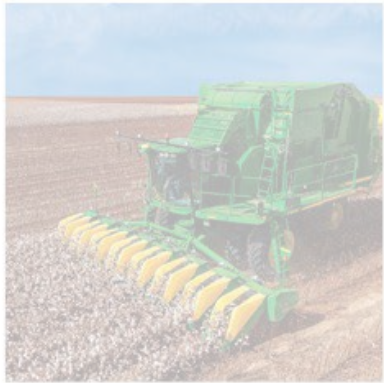
## PRODUCTION PROCESS



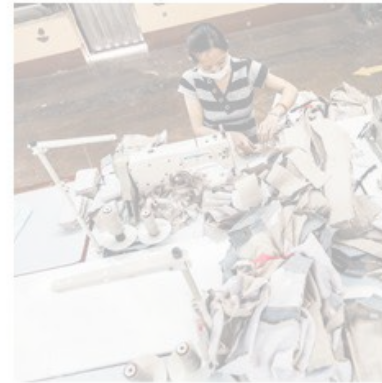
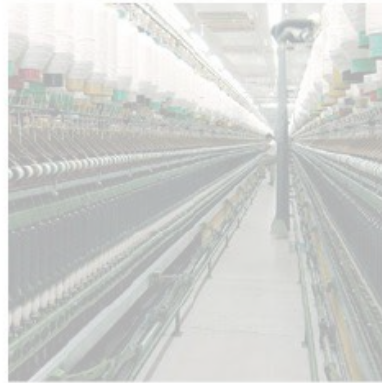
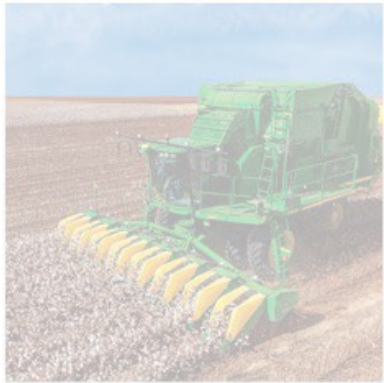
CULTIVATION



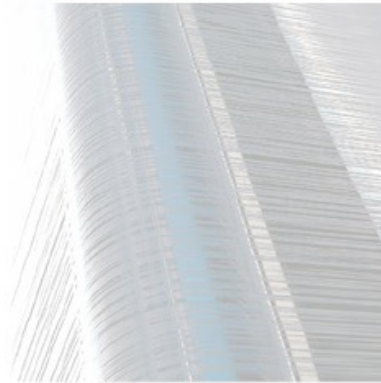
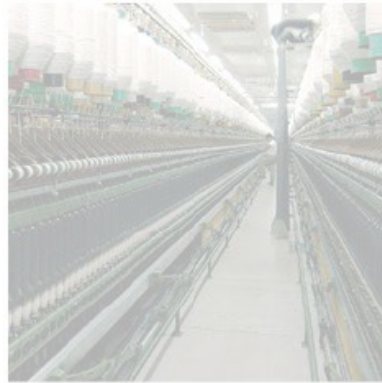
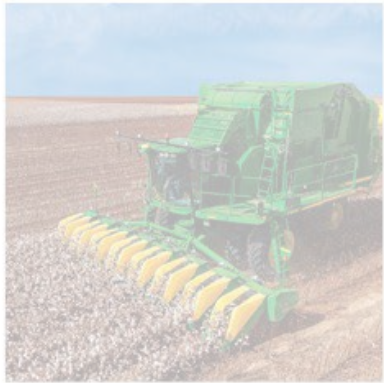
GIN



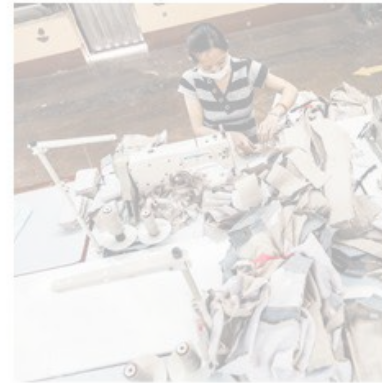
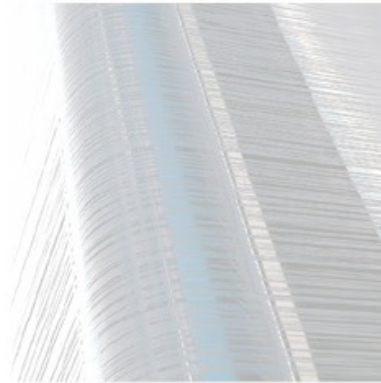
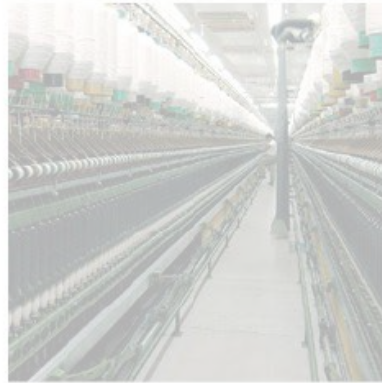
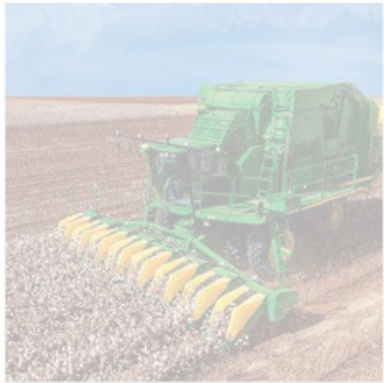
SPINNING MILL



