

Global-Local Symbiosis



Design as Politics
Lau Cheung Hau, John
TU Delft
4516729

GLOBAL

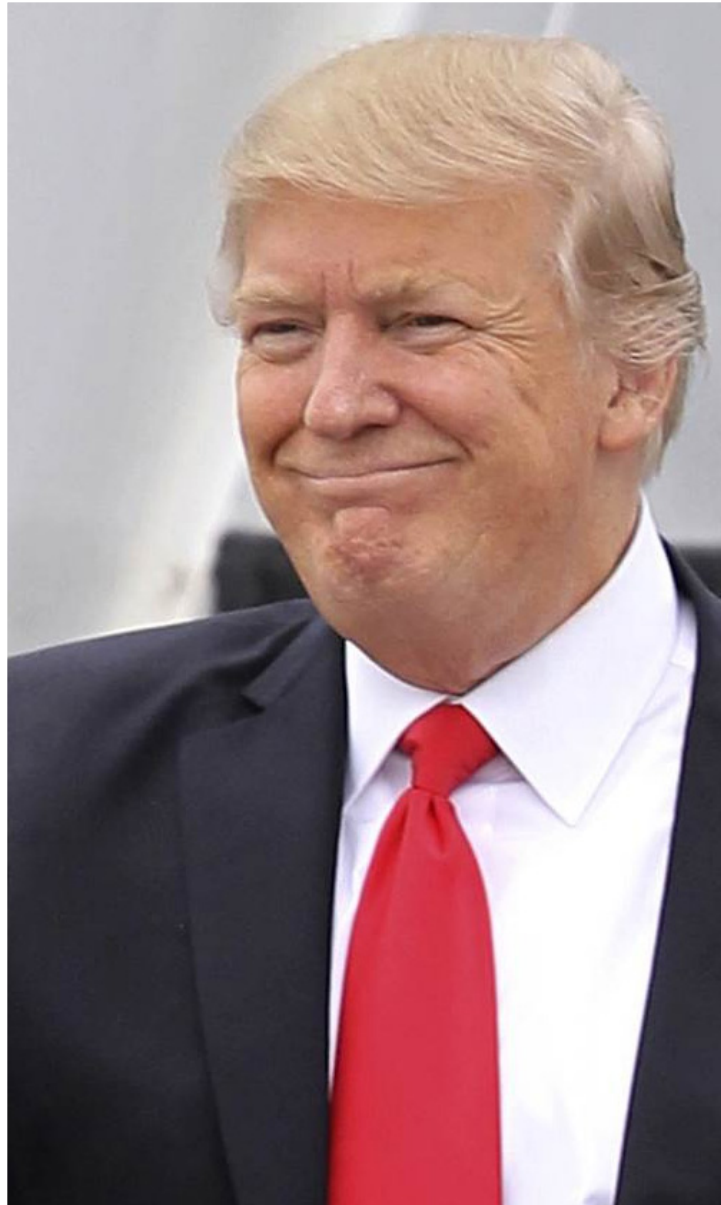
LOCAL



CITY OF COMINGS AND GOINGS

The emphasis on the transnational and hypermobile character of capital has contributed to a sense of powerlessness among local actors, a sense of the futility of resistance.

- Saskia Sassen, *The Global City*



PROTECTIONISM



**LOCAL
ACTORS**

?



**GLOBAL
ELITES**

THE RELATIONSHIP OF GLOBAL AND LOCAL

Symbiosis (n.) biology

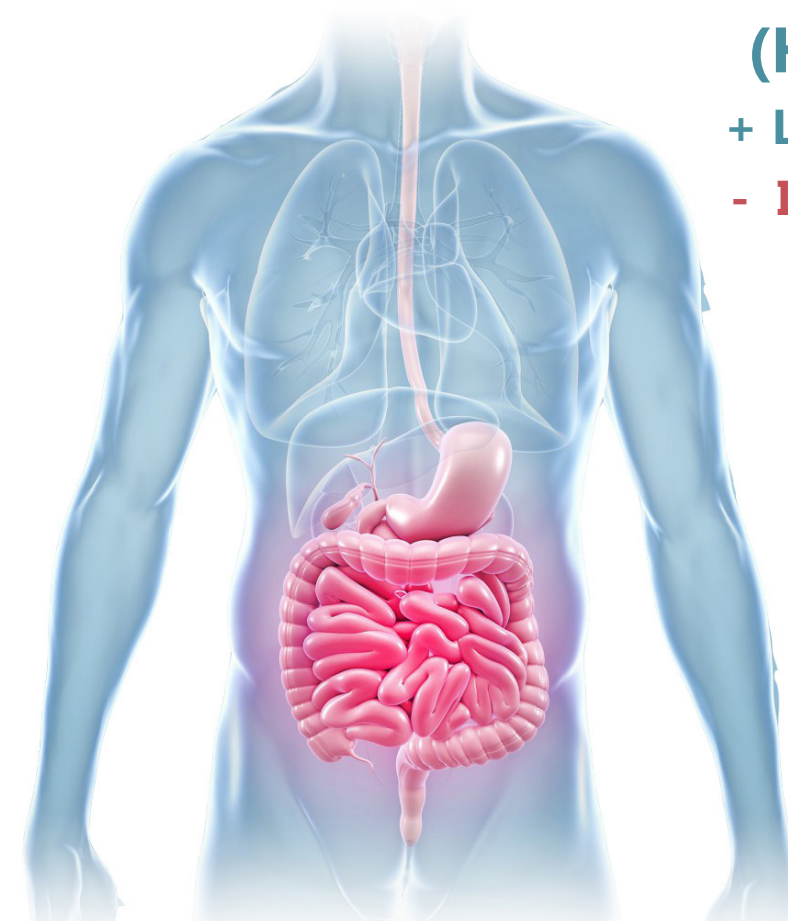
"the living together of unlike organisms"

- Heinrich Anton de Bary

INTESTINE (HUMAN)

+ Lots of Food

- Inadequate Enzymes



TAPEWORMS

- Habitat Sensitive
- Inability for Food Harvesting

NUTRIENTS

PARACISTIC

FLOWERS

+ Food Producer

- Immovable

Pollination



Nutrients

BEE

+ Fly for Long Distance

- Food Consumer

MUTUALISM BETWEEN ORGANISMS

GLOBAL	LOCAL
FACTORY	PUBLIC SQUARE
STANDARDIZATION	CRAFTMANSHIP
TOP-DOWN	BOTTOM-UP
CENTRALIZE	DIVERSIFY
LARGE-SCALE	SMALL-SCALE
SCIENTIFIC	SENTIMENTAL
PLANNED	AUTONOMOUS
EXCLUSIVE	INCLUSIVE
TOTAL DESIGN	PARTICIPATORY DESIGN
INNOVATIVE	NOSTAGIC
CHINA	HONG KONG
COLLECTIVE	INDIVIDUAL
URBAN	RURAL
DEVELOPMENT	HERITAGE
EMBARGO	FREEDOM
GLOBALISATION	LOCALISM

LOCALISM
NOSTALGIC BOTTOM-UP
HERITAGE CHI SMALL
PARTICIPATORY DESIGN NA SCALE
DIVERSIFY CRAFTMANSHIP
INCLUSIVE PUBLIC SQUARE
SENTIMENTAL FACTORY
AUTONOMOUS STANDARDIZATION
INDIVIDUAL LARGE HONG TOTAL DESIGN
FREEDOM SCALE KONG DEVELOPMENT
RURAL TOP-DOWN INNOVATIVE
LOCAL GLOBALISATION

GLOBAL
URBAN
EMBARGO
COLLECTIVE
PLANNED
SCIENTIFIC
EXCLUSIVE
CENTRALIZE

GLOBAL - LOCAL INTERDEPENDENCE MUTUALISM

RESEARCH QUESTION:

COULD GLOBAL AND LOCAL RELATIONSHIP, INSTEAD OF COMPETITION BUT MUTUALISTIC TOWARDS EACH OTHER?

CHINA

**HONG
KONG**



China's territory.

CHINA



Hong Kong's territory.

HONG KONG



CHINA



HONG KONG



China uses Chinese Yuan.

CHINA



Hong Kong uses Hong Kong Dollar.

HONG KONG



Chinese can only keep Chinese passport, which is dismissed by the Chinese as worthless.

CHINA



Hongkongers have the right to have more than one passport.

HONG KONG



There is no heart in their love.(心 means heart)
(the 'Love' character in Simplified Chinese)

CHINA



Hong Kong keep traditional culture in the character.
(the 'Love' character in Traditional Chinese)

HONG KONG



China's system.

CHINA



Hong Kong's system.

HONG KONG



You can only use 'Weibo' in China.

CHINA



You connect to the free world in Hong Kong.

HONG KONG



Chinese speak Mandarin, which has a 4-tone system with more than 100 years of history.

CHINA



Hongkongers speak Cantonese, which has a 9-tone system with 2000 years of history.

HONG KONG

CHINA/HONG KONG DIFFERENCES



Local Protestors attacked on China Smugglers' Bags

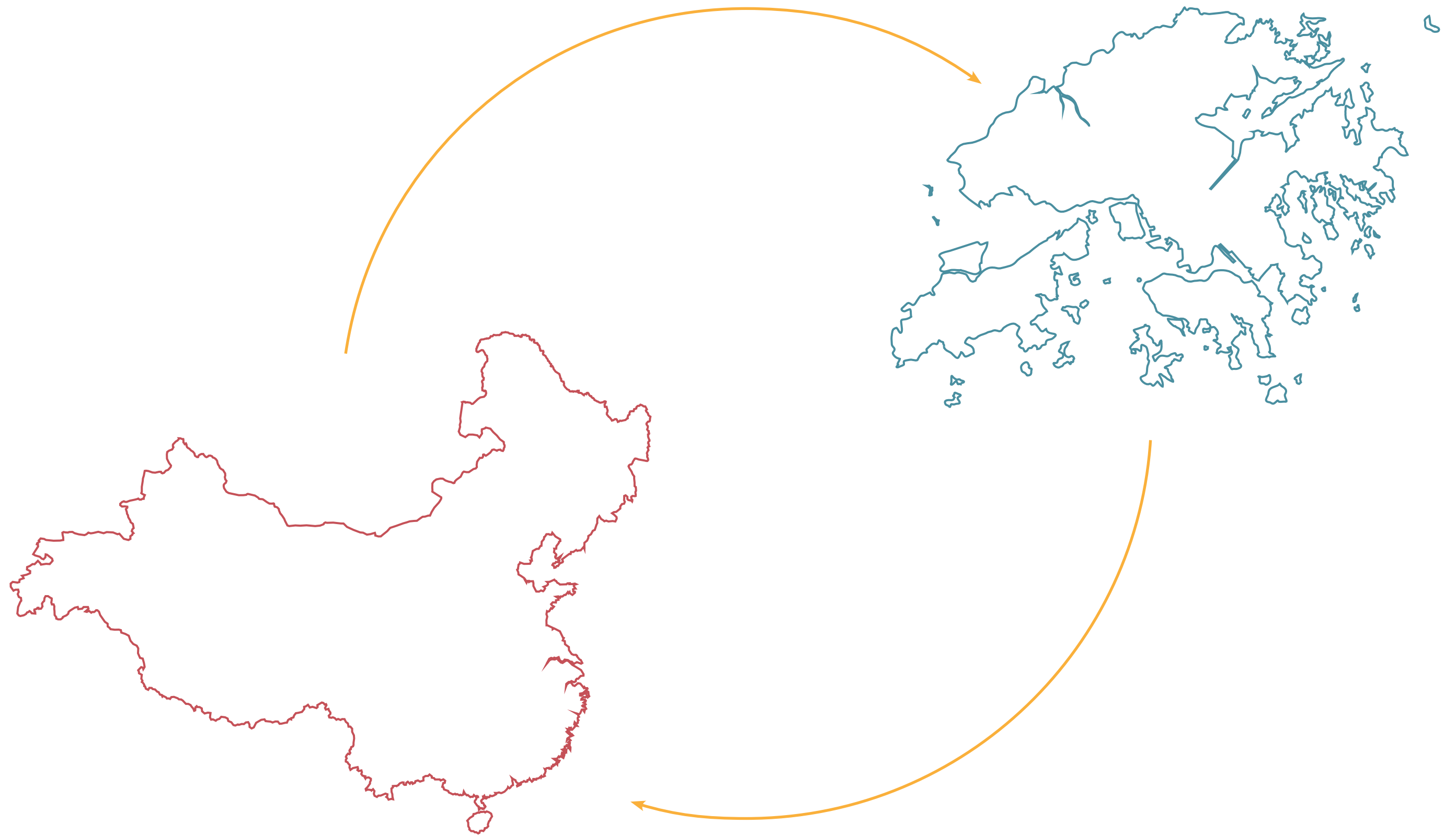
Smugglers block the Station Entrances of Mass Transit Railway

China Tourist queues for European Luxuries Brands

Local Citizens protest about discrimination on Local Customers



DICHTOMY BETWEEN CHINA AND HK

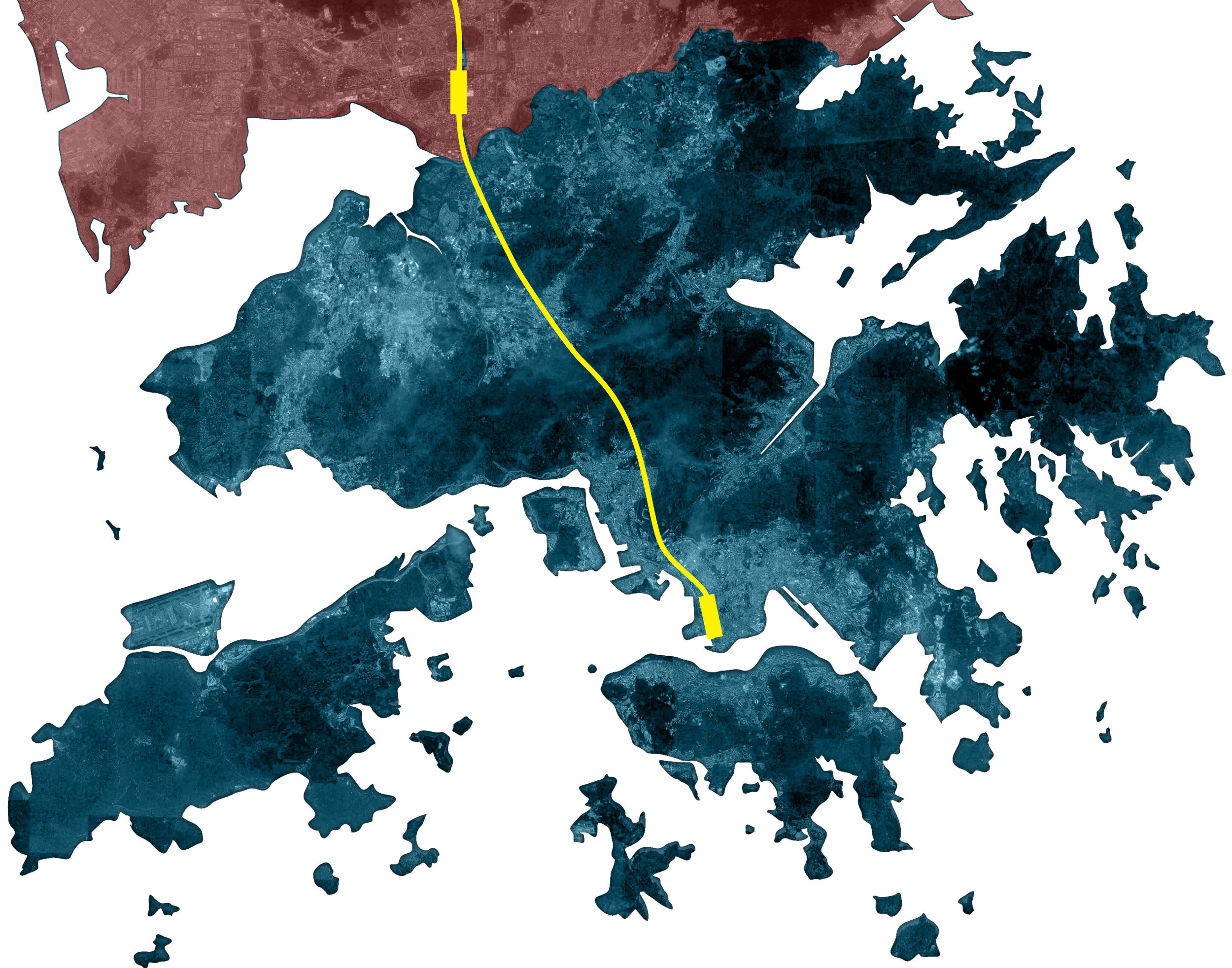


HK - CHINA SYMBIOSIS

TESTING SITE



EXPRESS RAIL LINK 2009



EXPRESS RAIL LINK 2009

10.8 0.41
B B/km
USD USD

84 Billion HKD

120,000
Passenger
/ Day

Estimated No. in 2030



HONG
KONG

26
km

SHENZHEN



2016 EXPRESS RAIL LINK

7.15 0.14
B B/km
USD USD

4.57 Billion GBP

57,000
Passenger
/ Day

No. in 2015



LONDON

50
km

PARIS



1994 EUROSTAR

* PRICE LEVEL AT 1994

EXPRESS RAIL LINK / EUROSTAR

EXTRA FUNDING

Uproar at Legco after snap vote leads to passage of HK\$19.6 billion for Hong Kong high-speed rail link

The Finance Committee's acting chairman moved for a vote as pan-democrats were absent from the chamber

PUBLISHED : Friday, 11 March, 2016, 6:03pm
UPDATED : Saturday, 12 March, 2016, 2:00am

COMMENTS: 48



Owen Fung
Christy Leung

322 SHARES



The HK\$19.6 billion extra funding request for the Hong Kong to Guangdong was abruptly passed by Committee yesterday, triggering chaos inside and

An angry legislator threw ink at acting committee manoeuvred pan-democratic lawmakers' efforts to forcibly remove protesters who had the building.

The drama erupted at around 5pm, two hours into

Hong Kong's rule of law must be protected in any agreement on joint immigration checkpoint for express rail link

Gary Wong says the government needs to reassure the public that judicial independence and 'one country, two systems' will be upheld before further discussions take place

PUBLISHED : Tuesday, 08 December, 2015, 2:37pm
UPDATED : Tuesday, 08 December, 2015, 2:37pm

COMMENTS: 2



The proposal for a joint immigration checkpoint for the express rail link has generated much controversy. Some say separate checkpoints would render the costly HK\$84 billion rail link less efficient than the existing intercity through trains. Most

Mar 10, 2016 7:03pm

Legco debate to tackle concerns over military use of rail link

Like 25 people like this. Be the first of your friends.

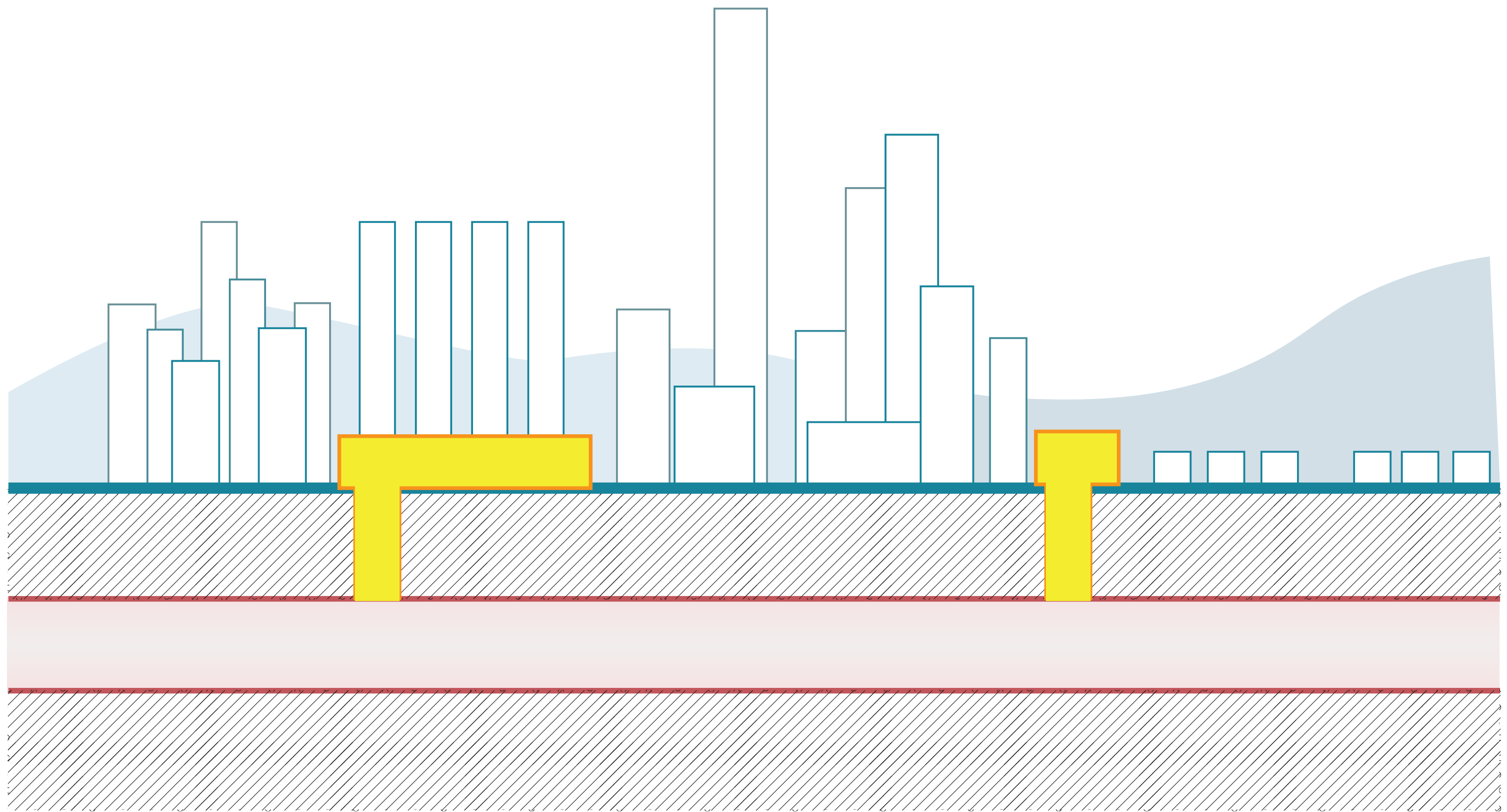
Public concern on whether Hong Kong's express rail link will be deployed for military use is likely to be a focus of discussion at the Legislative Council when the finance committee starts a two-day debate on the government's request for additional funding for the project on Friday.

media page on Tuesday, the Transport and Housing Bureau being built to serve any military purpose, stressing that it is

the construction of the cross-border rail link intensified after the People's Liberation Army Daily (PLA Daily) as saying that the and military purposes.

MILITARY USE

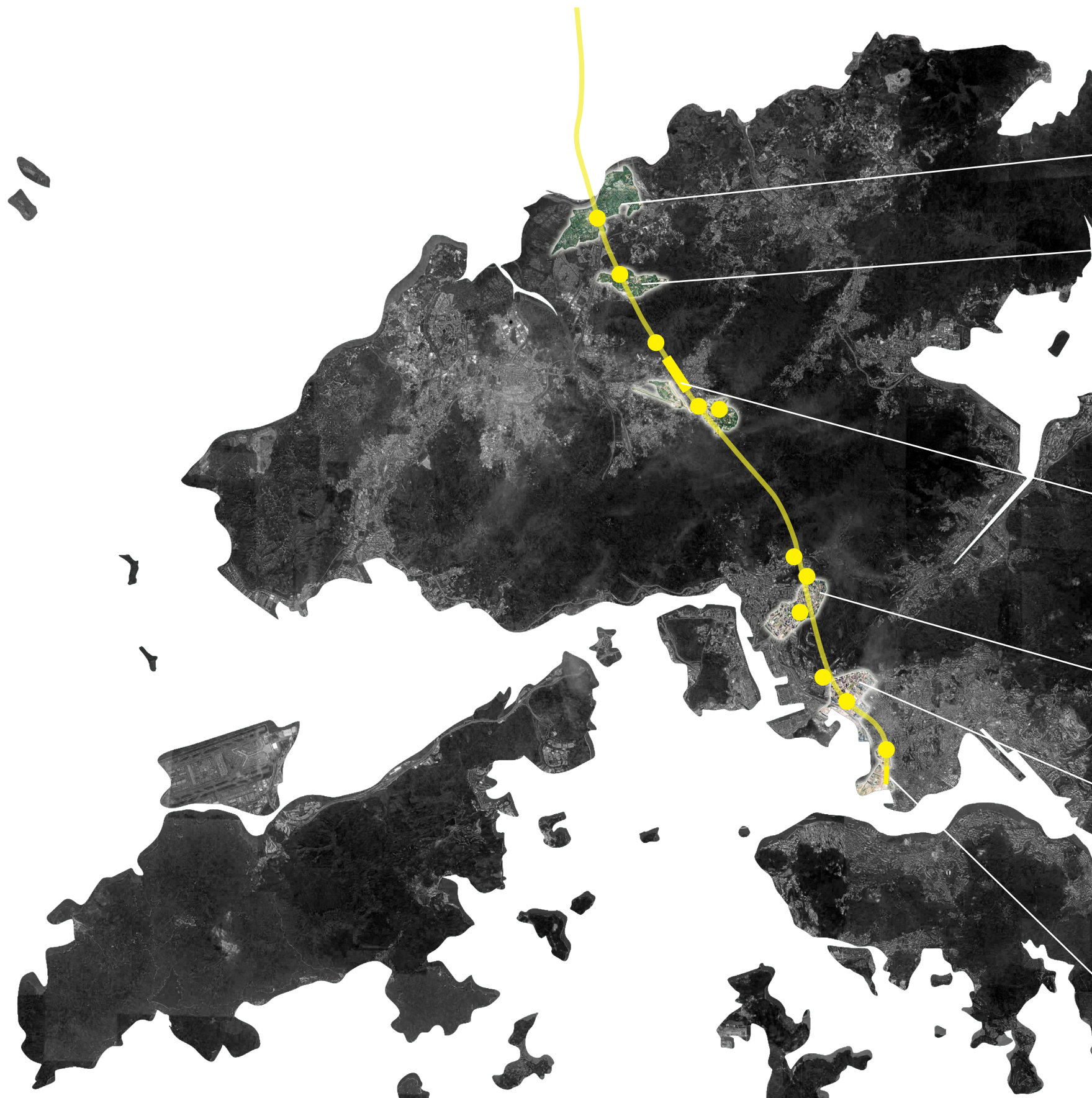
2015 EXPRESS RAIL LINK CONTROVERSY



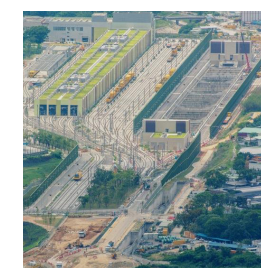
ORGAN ON THE GROUND



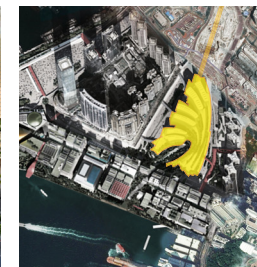
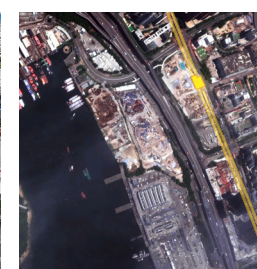
VENTILATION BUILDING



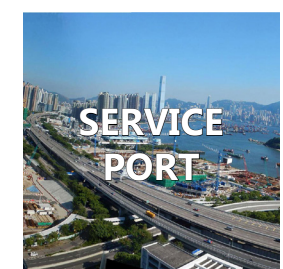
**VENTILATION
BUILDING**



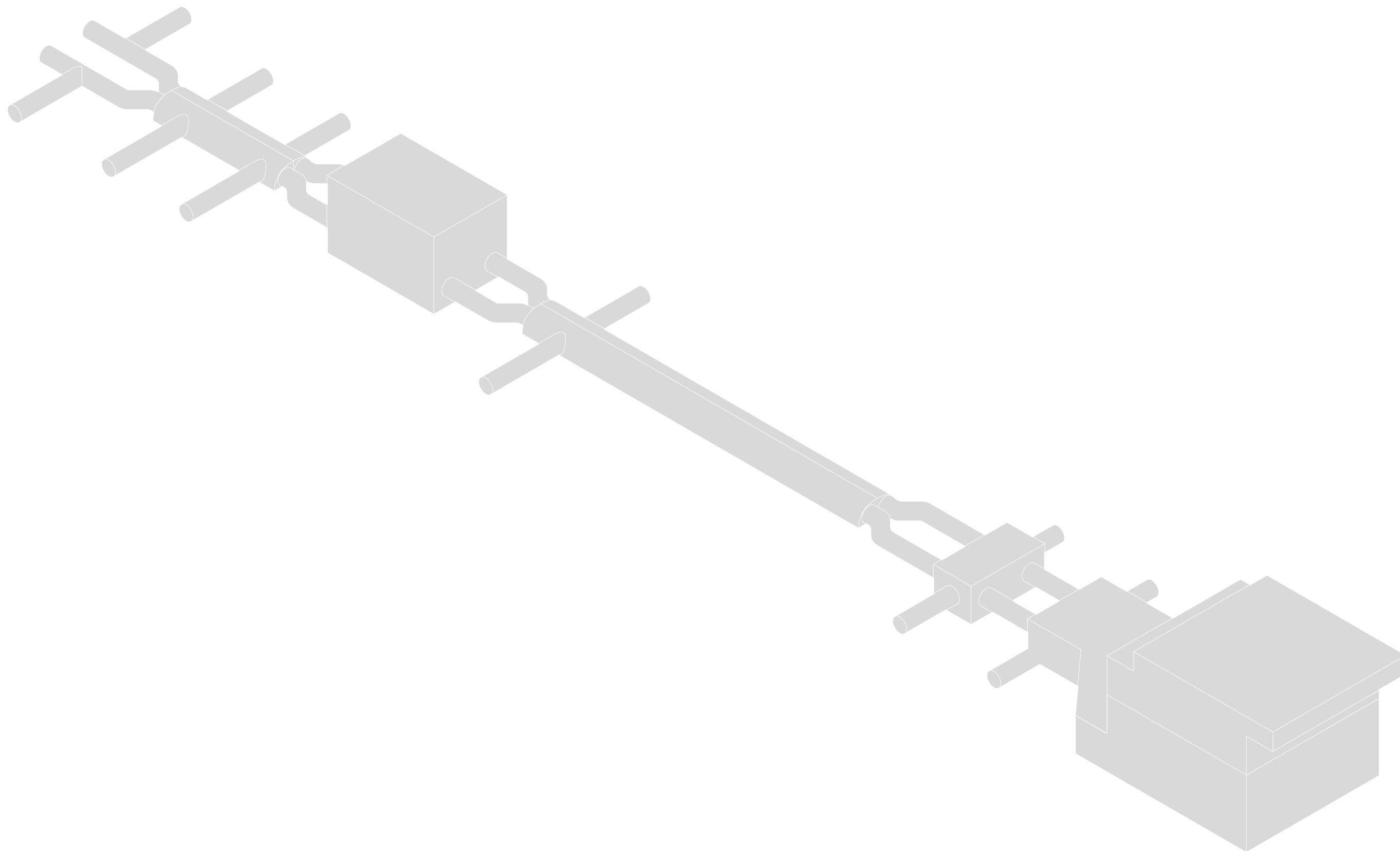
CONTEXT



**URBAN
PROGRAMME**



VENTILATION BUILDING ABOVE THE TUNNEL



INDUSTRIAL SPLINE

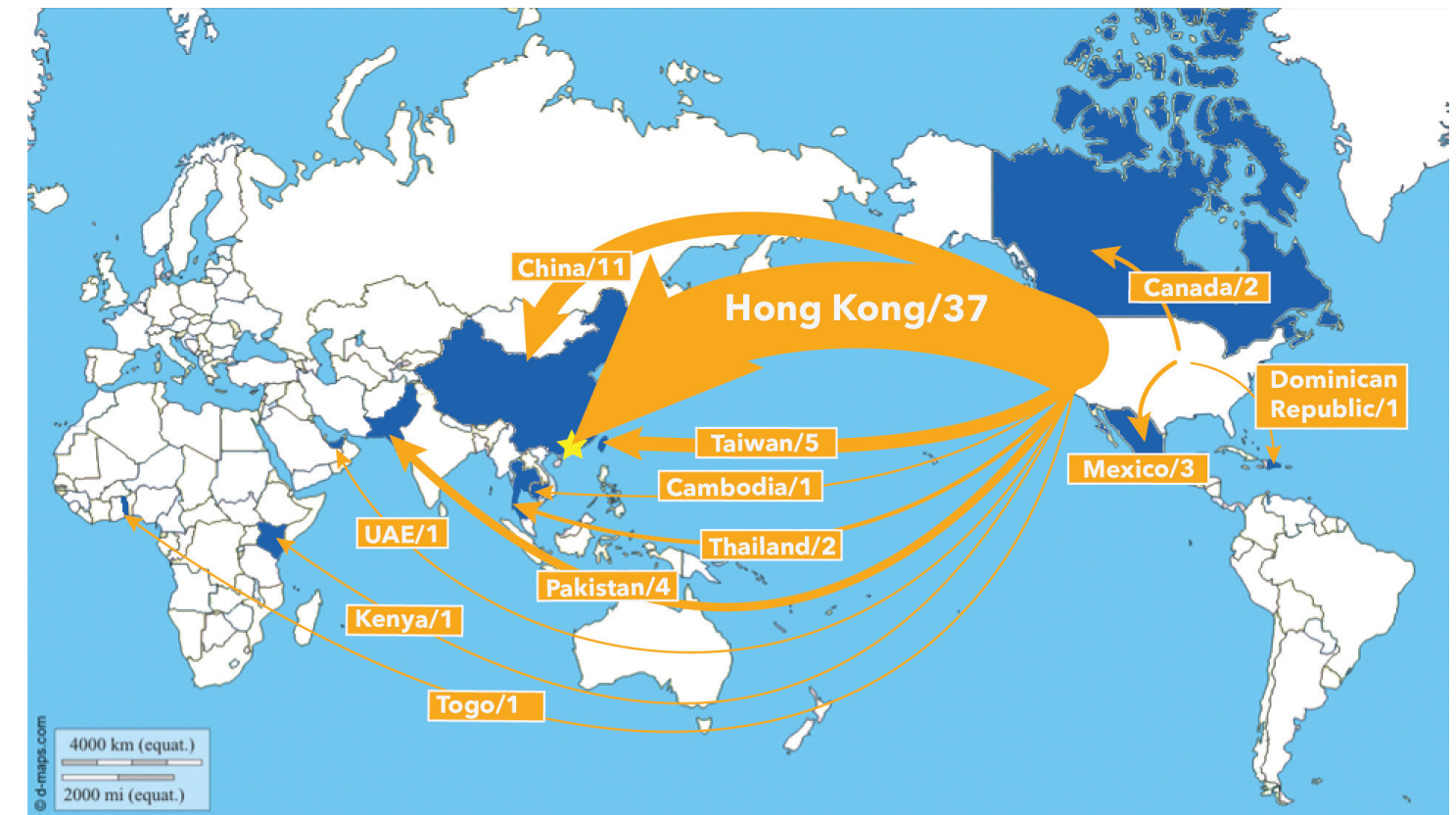
PROGRAMME

Watchdog group tracks Seattle e-waste to Hong Kong junkyard

Posted on May 11, 2016 by Venice Buhain



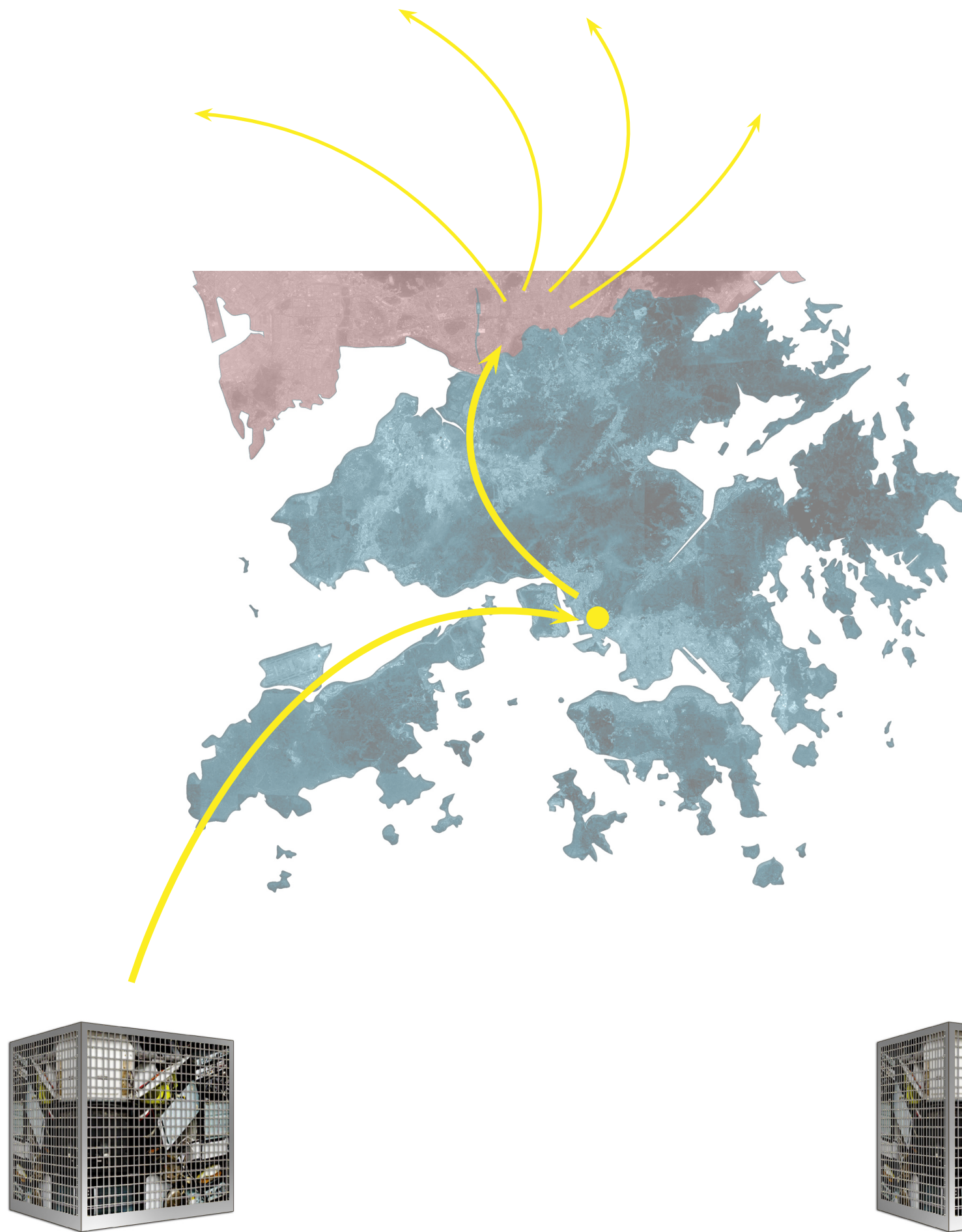
Pile of printer scrap outside on ground near New Territories junkyard in New Territories Hong Kong in March. (Photo by Basel Action Network via Flickr.)



That old laptop that you thought would get recycled and saved from a landfill could be headed overseas to a junkyard with lax hazardous waste regulations, according to the results of an investigation released this week by a watchdog group.

Seattle-based watchdog group Basel Action Network worked with the Massachusetts Institute of Technology to put 200 small tracking devices into nonfunctional electronic devices that were brought to e-recyclers or charity

PARACISTIC E-WASTE



May 19, 2013 UPDATED 5/19/2013

China's 'Green Fence' makes unprecedented cuts in recycled plastic imports

By STEVE TOLOKEN | [Twitter](#) [Google+](#)

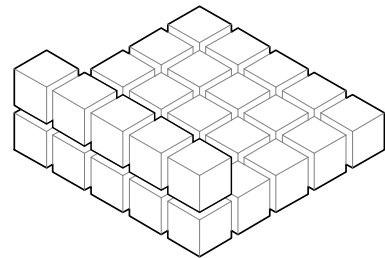


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[Sustainability](#) [Recycling](#) [Materials Suppliers](#) [CHINAPLAS](#)

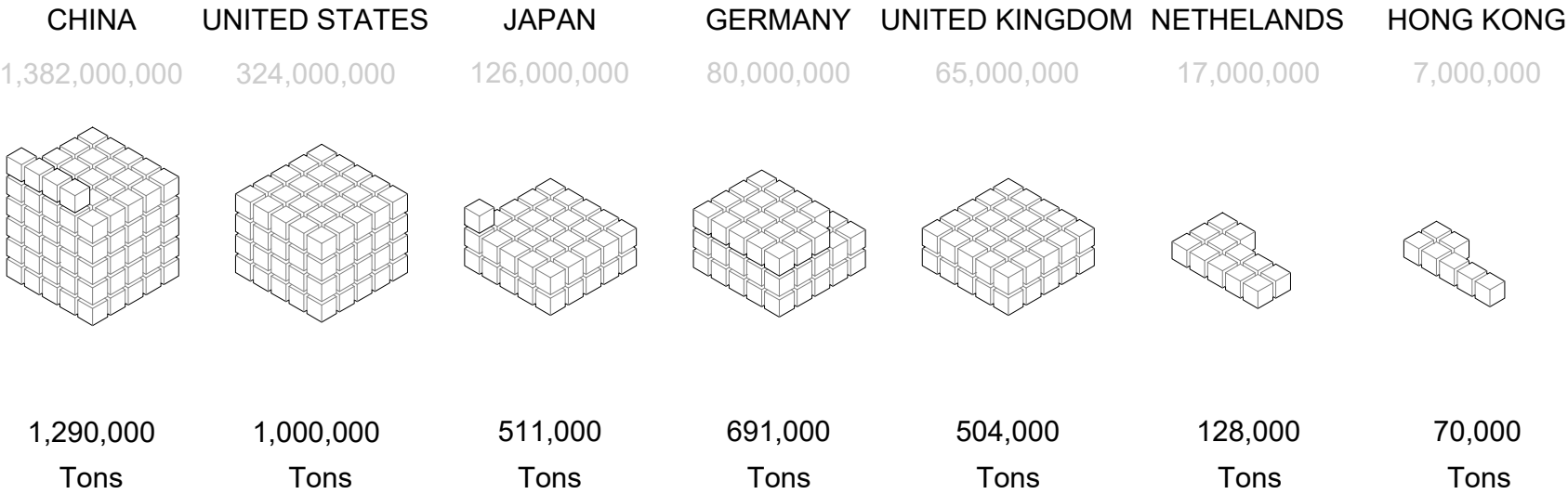
GUANGZHOU, CHINA -- China's "Green Fence" crackdown on dirty scrap materials has reduced imports of plastic waste by 5.5 percent in the first four months of the year, a significant change for a country long-used to double-digit increases in recycled materials flowing in.

