



source: photo by carin toren



PLOFBOS

THE UNINTENTIONAL BEAUTY OF DEALING WITH EXPLOSIVES

source: photo by carin toren

PLOFBOS



source: <http://sensrealestate.nl/portfolio/hembrugterrein-2/>

HEMBRUG



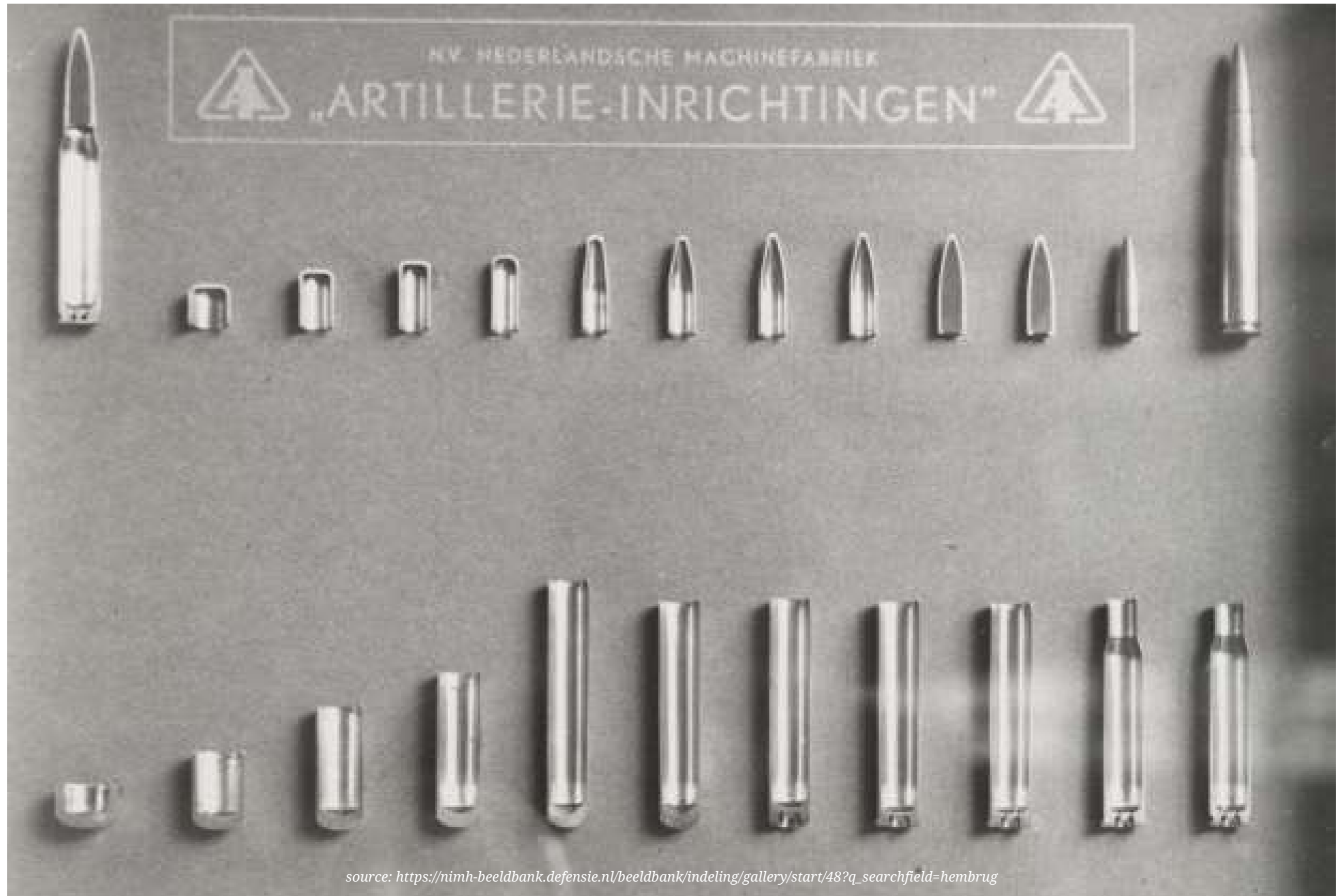
source: <http://sensrealestate.nl/portfolio/hembrugterrein-2/>