**WEAVING MILL**



**SEWING**



RETAIL



RURAL AREA

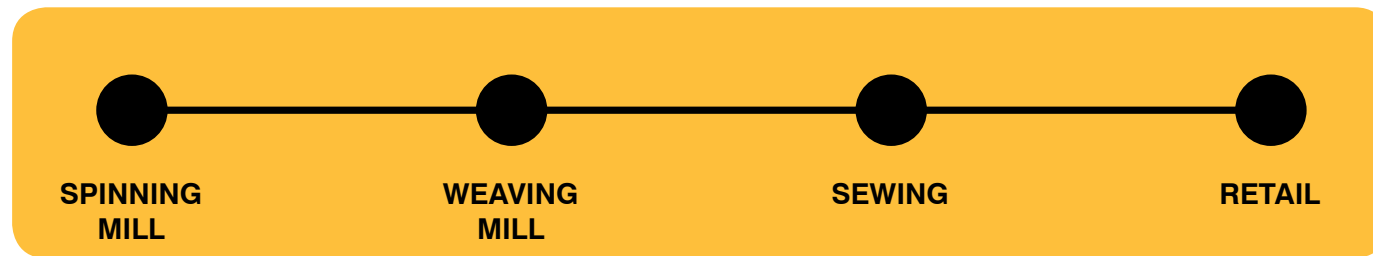


RURAL AREA

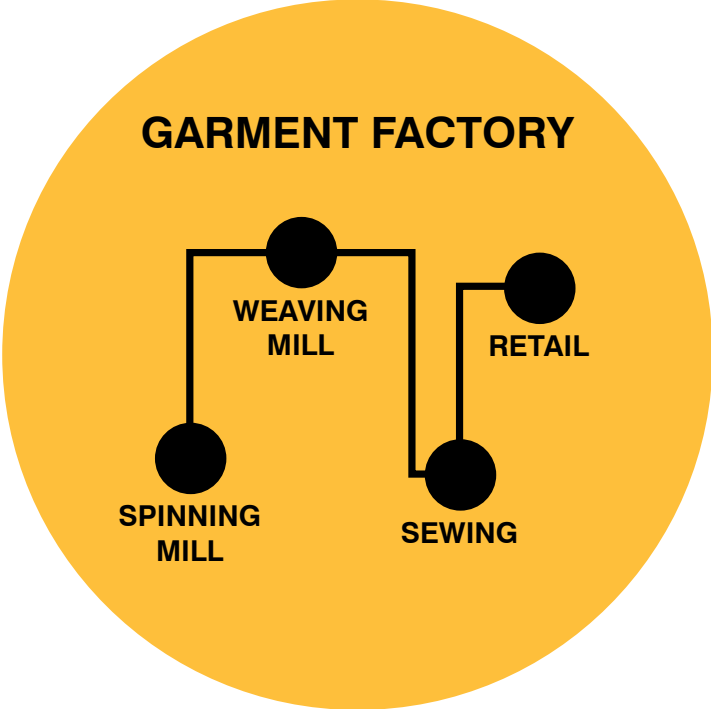


RURAL AREA  
URBAN AREA  
INDUSTRIAL AREA

# PRODUCTION PROCESS



**INTEGRATION**



**PROGRAM**



**PRODUCTION**  
20.000 sqm

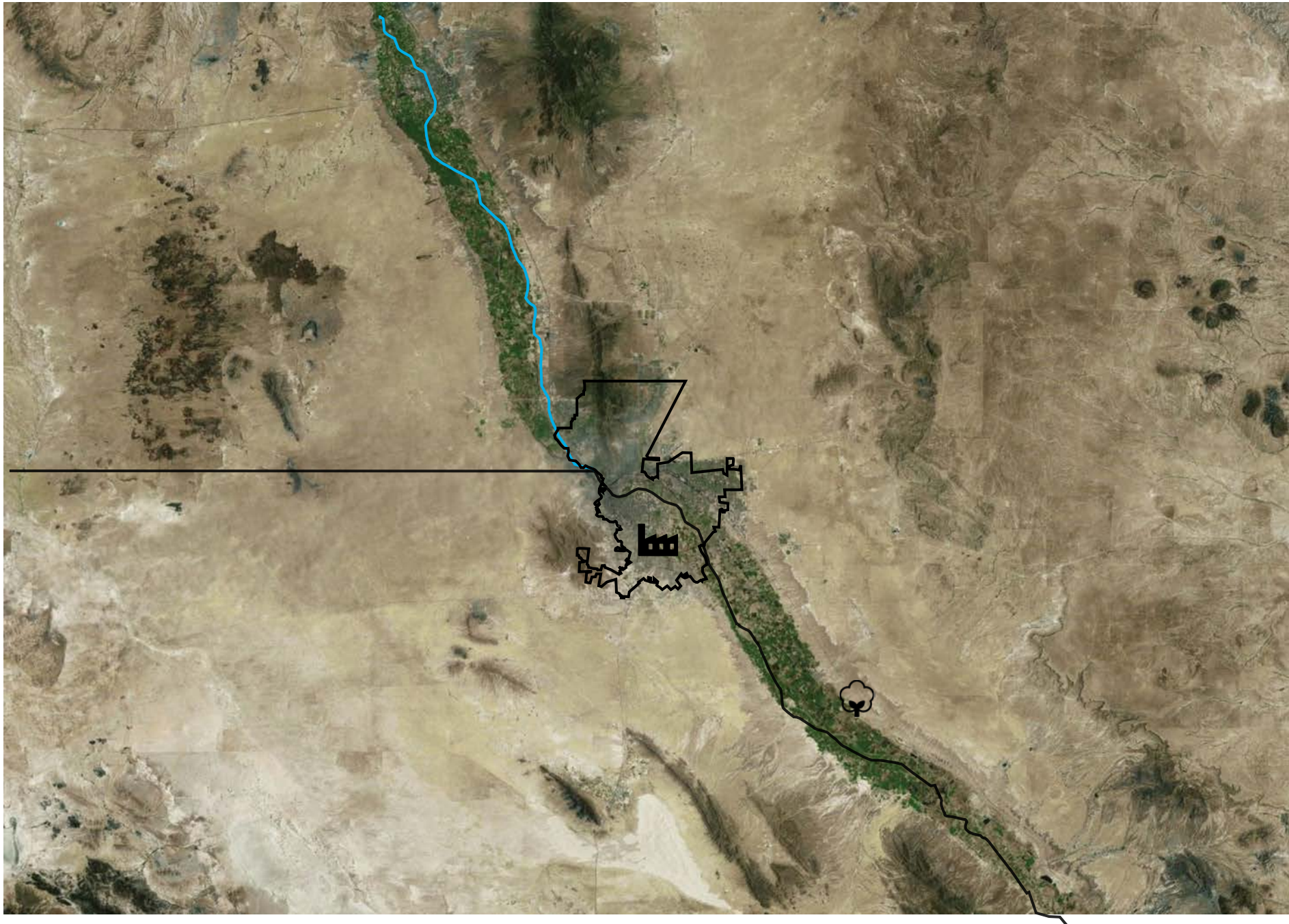
**OFFICE**  
2.500 sqm

**WORKERS**  
8.000 sqm

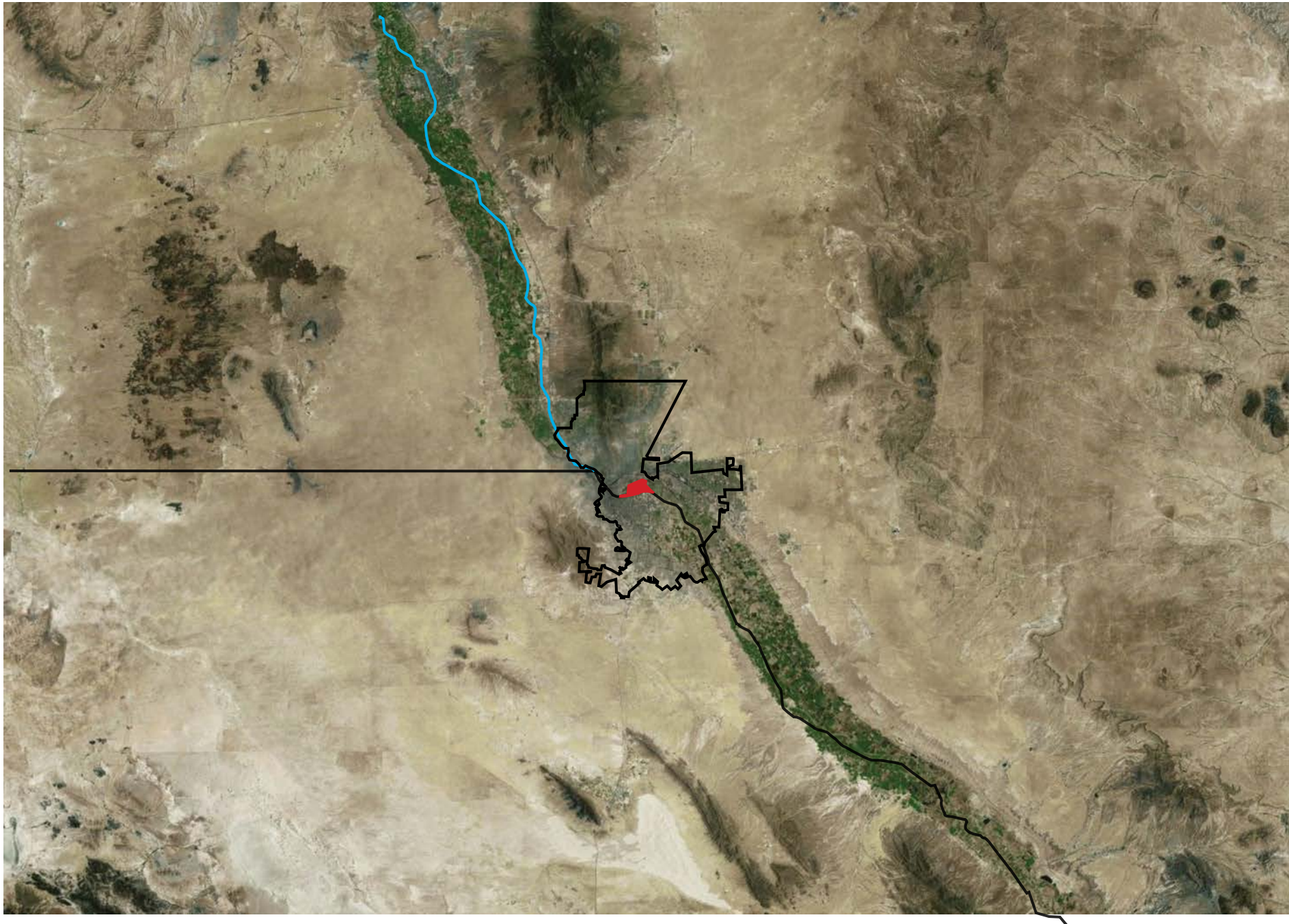
**PUBLIC**  
4.000 sqm

**TOTAL GFA**  
34.500 sqm

# SITE CHOICE



**SITE CHOICE**



SITE CHOICE



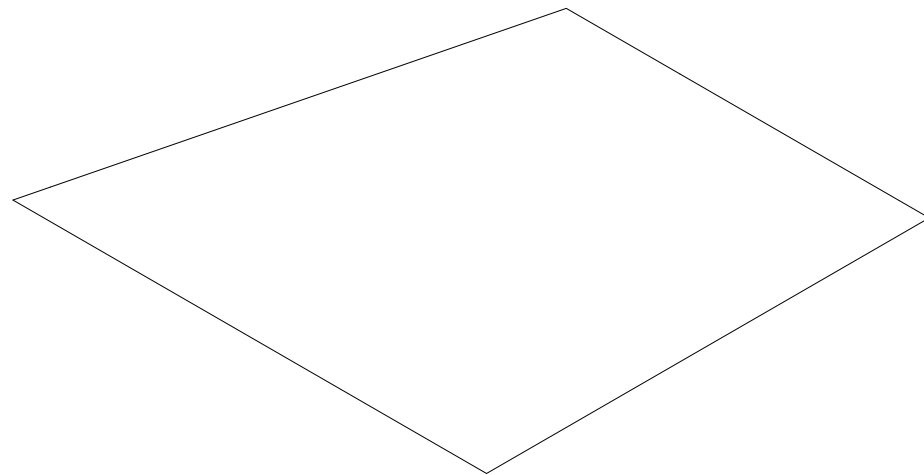
SITE CHOICE



SITE CHOICE

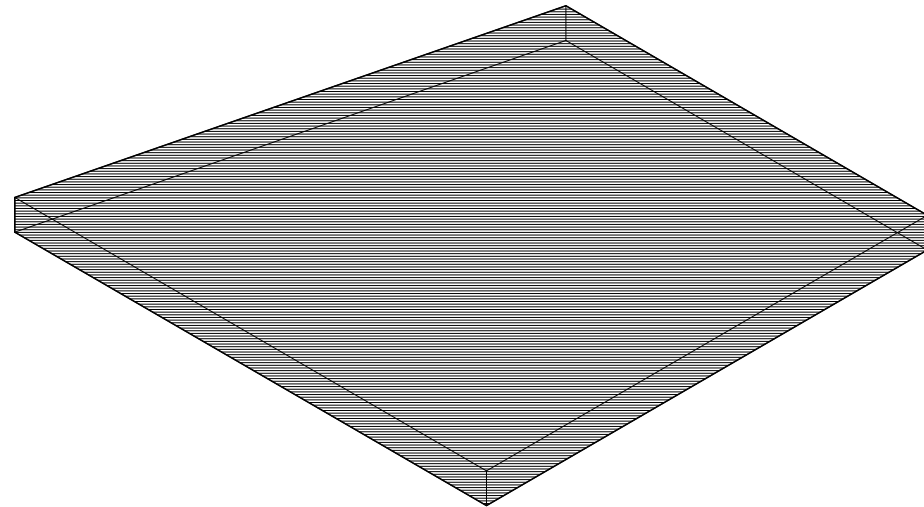


# FACTORY LAYOUT



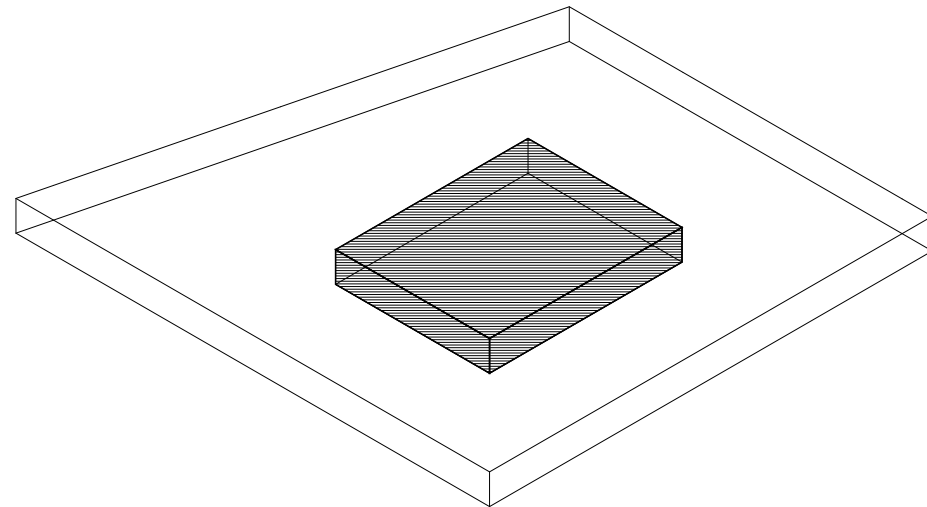
SITE

# FACTORY LAYOUT



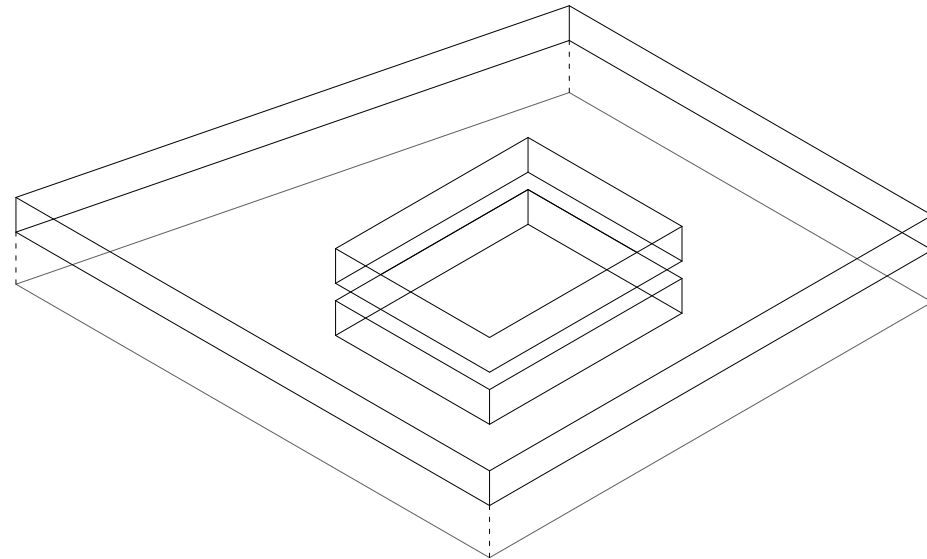
FACTORY HALL

# FACTORY LAYOUT



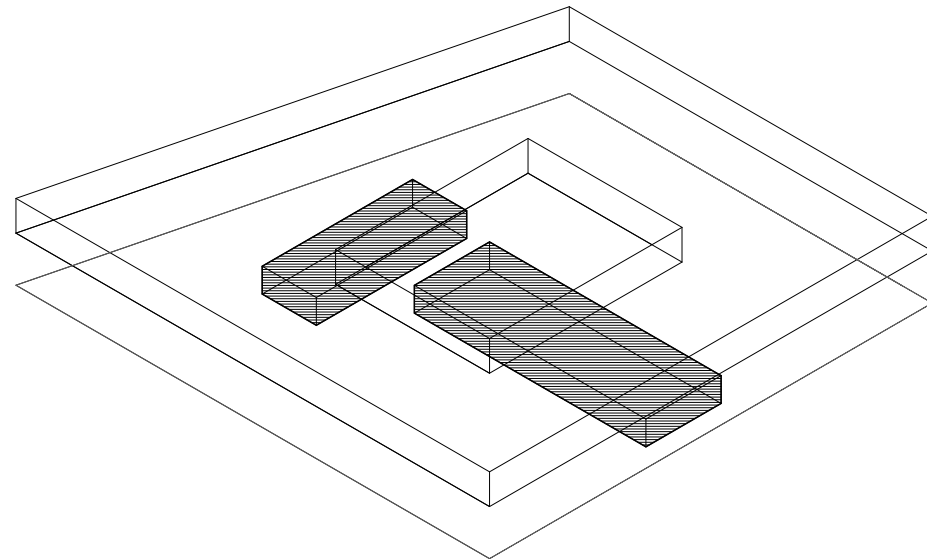
SEPARATE MAN AND MACHINE

# FACTORY LAYOUT



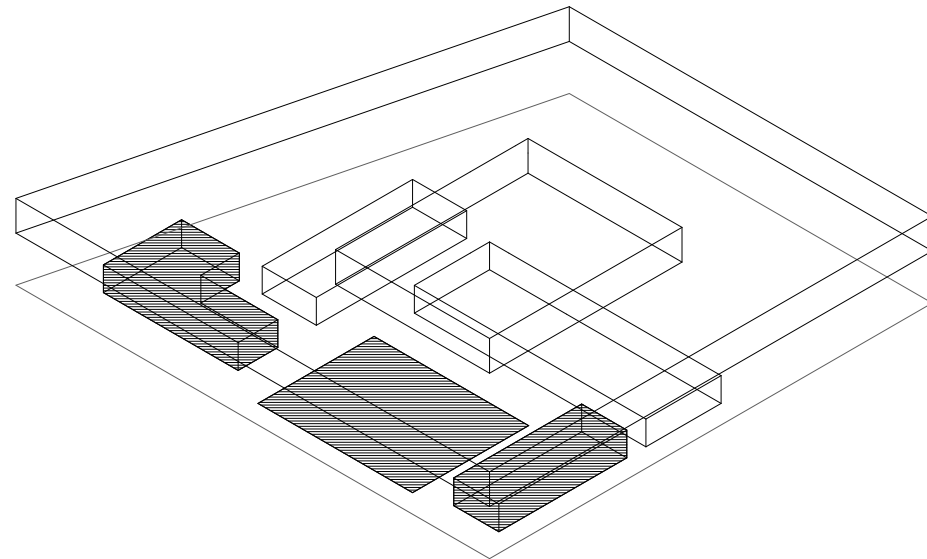
RAISE WORKSPACES

# FACTORY LAYOUT



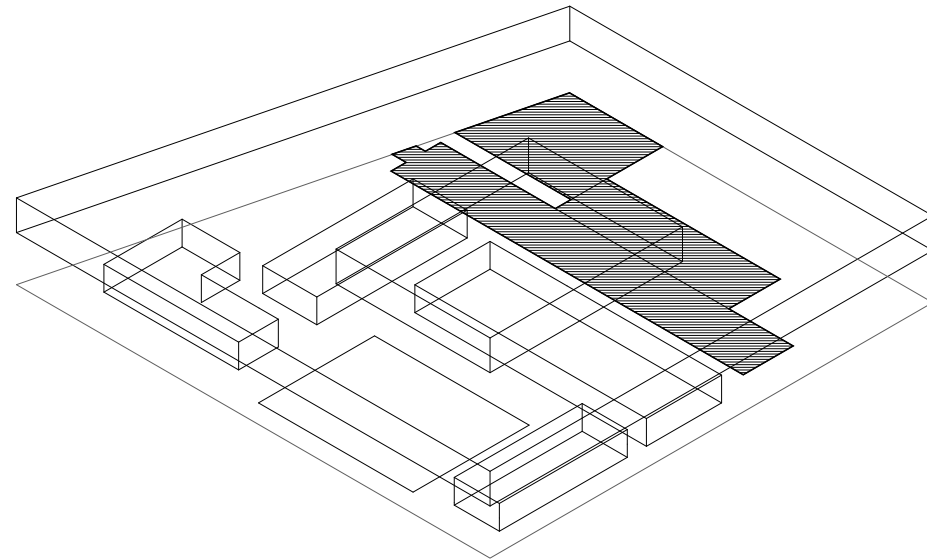
REARRANGE MACHINES

# FACTORY LAYOUT



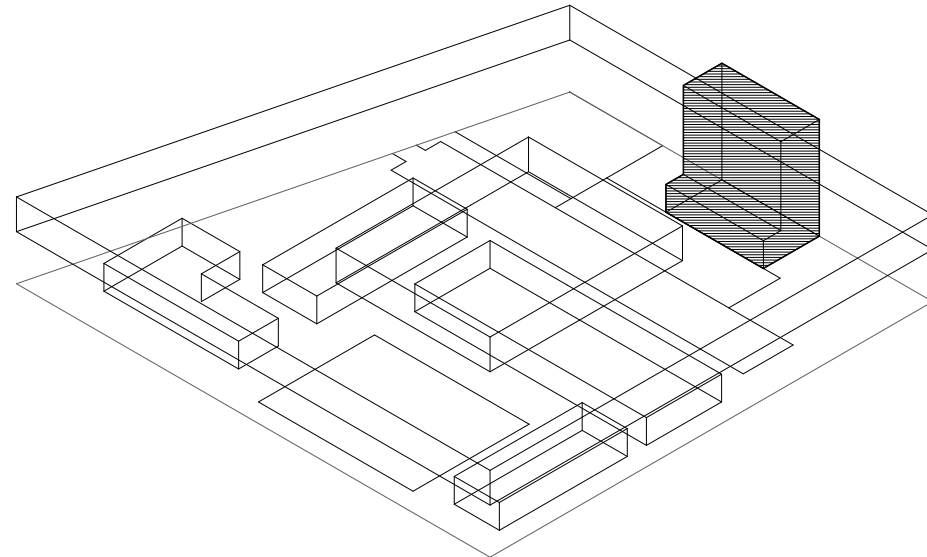
PUBLIC PROGRAM

# FACTORY LAYOUT



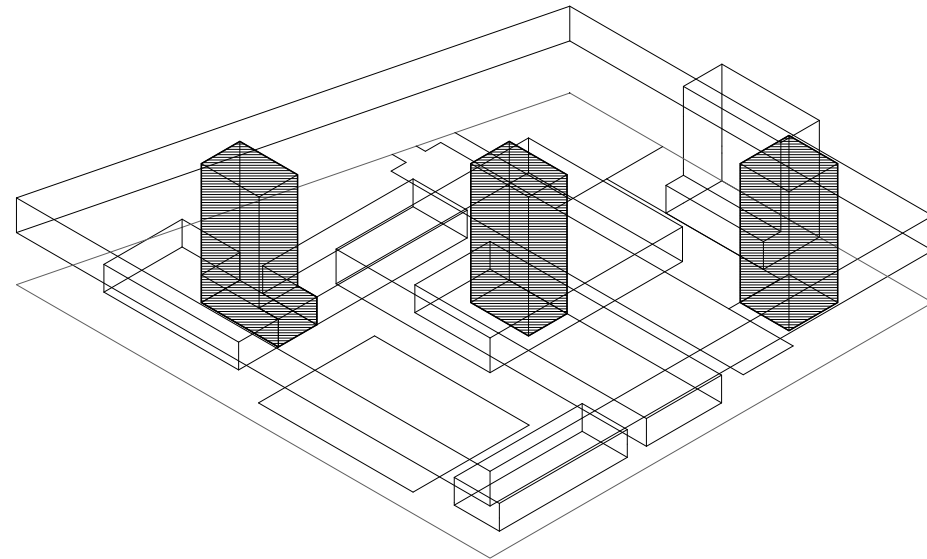
# WORKERS PROGRAM

# FACTORY LAYOUT



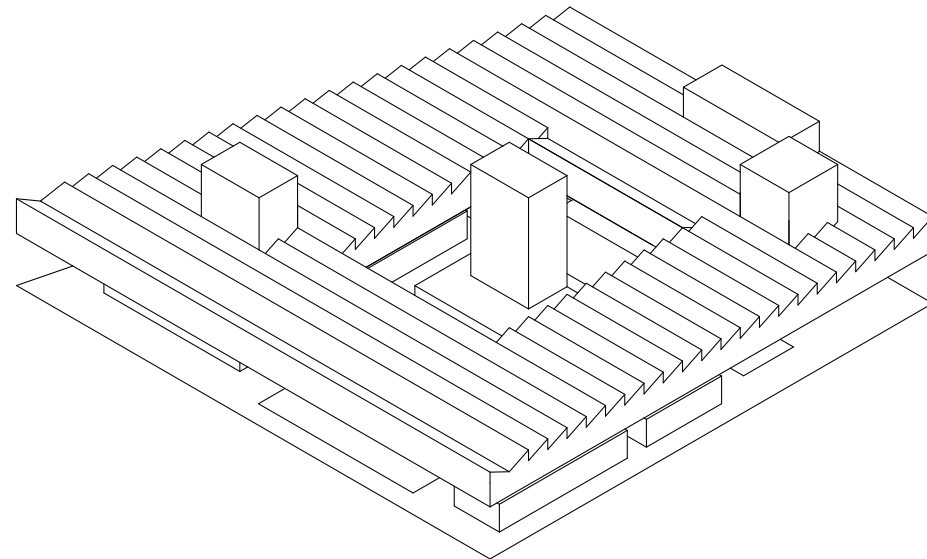
# OFFICE TOWER

# FACTORY LAYOUT

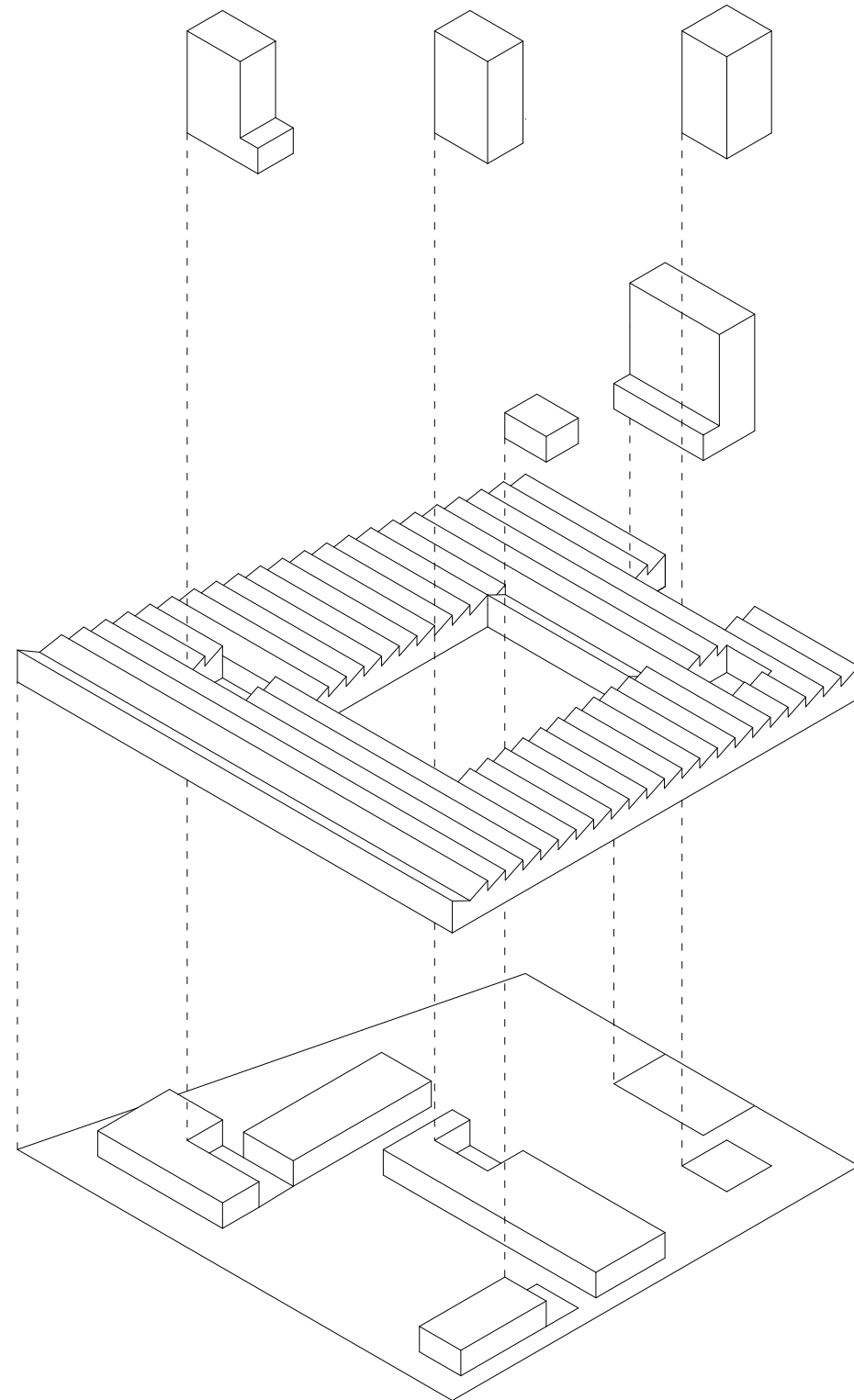


STORAGE TOWERS

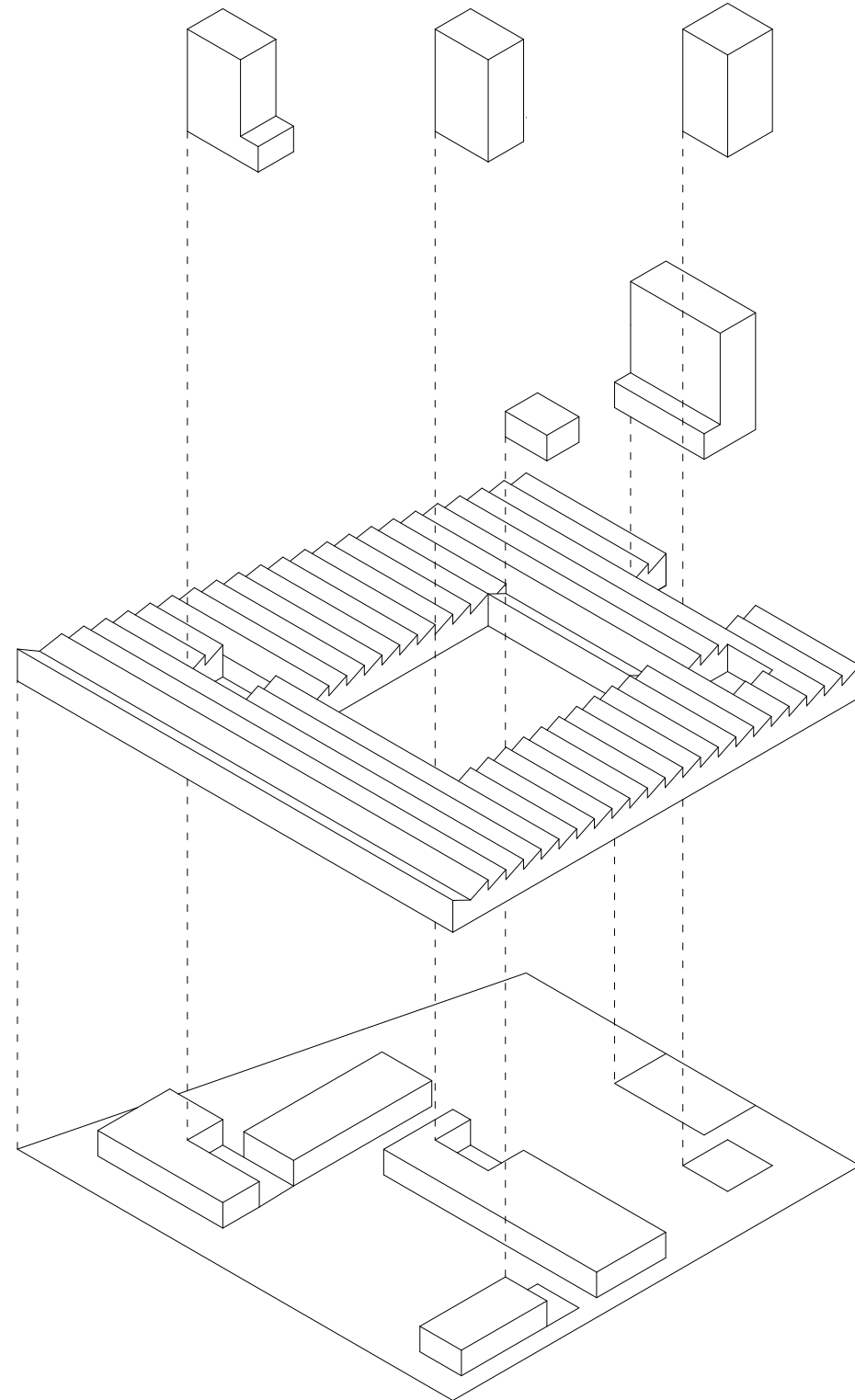
# FACTORY LAYOUT



# ELEMENTS

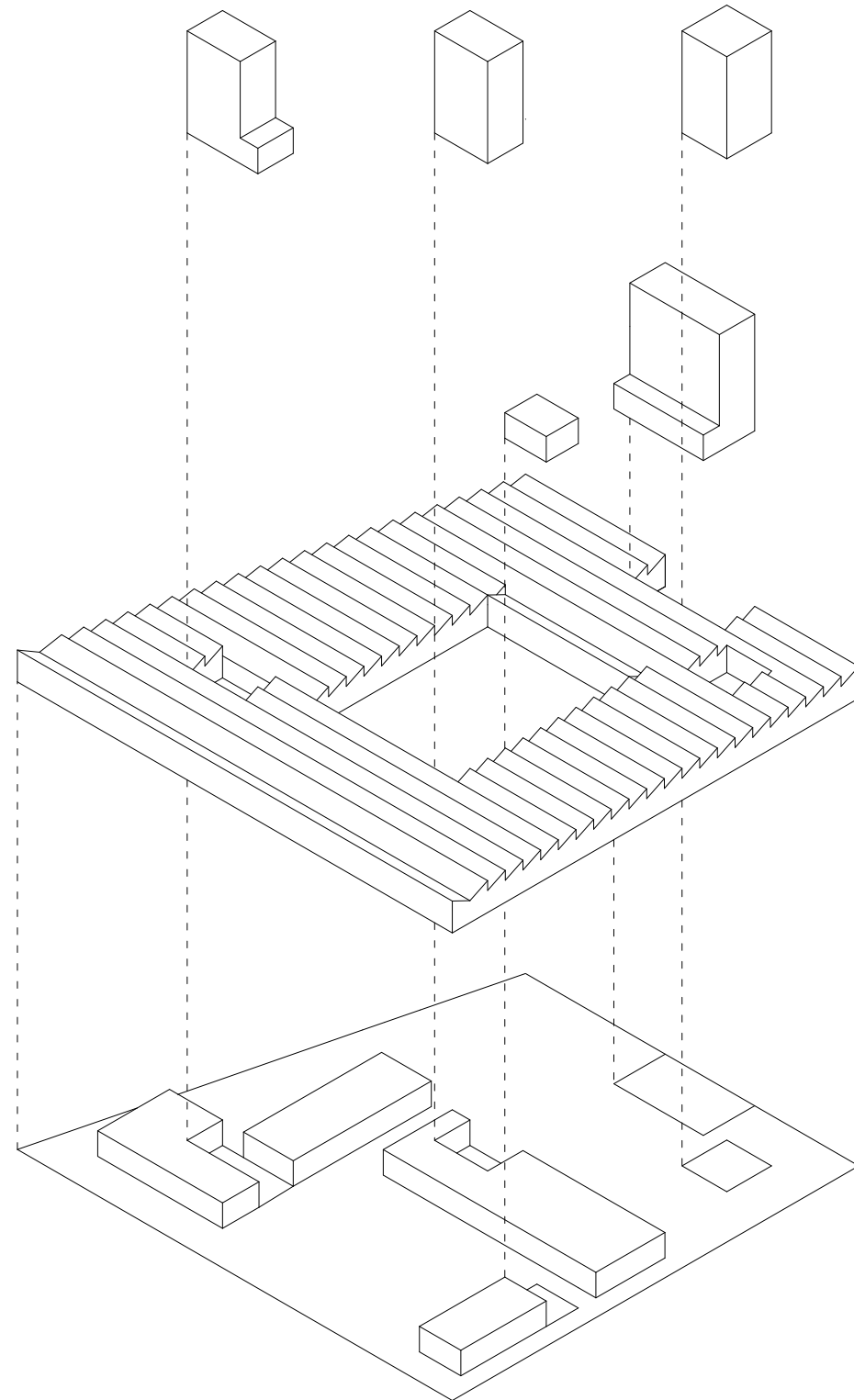


# ELEMENTS



**OPEN FLOOR:**  
ACCESS / PUBLIC  
SHIPPING / MACHINES

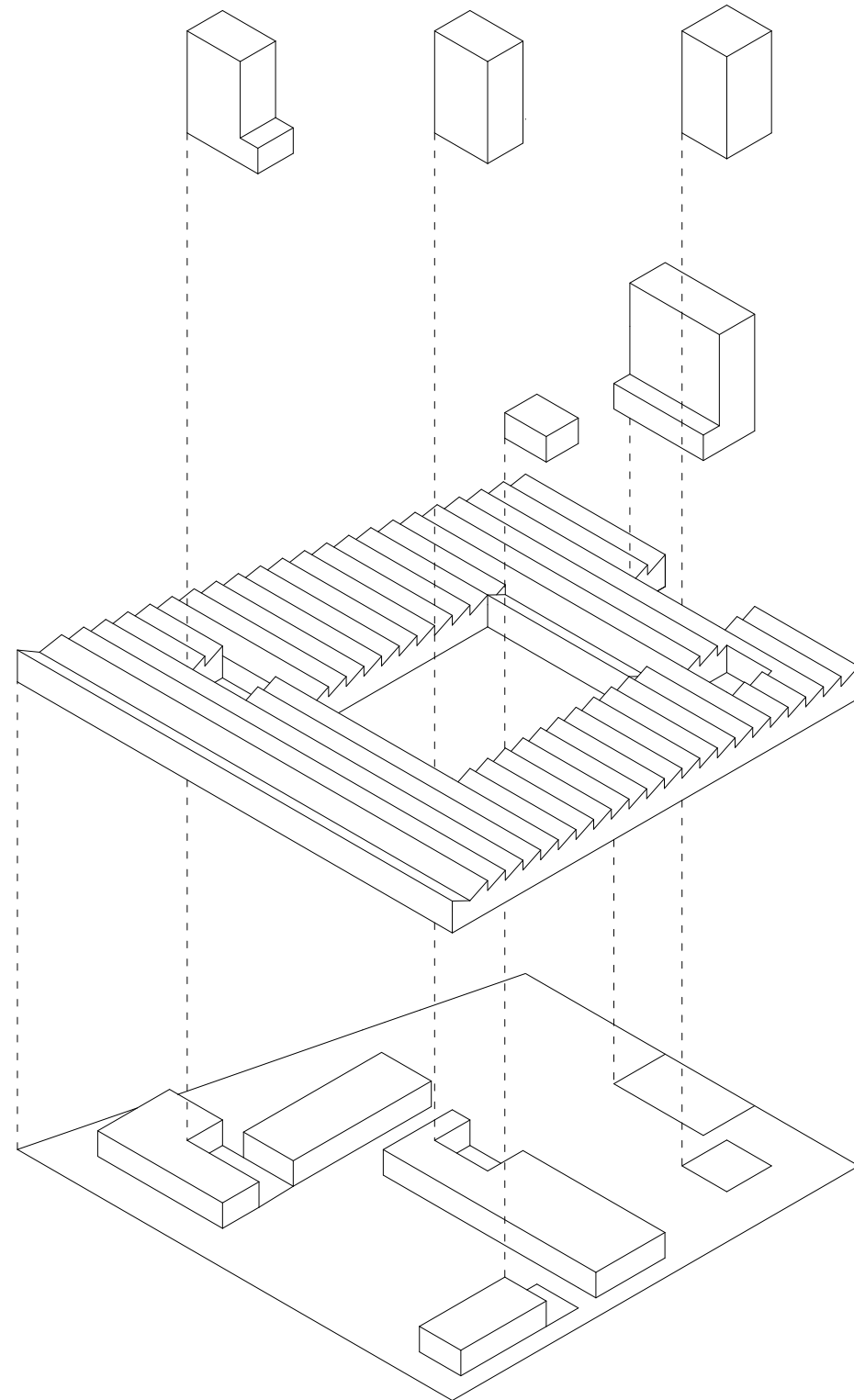
# ELEMENTS



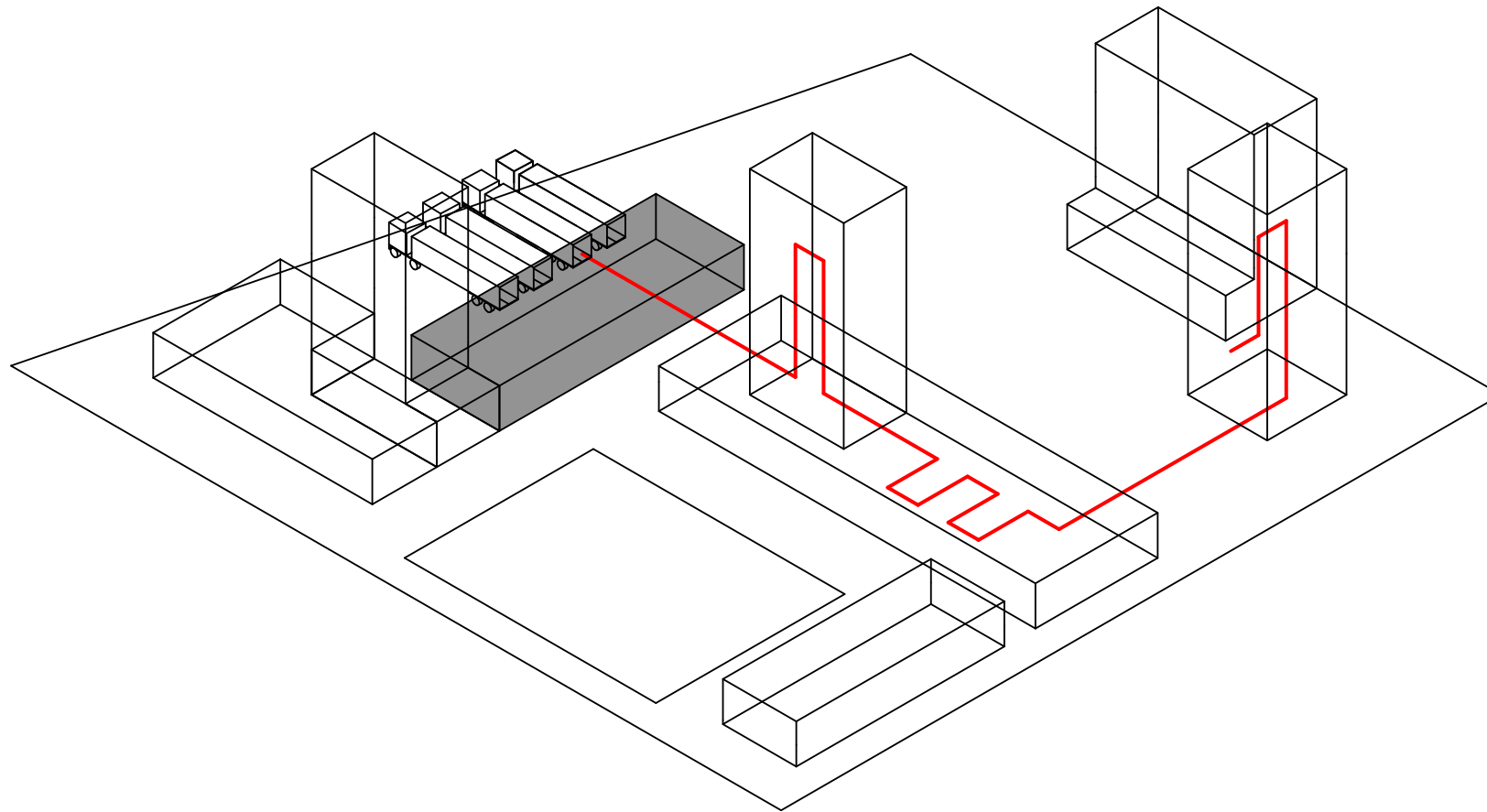
**WORKSPACES:**  
SEWING / DESIGN / OFFICES

# ELEMENTS

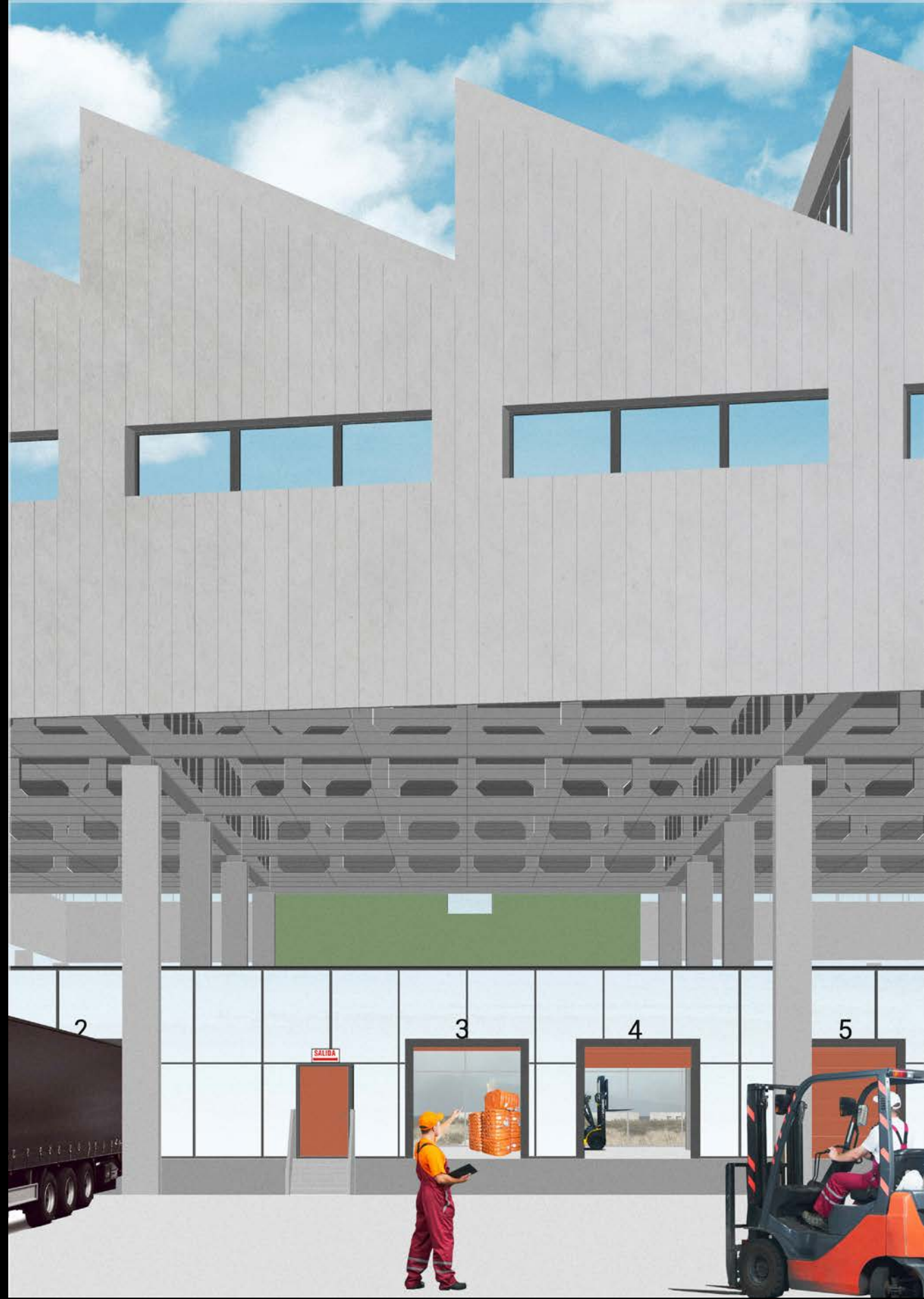
**STORAGE:**  
RAW / PROCESSED / FINISHED