OPERATION GREEN FENCE



SMUGGLED
TO HONG KONG

300,000
Tons



MAX. CAPACITY OF CARGO PROCESSED PER DAY: 70

AMOUNT OF LABOUR NEEDED FOR MAX. CAPACITY: 450

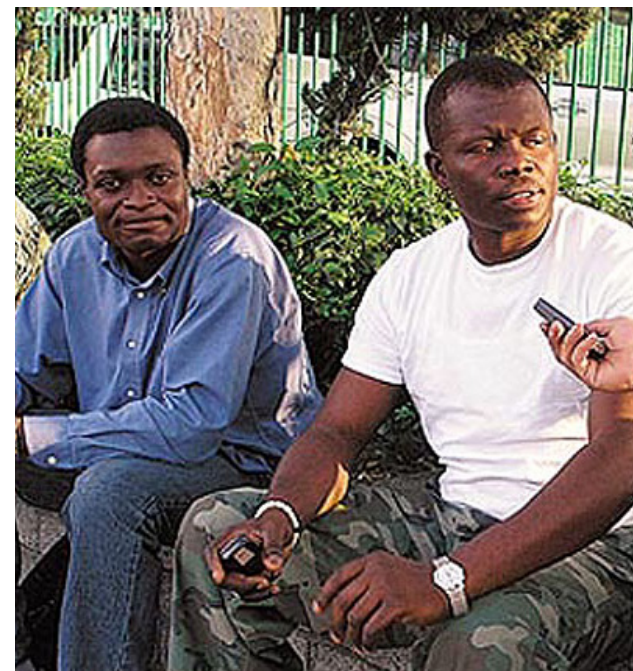
E-WASTE QUANTITY



POTENTIAL ENVIROMENTAL CRISIS



SITE ANALYSIS



Mrs Ng and his husband had a Car Decomposing Factory, Lui Kei, in Kam Tin.

Car Decomposing Factory is very popular because of the turnover rate for European Car (Mercedes, BMW) is high during 80s.

Lui Kei owns 600+ cars, both function and malfunction. Their job is dissecting componets from used car or damaged car and sell components to shops.

Recent years, Lui Kei started to do refurbishment of car with the components they collect, their craftsmanship had been appreicated by the police force to repair their military car.

Their components or reassembled cars are purchased by African entrepreneur and ships to Africa.

UPCYCLING



Mr Ng, 85 years old, owns Antique Watch Repairing Shop, Lee Shing Watch, in Sham Shui Po since 1959.

Watch Repairing Industry was very popular during 60s. European Watches were exported to Asia via HK but the companies do not have repairing service in HK, repairing jobs were put to the local craftsmans.

Mr Ng, being one of the most skillful antique watch repairer, due to its reserve for old components that even difficult to find in Switzerland and his highly experience craft. Many celebrities are his customers, including Chow Yun-Fat.

The shop is located at the corner of the entrance staircase, thousands of expensive antique watches are stored here. Unfortunately, the shop was claimed as illegal construction and facing a demolition soon.

His son was also a watch craftsman, with his knowledge inherited by the father, he studied in Switzerland for Watch making. His craft based in HK had been a interesting inspiration with skills in Switzerland.

CRAFTMANSHIP

COMMUNITY

CRAFT
IDENTITY
NETWORKS



E-WASTE
FLUSHING

+ Specific Enzymes
- Habitat Sensitive

PROPER
TREATMENT

MUTUALISM



URBAN DESIGN

HONG KONG
Democratic State

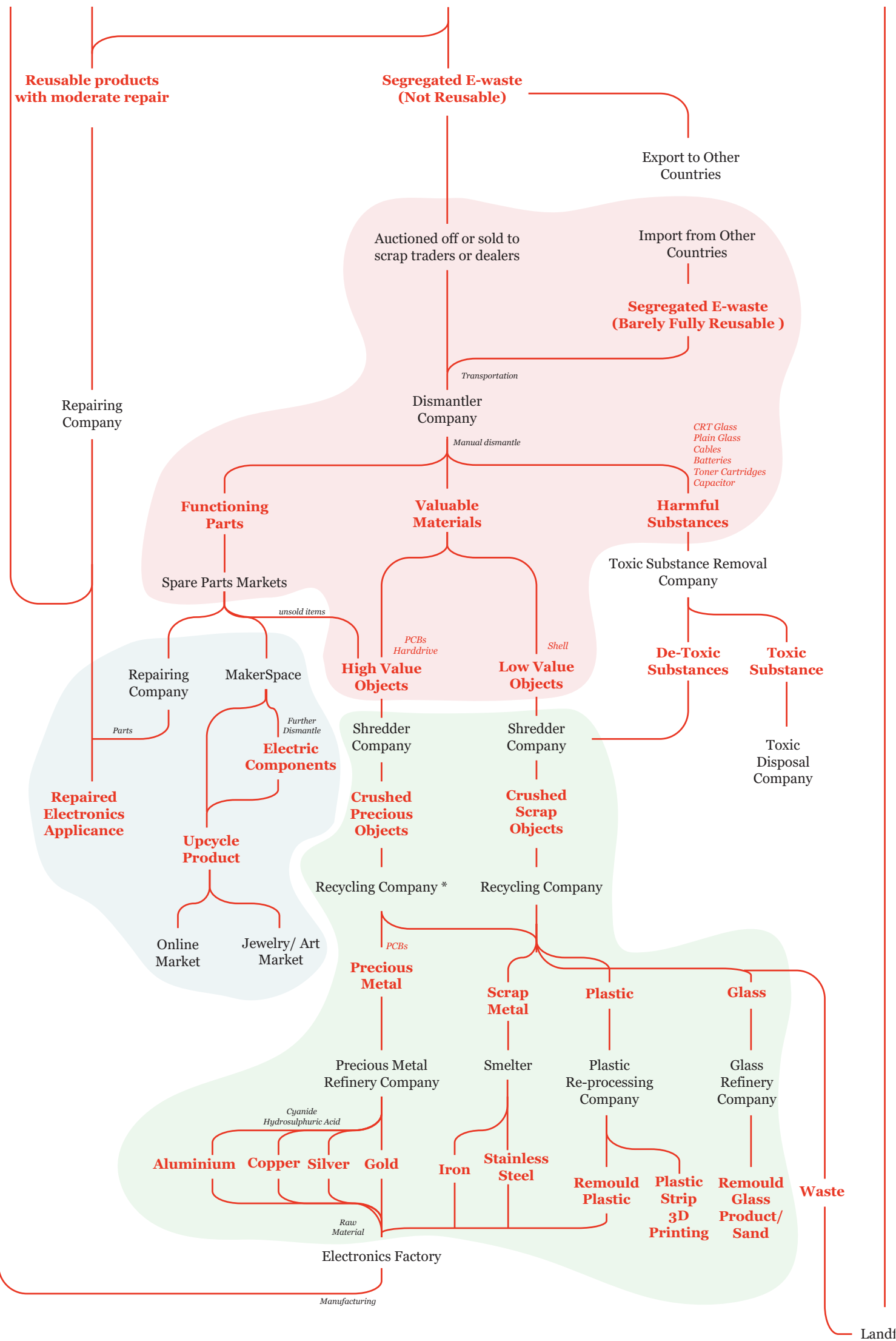
Re-establishment
Local Crafts



CHINA
Authoritarian-State

Absorb
Electronic Waste
Flushing

MUTUALISM BETWEEN CHINA AND HK



Labour Intenstive Work

Dimantling
Sorting
Auction

....



Creative Upcycling Work

Upcycling
Repairing

...

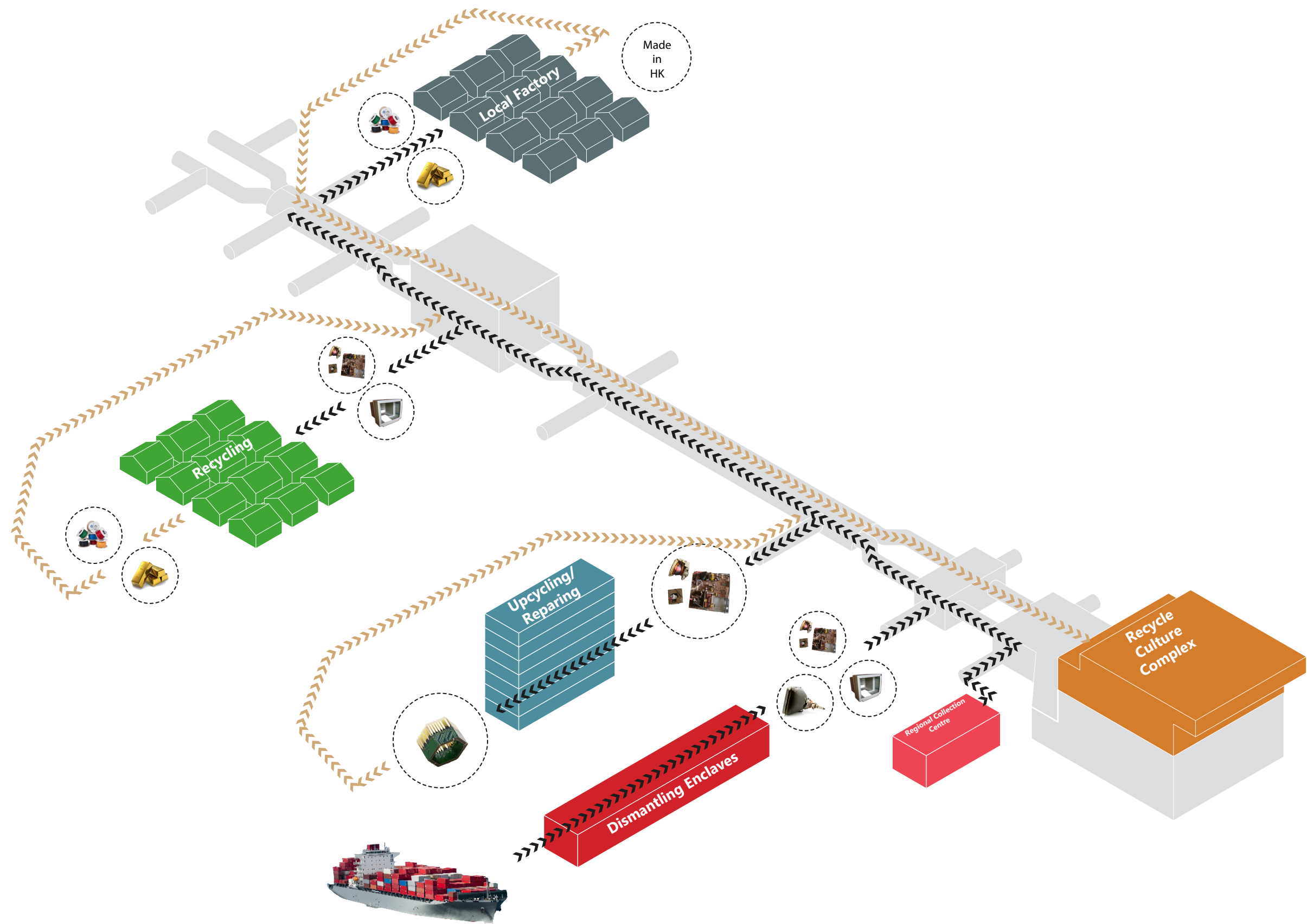


Heavy Machinery Work

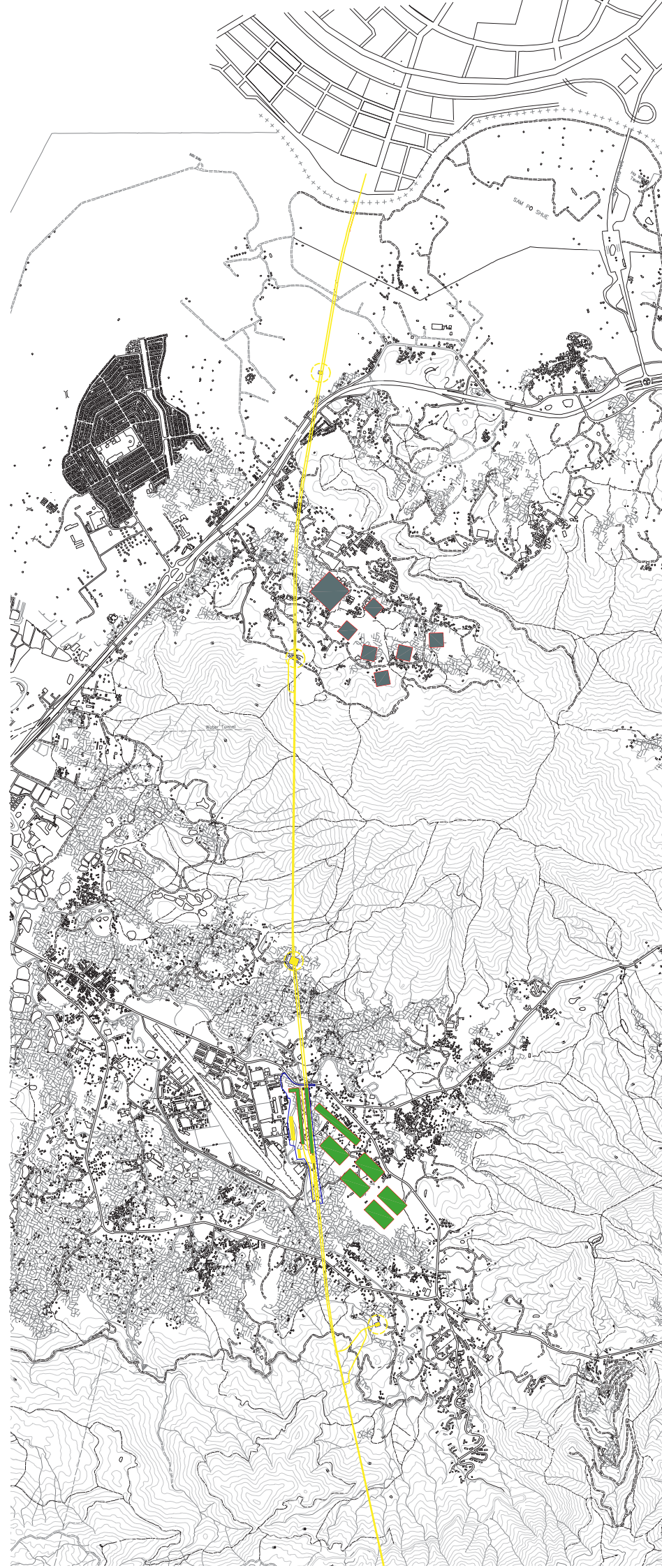
Remelting
Machinic Sorting

...

E-WASTE INDUSTRY PROCEDURE



INDUSTRIAL BASED COMMUNITY



Waste to Energy Enclave / Factory Enclave

Surrounding:

Abandoned Farm Land
Existing Food Waste Recycle Fa
tory

Influence:

Encourage Local Industry Product
Construct a off-electricity grid
district

Area:

10,000 sqm Incinerator
3000 sqm Factory * 5

Programme:

Electronic
Factory

Incinerator



Recycling Enclave

Surrounding:

Brownfield
Low-Rise Houses

Influence:

Area:

5000 sqm Factory * 6
300 sqm Logistic Facilities

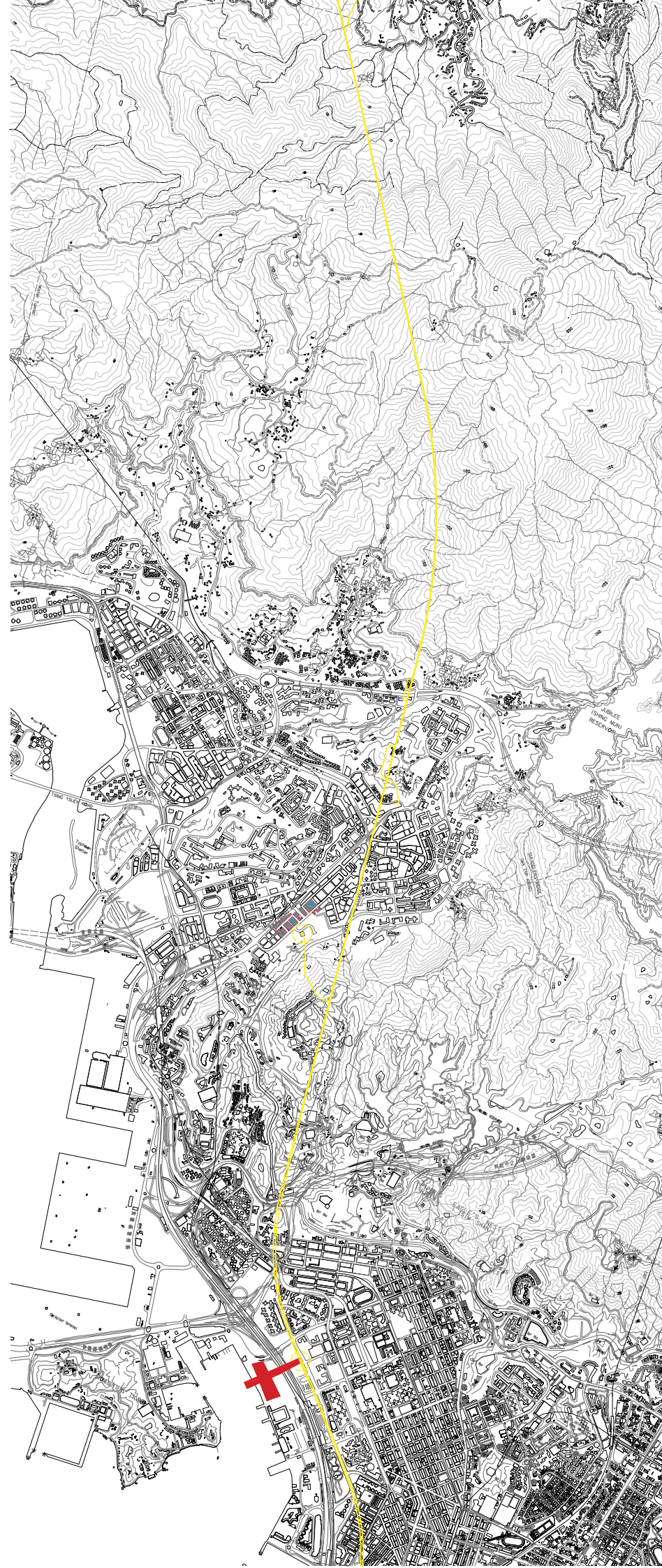
Programme:

Shredding Factory

Refinery



CIRCULAR ECONOMY BELT



Upcycling / Repairing Enclave

Surrounding:
Existing Abandoned Factory

Influence:
Creating Maker District
Nurture Craftmanship

Area:
50,000 sqm
500 cells Factory

Programme:

Upcycling Workshop



Repairing Shops



Repair Cafe



Dismantle Enclave

Surrounding:
Public Housing Estate
Public School
Existing Electronic Market

Influence:
Encourage the public to learn
about e-waste

Area:
4000 sqm

Programme:

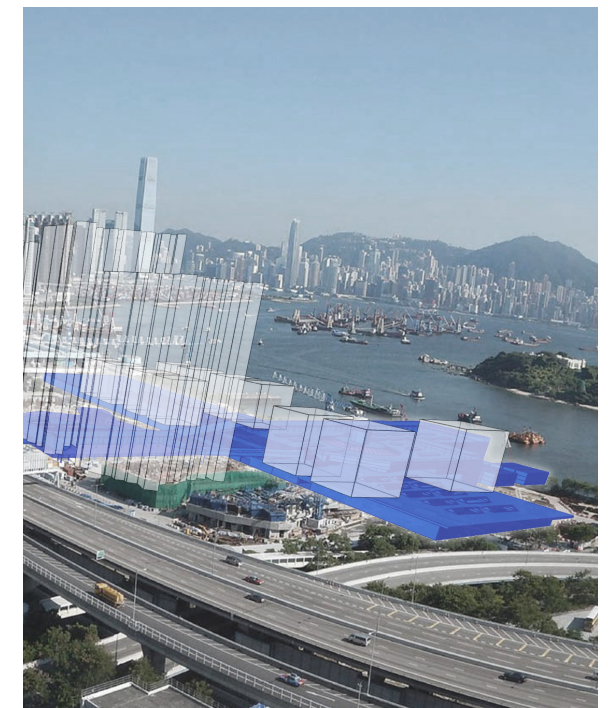
Port



Dismantling Factory



Street Market



CIRCULAR ECONOMY BELT



Regional Collection Point

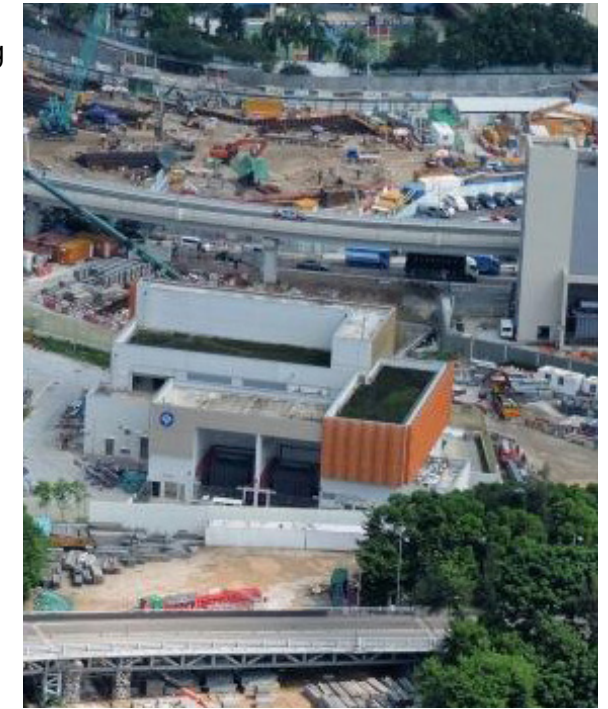
Surrounding:
City District

Influence:
Collect E-waste from Surrounding

Area:
200 sqm

Programme:

Local Collection Waste



Recycling Culture Centre

Surrounding:
Cultural District

Influence:
Promote Recycling as Identity
Construct City Image

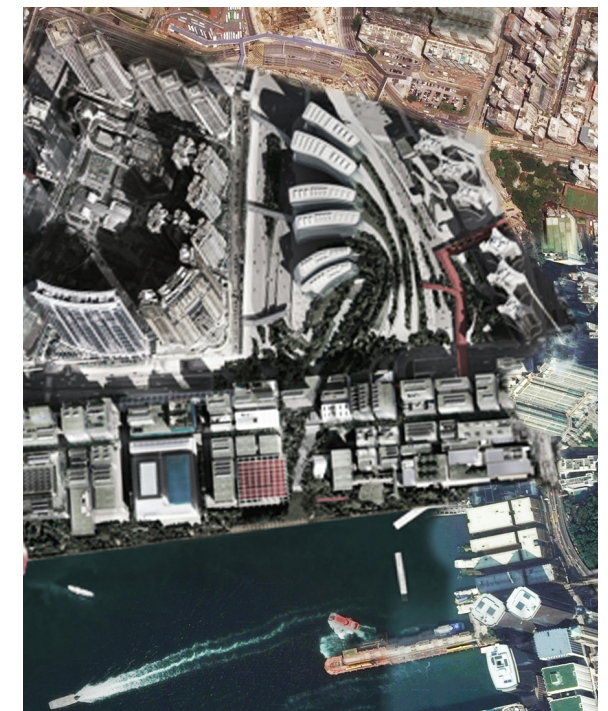
Area:
400,000 sqm

Programme:

Recycling Institute

Recycling Market

Recycling Museum



CIRCULAR ECONOMY BELT



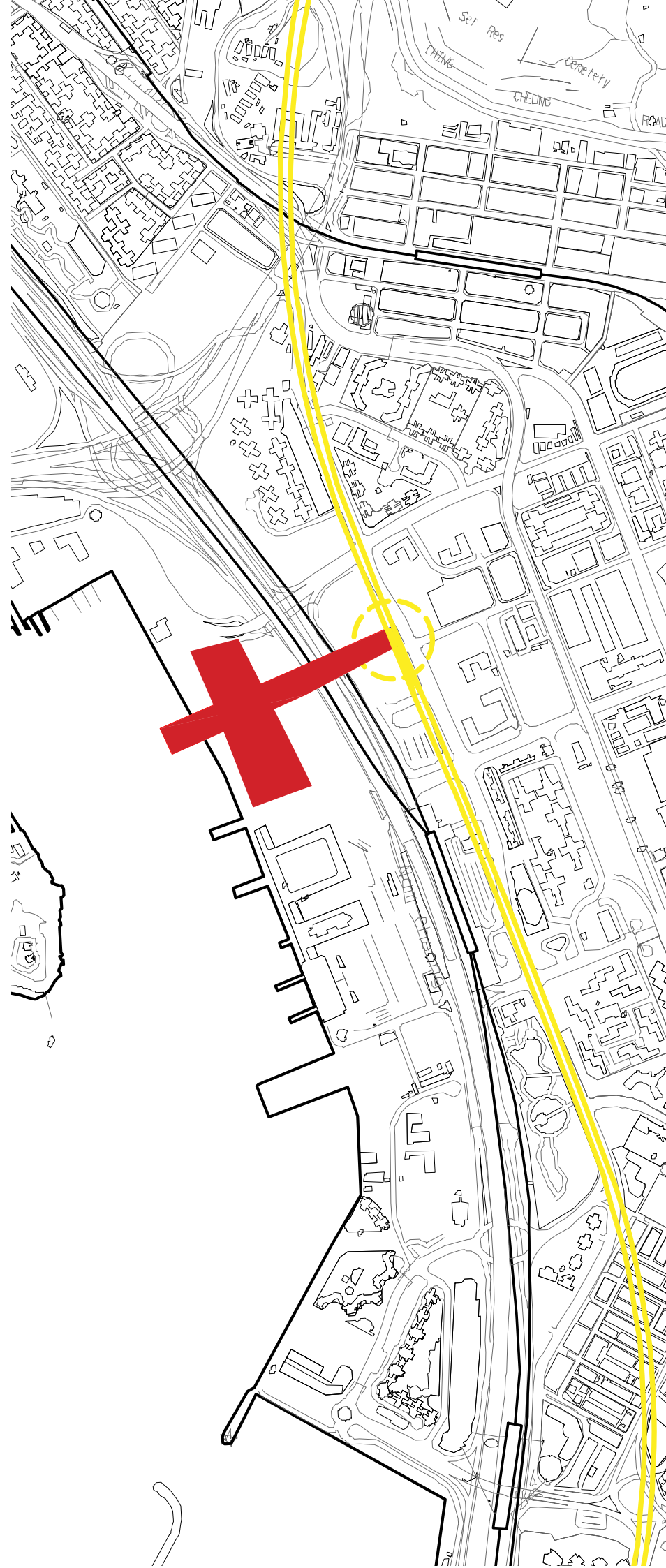
Local Railway for Scrap

1:00 am to 6:00 am

Global Railway for People

6:00 am to 1:00 am

INFRASTRUCTURAL DUAL USE



Dismantle Enclave

Surrounding:
Public Housing Estate
Public School
Existing Electronic Market

Influence:
Encourage the public to learn
about e-waste

Area:
4000 sqm

Programme:

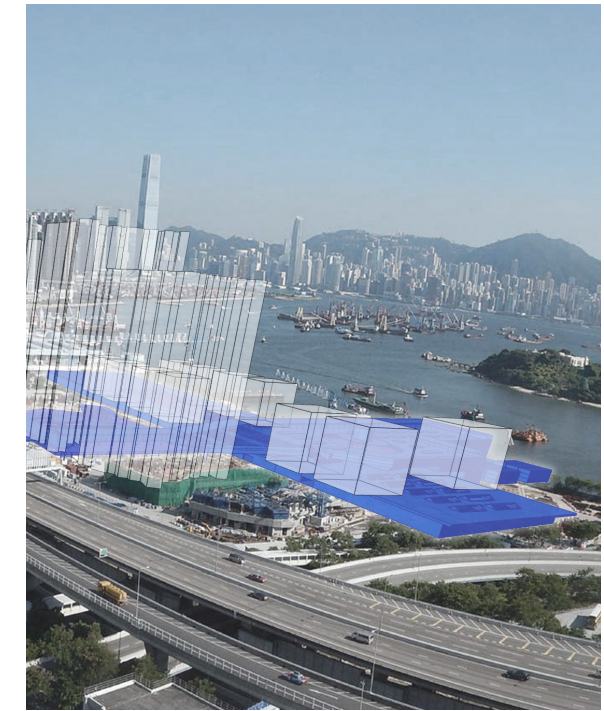
Port



Dismantling Factory



Street Market



Labour Intensive Work

Dimantling
Sorting
Auction
....

CHOICE OF SITE



SITE



SITE CONTEXT



SITE CONTEXT

ELECTRONIC WASTE

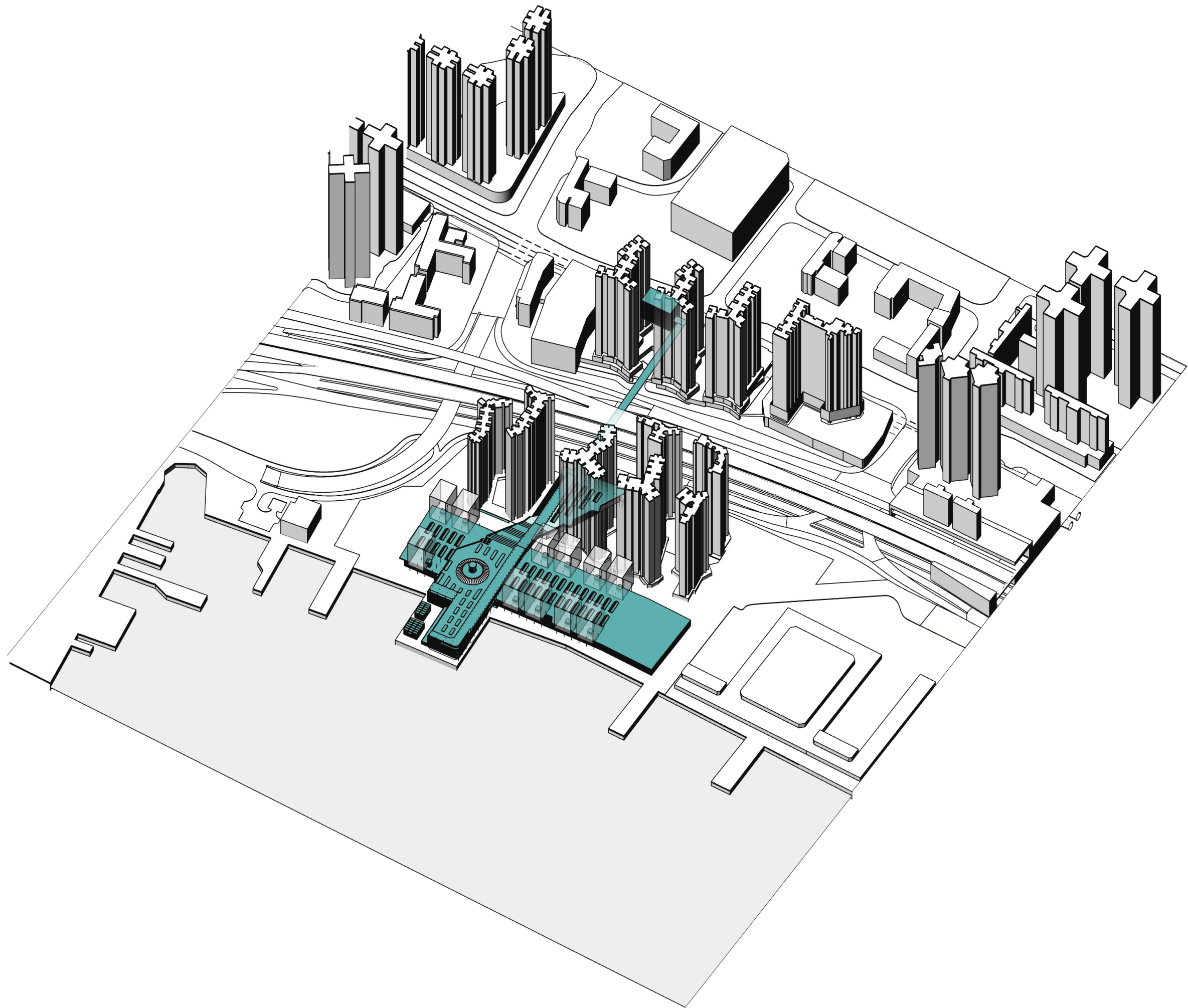


LOCAL COMMUNITY

DESIGN ASSIGNMENT



SITE PHOTOS



DESIGN ASSIGNMENT

PARK

- + Developed City
- + Straight Regulation
- Lack of Resources
- Small Areas



Re-establishment
Local Crafts



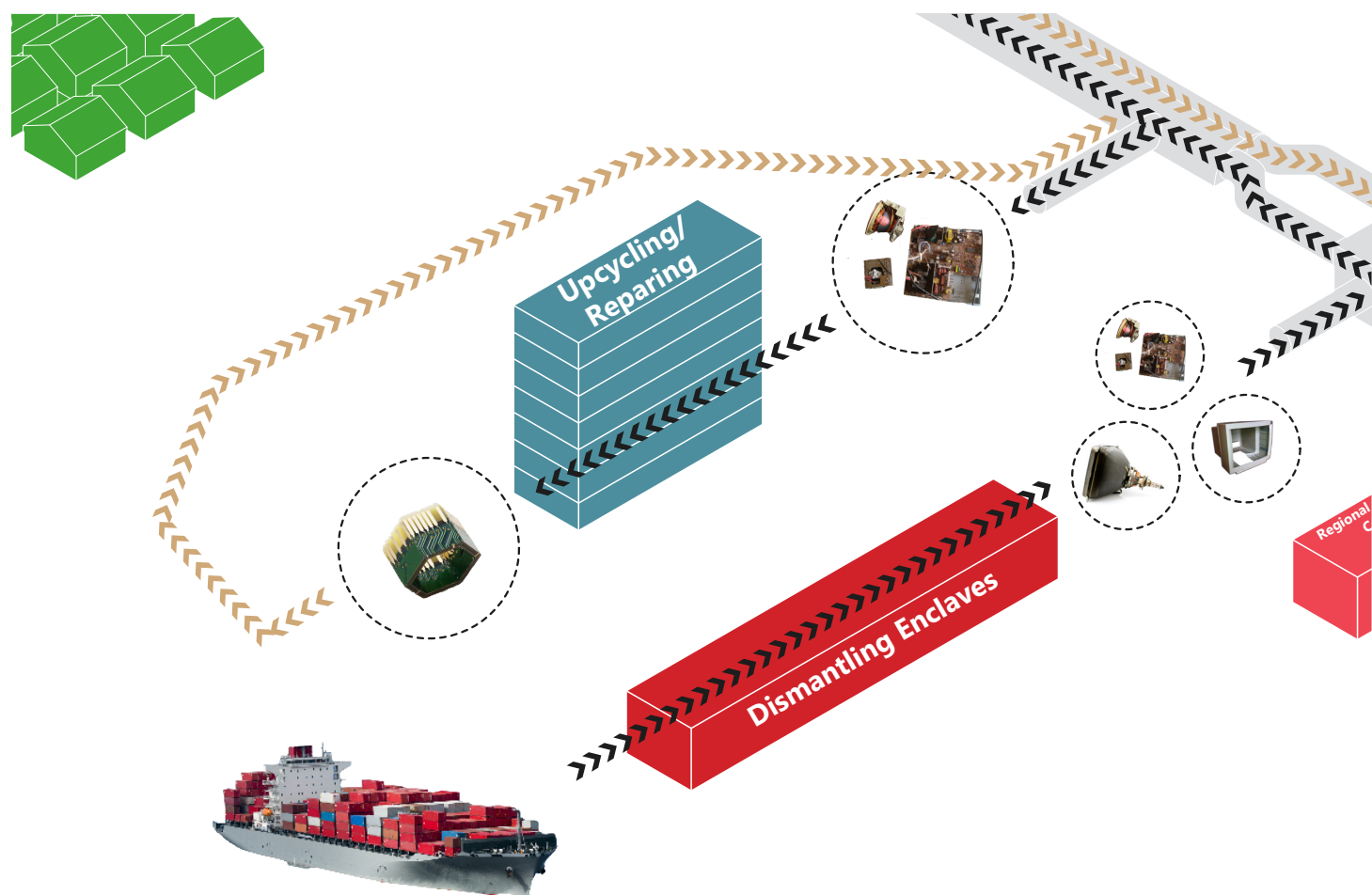
FACTORY

- + Lots of E-waste
- + Large Investments
- Developing Country
- Loose Regulations

Absorb
Electronic Waste
Flushing

FACTORY - PUBLIC REALM SYMBIOSIS

FACTORY



Labour Intenstive Work

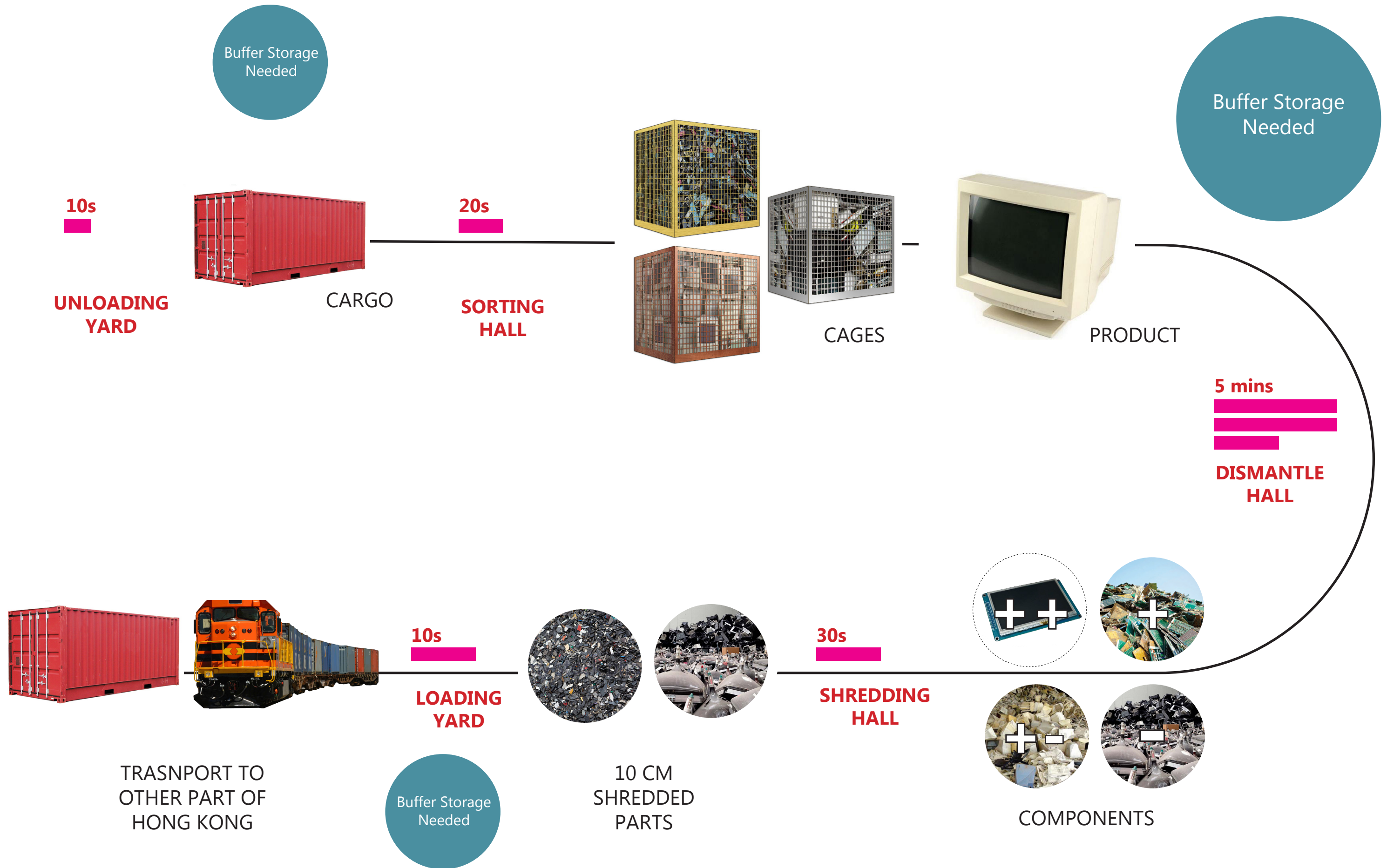
Dimantling
Sorting
Auction

....