HISTORY

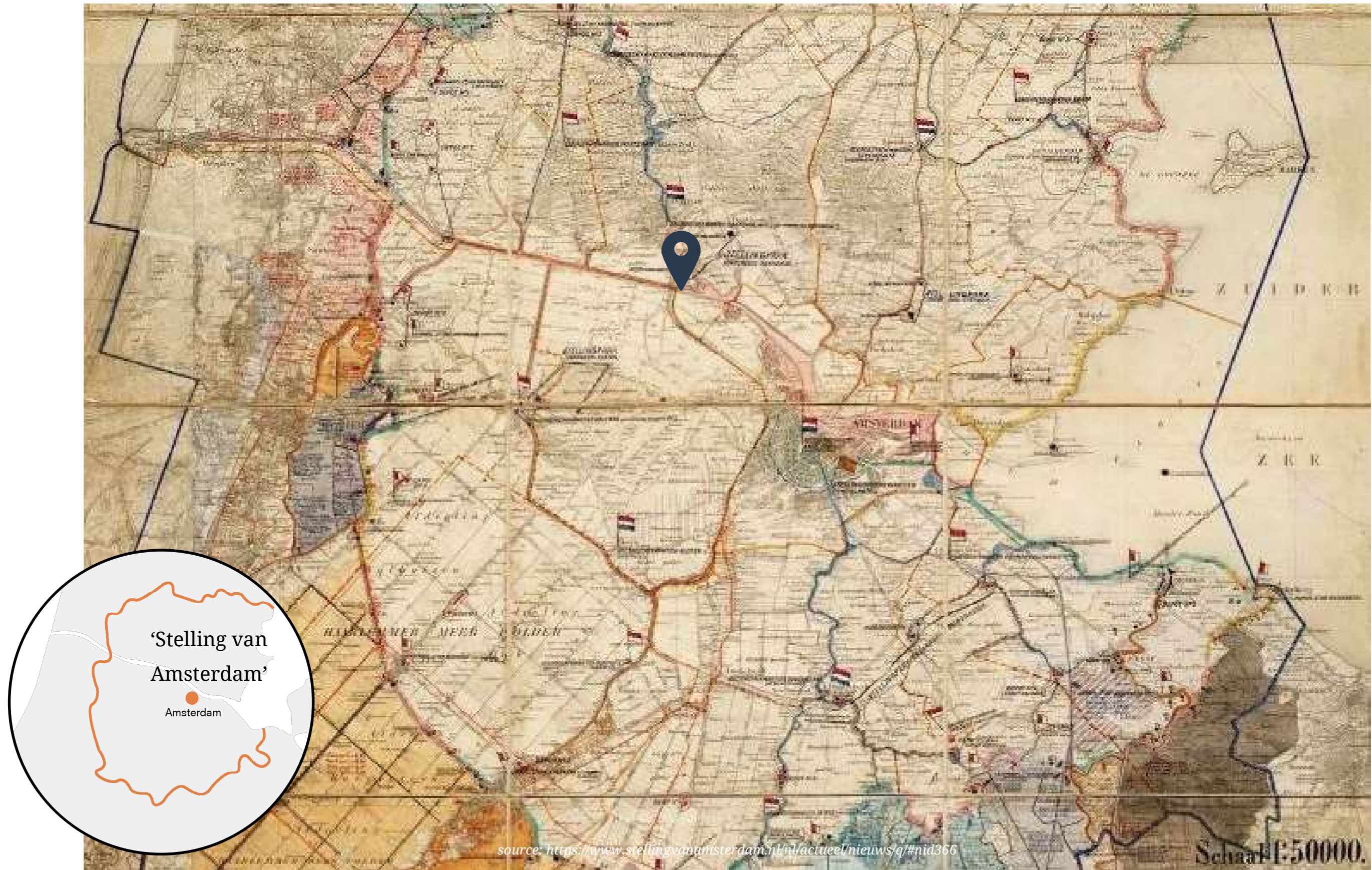


source: https://nimh-beeldbank.defensie.nl/beeldbank/indeling/gallery/start/48?q_searchfield=hembrug

HISTORY



'STELLING OF AMSTERDAM'



IN BETWEEN TWO CITIES



HISTORY



source: <http://www.toposonline.nl/2015/voormalig-munitiefabriek-hembrug-in-zaandam-als-creatieve-hotspot/>

HISTORY



source: <http://www.toposonline.nl/2015/voormalig-muntiefabriek-hembrug-in-zaandam-als-creatieve-hotspot/>

HISTORY



source: <https://onh.nl/verhaal/het-hembrugterrein-niet-langer-verborgen>

HISTORY



source: <https://www.rijksoverheid.nl/actueel/nieuws/2017/03/01/hembrugterrein-zaandam-te-koop-voor-woningbouw-en-bedrijven>

HISTORY



source: https://nimh-beeldbank.defensie.nl/beeldbank/indeling/gallery/start/48?q_searchfield=hembrug

HEMBRUG



source: <http://sensrealestate.nl/portfolio/hembrugterrein-2/>

CONTENT

- INTRODUCTION

- ANALYSIS

- MASTERPLAN

- DESIGN

ANALYSIS

PERCEIVING THE FEATURES OF HEMBRUG

RESEARCH QUESTION ANALYSIS

How did practical military design yield unintended qualities of a forest-village in Plofbos?

