



Hembrug, a culinary centre

P5 Campus South
MSc4 Heritage & Architecture
Maaïke Lengton

Content

- Research

 - Hembrug
 - Campus South
 - Buildings

- Etude

- Design

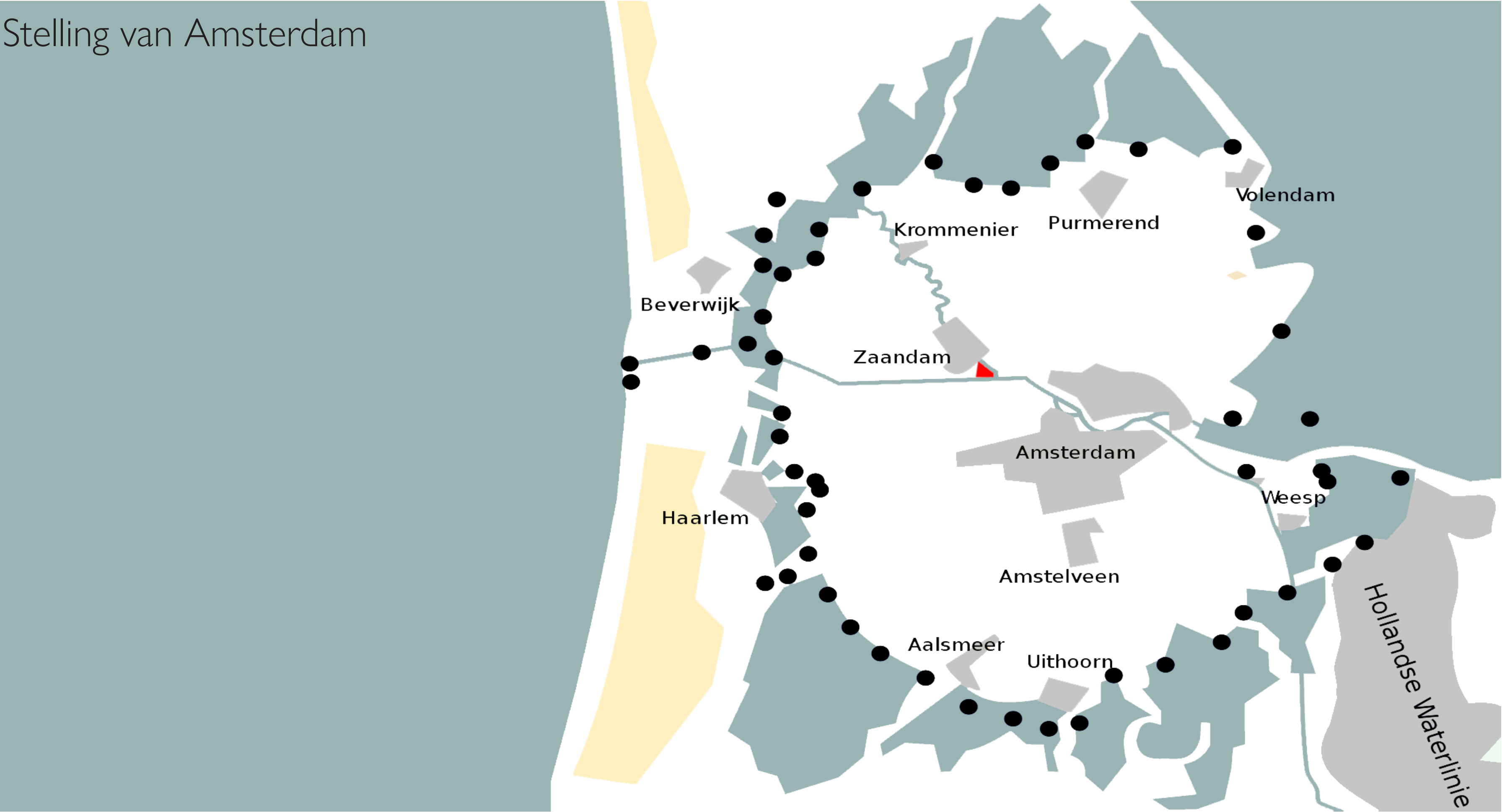
 - Inspiration
 - Program
 - Approach
 - Building design

- Reflection



Research

Stelling van Amsterdam



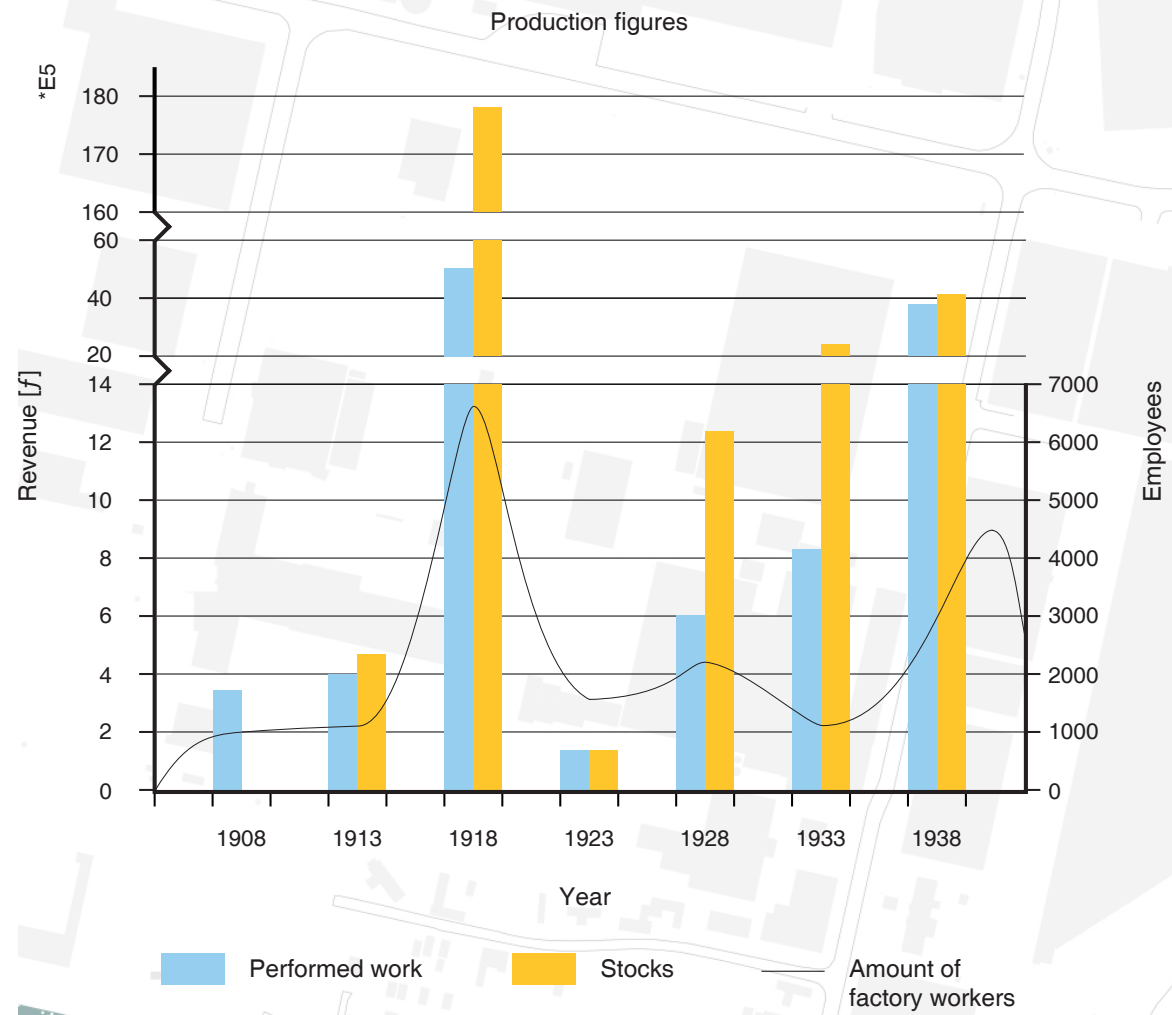


Setup of the site

- 1. Weapon factory
- 2. Cartridge factory
- 3. Ammunition factory



Expansion

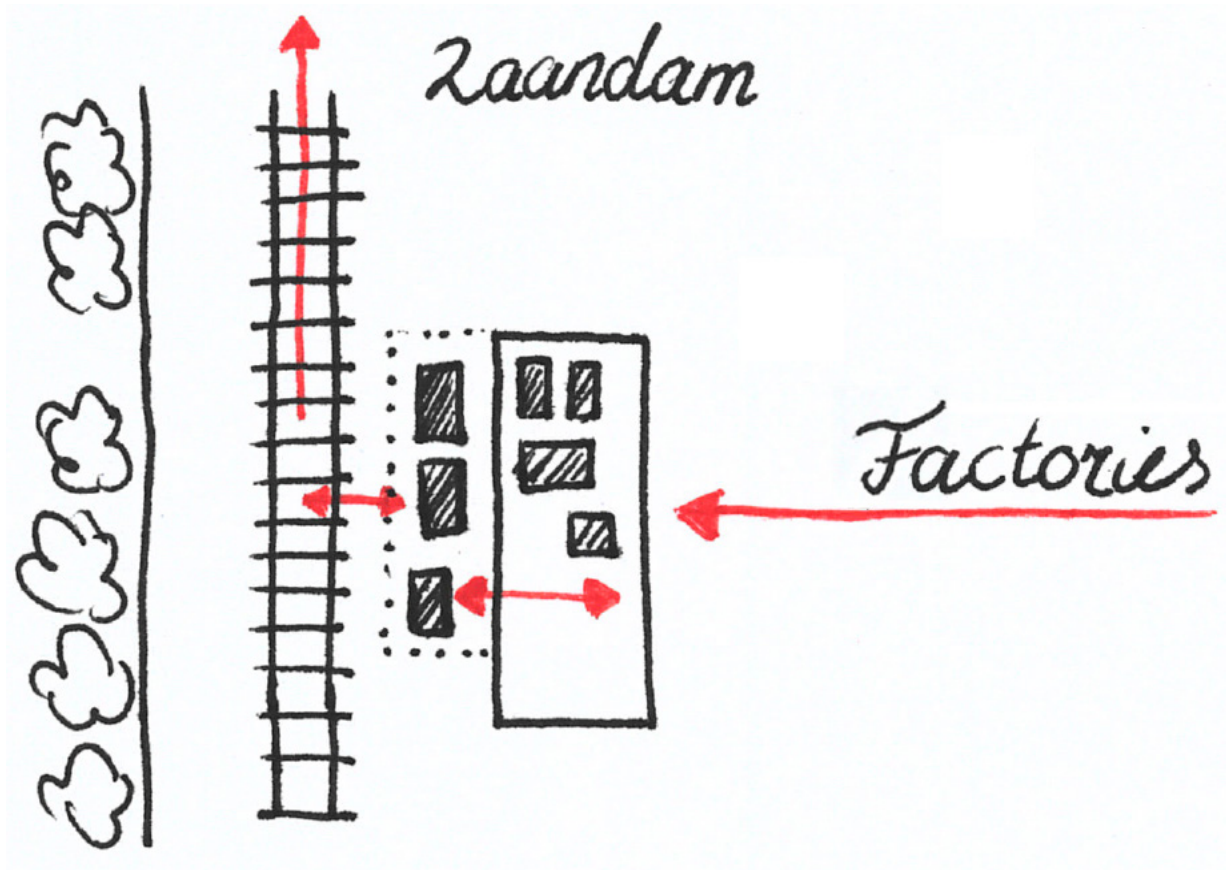


Campus South

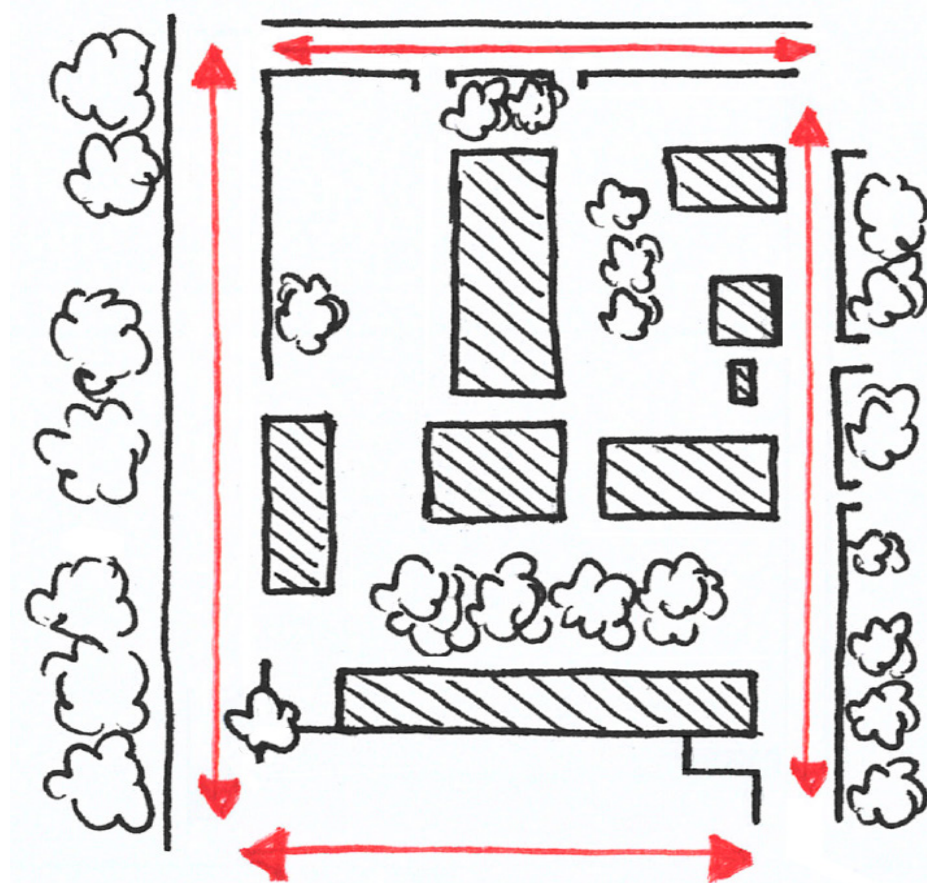
'Campus' - Open field



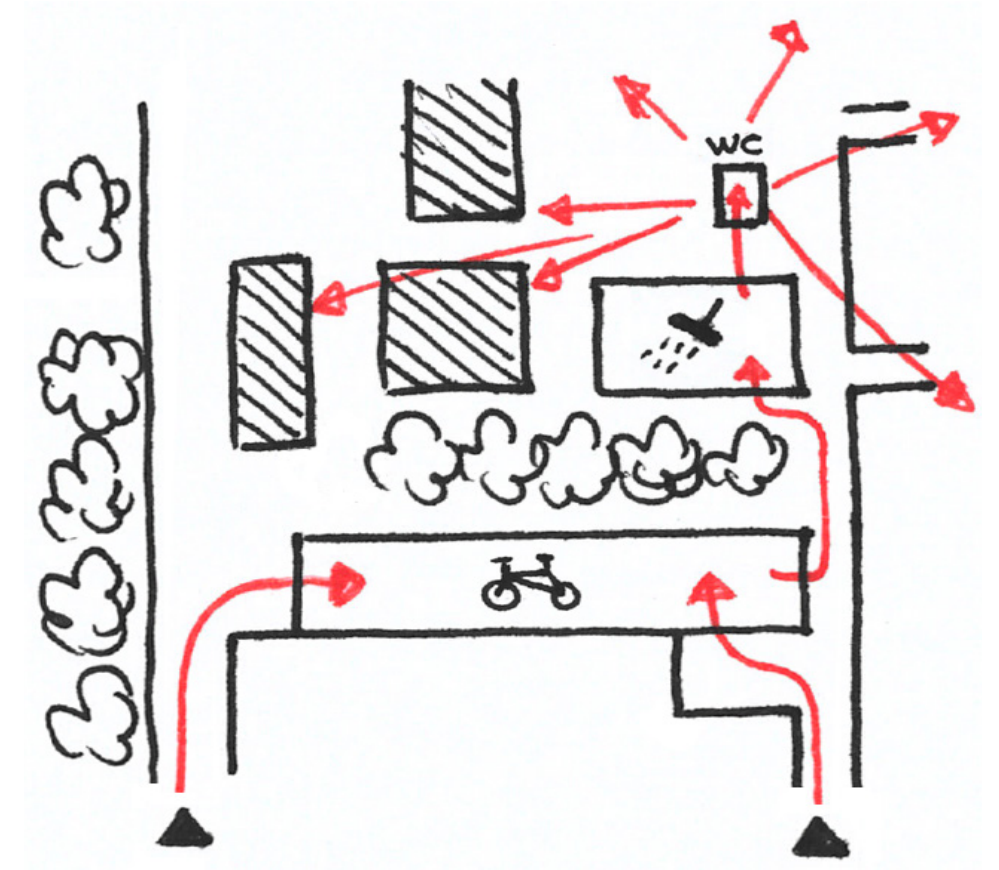
Values of the site



Connecting element



Enclosed by roads



Interrelationship

Buildings

1. Boiler building
2. Expedition building
3. Heat treatment building
4. Washing hall
5. Bicycle shed



1



2



3

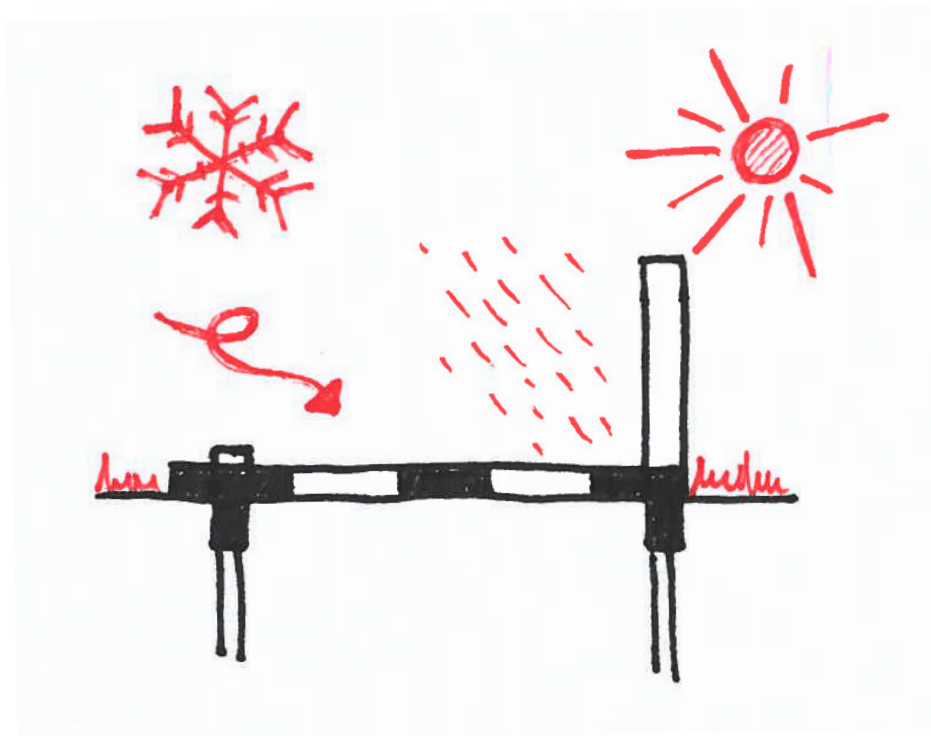
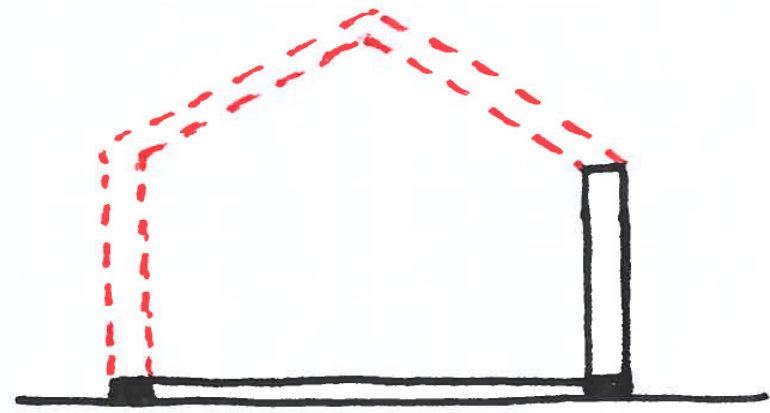


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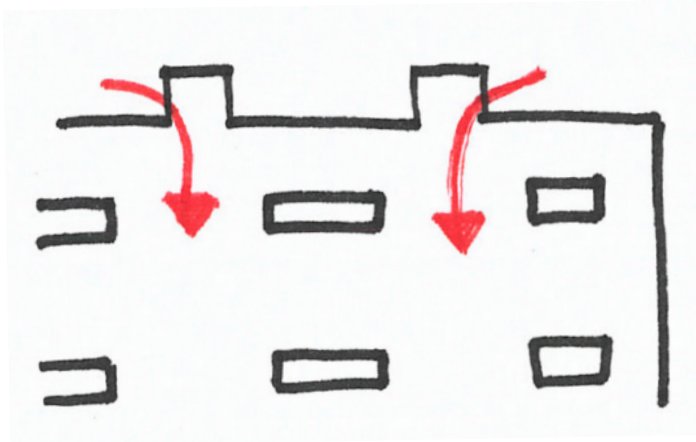
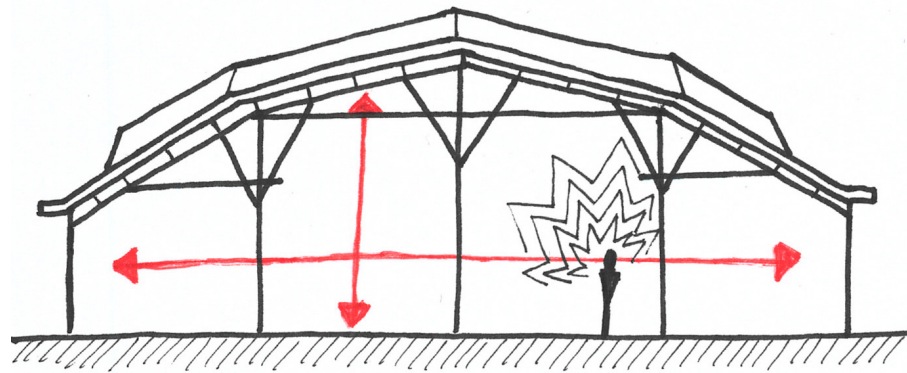


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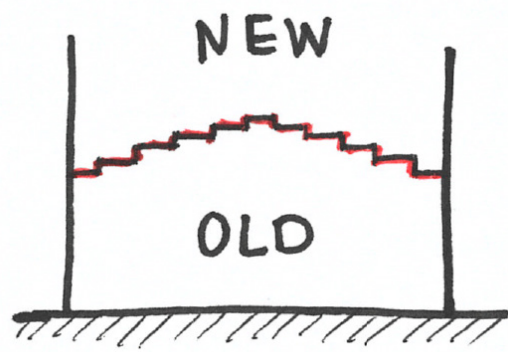
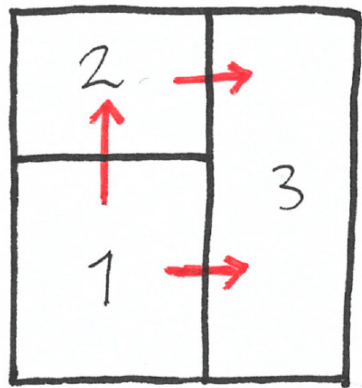
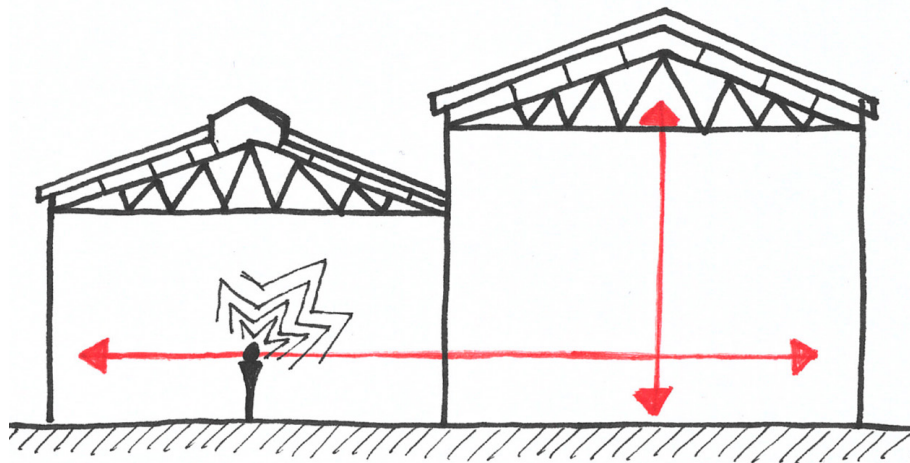
Bicycle shed




Washing hall



Heat treatment building



Etude



👤 **Koos | 1931**

📍 Former employee Ammunition factory

Hembrugterrein

Zaandam, the Netherlands

Januari 2018

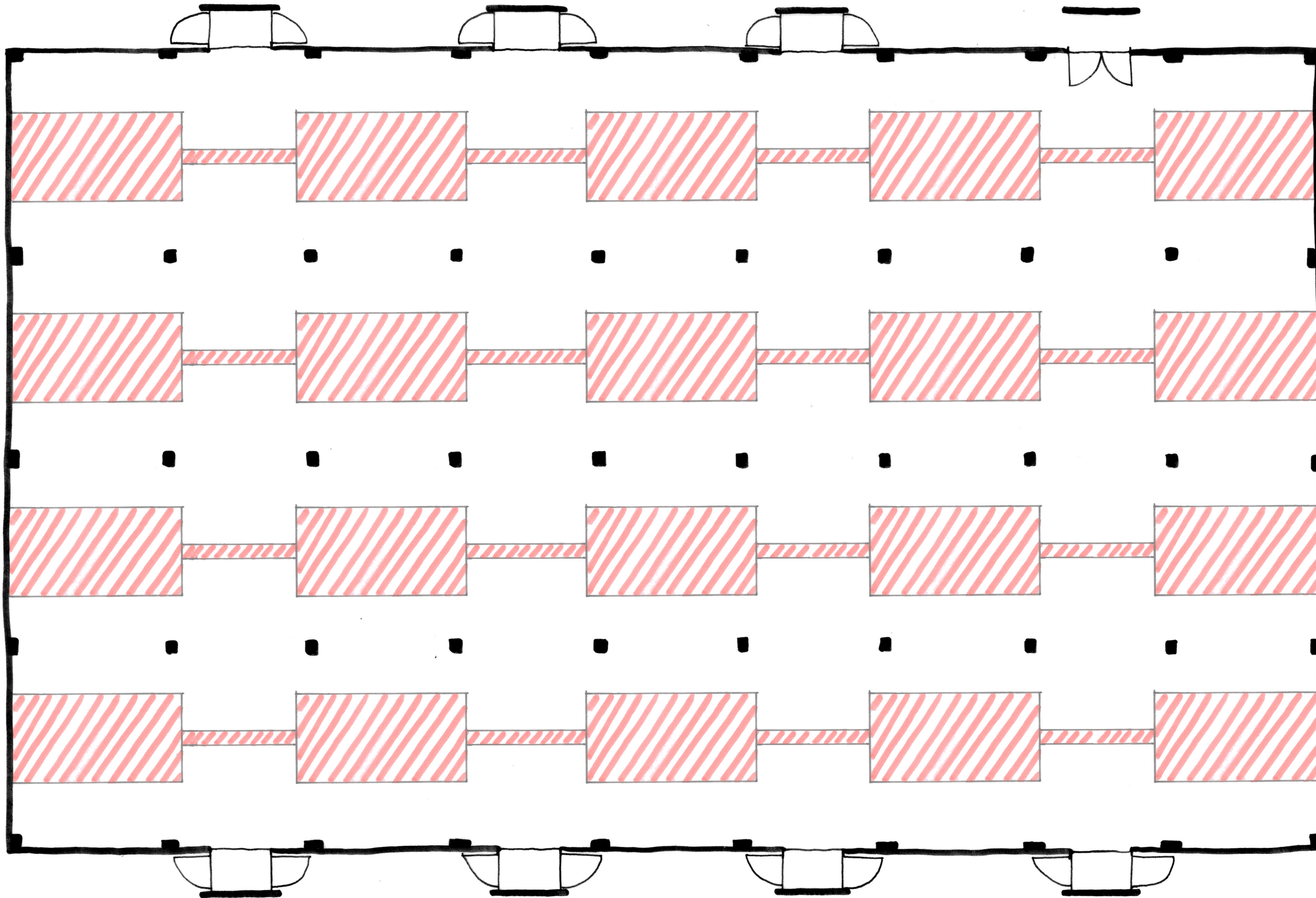
Design



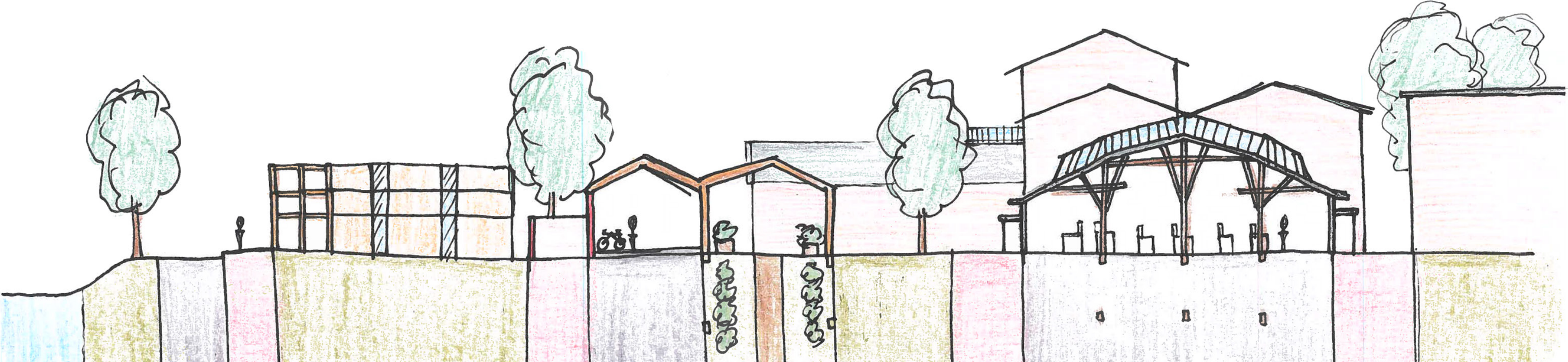
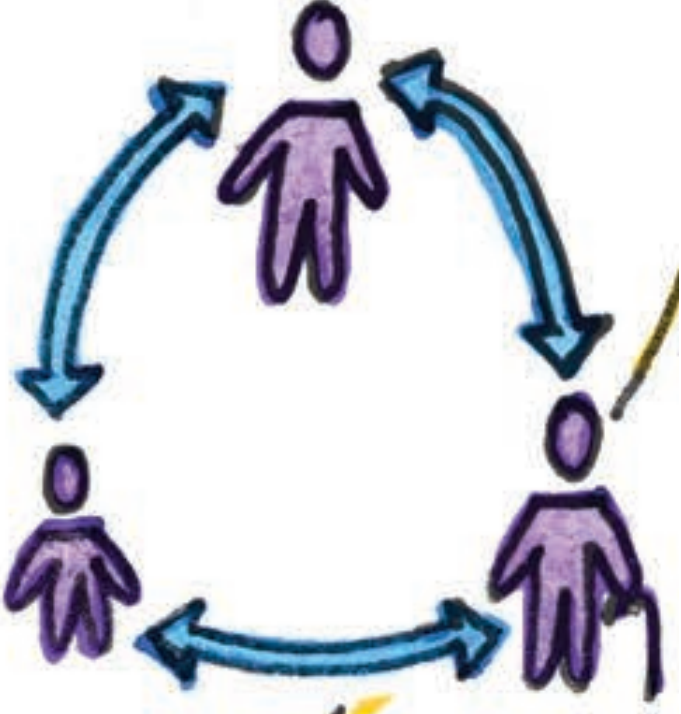
Hembung