# PRODUCTION PROCESS



UNLOADING



2

3

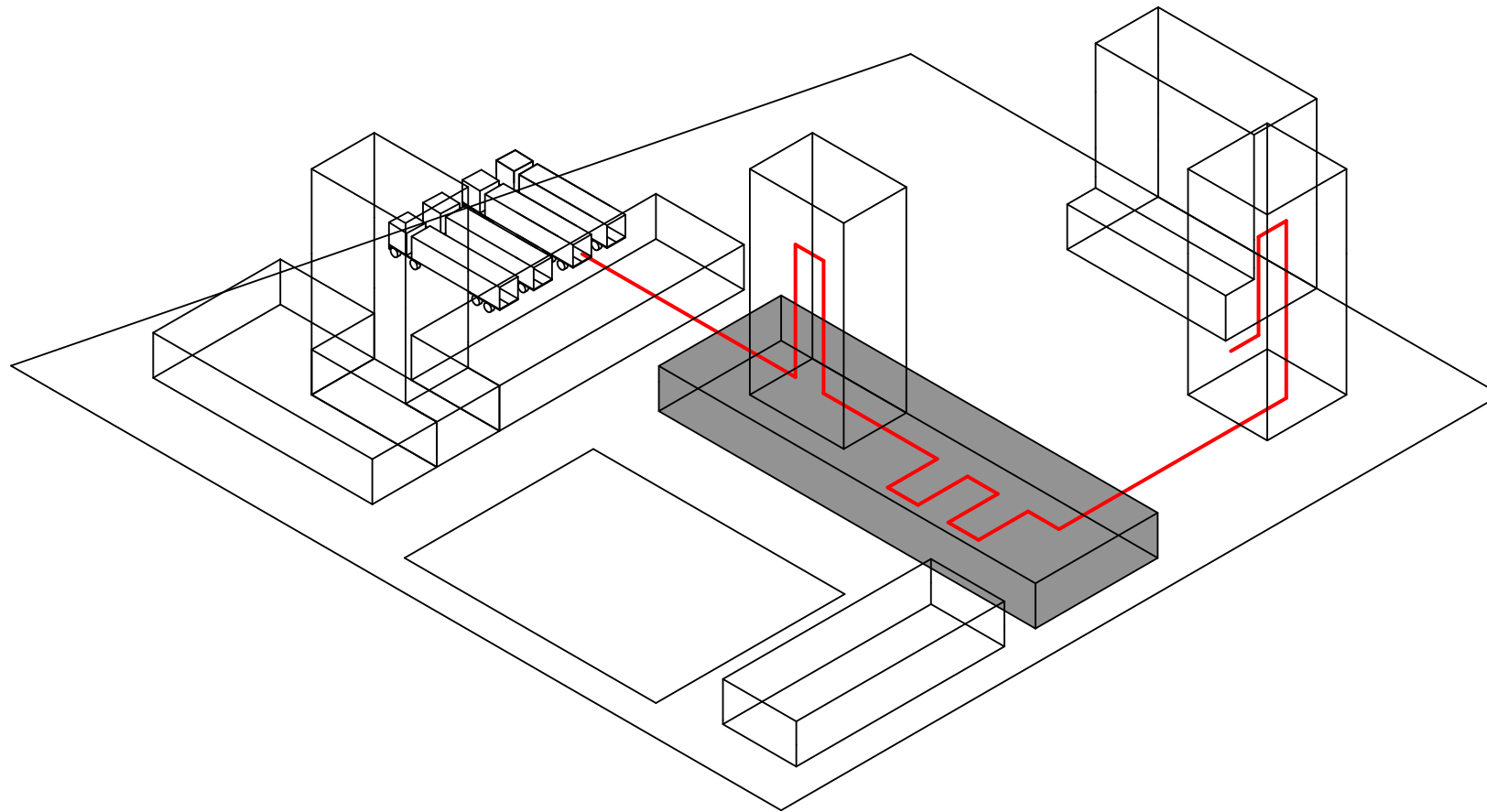
4

5

SALIDA



# PRODUCTION PROCESS

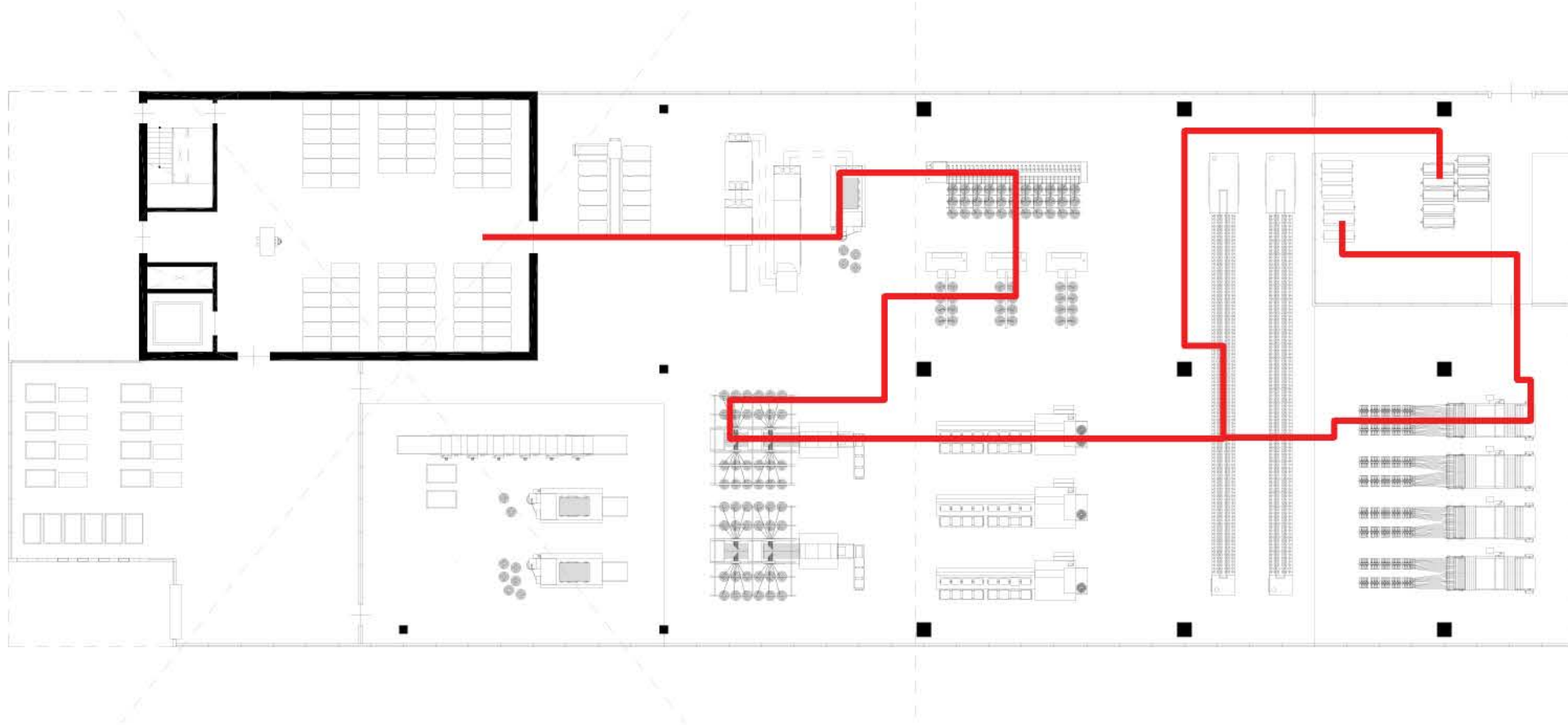


PROCESSING



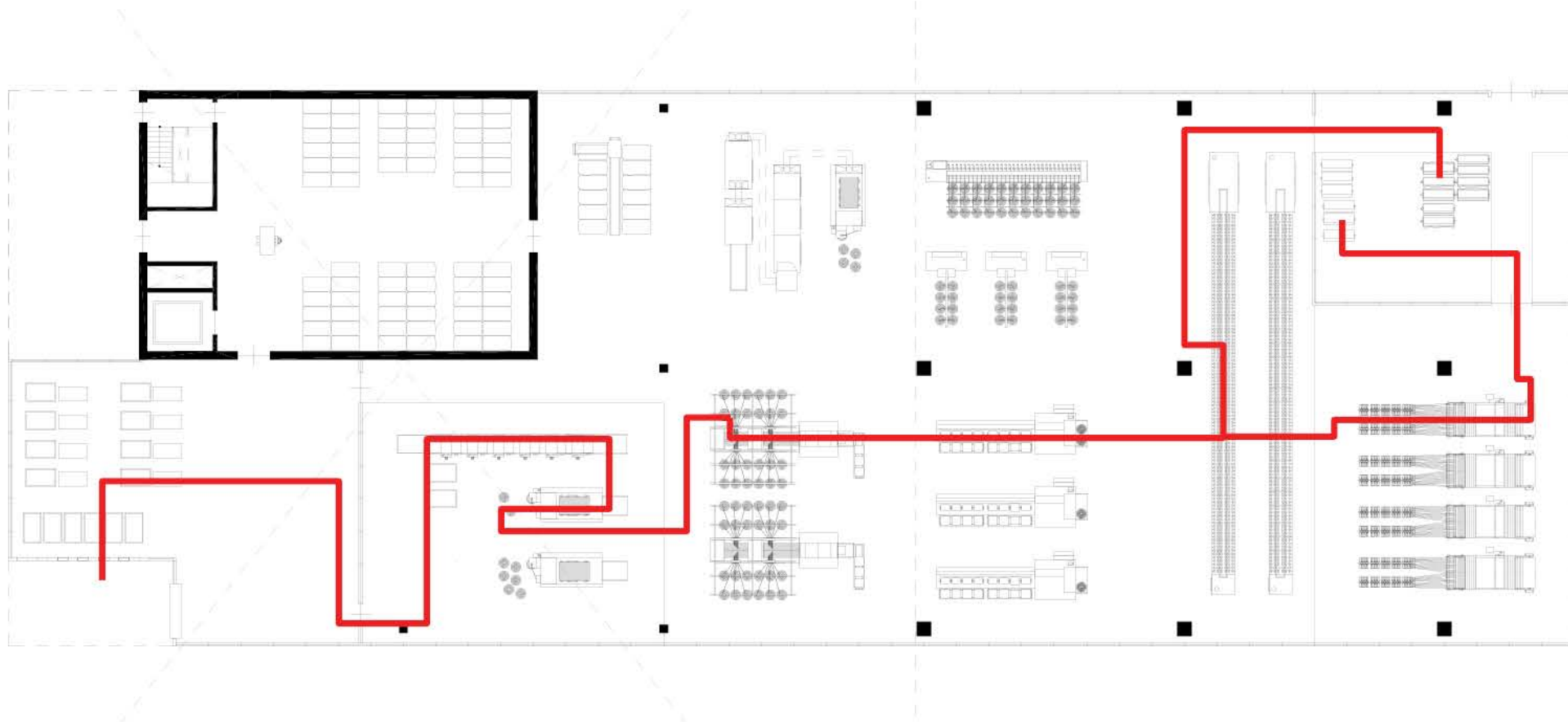
# PRODUCTION PROCESS

## COTTON TO TREAD AND TEXTILE



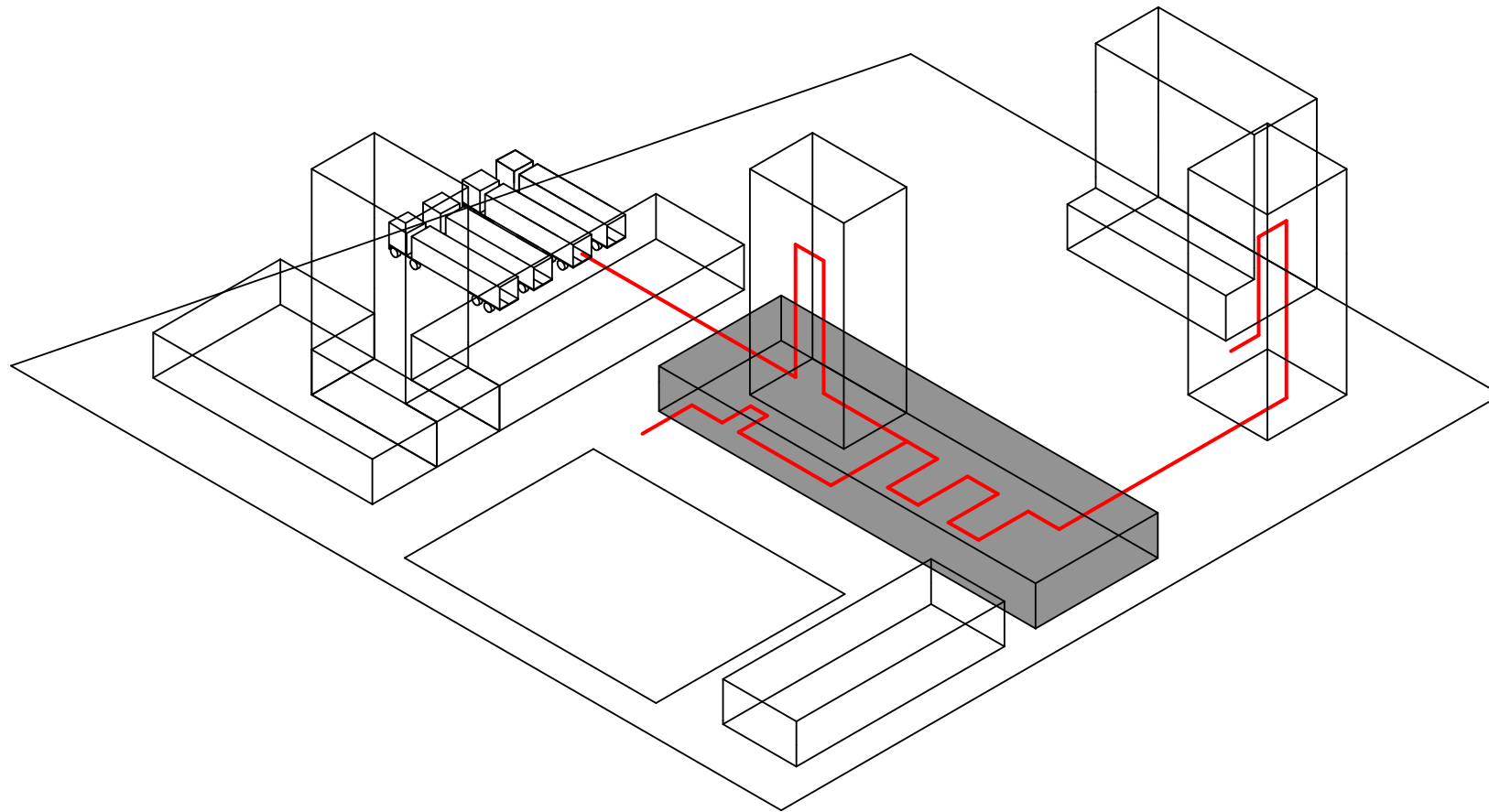
# PRODUCTION PROCESS

## CLOTHES TO TREAD AND TEXTILE



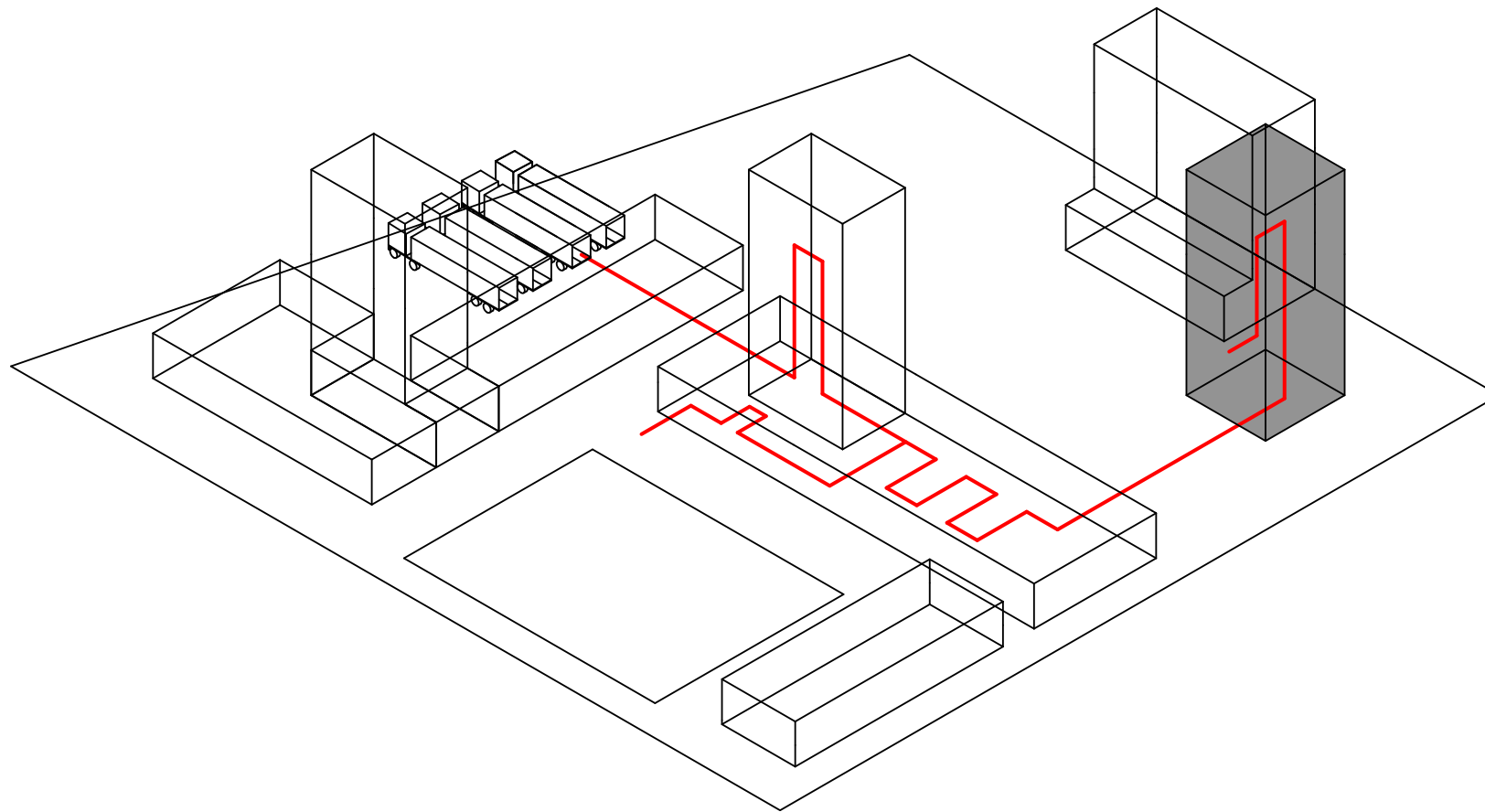


# PRODUCTION PROCESS



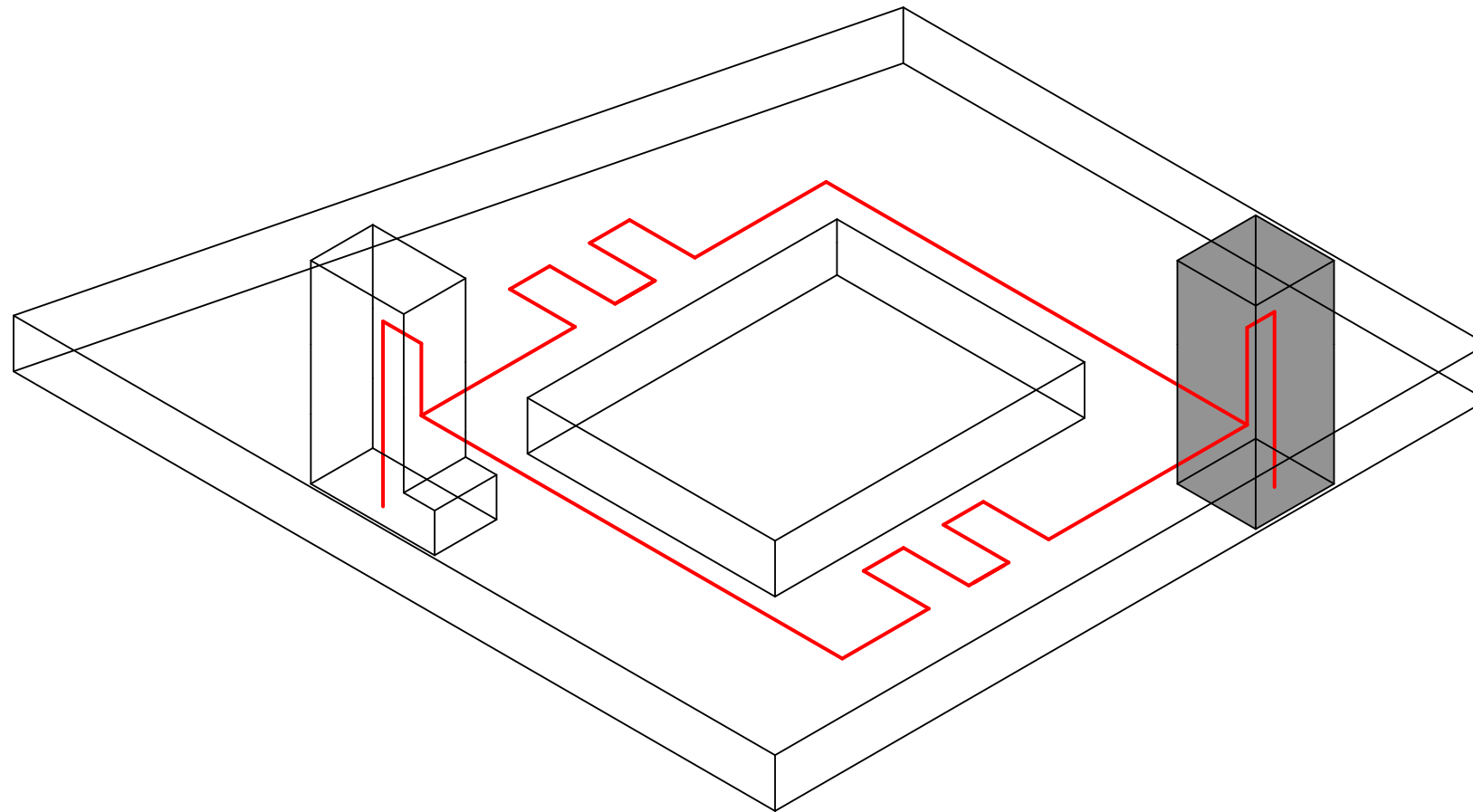
PROCESSING

# PRODUCTION PROCESS



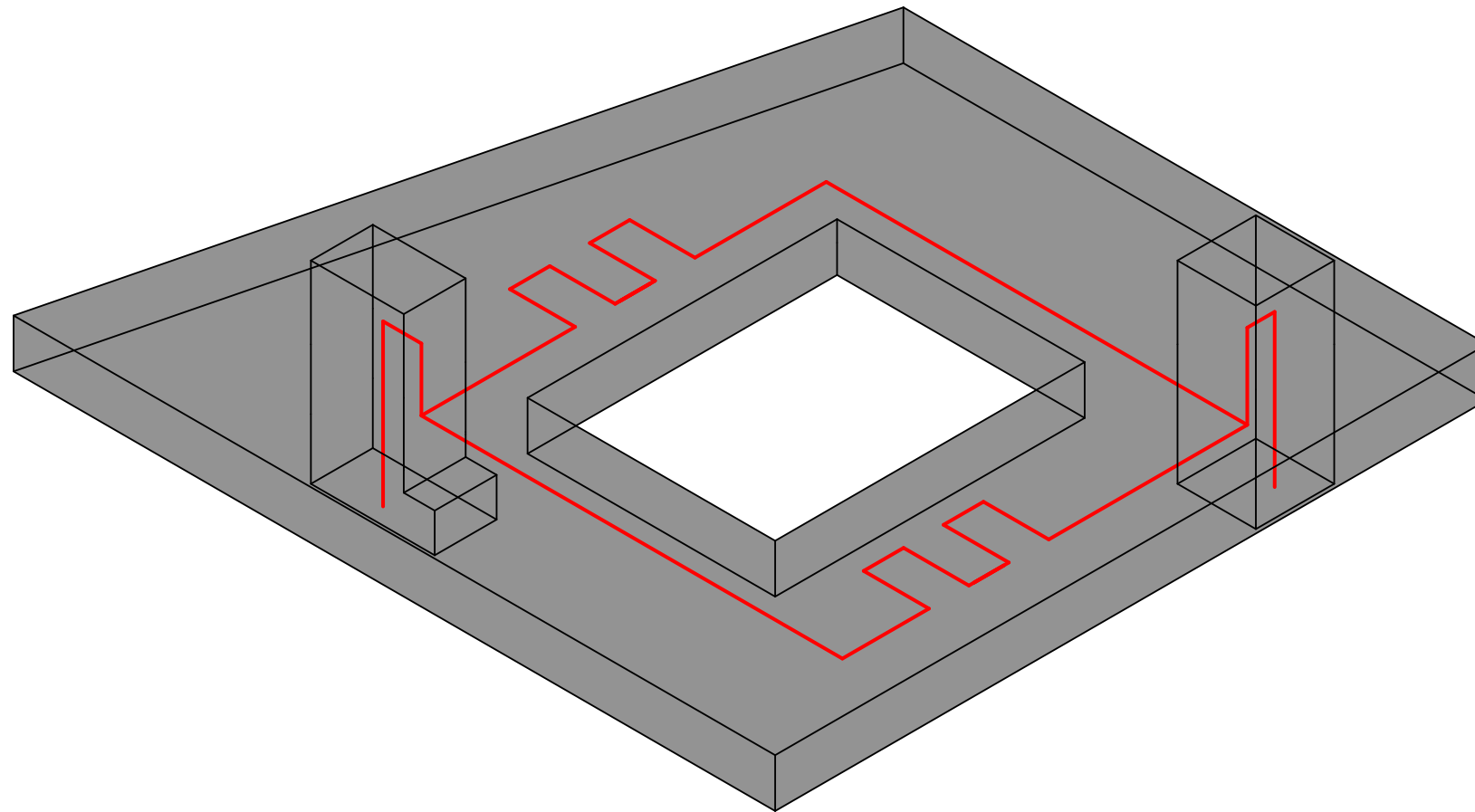
STORAGE 2

# PRODUCTION PROCESS



STORAGE 2

# PRODUCTION PROCESS

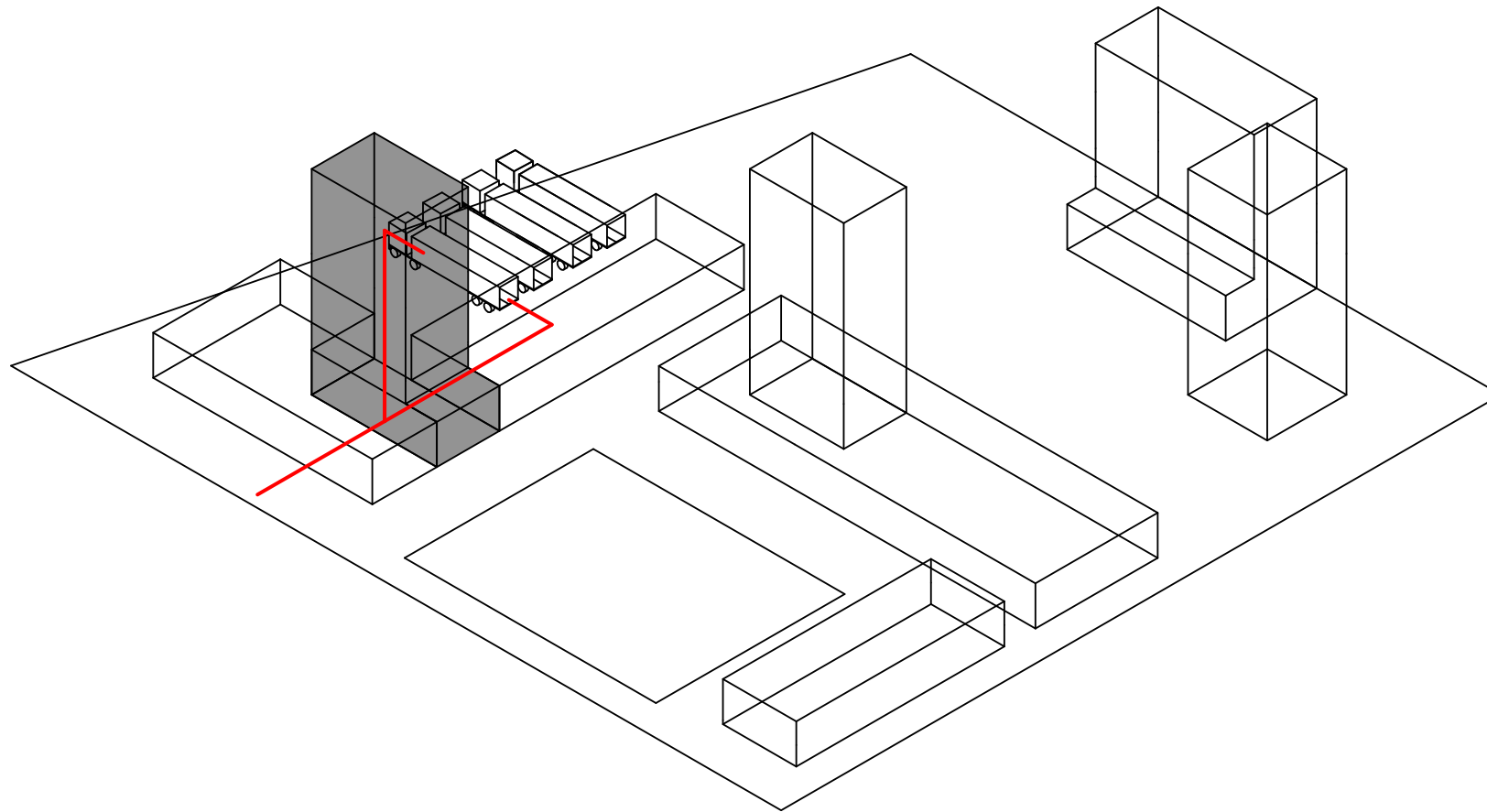


SEWING



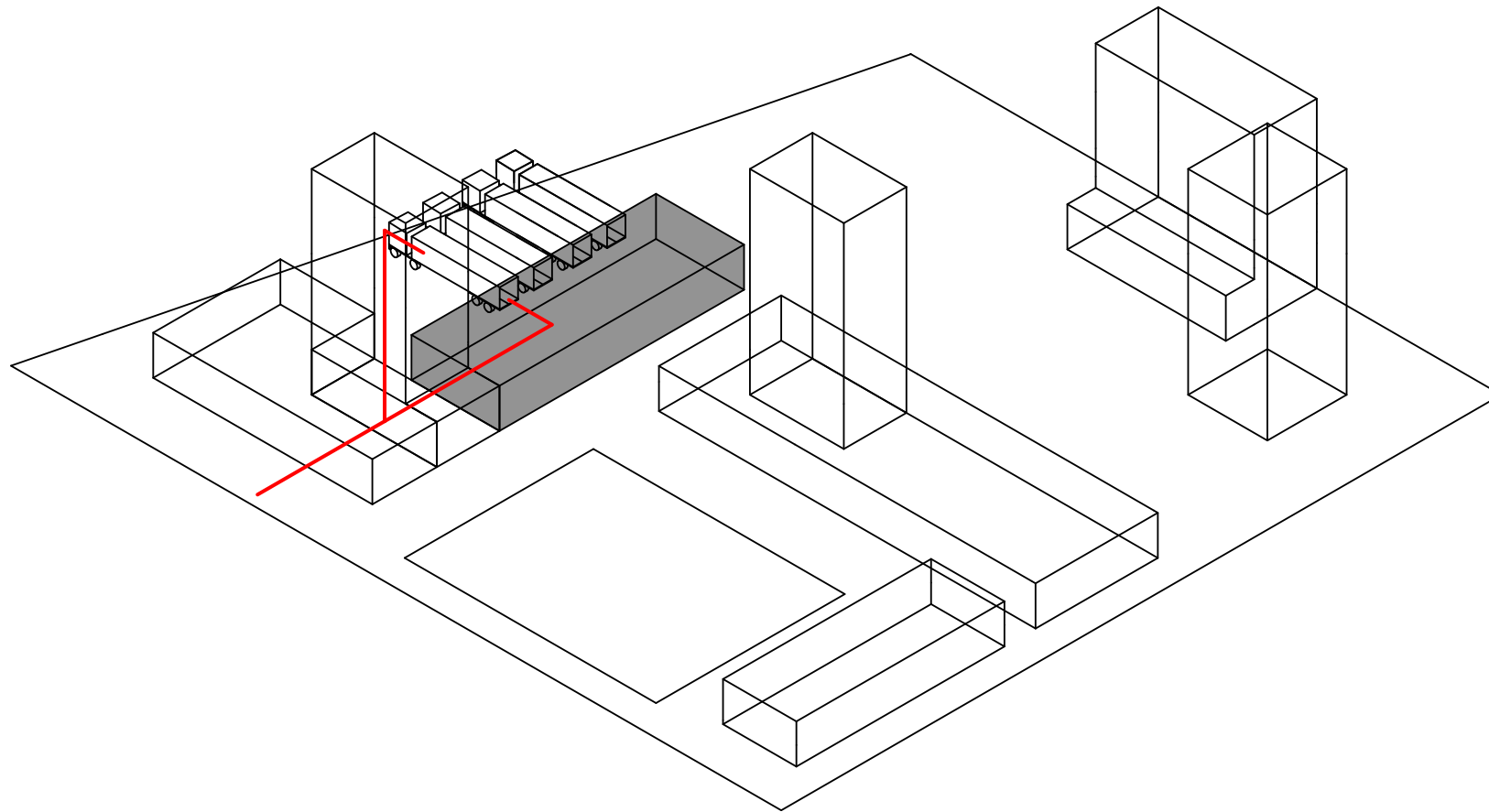


# PRODUCTION PROCESS



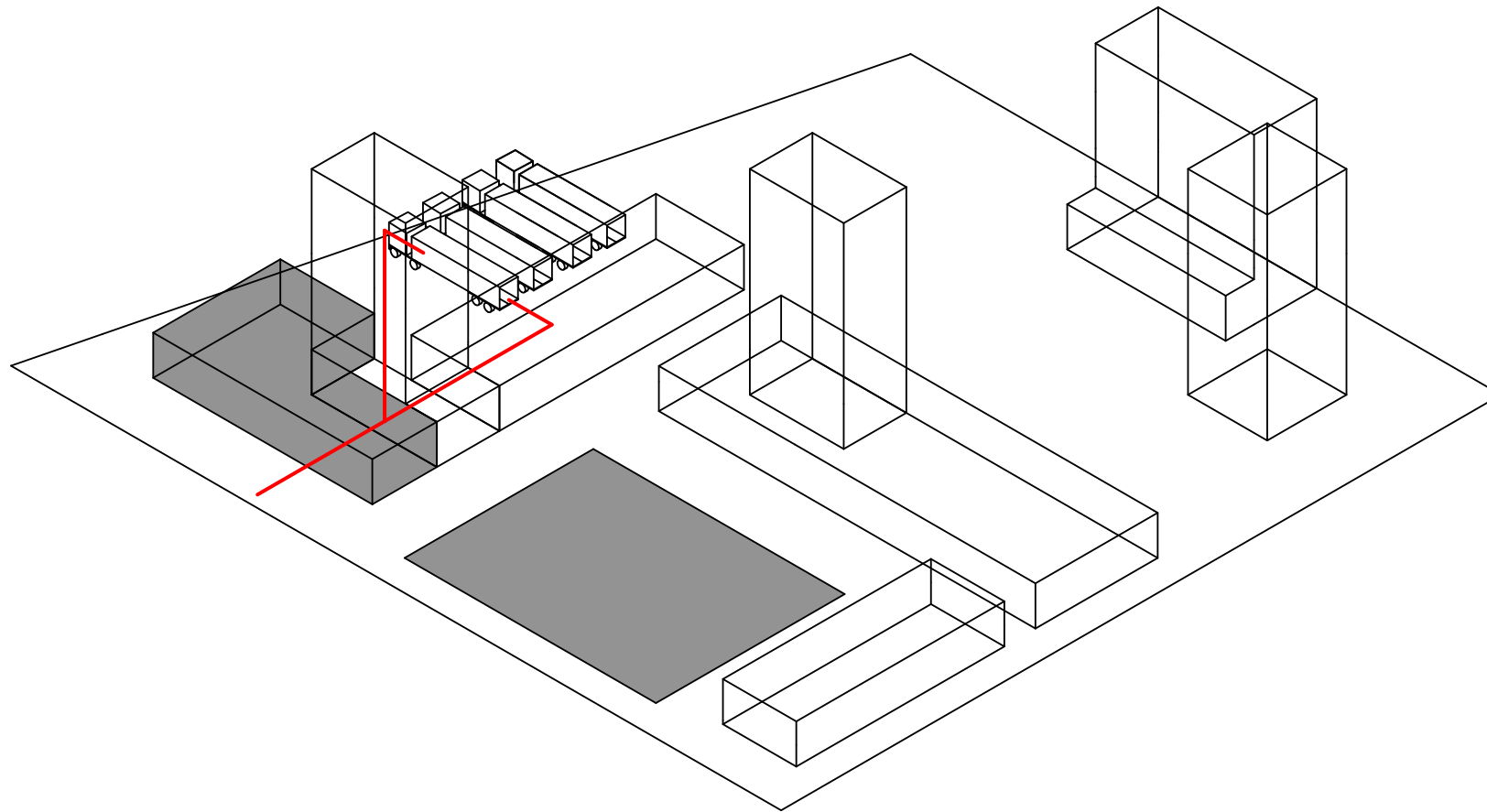
STORAGE 3

# PRODUCTION PROCESS

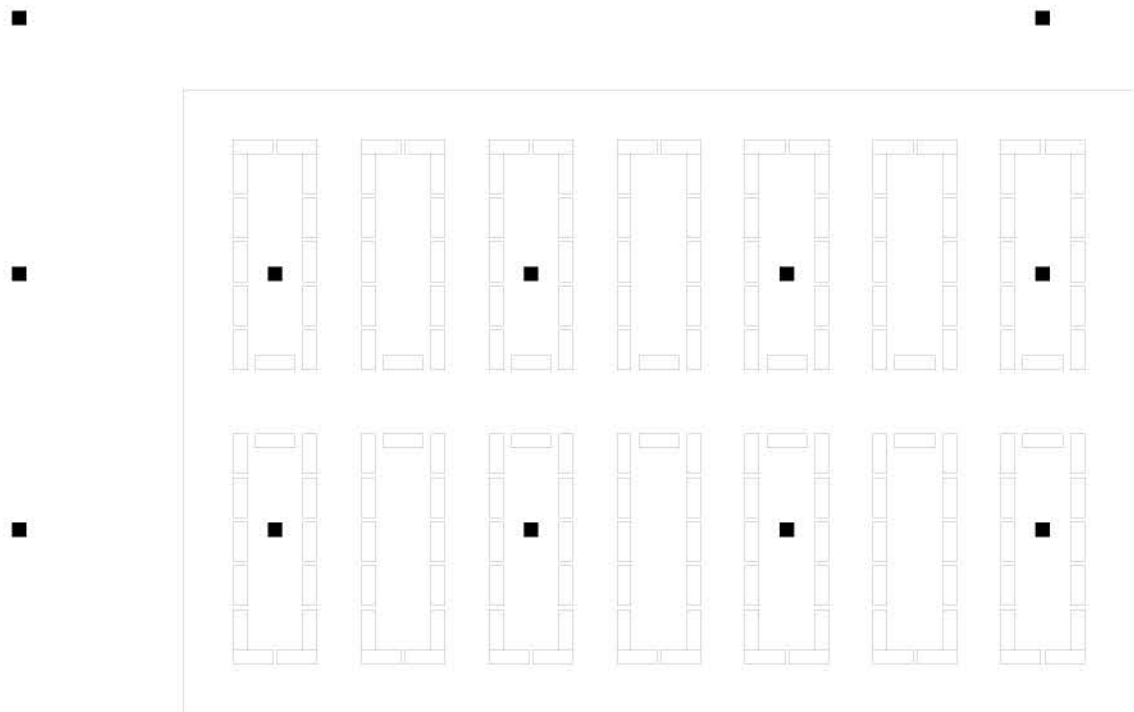
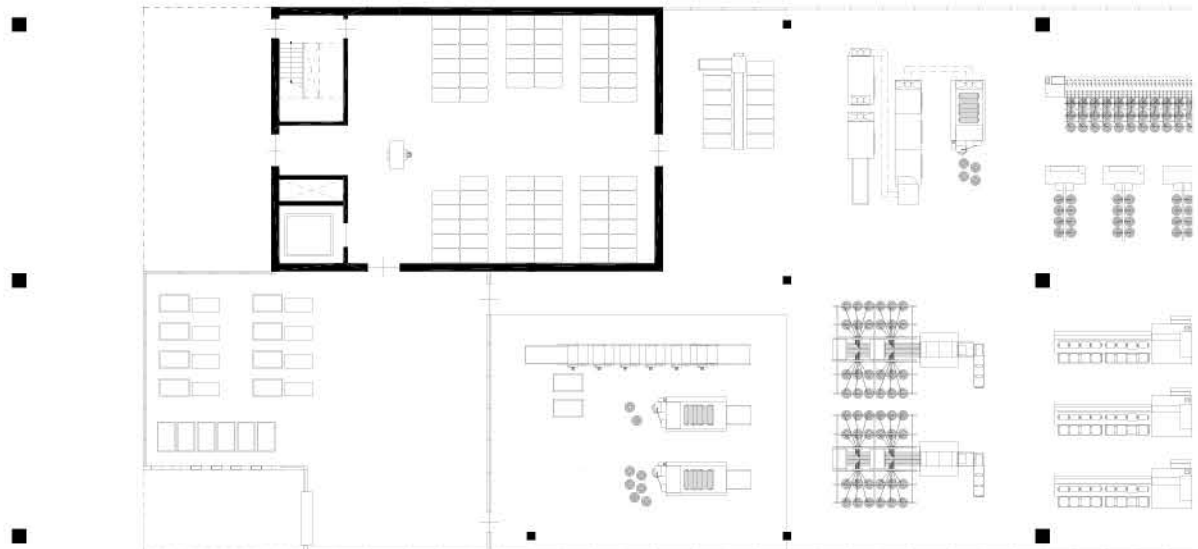