RESEARCH QUESTION ANALYSIS

How did practical military design yield unintended qualities of a forest-village in Plofbos?

1. Hembrug;

What was the design approach behind the planning of Hembrug?

2. Plofbos;

What are the characteristic traits of Plofbos and how did they come into existence?

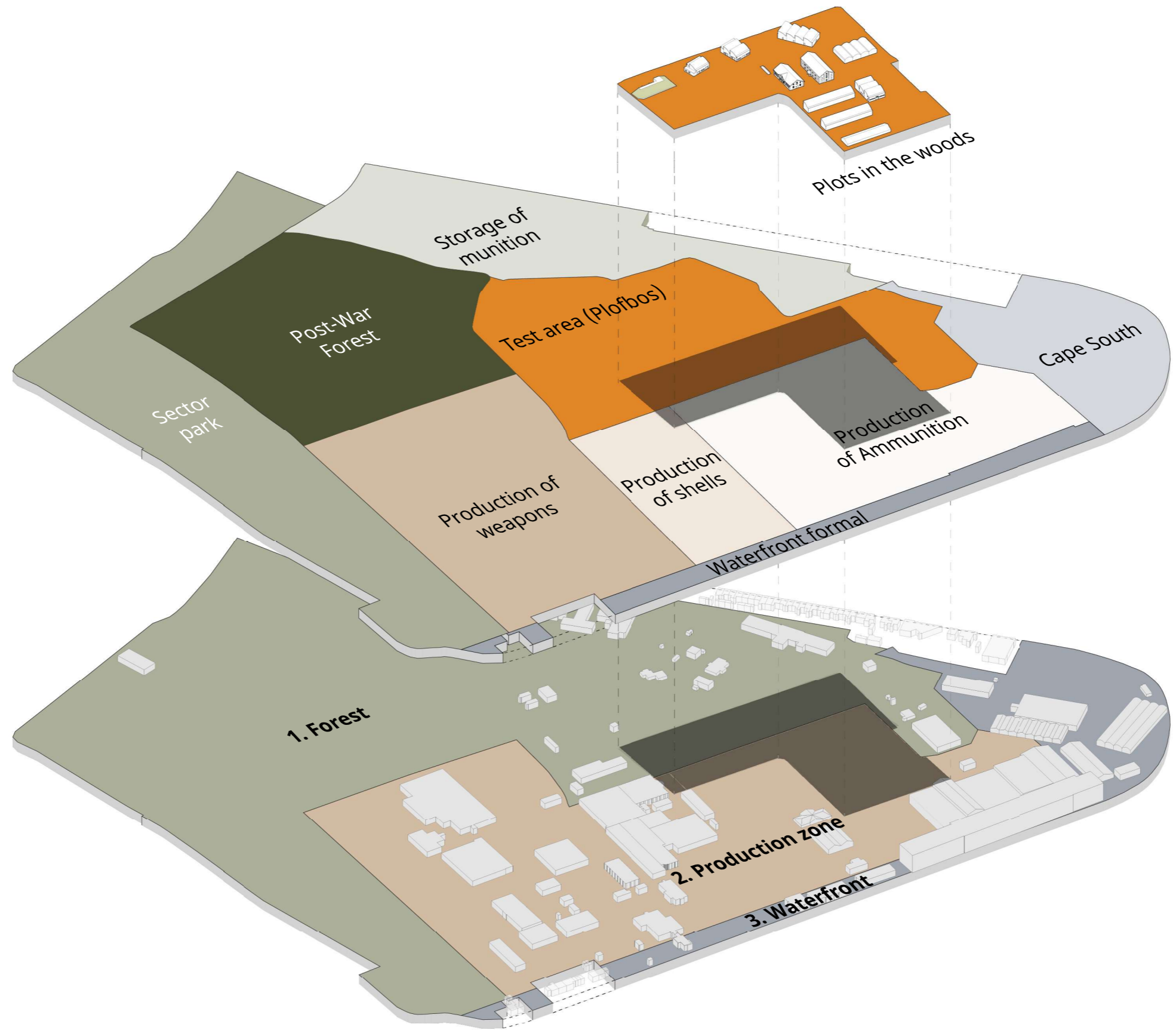
3. Buildings;

How adaptable are the buildings on the Plofbos site?