Inspiration



Multigenerational learning



ROC Mondriaan



Facilities & study program



Demonstration kitchen



Instruction kitchen



Professional kitchen



Class rooms



Lab



Restaurant



Lecture hall



Auditorium



Study places



Offices



Lockers



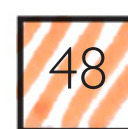
Changing rooms



Toilets



Bicycles



Scooters



Cars

Self-employed chef - 120 students
 Specialized chef - 60 students
 Total: 180 students

Students	Year	
Bachelor	First	60
	Second	60
Master	First	30
	Second	30
Total		180

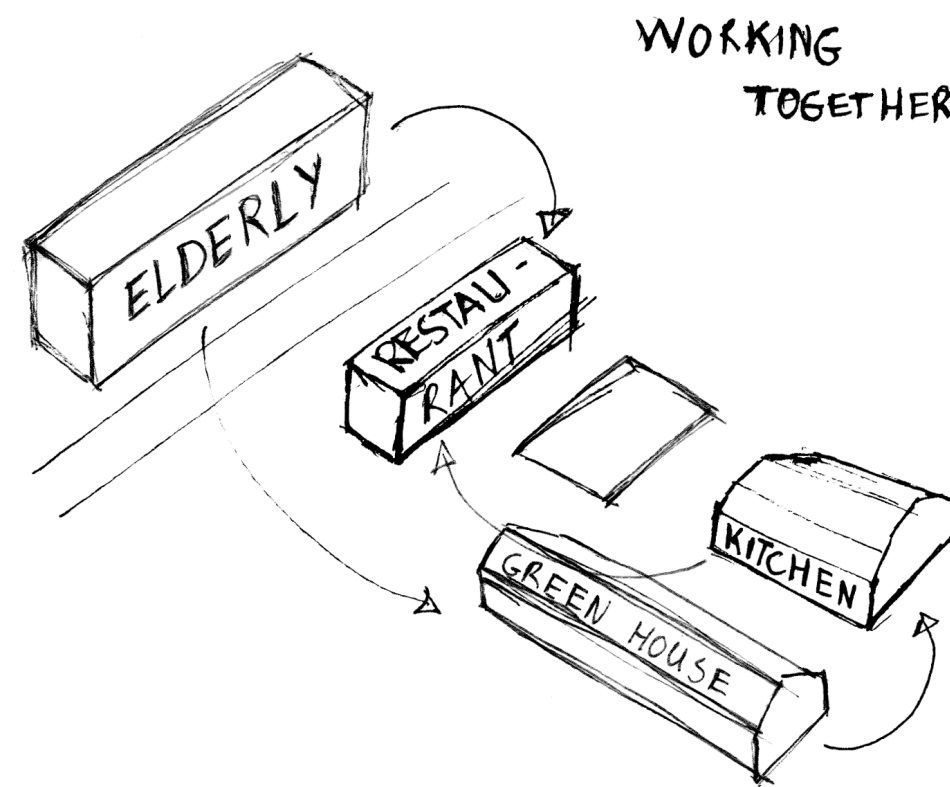
x/week	Demonstr.	Instr.	Prof.	Study	Lecture	LAB	Internship
BS.1	3	2	-	1	3	-	-
BS.2	2	2	-	1	2	-	1
MS.1	-	1	2	2	2	1	1
MS.2	-	1	3	-	1	2	1

Time table

	Demonstr.1	Demonstr.2	Instr.1	Instr.2	Profes.	Independent study	Lecture 1	Lecture 2	Lecture 3	LAB	Internship		
Mon.	BS.1.1	BS.1.3	BS.2.1	BS.2.3	MS.1.2	BS.2.2	MS.1.1	BS.1.4	BS.1.2	MS.2.1	MS.2.2		
	BS.1.2	BS.1.4	BS.2.2	BS.2.4	MS.1.1	BS.2.1	MS.1.2	BS.1.3	BS.1.1	MS.2.2	MS.2.1		
Tue.	BS.2.1	BS.2.3	BS.1.1	BS.1.3	MS.2.1	BS.1.2		BS.2.2	BS.2.4	BS.1.4	MS.2.2	MS.1.1	
	BS.2.2	BS.2.4	BS.1.2	BS.1.4	MS.2.2	BS.1.1		BS.2.1	BS.2.3	BS.1.3	MS.2.1	MS.1.2	
Wens.	BS.1.1	BS.1.3	BS.2.1	BS.2.3	MS.1.2	BS.2.4		BS.1.4	BS.1.2	MS.1.1		MS.2.1	
	BS.1.2	BS.1.4	BS.2.2	BS.2.4	MS.1.1	BS.2.3		BS.1.3	BS.1.1	MS.1.2		MS.2.2	
Thur.	BS.2.1	BS.2.3	BS.1.1	BS.1.3	MS.2.1	BS.1.4	MS.1.2	BS.2.2	BS.2.4	BS.1.2	MS.1.1		
	BS.2.2	BS.2.4	BS.1.2	BS.1.4	MS.2.2	BS.1.3	MS.1.1	BS.2.1	BS.2.3	BS.1.1	MS.1.2		
Fri.	BS.1.1	BS.1.3	MS.2.1	MS.1.1	MS.2.2			BS.1.4	BS.1.2	MS.1.2		BS.2.1	BS.2.3
	BS.1.2	BS.1.4	MS.2.2	MS.1.2	MS.2.1			BS.1.3	BS.1.1	MS.1.1		BS.2.2	BS.2.4

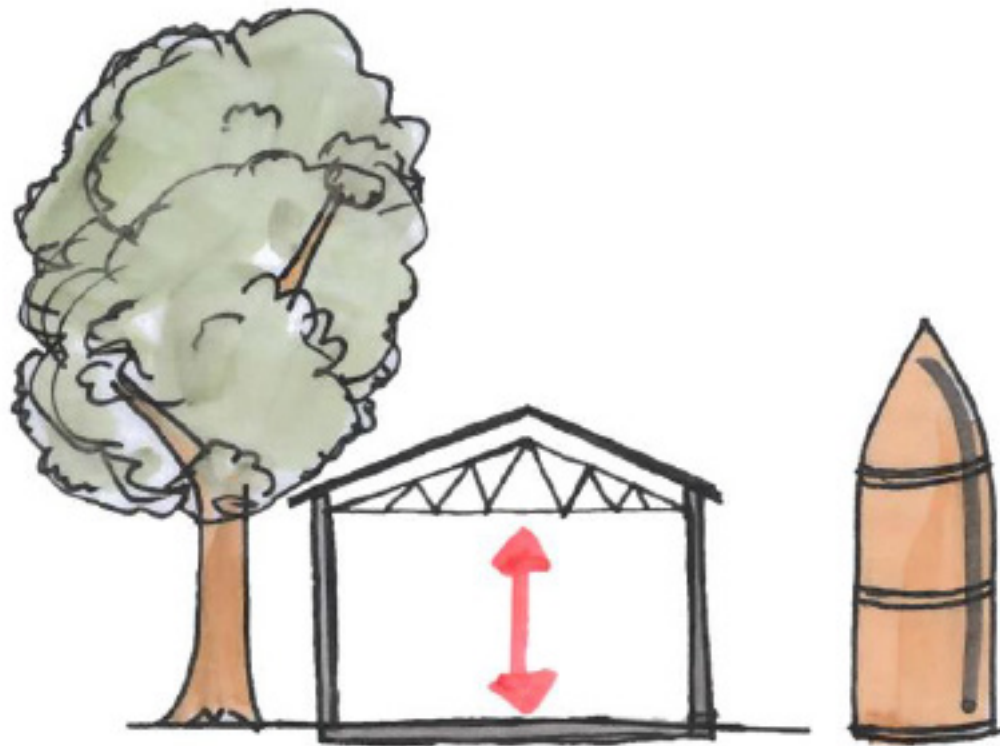
Ensemble - program

1. Elderly housing
2. Auditorium, instructional kitchens, changing rooms & lockers
3. Food lab
4. Offices
5. Show kitchen & cafeteria
6. Library, coffee corner & canteen
7. Demonstration kitchens
8. Green houses
9. Bicycle shed
10. Star restaurant



Heritage position

'Reduce, reuse, recycle'



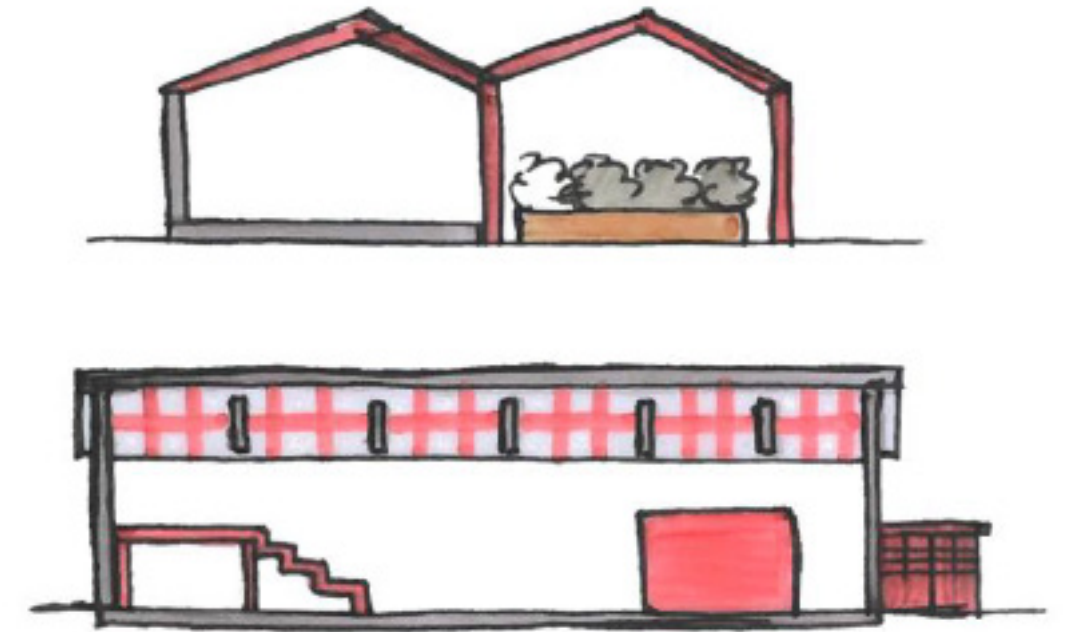
Reveal the essence and narrative

-
'Perception'



Reuse what is there

-
'Maintenance, material recycling'



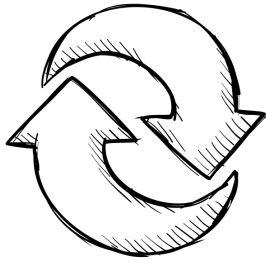
Add a new layer and infill

-
'Conversion, infill, Gestalt recycling'

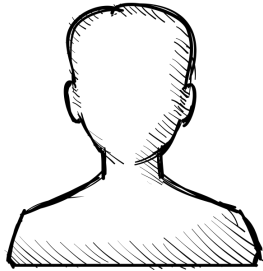
Sustainability concept



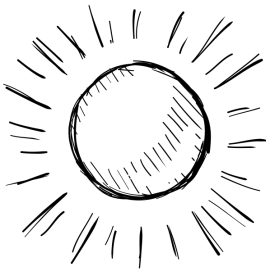
Environment



Soil



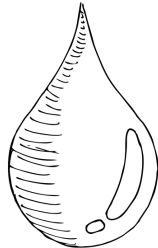
People



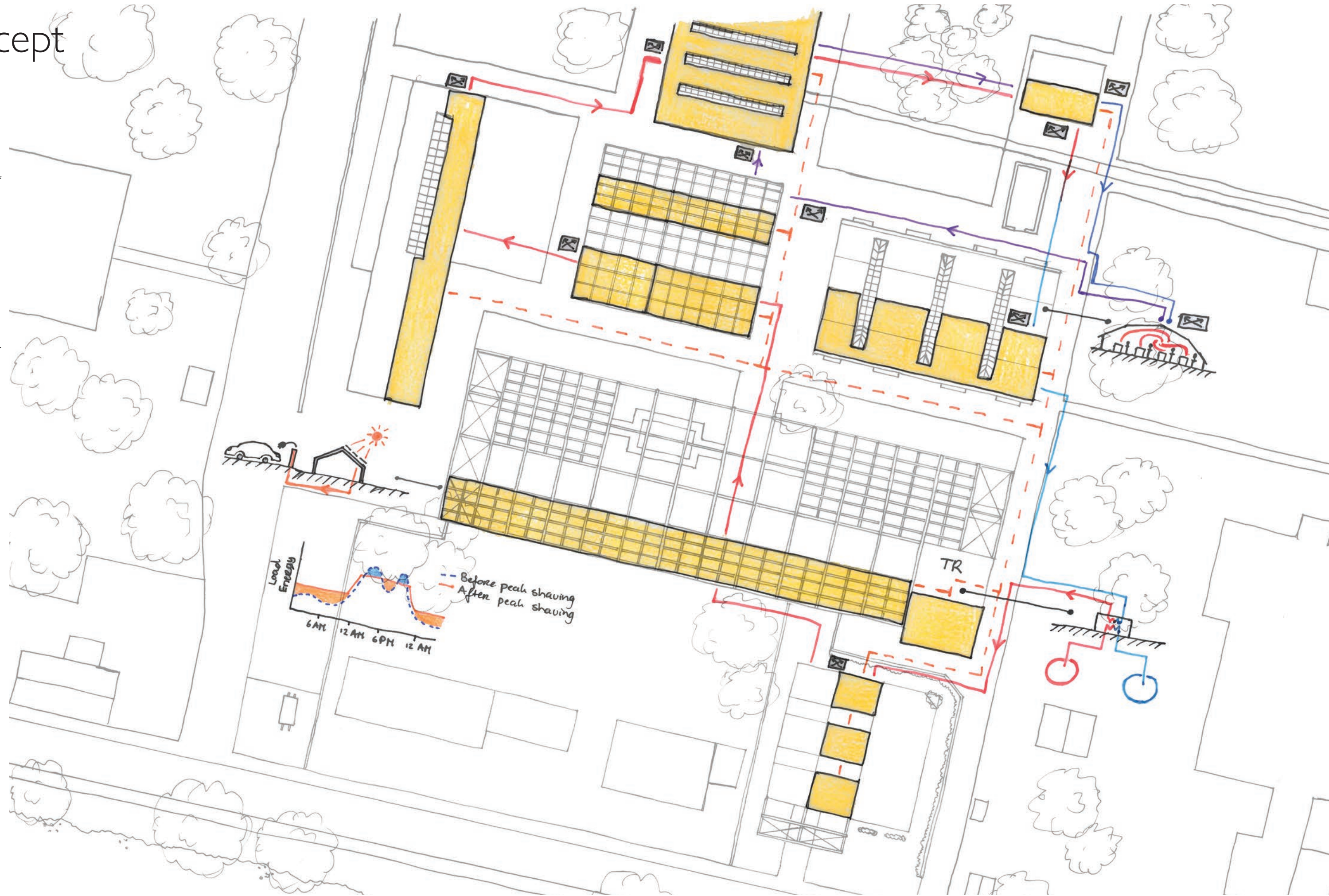
Light



Animals



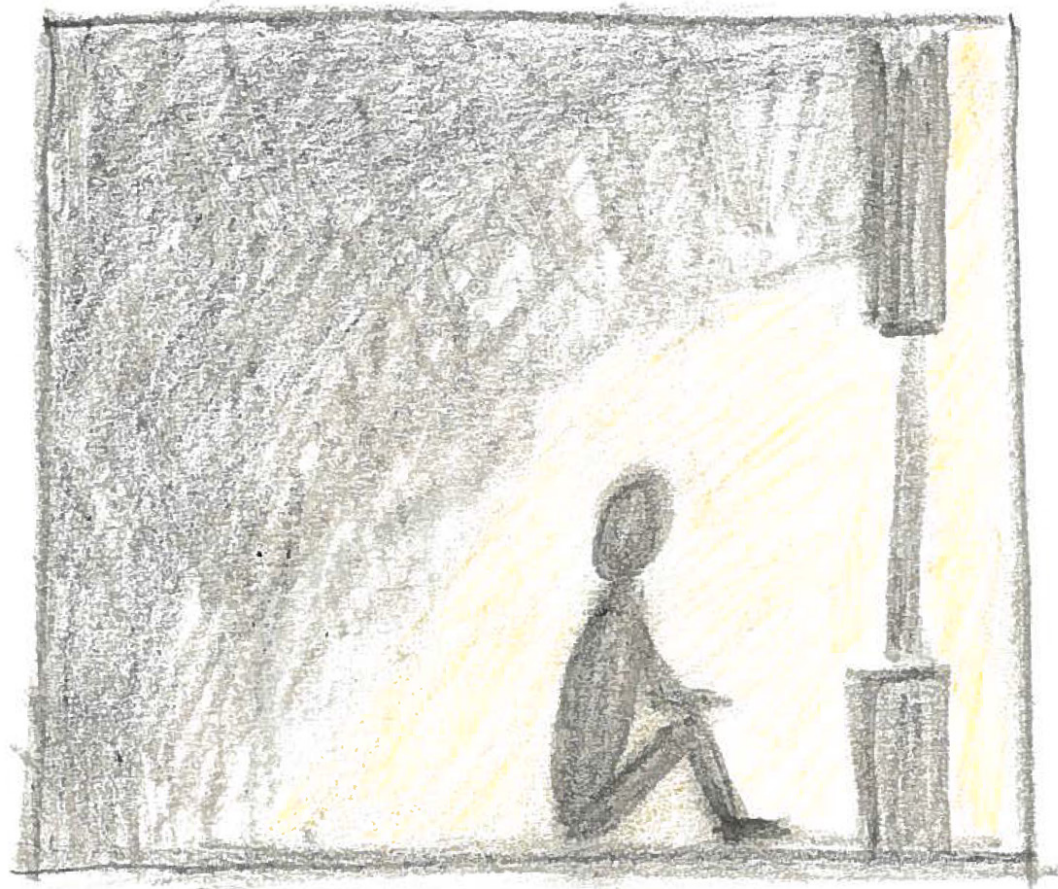
Water



Light



Light



“We draw ourselves into the light.”



Sequence of light -
Pirkkala church Finland

“Space is created in time.
Working with light and
shadow makes it possible to
create spaces that exist for
no longer than a second.”

Machiel Spaan

Tour de ensemble



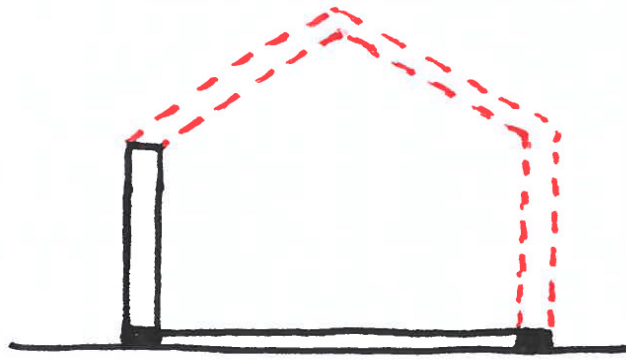
Bicycle shed



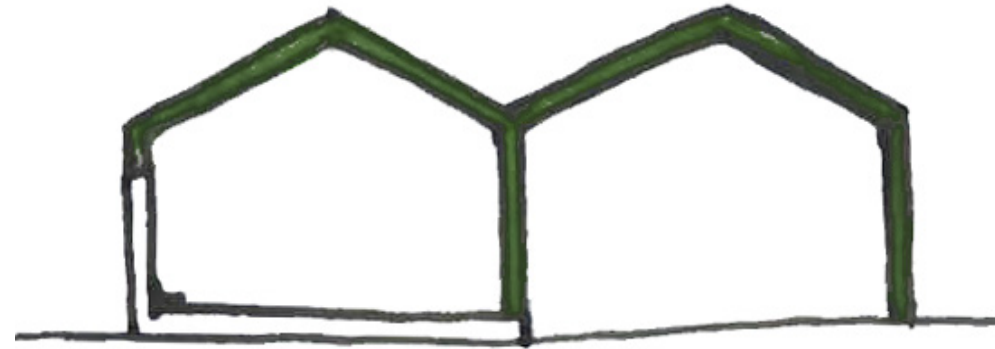
Bicycle shed & green house

-Starting points

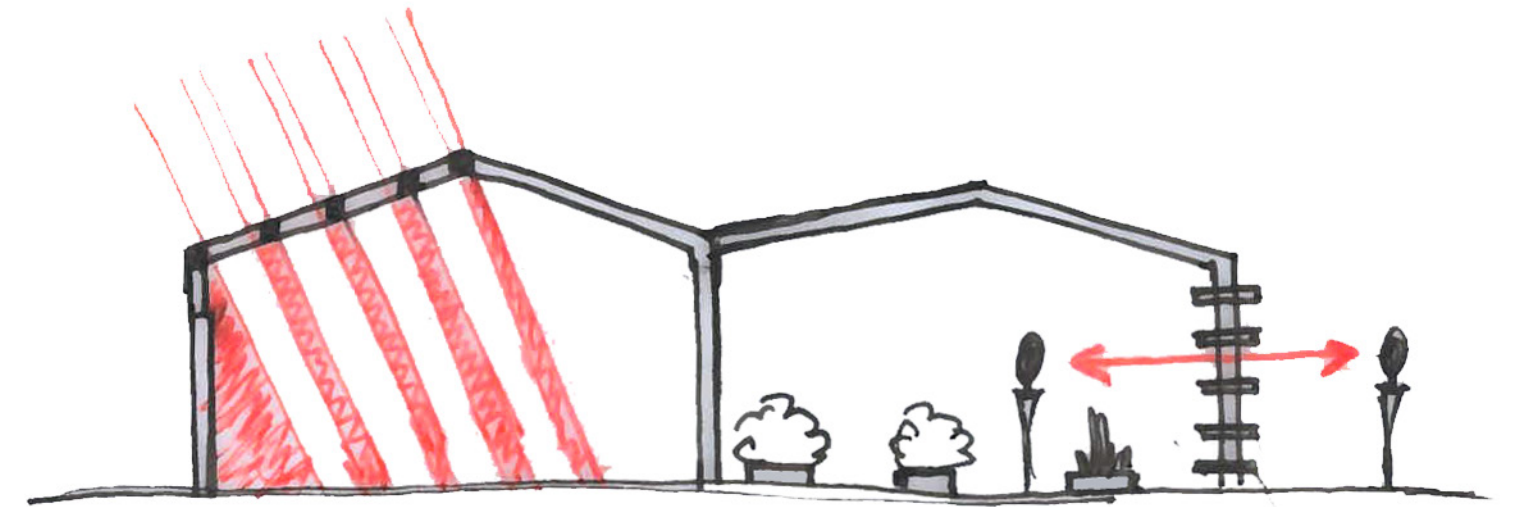
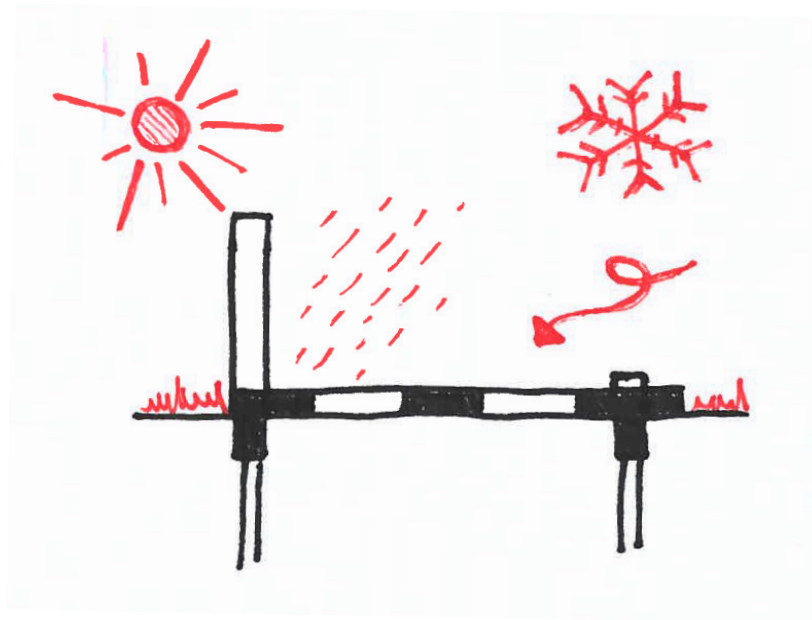
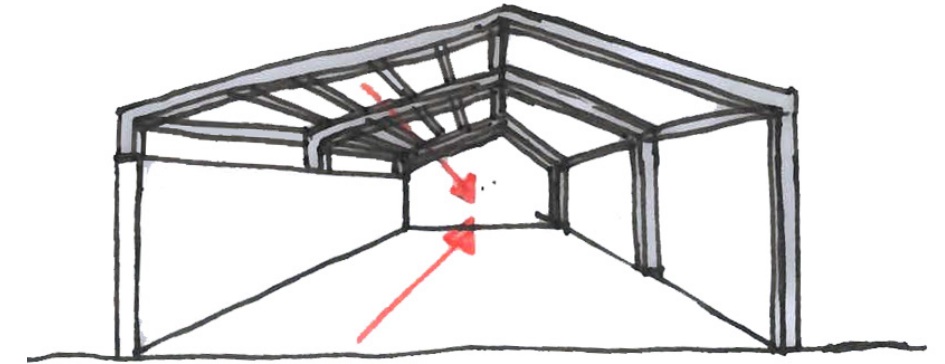
Values