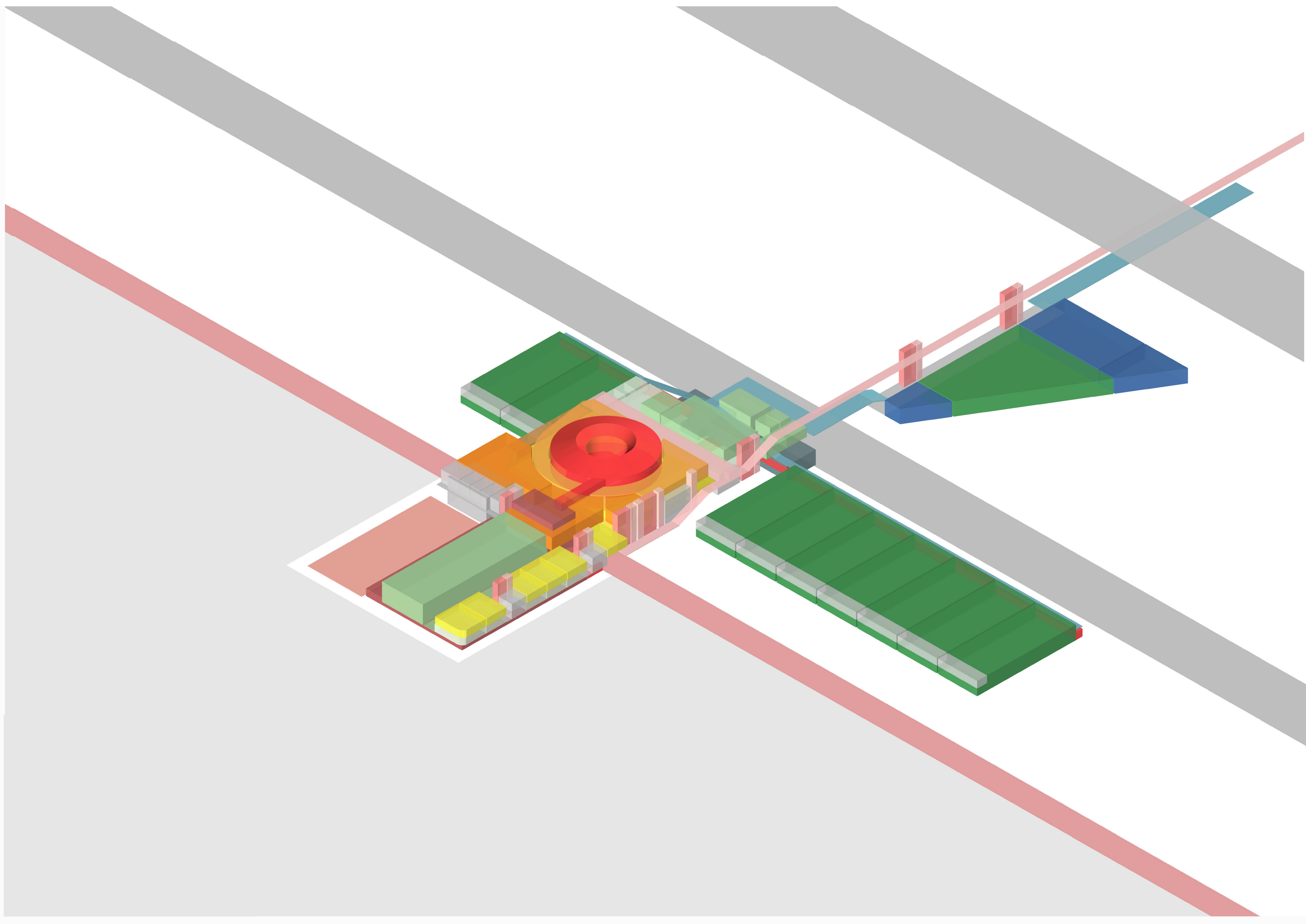
FUNCTION OF DISMANTLE FACTORY

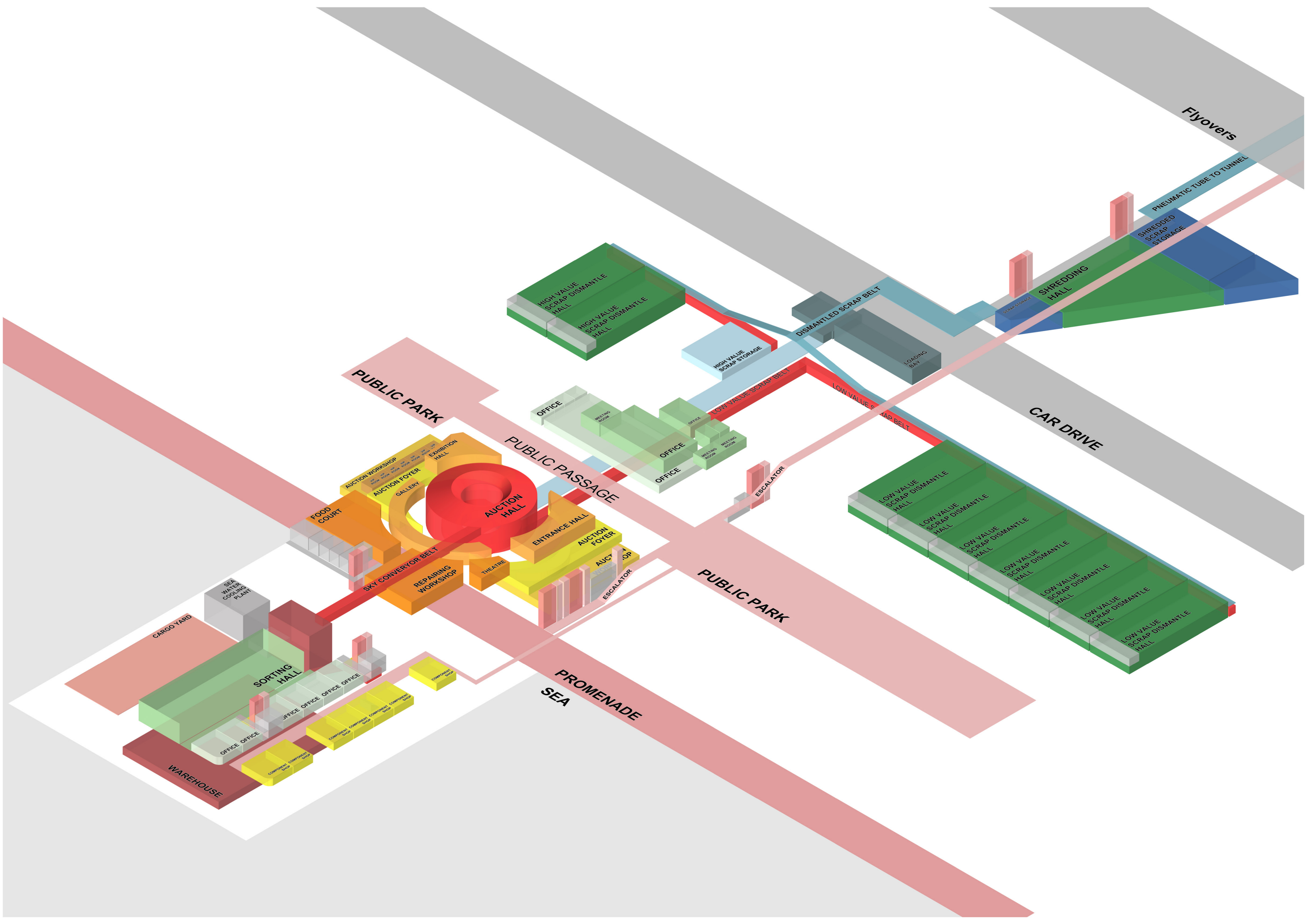


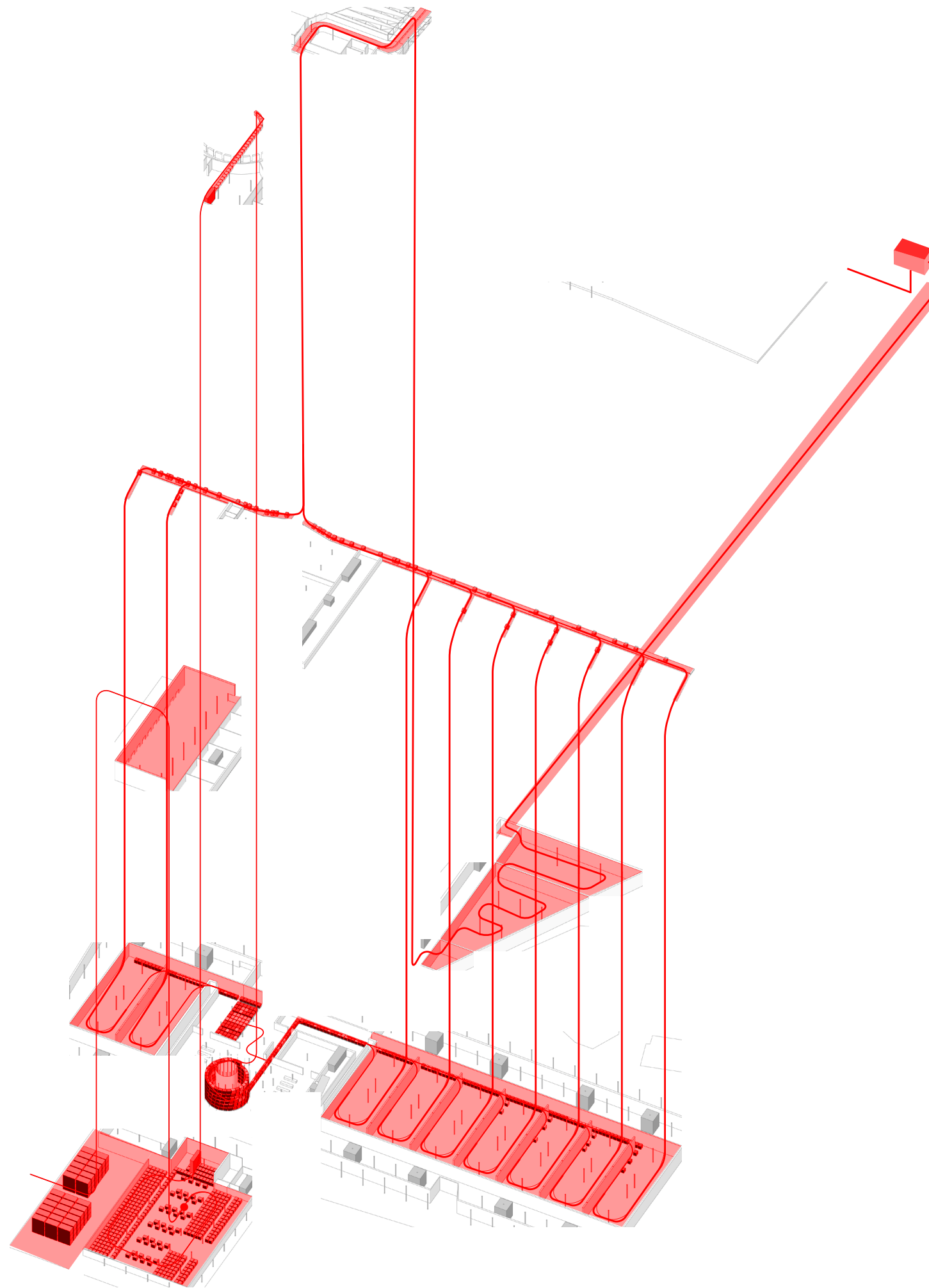
SAFE NET FOR RECYCLING



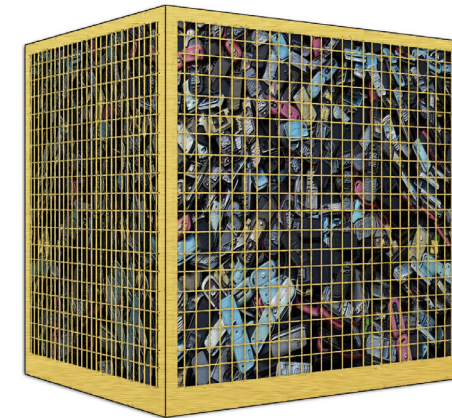
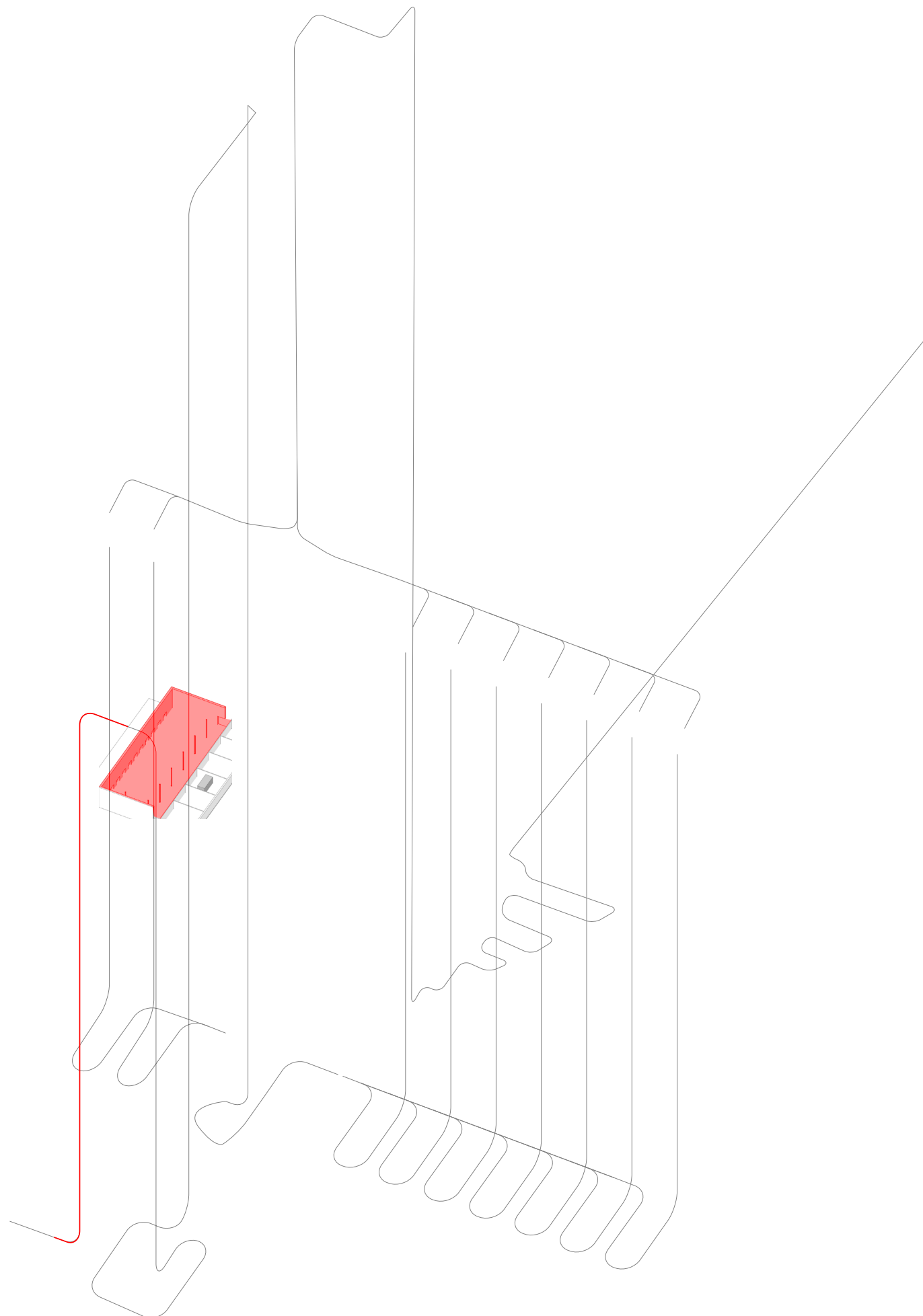
FUNCTION OF DISMANTLE FACTORY







CLASSIFICATION OF ACTIVITIES



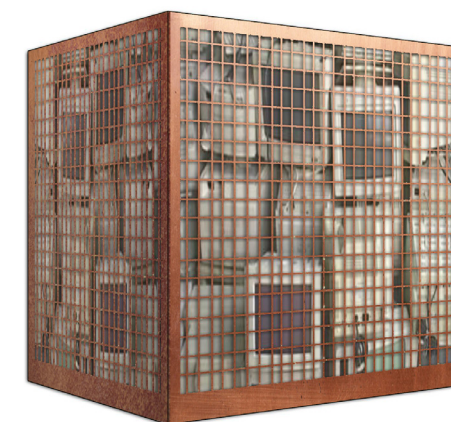
High Quality Electronic Waste ++

Cell Phone
LCD Monitor
Repairable Goods
...



Medium Quality Electronic Waste +/-

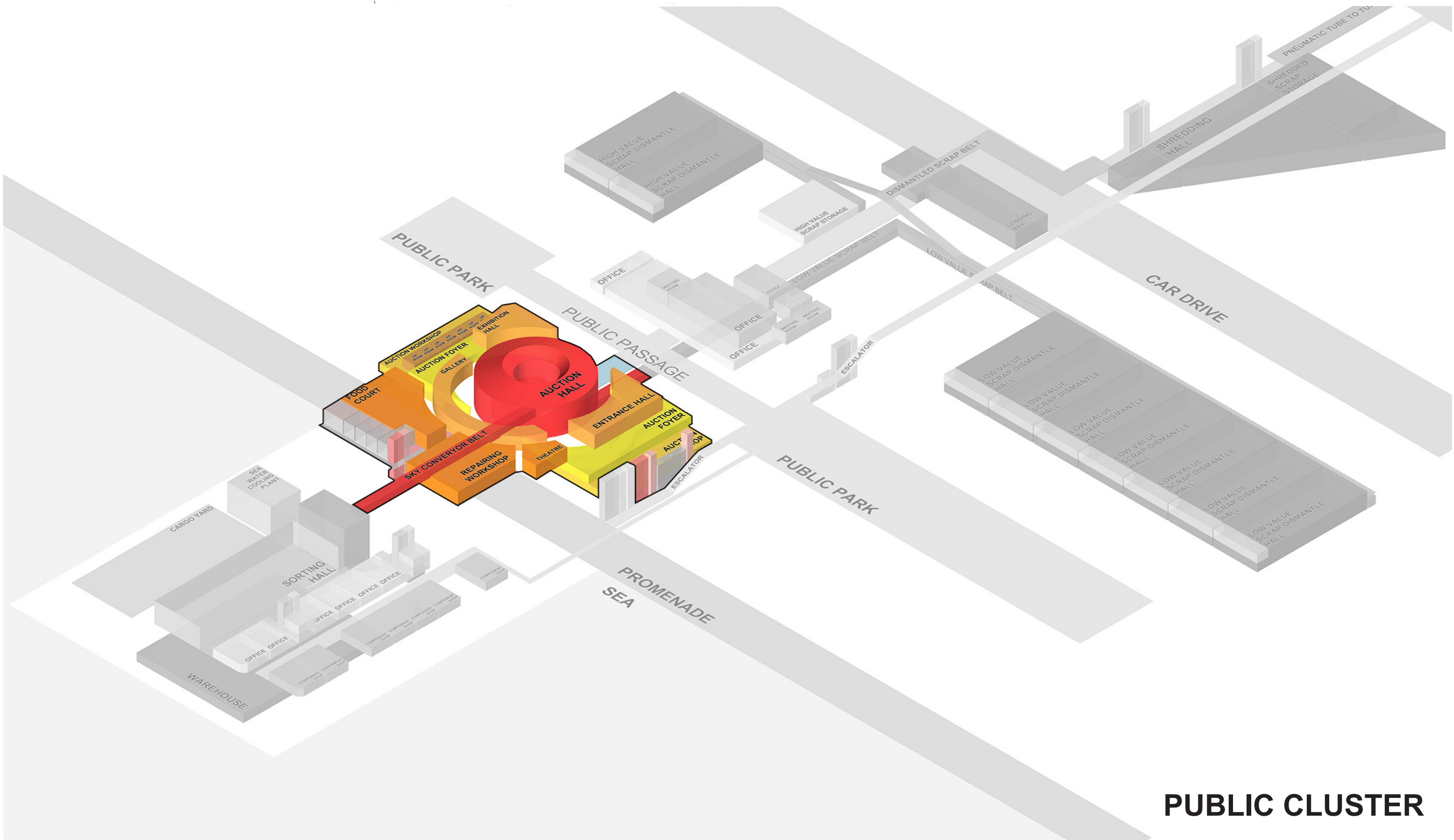
Printers
Computers
Rice Cookers
...



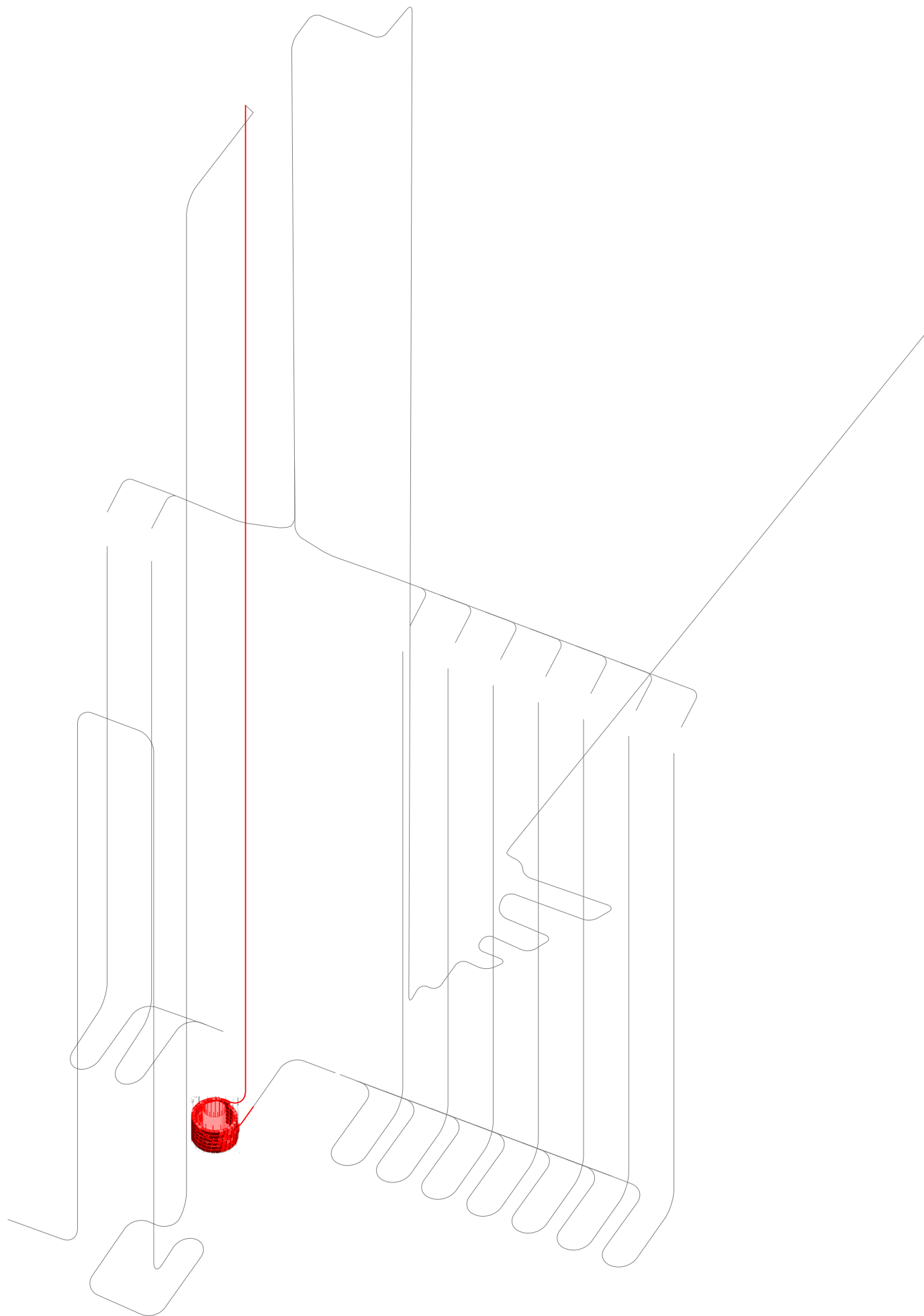
Low Quality Electronic Waste - -

CRT Monitors
Laser Printers
...

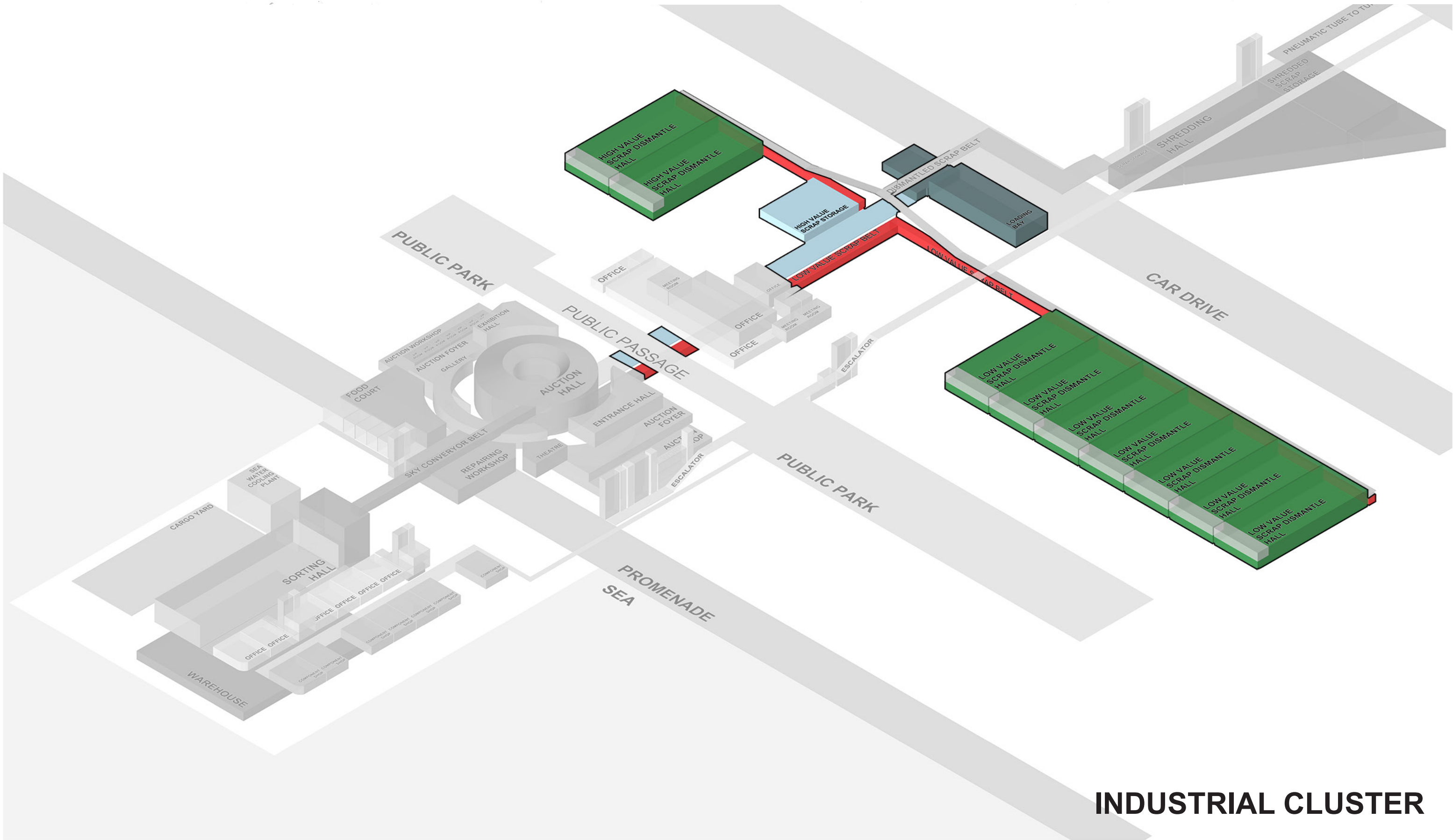
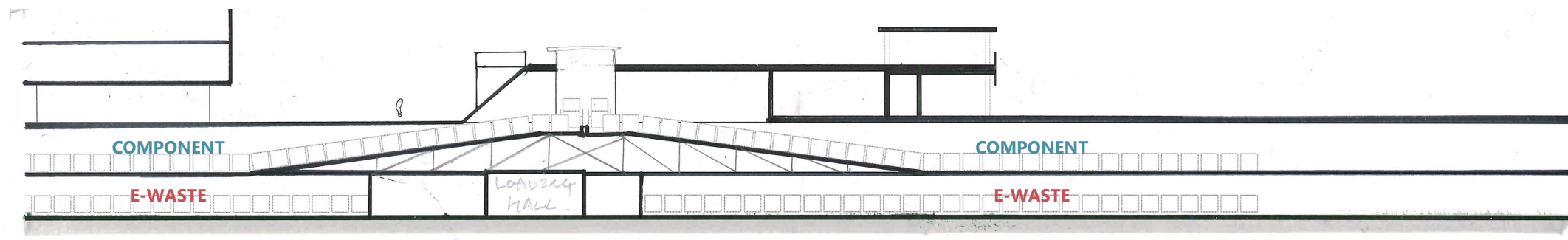
UNLOADING AND SORTING



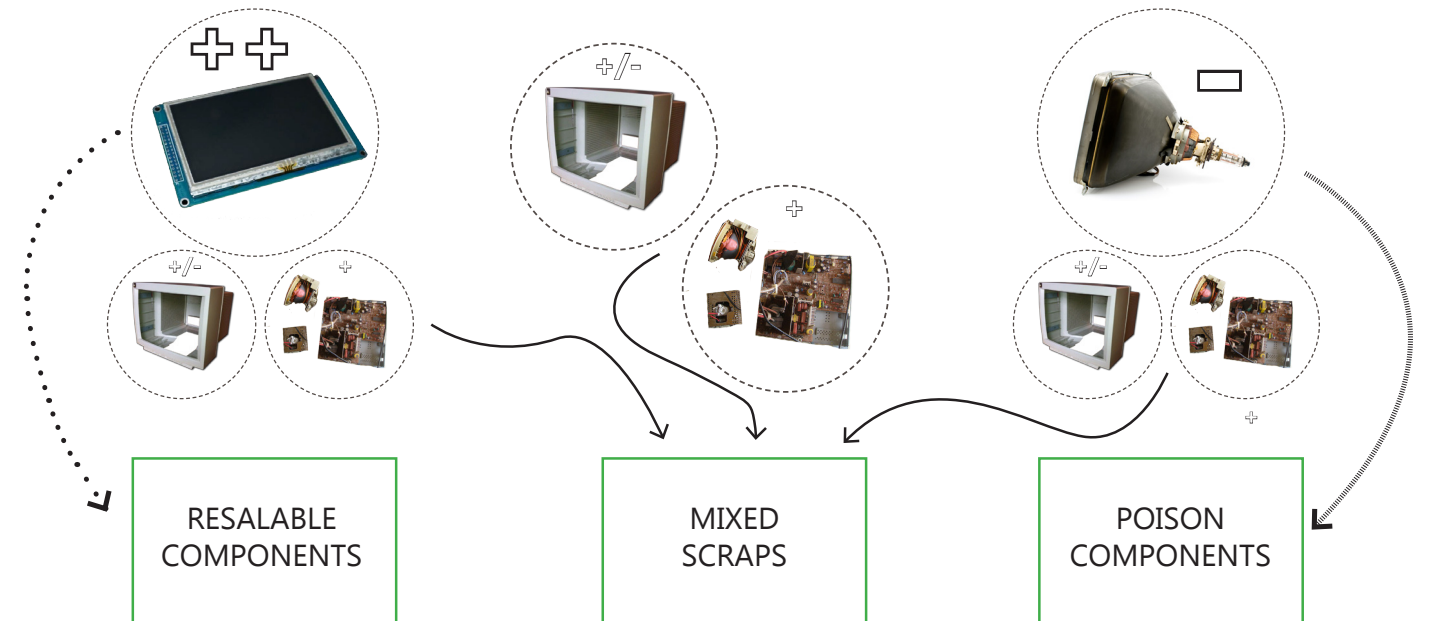
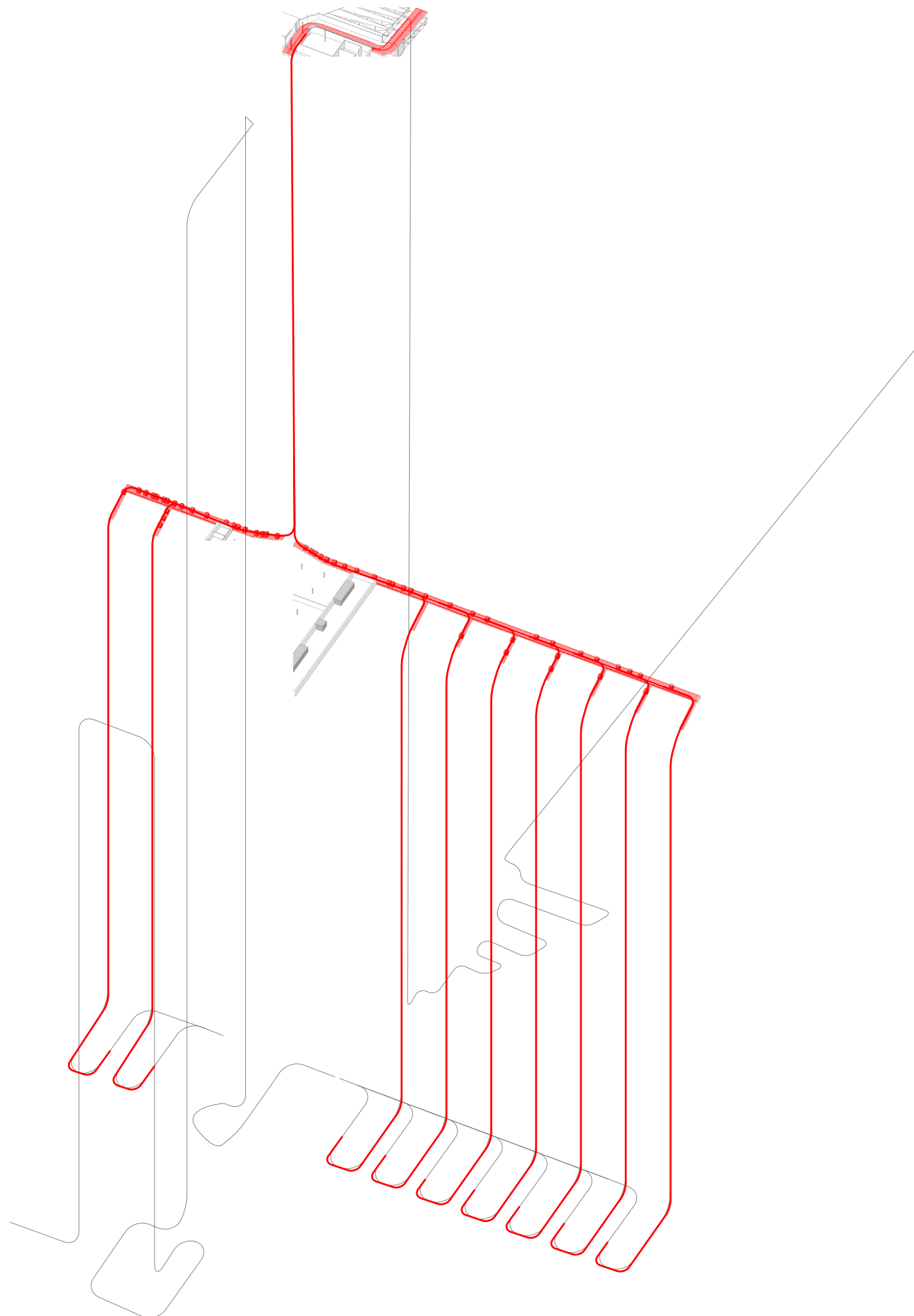
PUBLIC CLUSTER



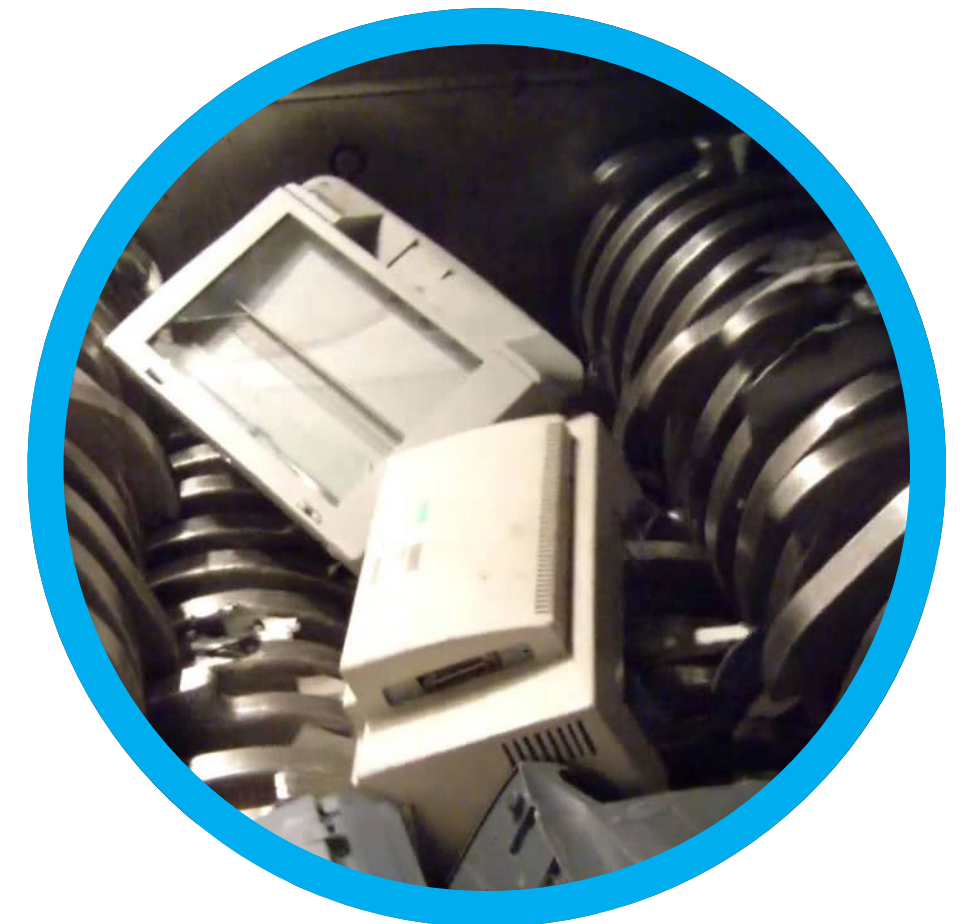
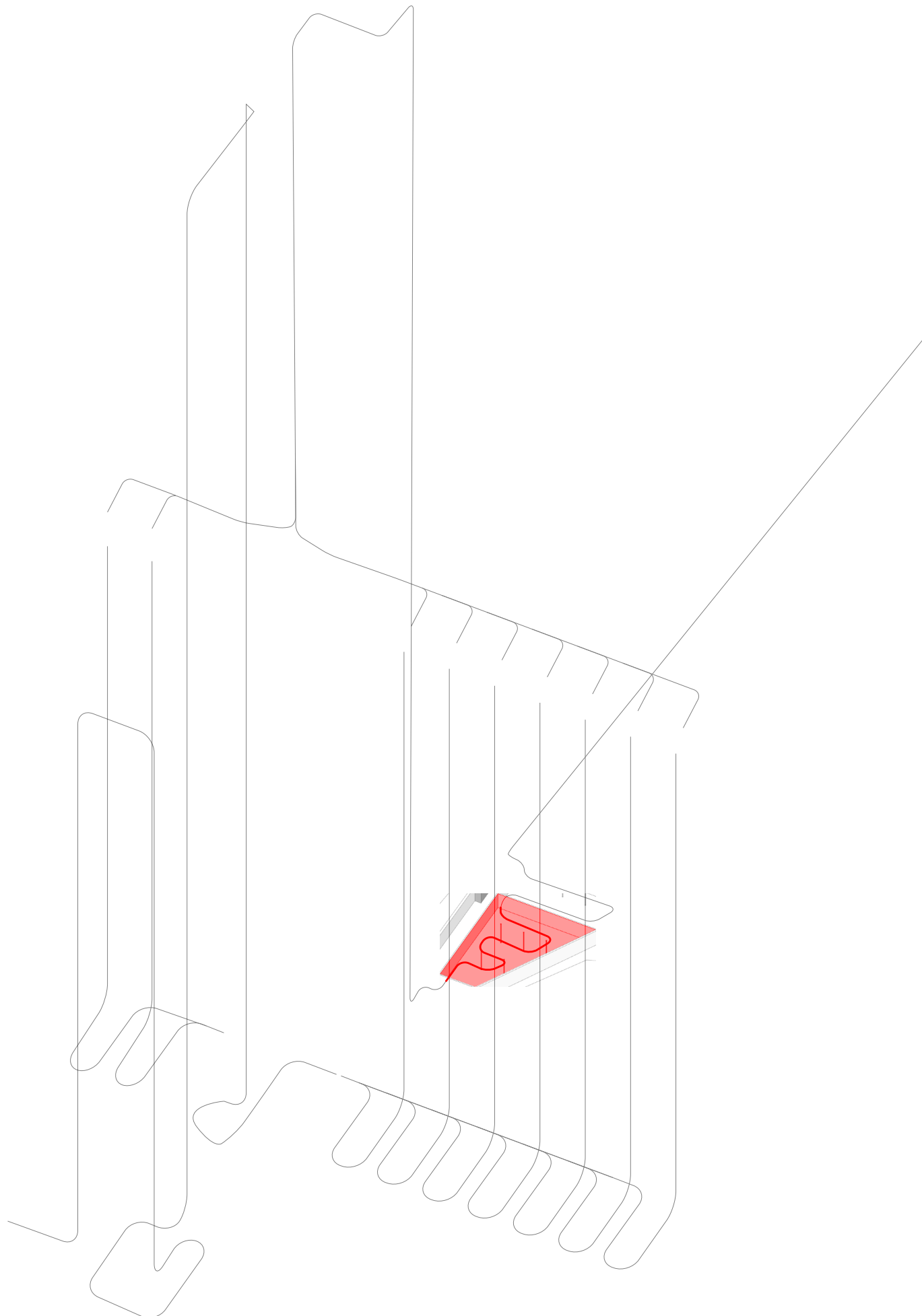
AUCTION DISPLAY