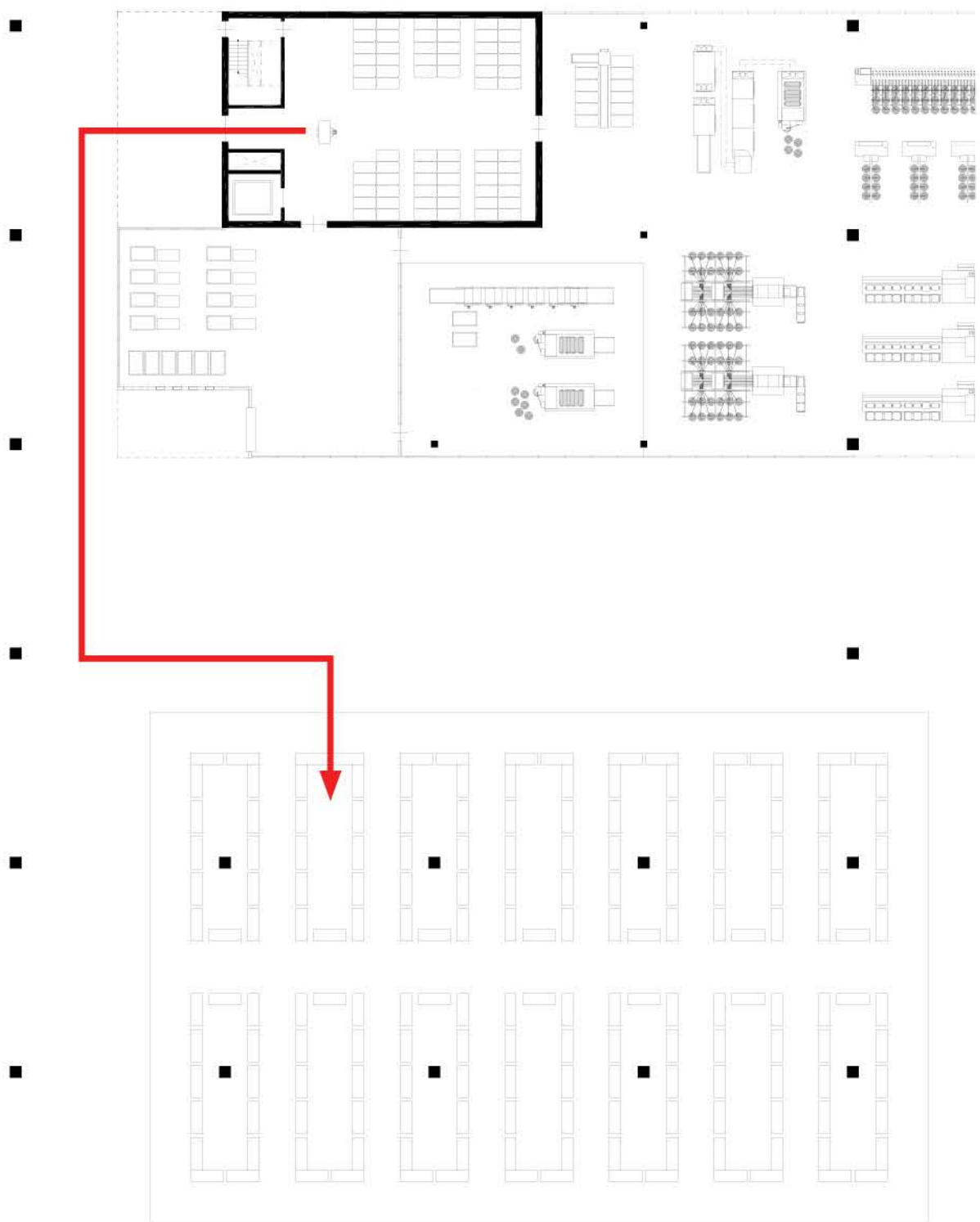
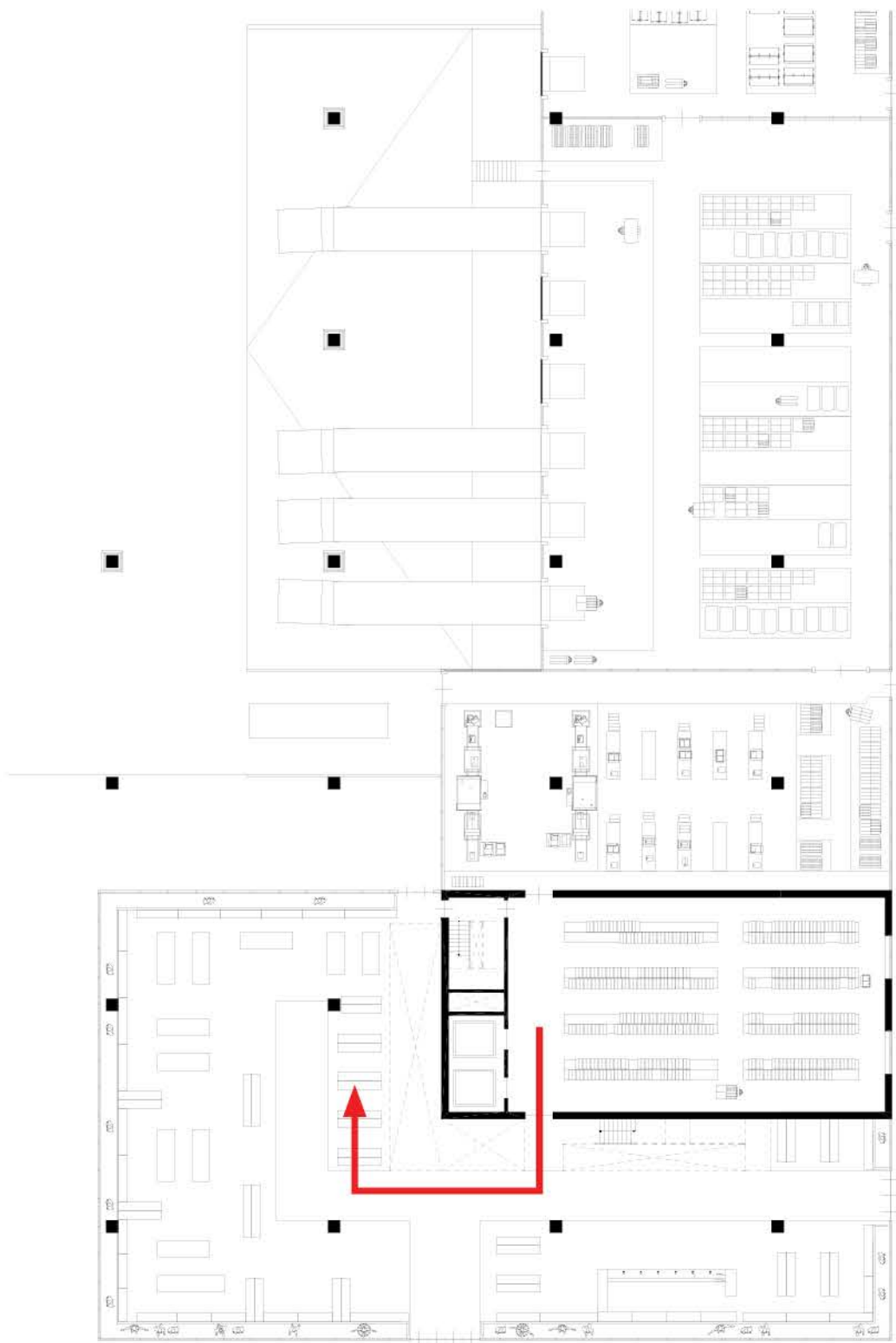
# PACKAGING AND SHIPPING