Interventions



Design principles



Bicycle shed & green house

- References

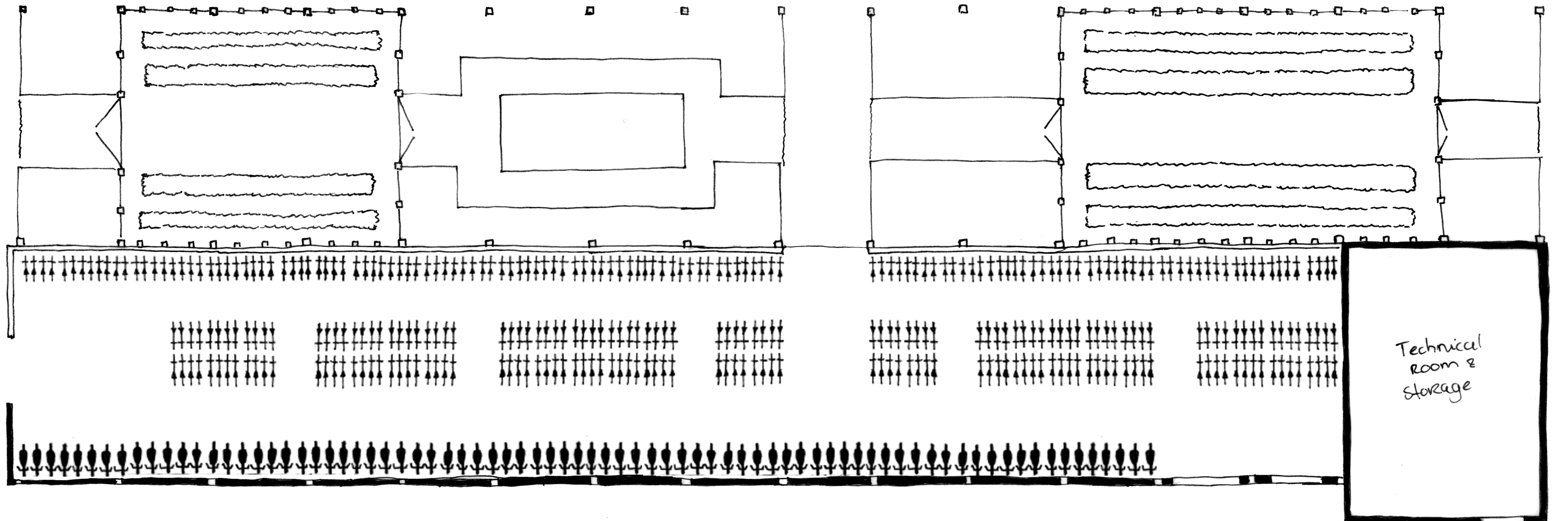
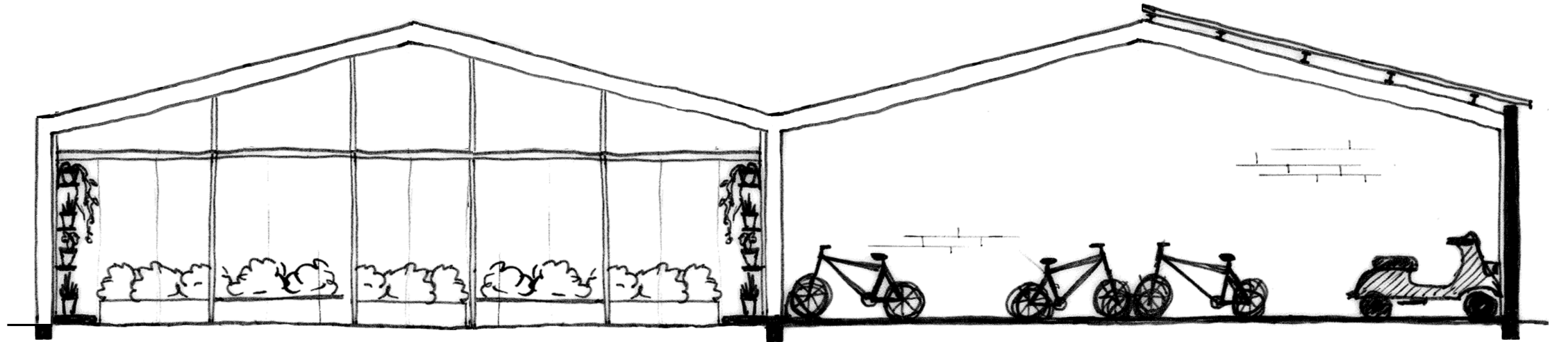
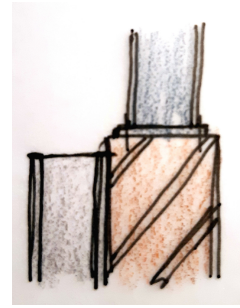
Guiding the user with light and shadow

Connecting inside and outside with glass blinds



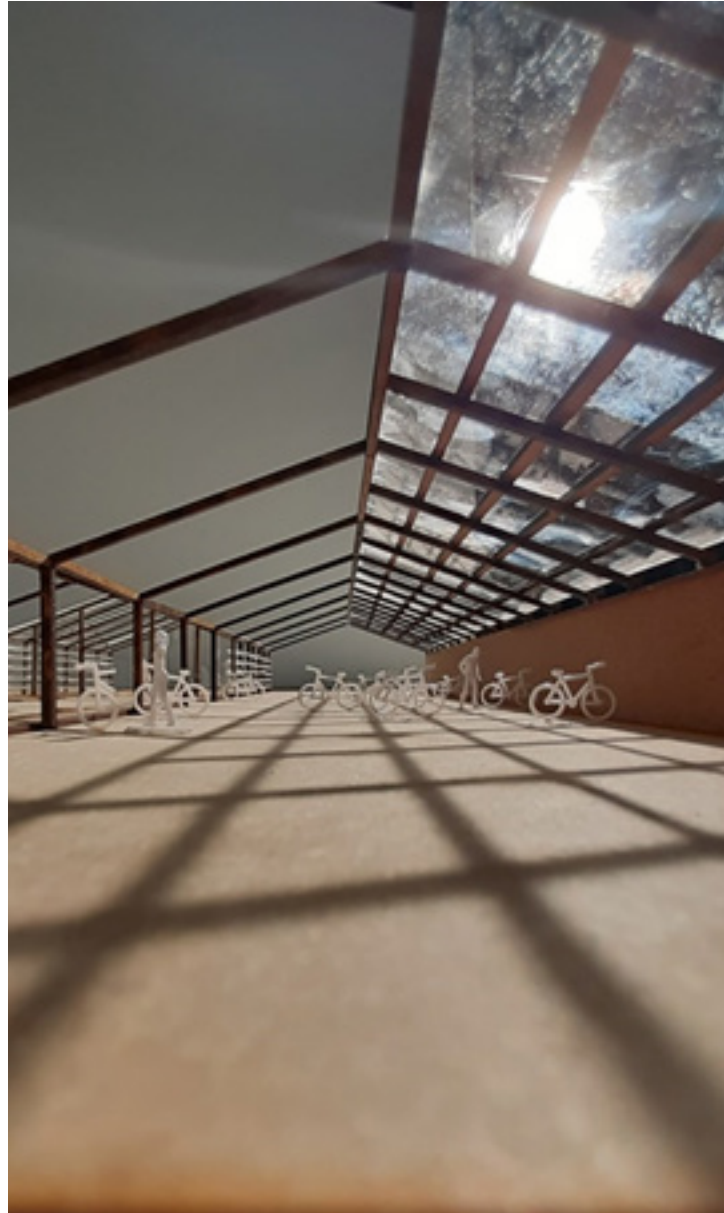
Bicycle shed & green house

- Plan

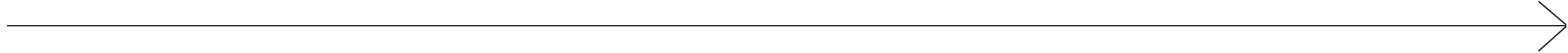


Bicycle shed

- Sun cycle

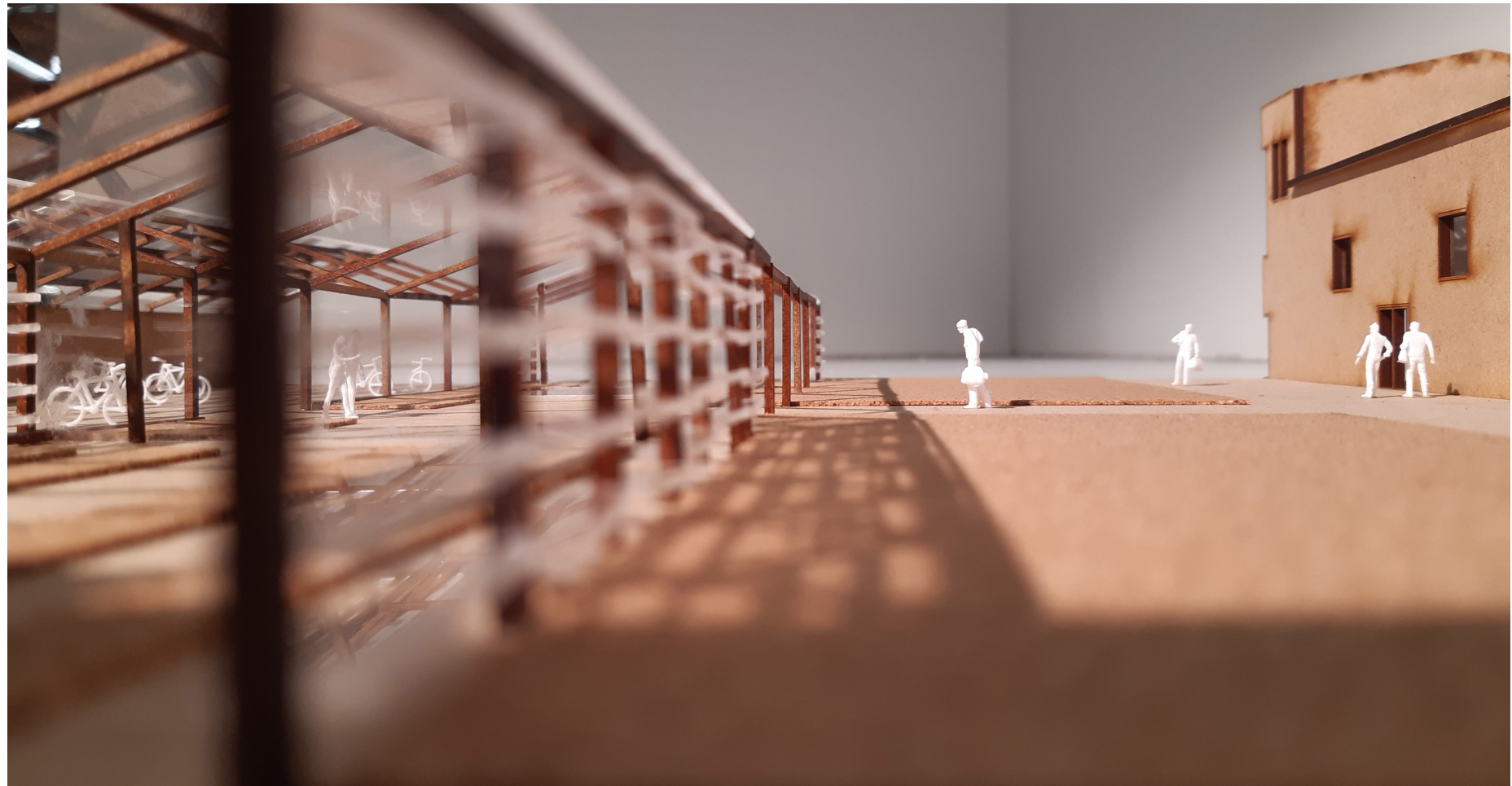
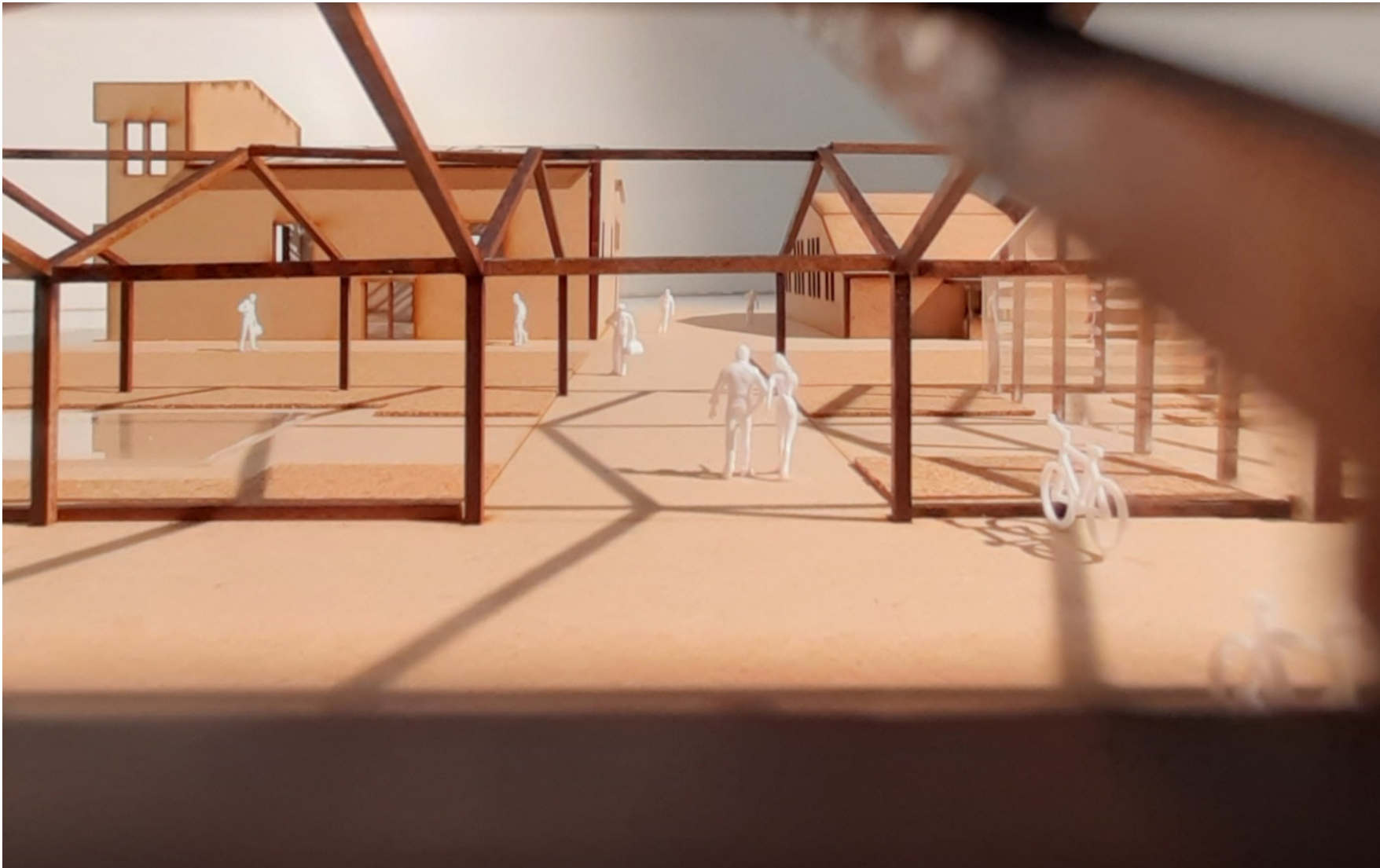
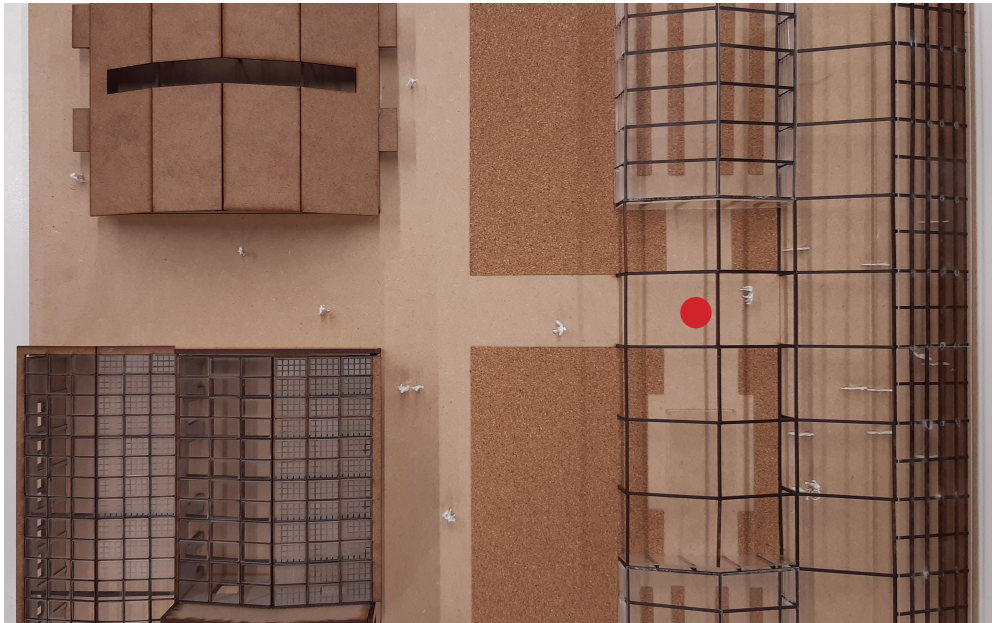
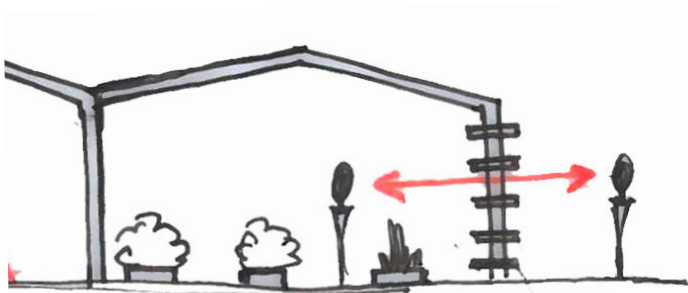


Sunrise

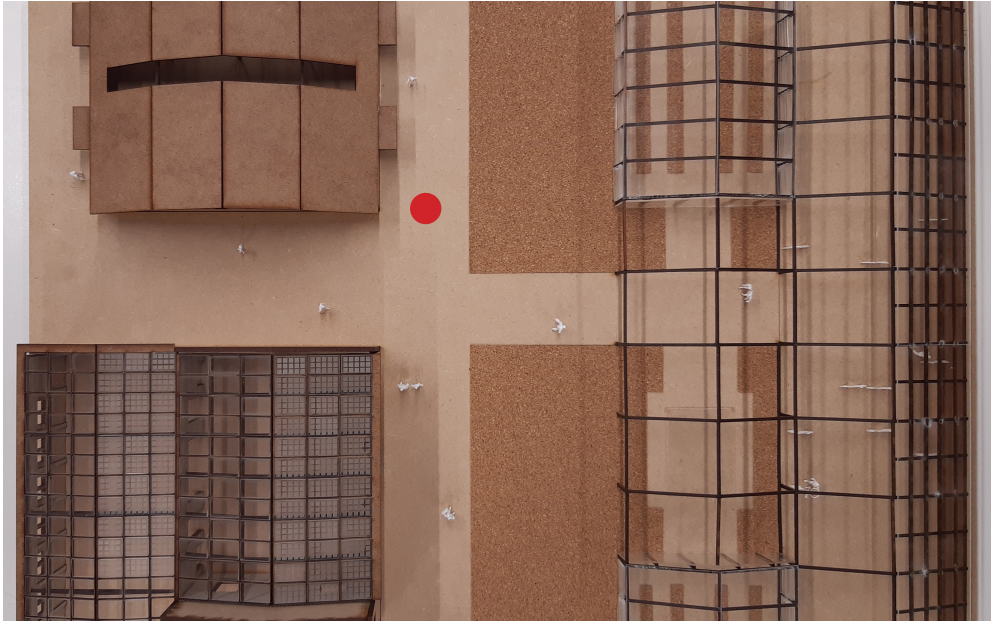


Sunset

Green house



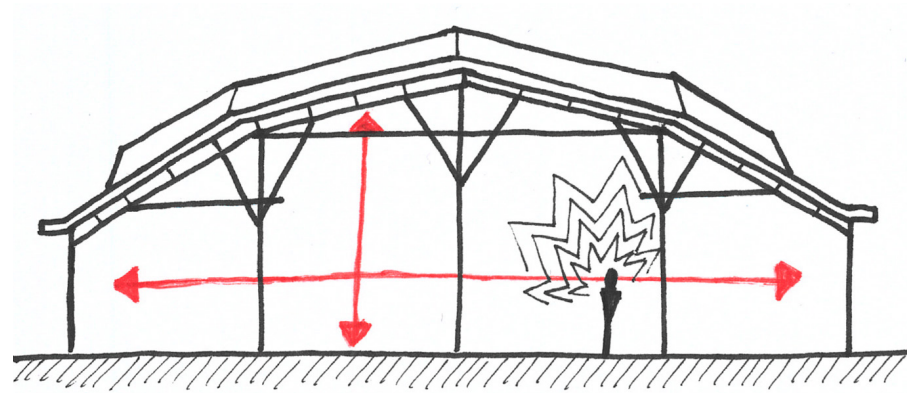
Washing hall



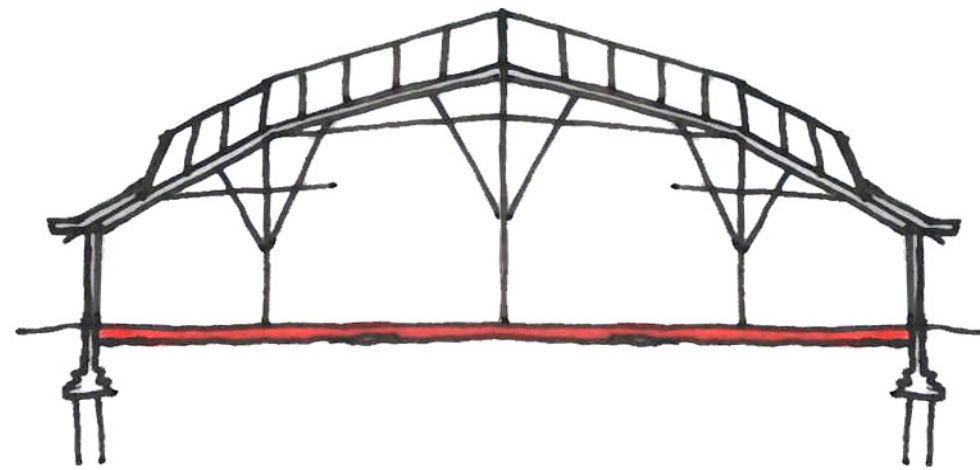
Washing hall

- Starting points

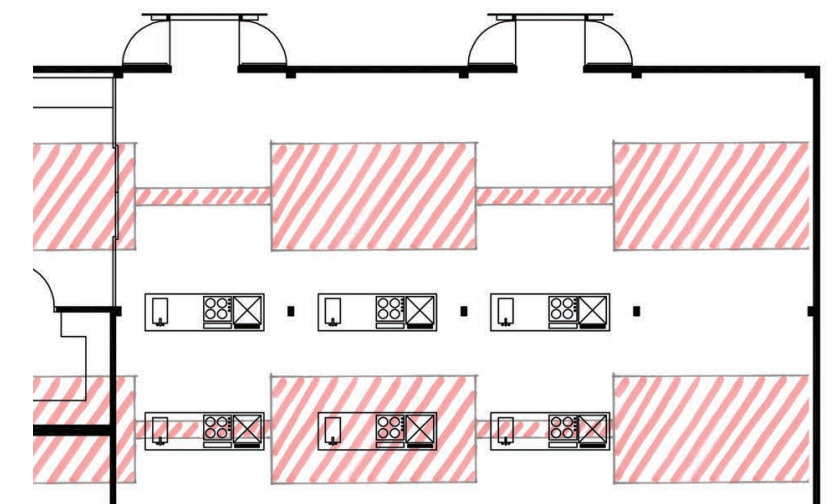
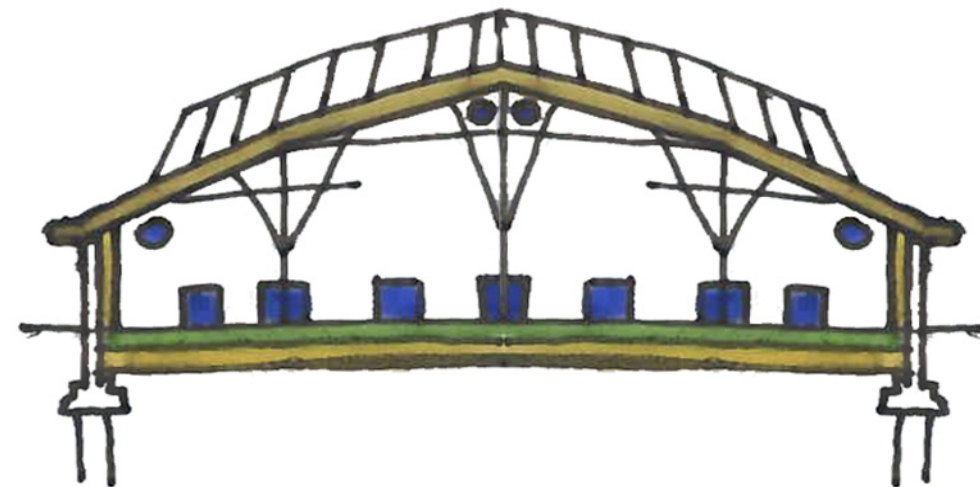
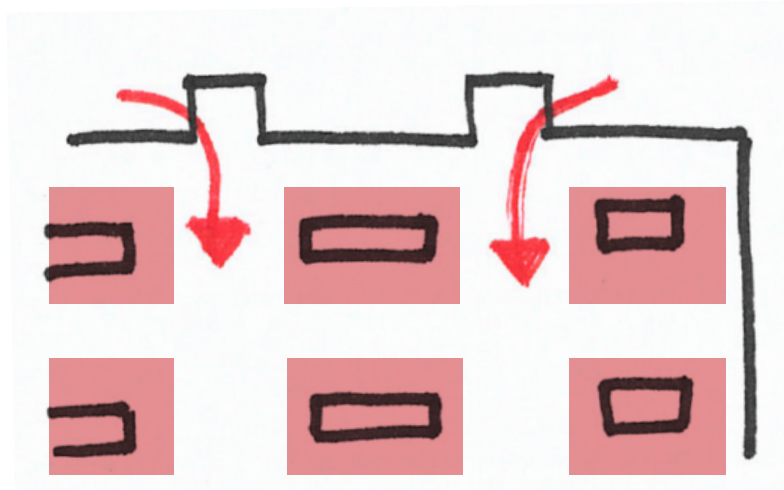
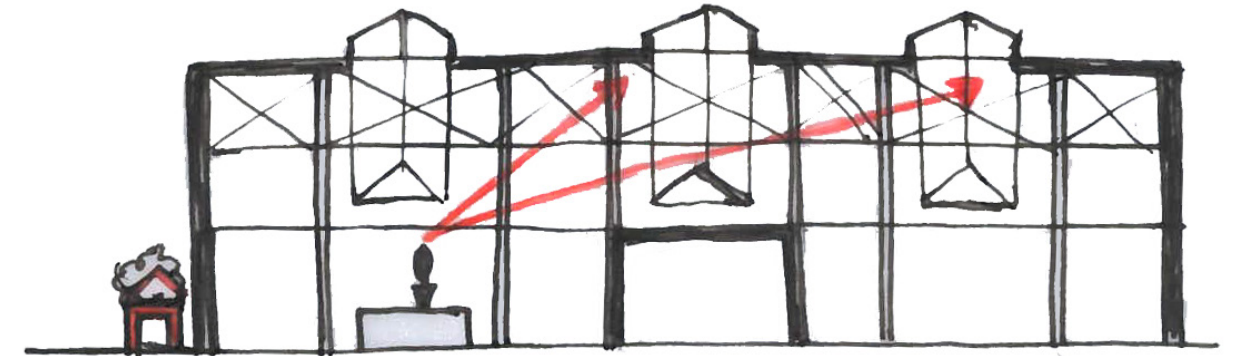
Values