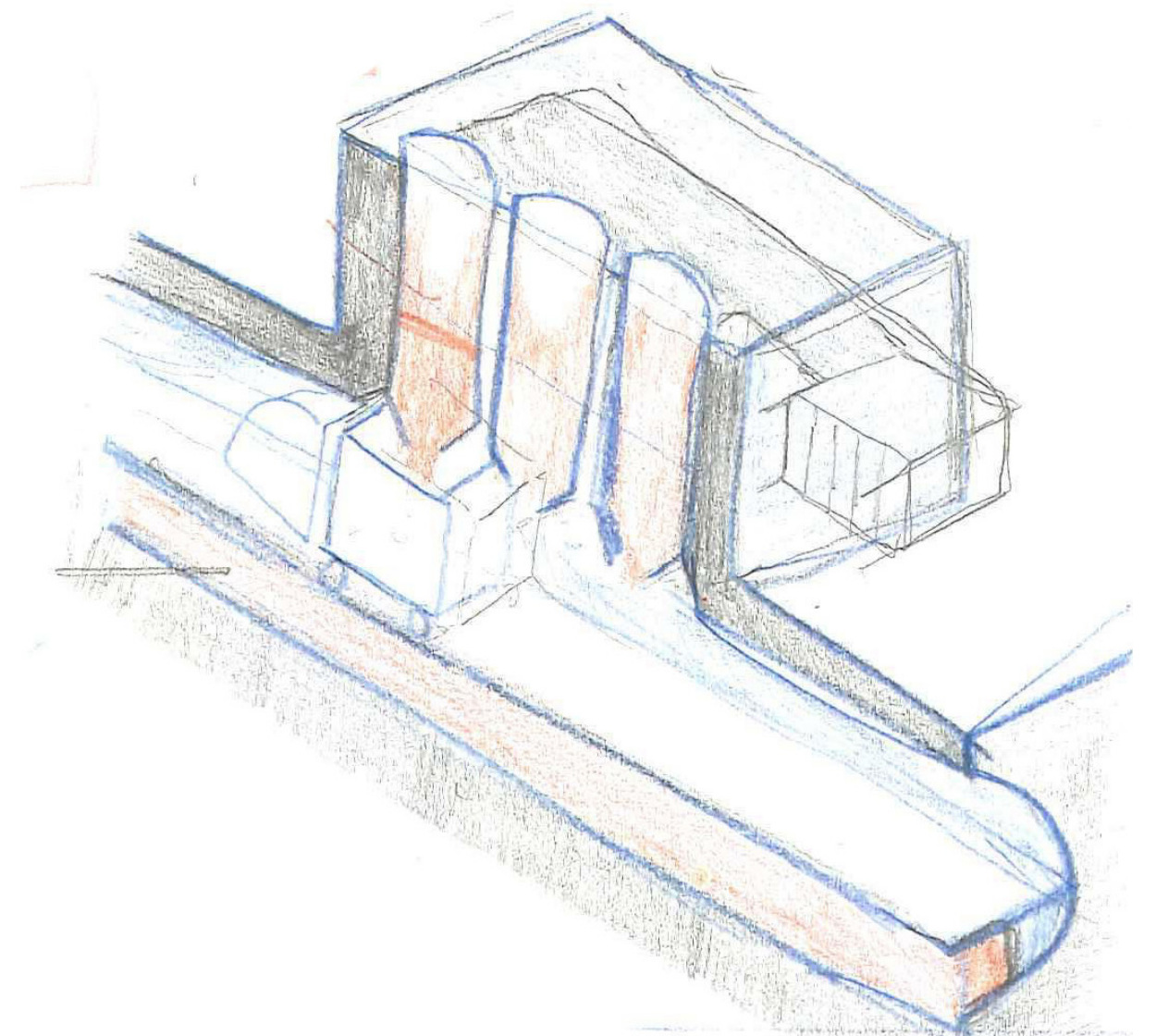
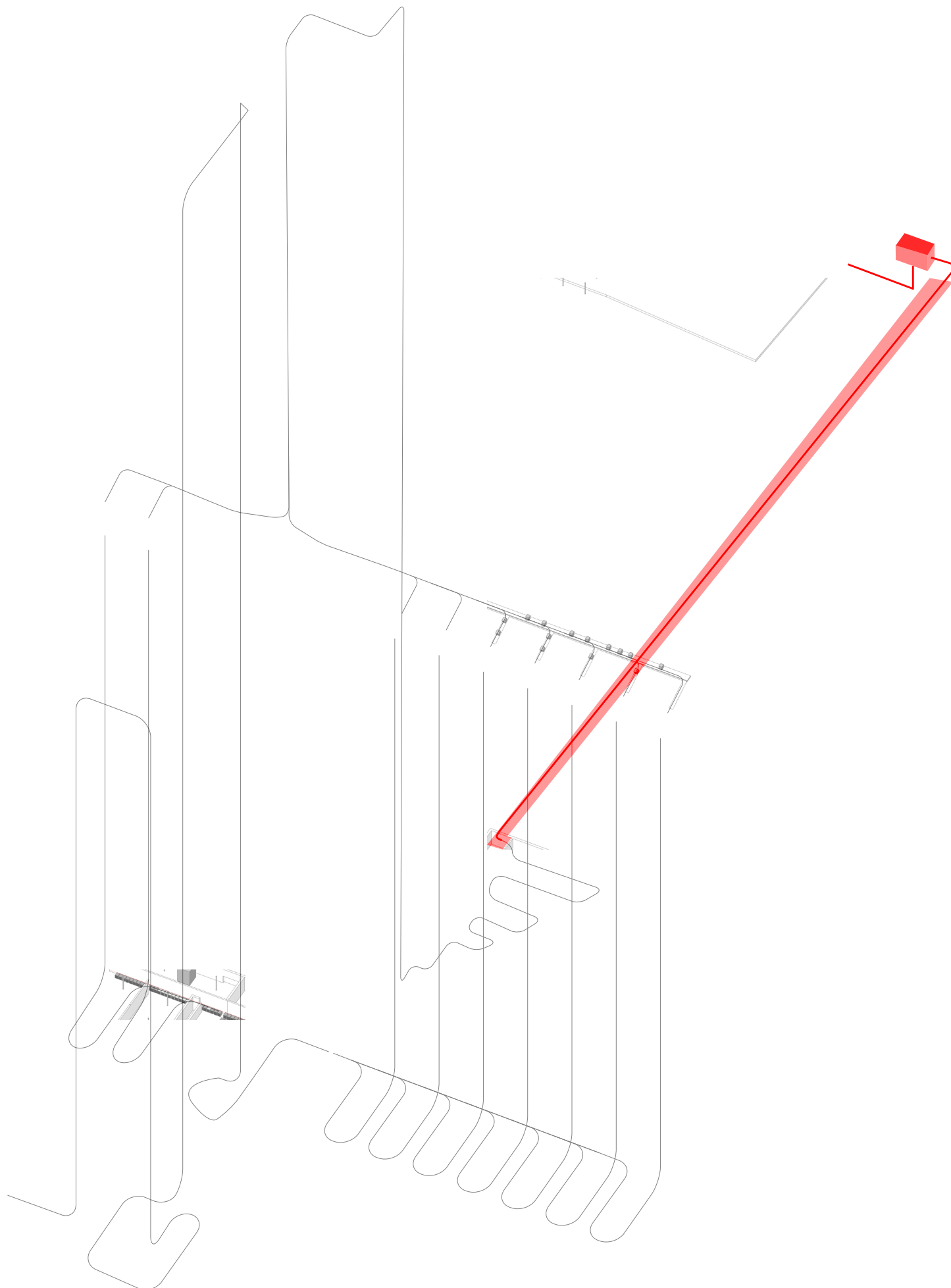
INDUSTRIAL CLUSTER



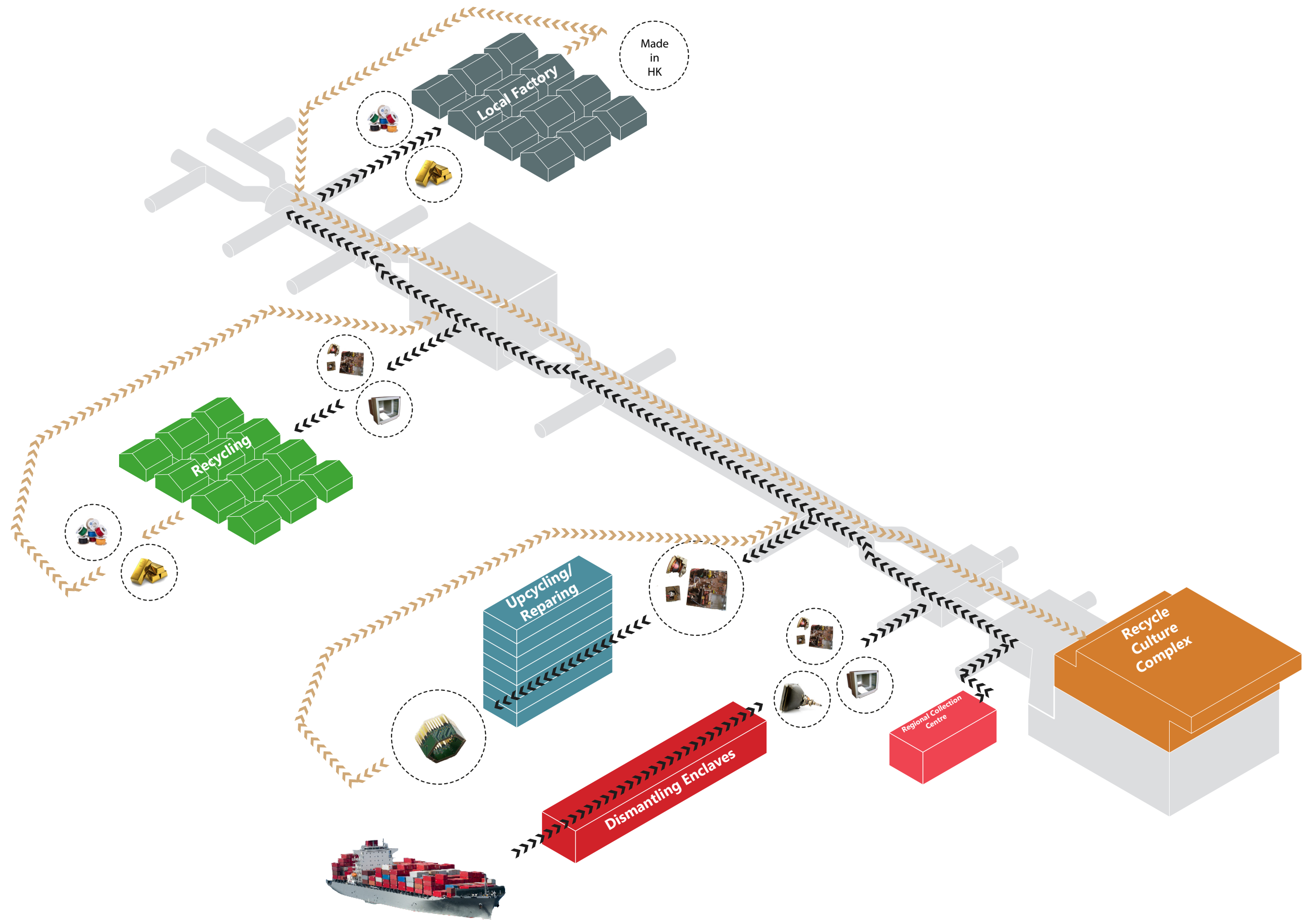
DISMANTLING PROCEDURE



SHREDDING FACTORY

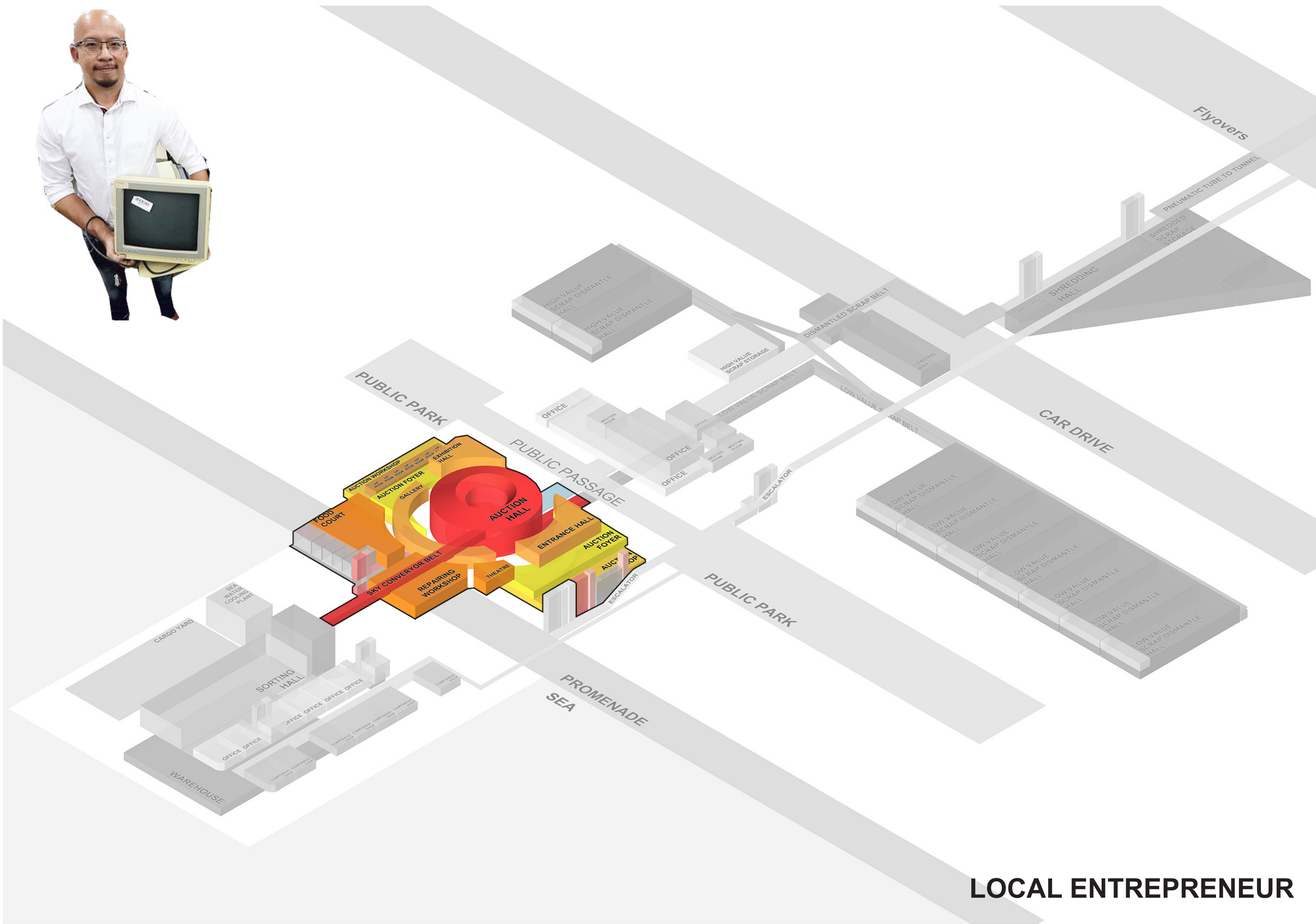


SILO FILLING CARGO TRAIN

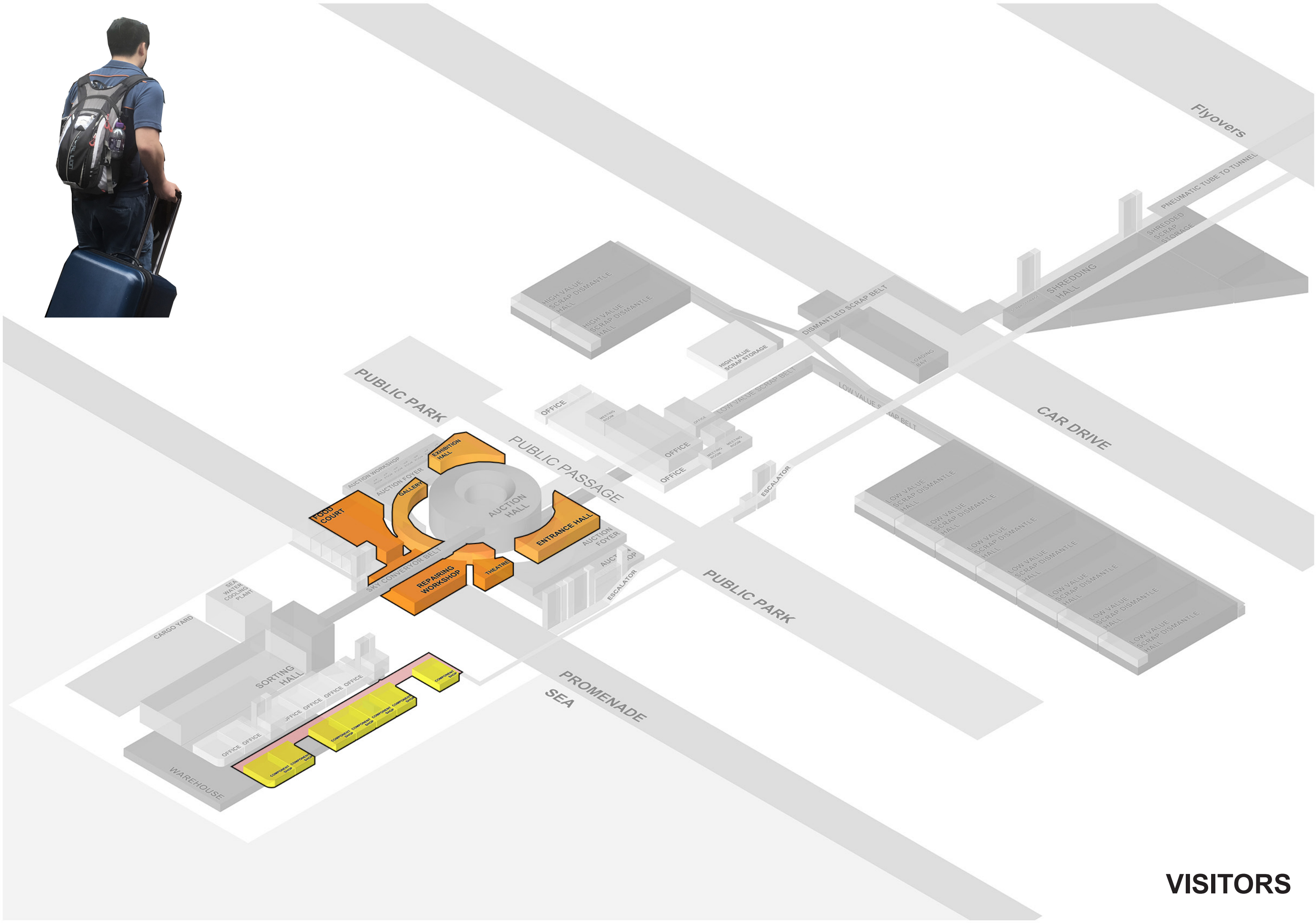


COUNTINUING IN THE BELT

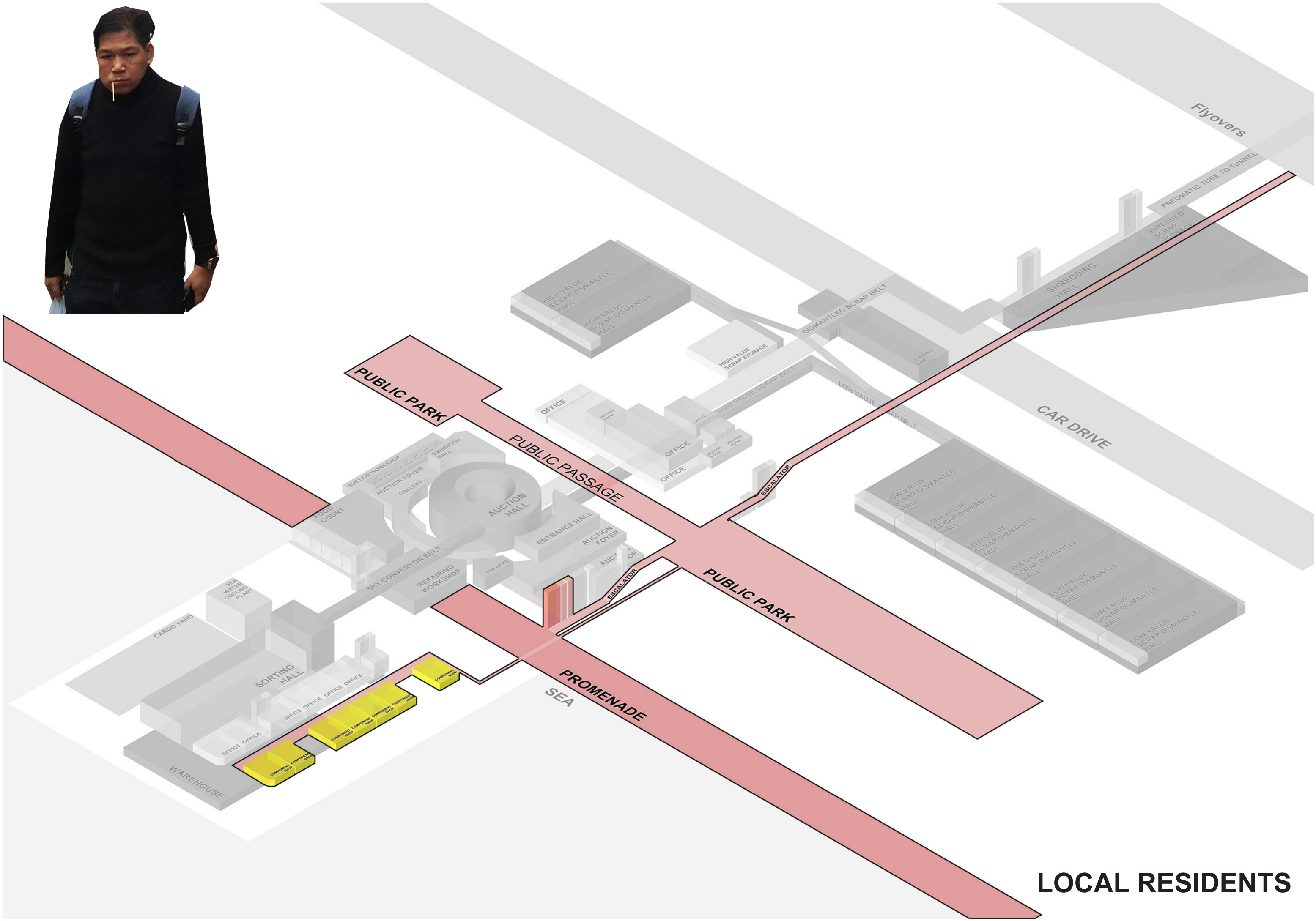
PUBLIC REALM



LOCAL ENTREPRENEUR



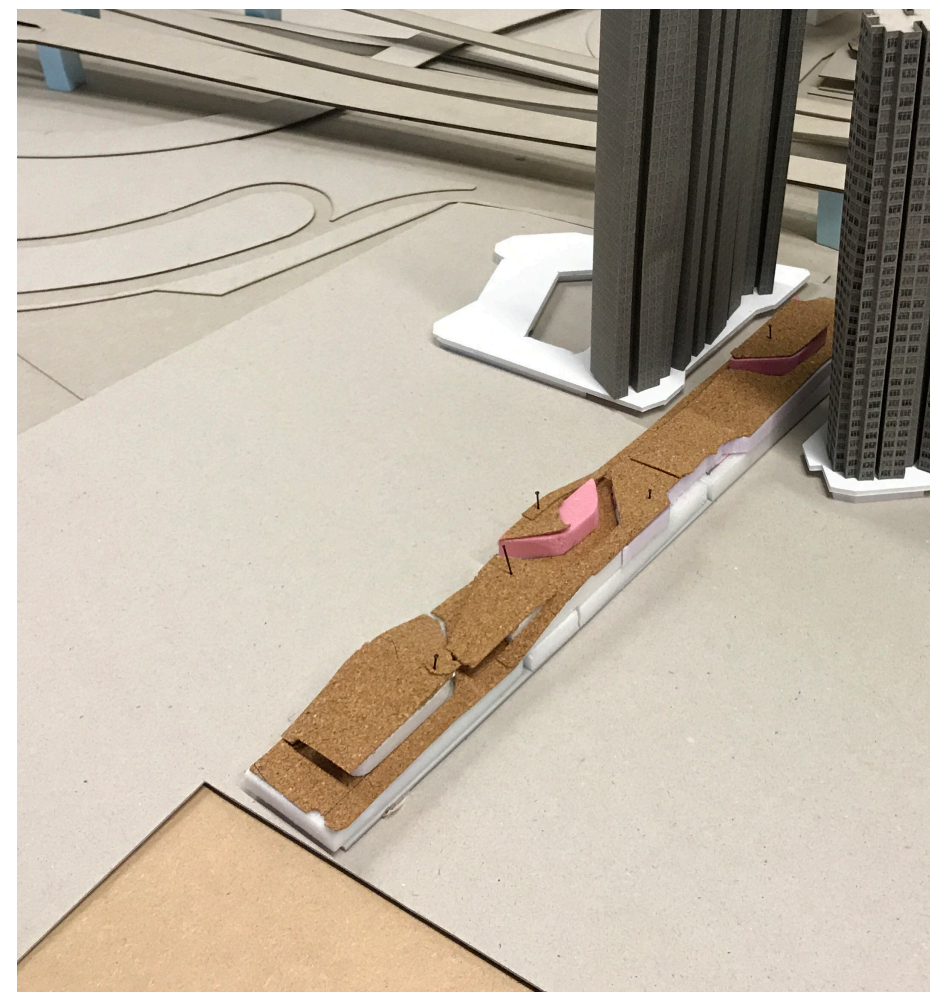
VISITORS



LOCAL RESIDENTS

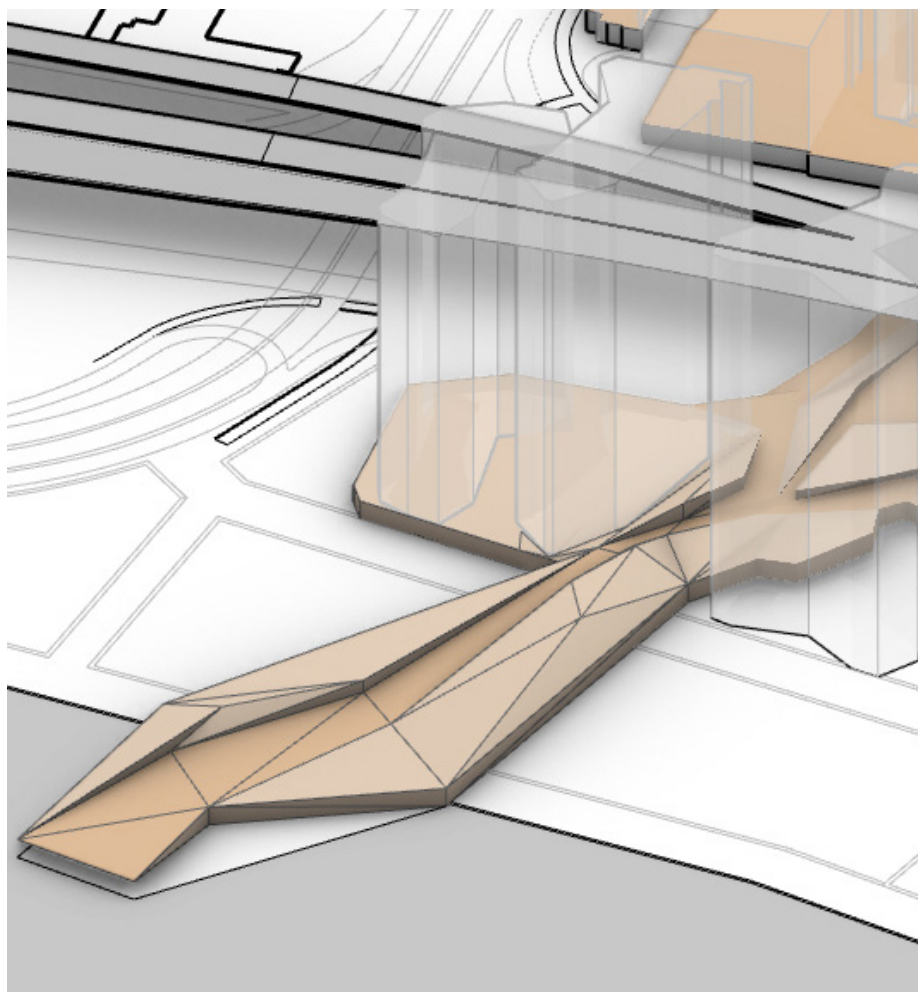
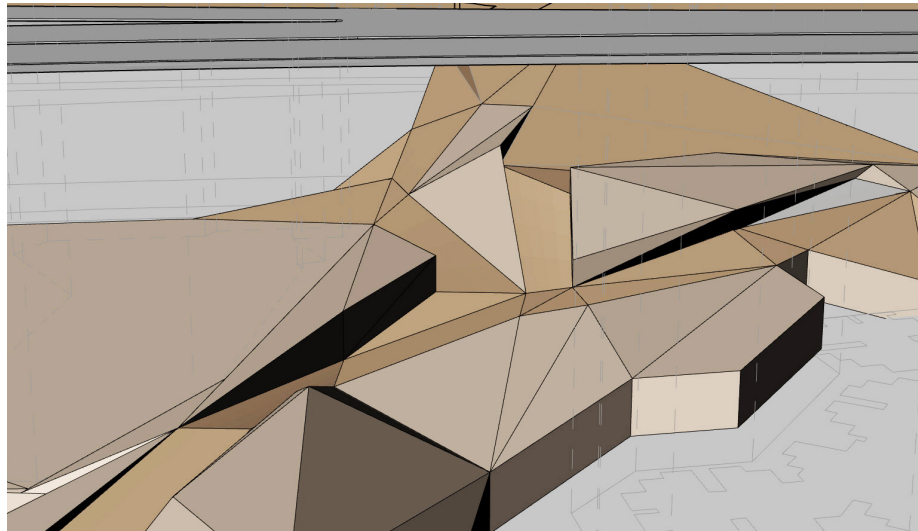


DESIGN



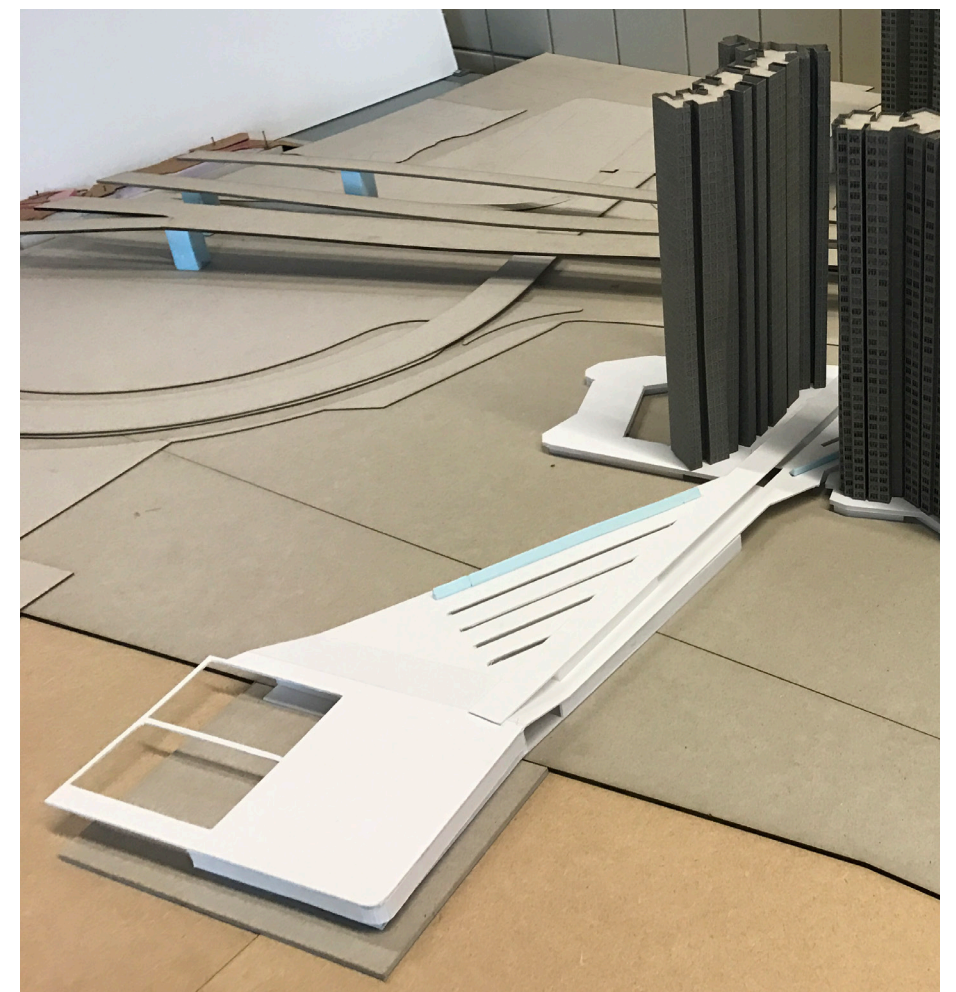
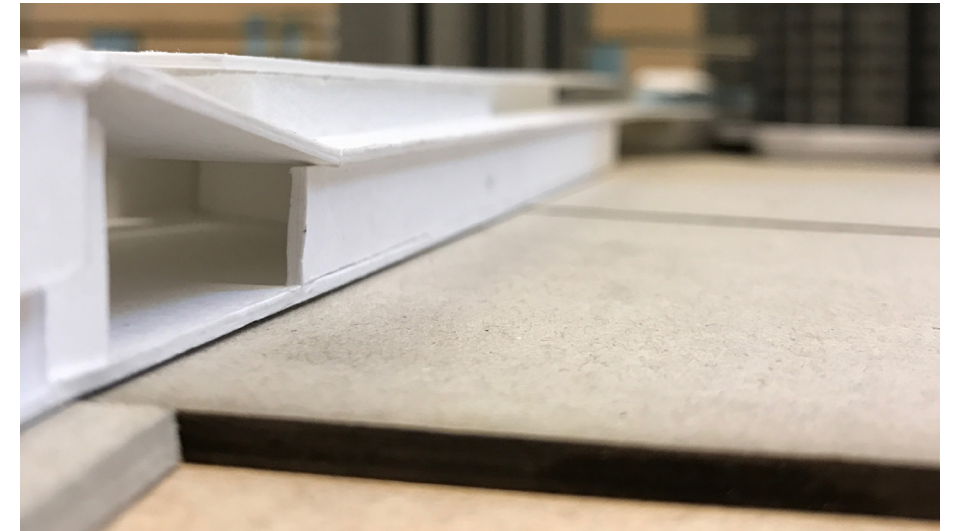
OPTION A - FACTORY + DECK

The factory and public realm is separated as two levels, public realm function acts as pavilion on the deck landscape.



OPTION B - FACTORY/DECK AS A VOLUME

Factory and the Public Realm are considered as one Monolithic volume, shaped by parametric polygon to form a Landscape building.

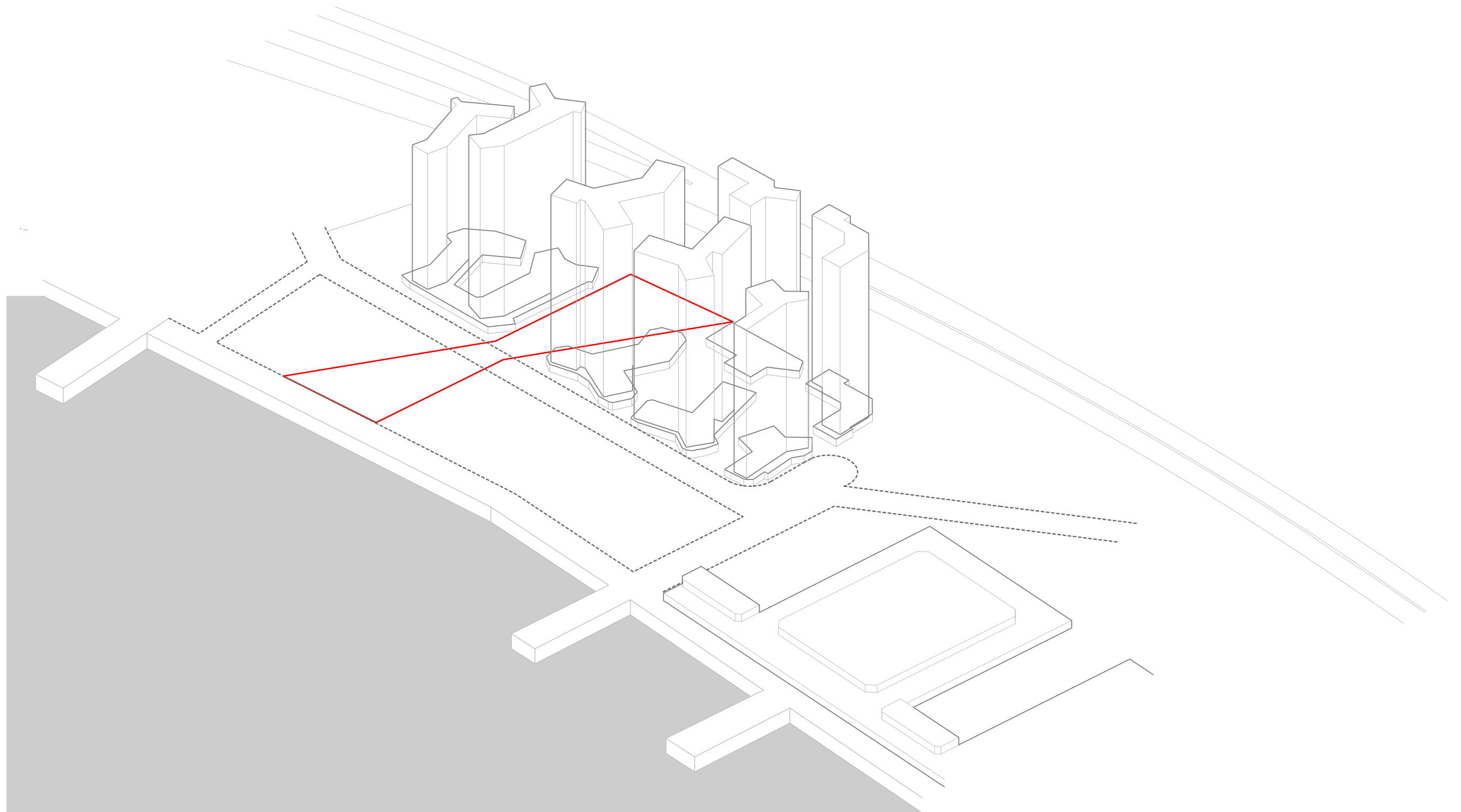


OPTION C - BUILDING REACT WITH SURROUNDING

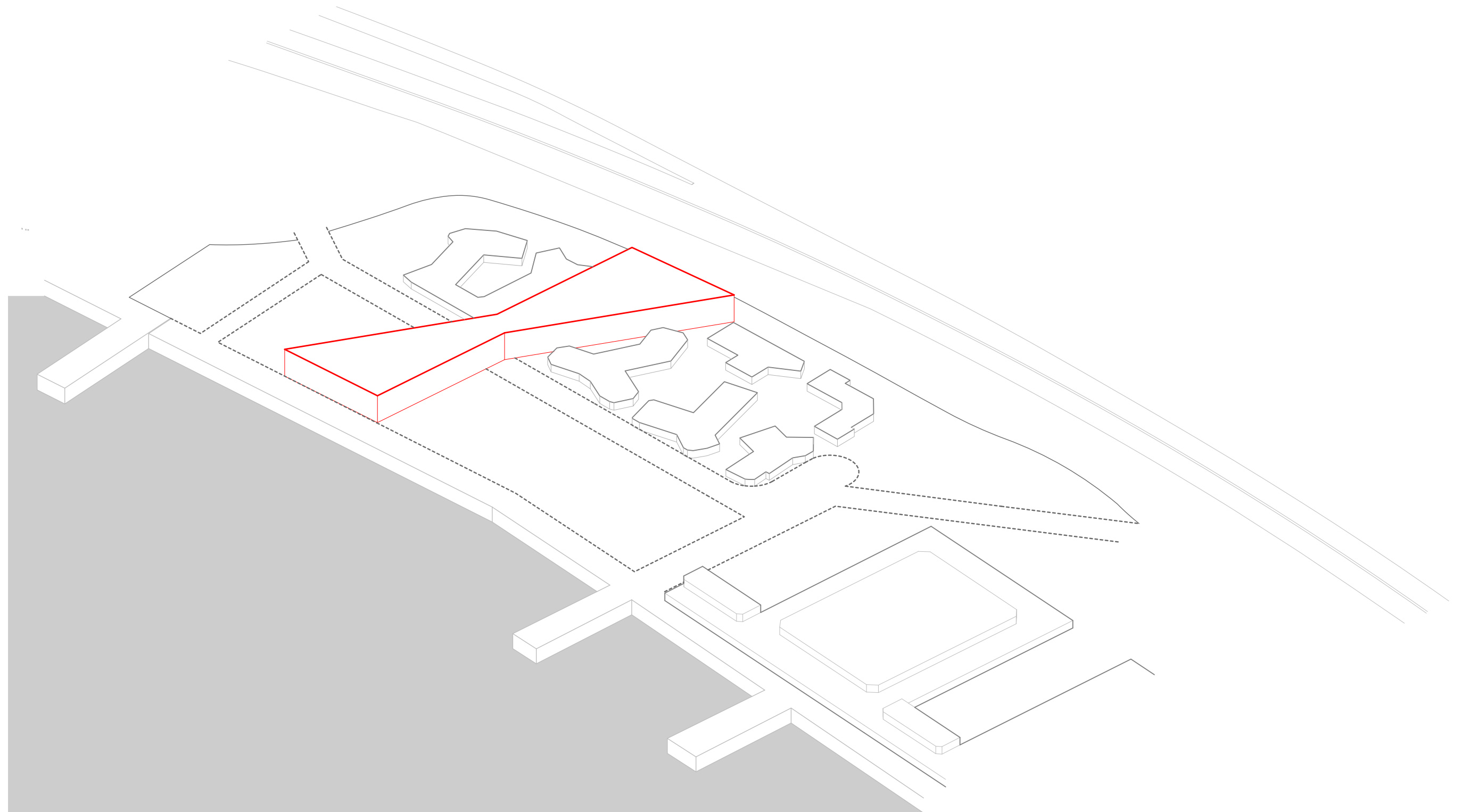
The Public realm and factory is mixed in different sections to allow interaction between manufacturing lines and public visiting and even Auction.