# PRODUCTION PROCESS



SHOP AND MARKET

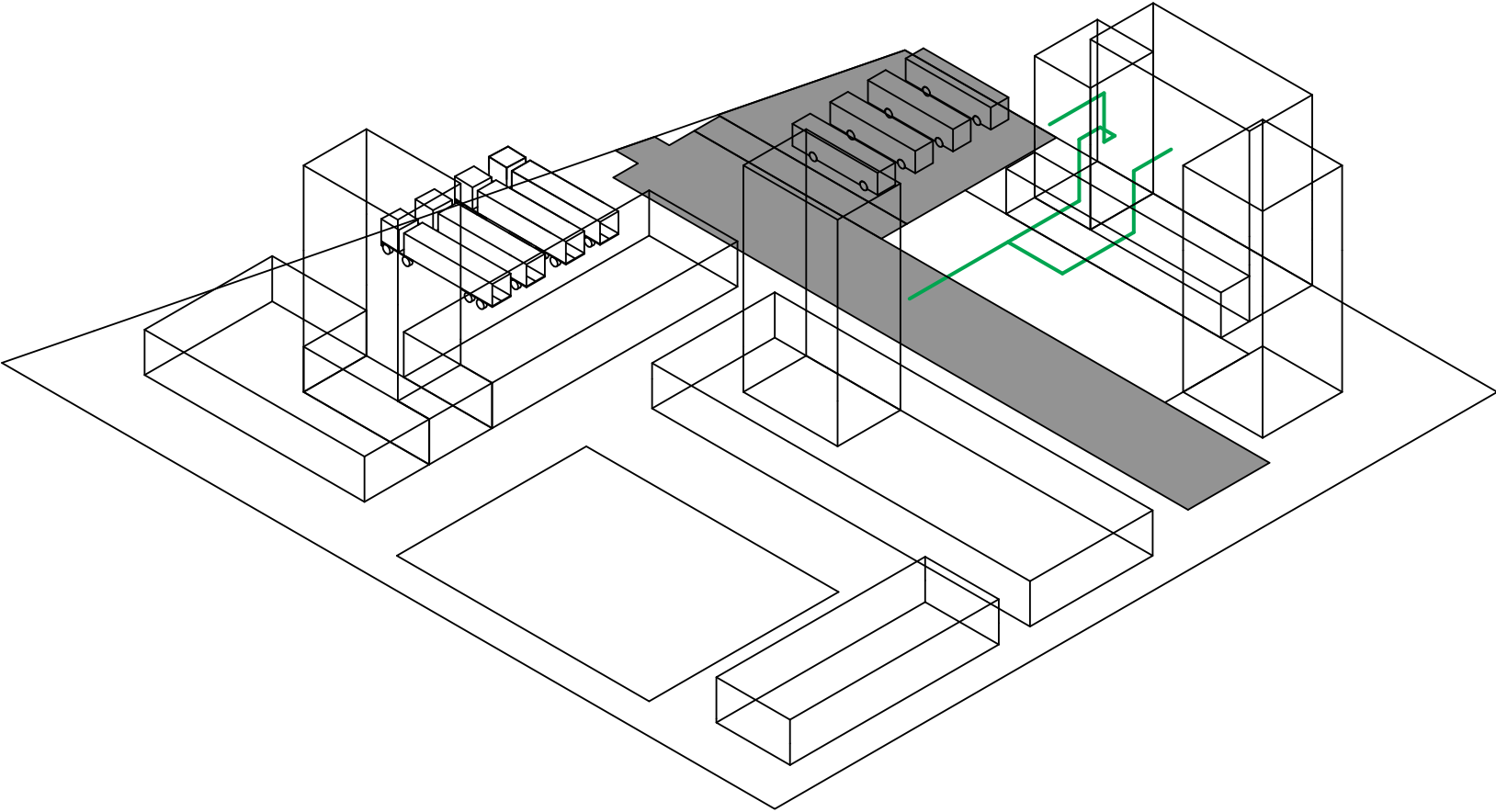






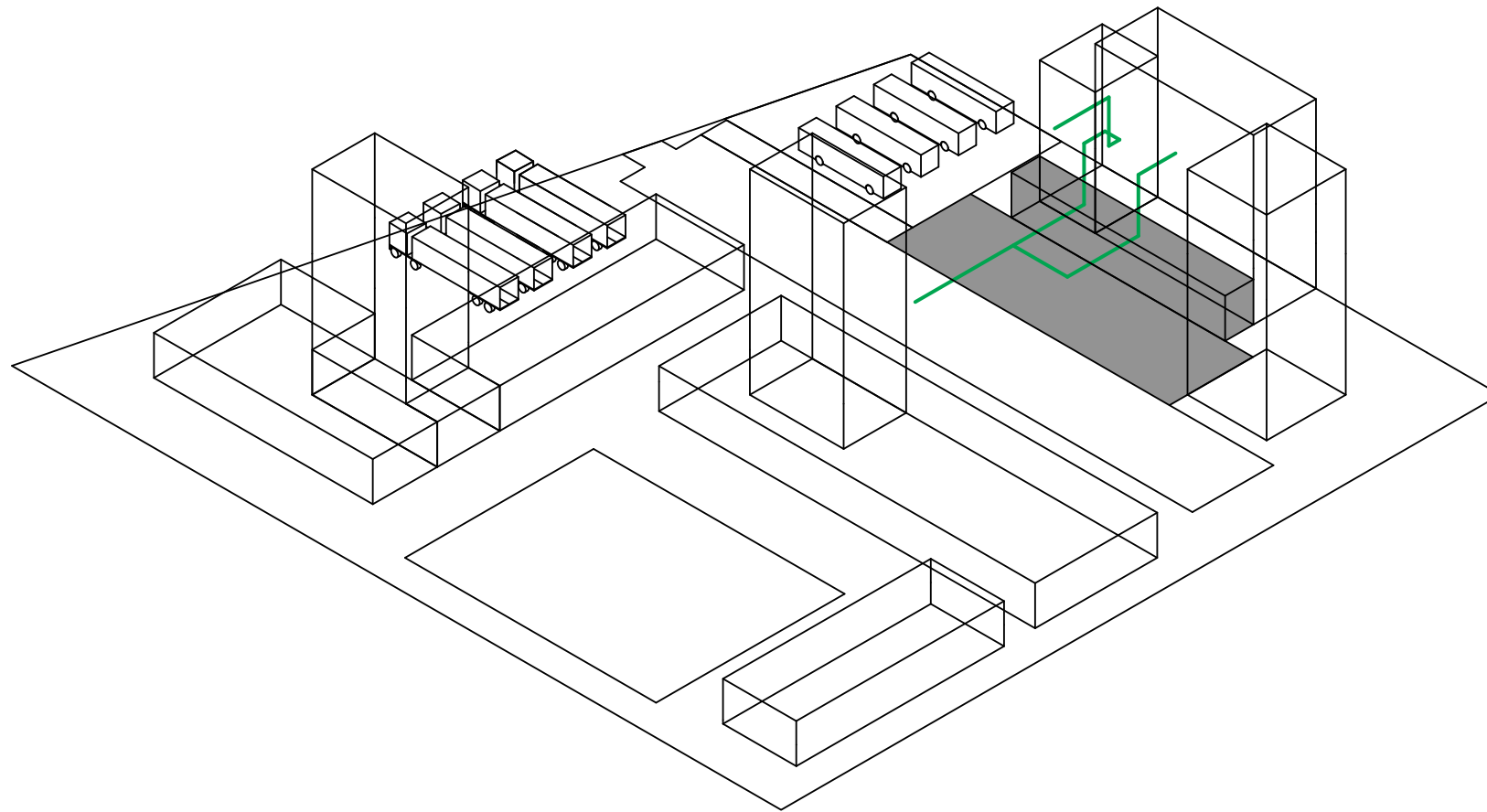
**WORKERS**

**A DAY AT WORK**



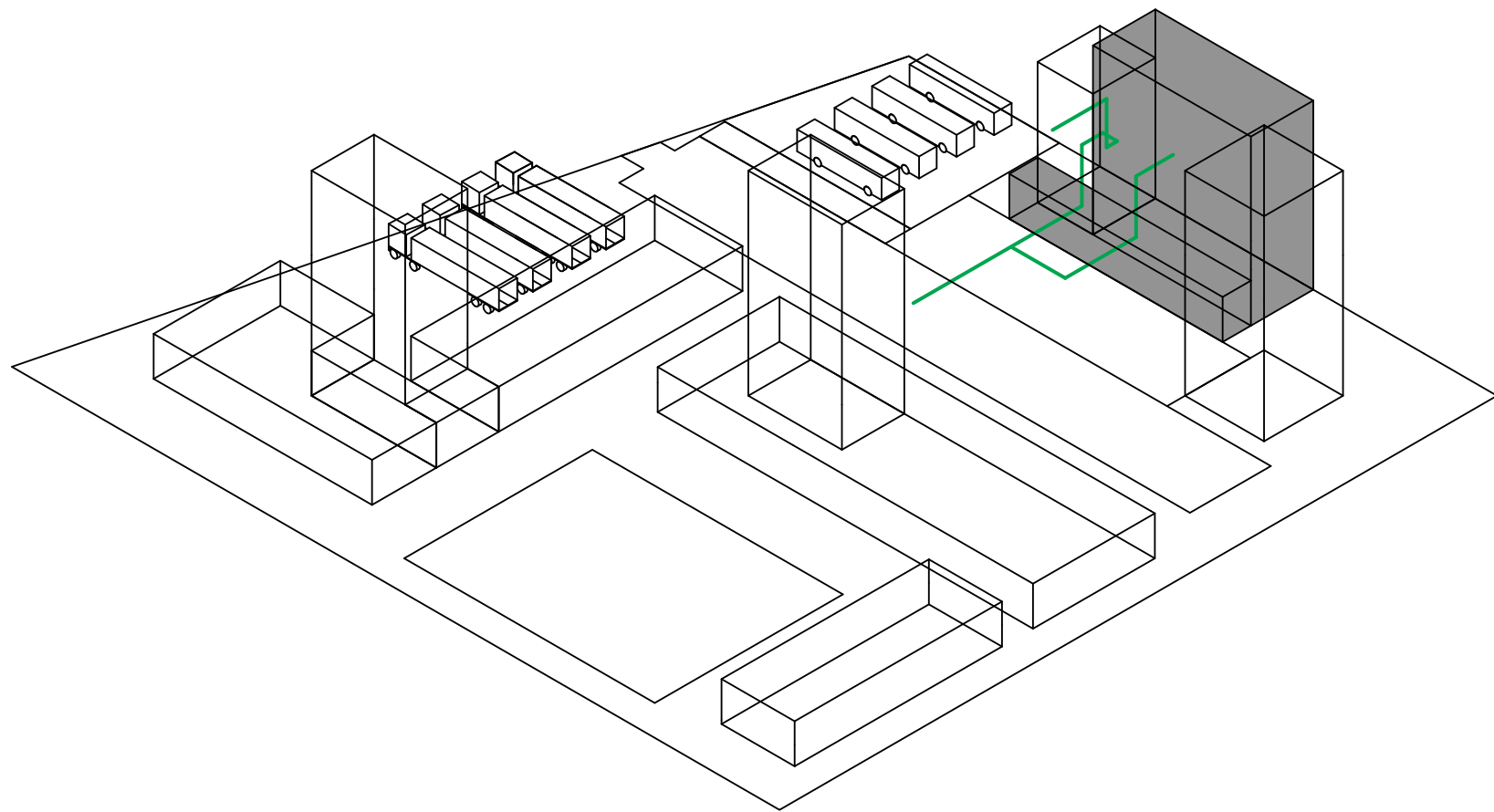
ARRIVAL

# A DAY AT WORK



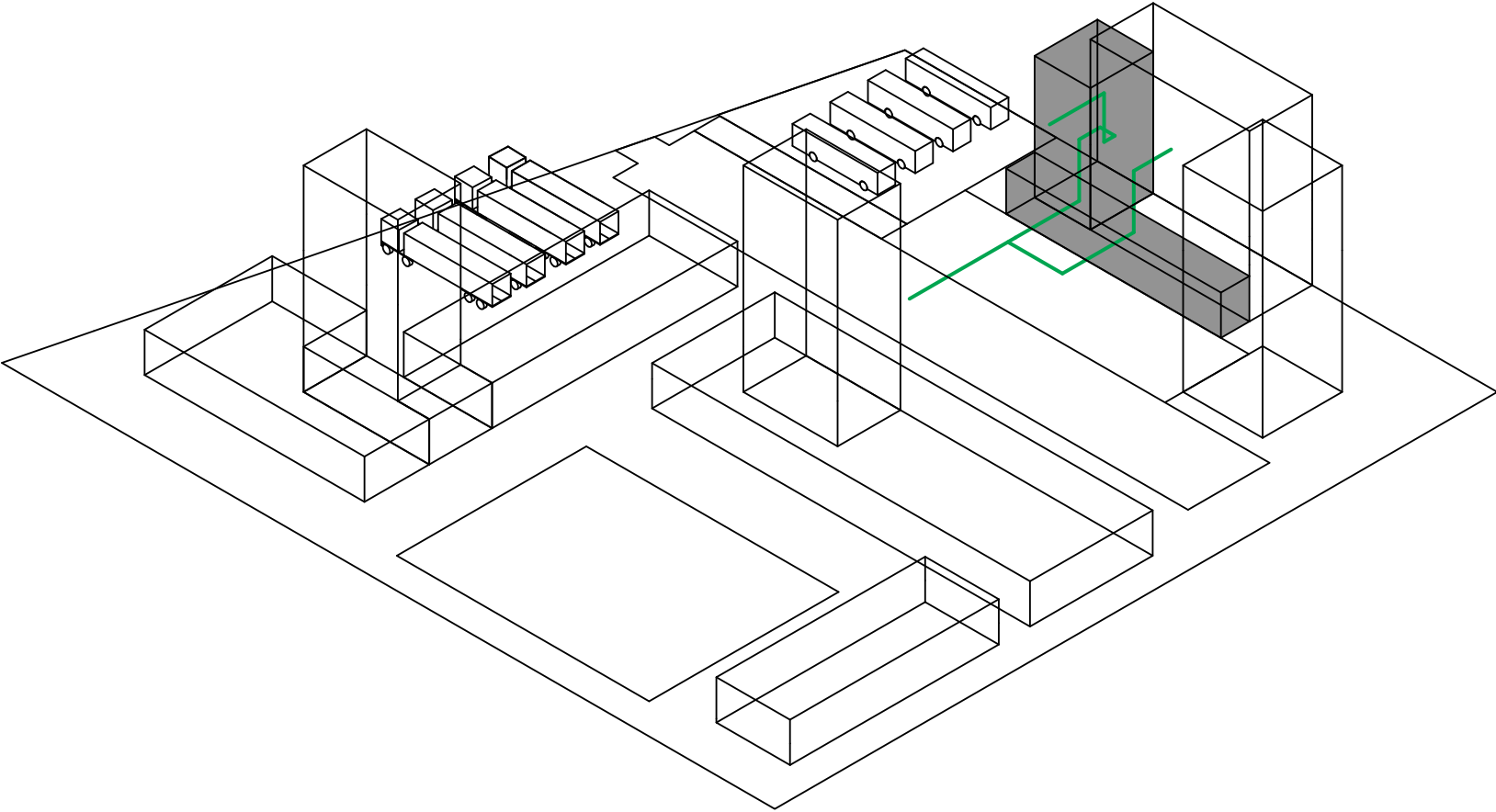
WORKERSPLAZA AND LOBBY

# A DAY AT WORK



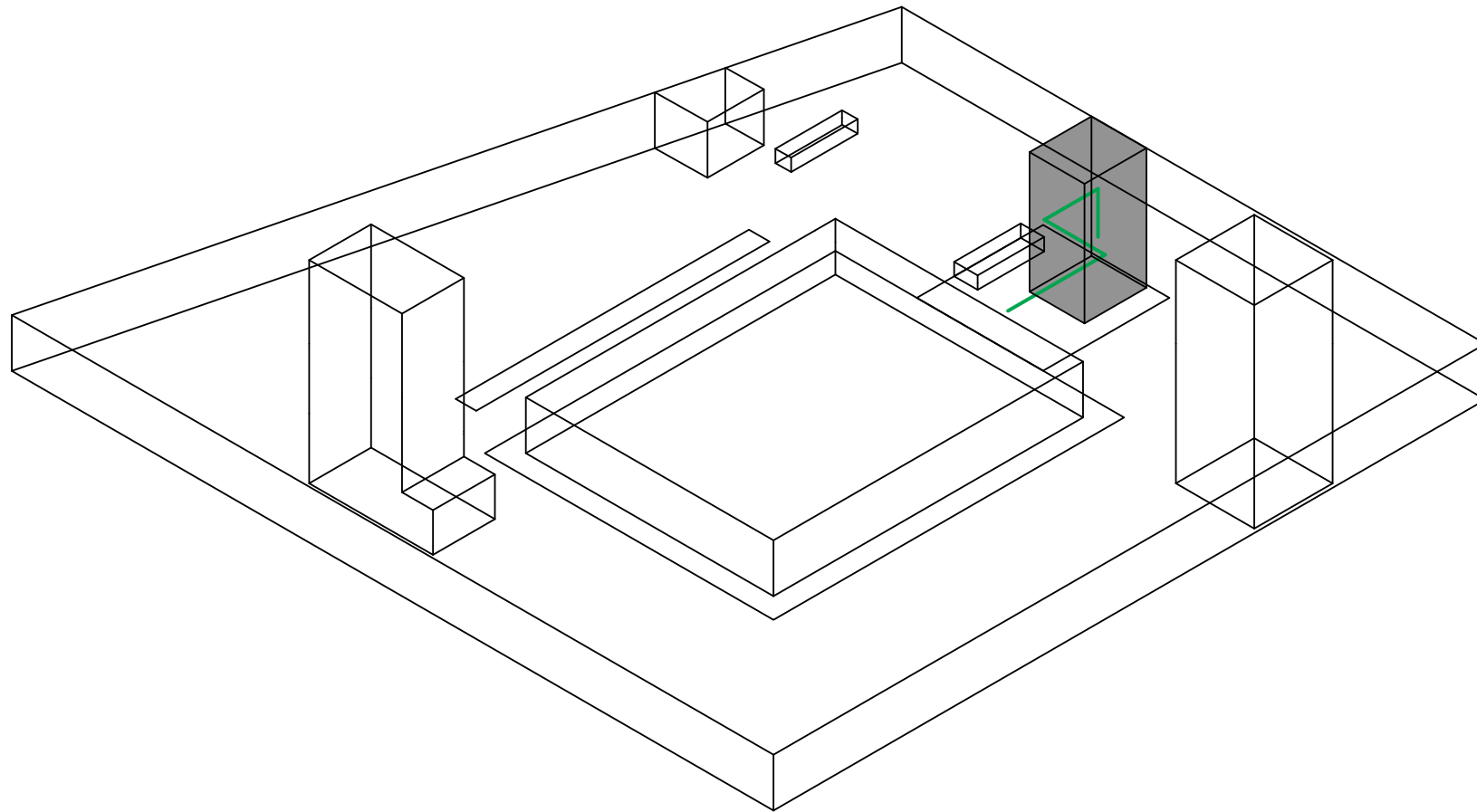
OFFICE

**A DAY AT WORK**



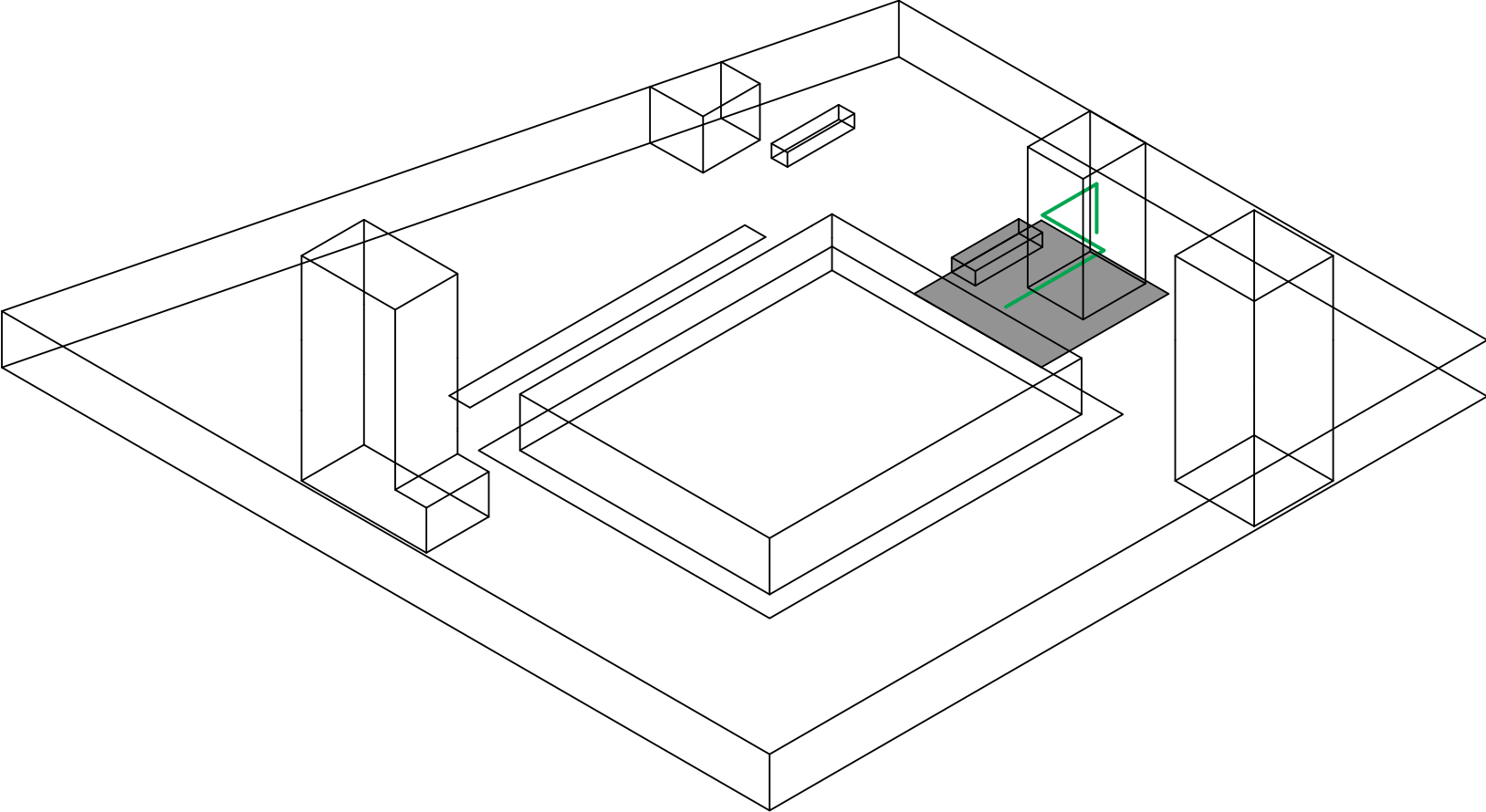
**SUPPORT SPACES**

# A DAY AT WORK



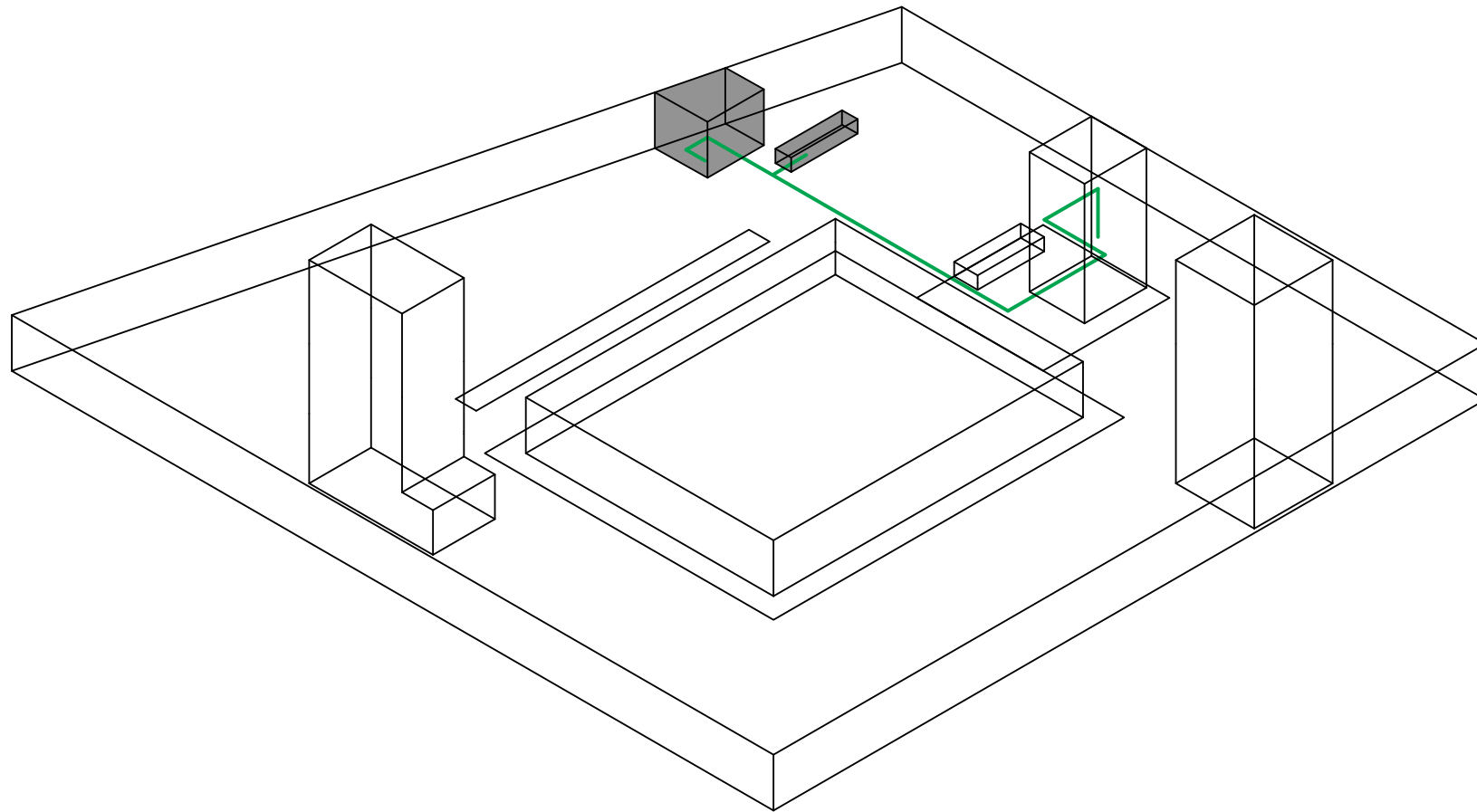
SUPPORT SPACES

**A DAY AT WORK**



WORKSPACE PLAZA

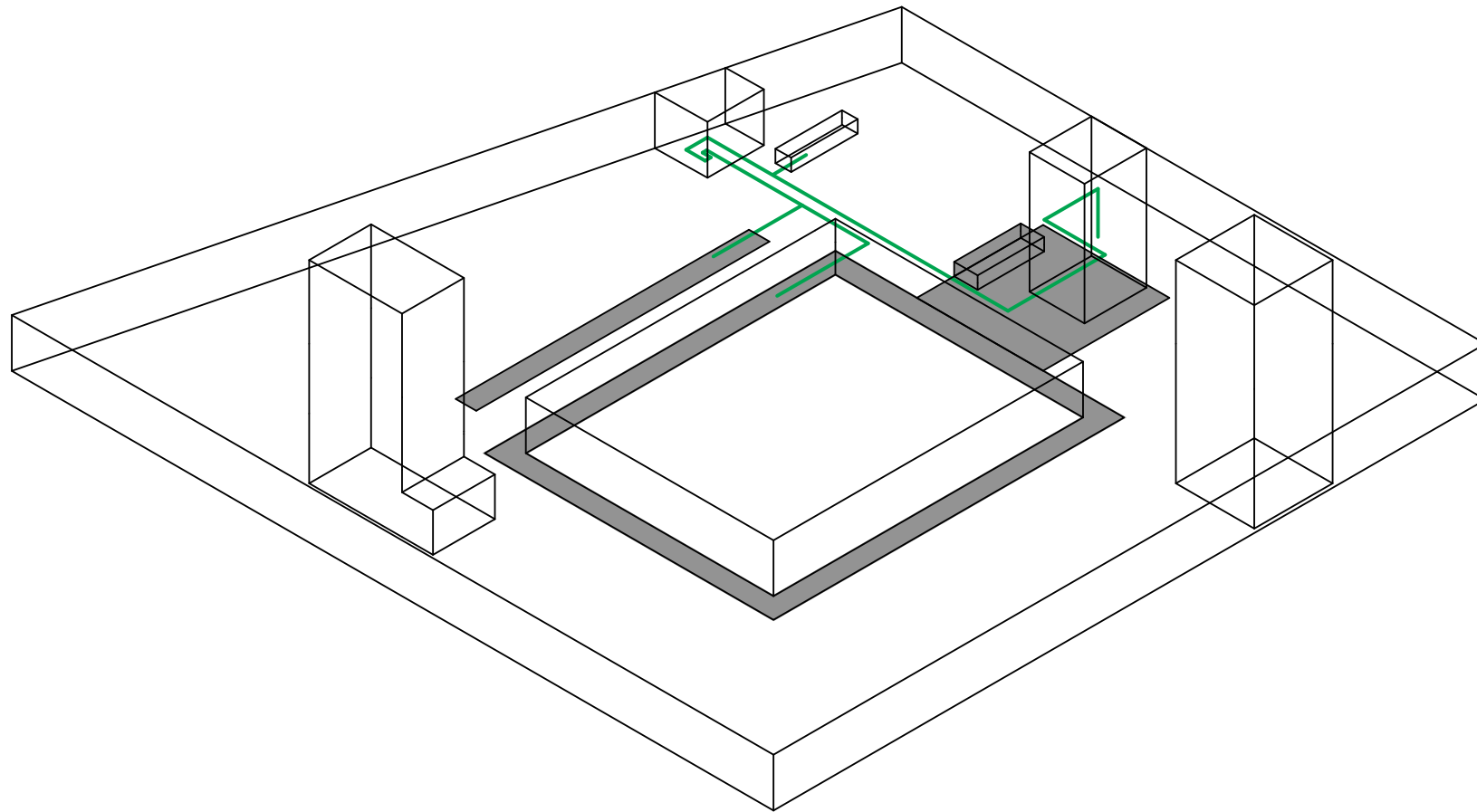
# A DAY AT WORK



OPEN WORKSPACE

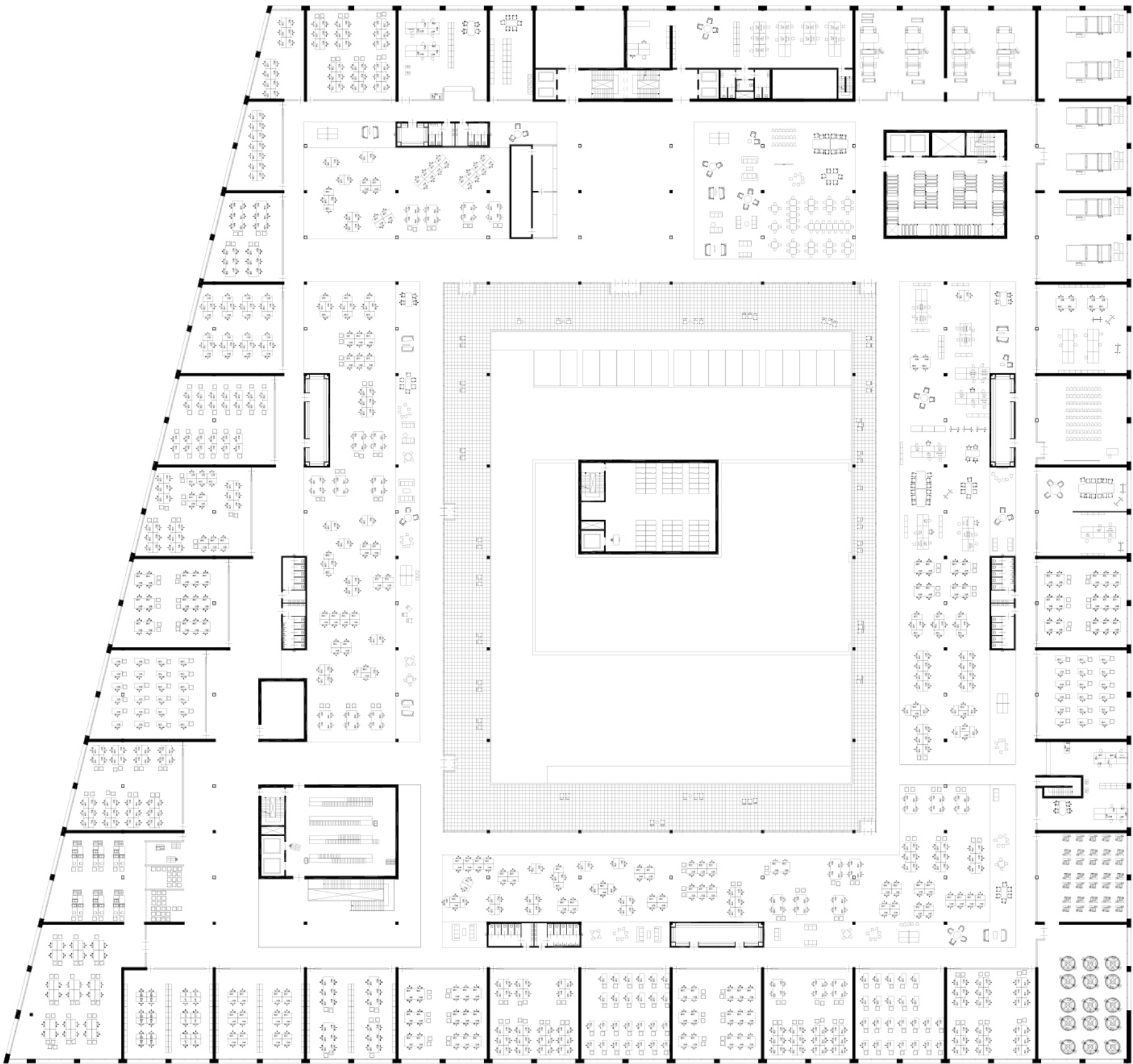


# A DAY AT WORK

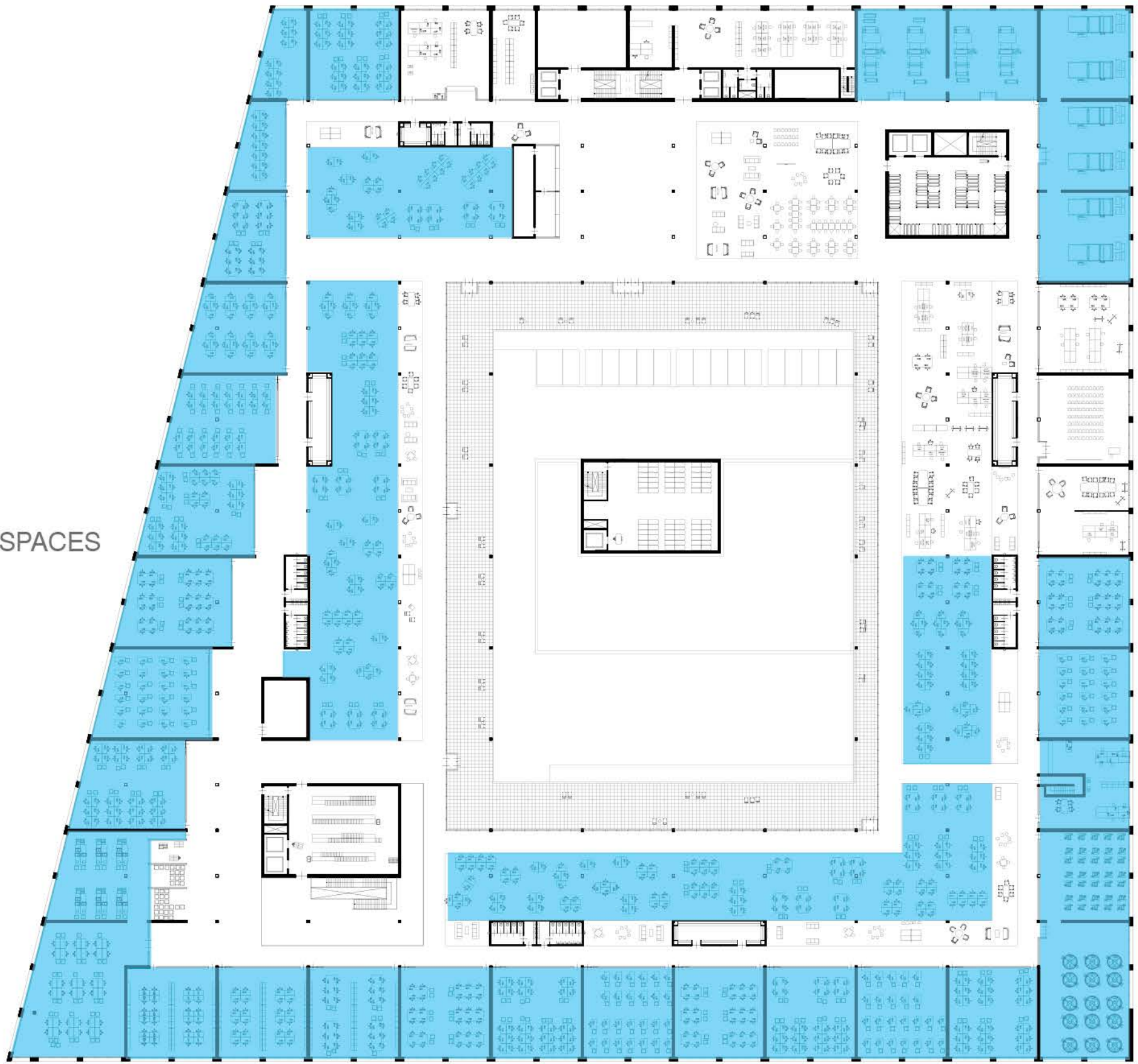


BREAK TIME

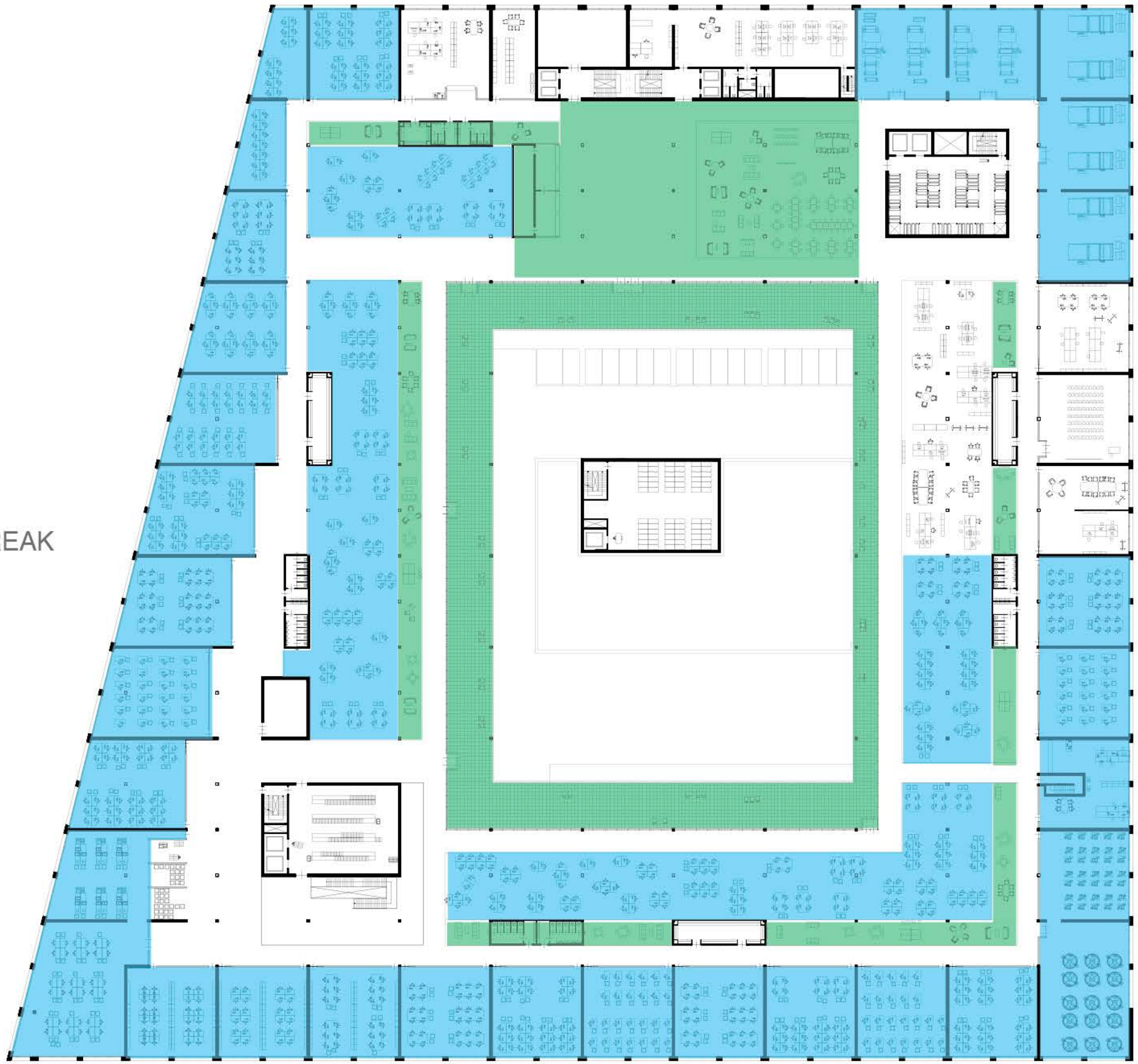




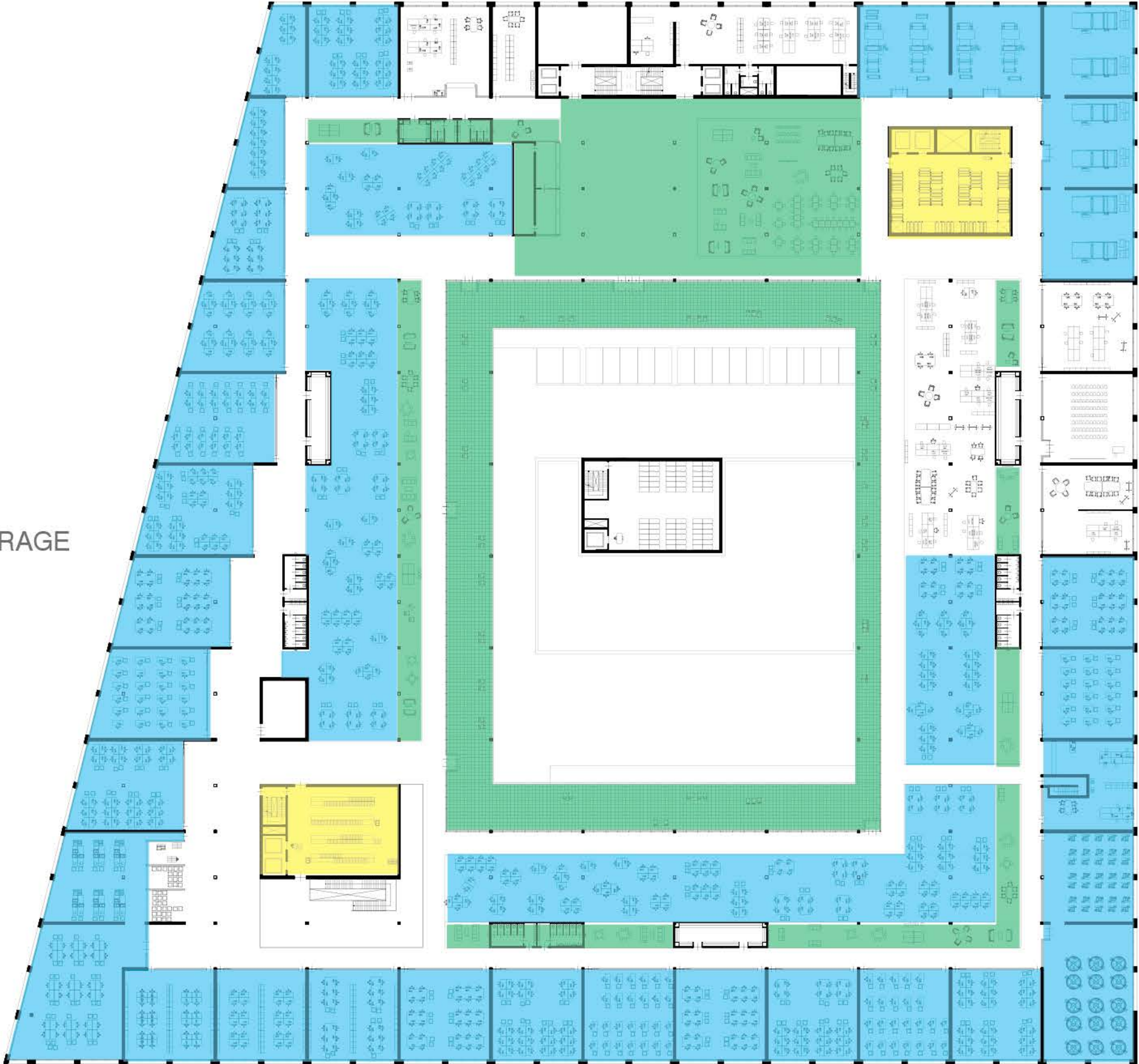
# WORKSPACES



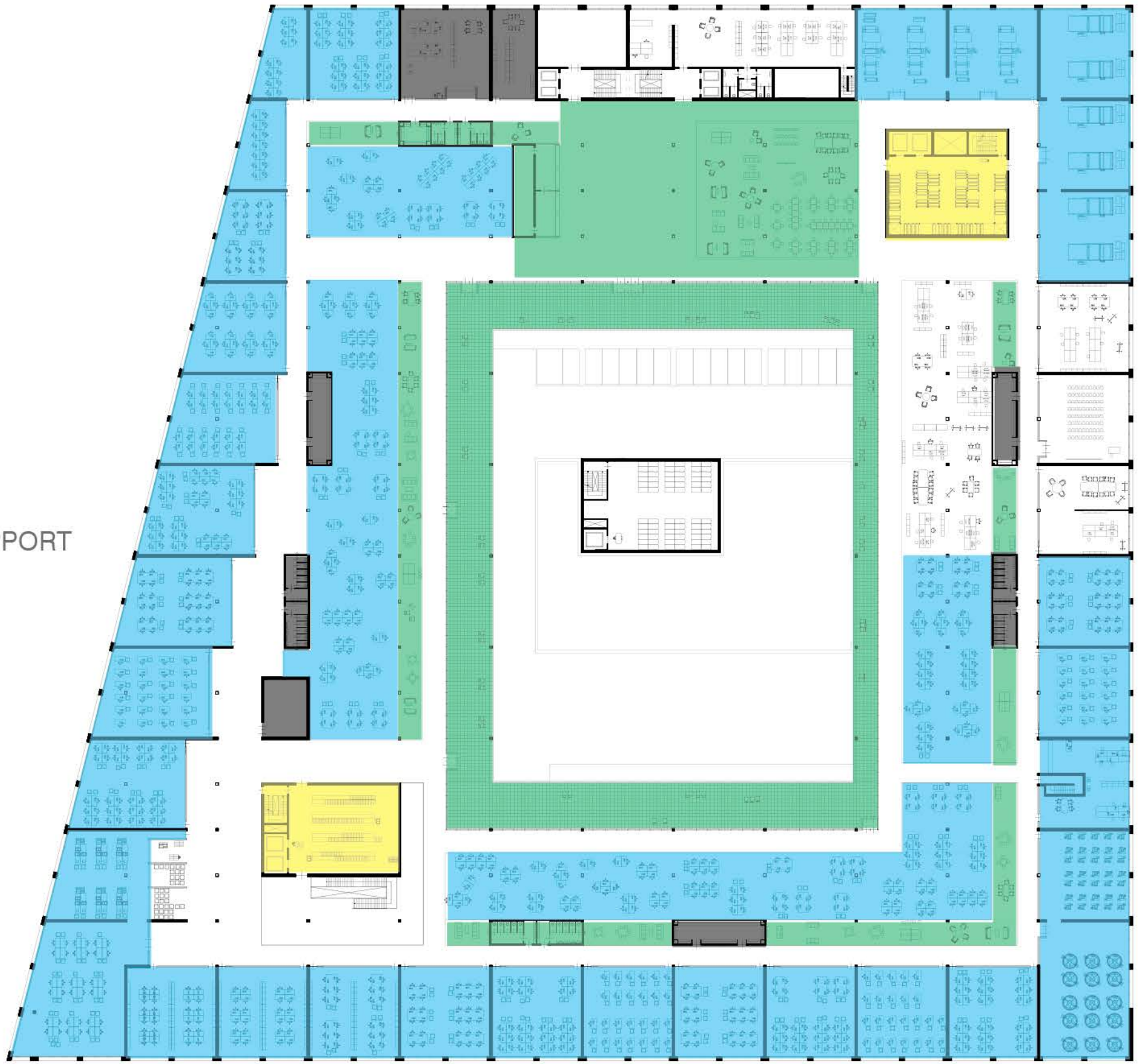