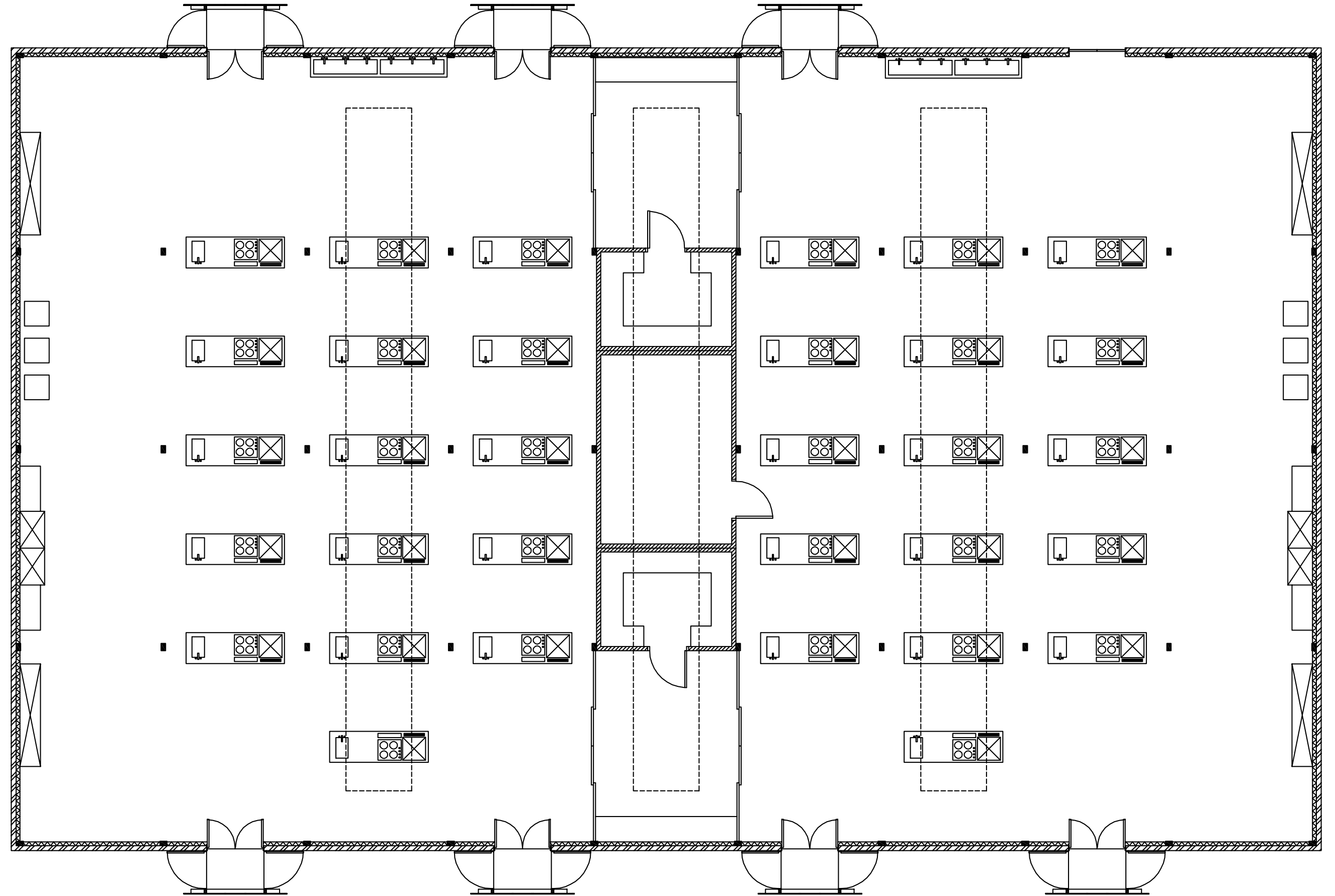
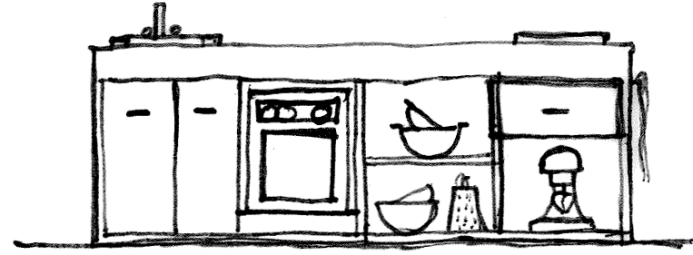
Interventions



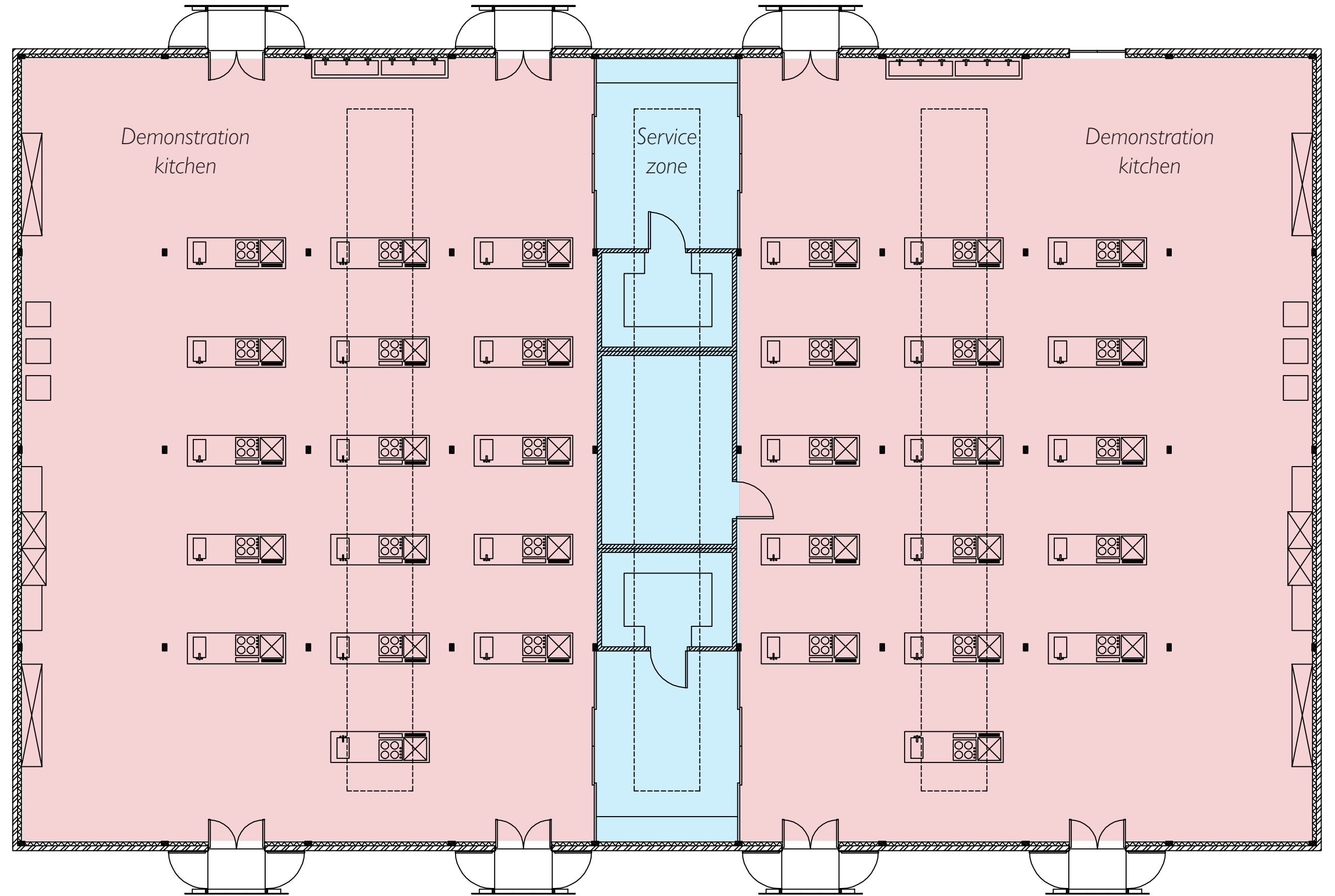
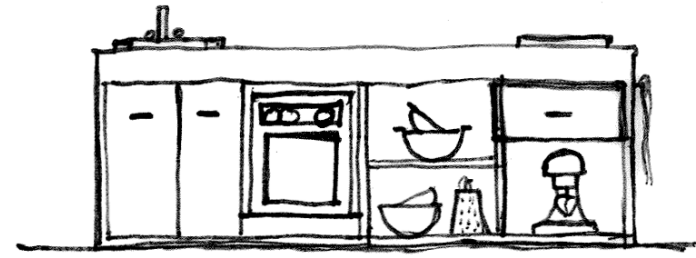
Design principles



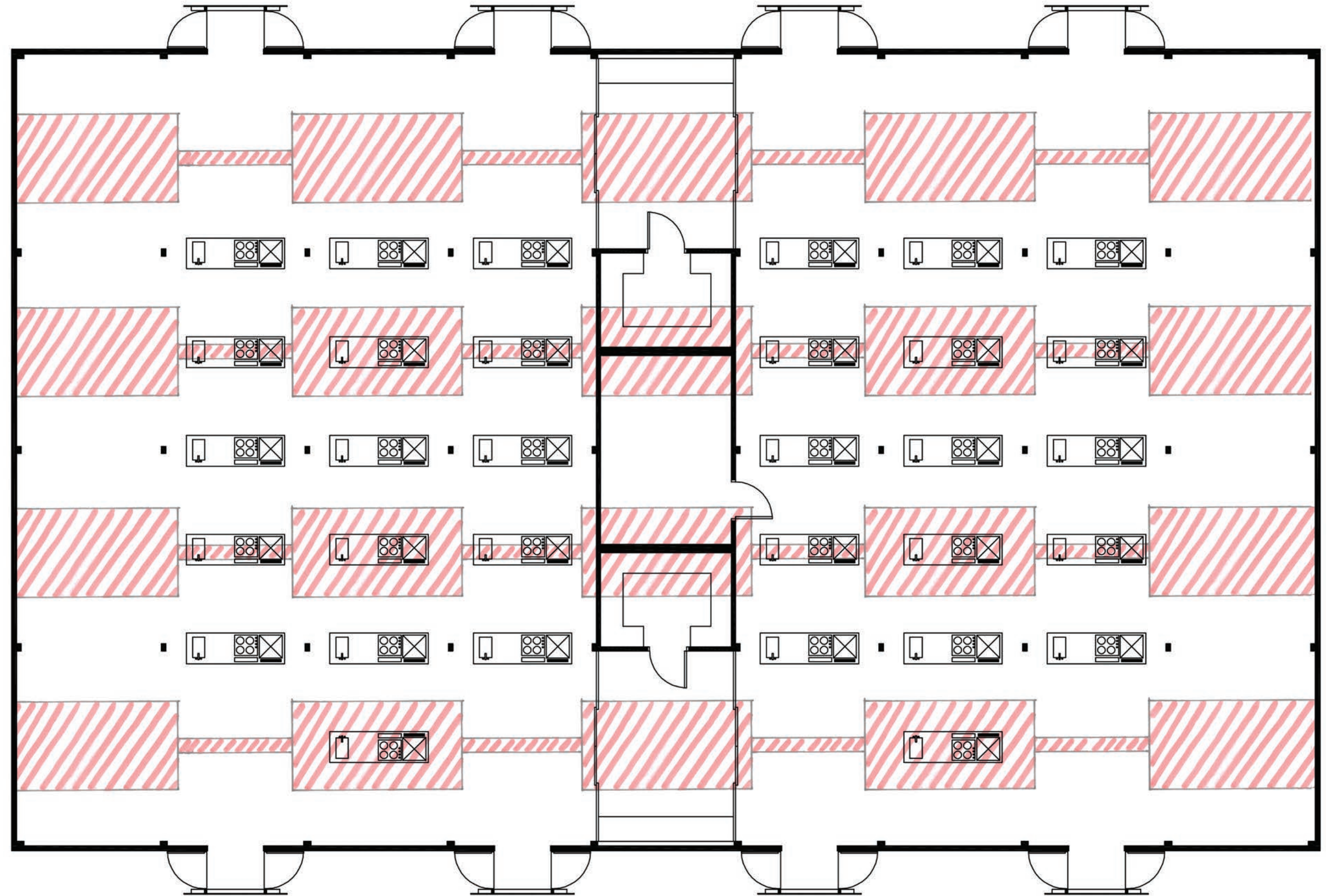
Floor plan



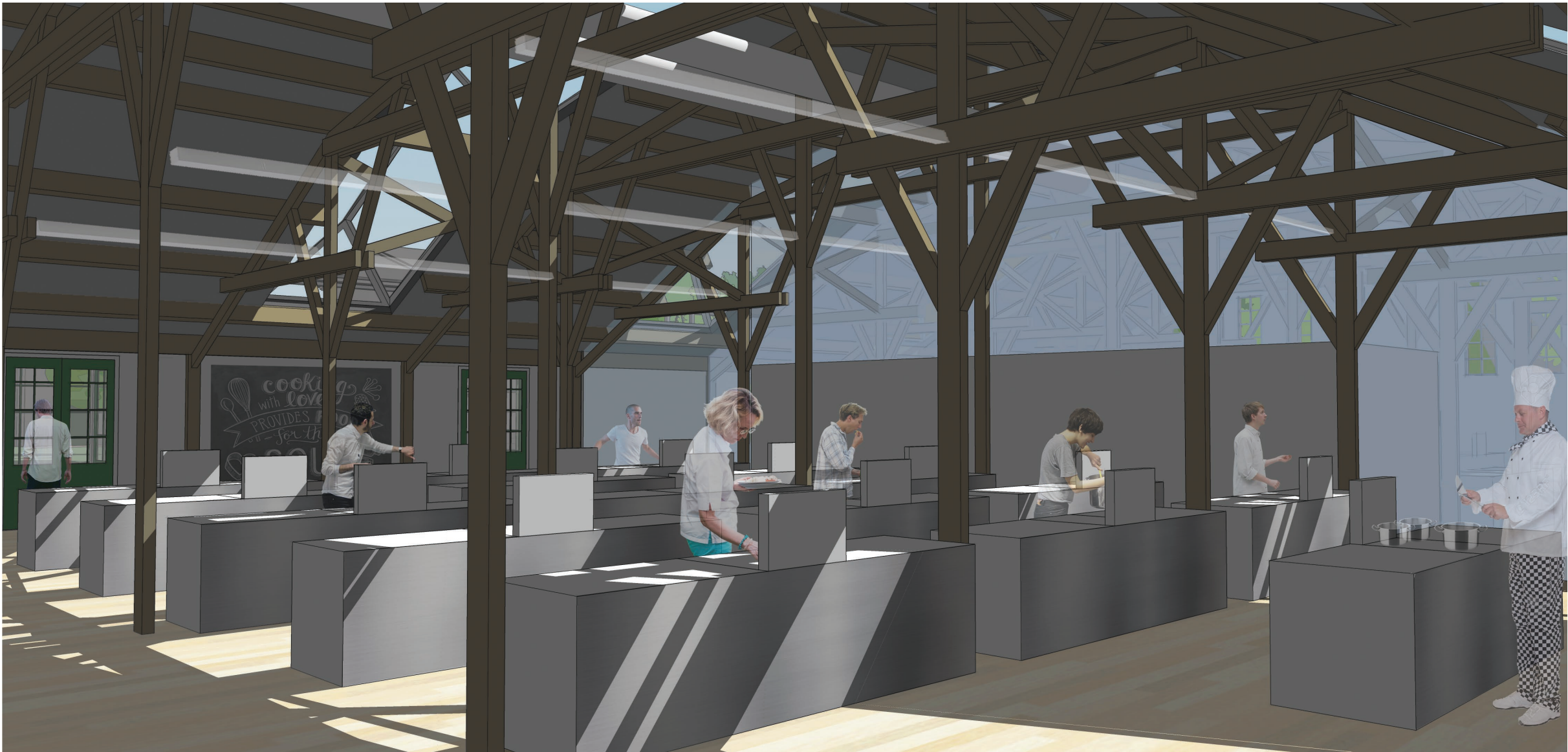
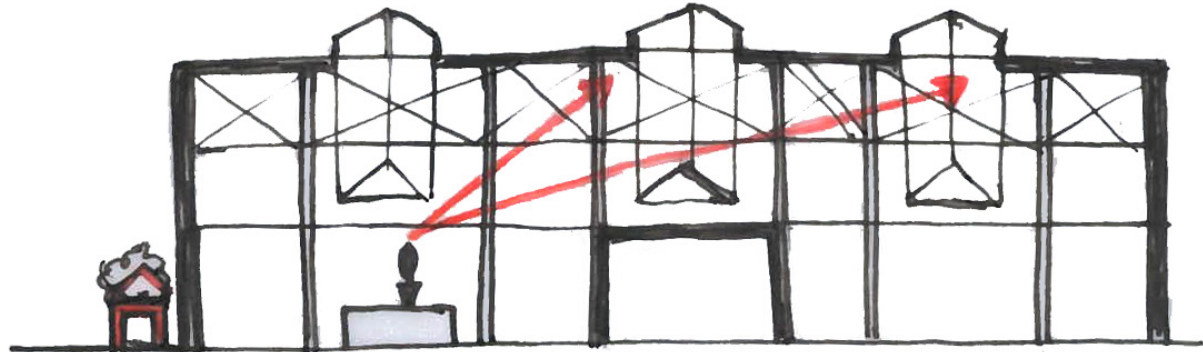
Floor plan



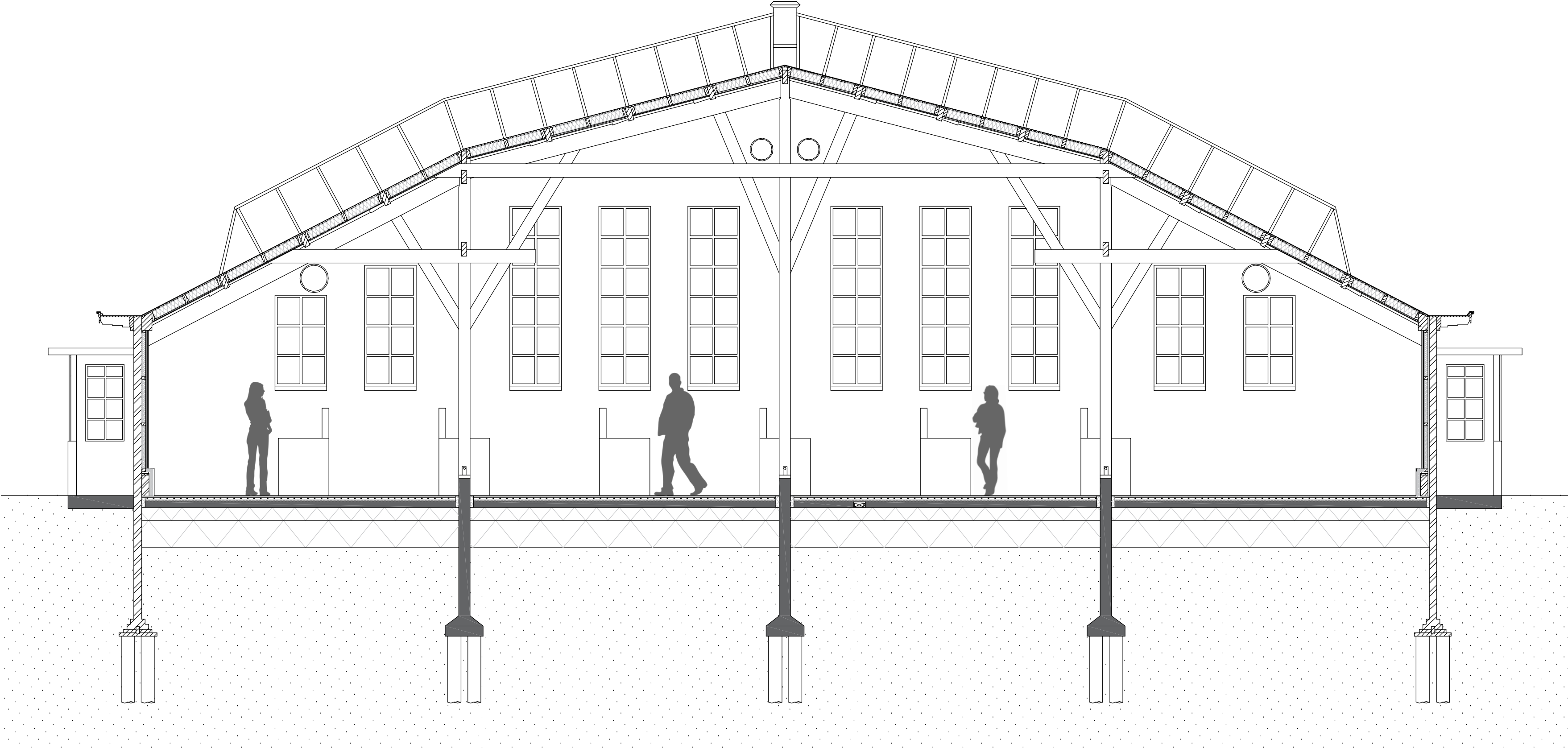
Floor tiling

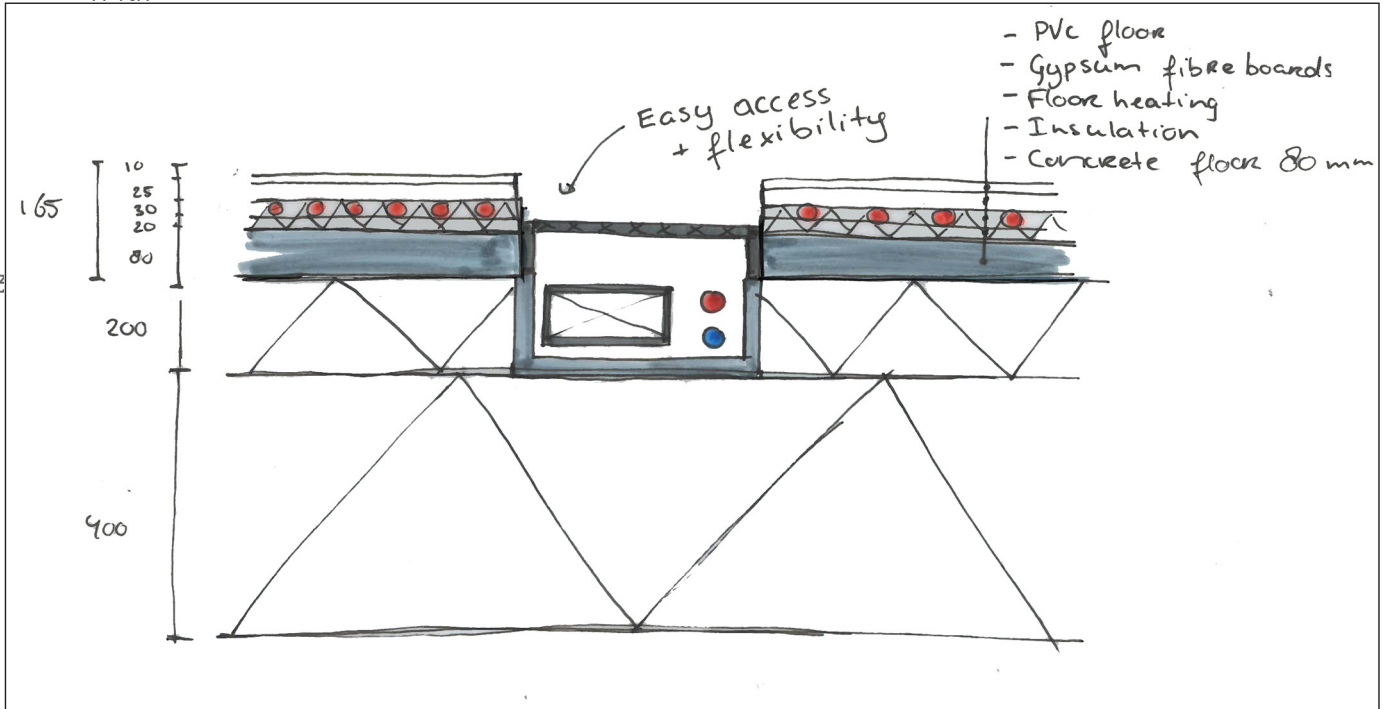
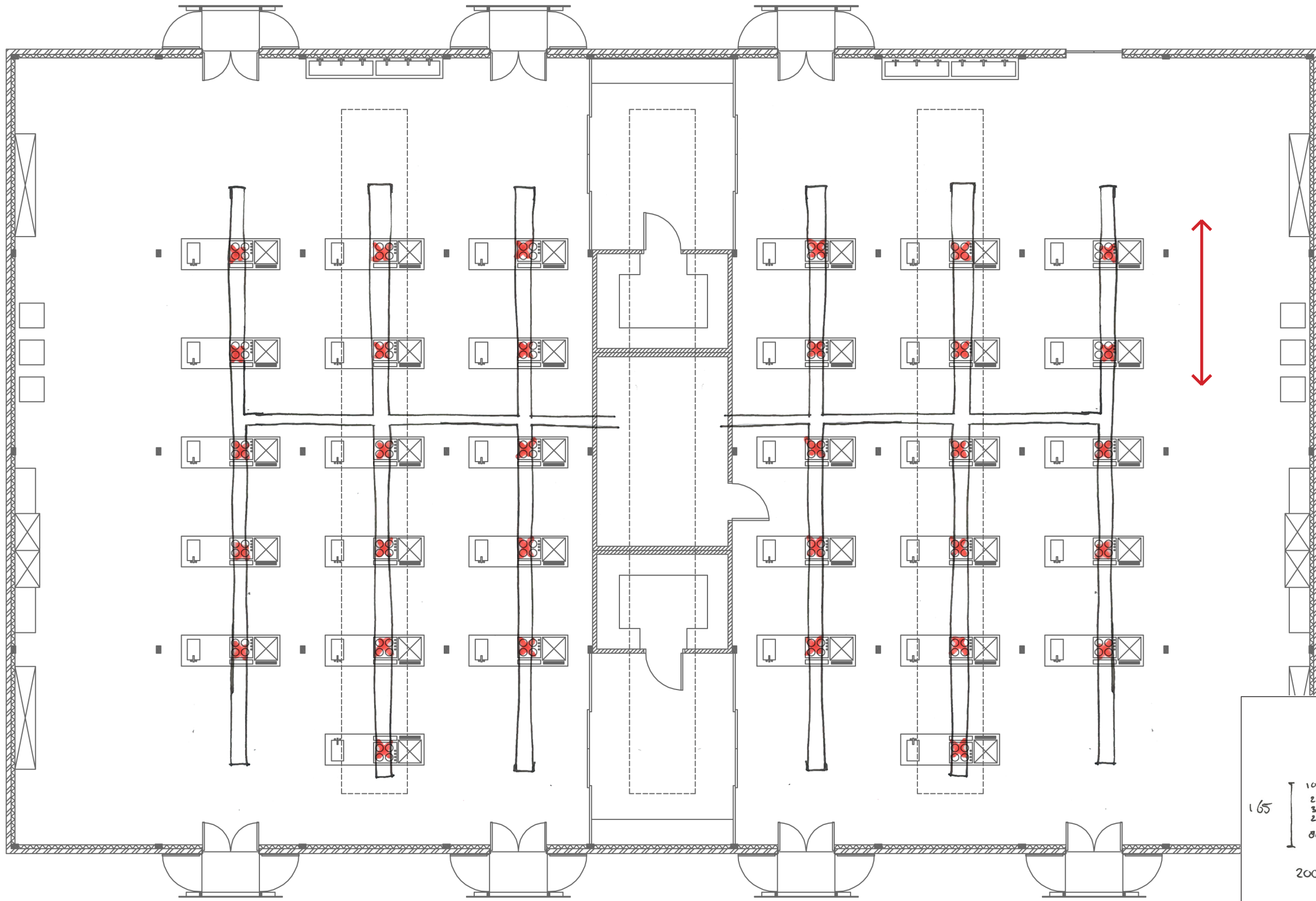