ZONES AND ENSEMBLES HEMBRUG

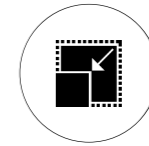
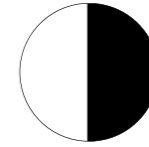
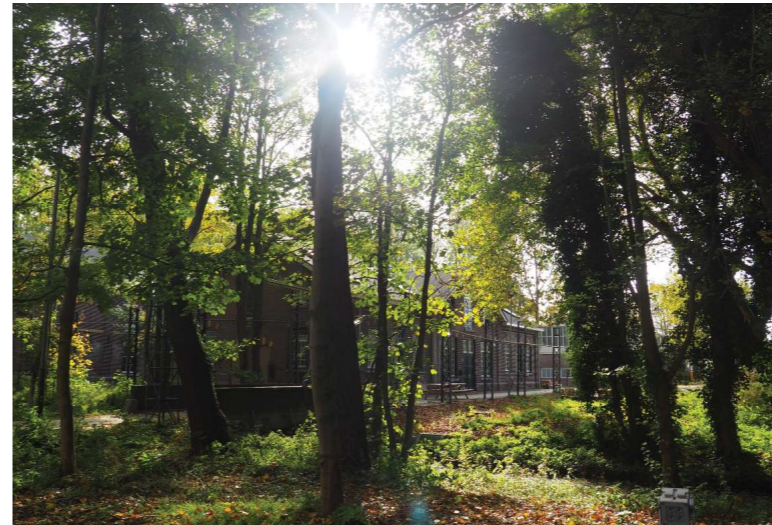
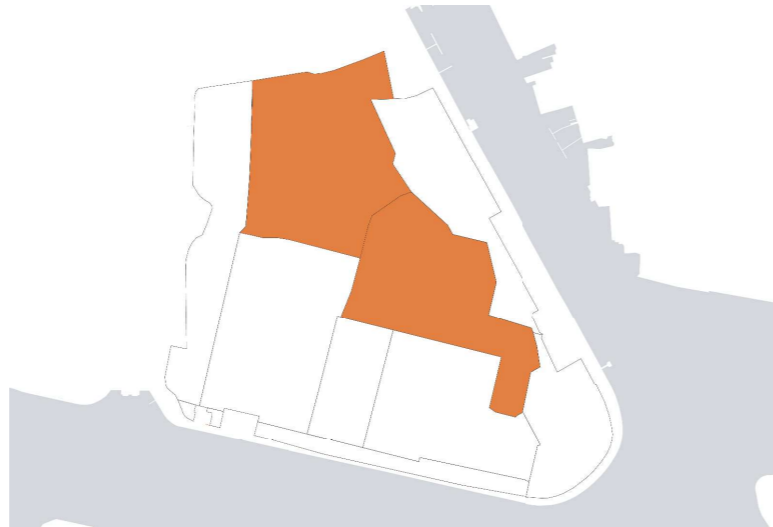
Nine Ensembles

Three zones

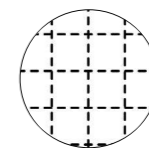
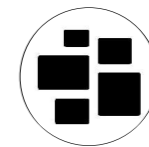
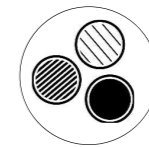
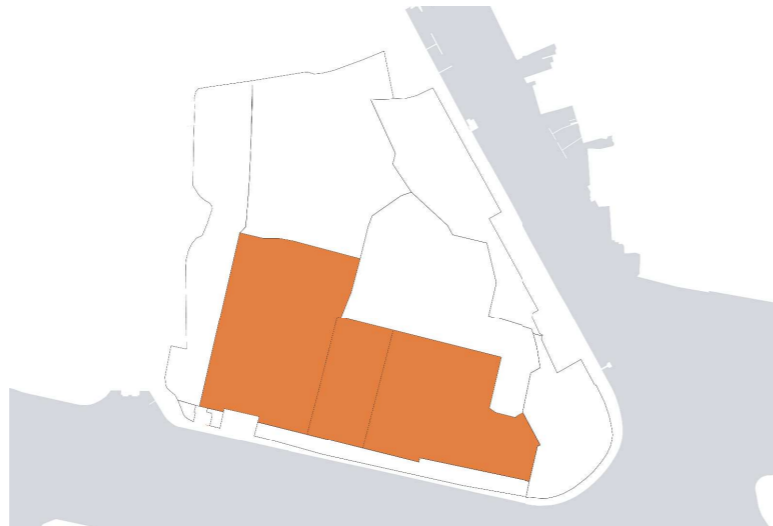