The building as a volume interact with the Neighbouring building with local strategy

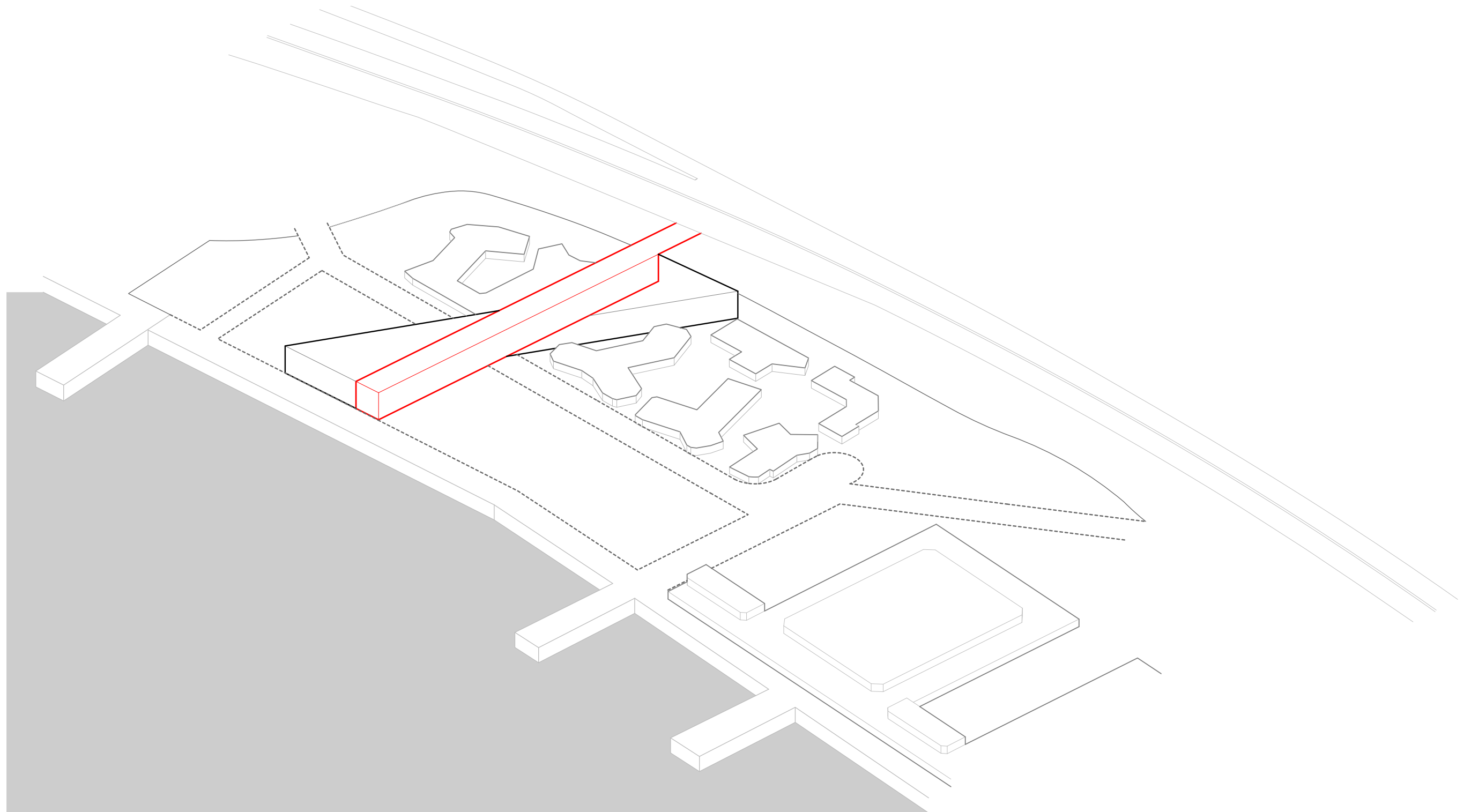
DESIGN STUDY



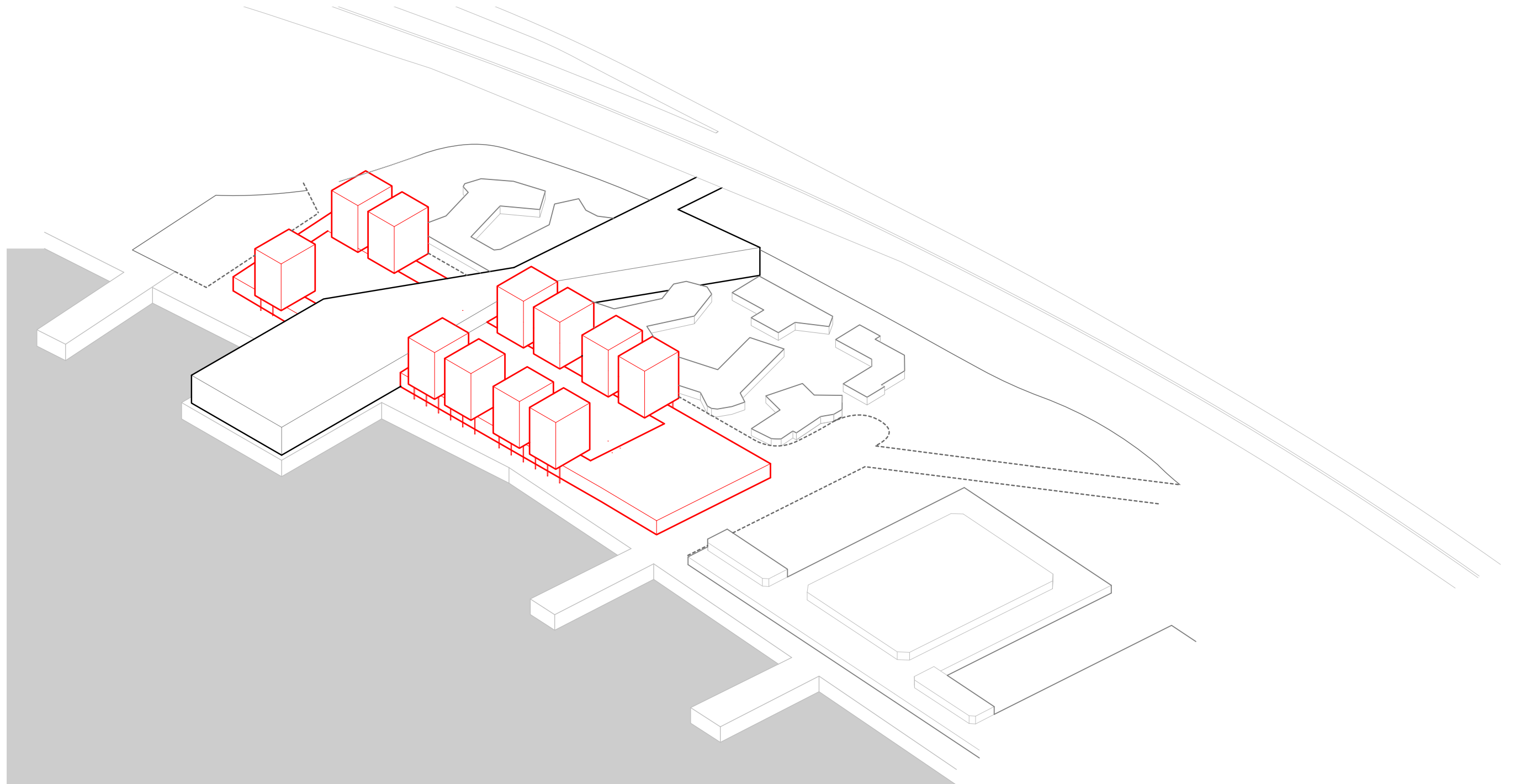
PLOT PLANNED FOR PARK



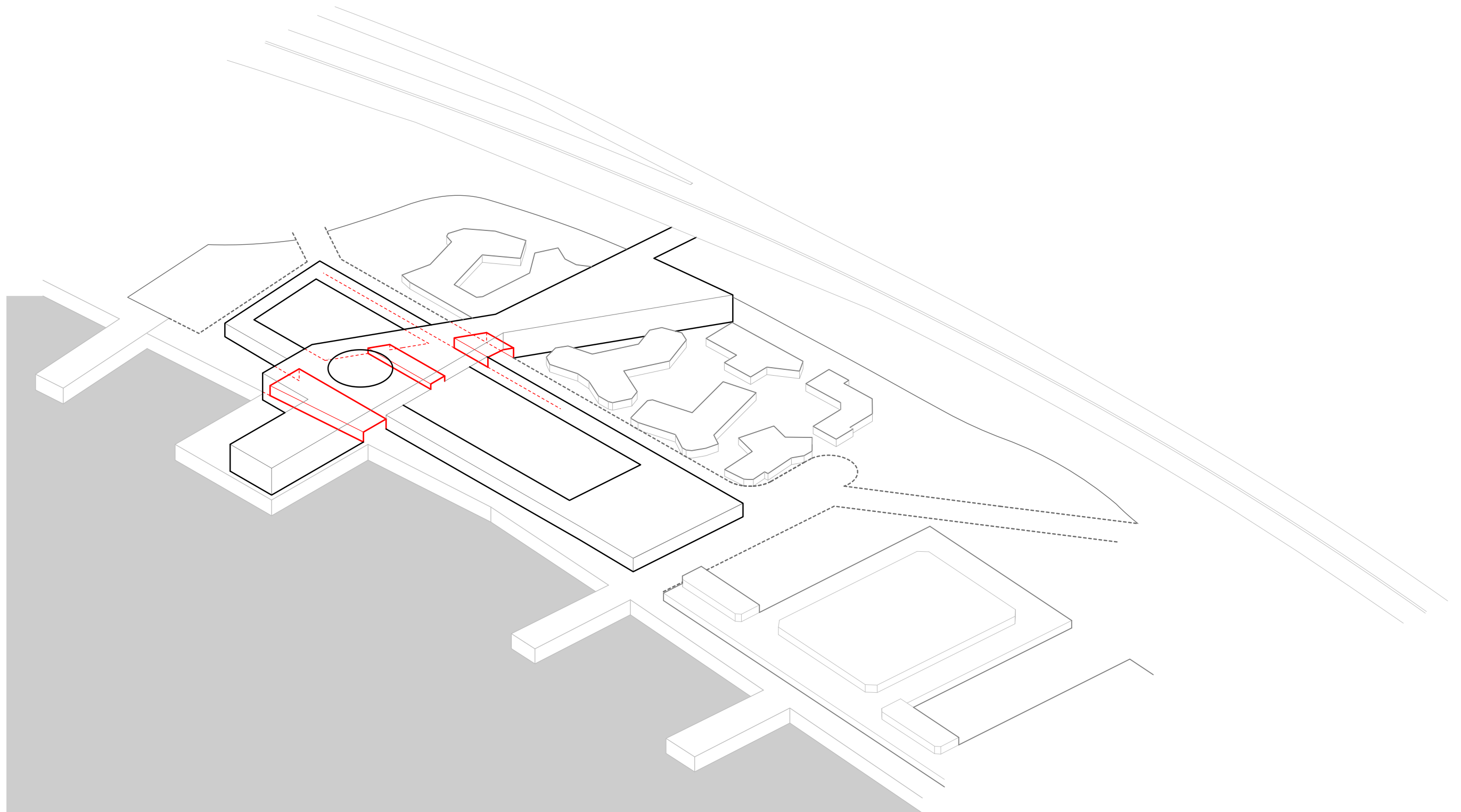
RAISE THE PARK



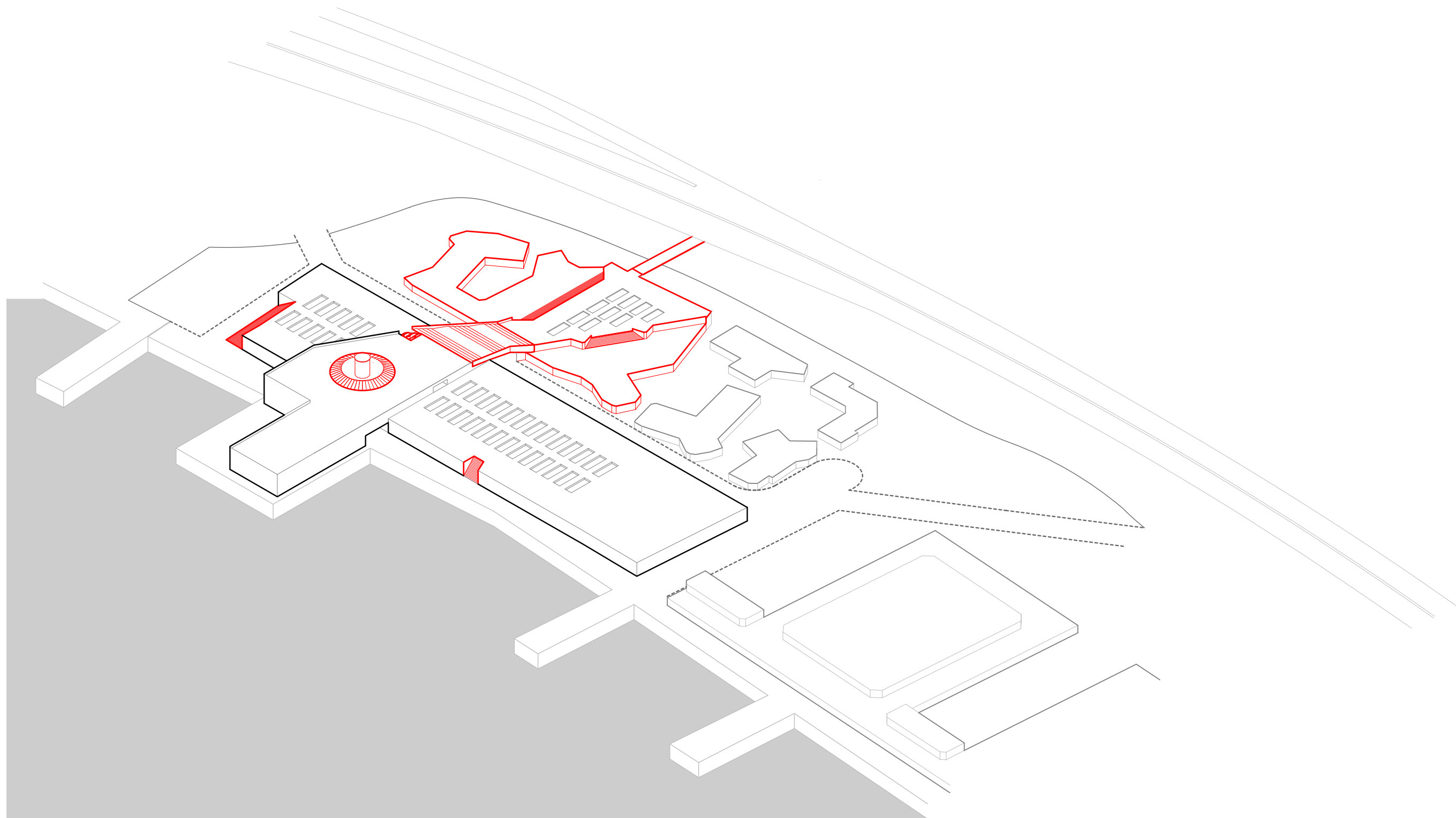
INDUSTRIAL SPLINE

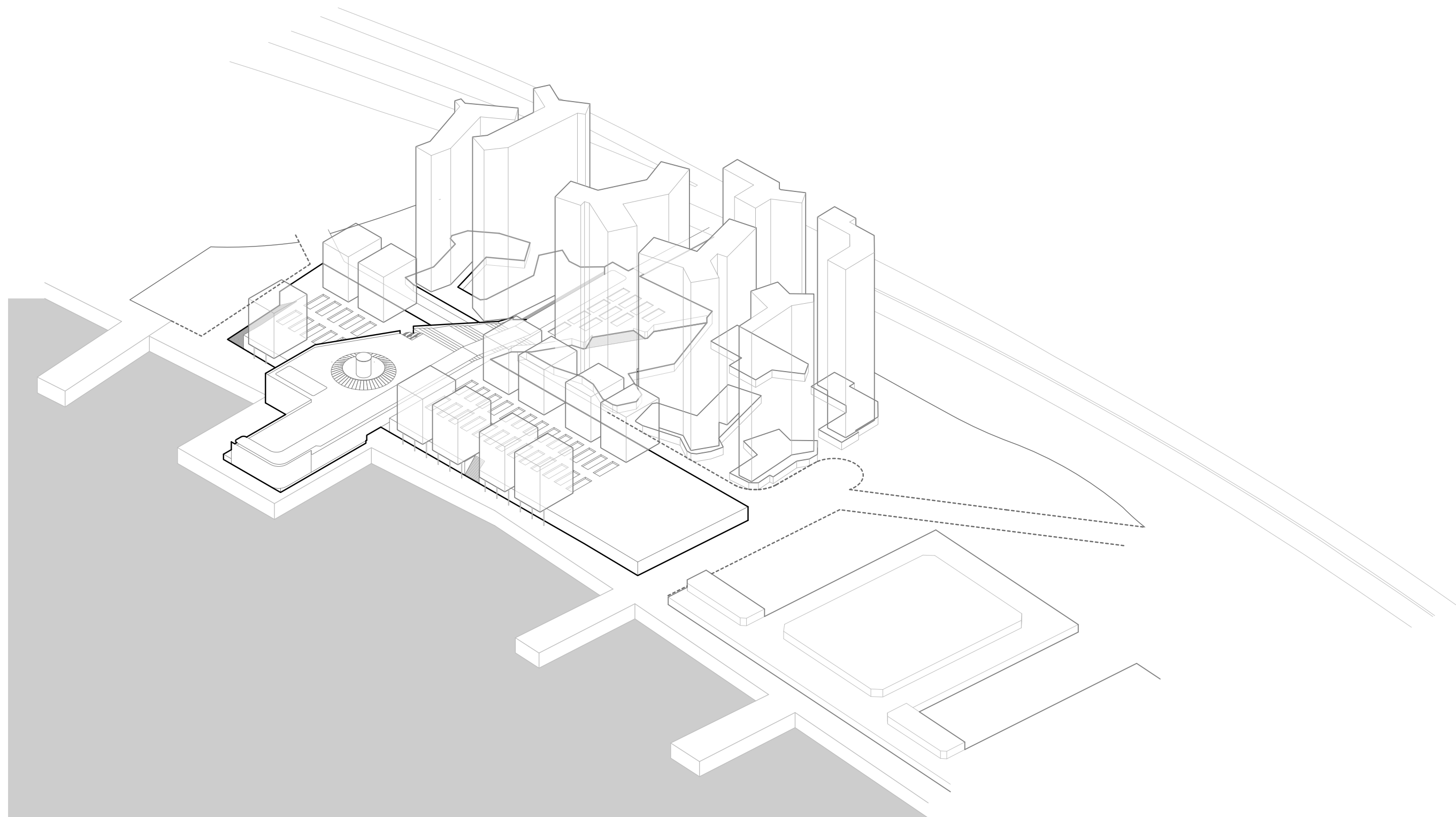


EXTENDING FACTORY SIDEWAYS

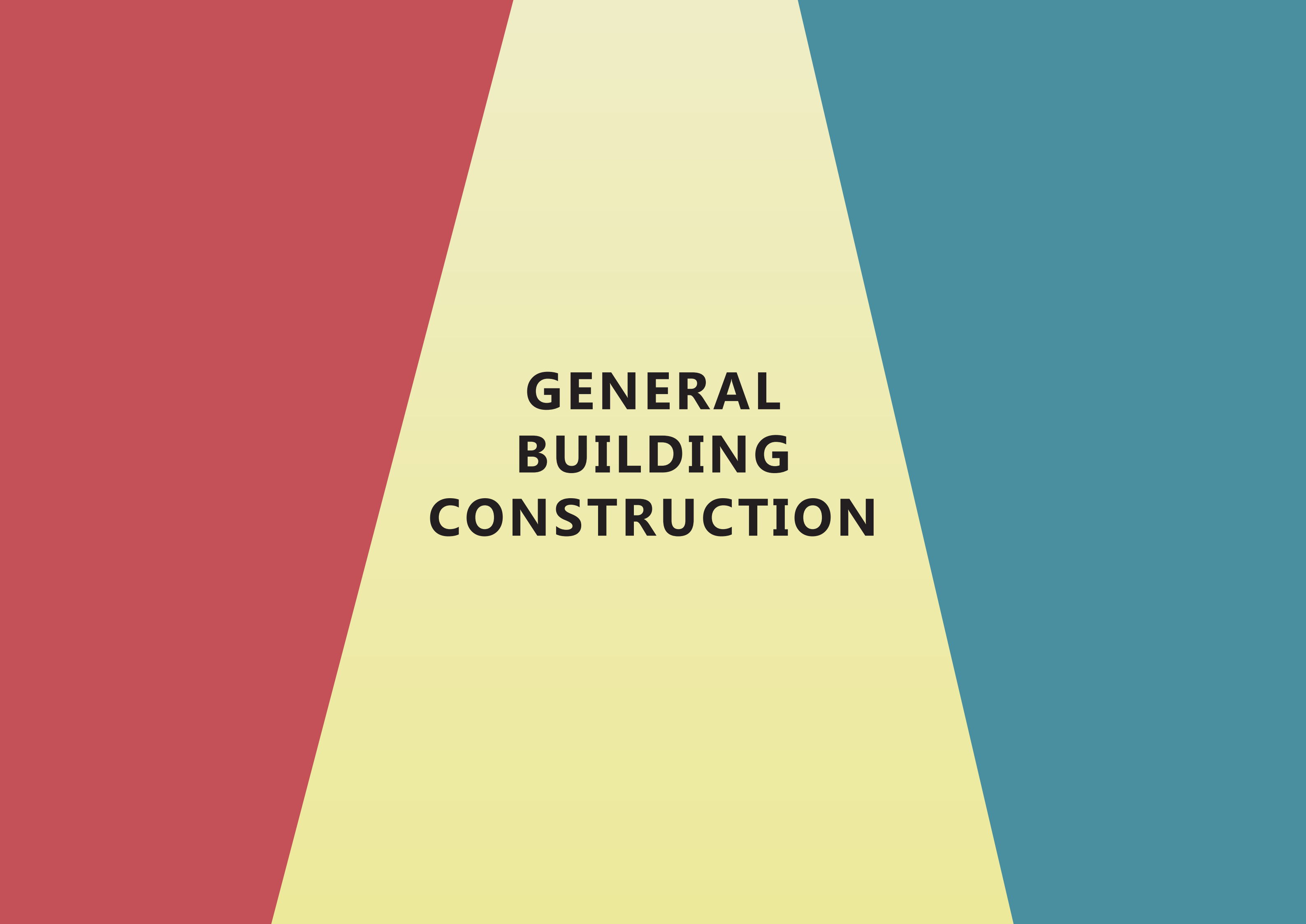


CREATING PUBLIC PASSAGE

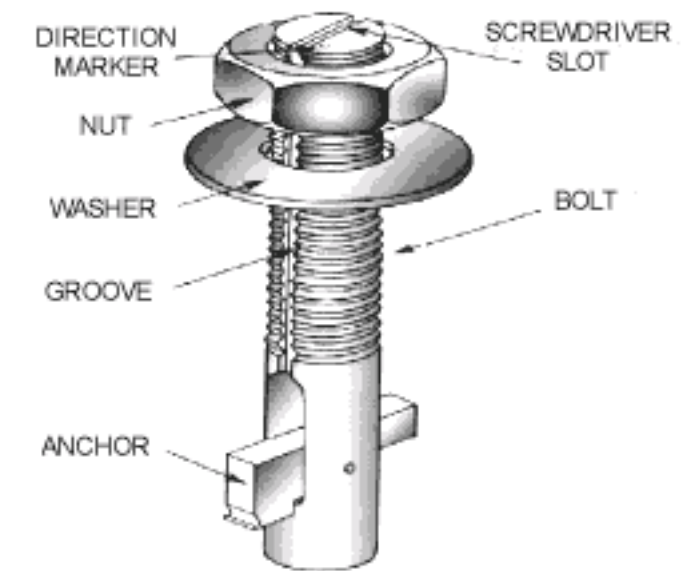
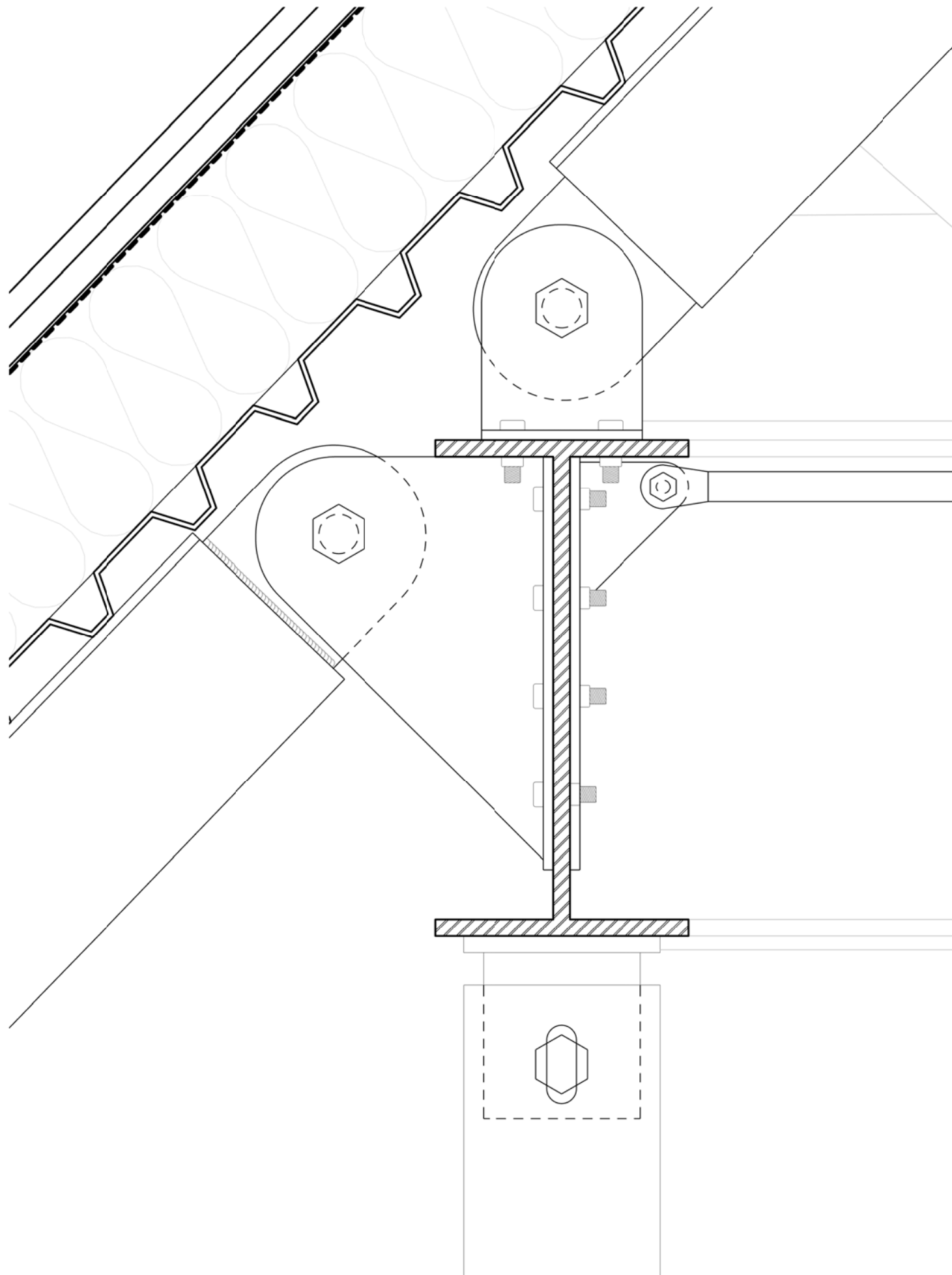