Interior



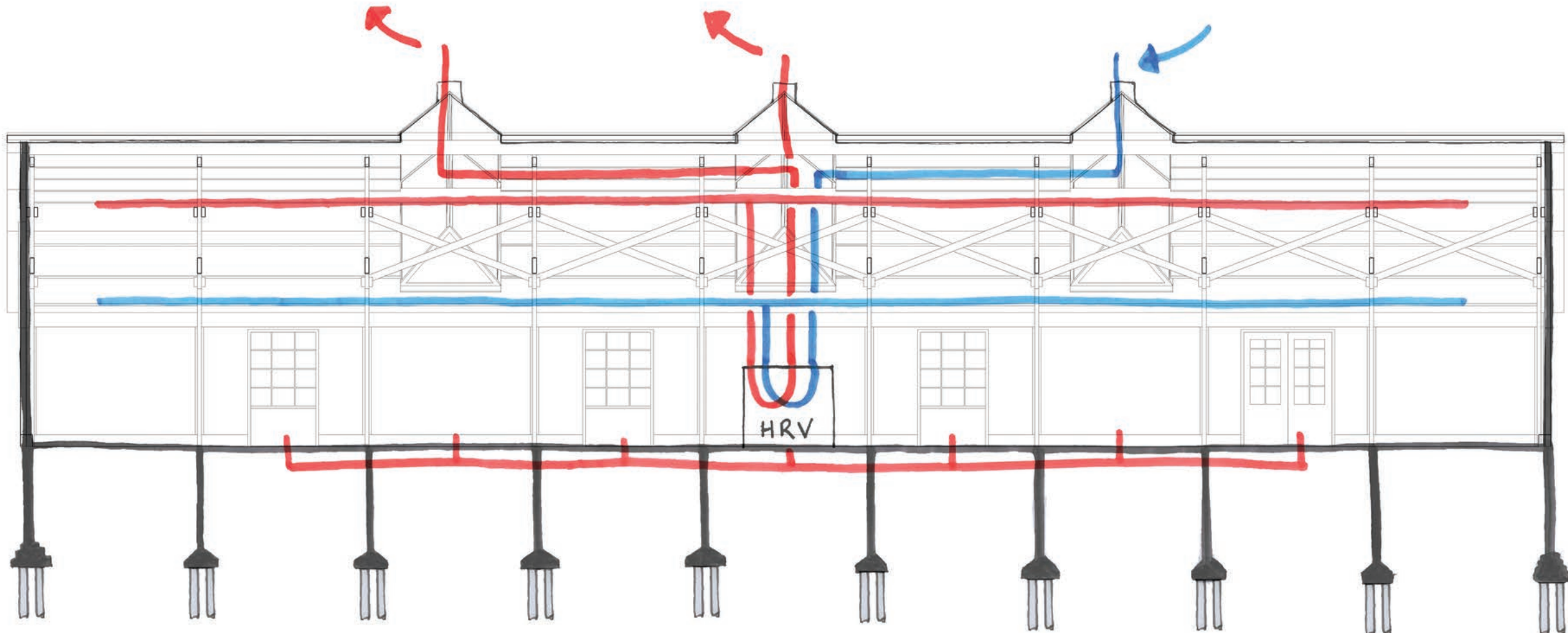
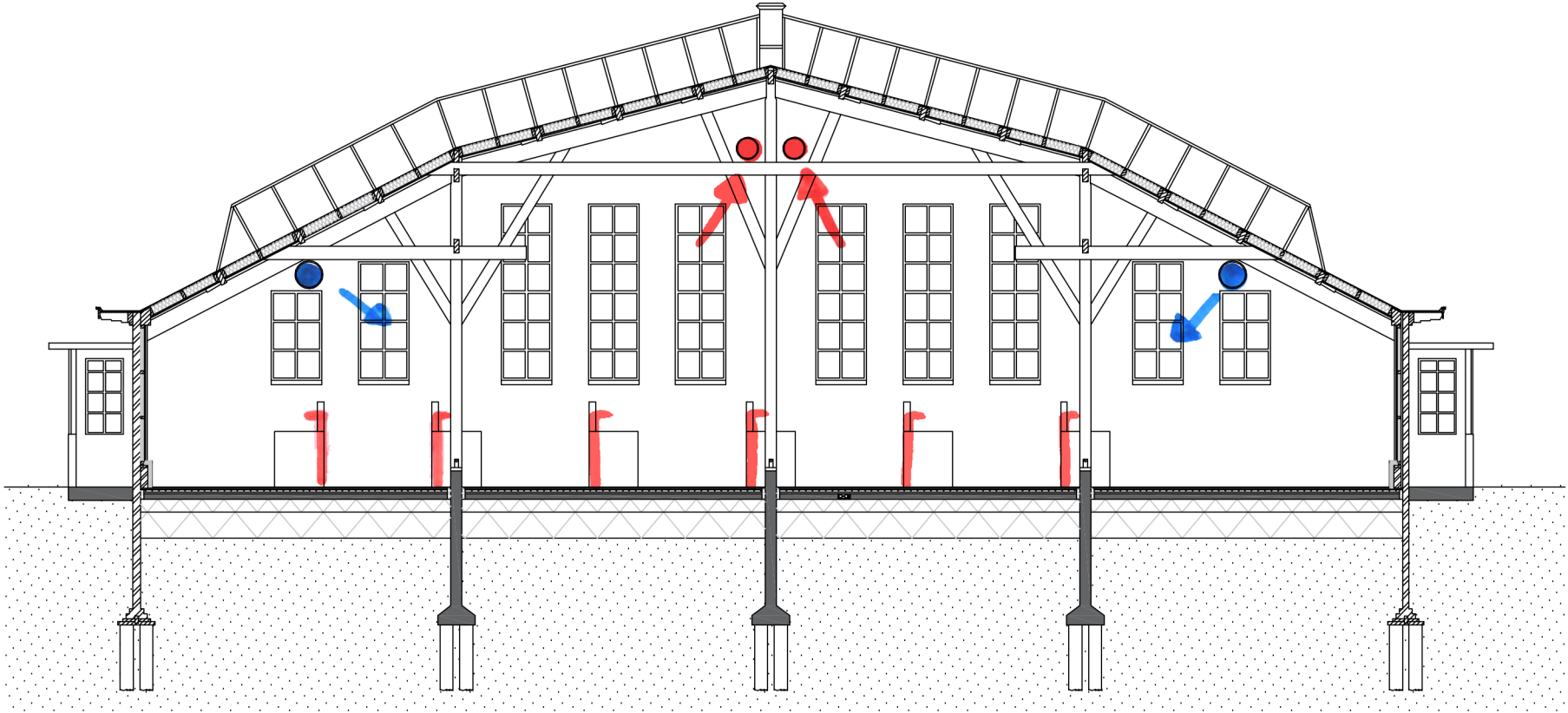
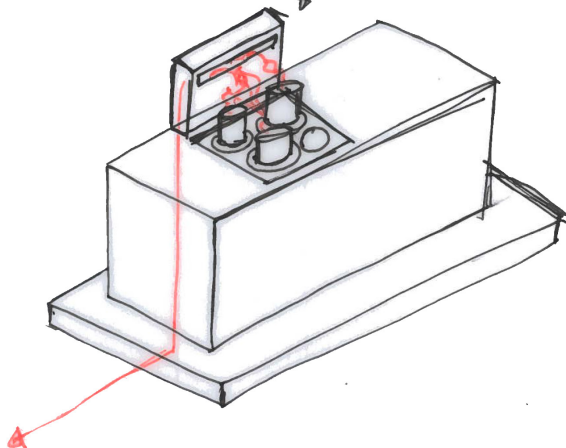
Section



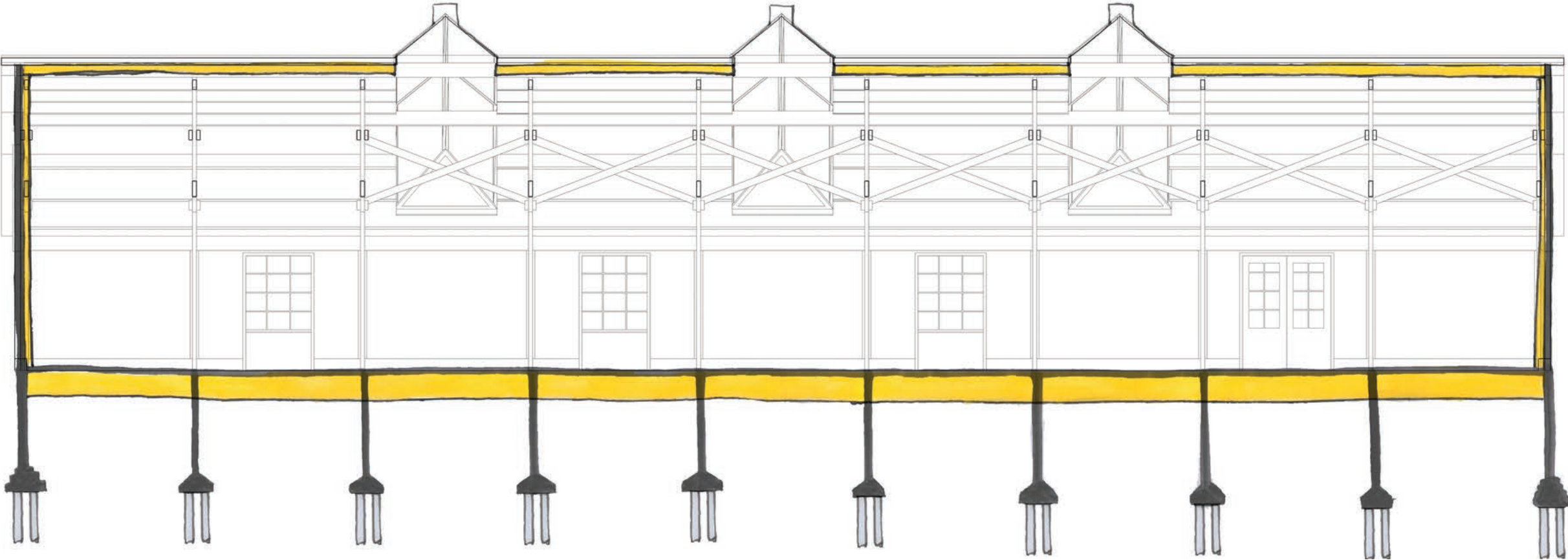
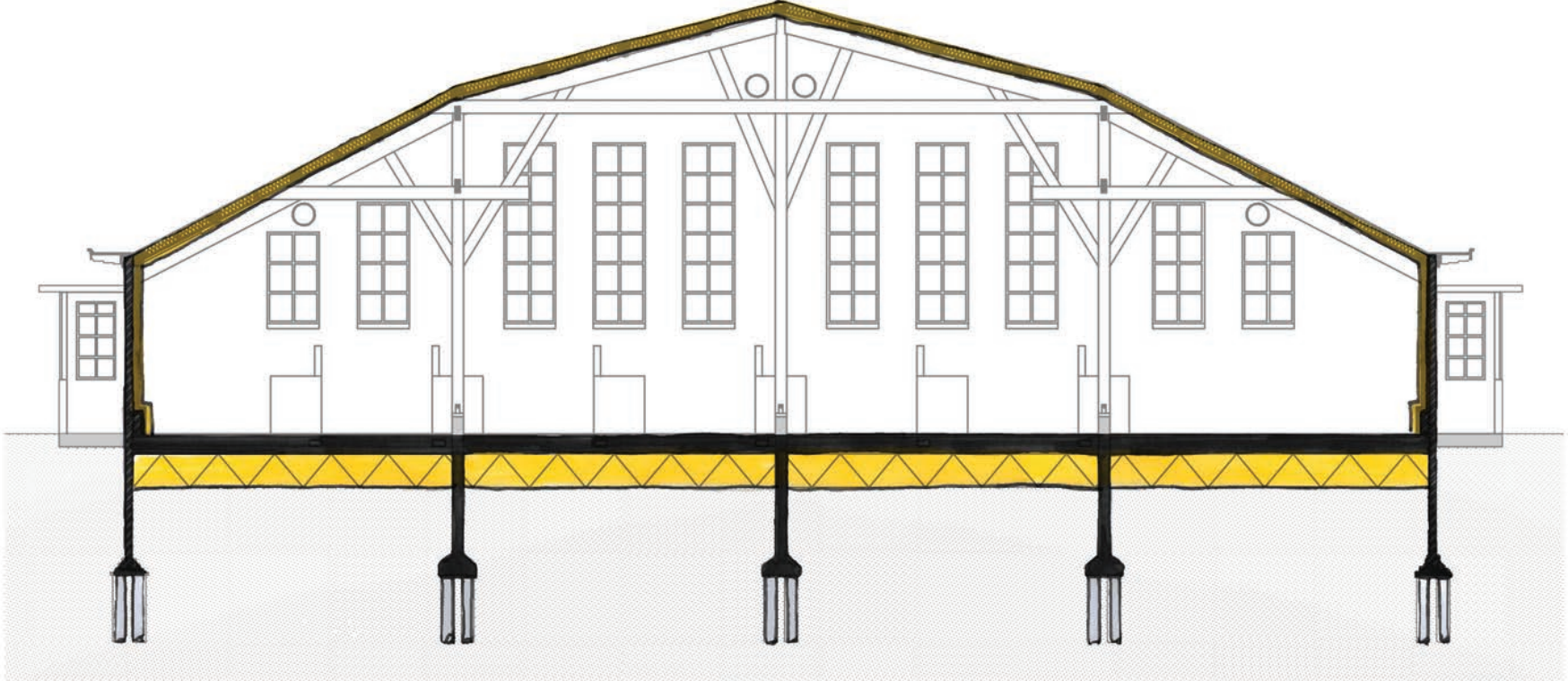


Ventilation

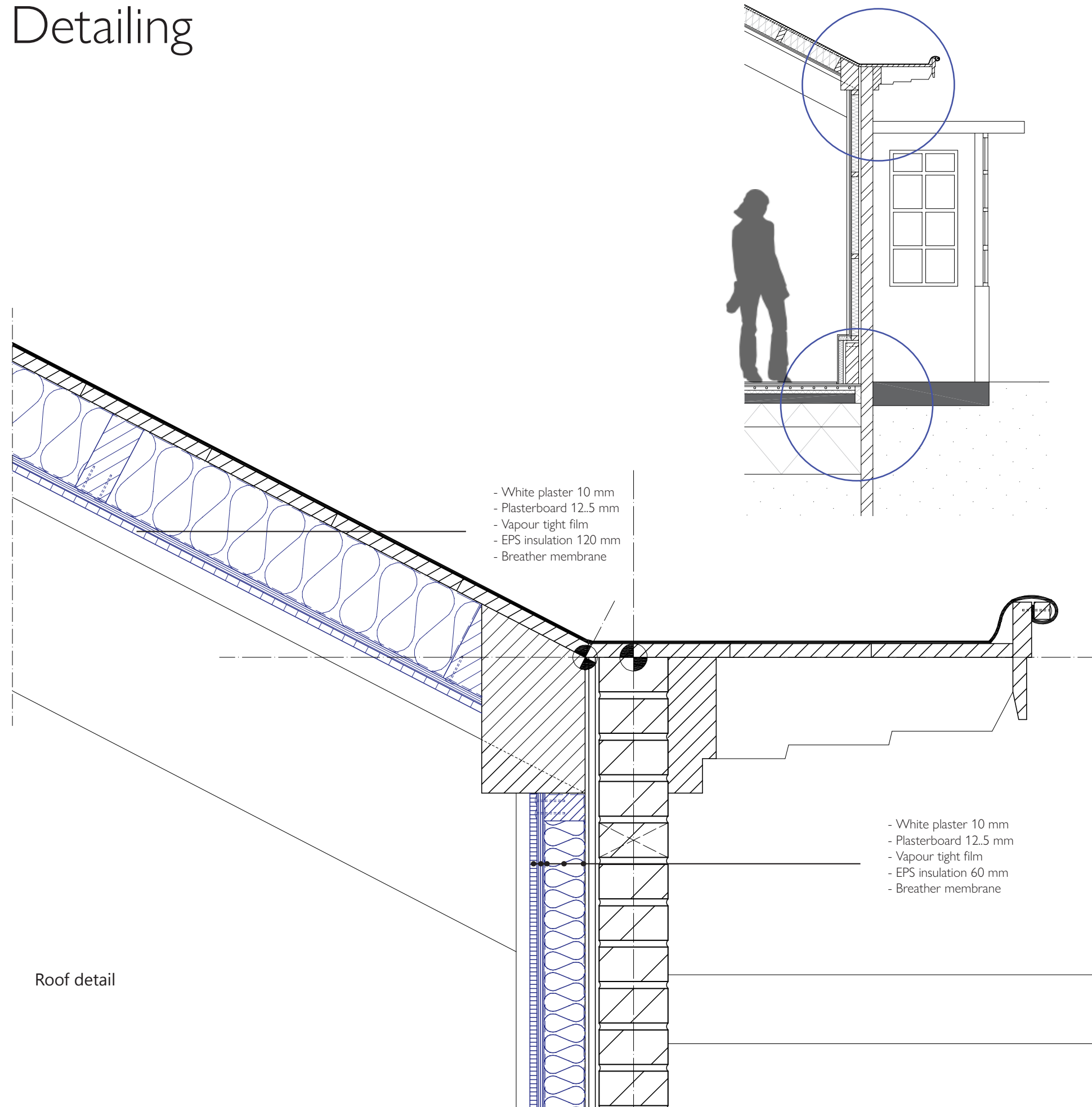
- + quick extraction
- + back splash
- + less heat in kitchen
- cleaning filters



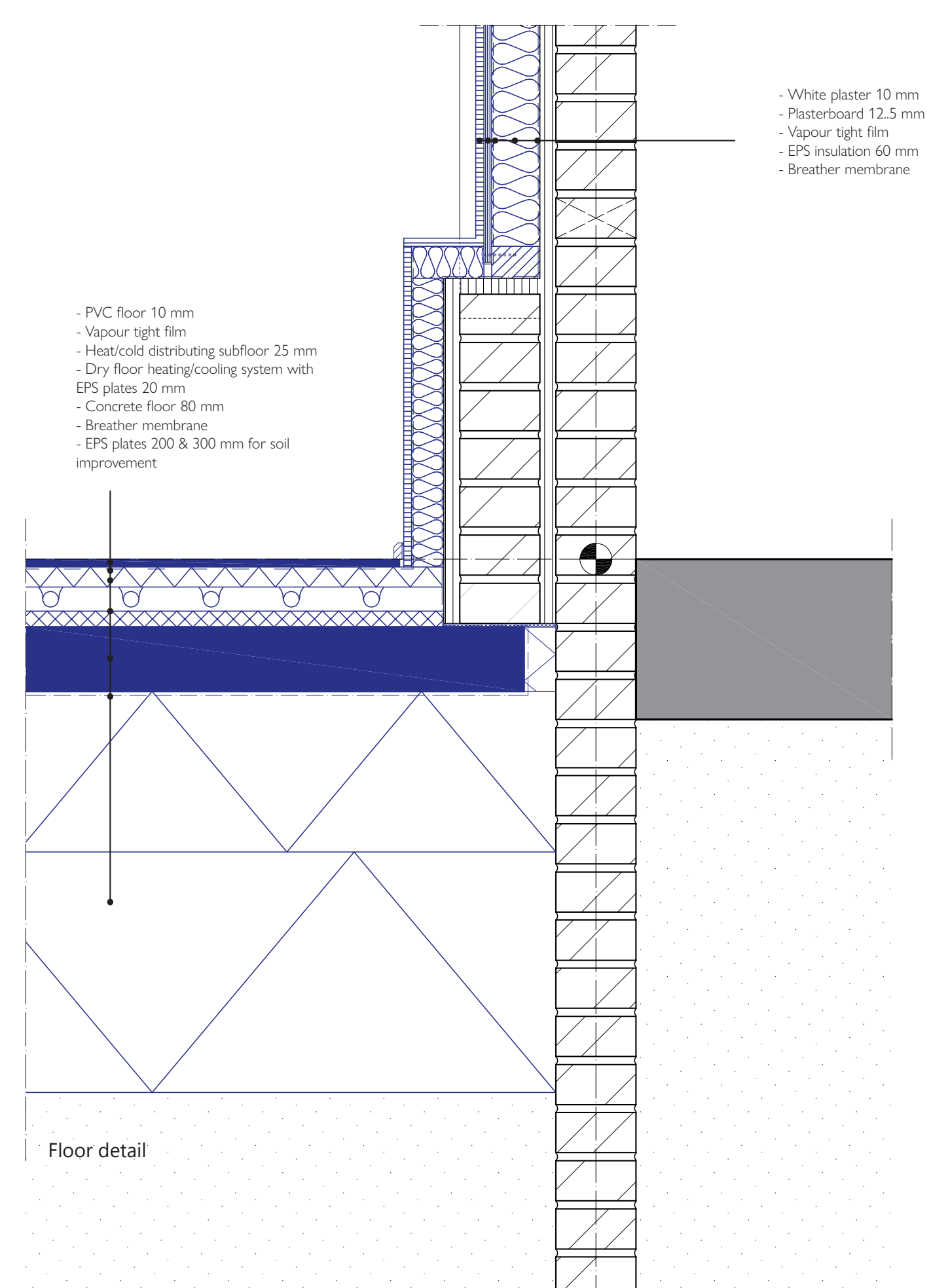
Insulation



Detailing



Roof detail



Floor detail

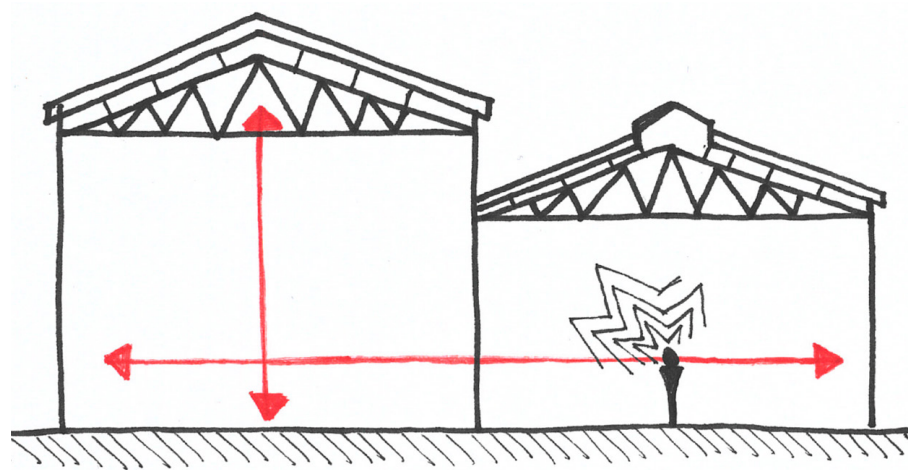
Heat treatment building



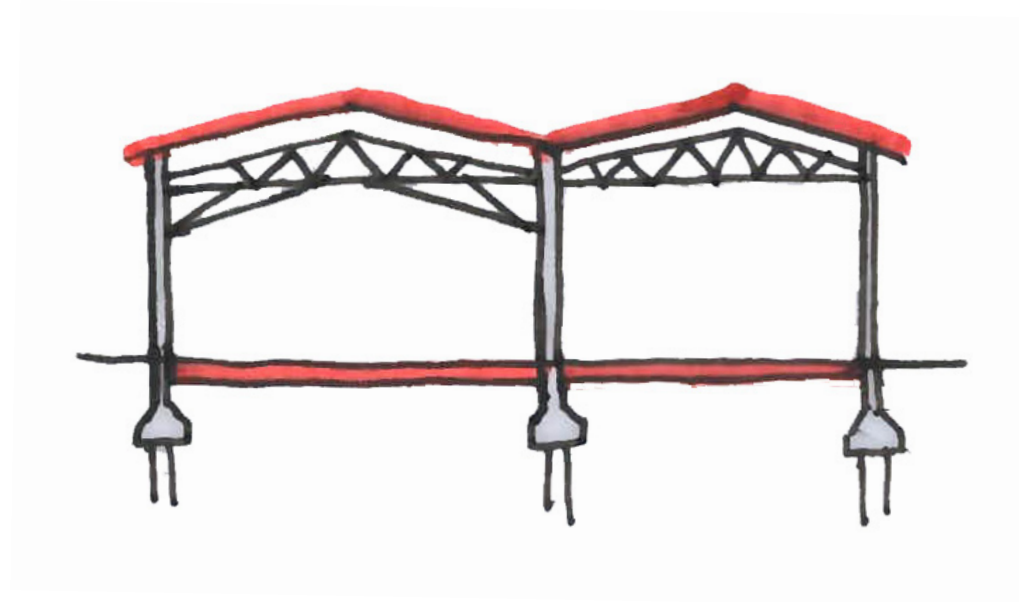
Heat treatment building

- Starting points

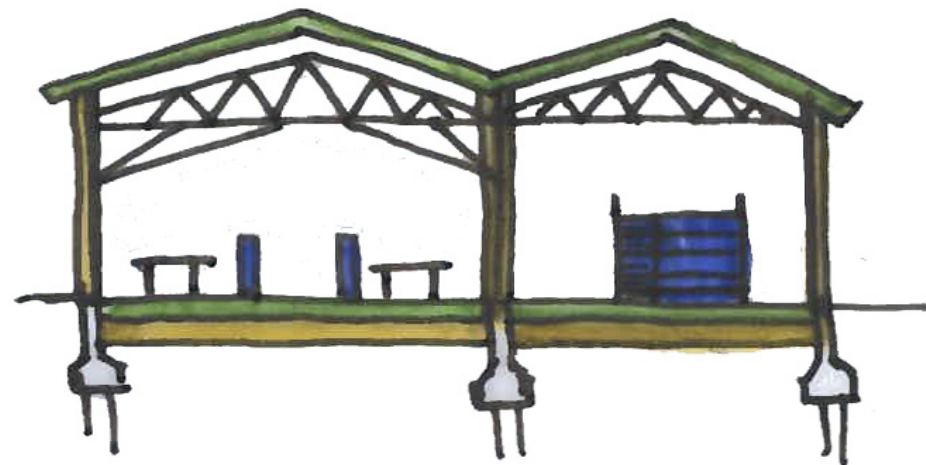
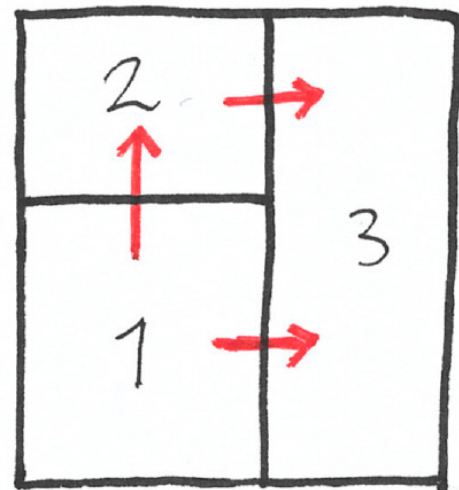
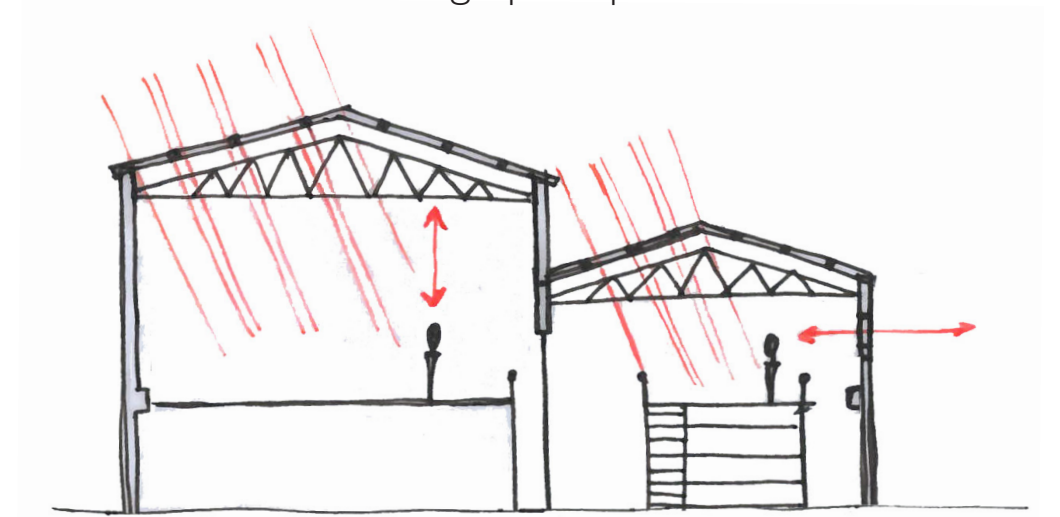
Values