ZONES

Zone 1 - Forest



Zone 2 - Production



Zone 3 - Waterfront



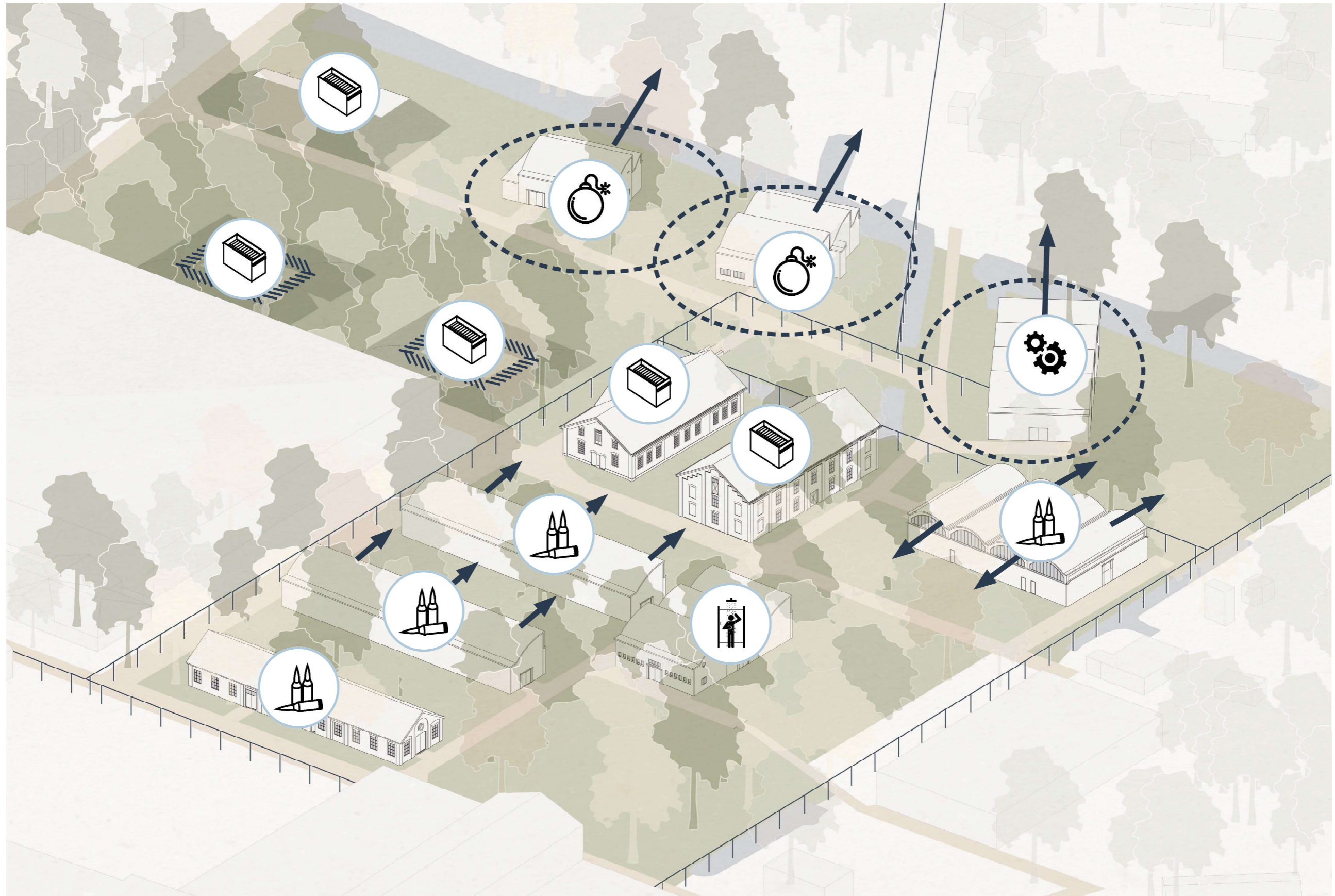
PLOFBOS



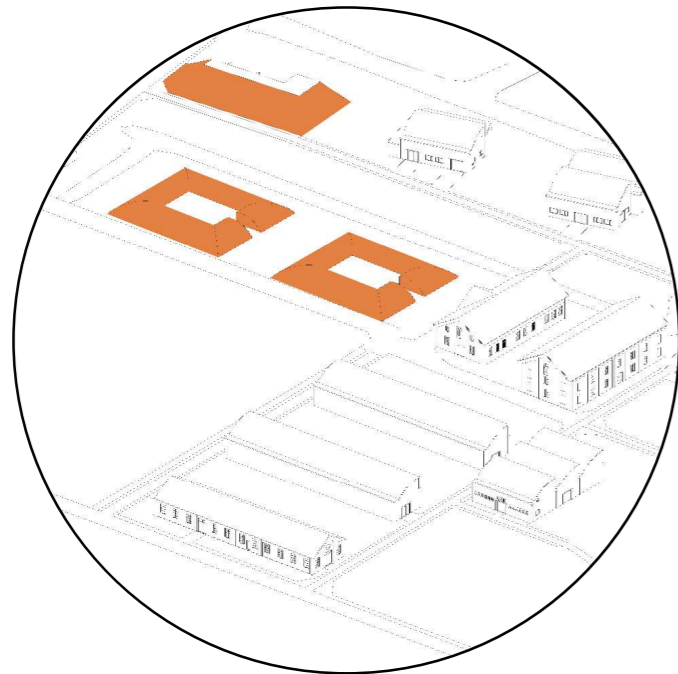