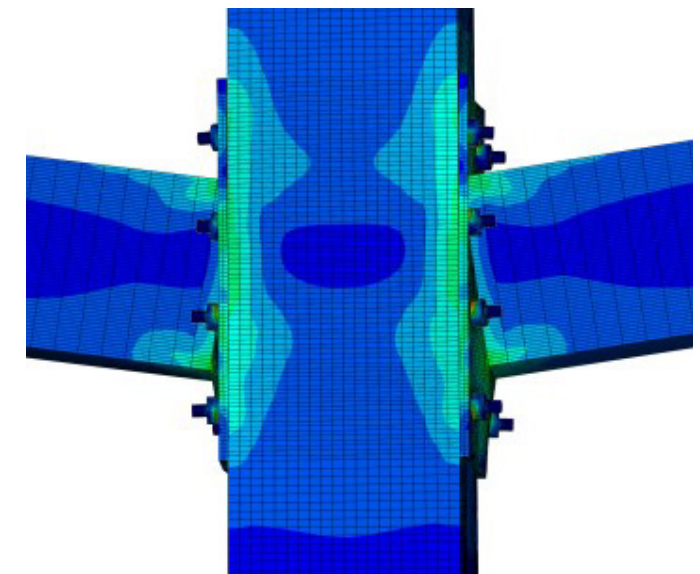
FINAL DESIGN



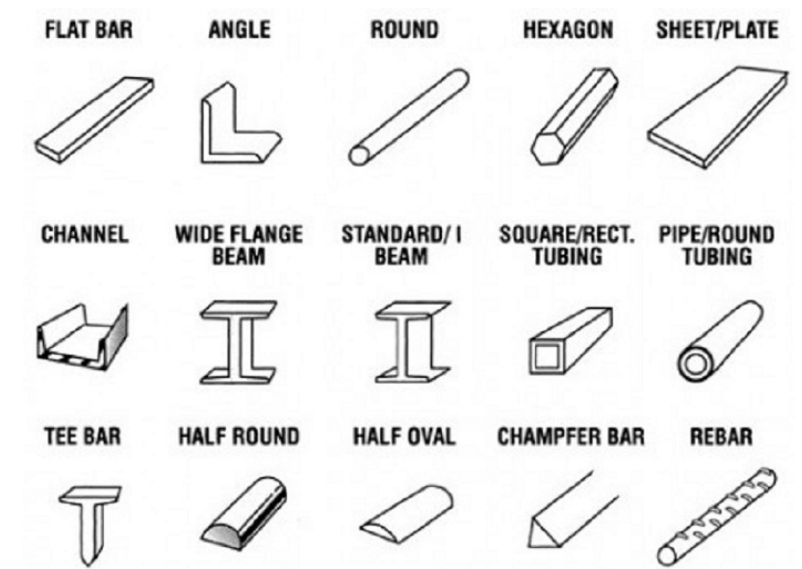
GENERAL BUILDING CONSTRUCTION



Blind Bolt

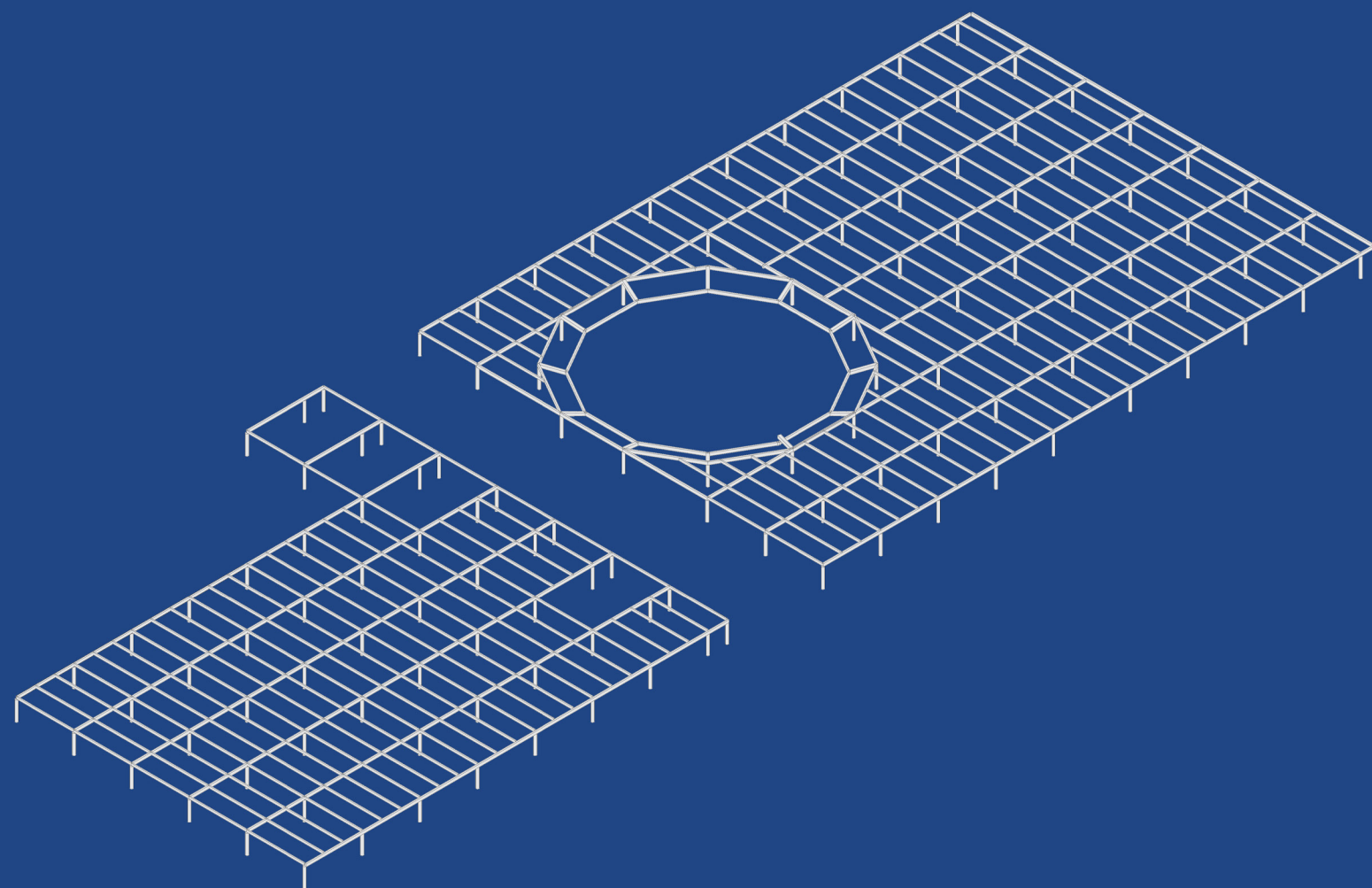


Flush Plate Connection

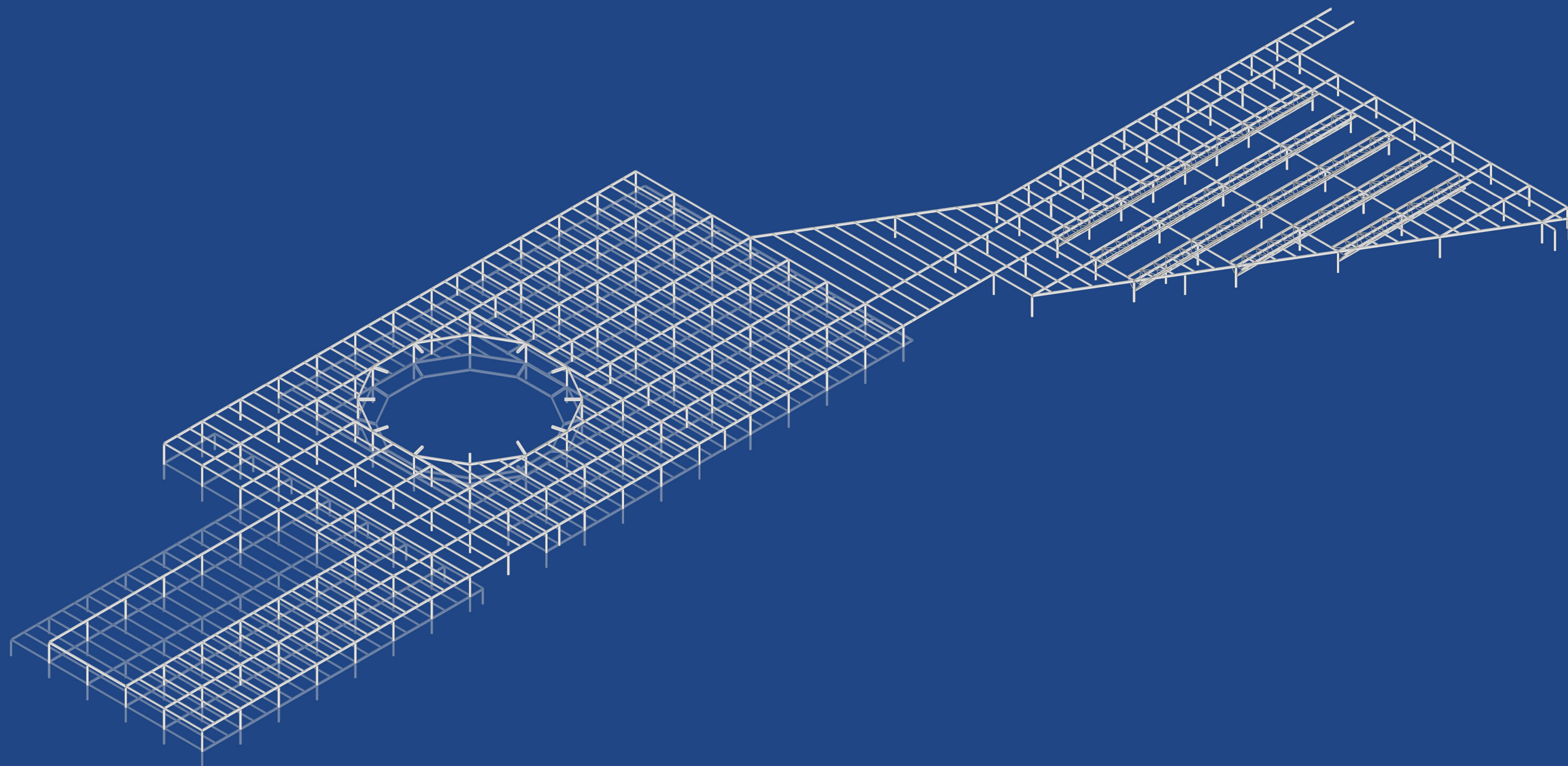


Standard profile

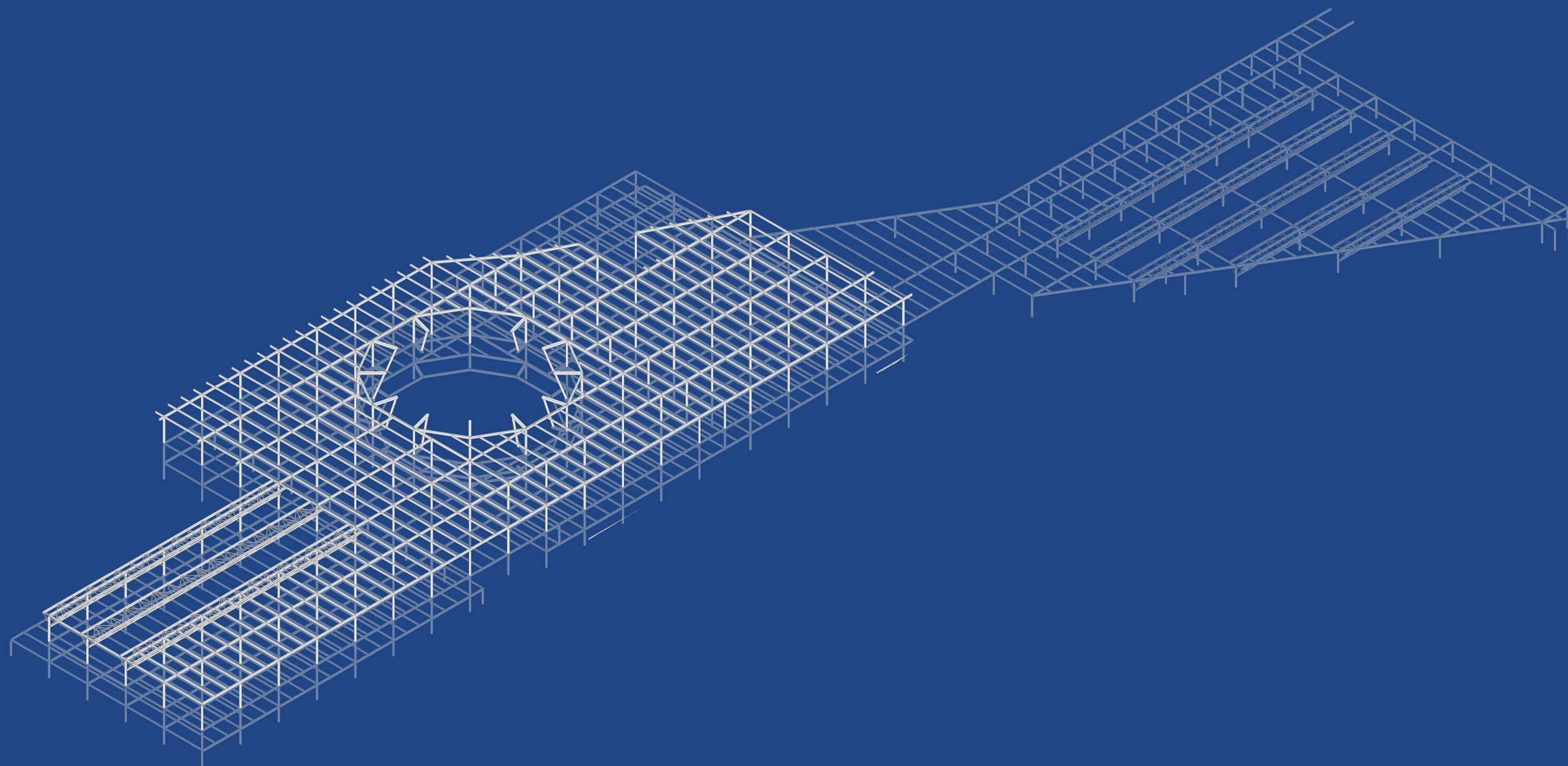
SUSTAINABLE STEEL COMPONENTS



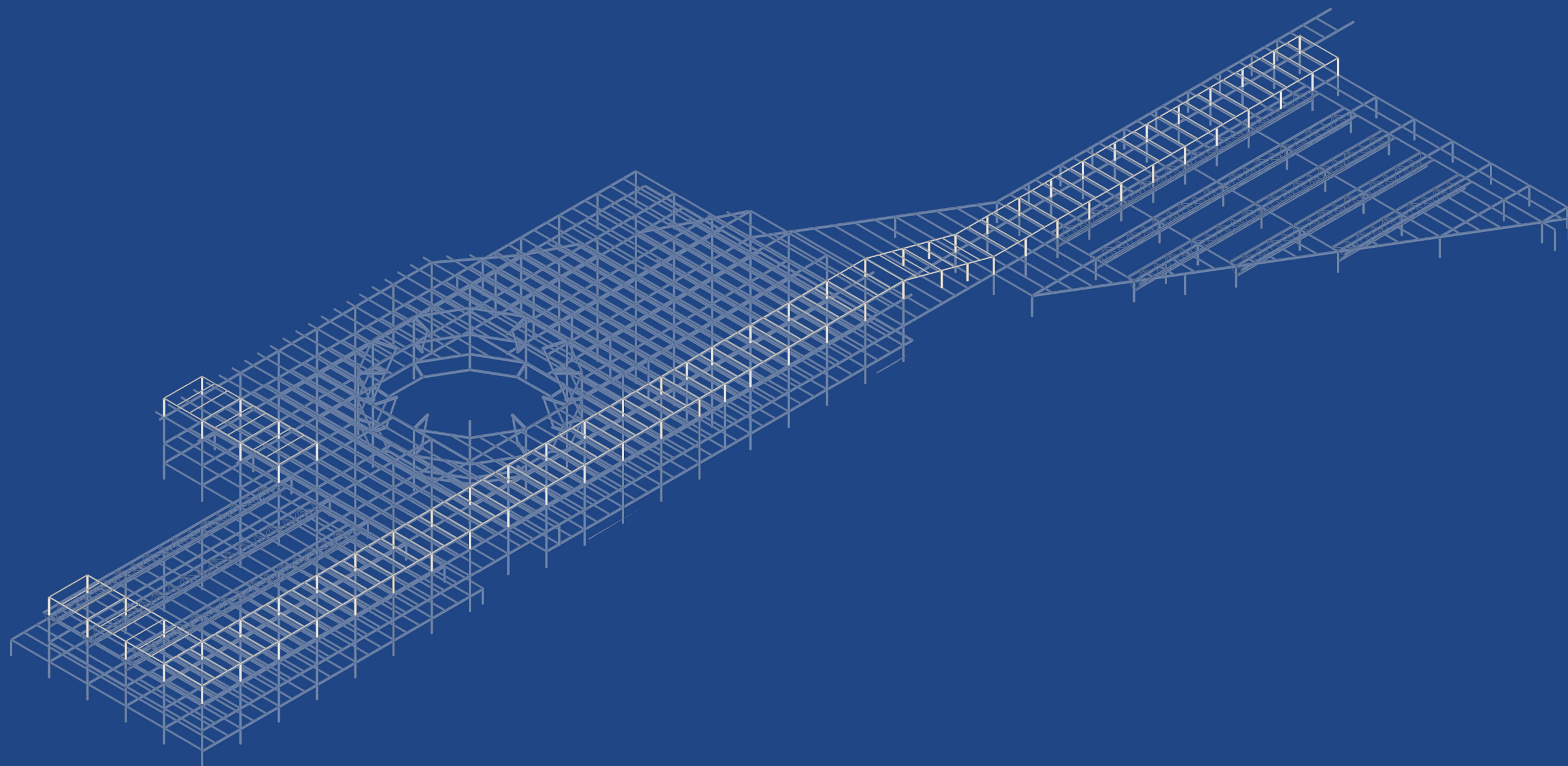
1F STRUCTURE



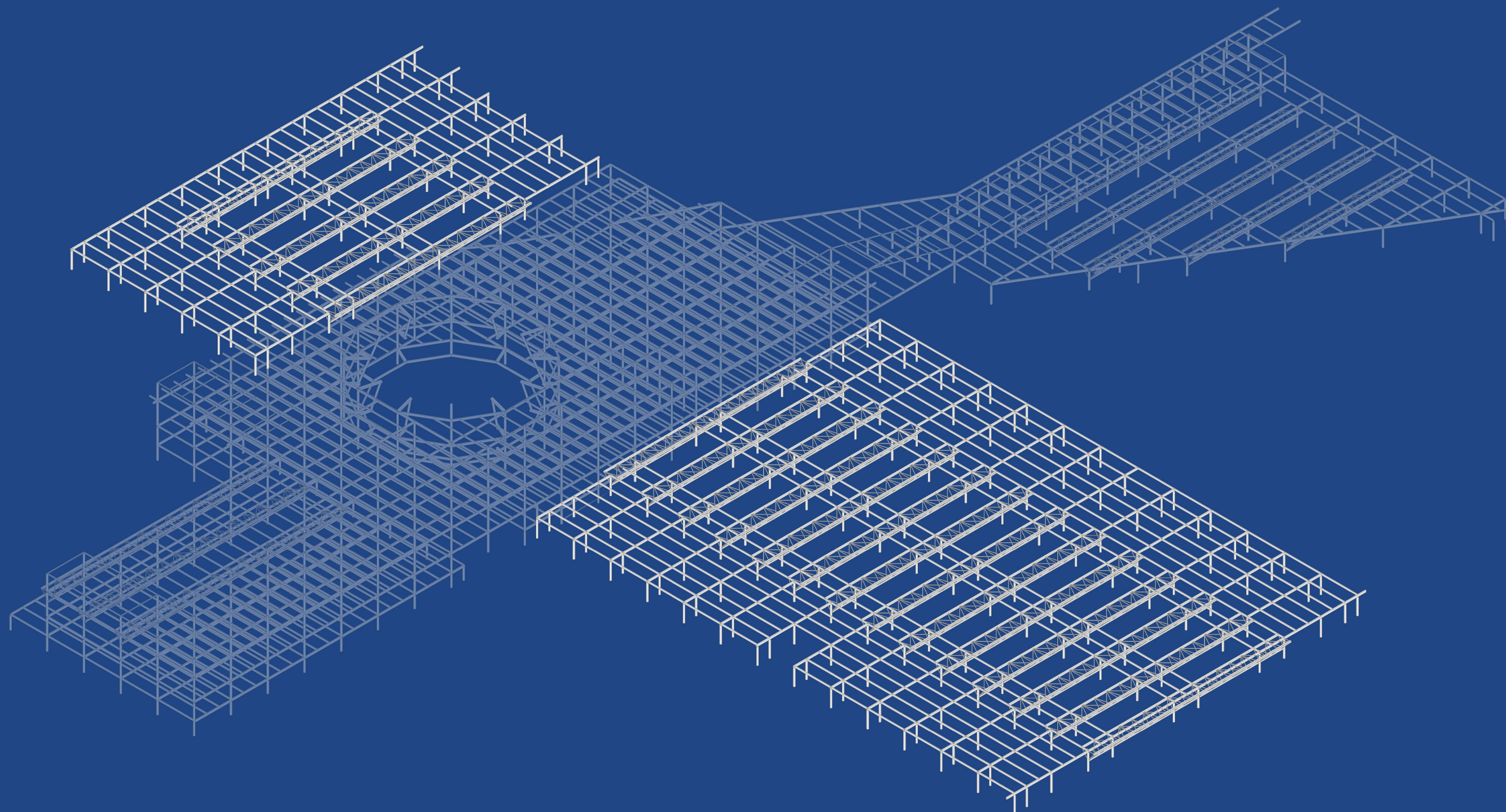
2F STRUCTURE



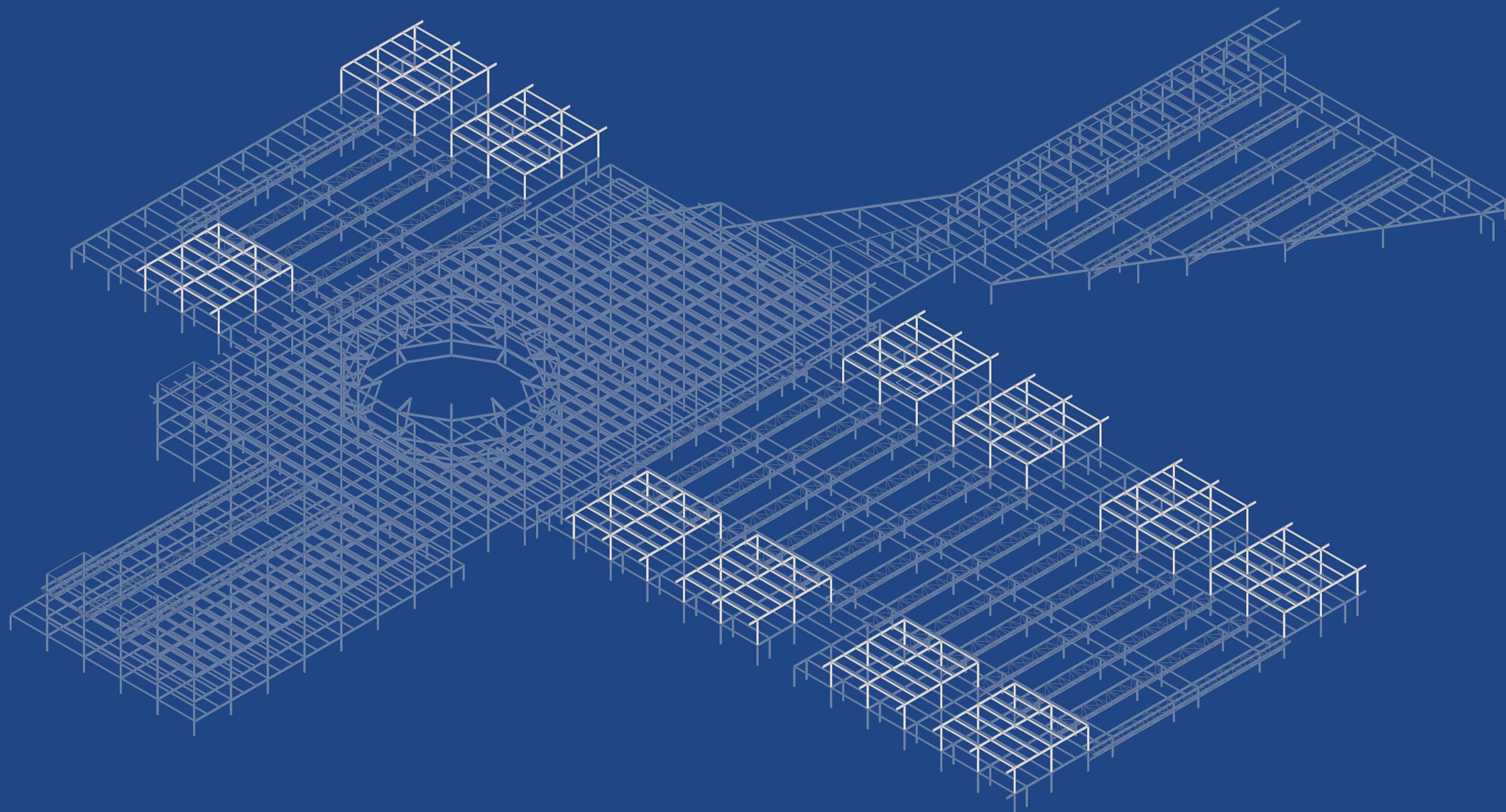
3F STRUCTURE



4F STRUCTURE

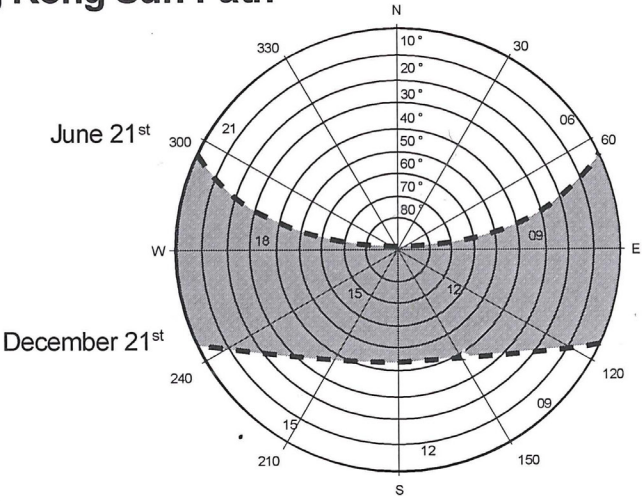


NEIGHBOURING BLOCK STRUCTURE

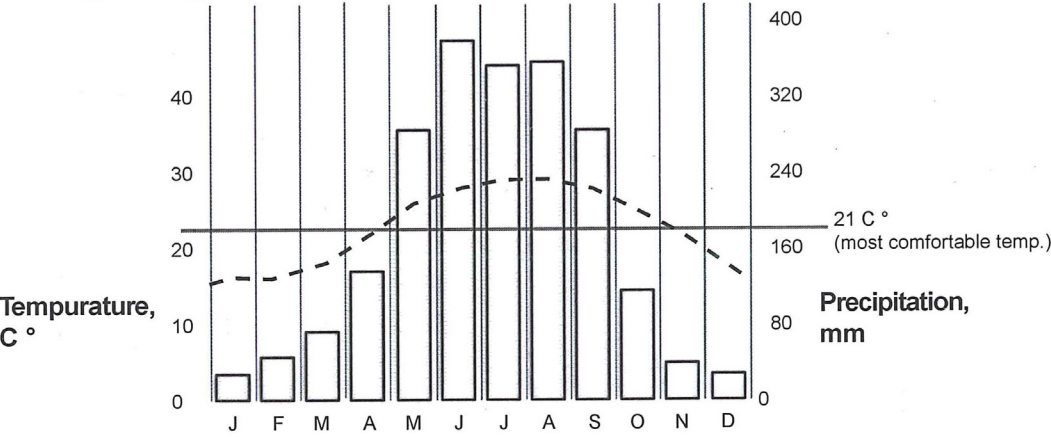


HOUSING TOWERS

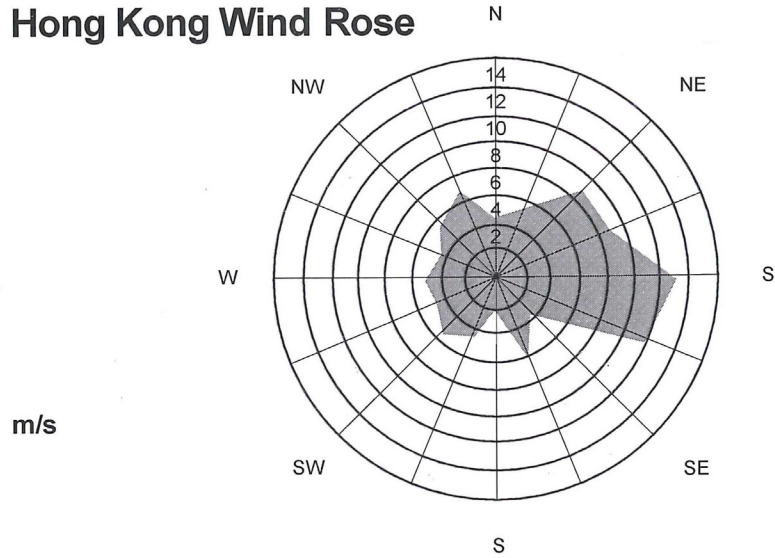
Hong Kong Sun Path

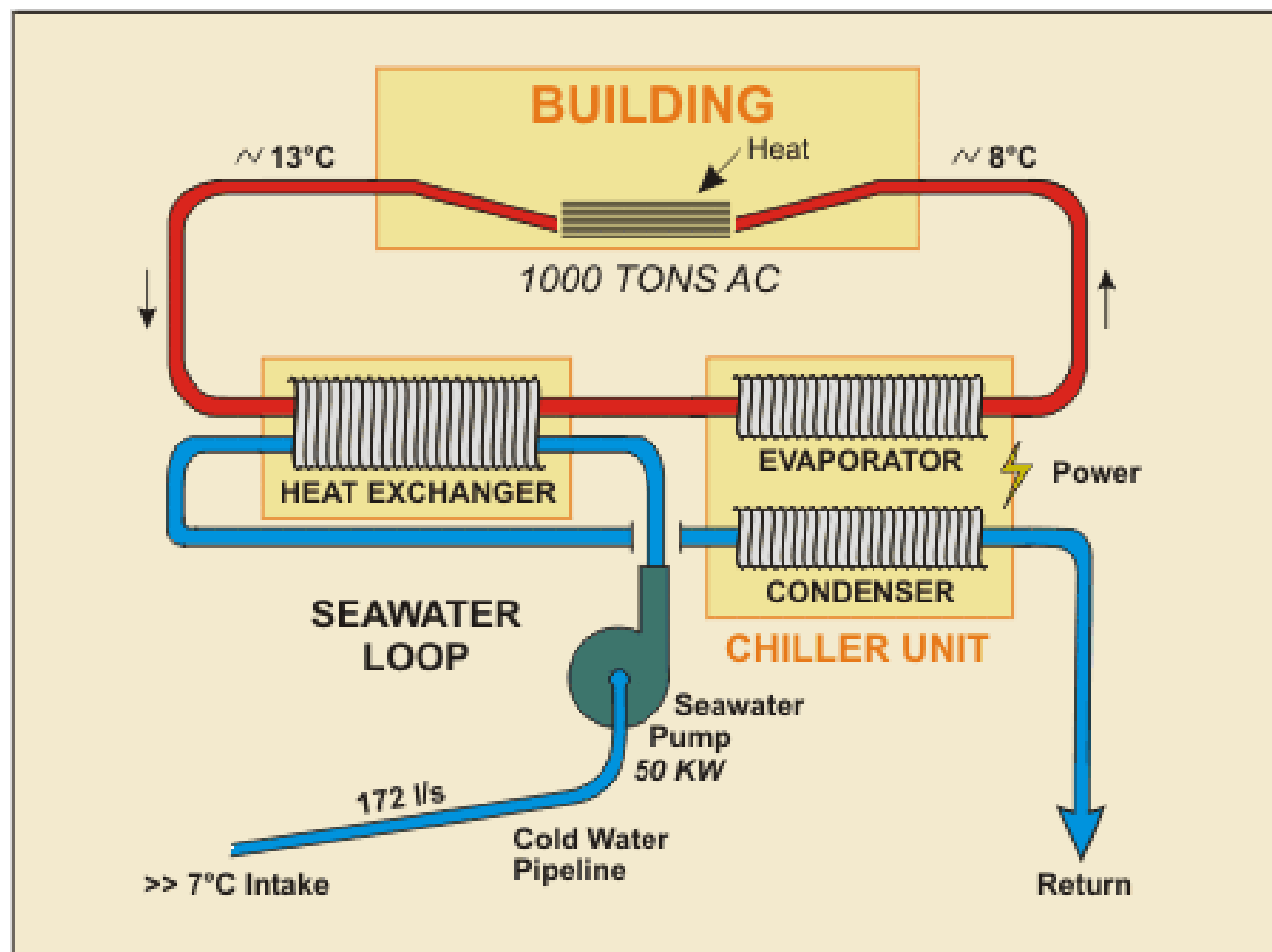
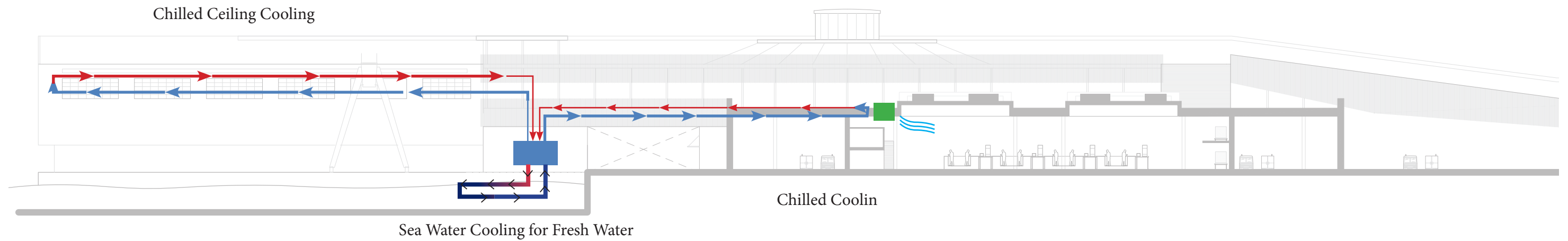


Hong Kong Climate



Hong Kong Wind Rose





SEA WATER SYSTEM

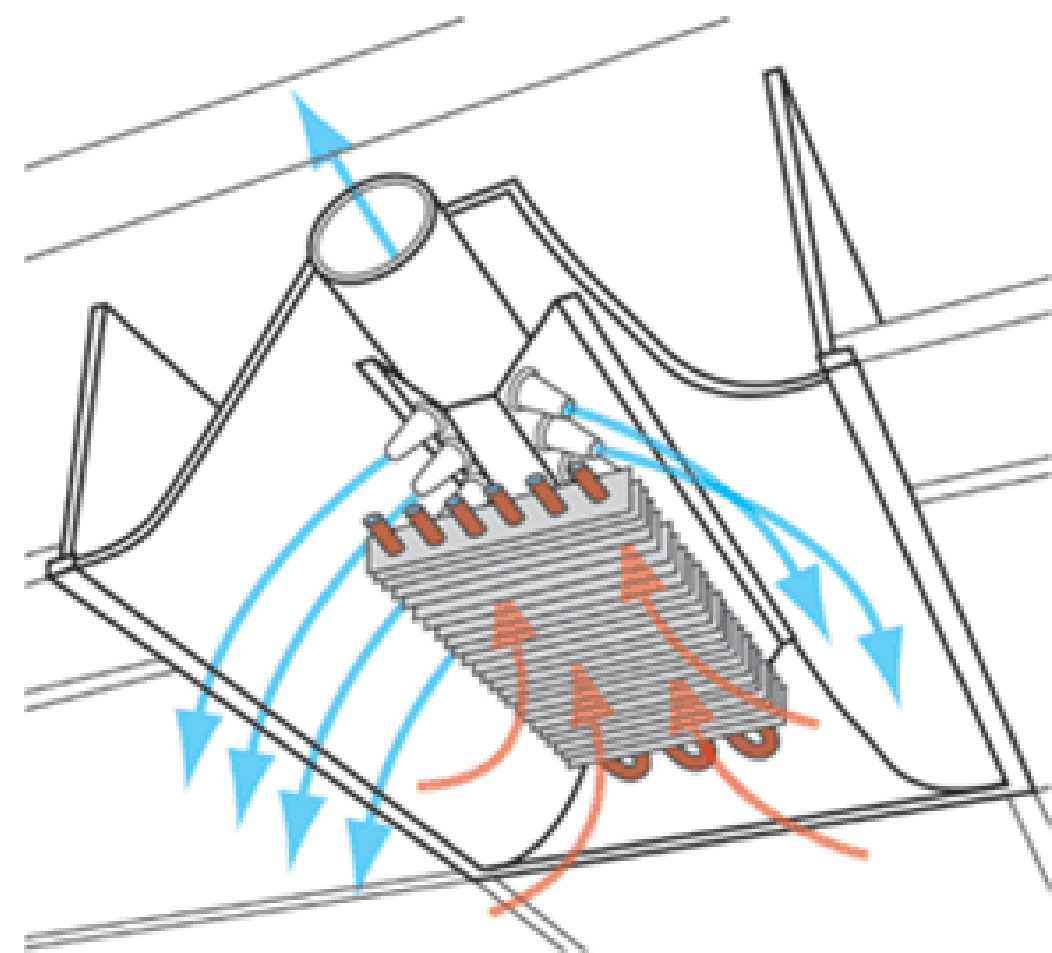
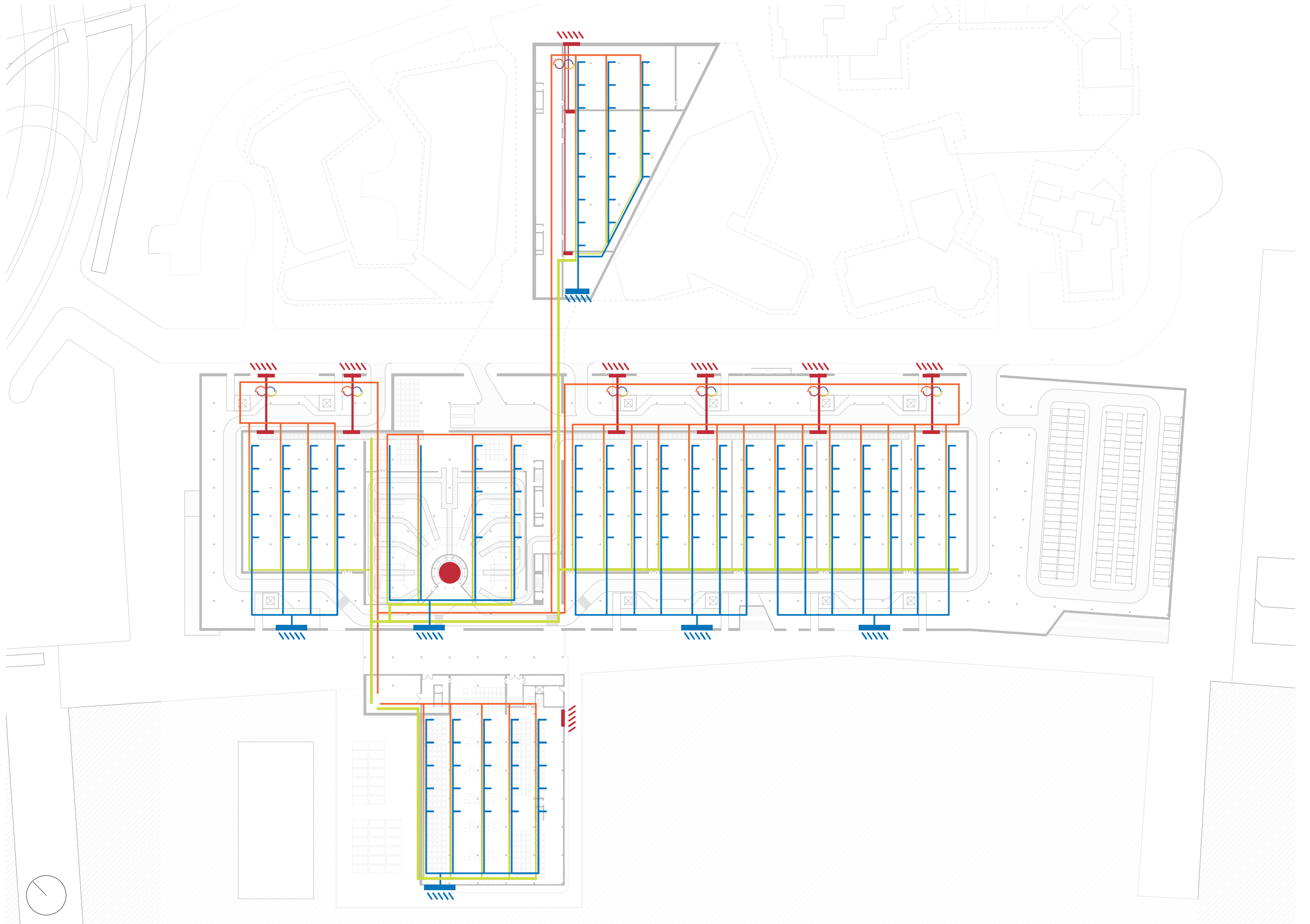


FIGURE 1. Active chilled beam.

CHILLED BEAM

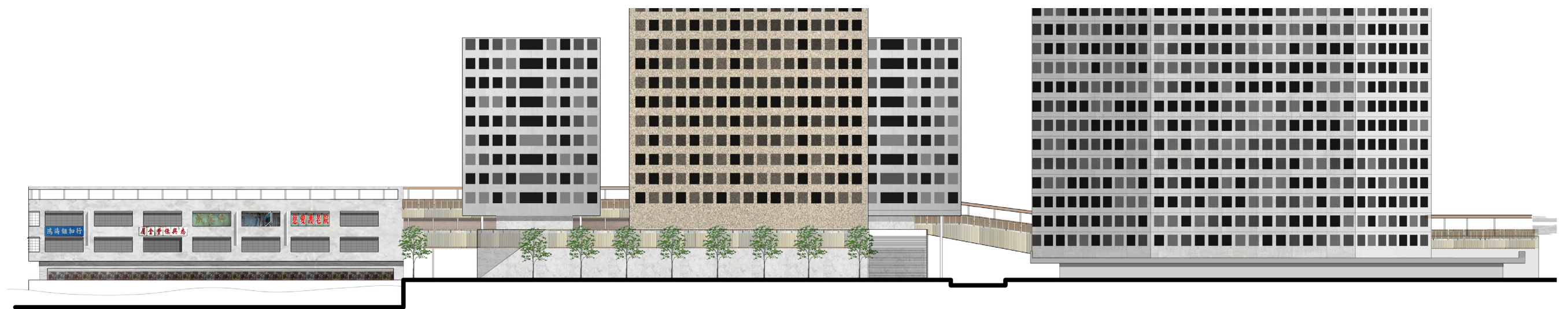
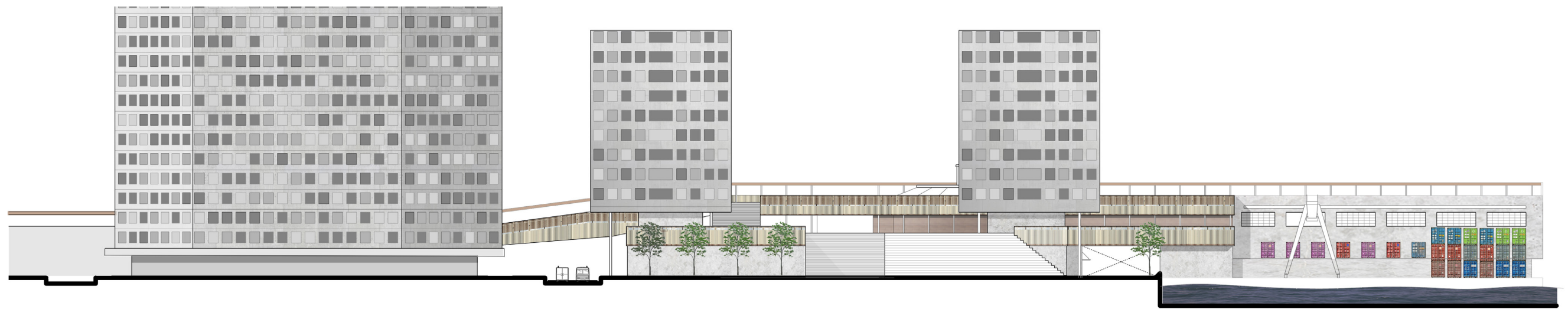
COOLING STRATEGY



DISTRIBUTION PLAN



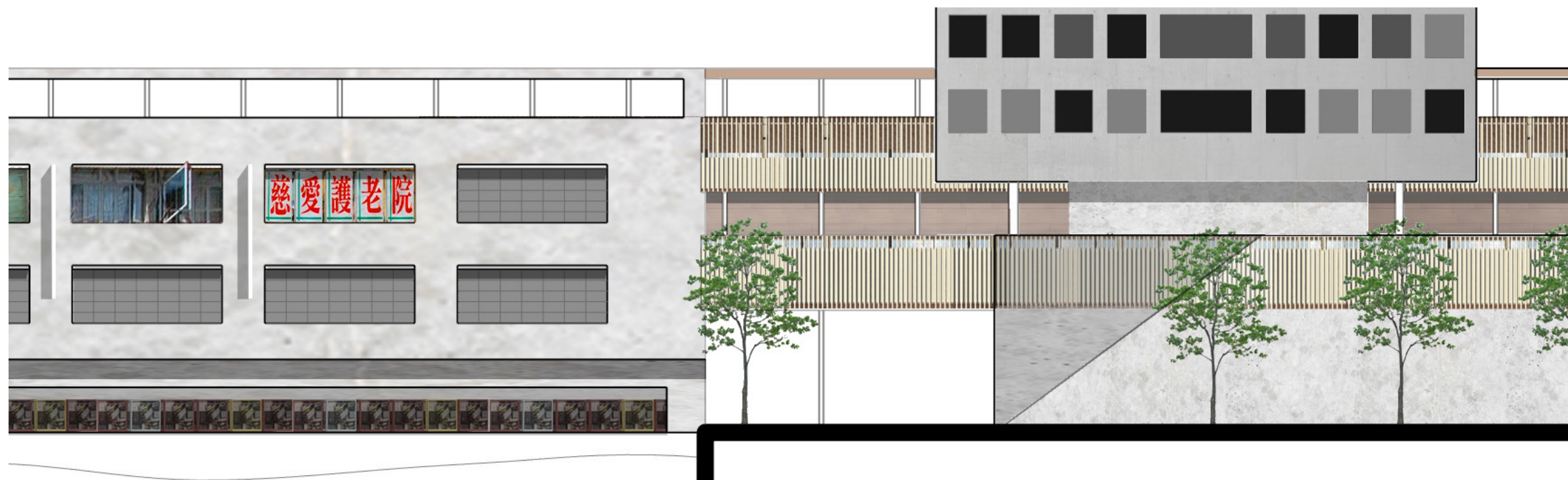
FACADE



ELEVATION



HONG KONG LOCAL FACADE



FACADE INTEFACE

REUSE WINDOWS FRAME

RECYCLE CONCRETE

RECYCLE GLASS

PARK INTEFACE

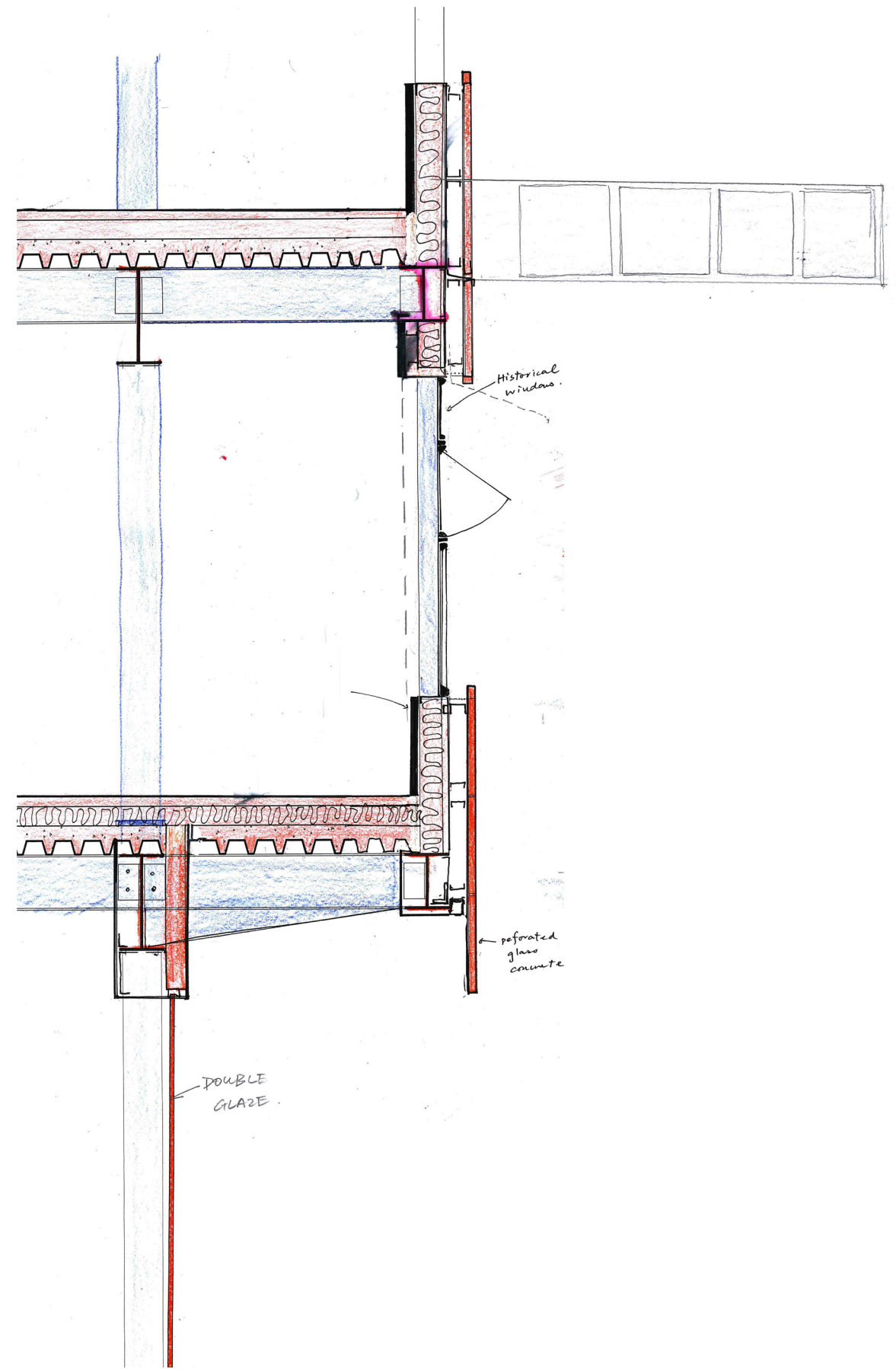
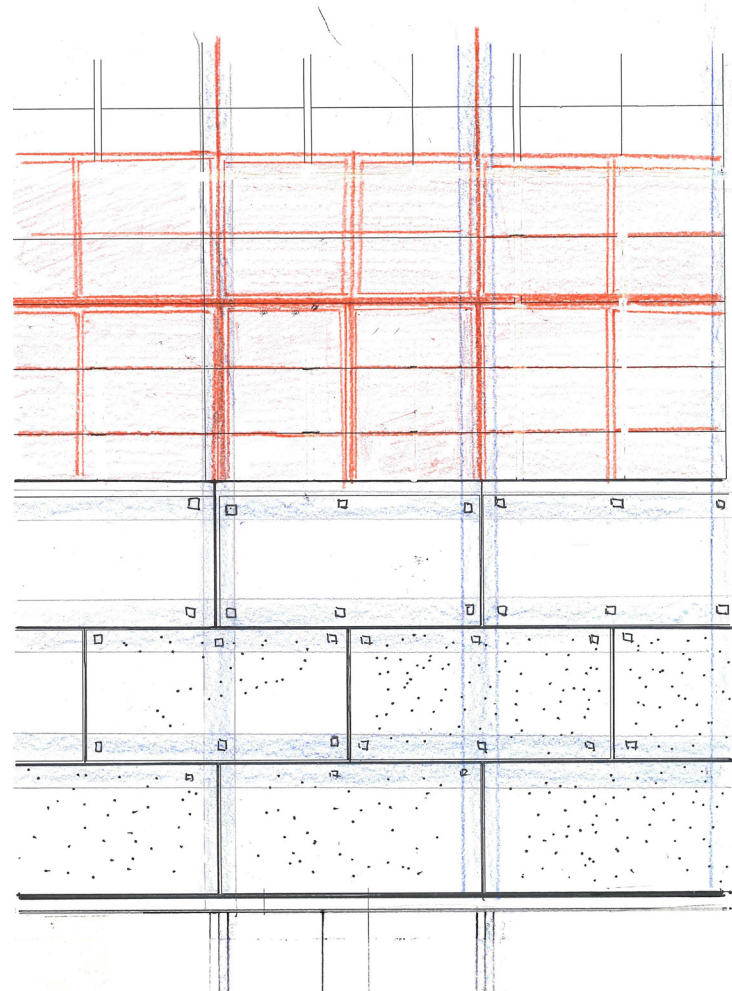
RECYCLE WOOD COMPOSITE