Interventions

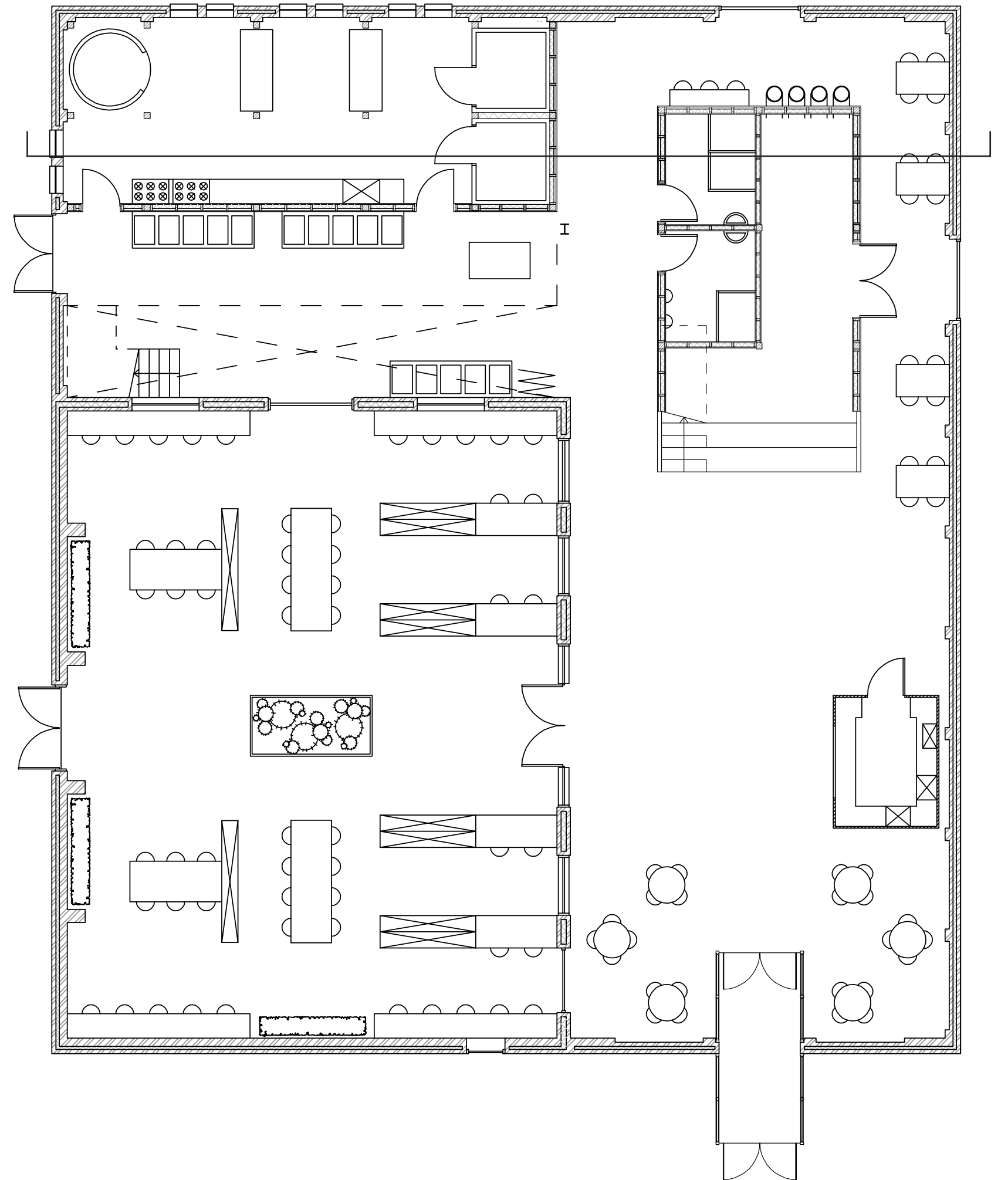
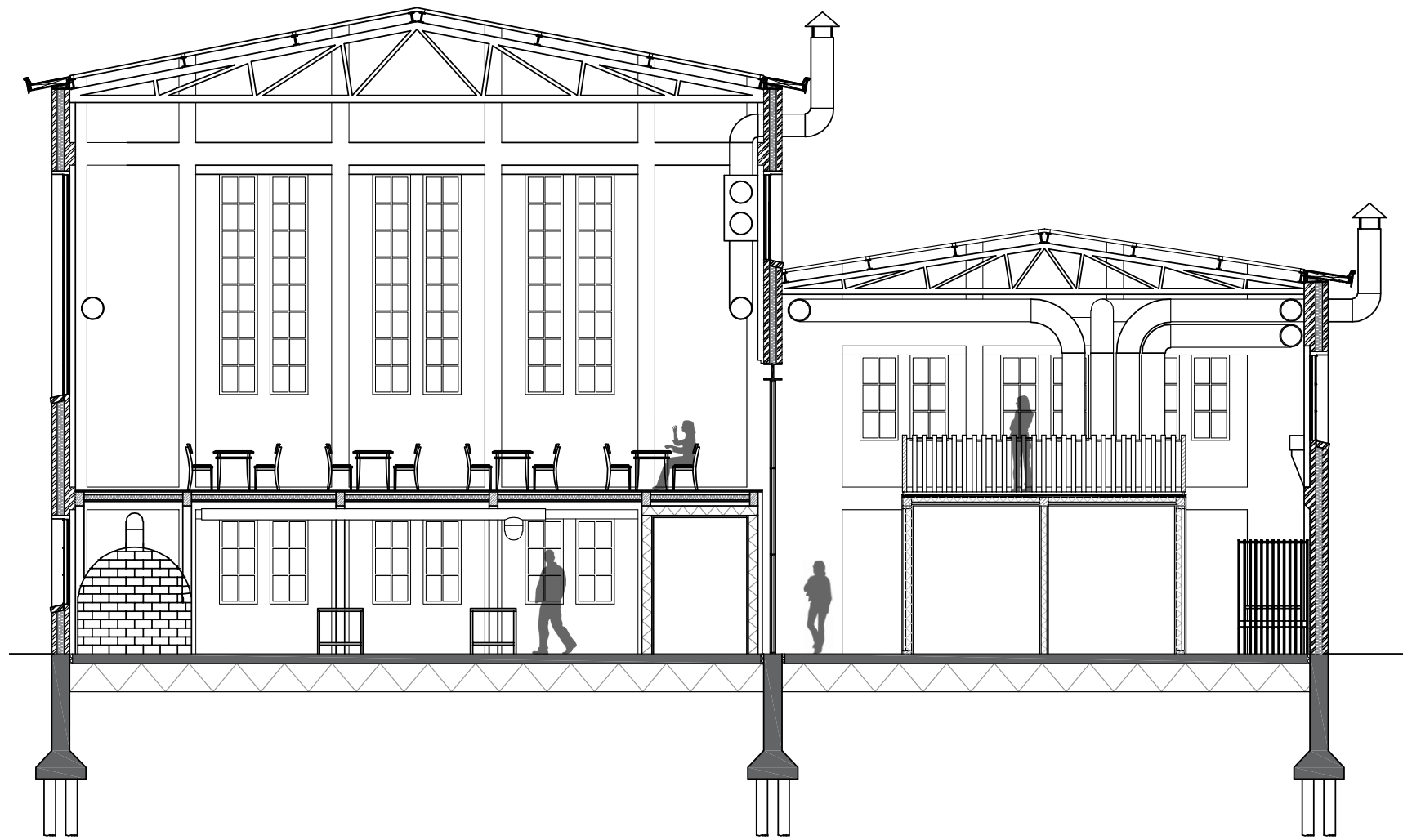
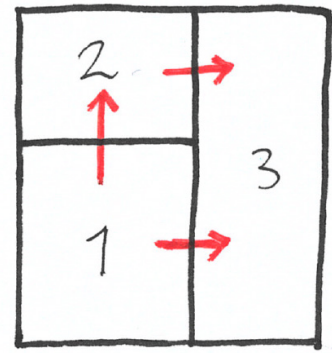
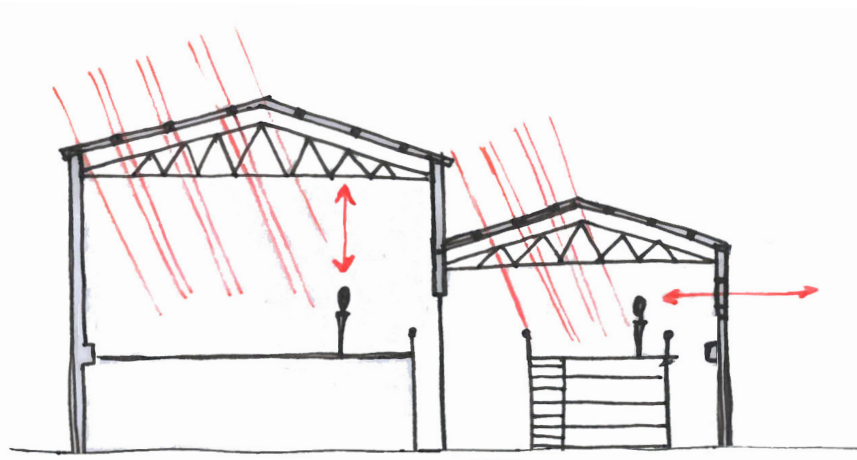


Design principles

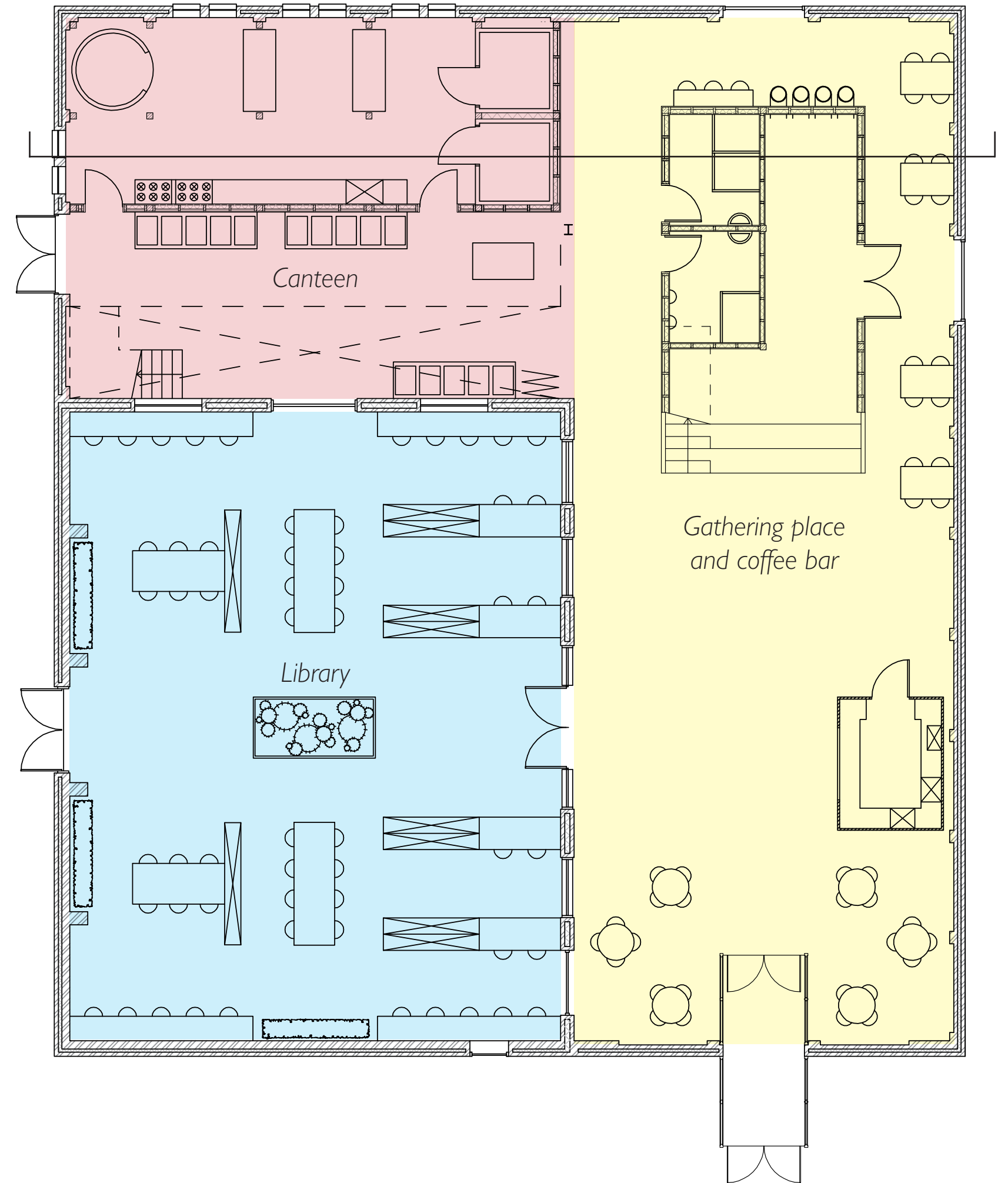
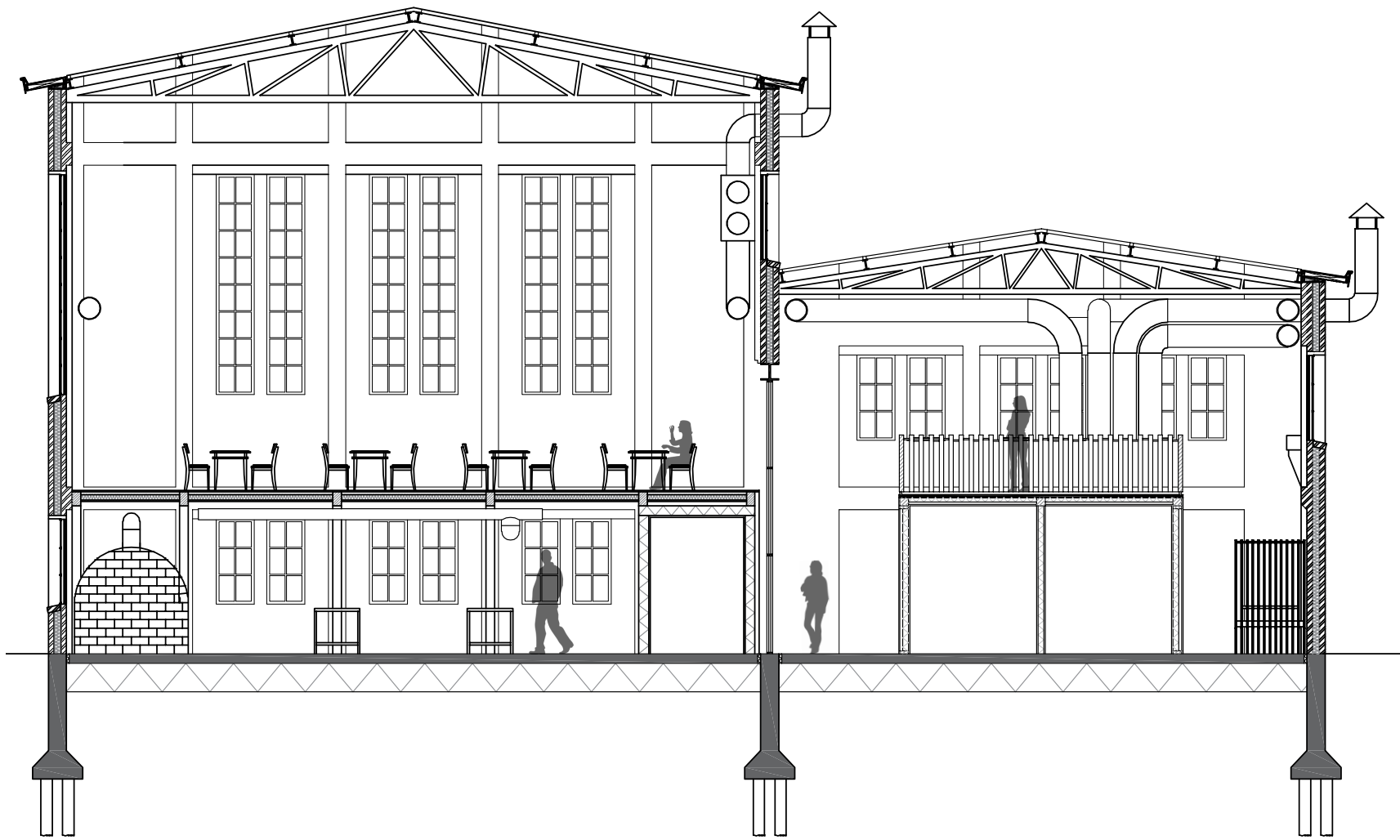
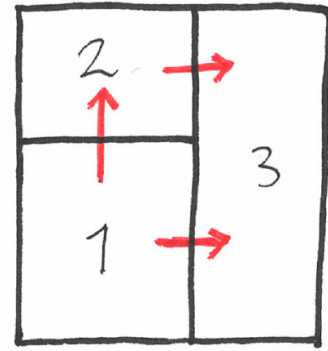
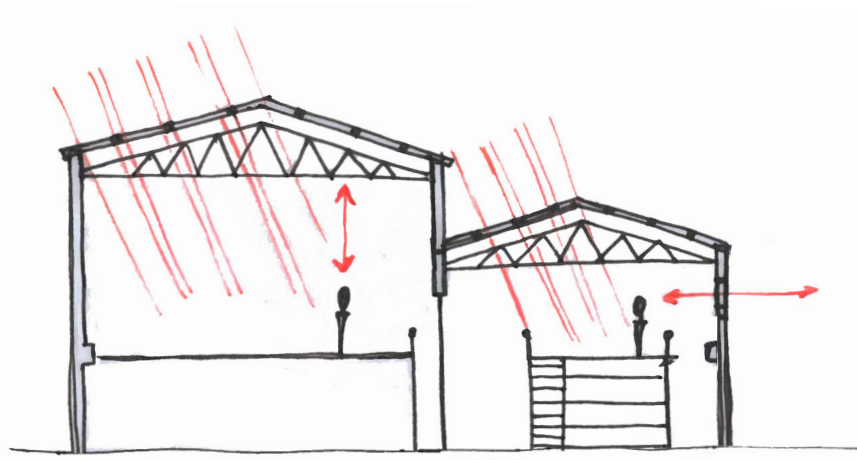


Reuse what is there
'Maintenance, material recycling'

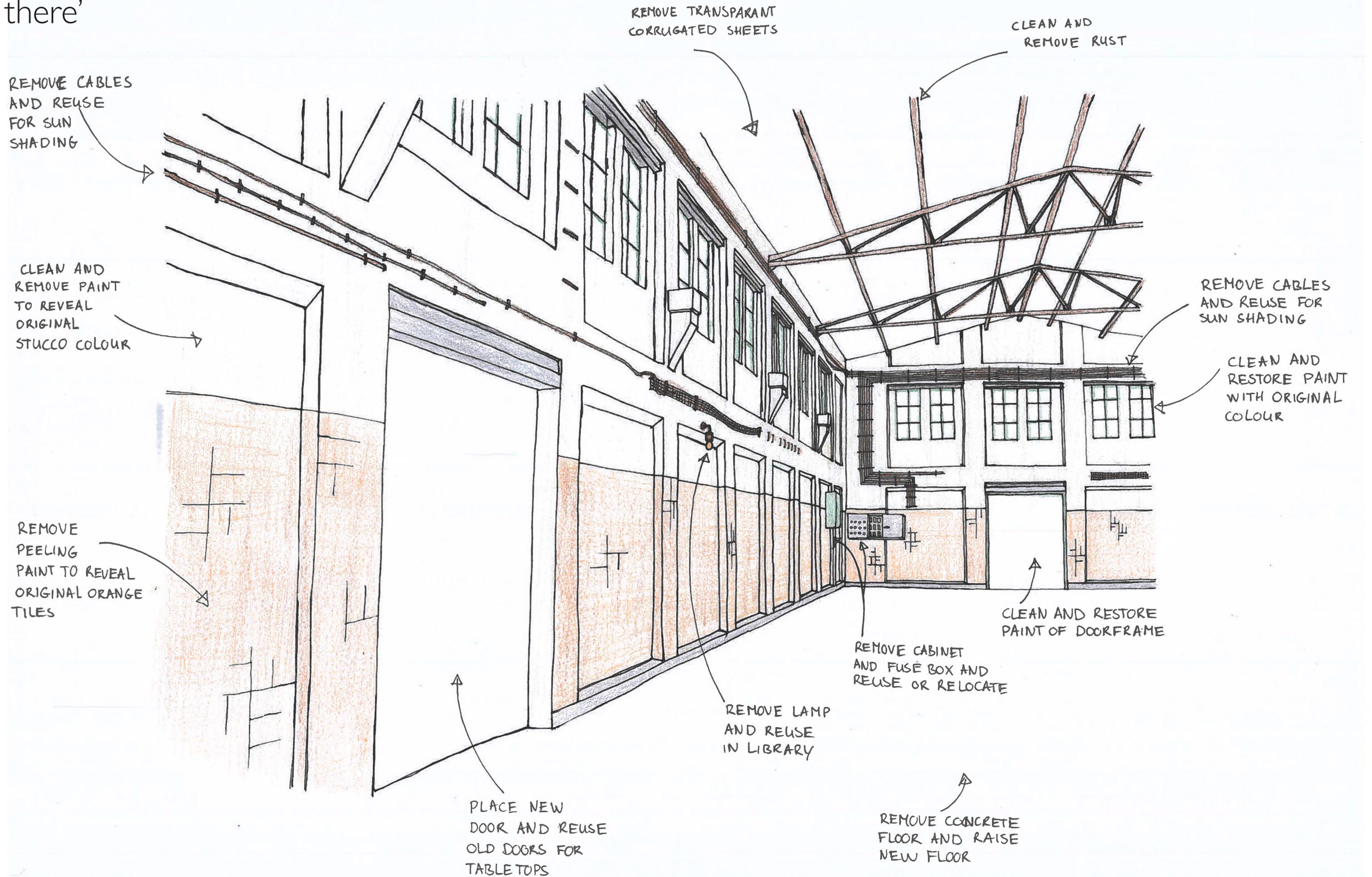
Floor plan



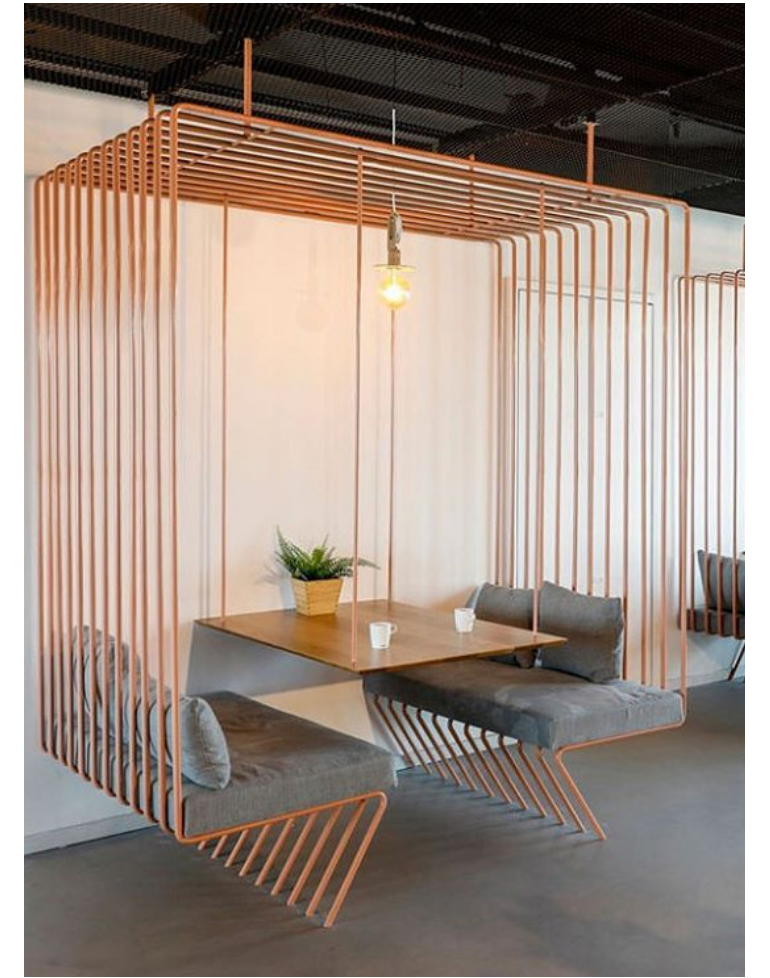
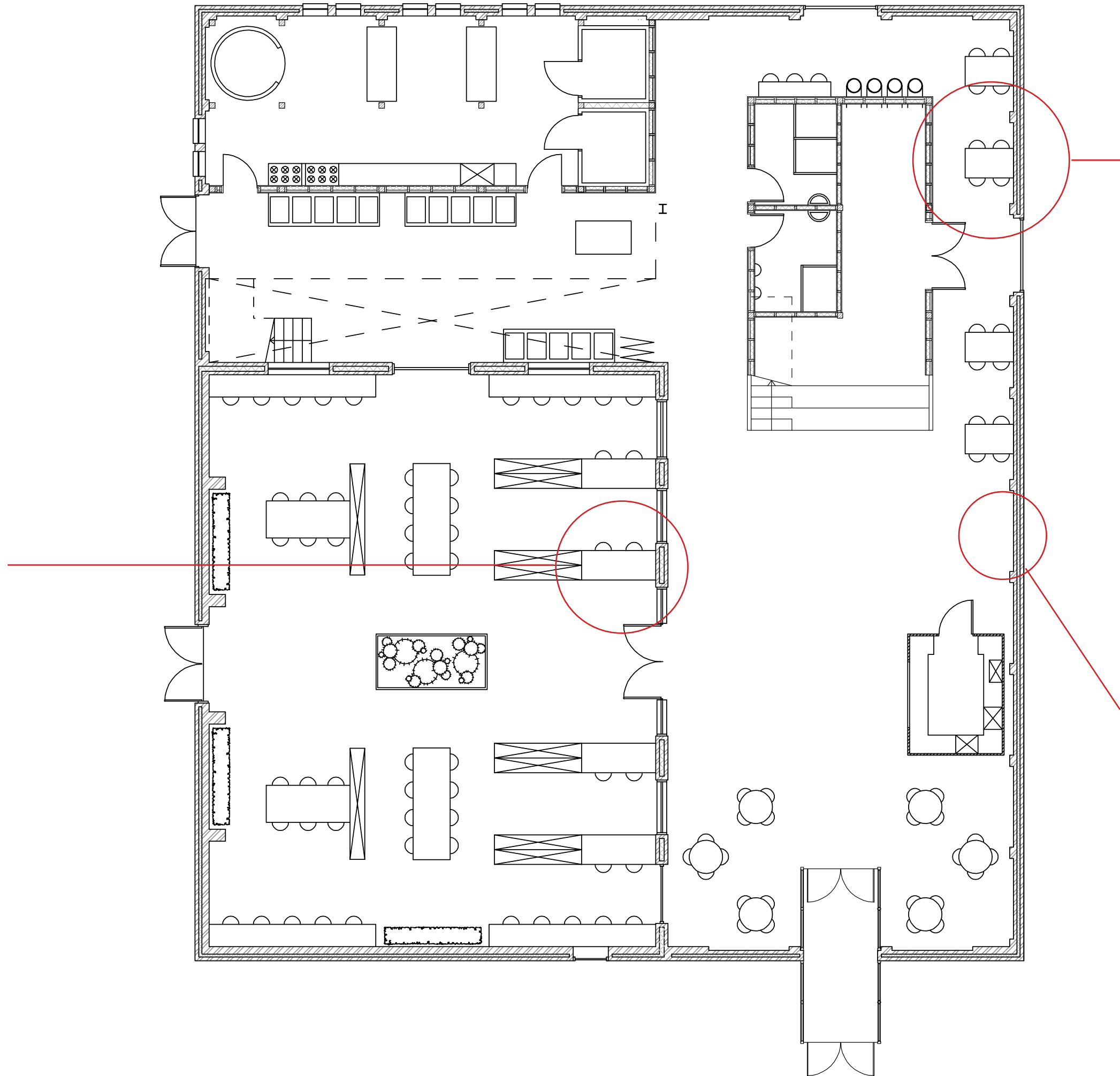
Floor plan



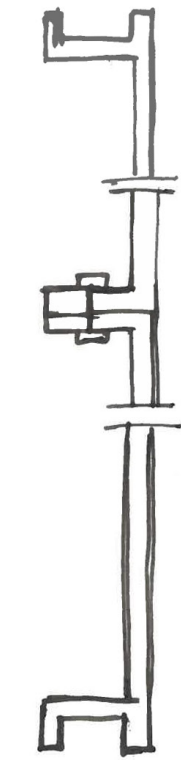
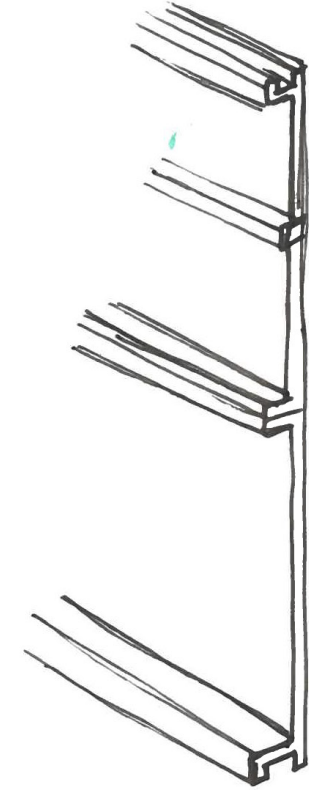
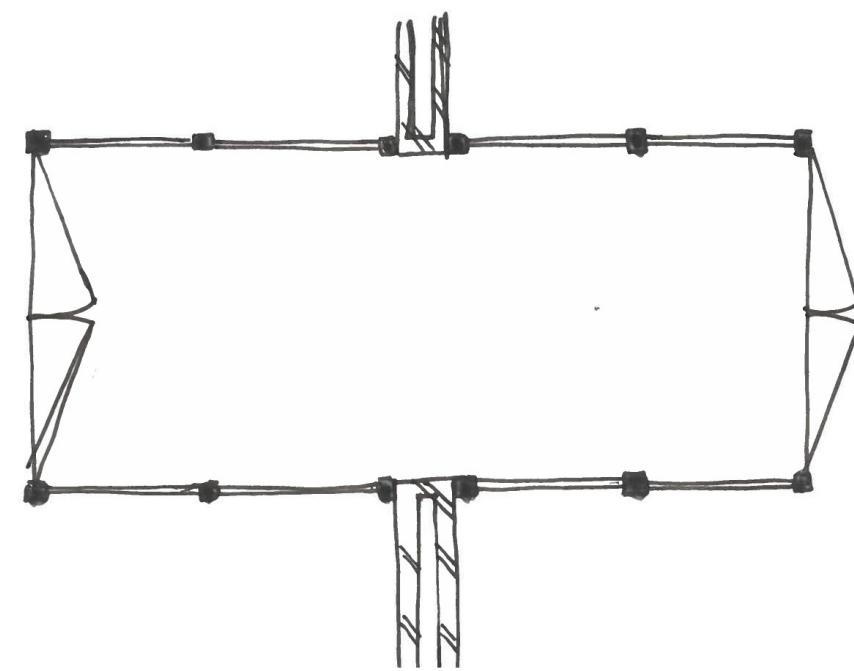
'Reuse what is there'



'Reuse what is there'



Entrance portal



vert.



Horizont.