PLOFBOS FUNCTIONS



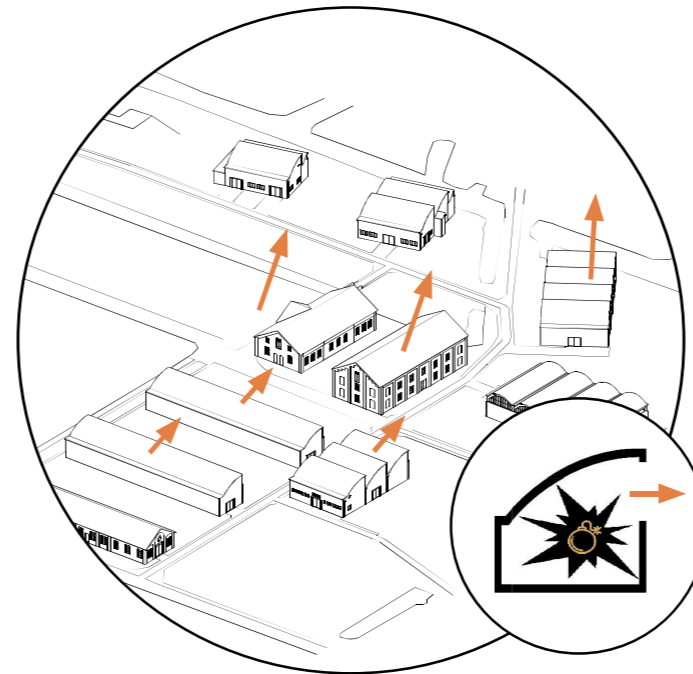
PLOFBOS FUNCTIONS AND POSITIONING



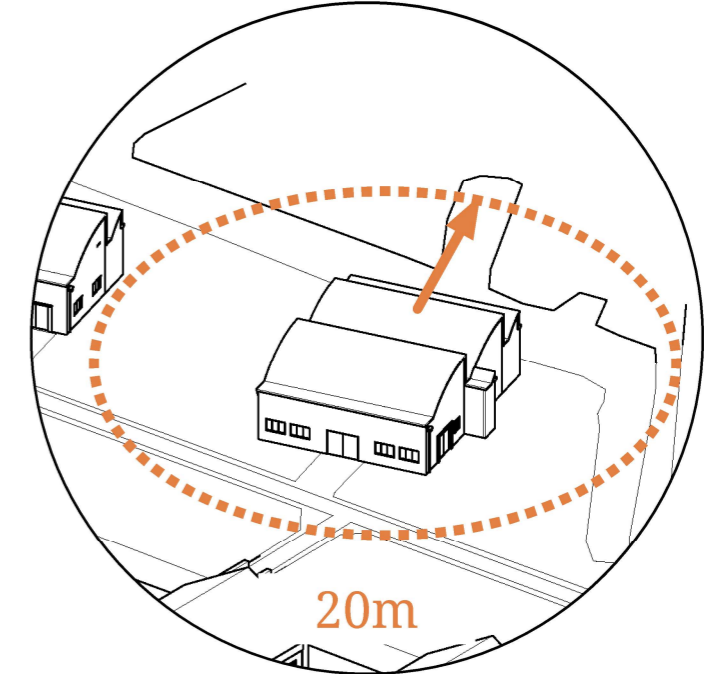
FUNCTIONAL ASSETS



Earth walls