BREAK



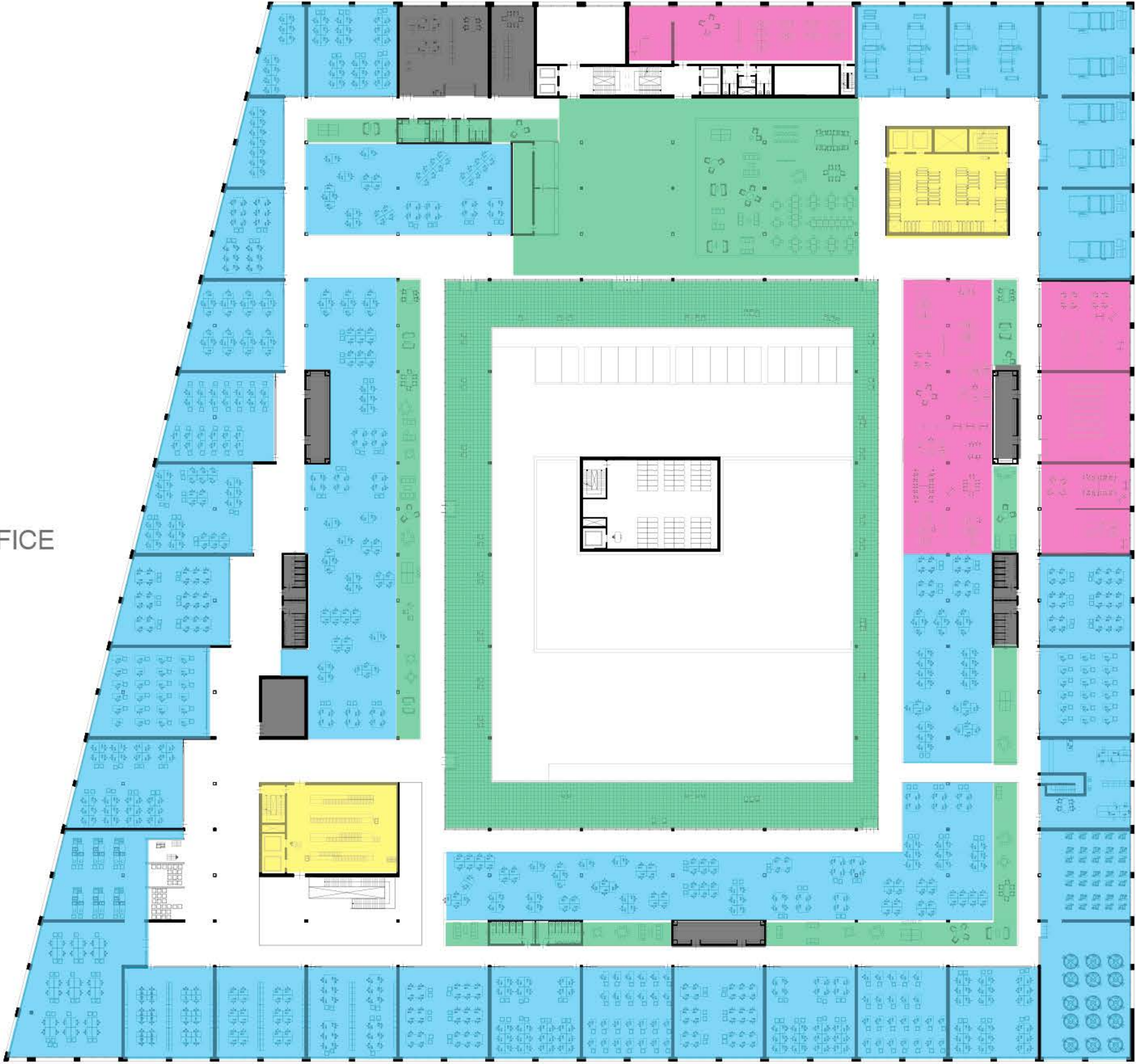
STORAGE



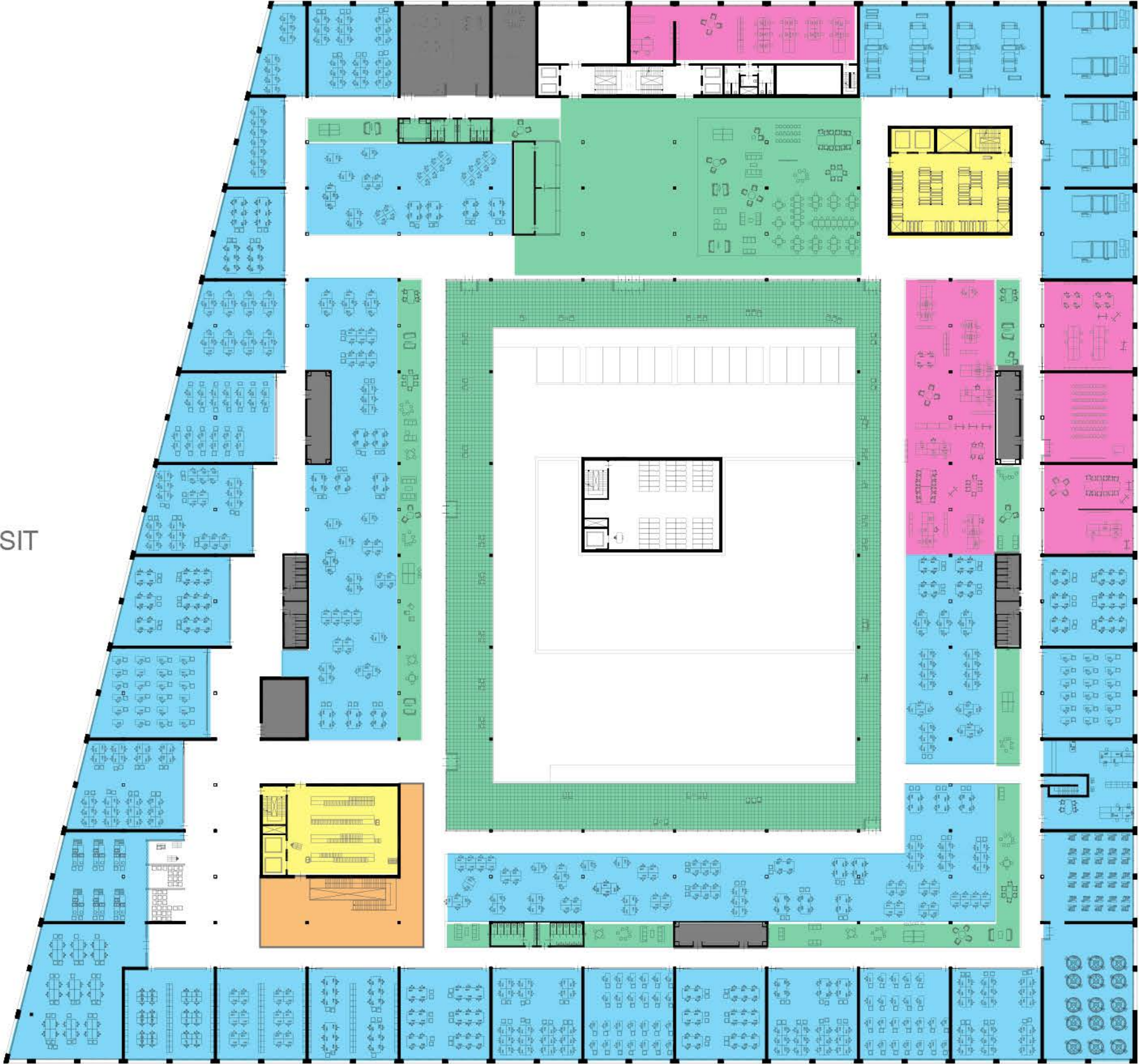
SUPPORT



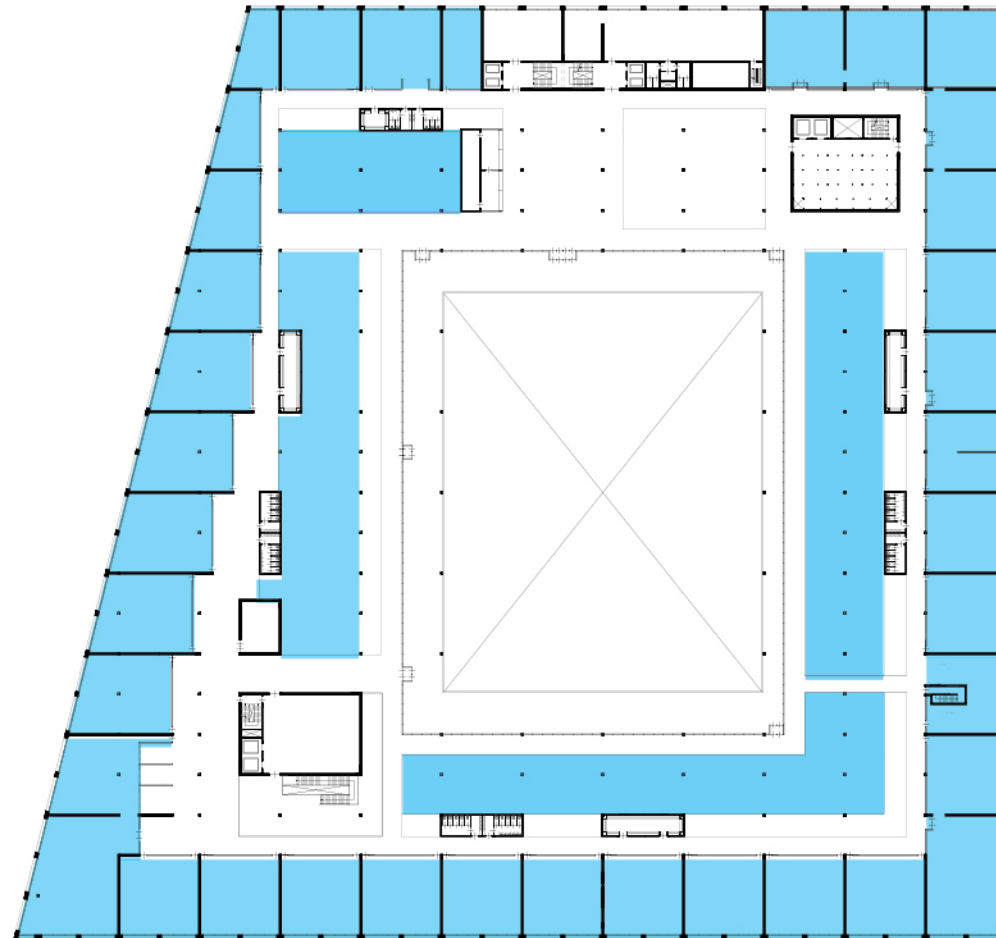
OFFICE



VISIT

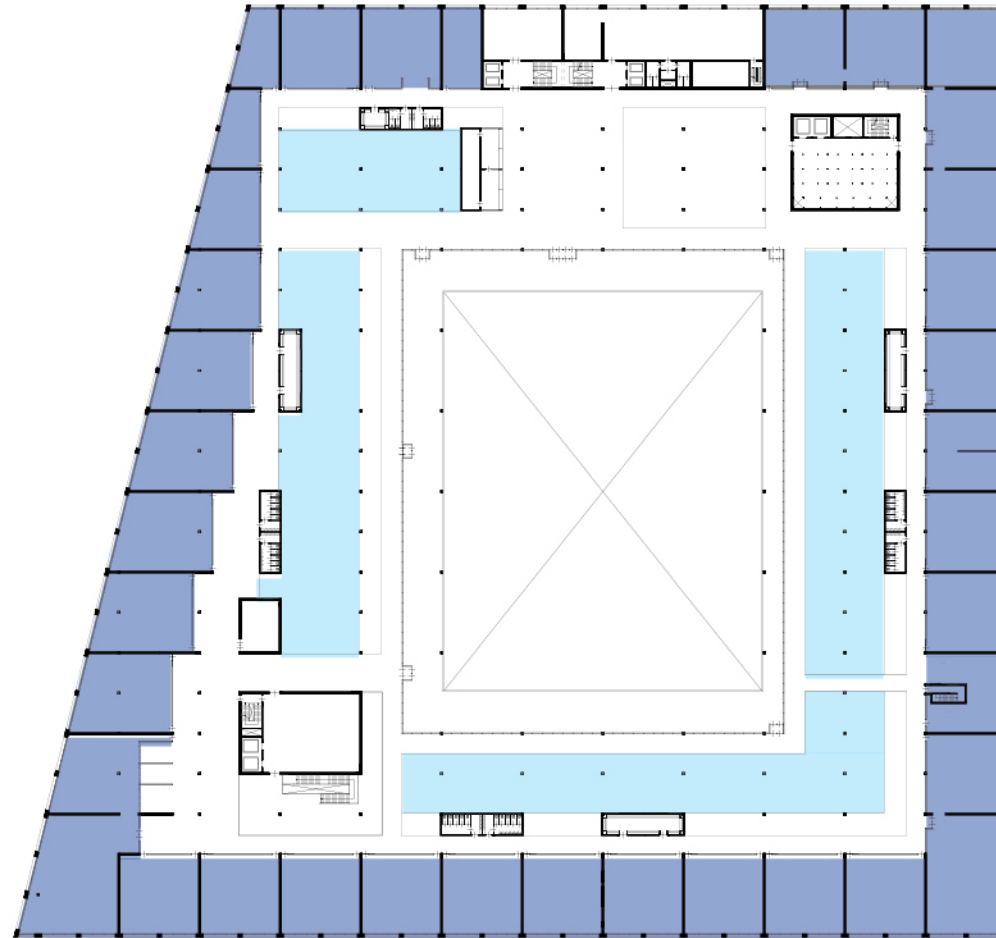


# WORKSPACES

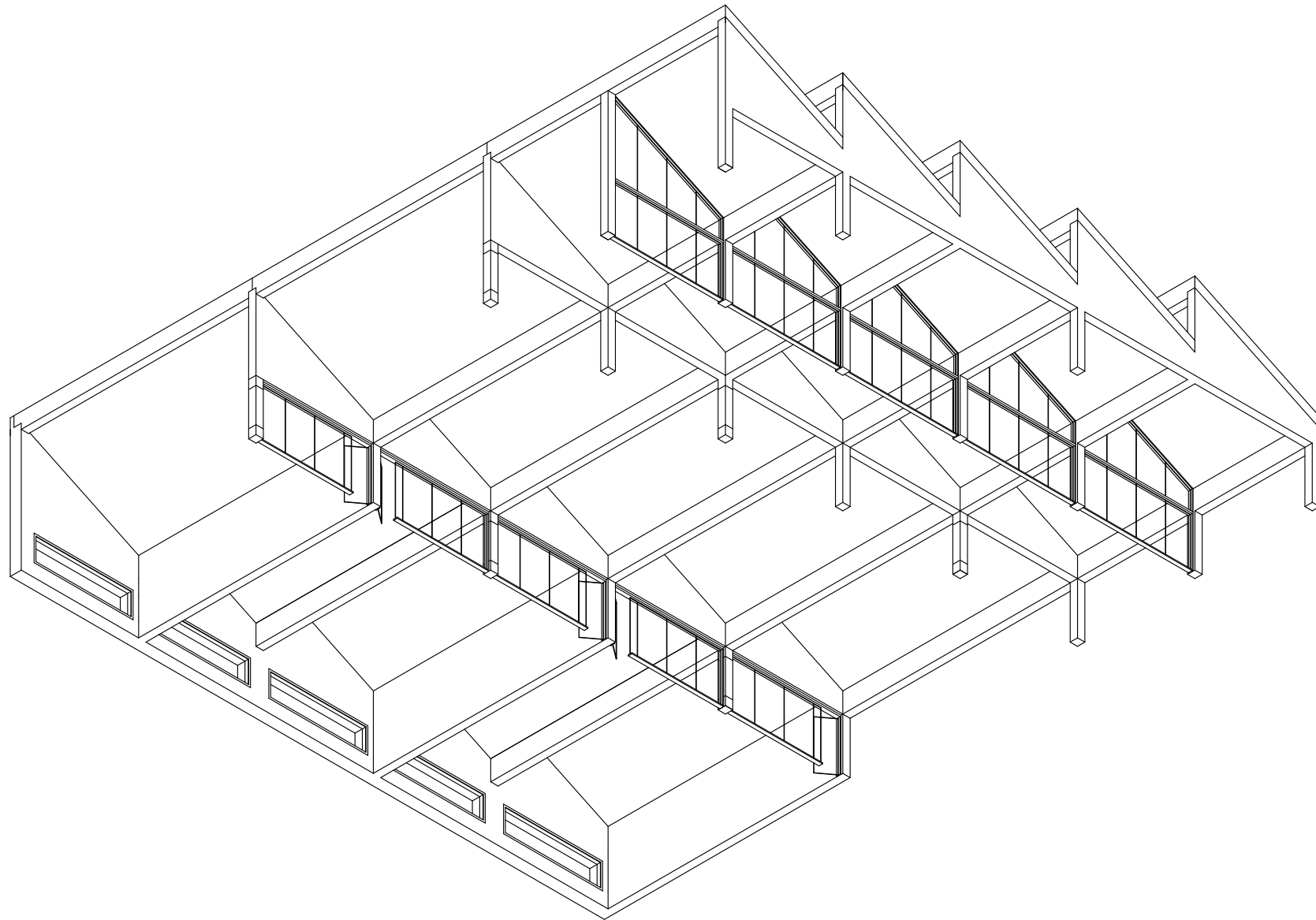


# WORKSPACES

OPEN / ENCLOSED

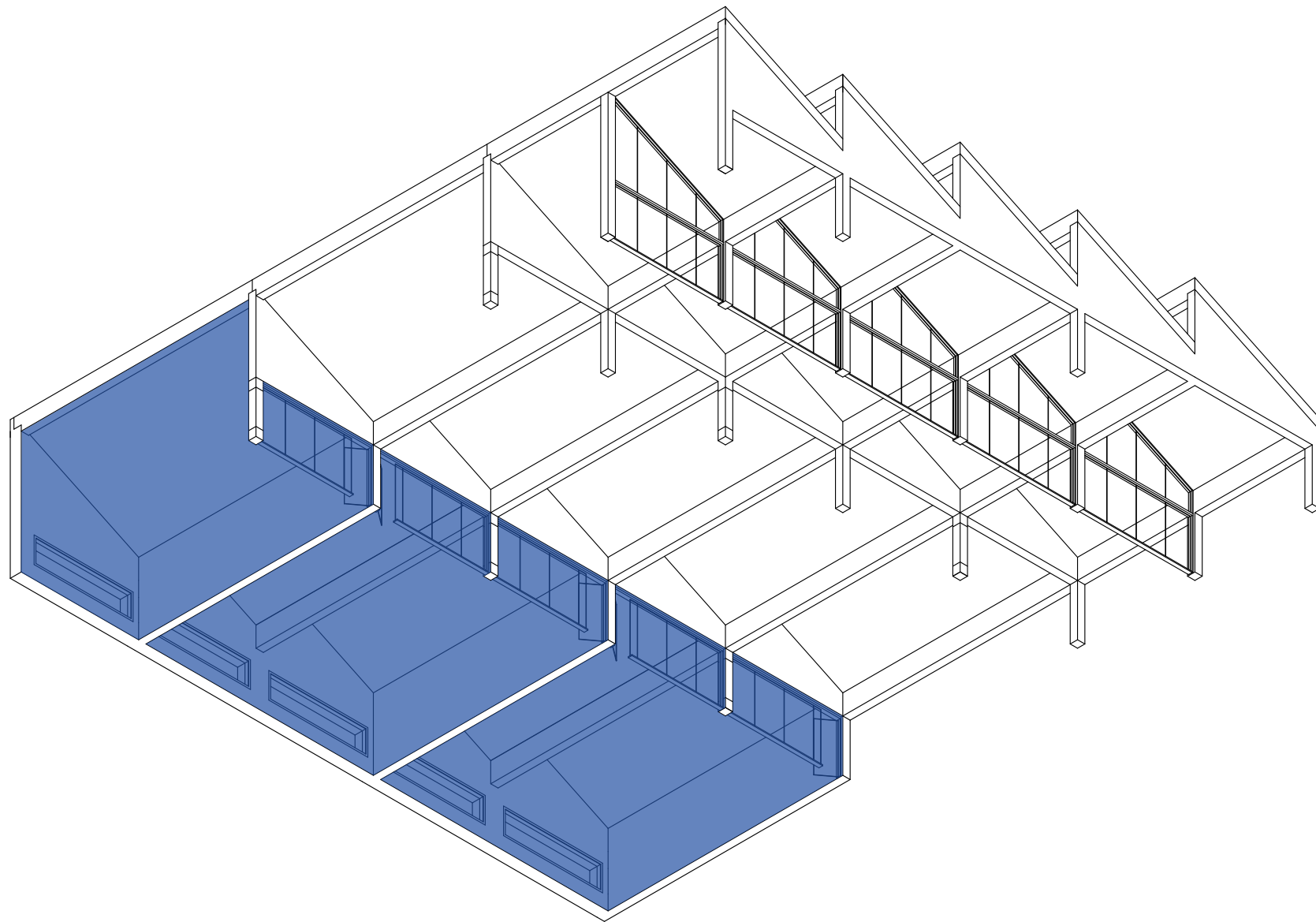


# WORKSPACES



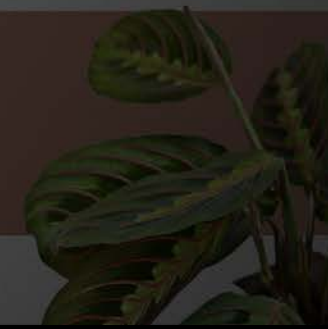
# WORKSPACES

## ENCLOSED WORKSPACES

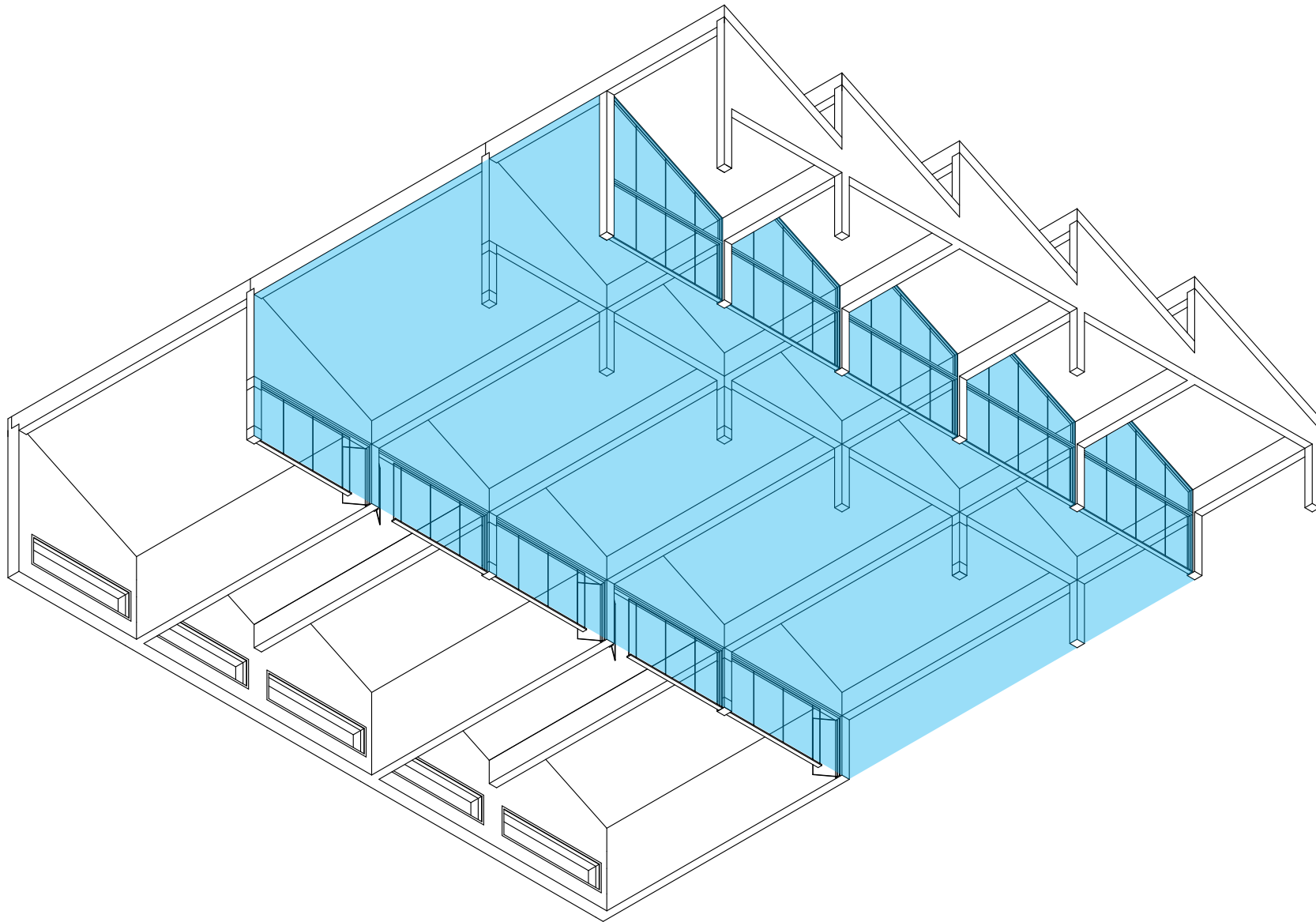




CLOSED

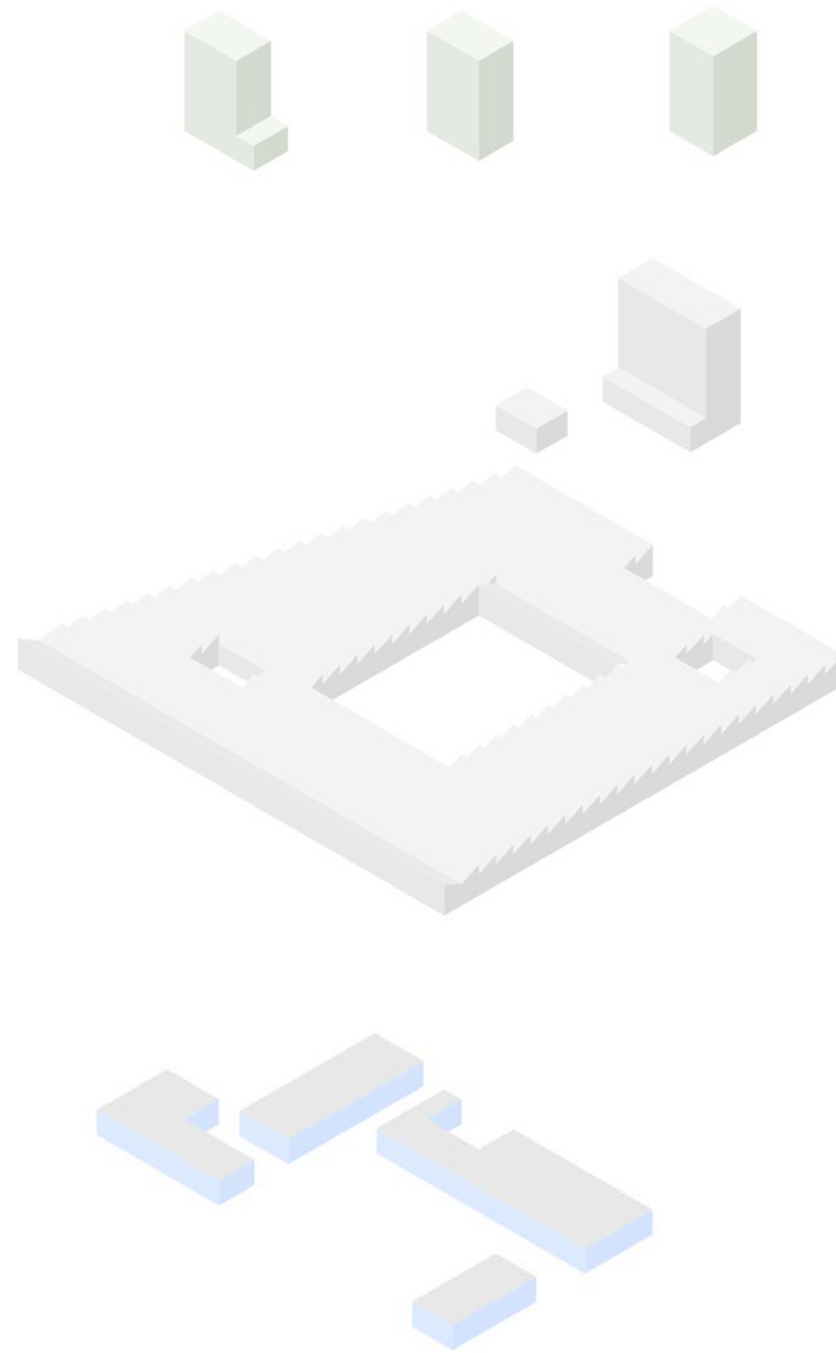


**WORKSPACES**  
OPEN WORKSPACES

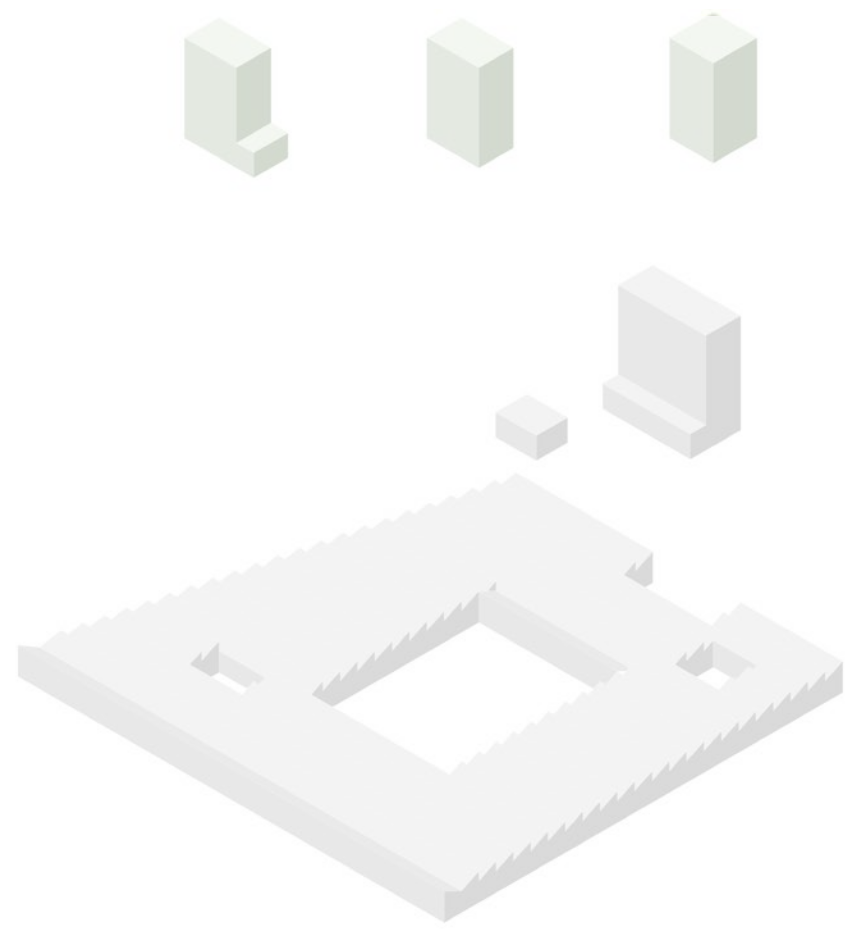




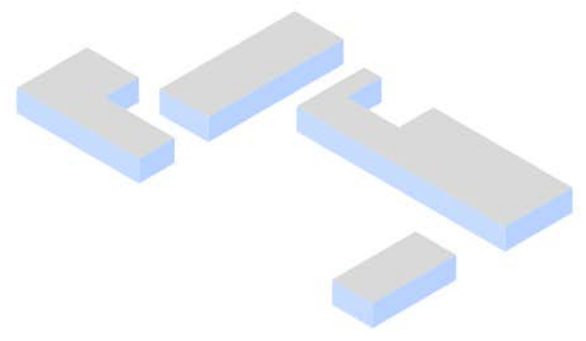
# MATERIALIZATION



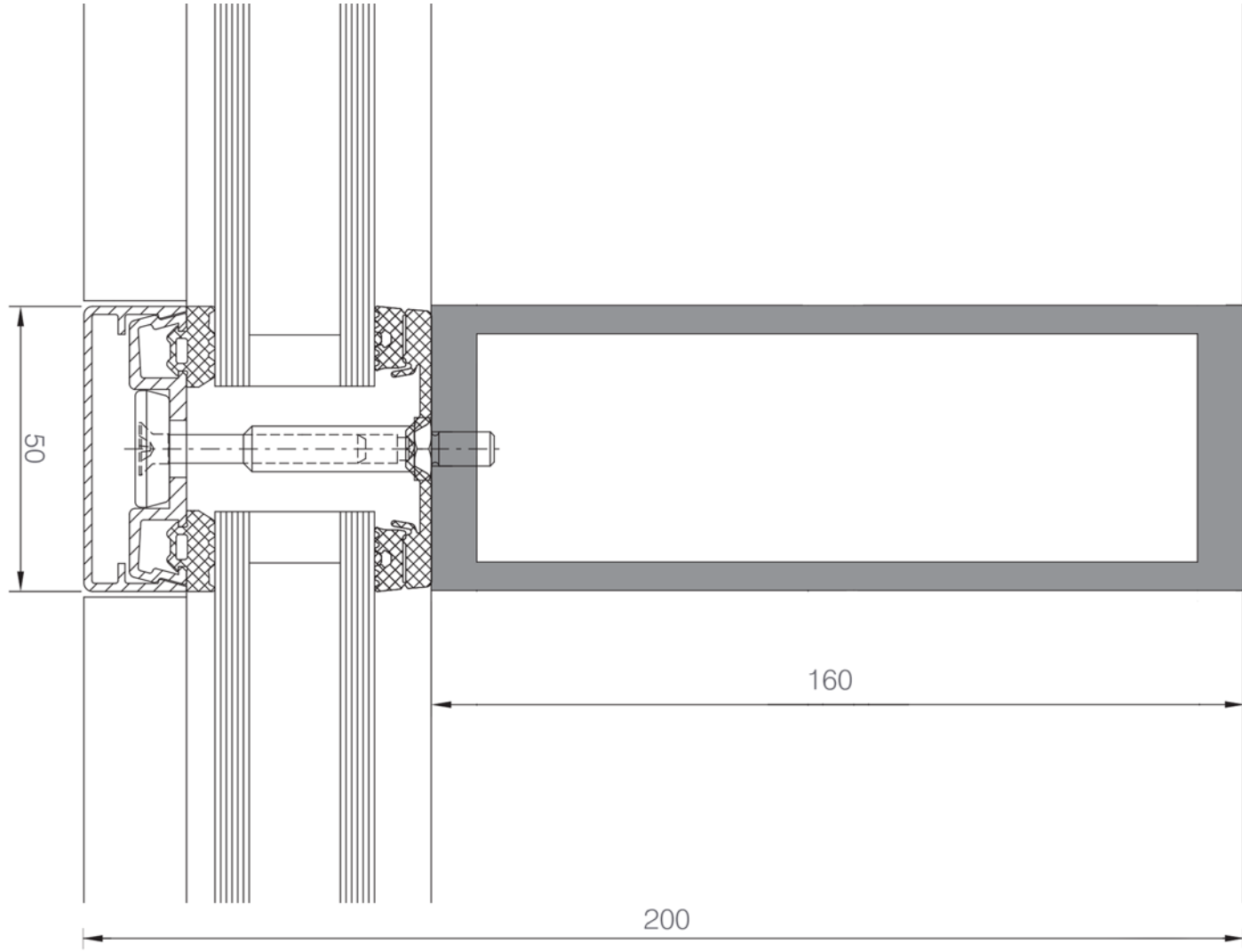
# MATERIALIZATION



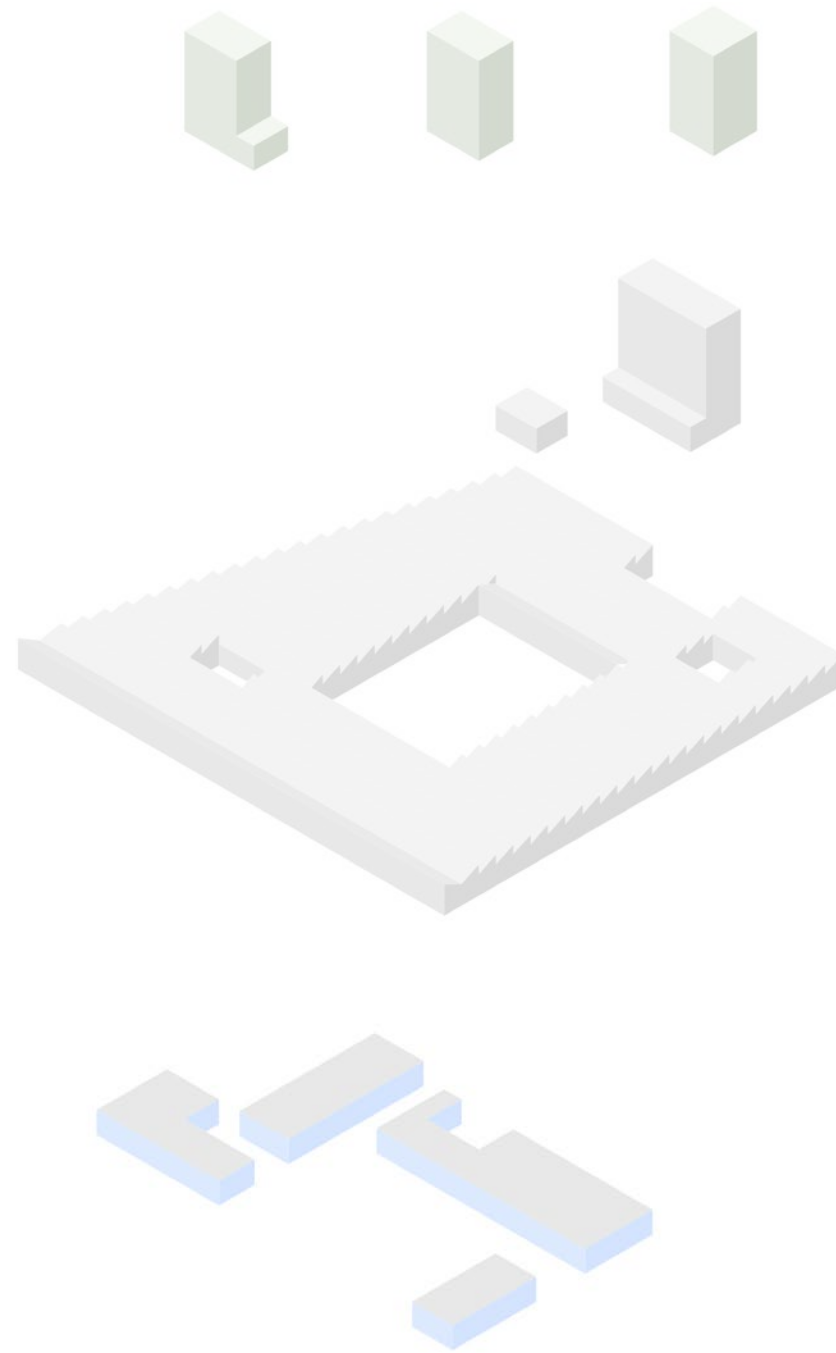
GROUND FLOOR  
GLASS



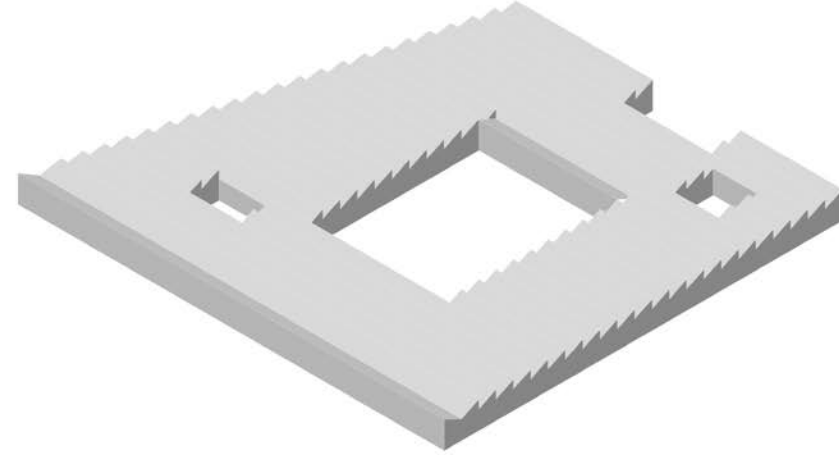
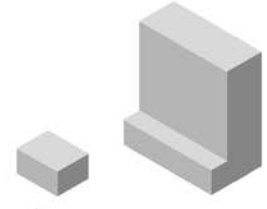