RECYCLE GLAZED CERAMICS

FACADE EXPRESSIONS



WINDOWS AS MEMORIES



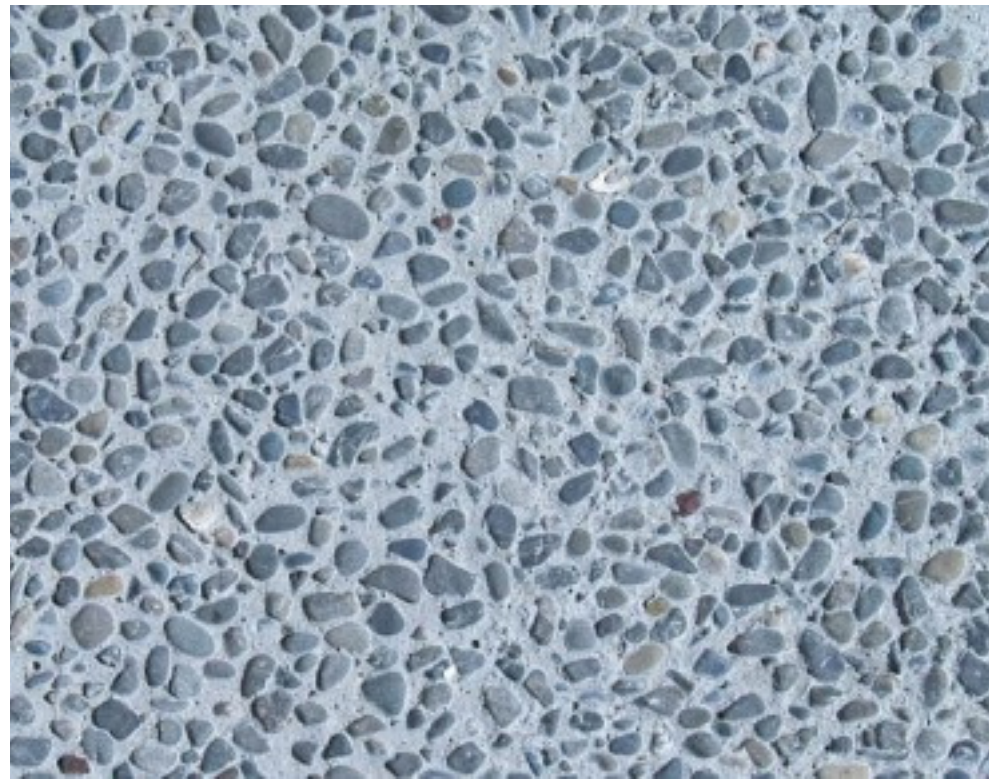
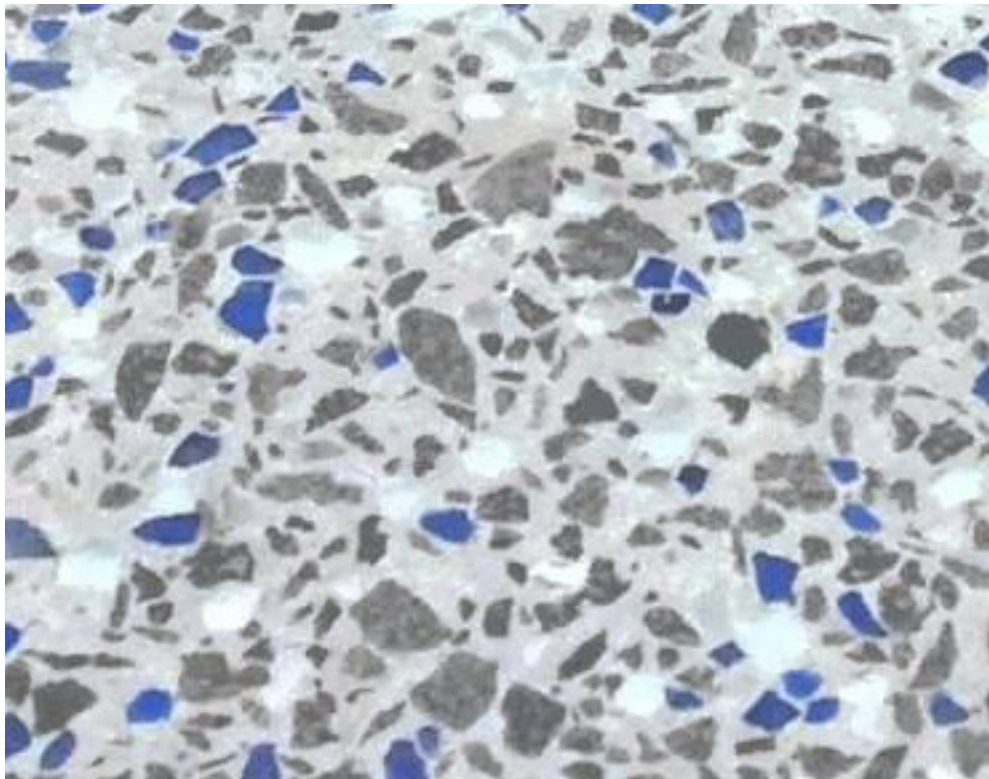
RENOVATED FACADE



TERRAZO



CRT FUNNEL GLASS



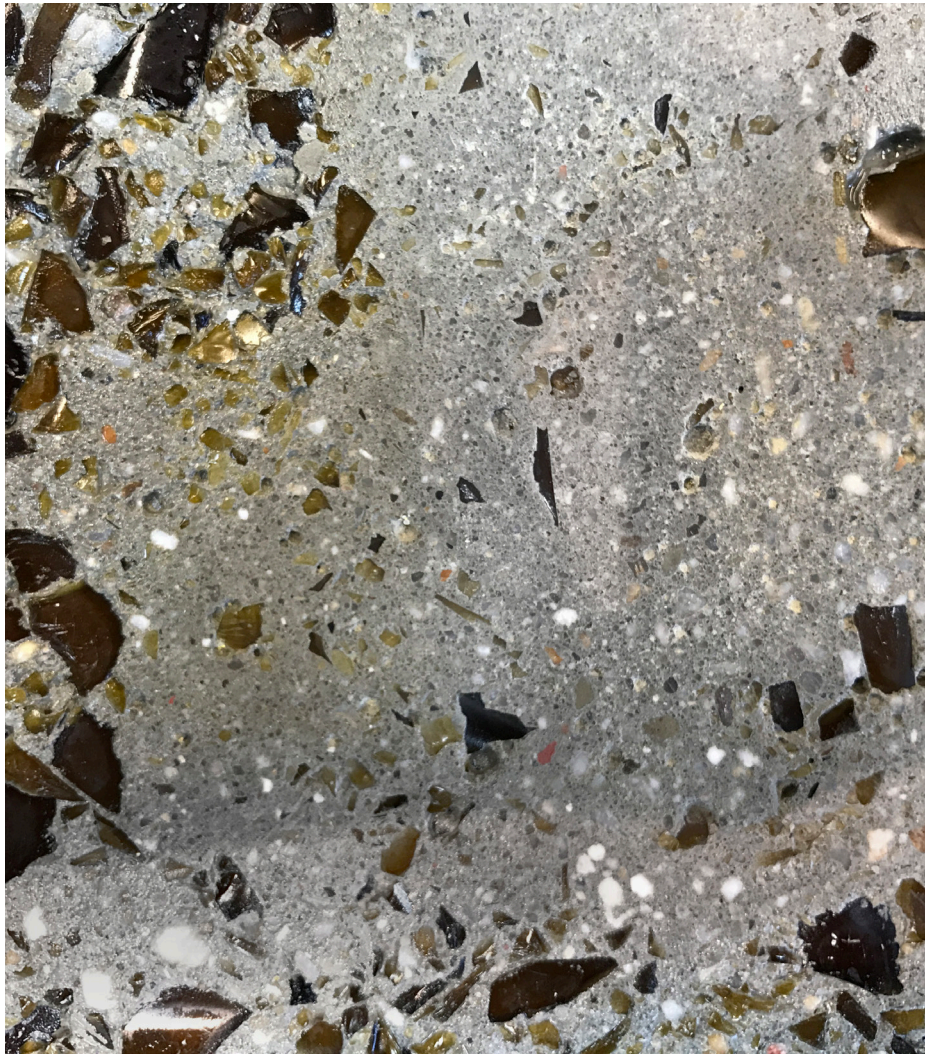
RECYCLE GLASS TERRAZO



RECYCLE GLASS TERRAZO



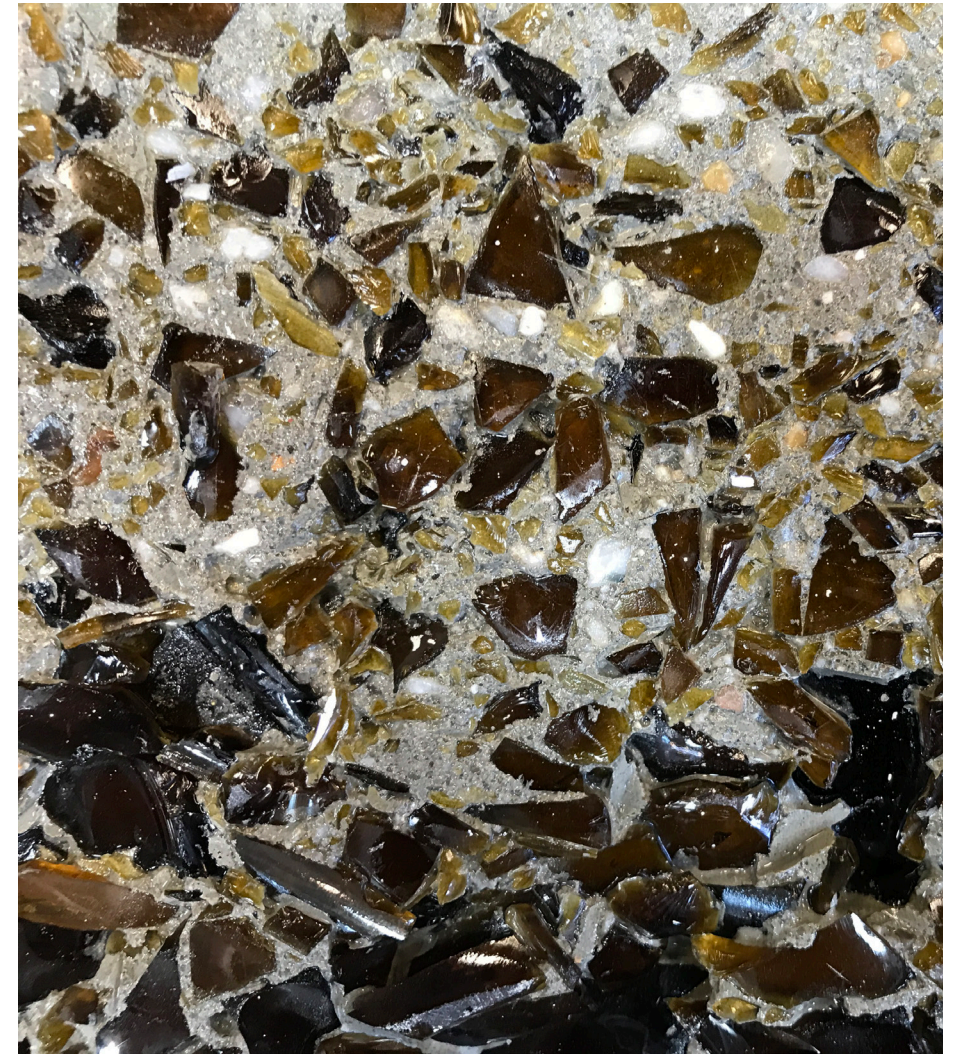
CRT FUNNEL GLASS



Less Glass Aggregate



Medium Glass Aggregate



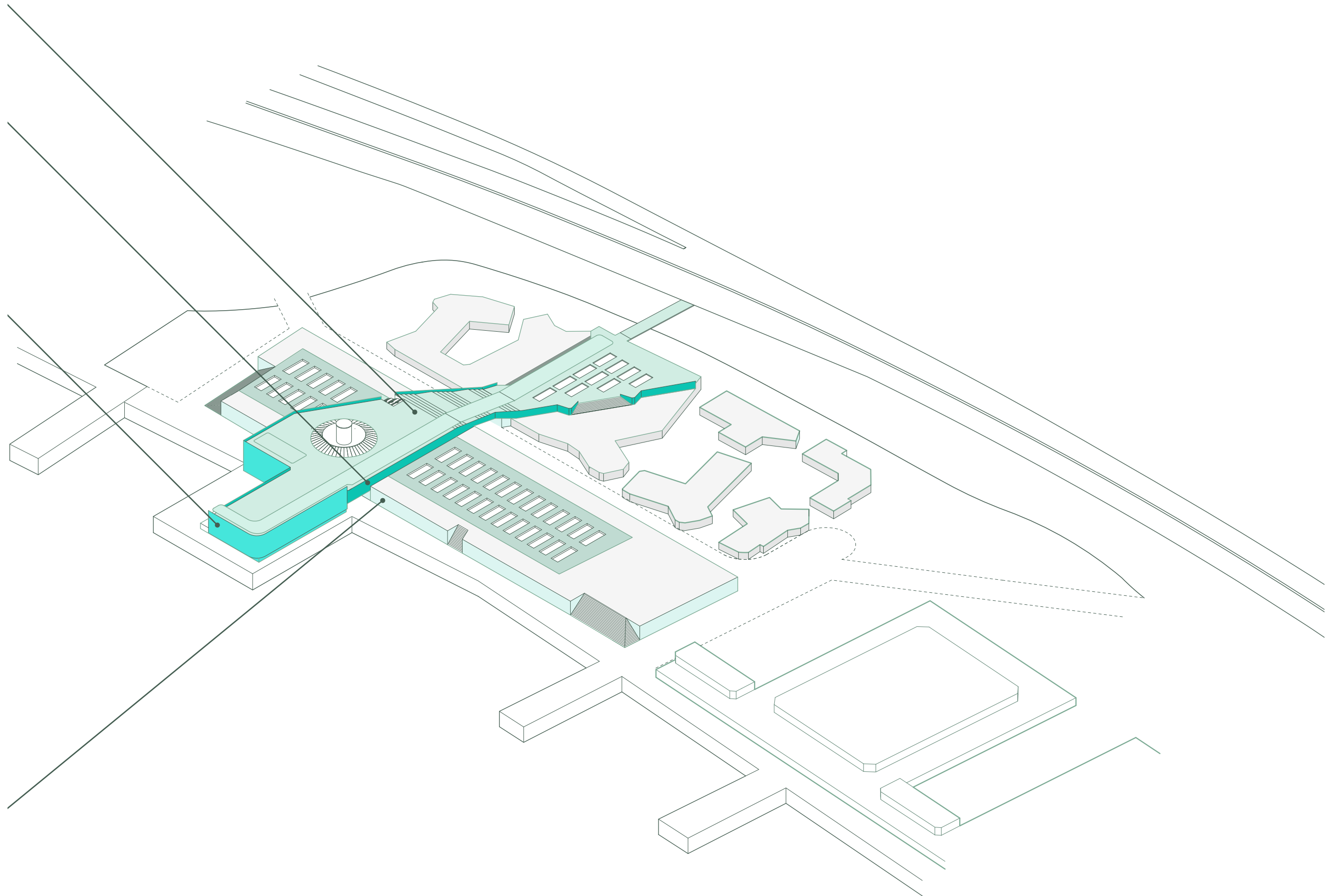
Excess Glass Aggregate

RECYCLE GLASS TERRAZO

INTERACE WITH PARK

RECYCLE
CONCRETE
PANEL
WITH
GLASS AGGREGATE
OPEN

RECYCLE
CONCRETE
PANEL
WITH
GLASS AGGREGATE

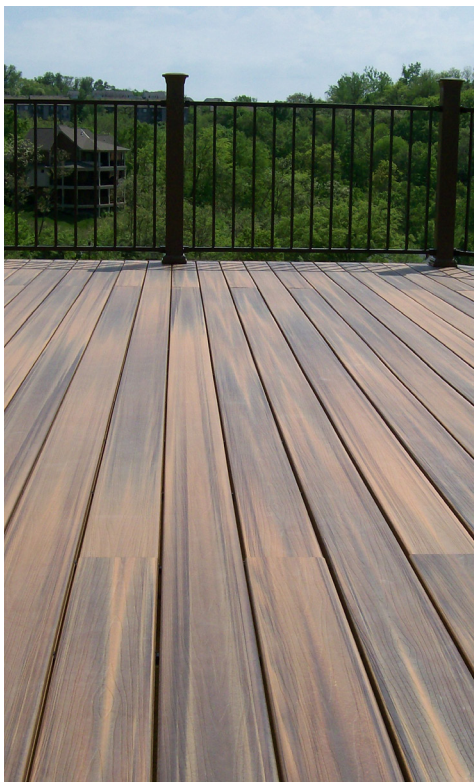


ZONING WITH DIFFERENT AGGREGAATE



ROTOR

REUSE OF BUILDING ELEMENTS



ROTOR

REUSE OF BUILDING ELEMENTS



RECYCLE MATERIAL FROM E-WASTE



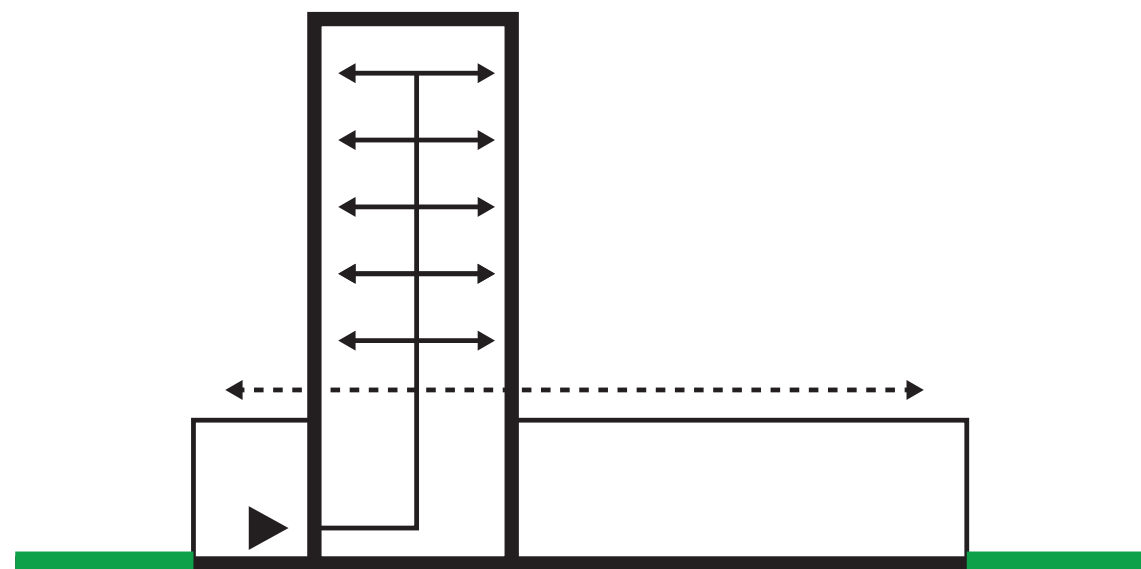
PAVILION IN THE PARK



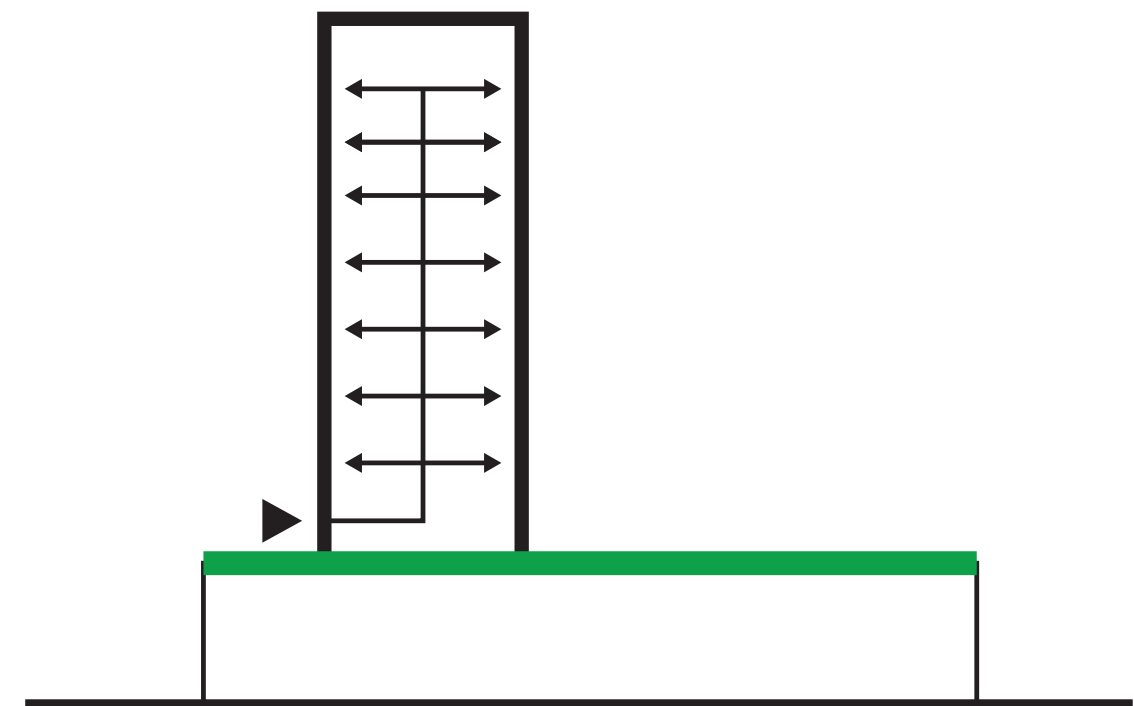
PUBLIC PARK



UNION SQUARE, HONG KONG

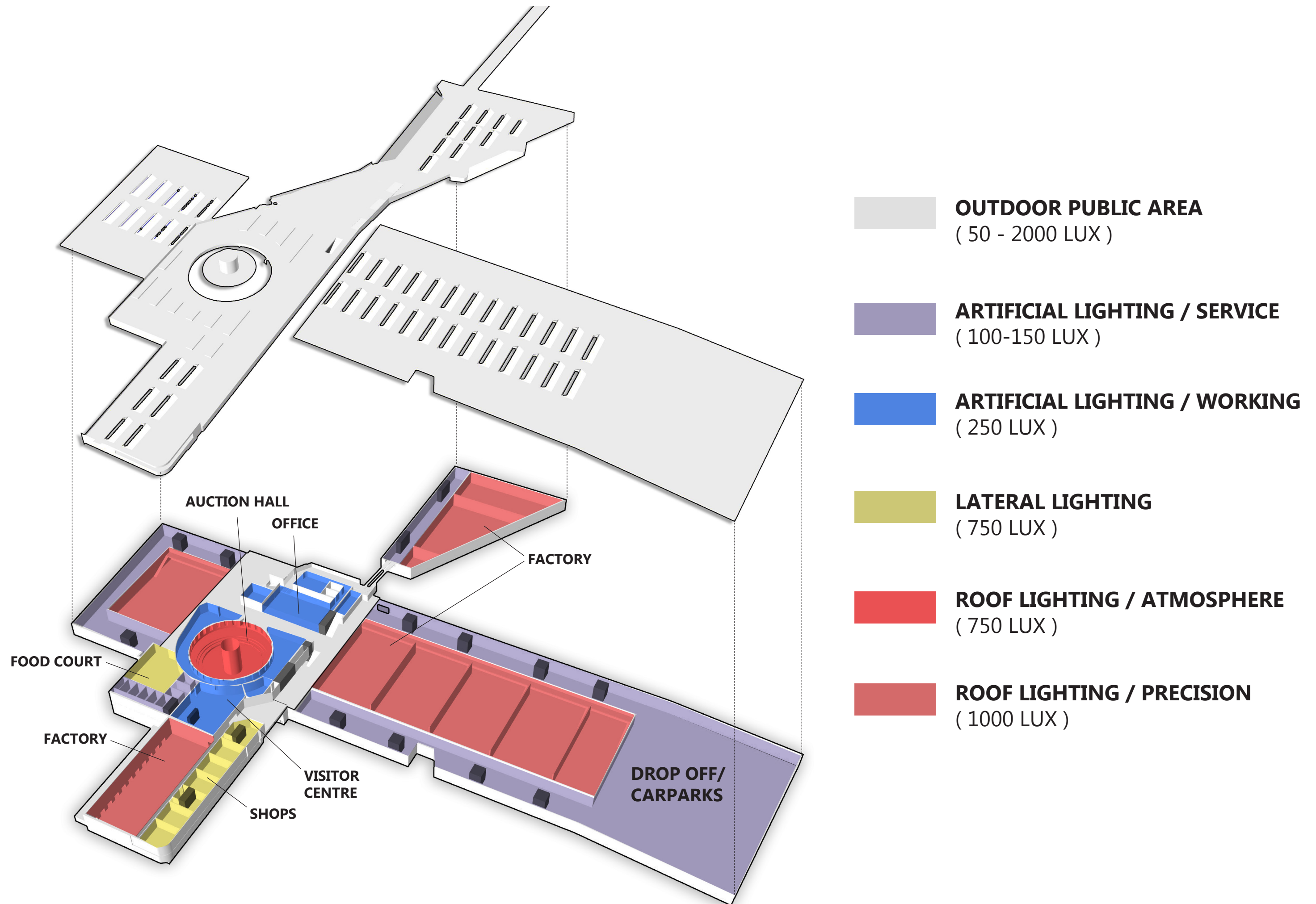


INTERNATIONAL PODIUM TOWER



HONG KONG PODIUM TOWER

ELEVATED PUBLIC SPACE

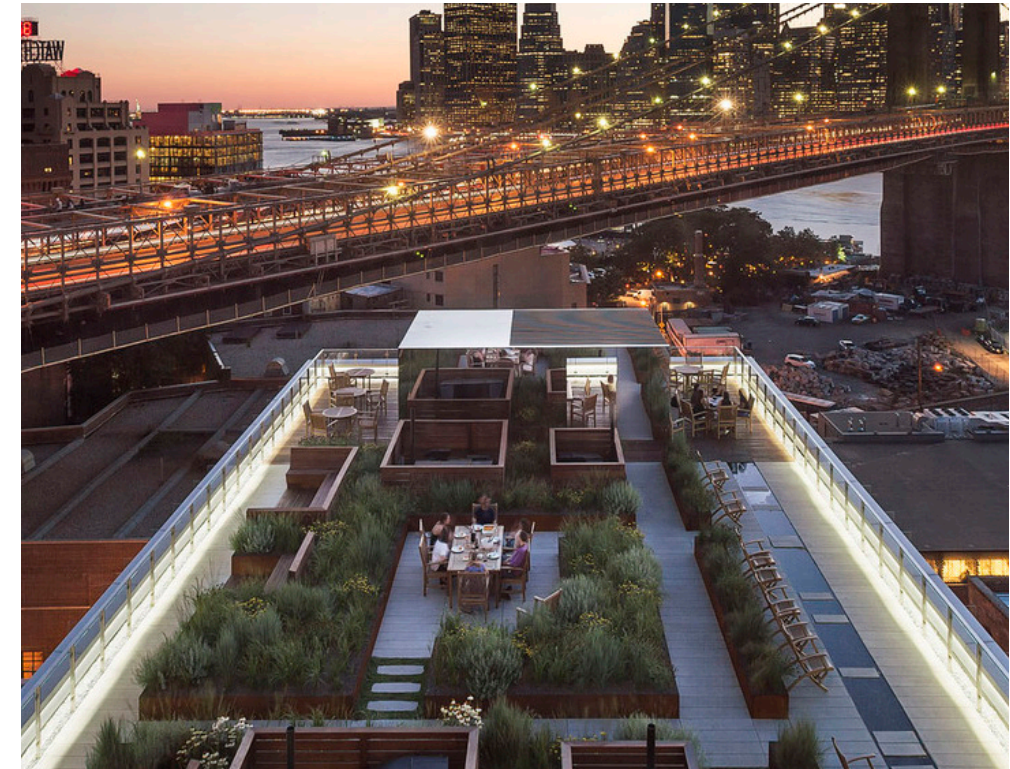


LIGHTING REQUIREMENT



PERFORATED ROOF

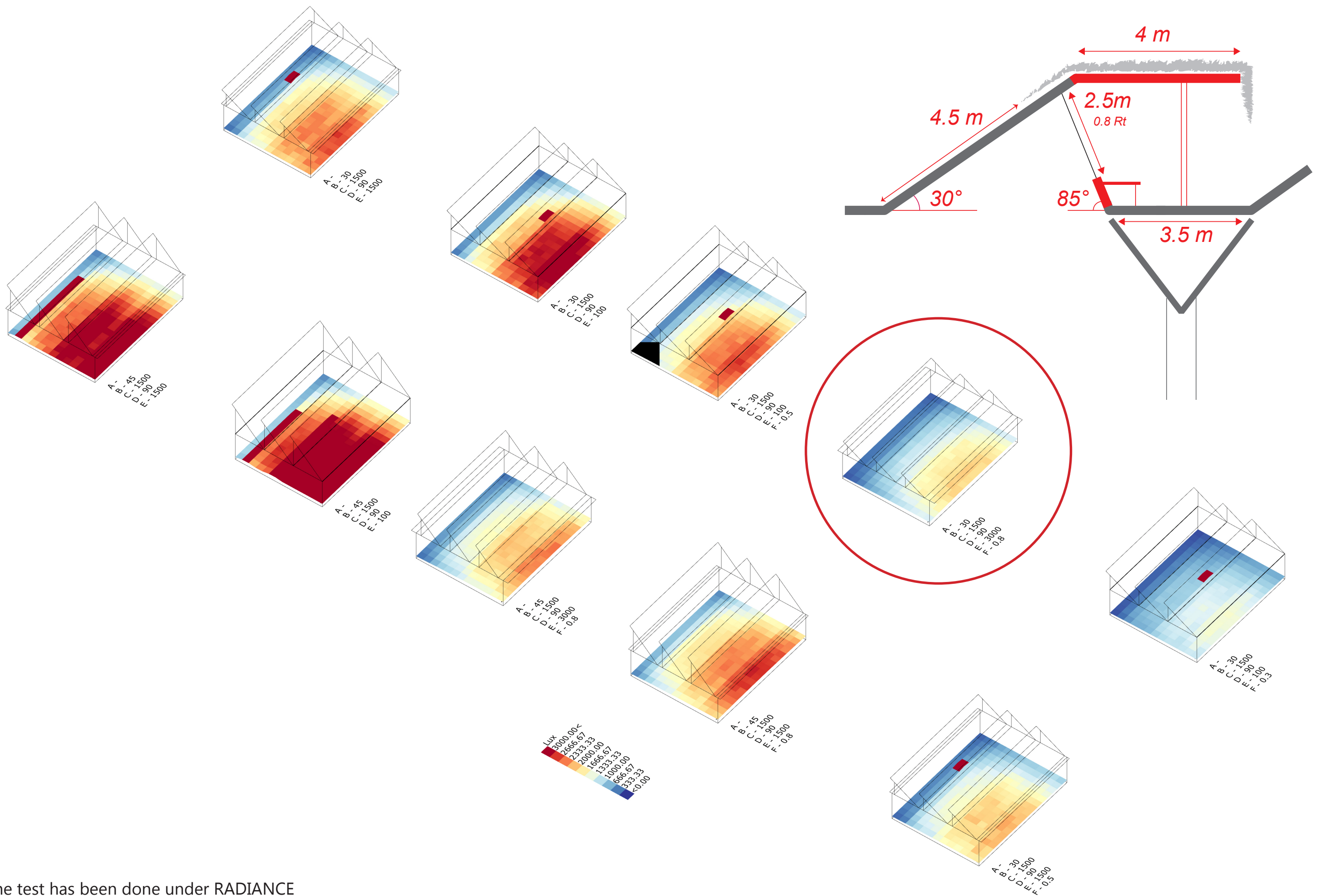
Peforated to allow light to go into the building



ACCESSIBLE ROOF

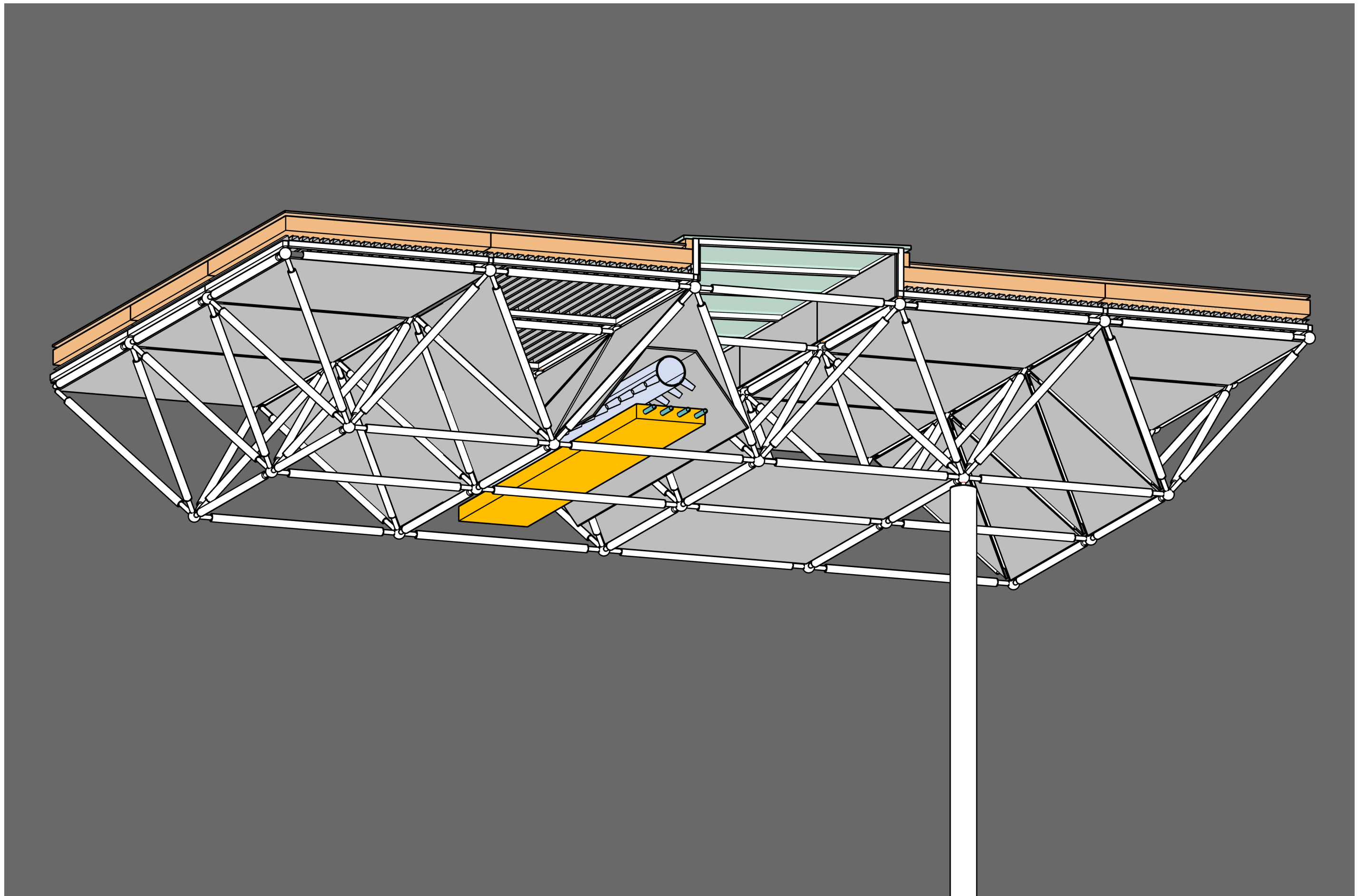
Stable for any kind of activities

ROOF CHALLENGE

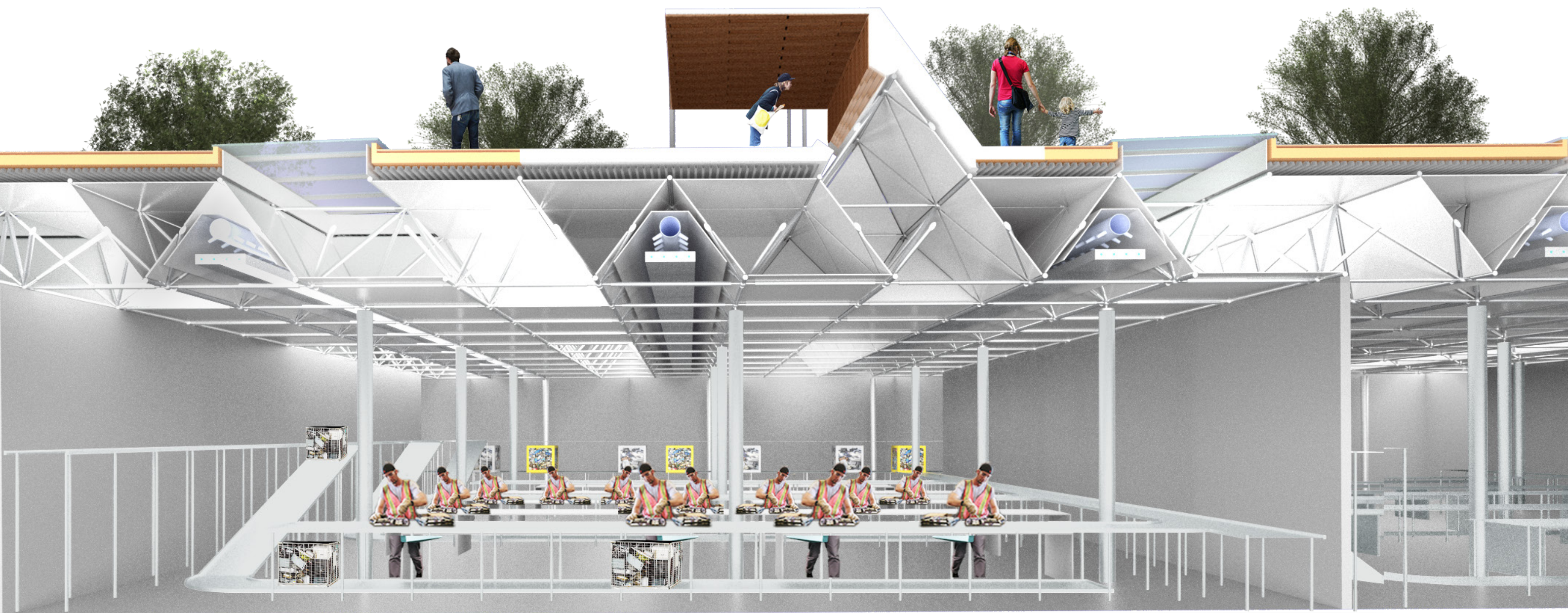


* The test has been done under RADIANCE with grasshopper using the sun @ 12:00 noon on winter solstice in Hong Kong