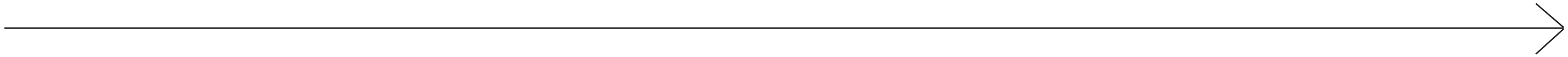
Roof design



Solar study



Closed



Open

Solar study

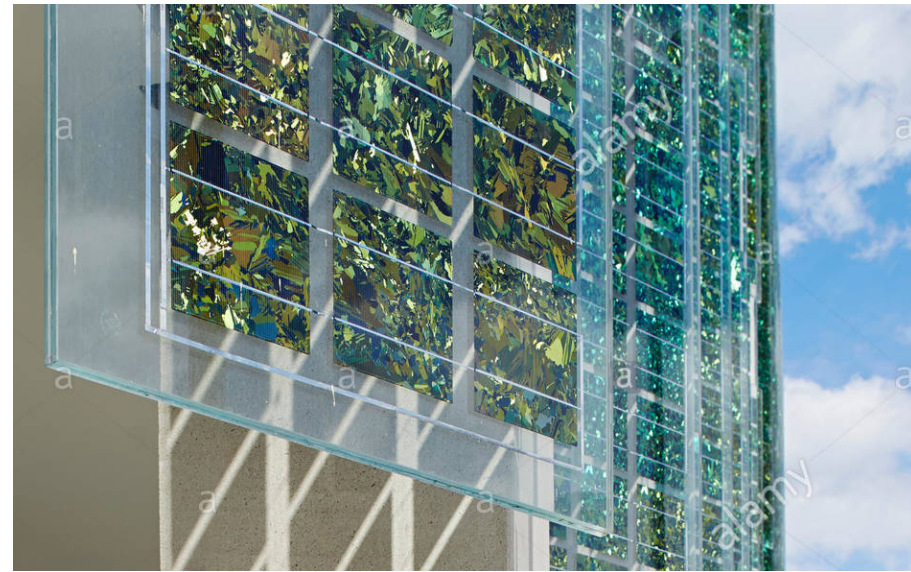


Solar study

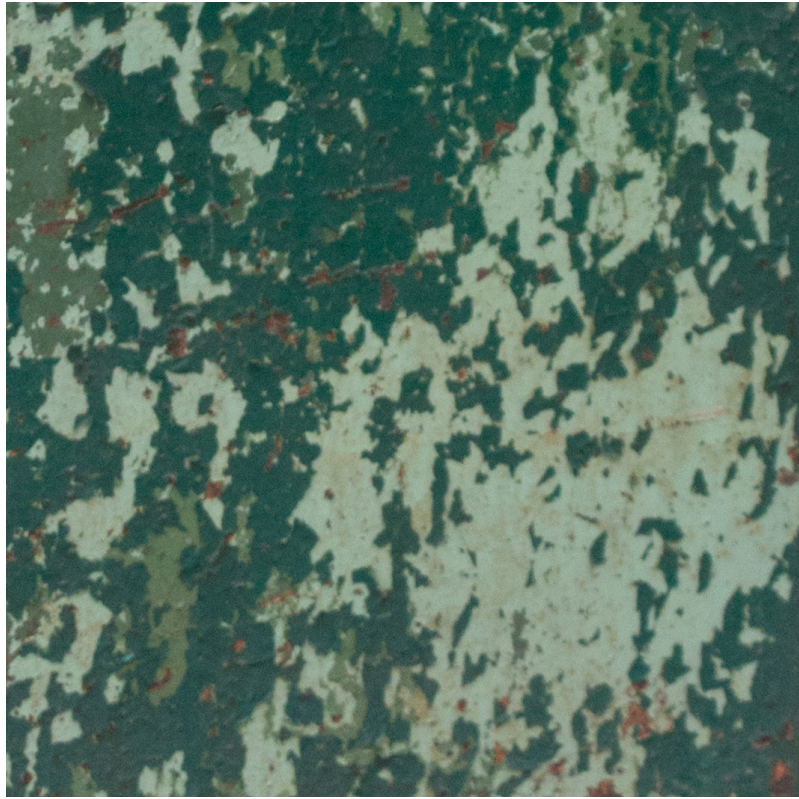


Roof plan

Kingsgate house - London

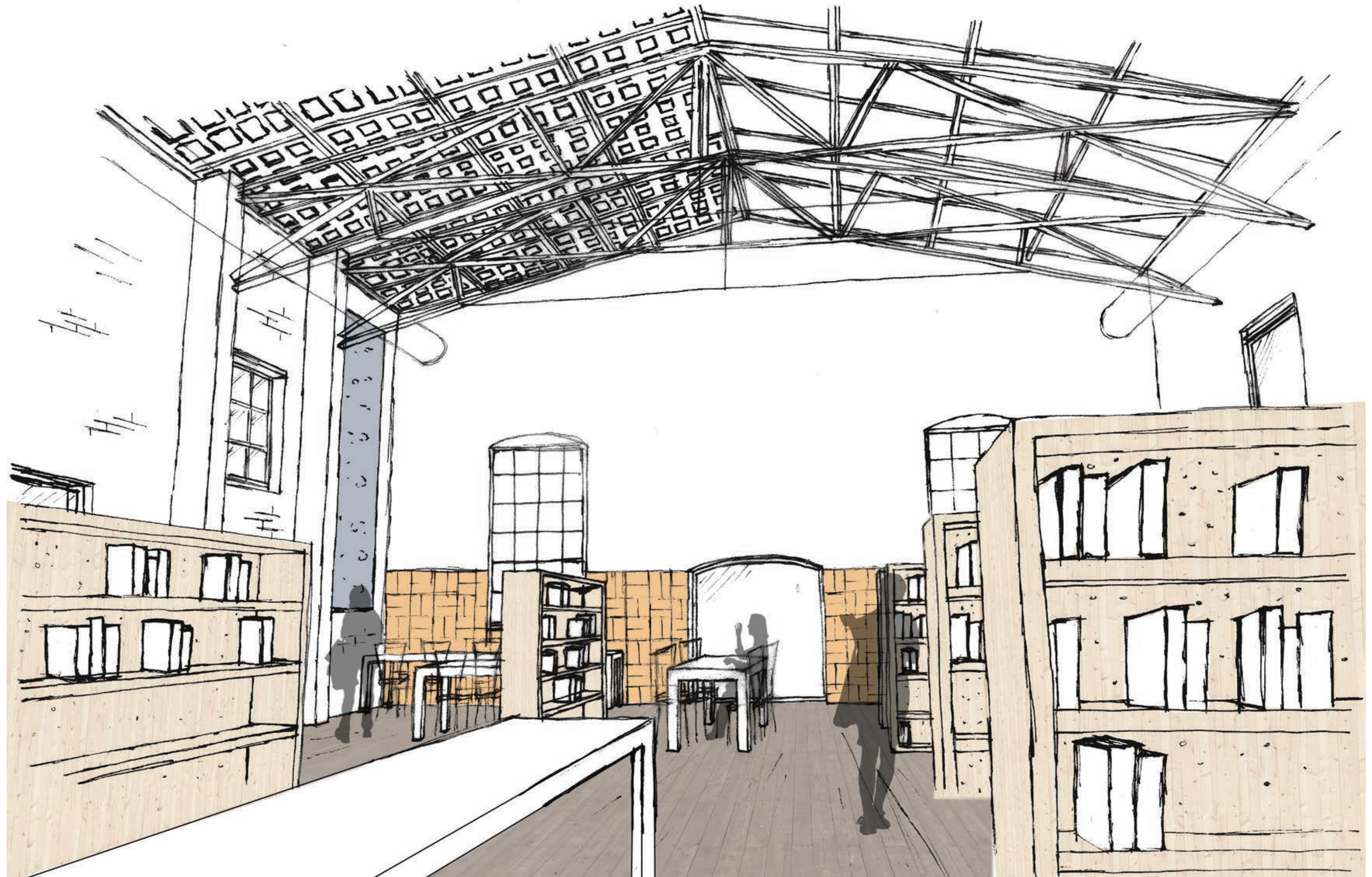


Colours & materials

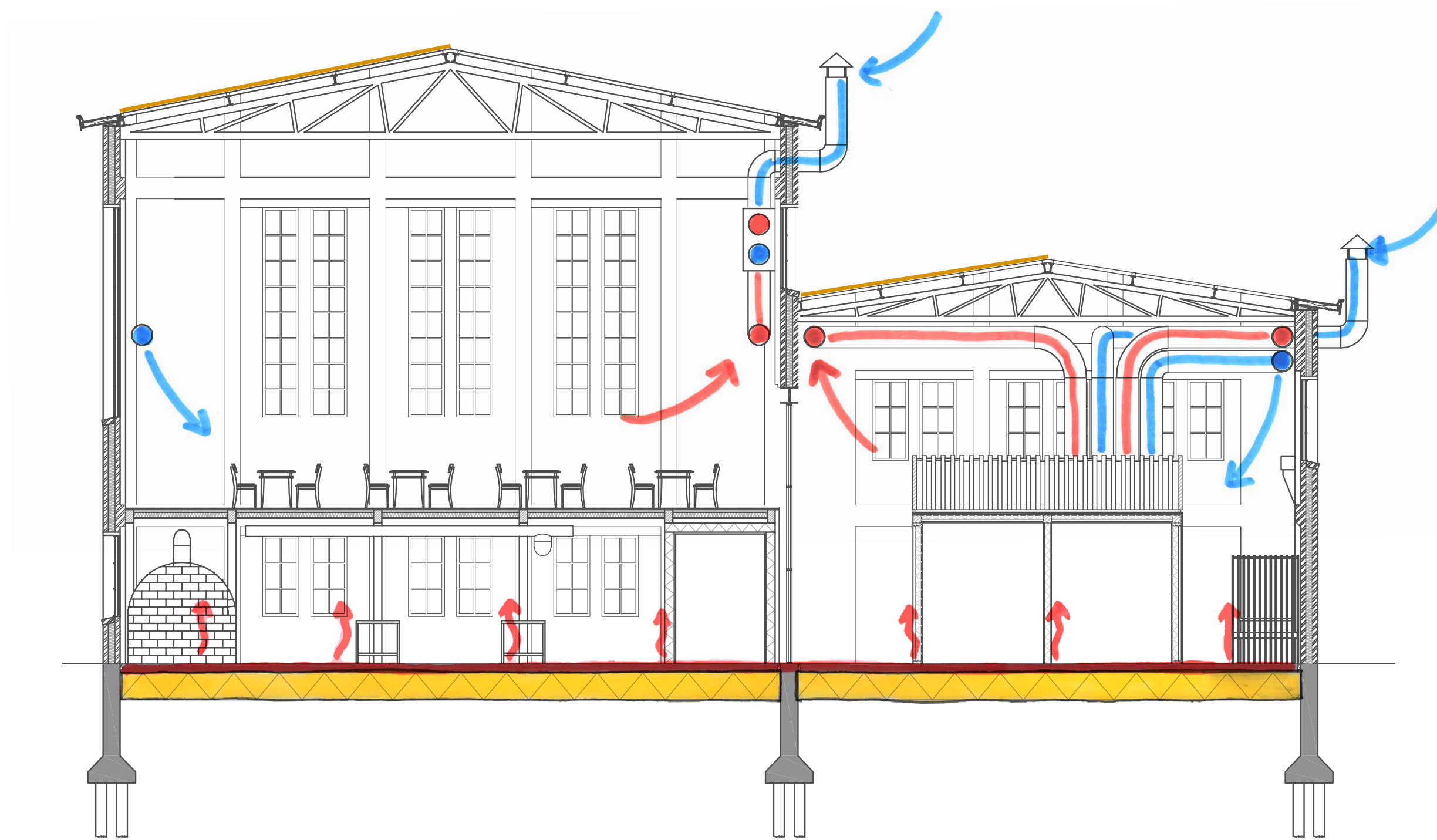


	WALNUT	OAK	
BLEACHED + BLANCHED OIL			BLANCHED OIL
PURE OIL			GRAY OIL
NATURAL SATIN LACQUER			SMOKED OAK OIL
CHOCOLATE OIL			CHOCOLATE OIL
CHARCOAL OIL			EBONIZED SATIN LACQUER
			BURNT WITH PURE OIL





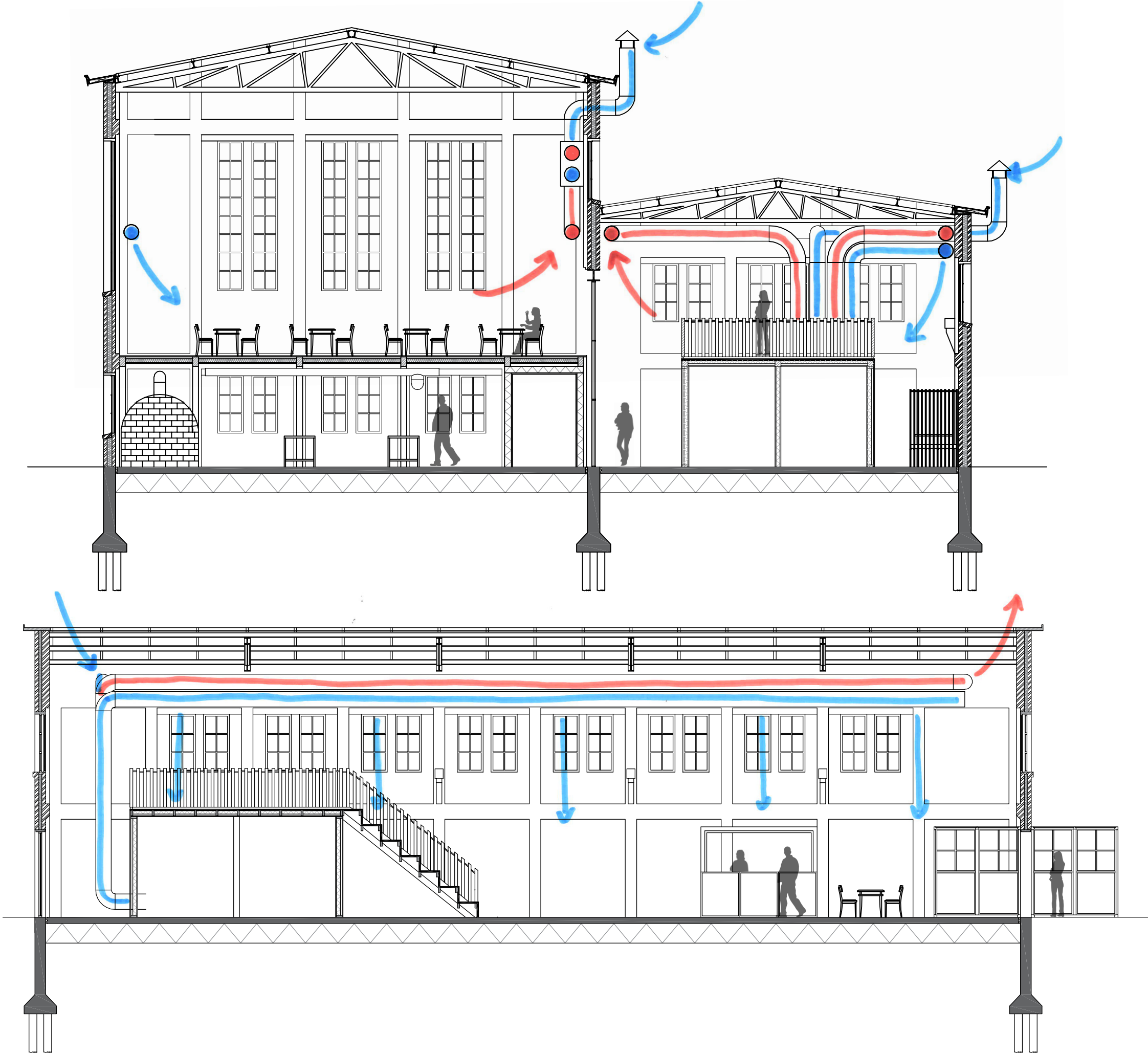
Building technology



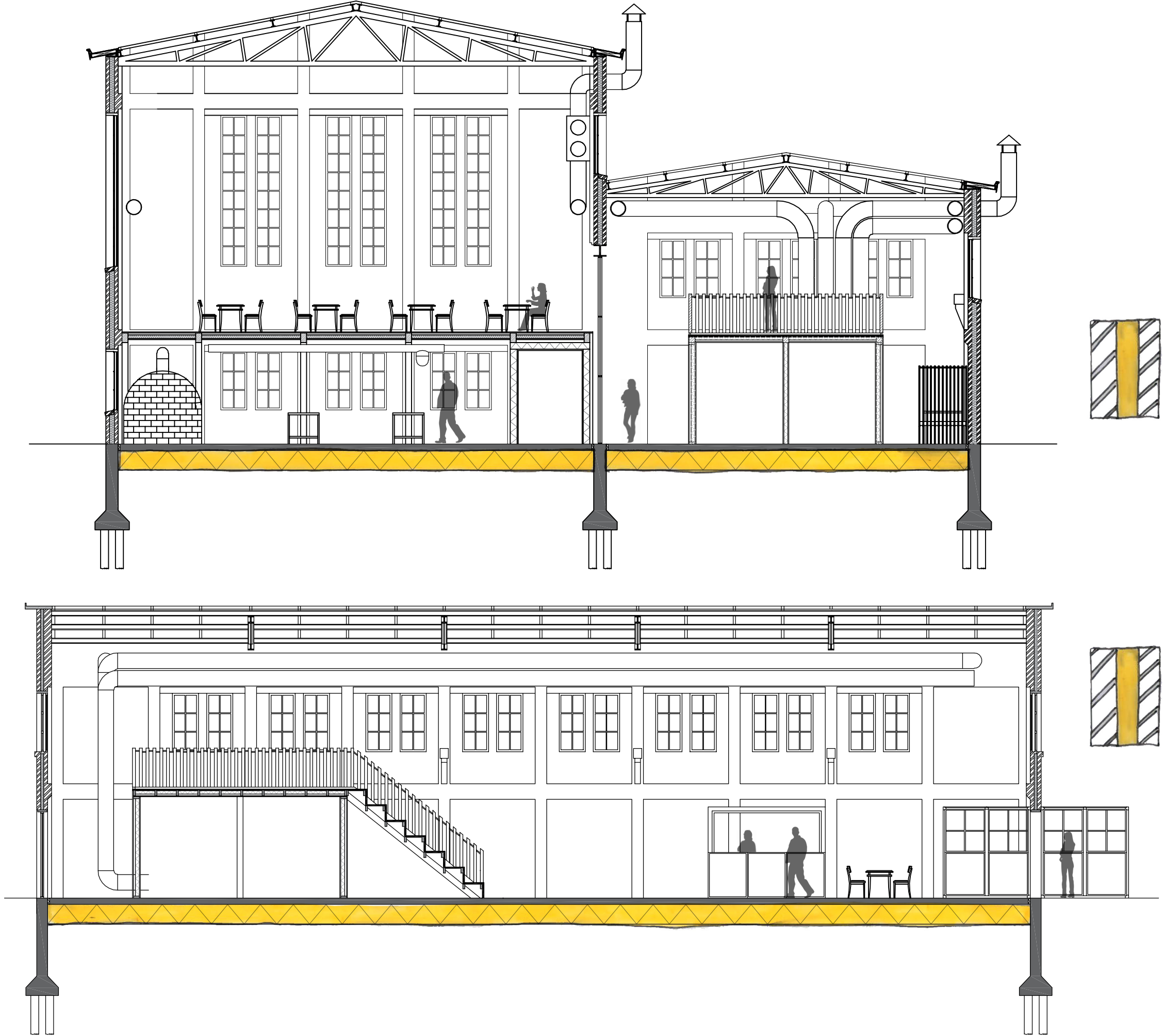
Ventilation



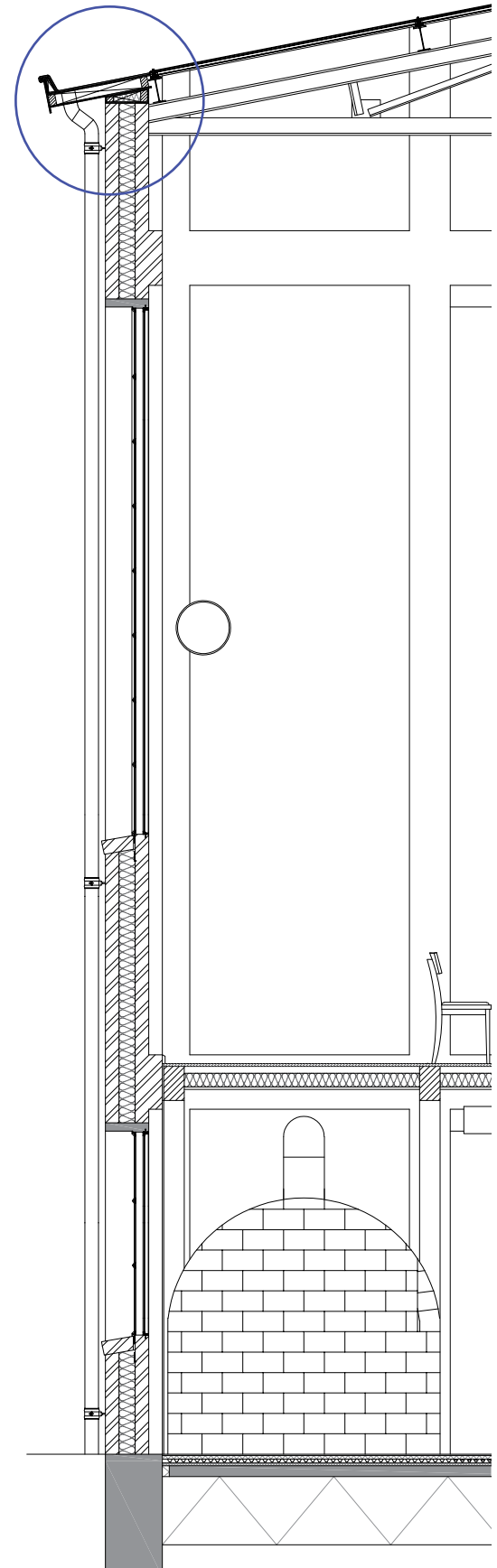
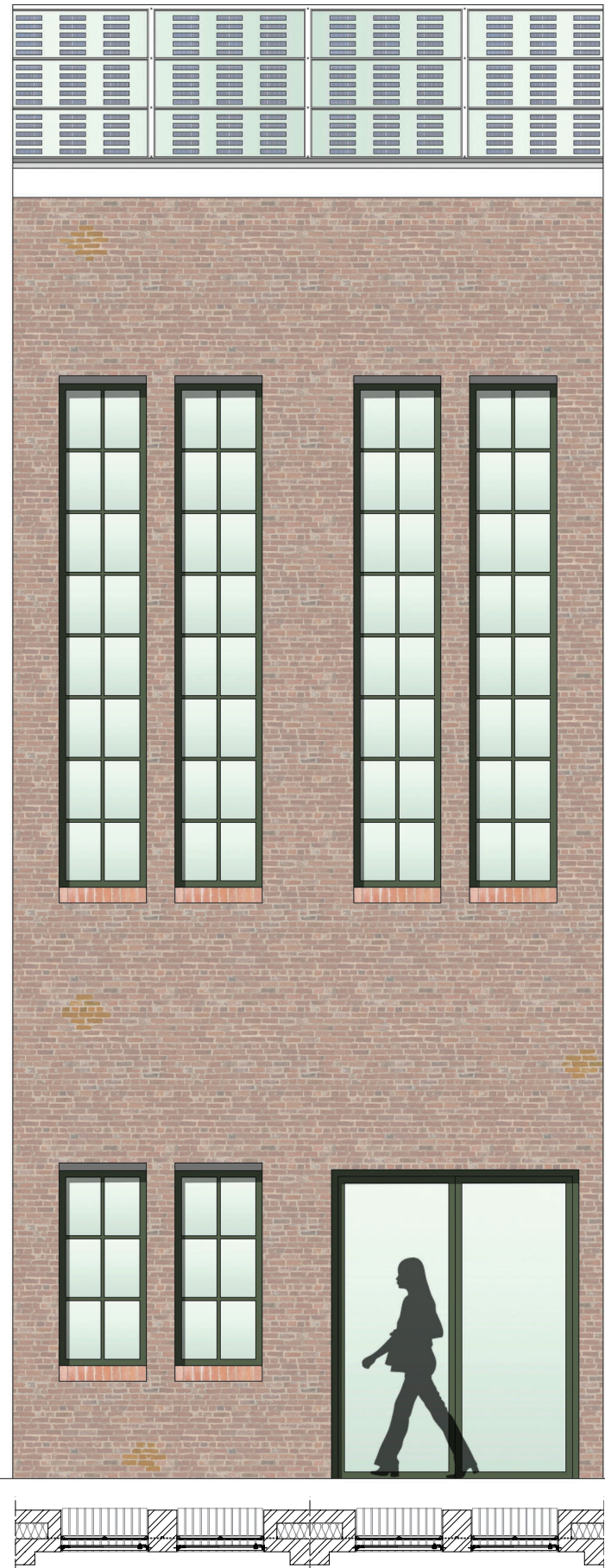
Ventilation



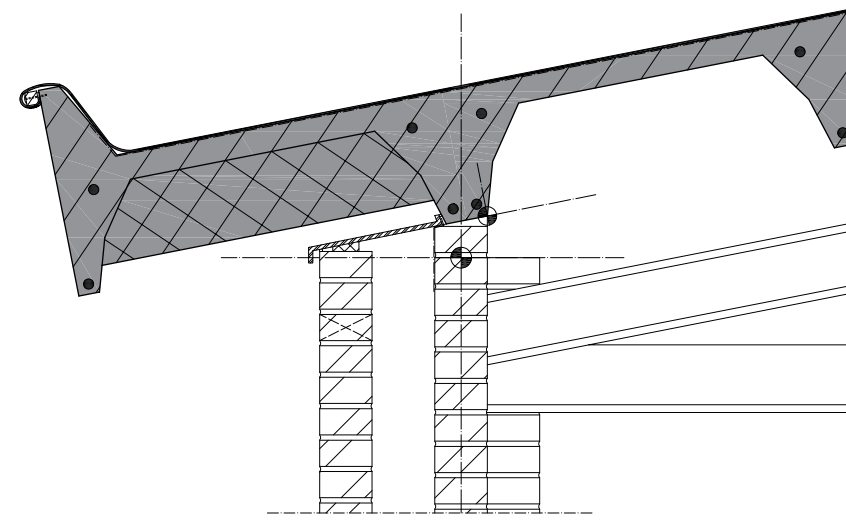
Insulation



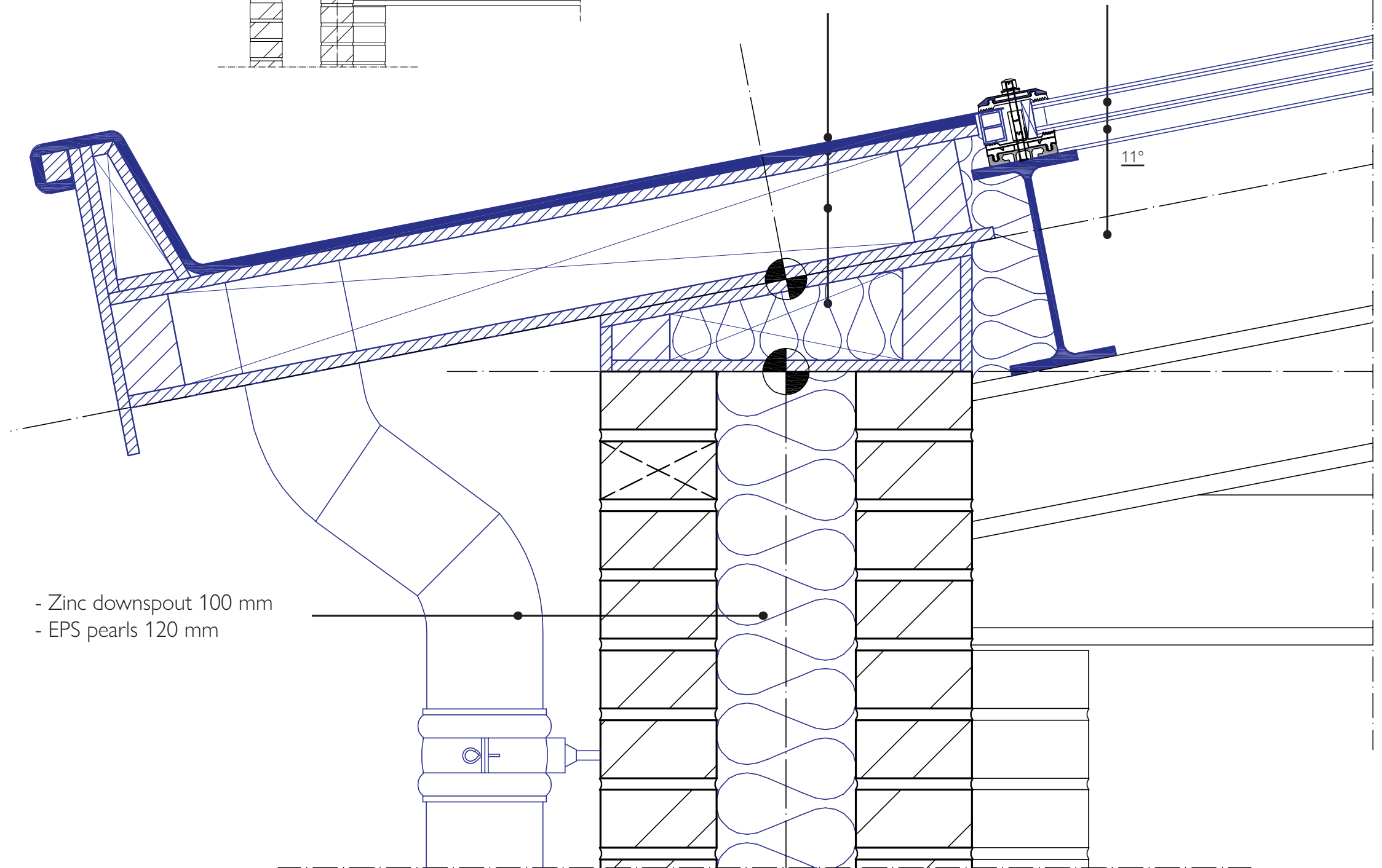
Detailing



Former roof detail

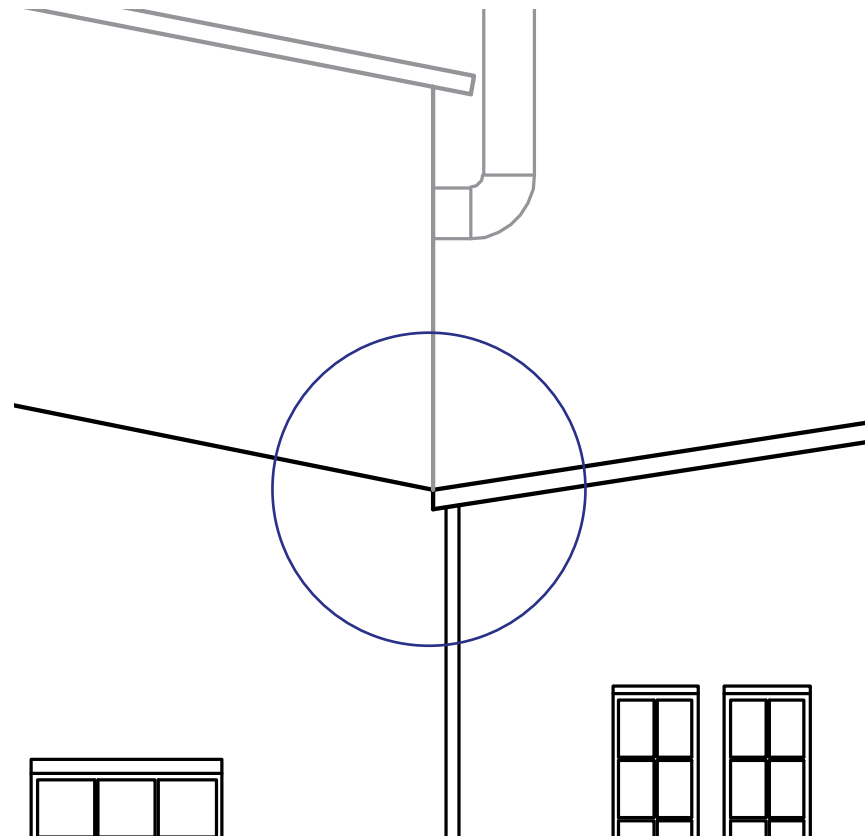


- Zinc plates 0.8 mm soldered joints
- Textured mat 'structuurmat' 8 mm
- Pre-fab wooden gutter
- In situ wooden joint
- Glass-glass solar panel 28 mm
- White sun screen "see through"
- IPE 180 mm