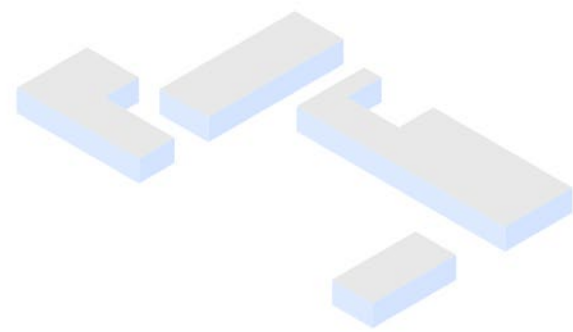
# MATERIALIZATION



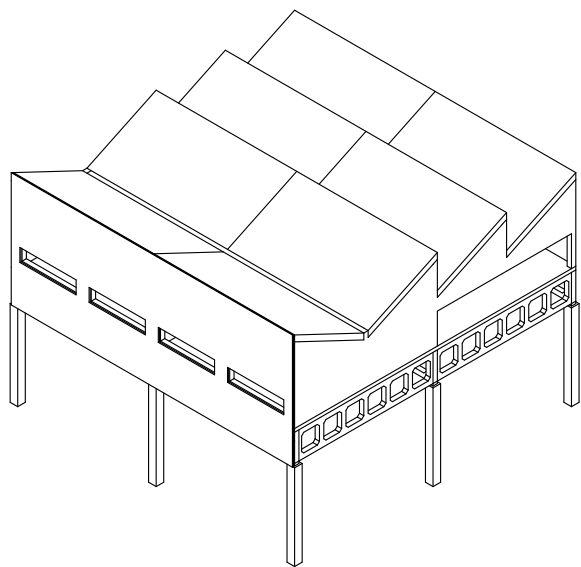
# MATERIALIZATION



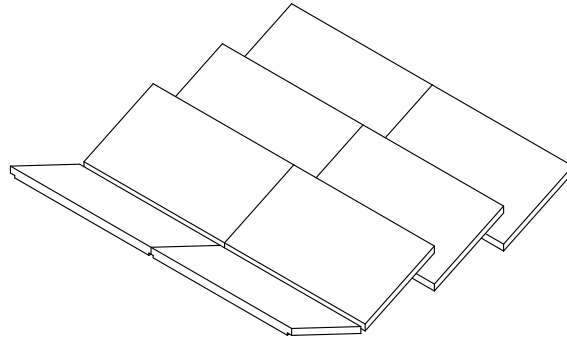
**WORKSPACES**  
CONCRETE



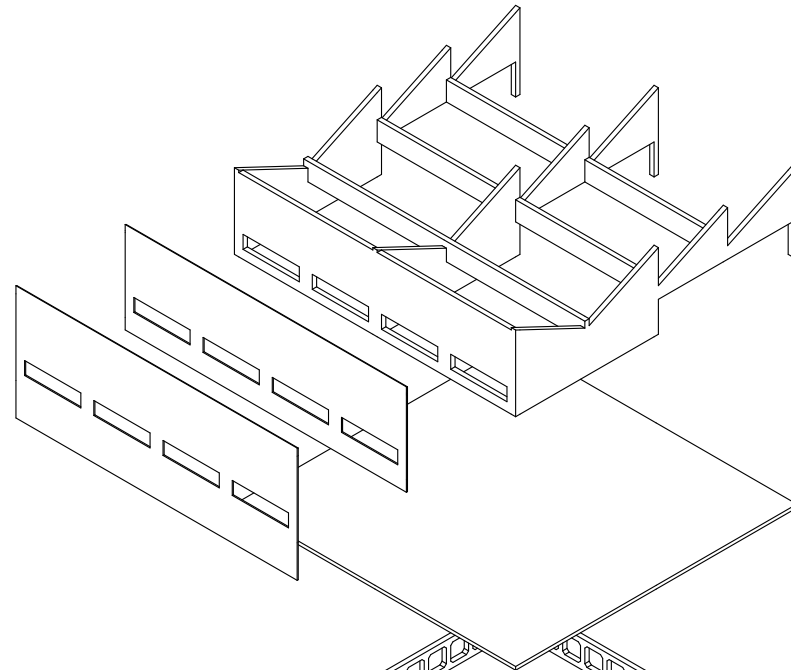




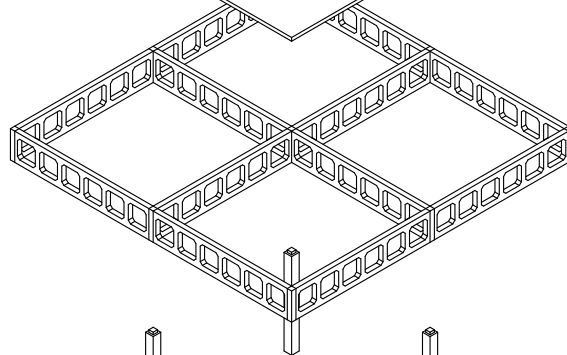
PREFAB



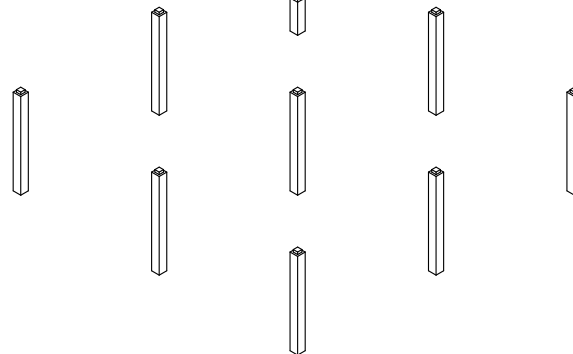
INSITU

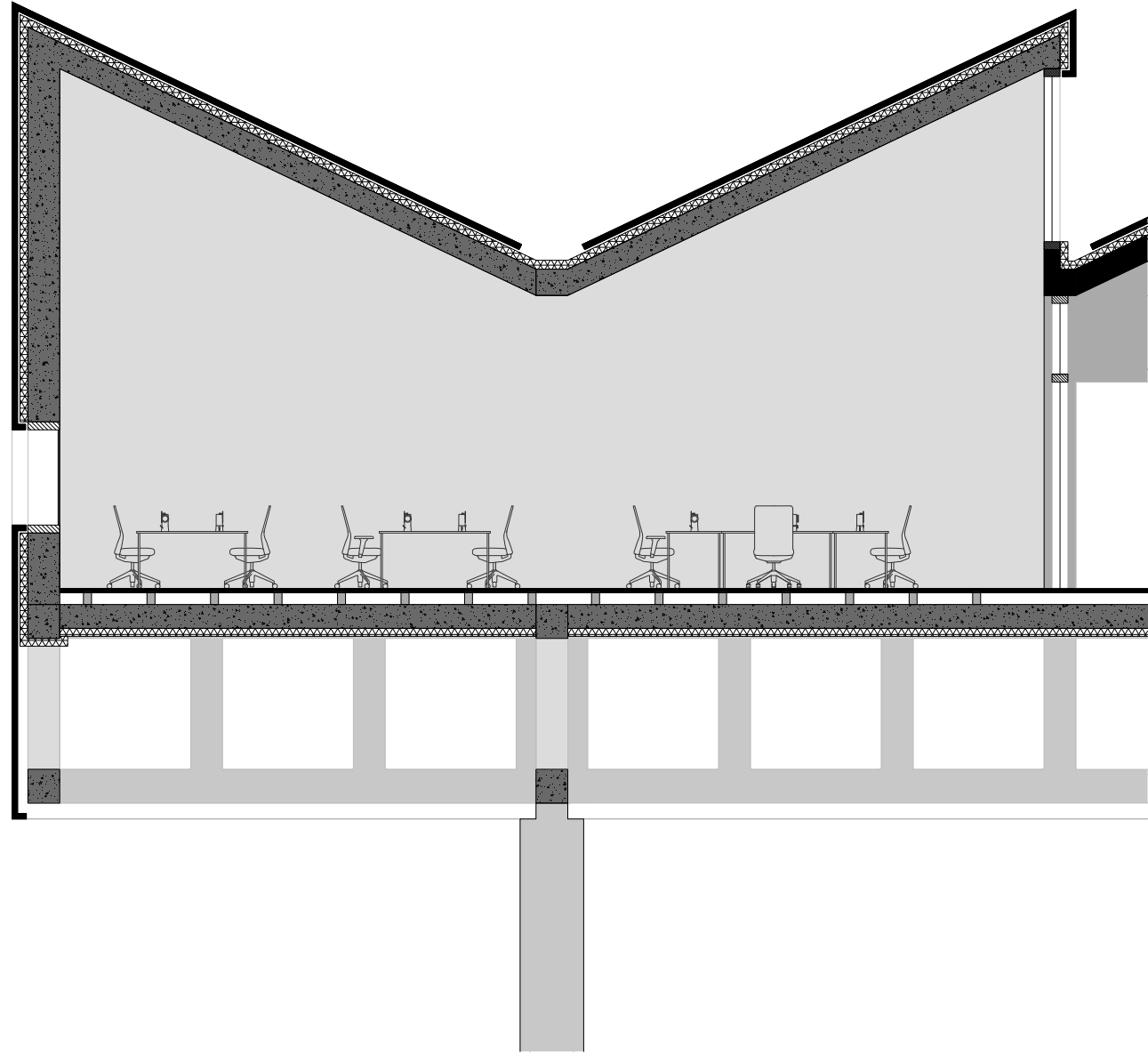


PREFAB

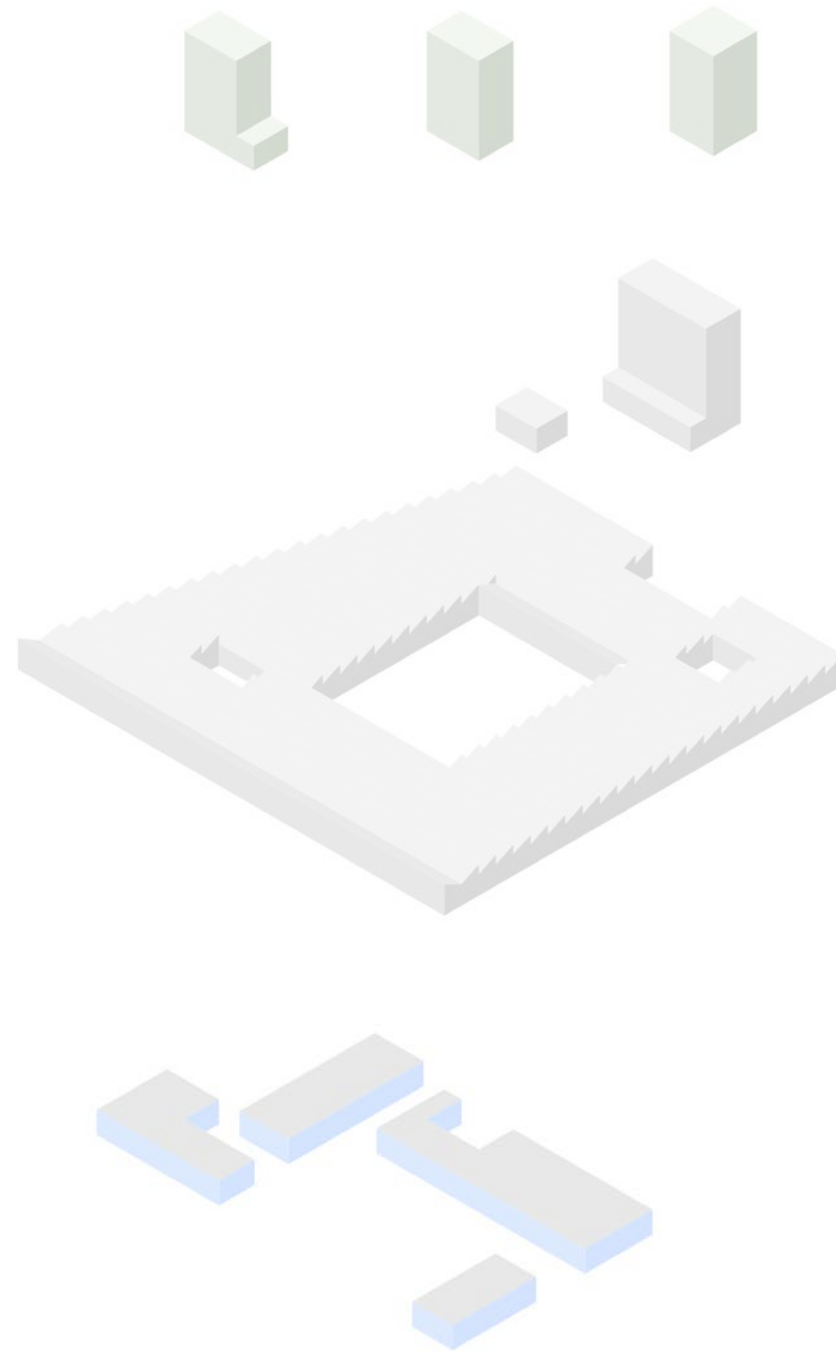


PREFAB



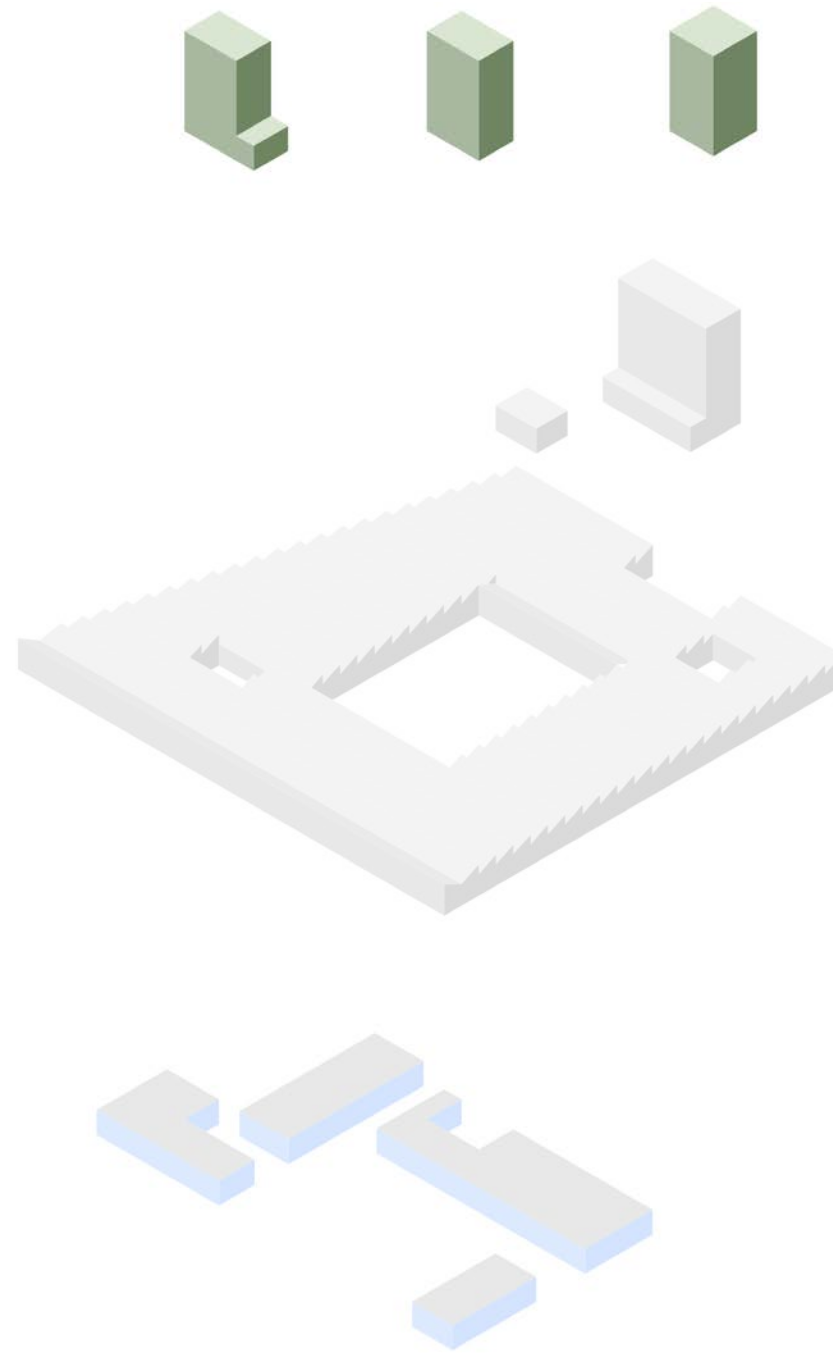


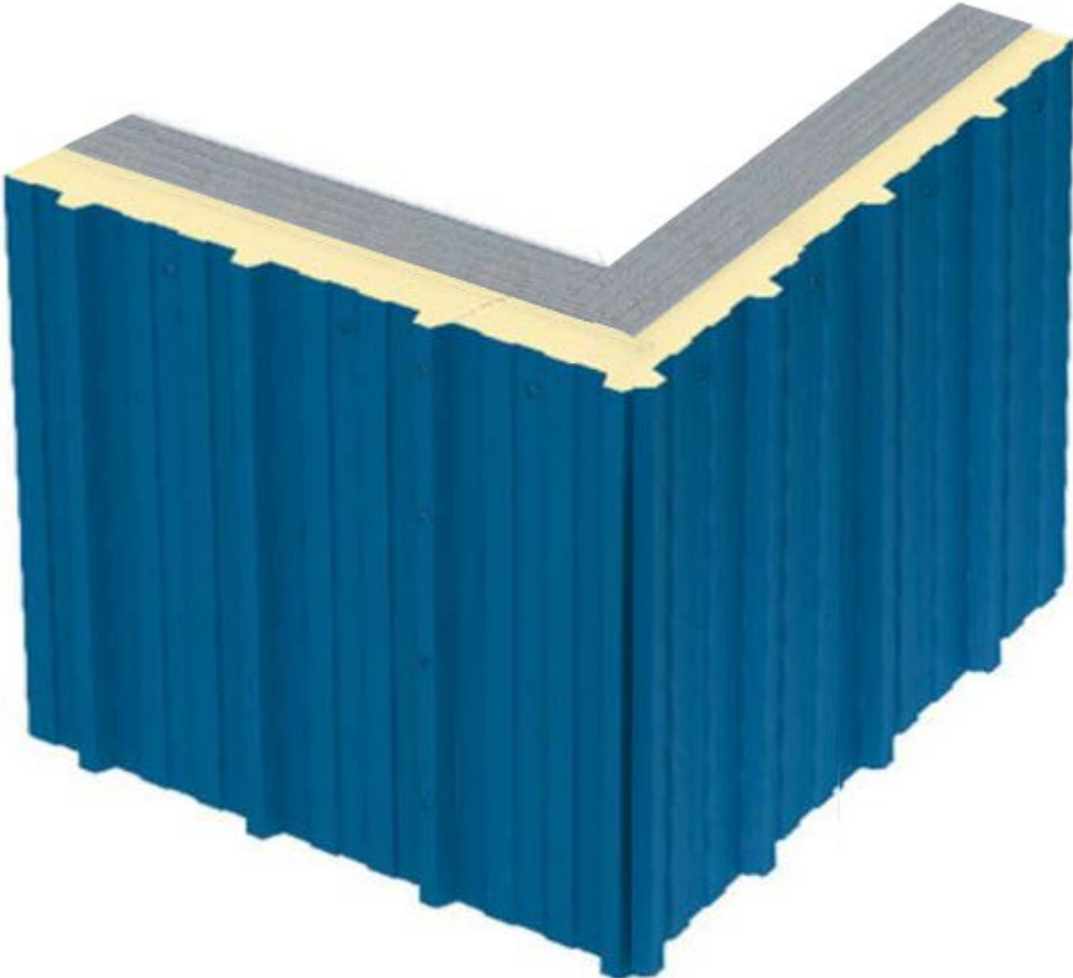
# MATERIALIZATION

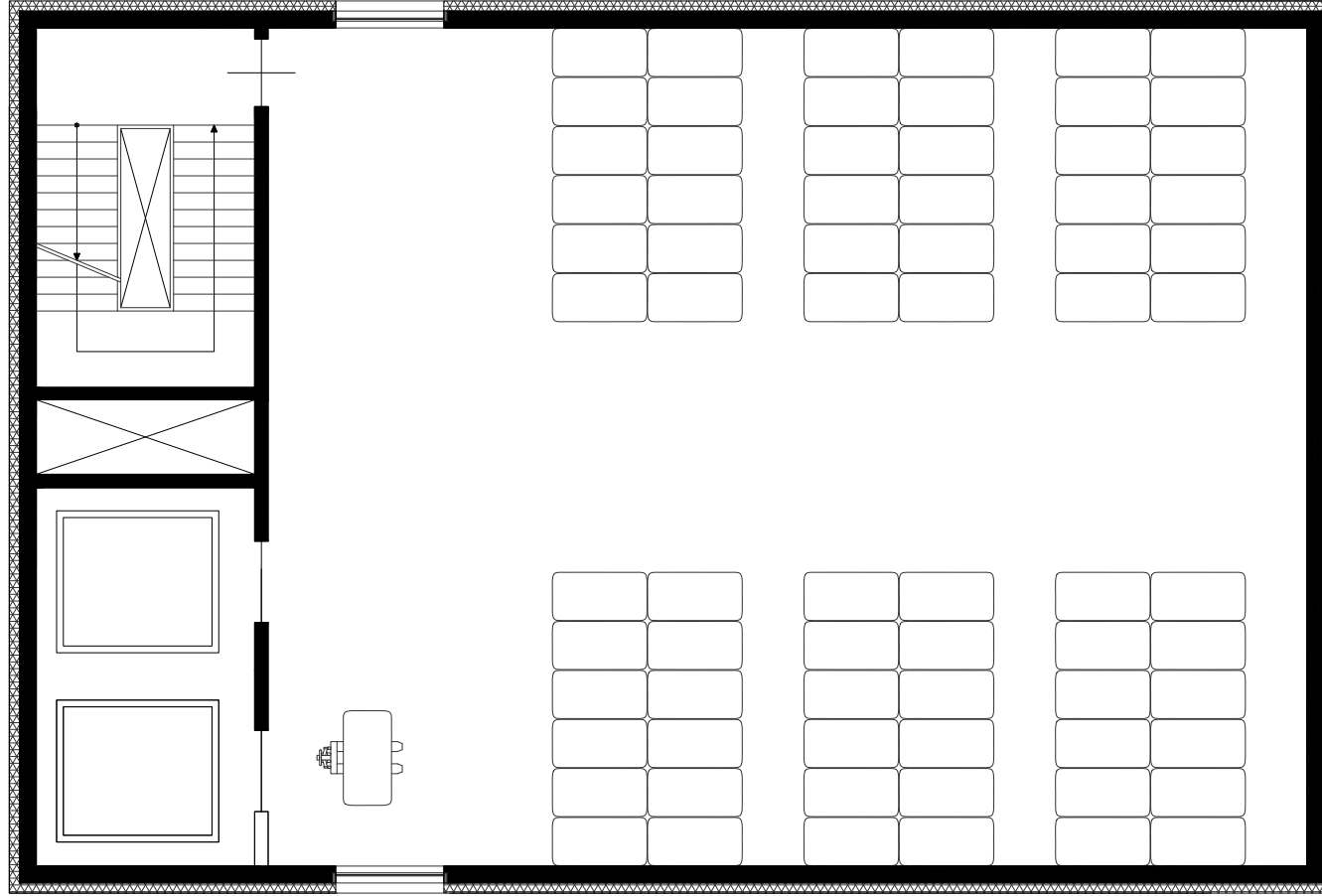


# MATERIALIZATION

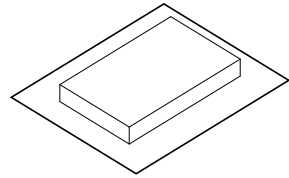
STORAGE  
METAL



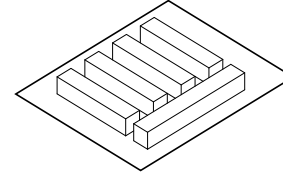




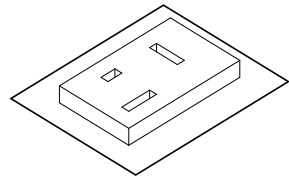
# CLIMATE PRINCIPLES TYPOLOGY



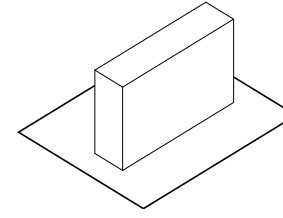
box



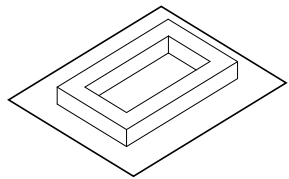
row/line



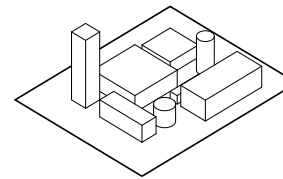
patio



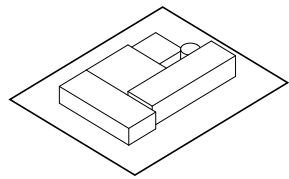
vertical



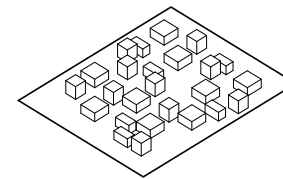
courtyard



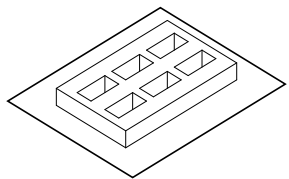
cluster



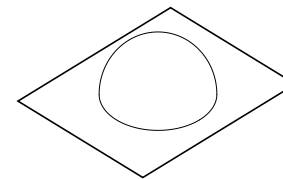
cluster



village

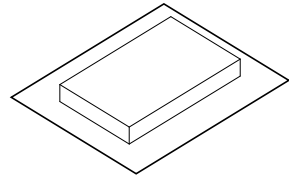