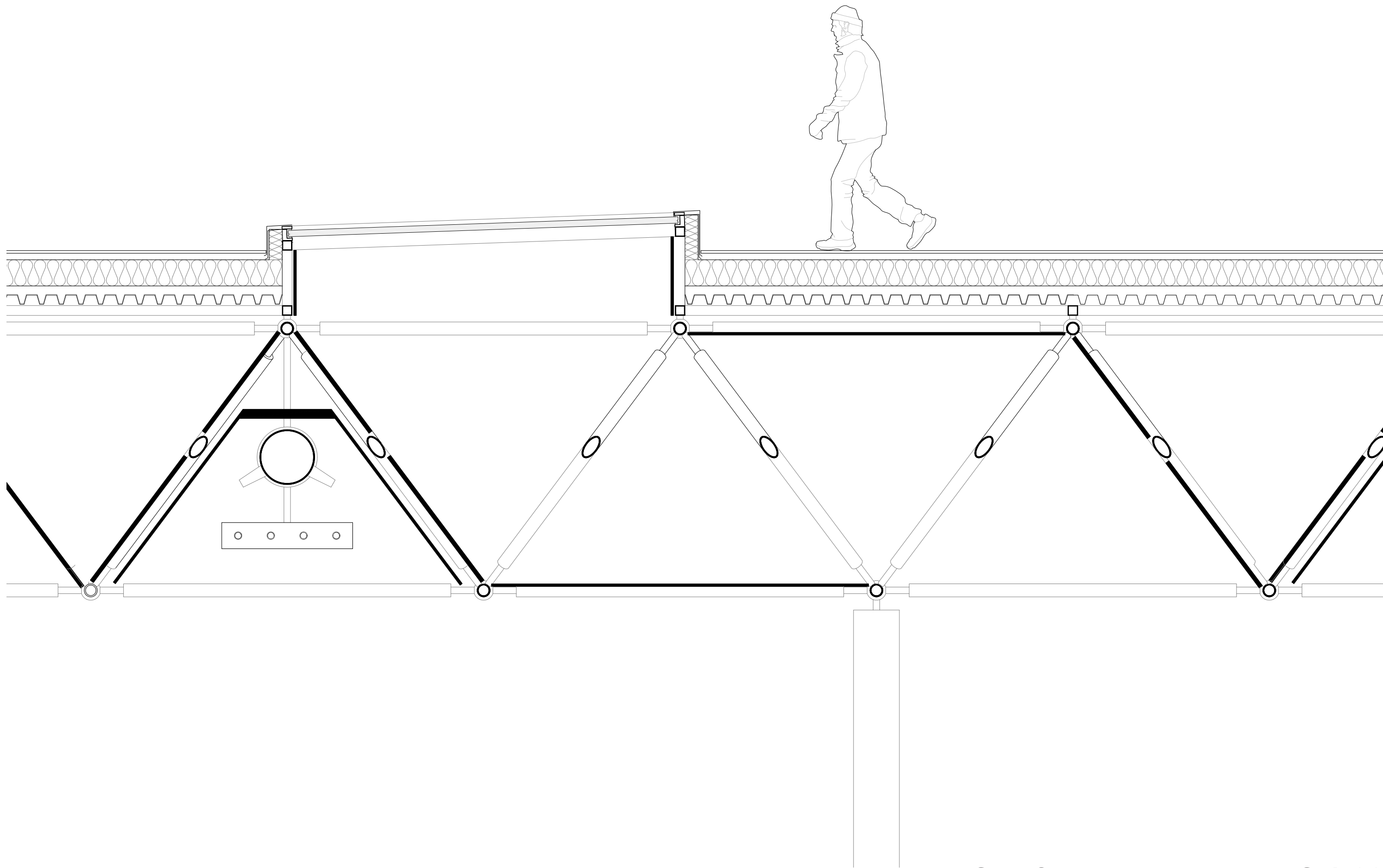
LUX LEVEL PARAMETRIC STUDY



INTEGRATED SPACE FRAME SYSTEM

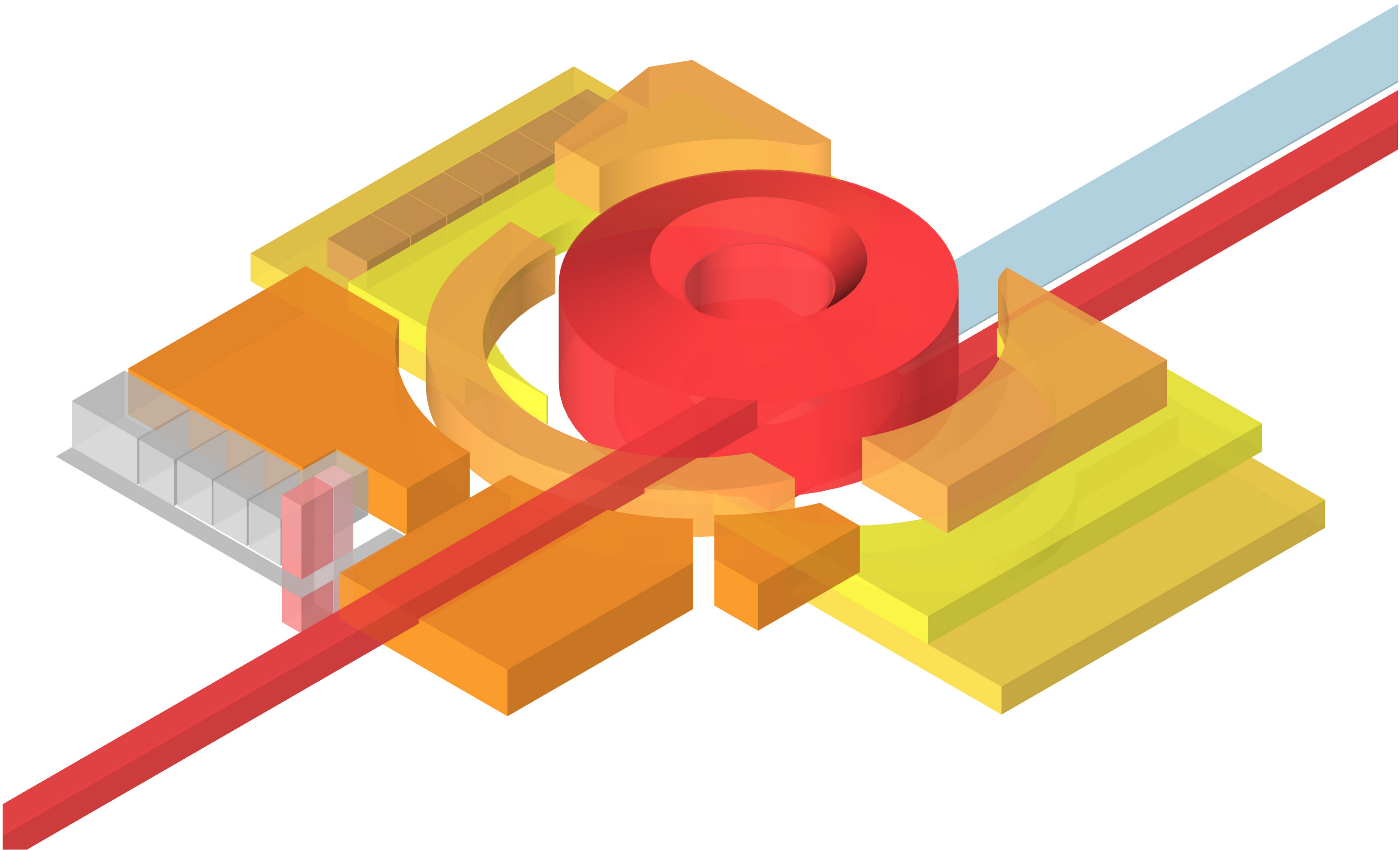


INTEGRATED ROOFSCAPE

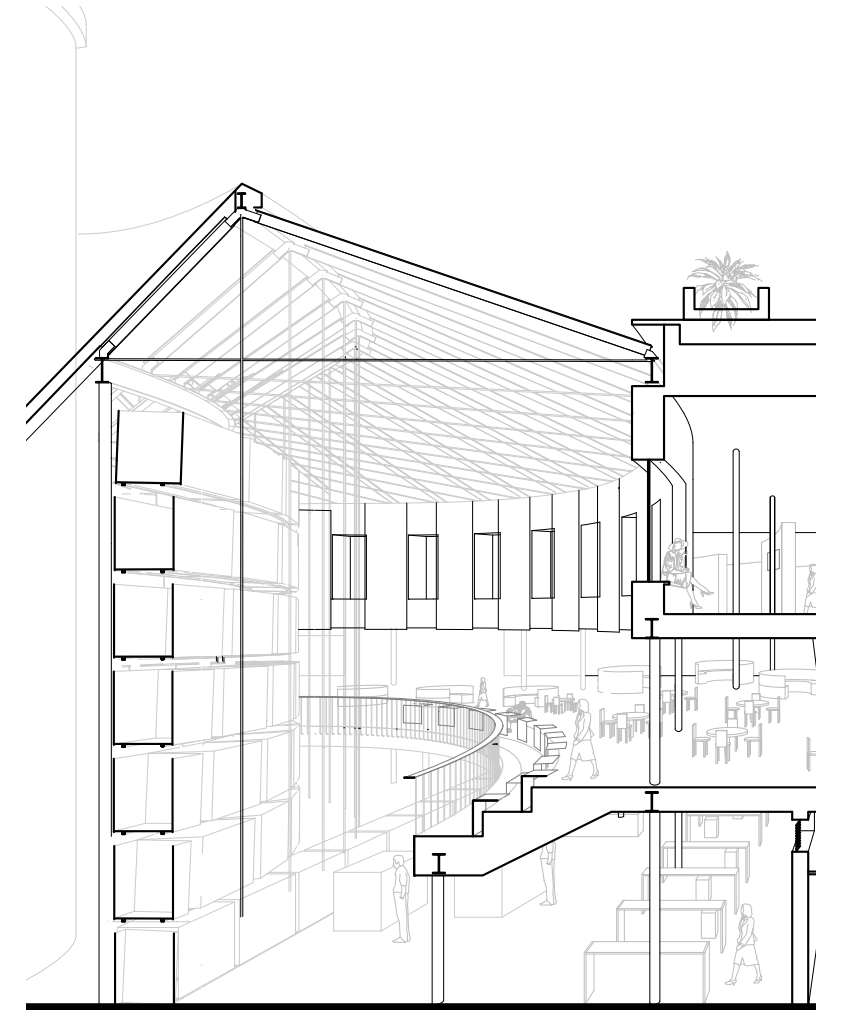
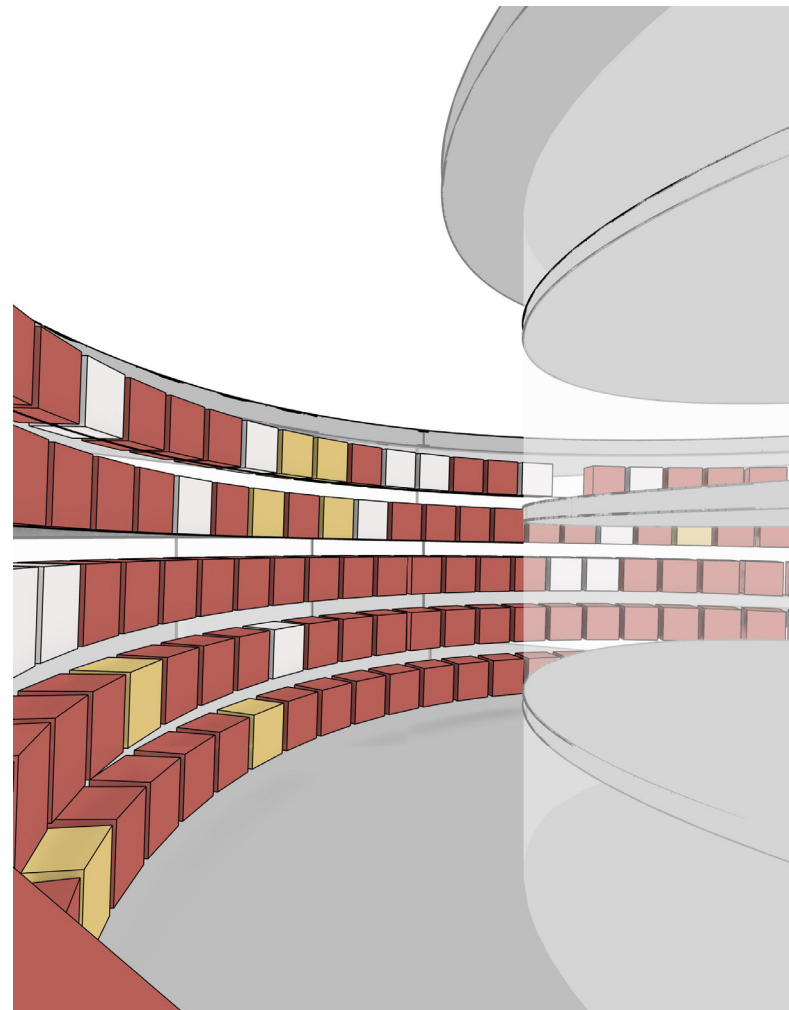
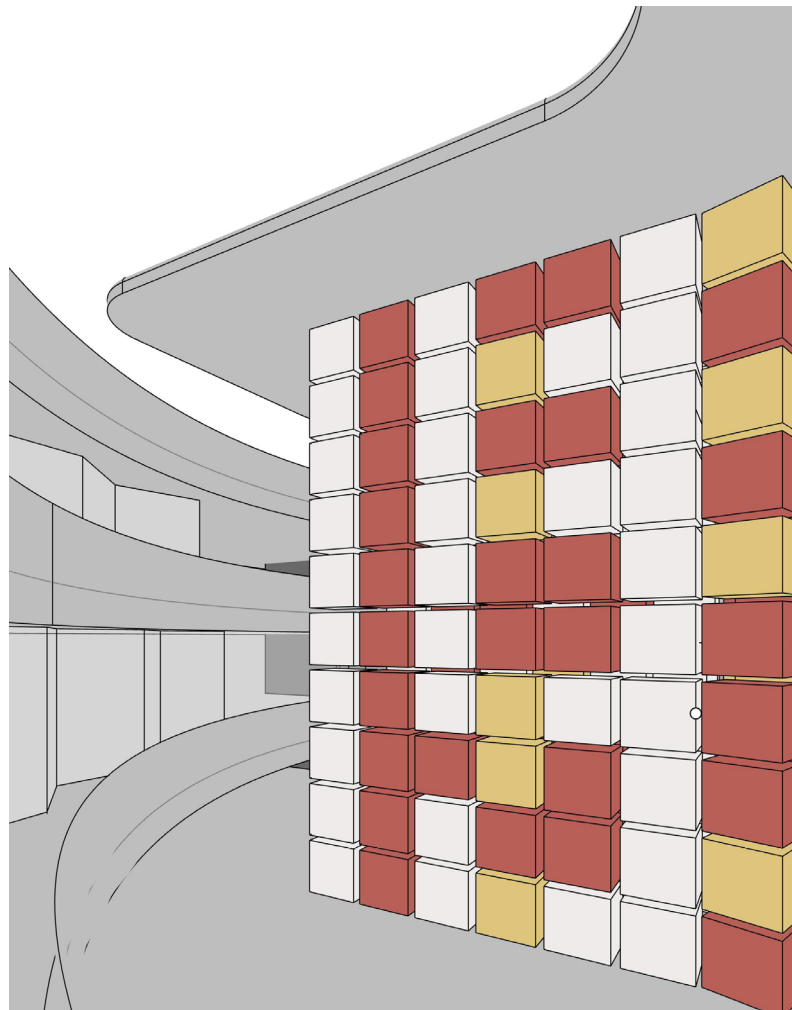
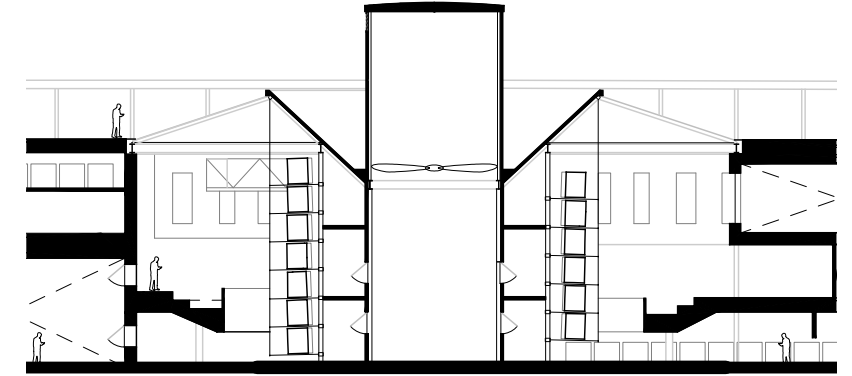
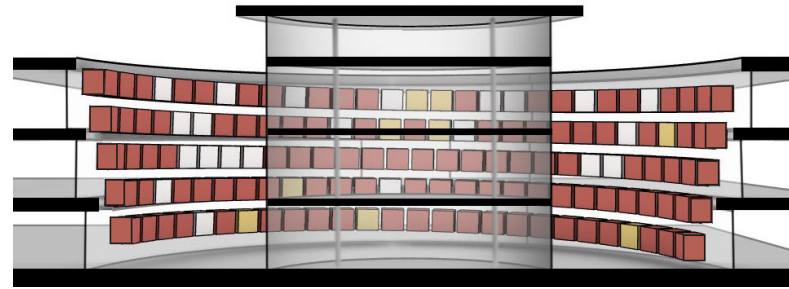
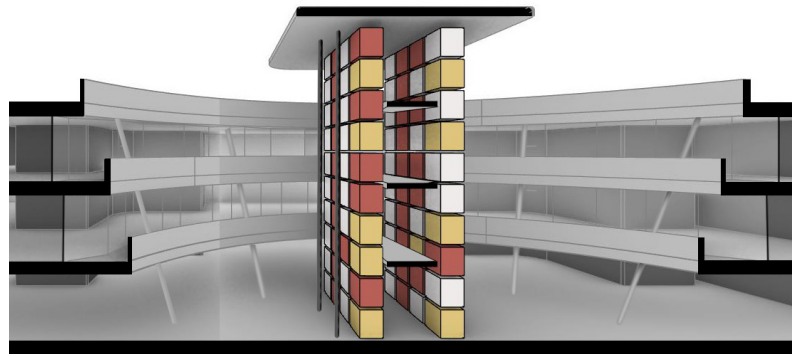


SPACE FRAME DETAILS 1:20

AUCTION HALL



FACILITATOR - AUCTION HALL



OPTION A - CENTRAL DISPLAY WALL

PROS:
Large amount of cages are displayed
Entrepreneur could view from the gallery

CONS:
No physical touch for product
Large Amount of Energy used for Moving Cages

OPTION B - SPIRAL DISPLAY WALL

PROS:
Large amount of cages are displayed
Less Energy is used for Spiral Sloping Cages
Potential closer touch of Electronic waste

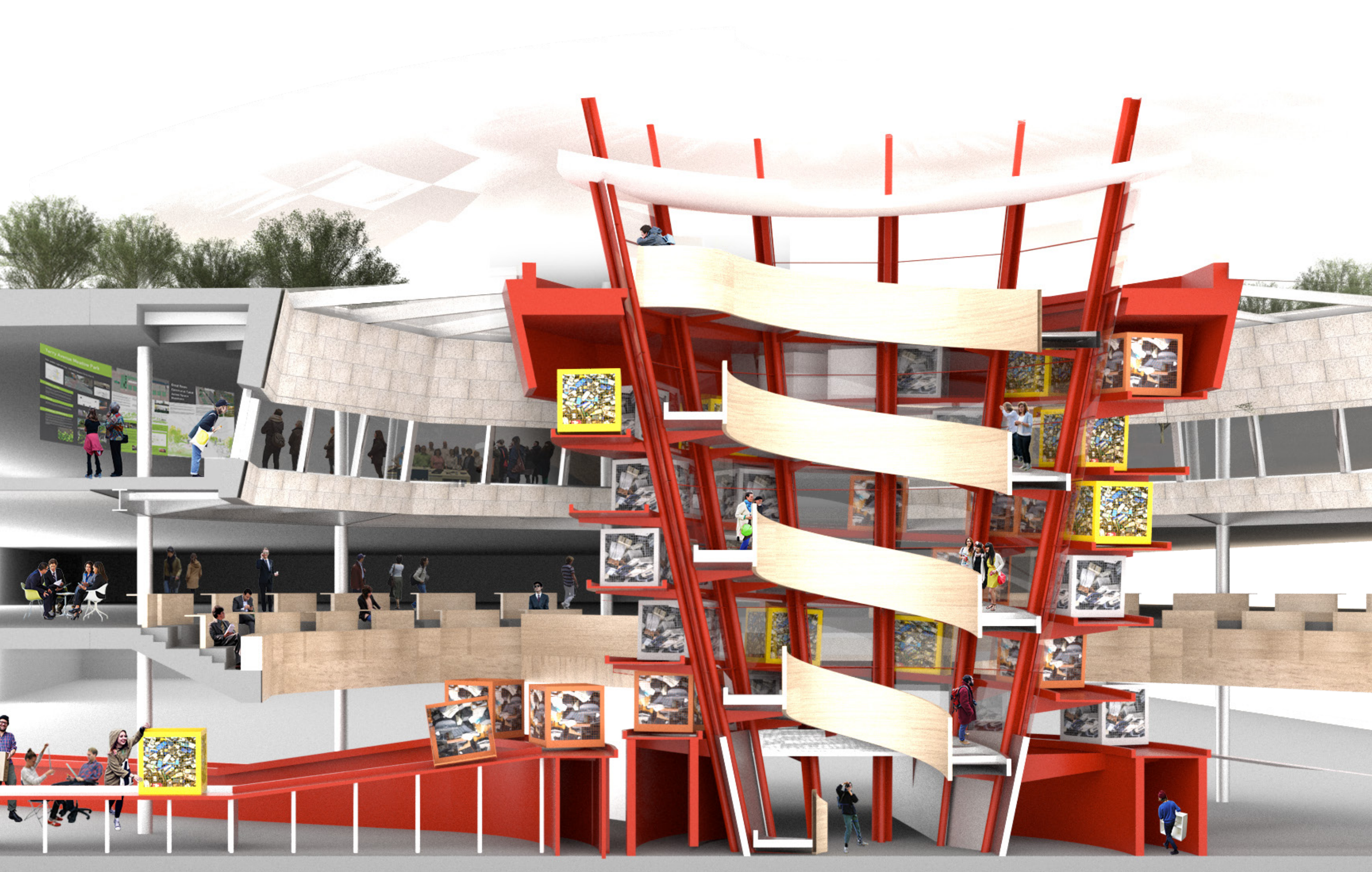
CONS:
Blocking the connection from floor to the Hall

OPTION C - CENTRAL DISPLAY COLUMN

PROS:
Less Energy is used for Spiral Sloping Cages
Potential closer touch of Electronic waste on GF

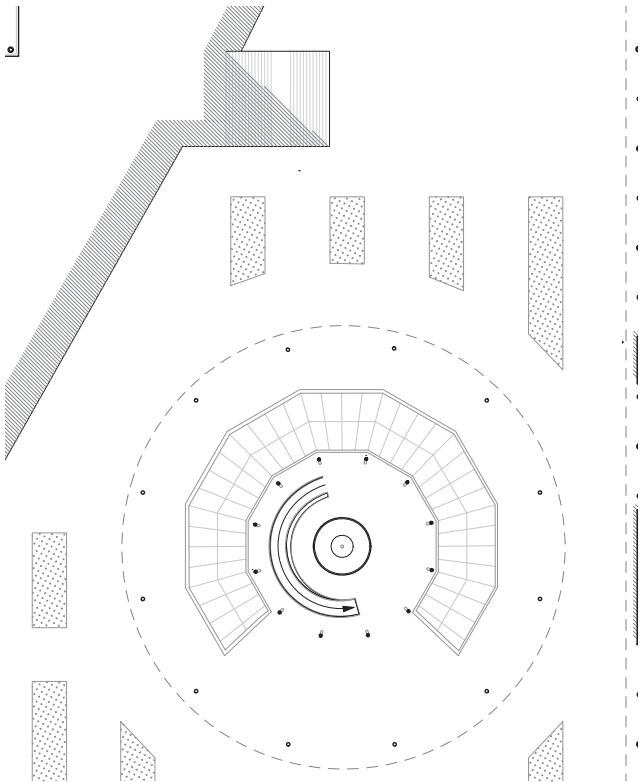
CONS:
Smaller Amount of Electronic Waste Displayed

DESIGN OPTIONS



ARCHITECTURE AND POWER

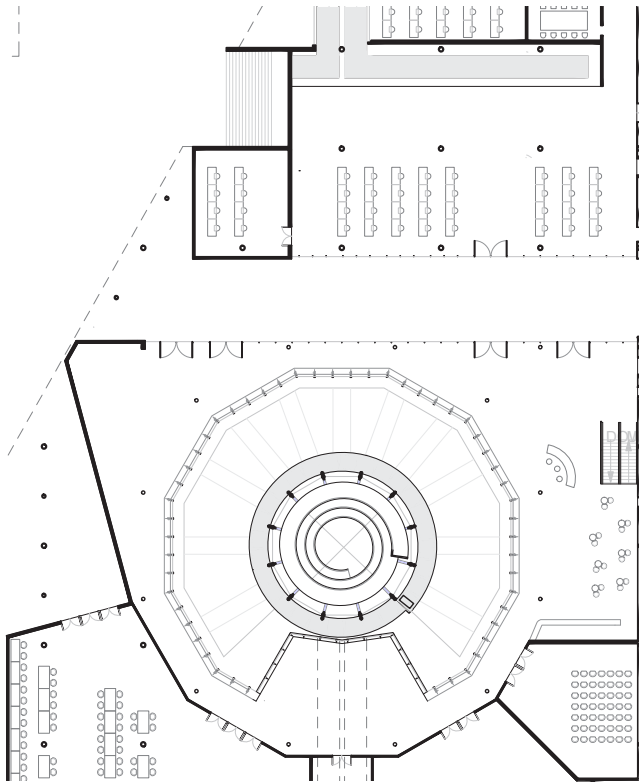
3F



PUBLIC VISITORING ROUTE



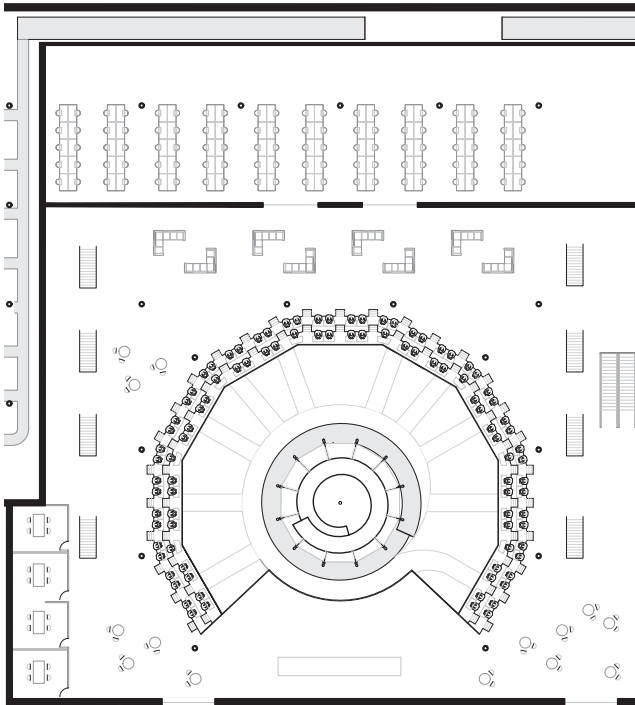
2F



SURVEILLANCE ZONE



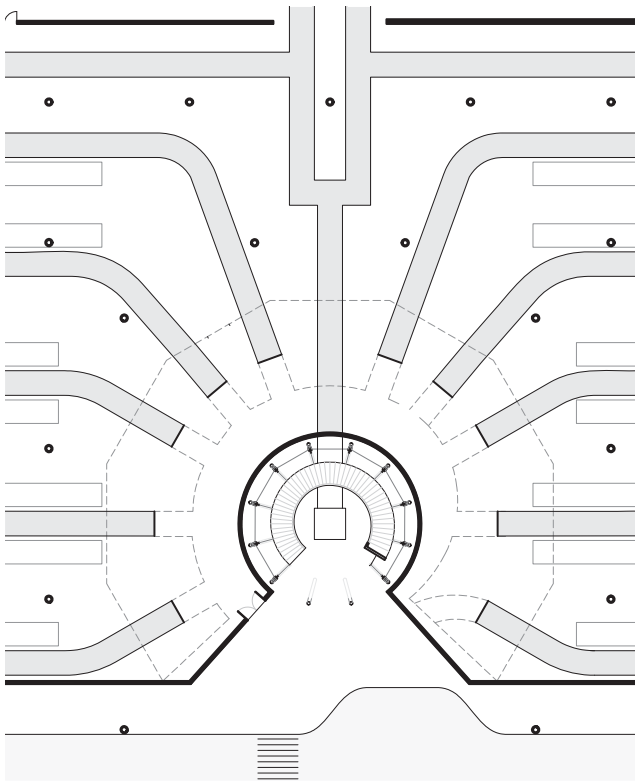
1F



AUCTION ZONE



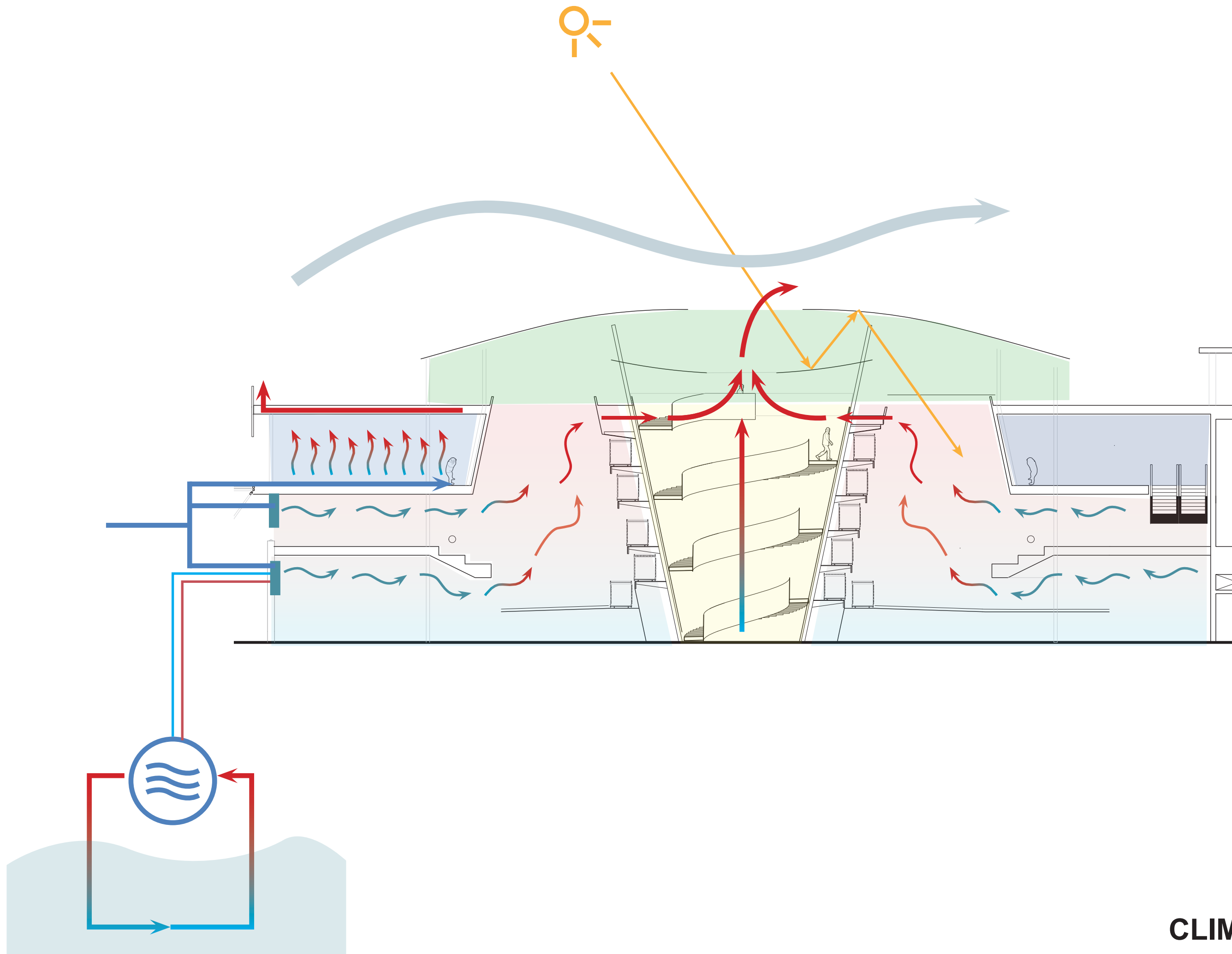
GF



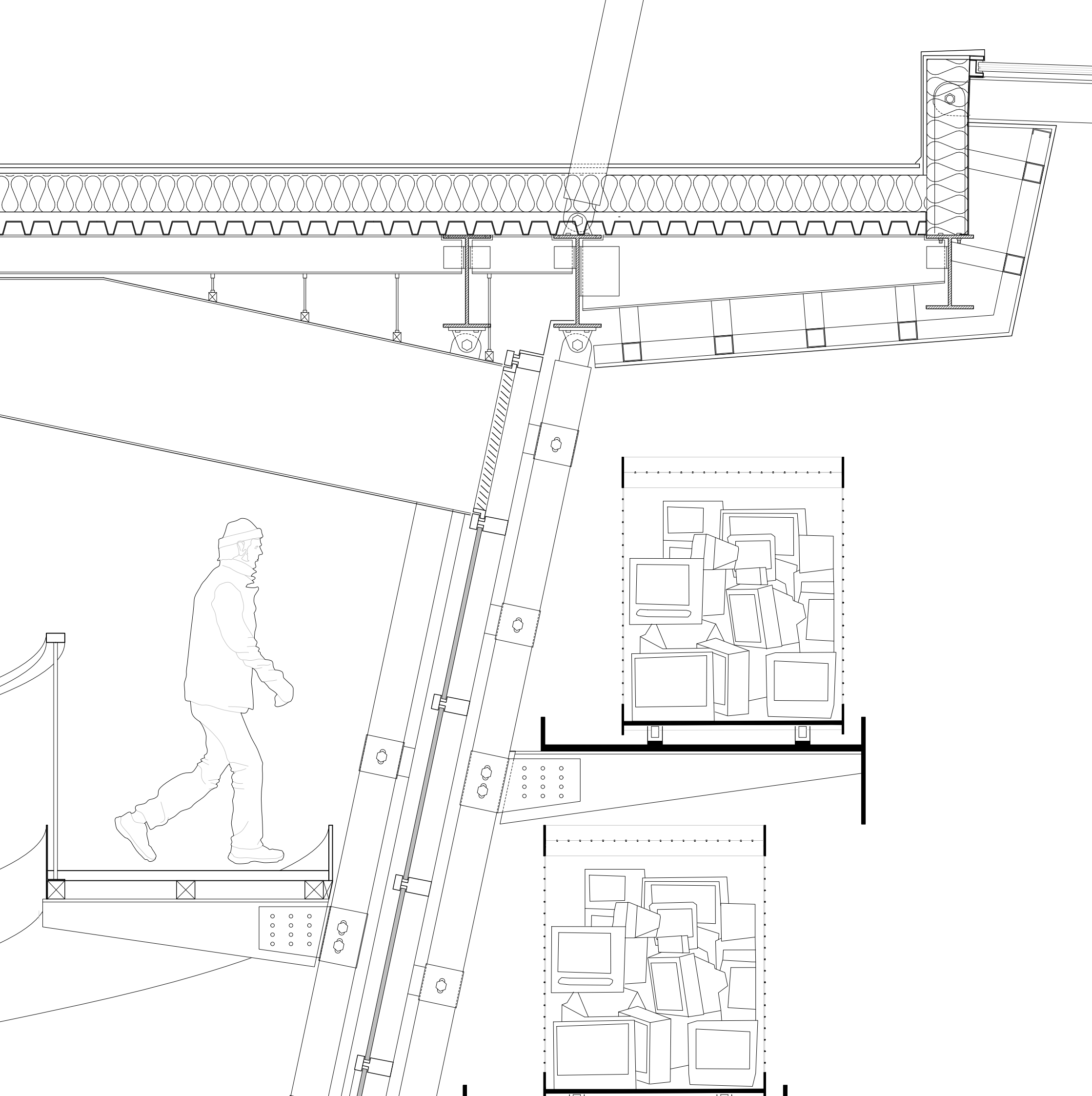
SORTING ZONE



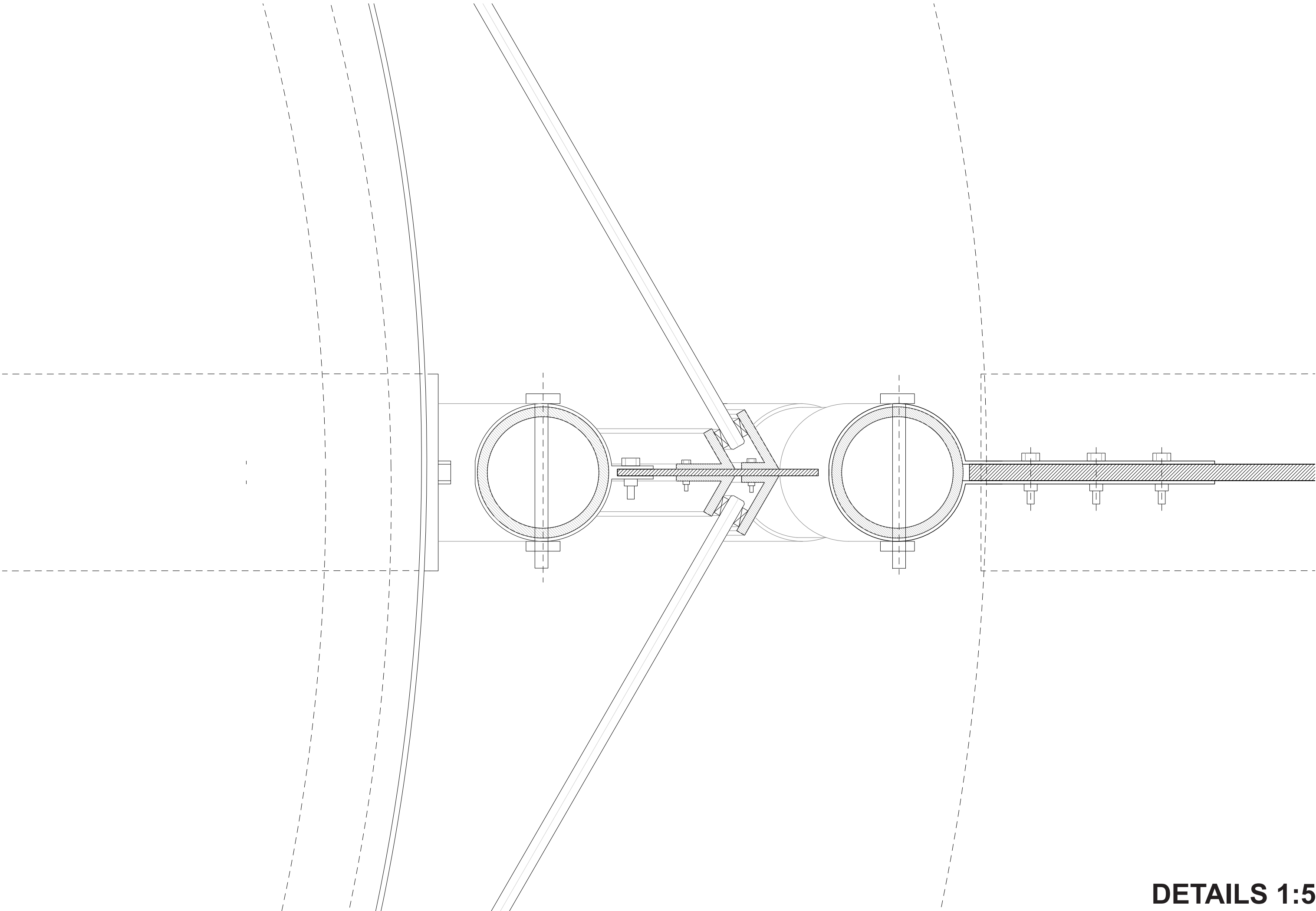
CENTRAL HALL ROOF LIGHT MODULES



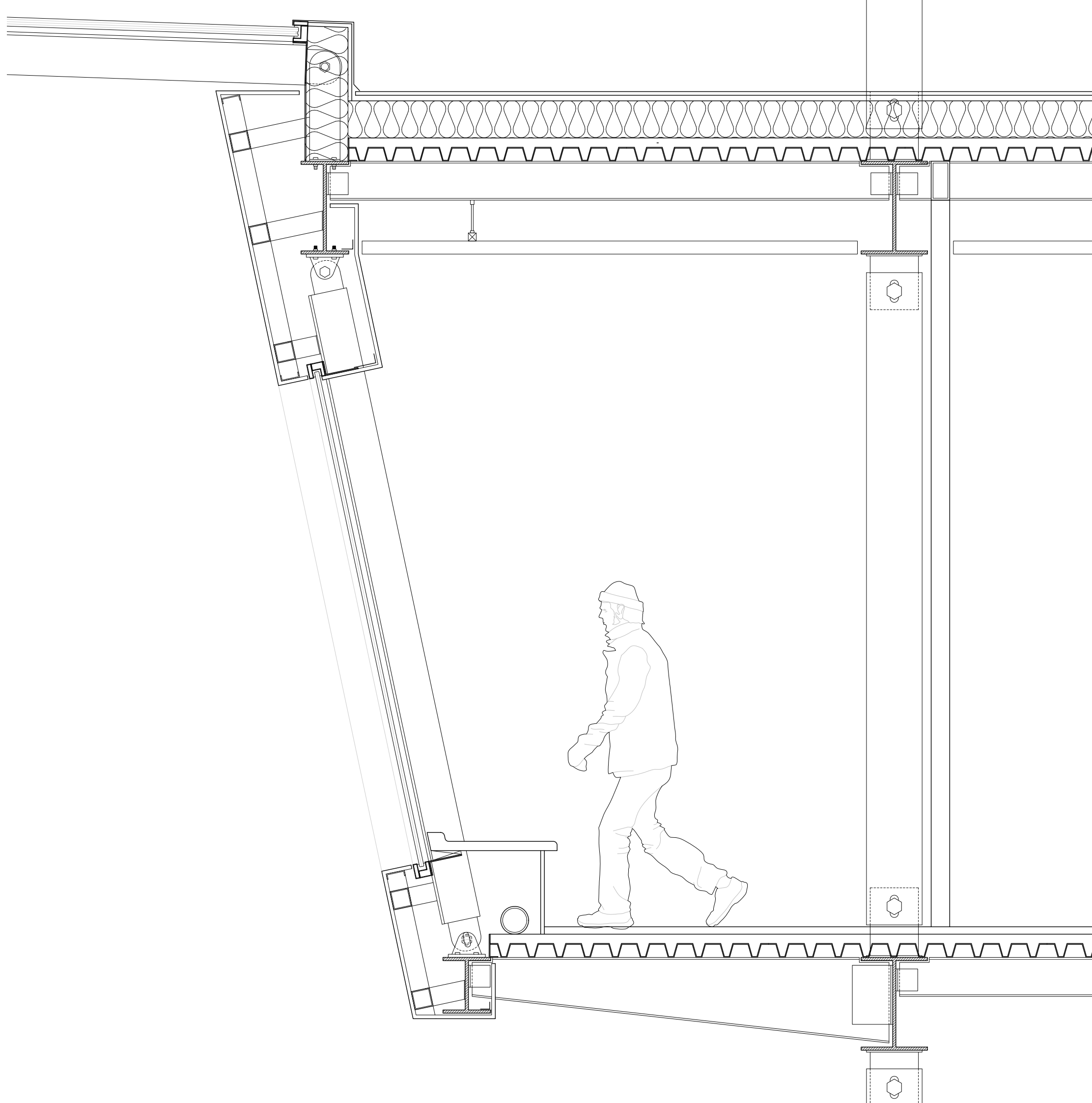
CLIMATE LAYER



DETAILS 1:20



DETAILS 1:5



DETAILS 1:20



PAVILION IN THE PARK