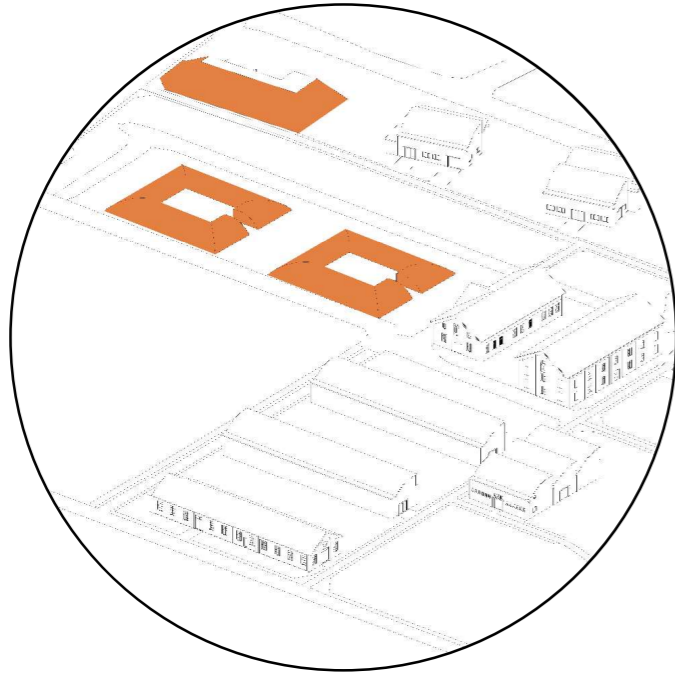


Shell Roofs

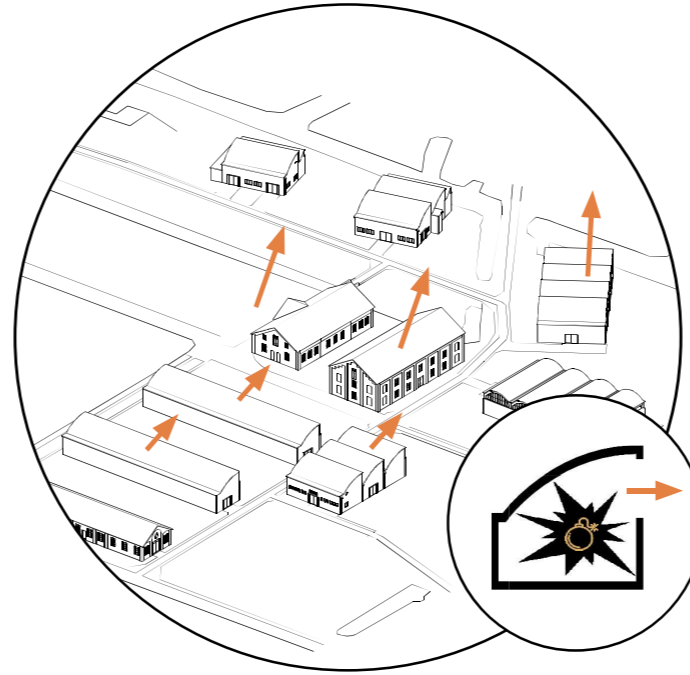


Radius

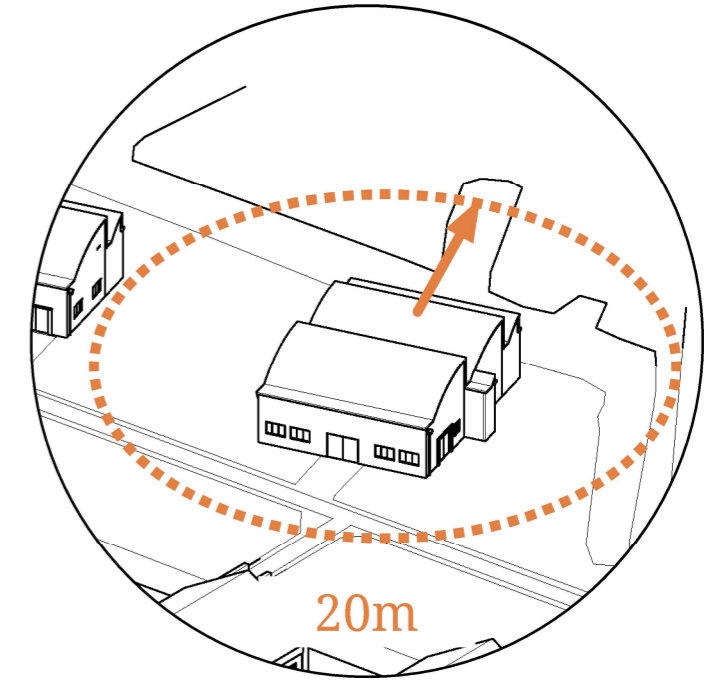
FUNCTIONAL ASSETS