mat

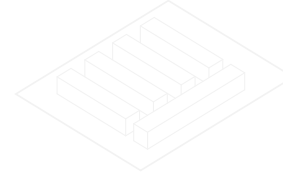


geometric shape

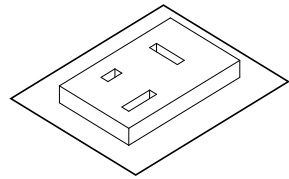
# CLIMATE PRINCIPLES TYPOLOGY



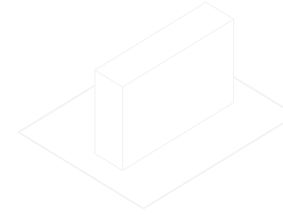
box



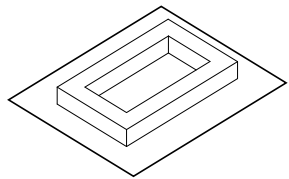
row/line



patio



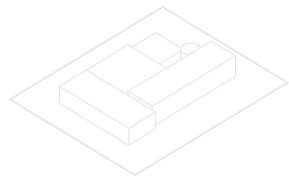
vertical



courtyard



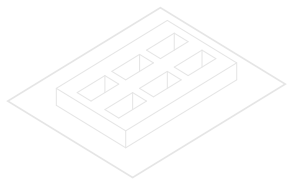
cluster



cluster



village



mat

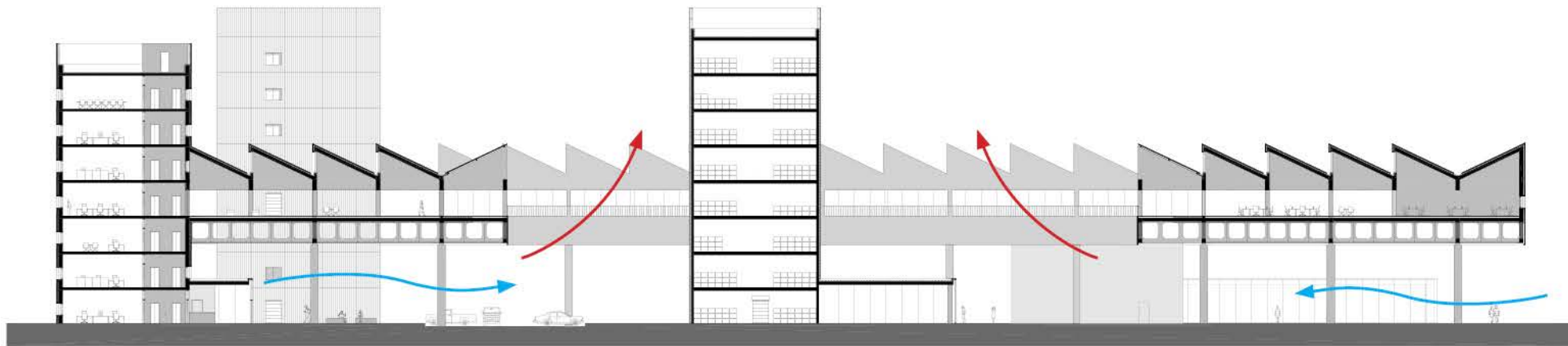


geometric shape

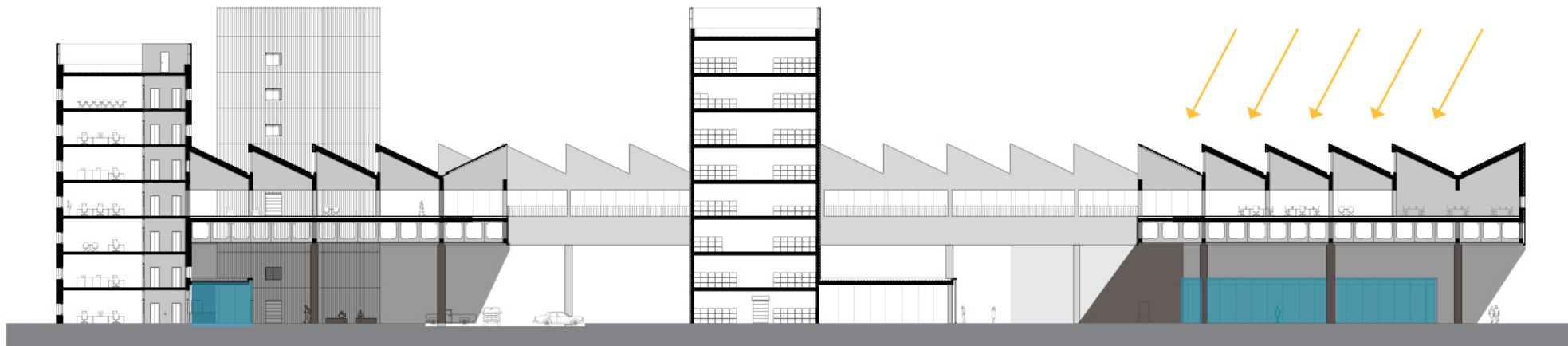
# CLIMATE PRINCIPLES COURTYARD



# CLIMATE PRINCIPLES COURTYARD

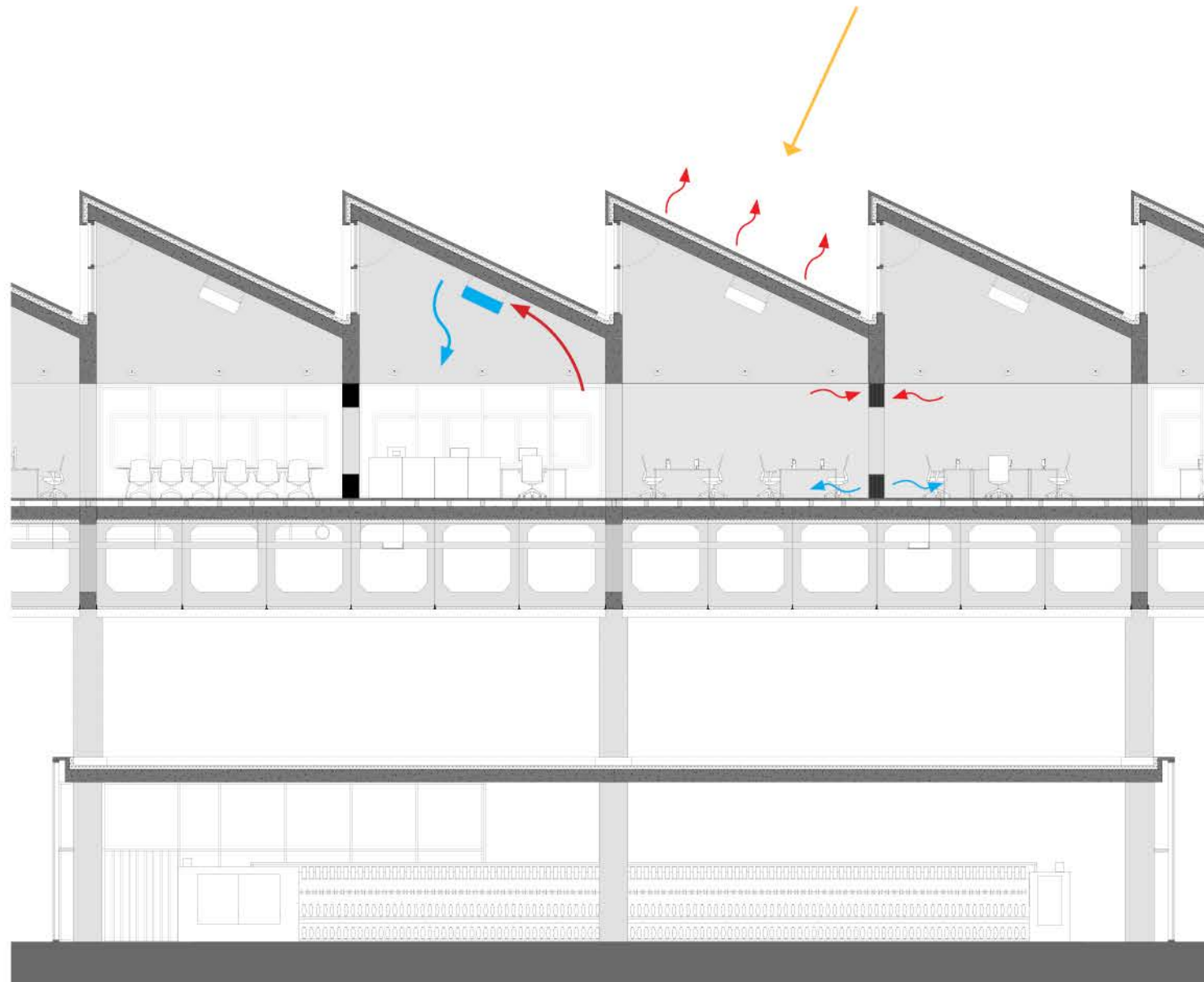


# CLIMATE PRINCIPLES SHADING AND SOLAR



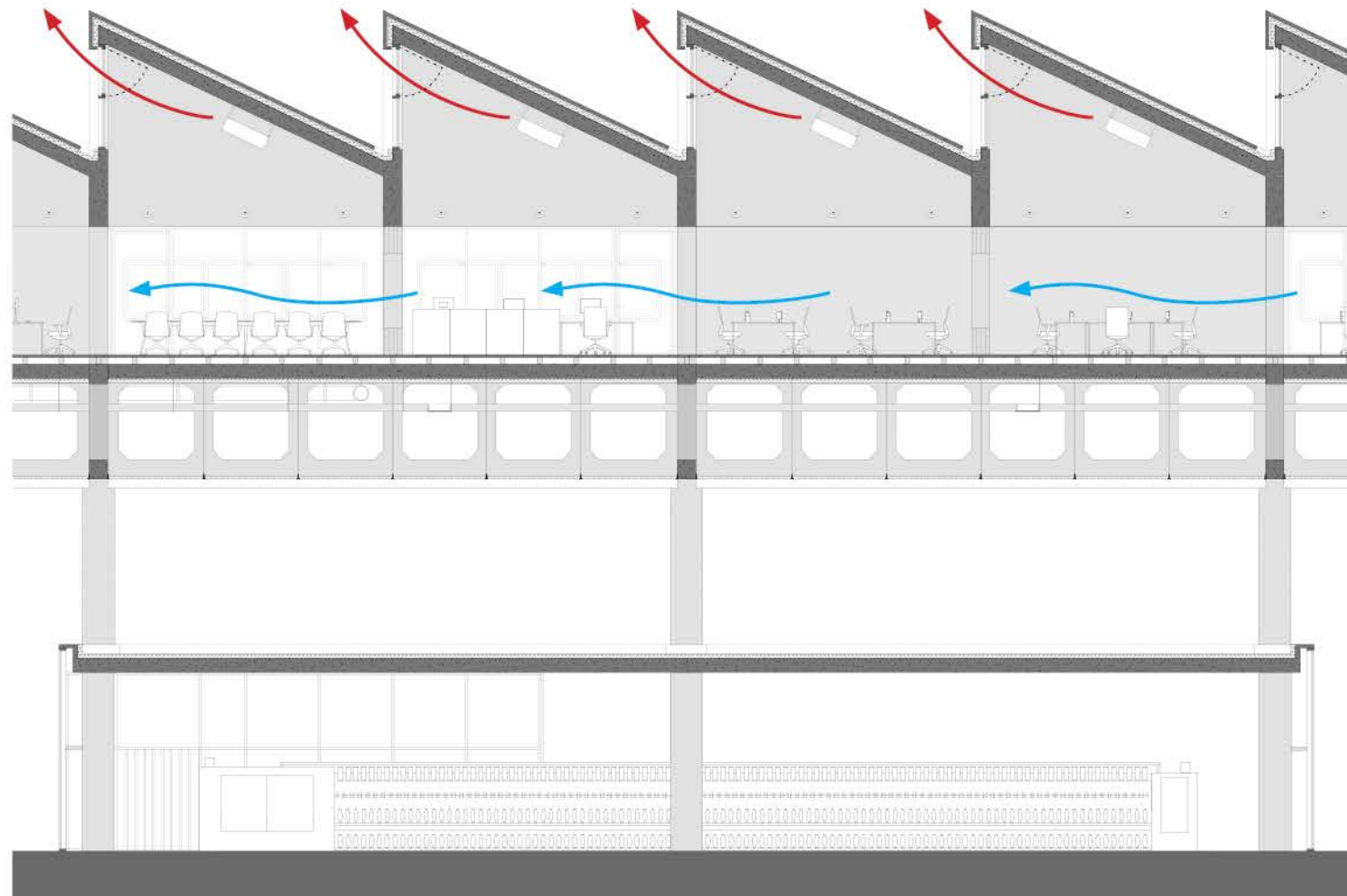
# CLIMATE PRINCIPLES

## DAY



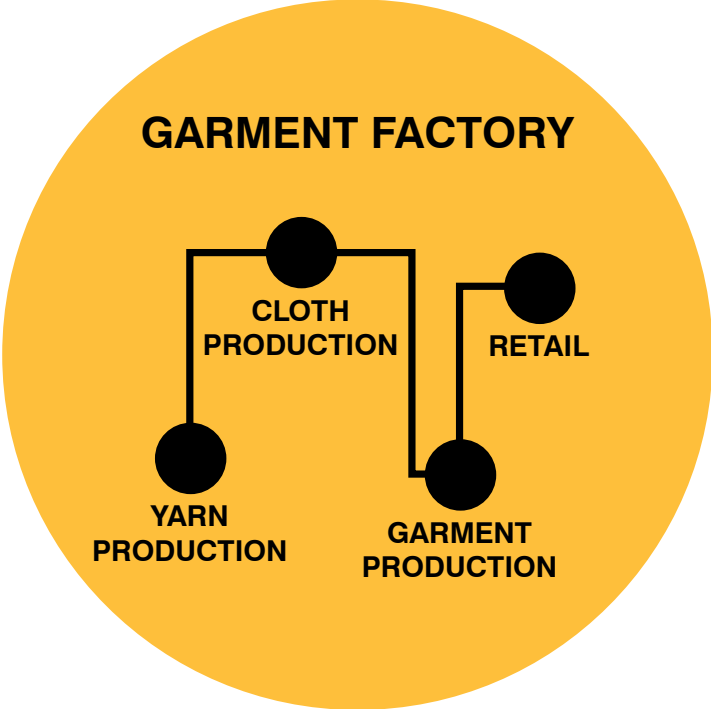
# CLIMATE PRINCIPLES

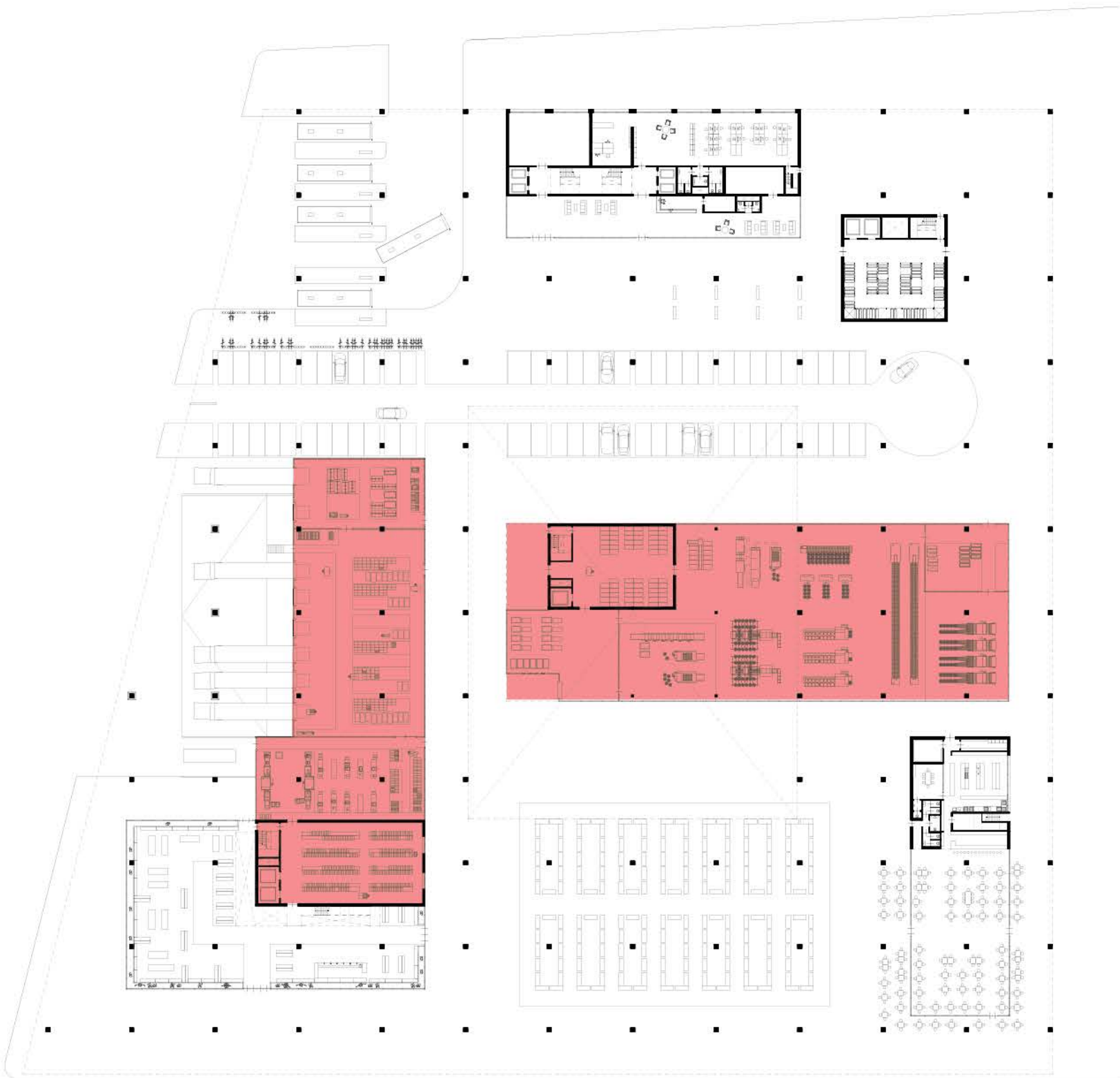
## NIGHT



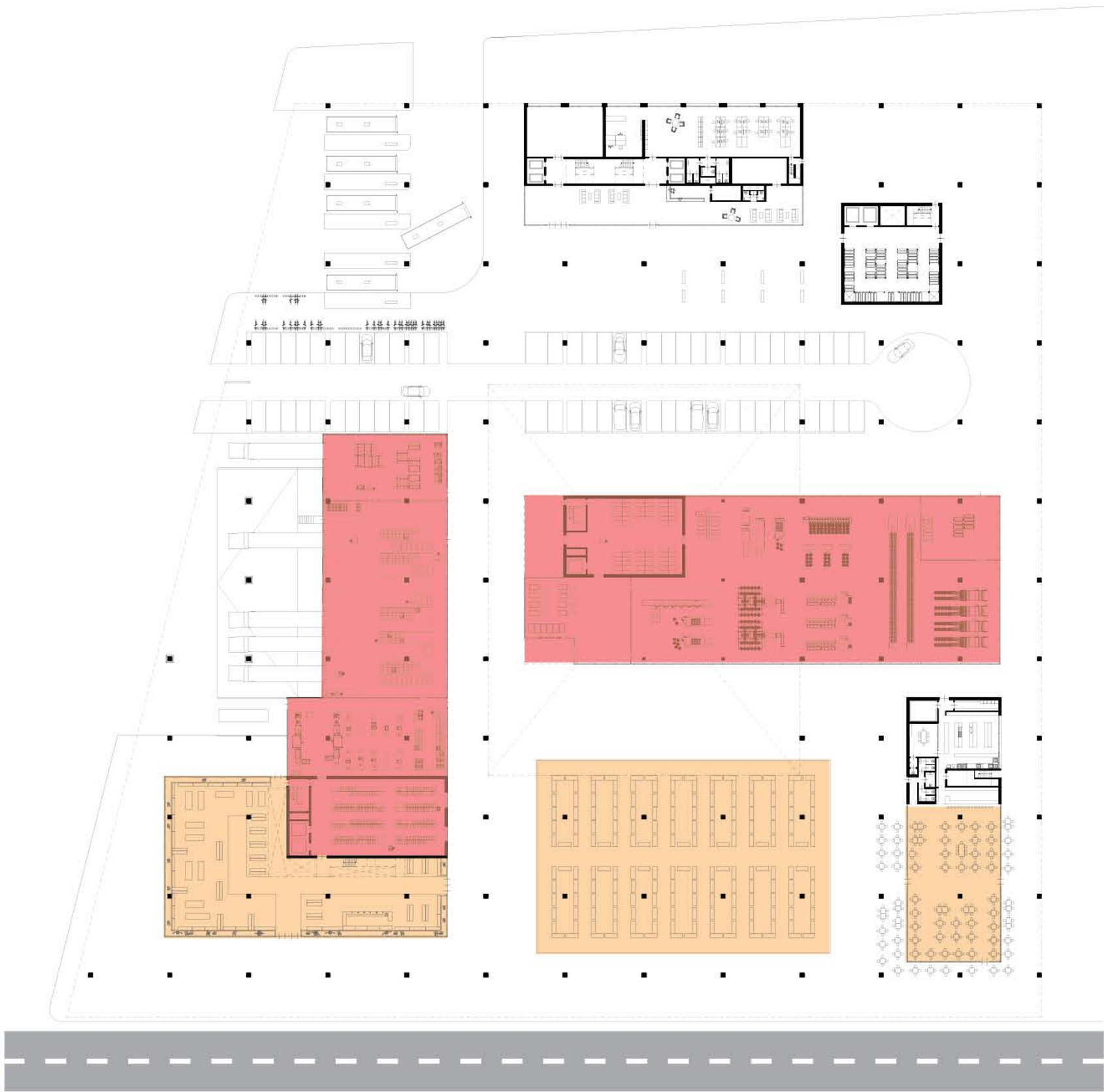
**PUBLIC**

# INTEGRATION

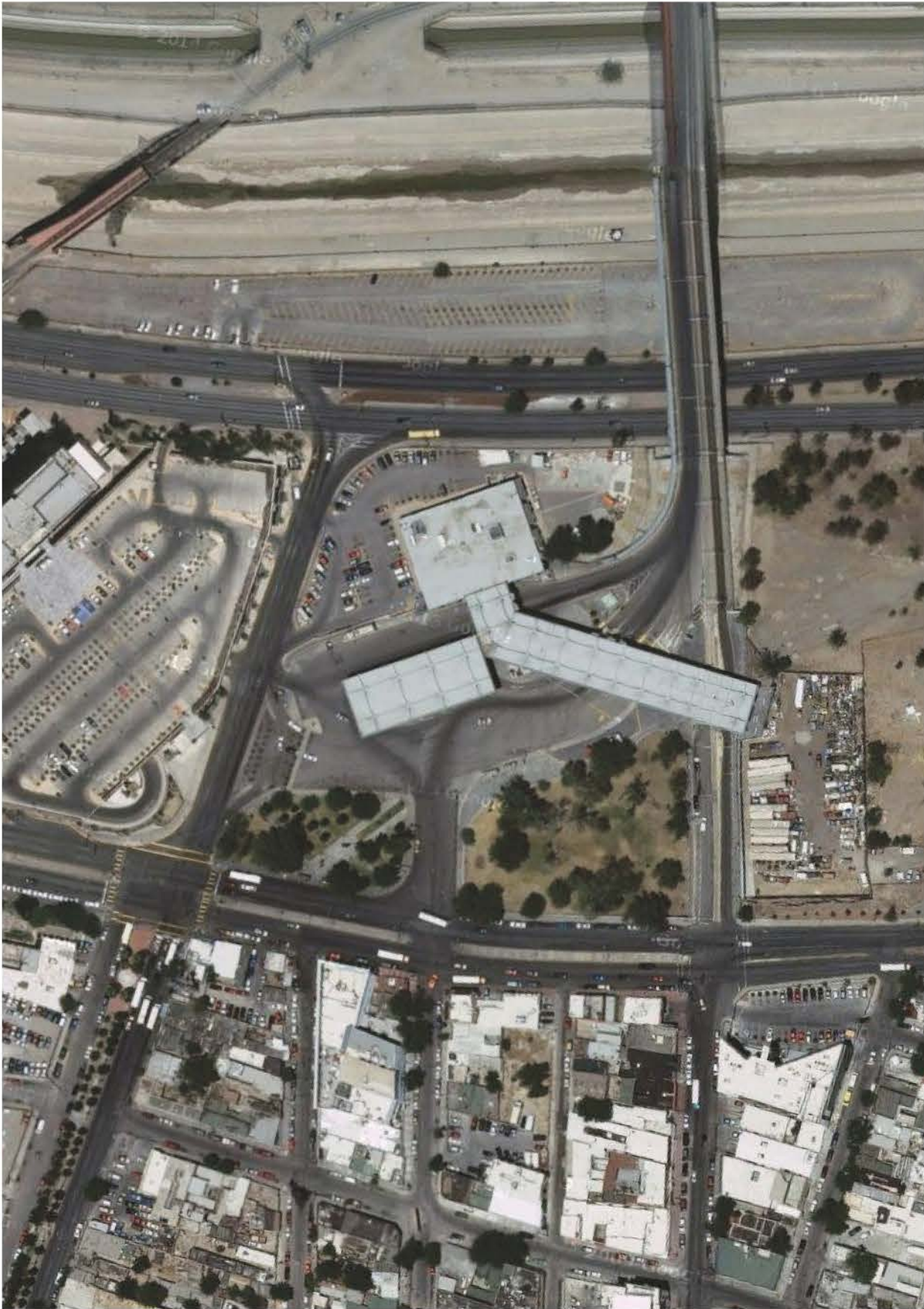




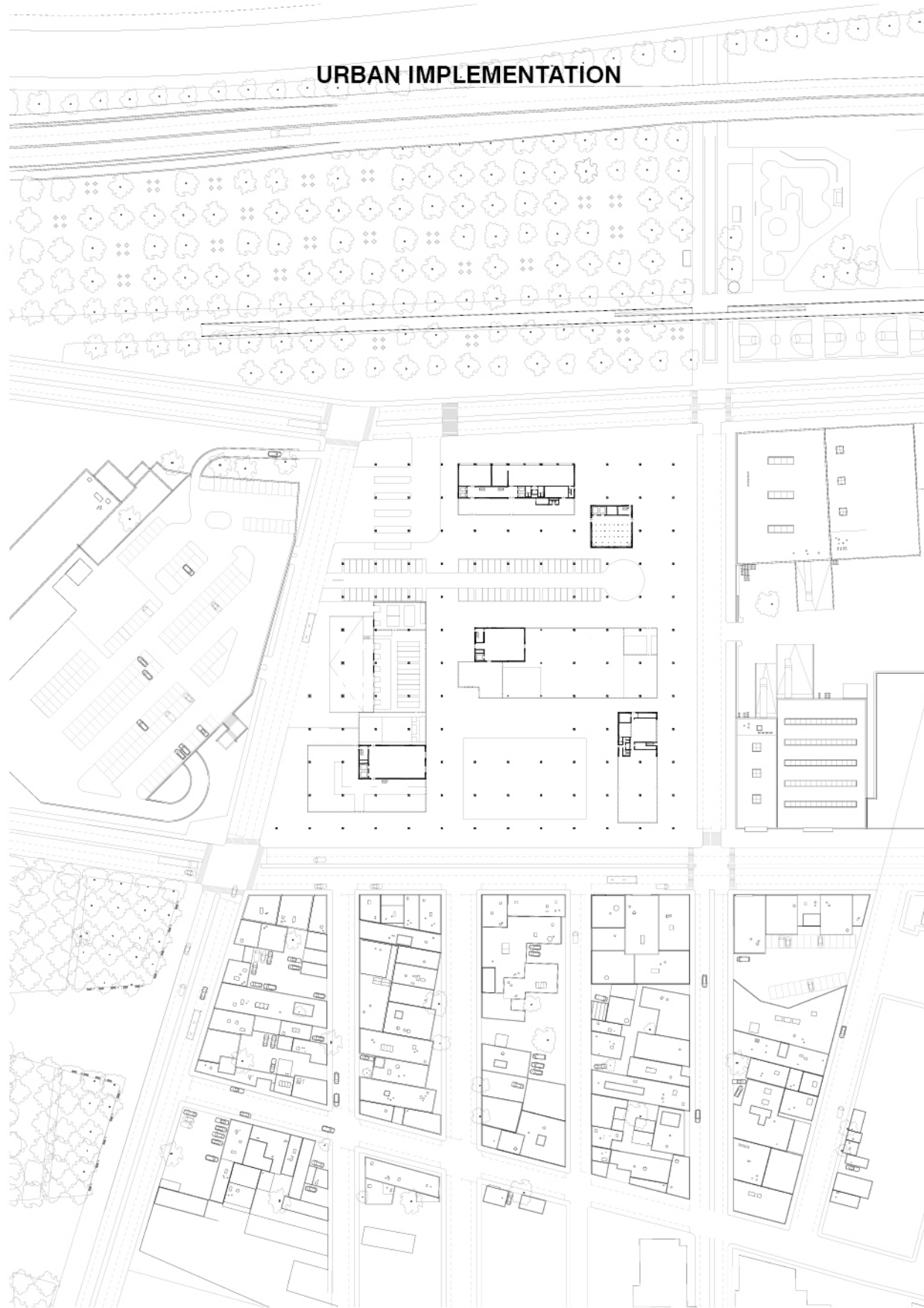








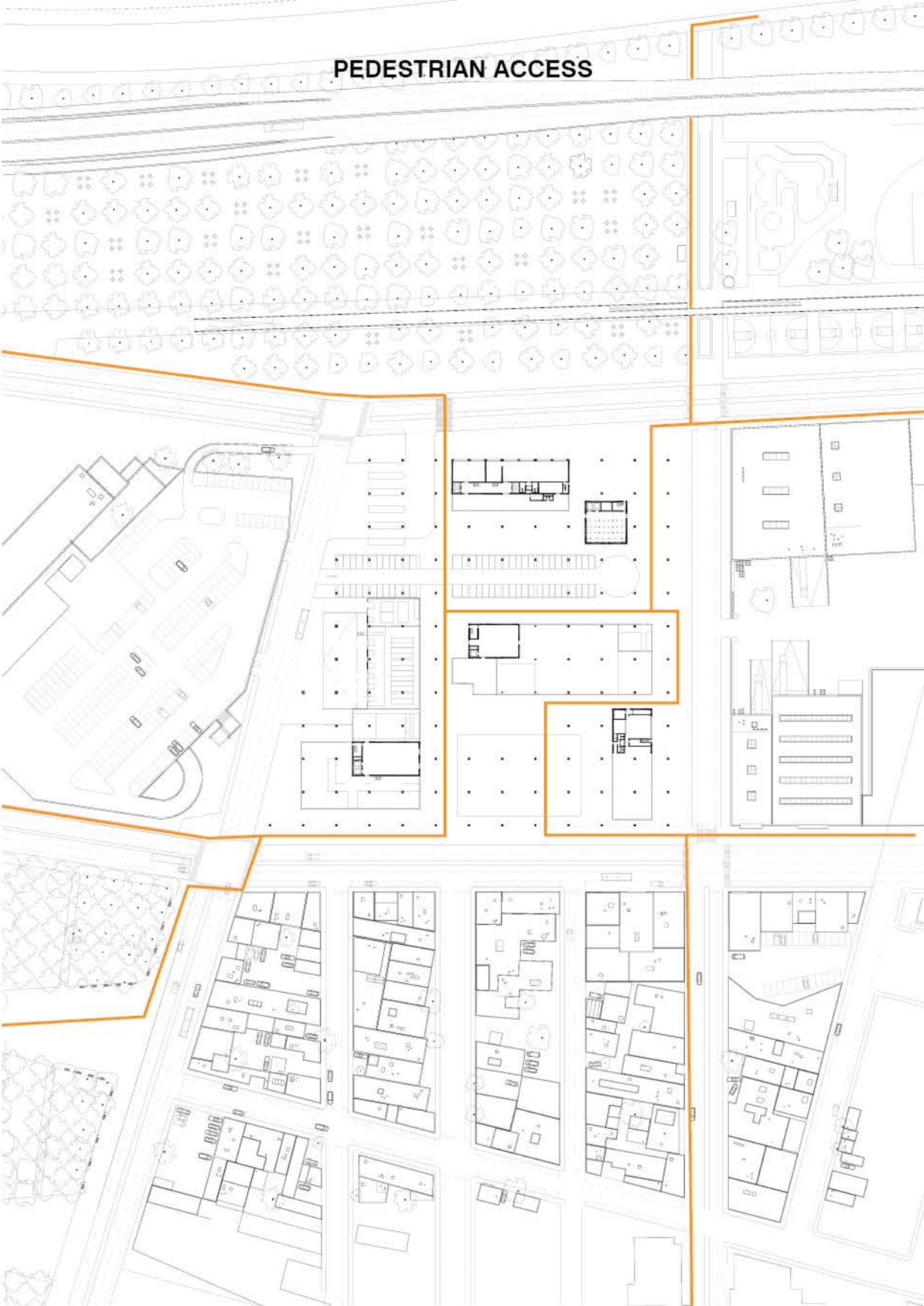
# URBAN IMPLEMENTATION



VEHICLE ACCESS

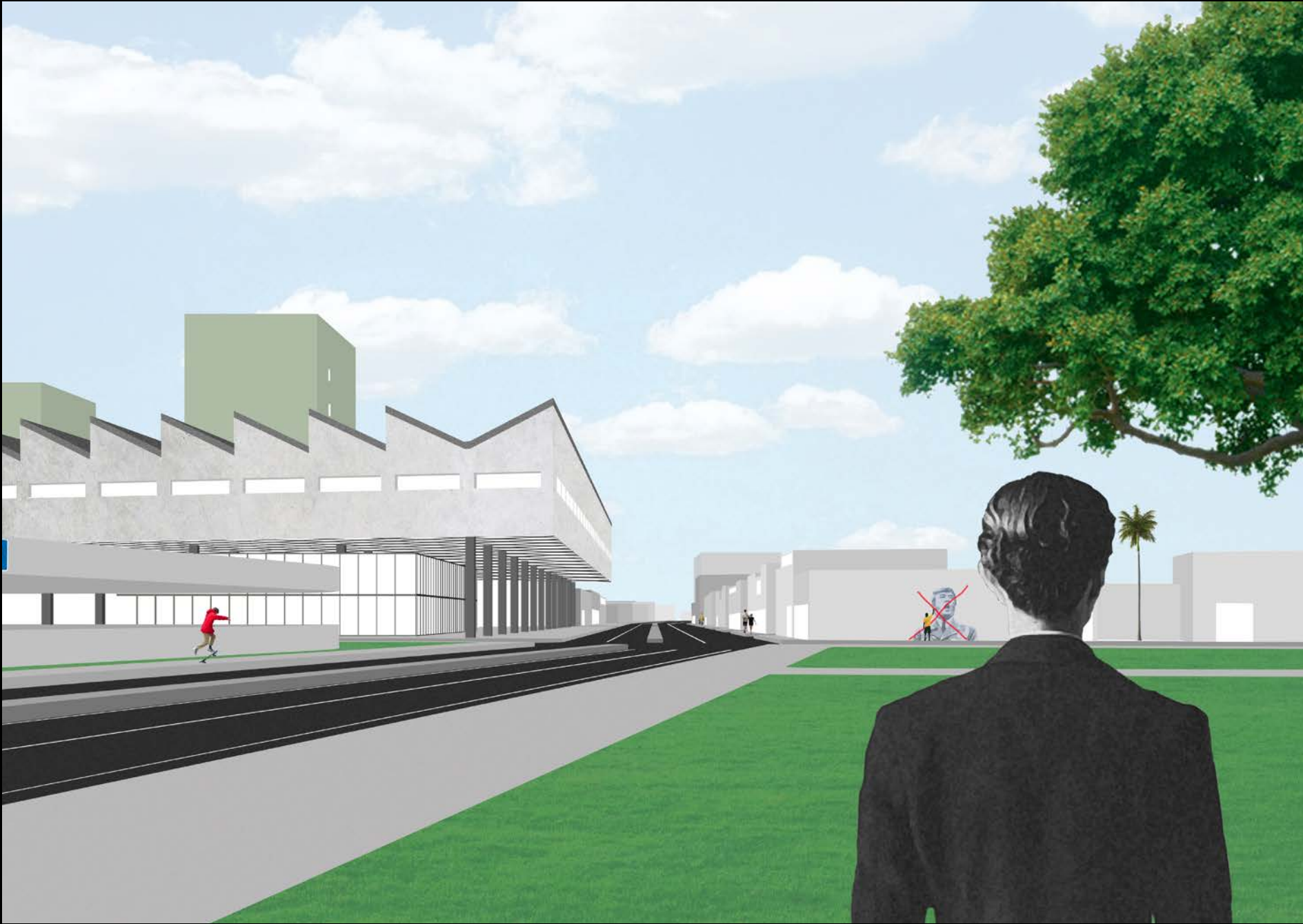


PEDESTRIAN ACCESS



**PUBLIC SPACE**





## CHAMIZAL STRATEGY