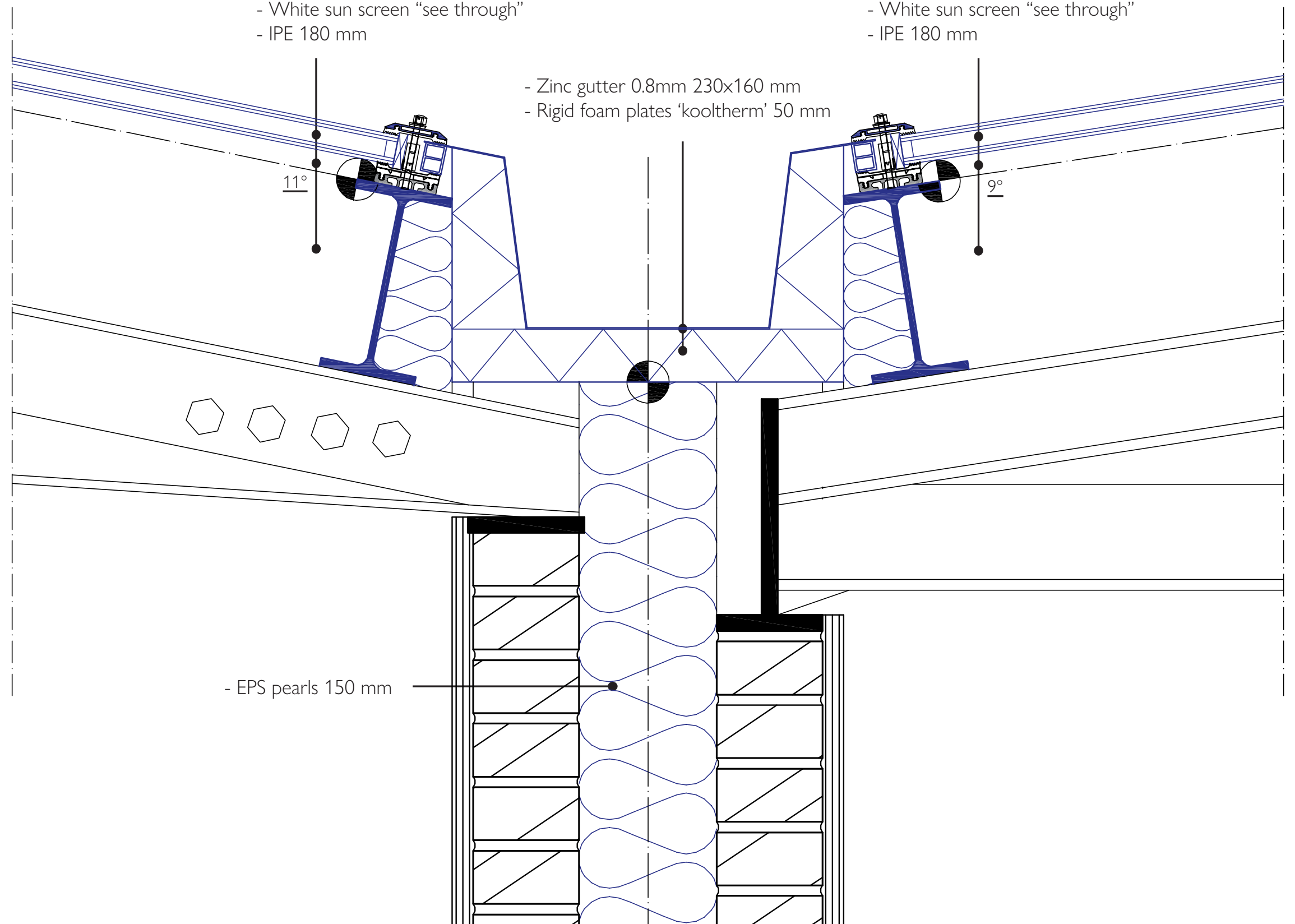
- Zinc downspout 100 mm
- EPS pearls 120 mm

Detailing



- Double glazing 28 mm:
 1. layered glass 6 mm with adhesive film,
 2. argon cavity 16 mm,
 3. warmth reflecting coating,
 4. layered glass, 6 mm. $U= 1.1 \text{ W/m}^2\text{K}$
- White sun screen "see through"
- IPE 180 mm

- Glass-glass solar panel 28 mm:
 1. layered glass 6 mm with solar cells between the adhesive film,
 2. argon cavity 16 mm,
 3. warmth reflecting coating,
 4. layered glass, 6 mm. $U= 1.1 \text{ W/m}^2\text{K}$
- White sun screen "see through"
- IPE 180 mm



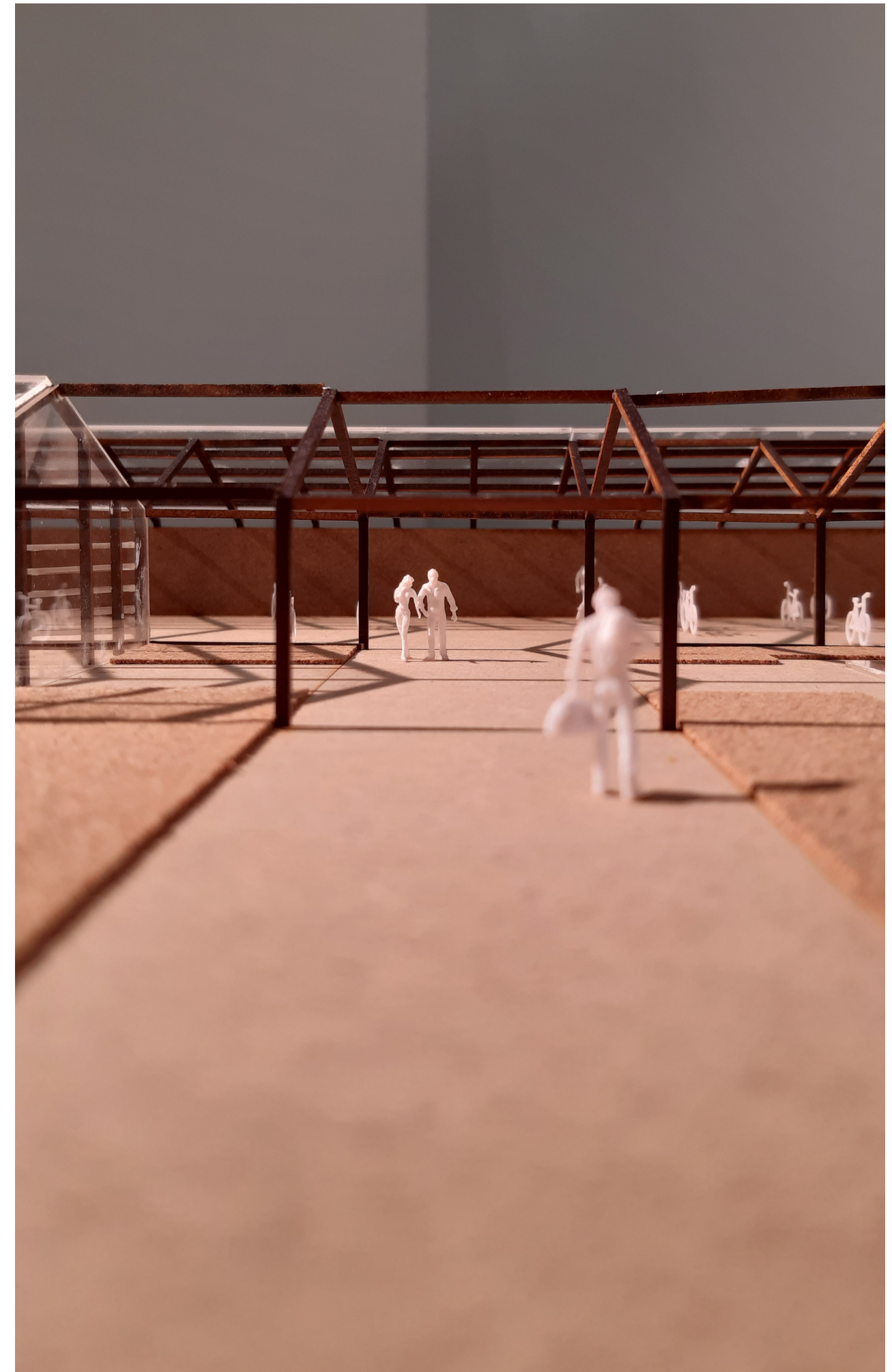
- EPS pearls 150 mm

- Zinc gutter 0.8mm 230x160 mm
- Rigid foam plates 'kooltherm' 50 mm

11°

9°

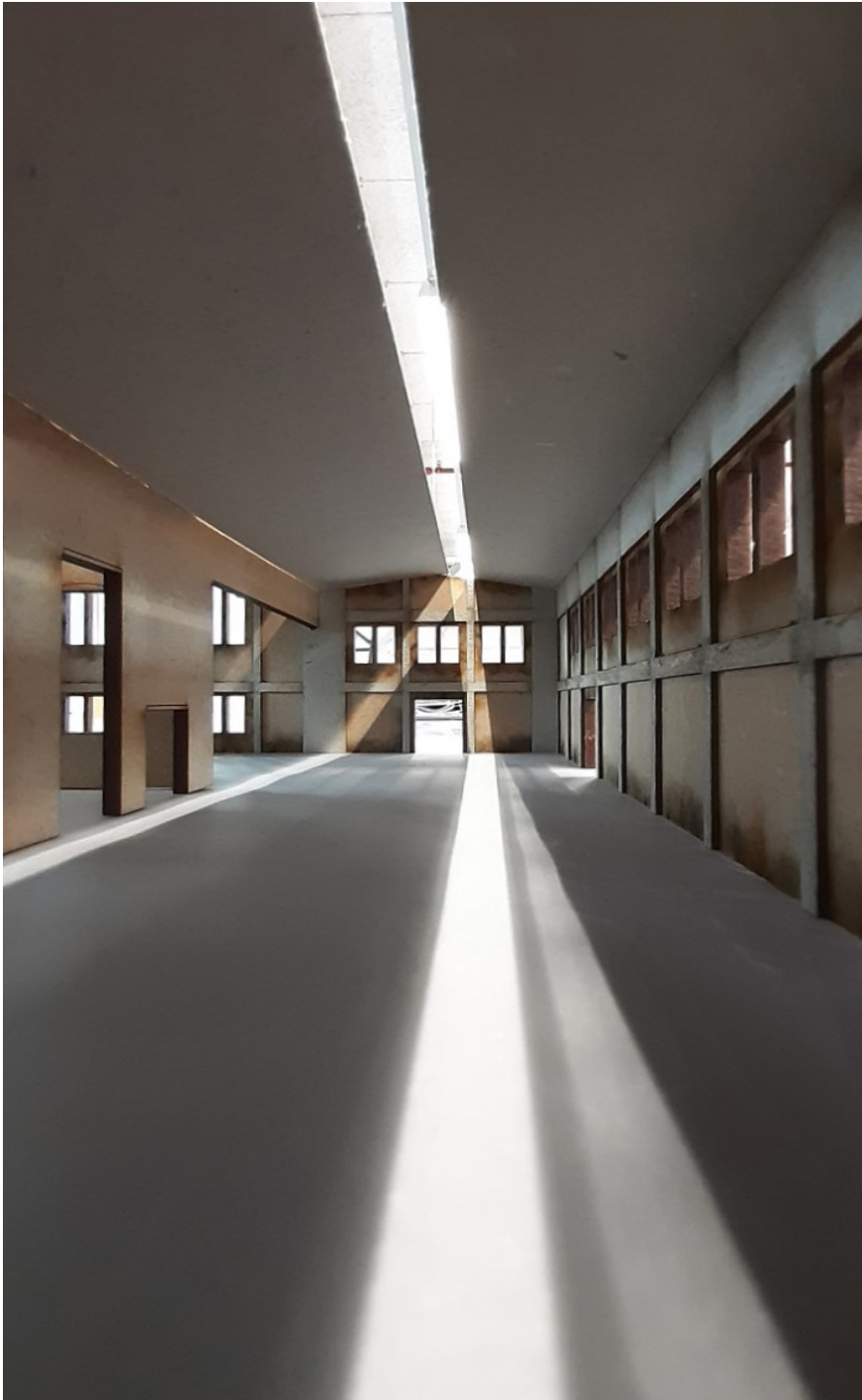
Going home



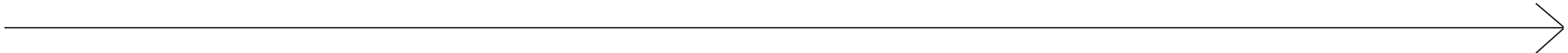
To provide the city of Zaandam with a culinary centre where *students* can learn to become a chef, *elderly residents* can garden together, *children* can learn how food is produced and *visitors* can taste the culinary heritage of Zaandam.

Reflection

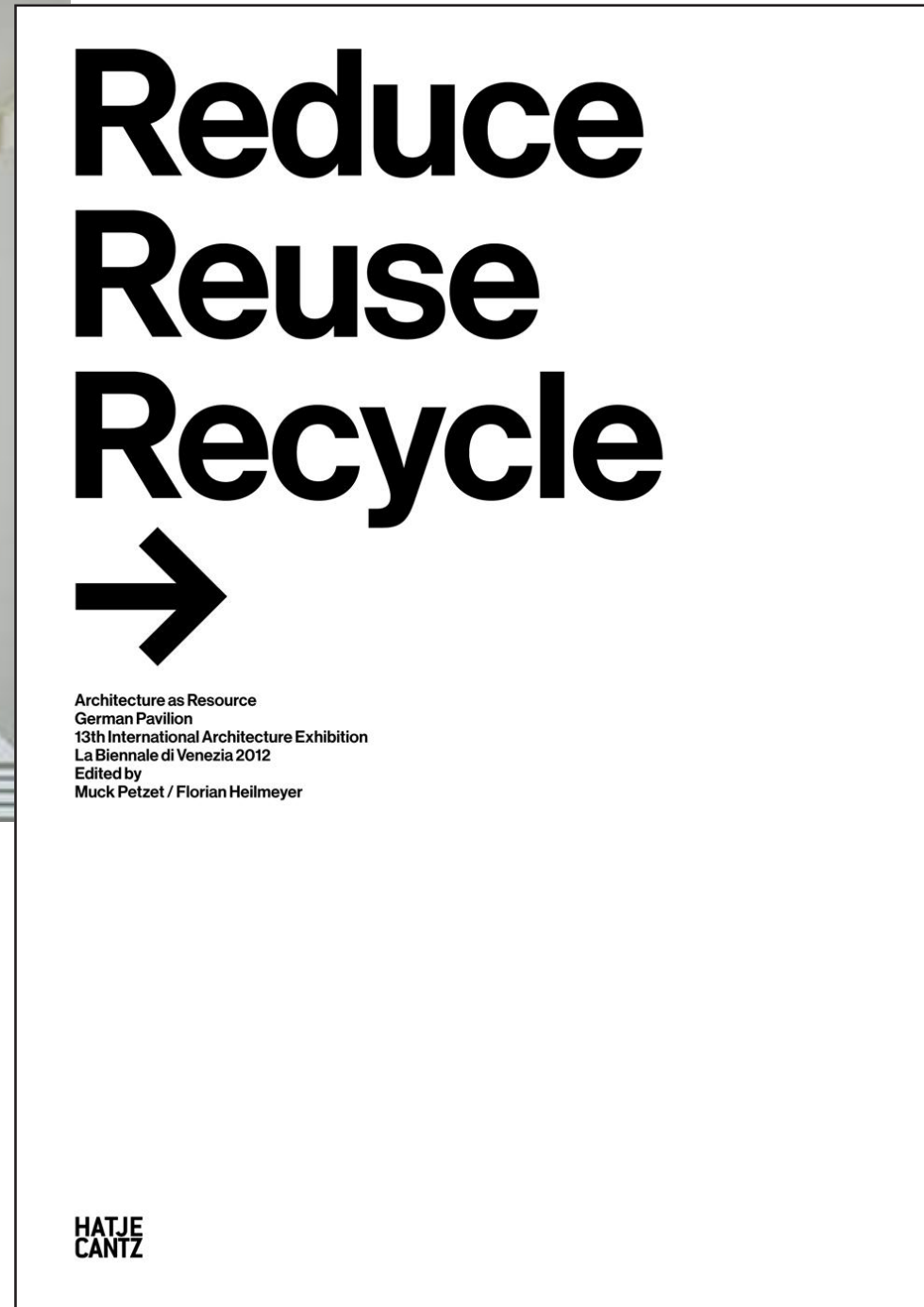
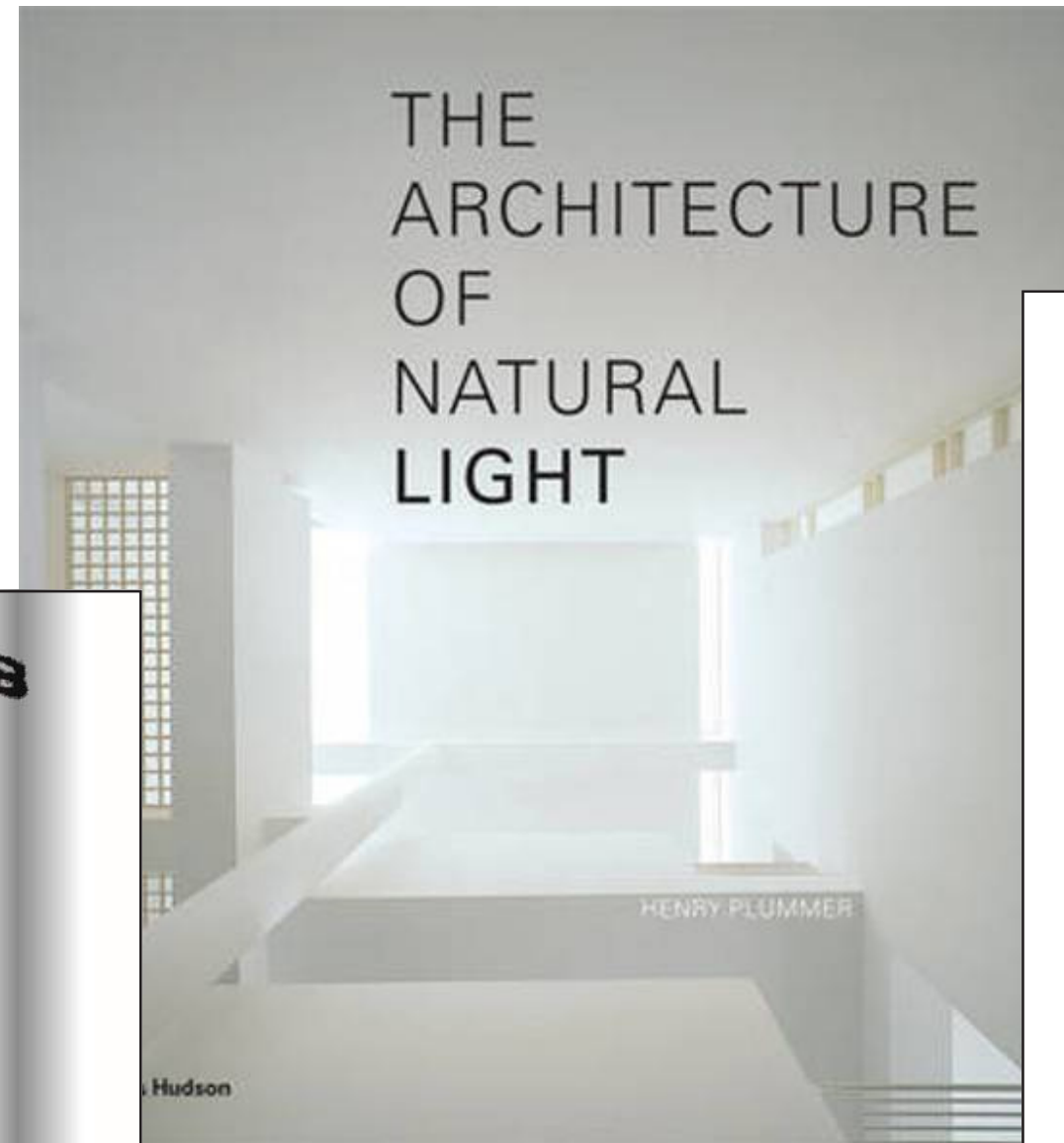
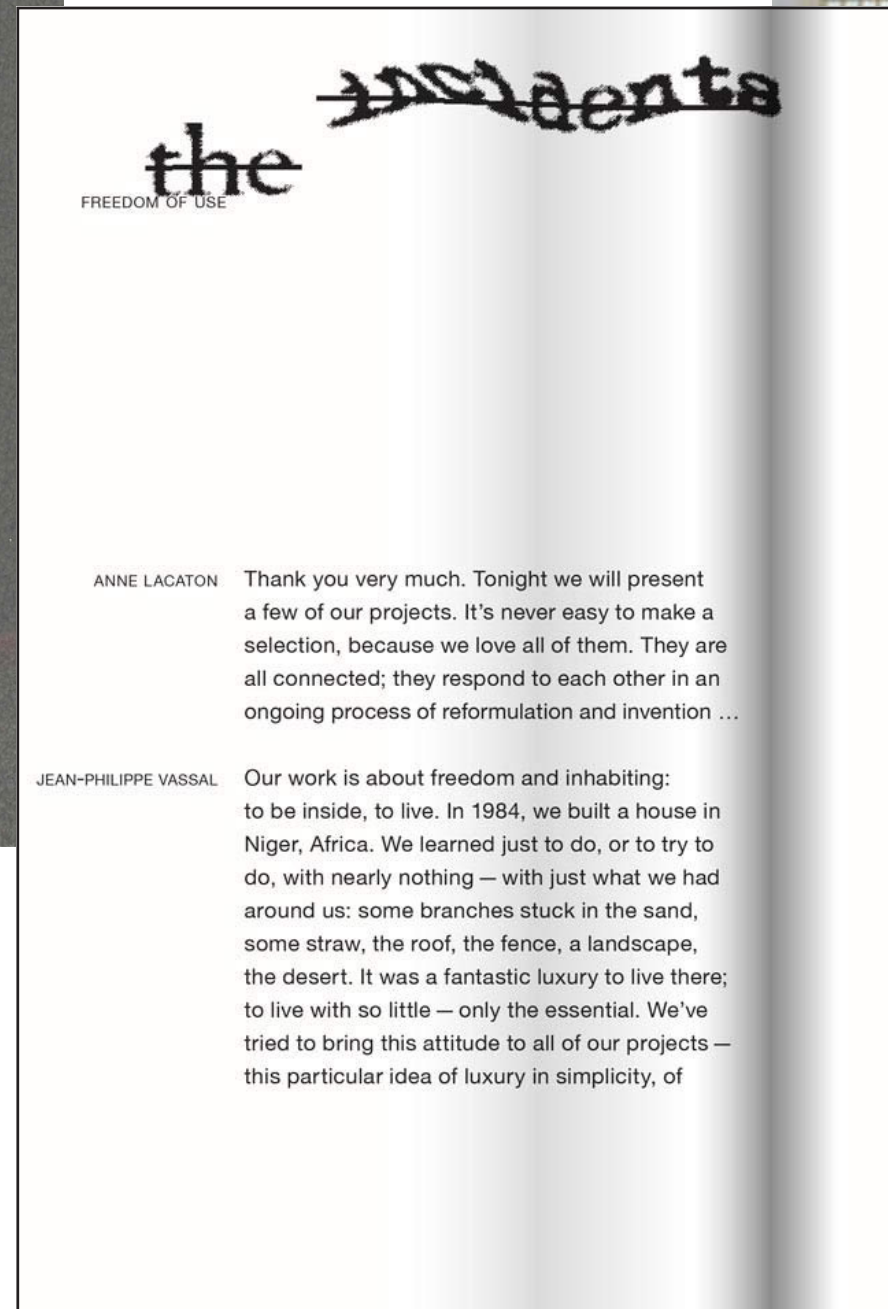
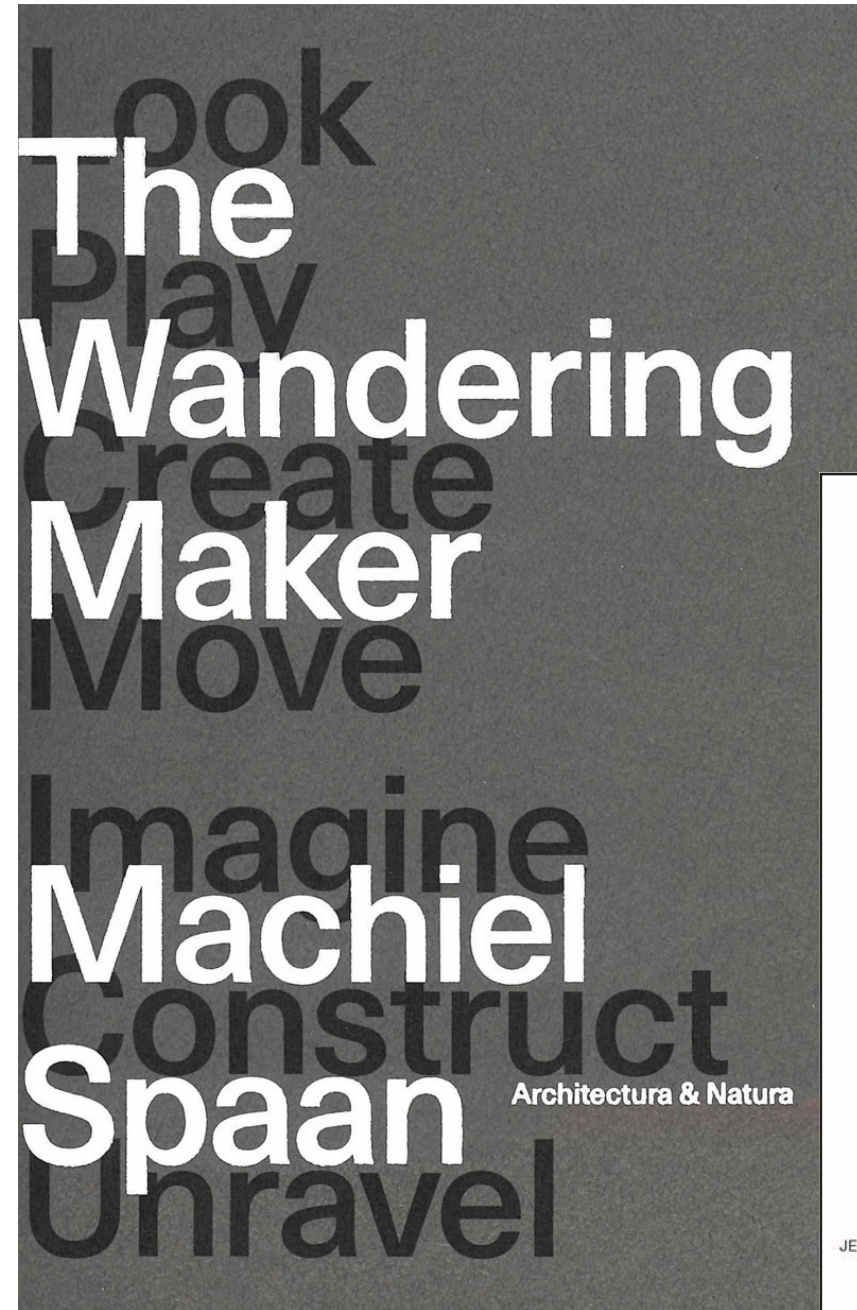
Models



Start



End



Questions?