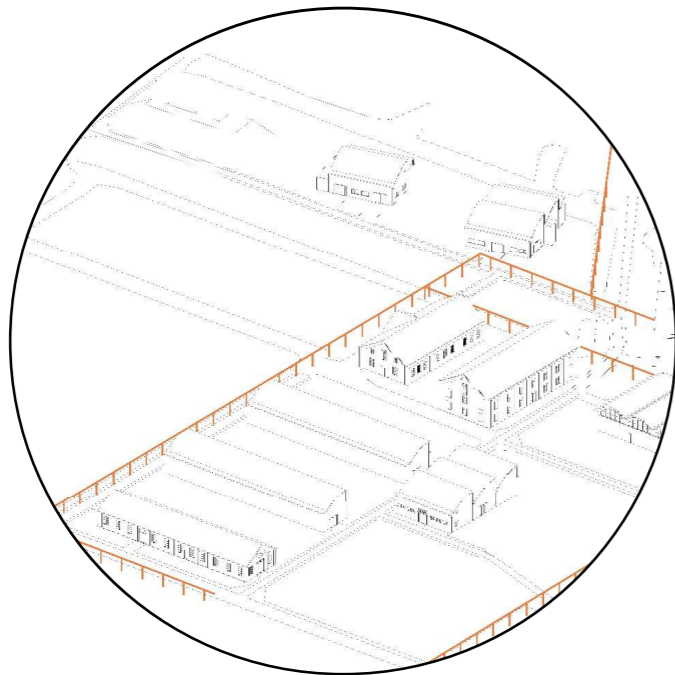
Earth walls



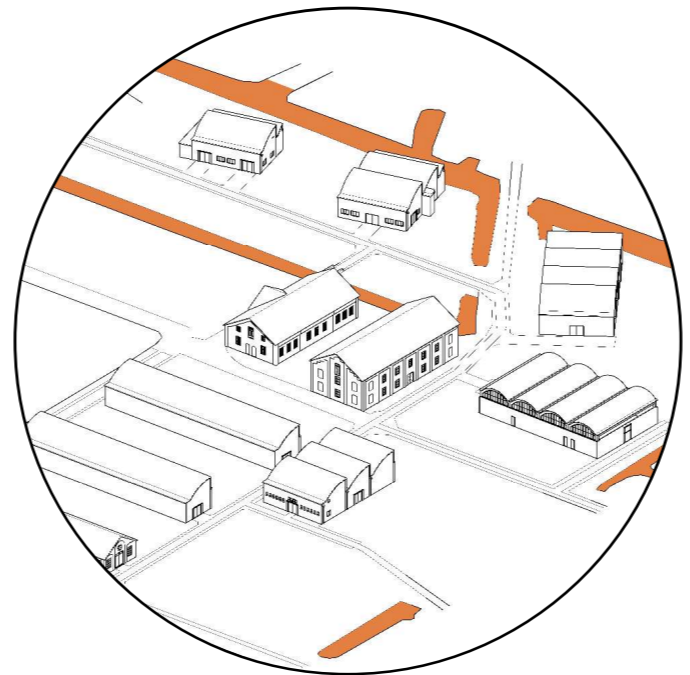
Shell Roofs



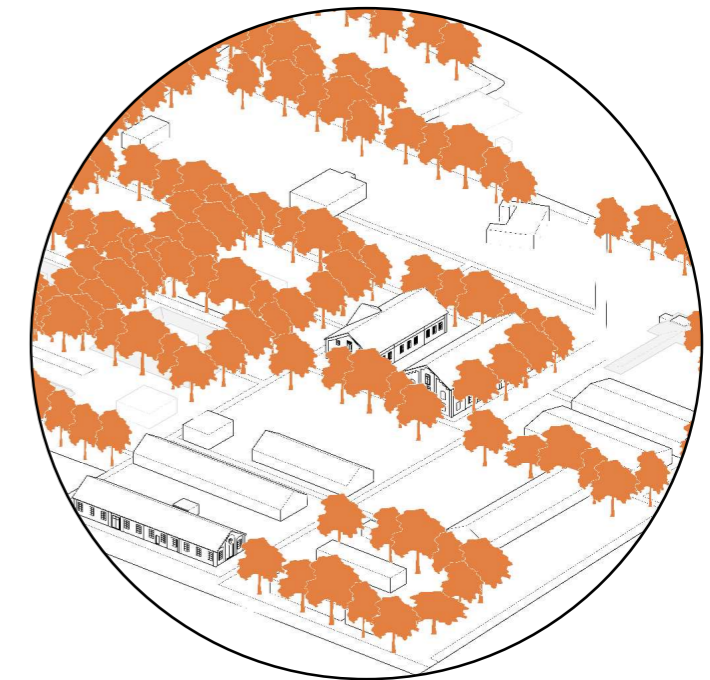
Radius



Pipelines

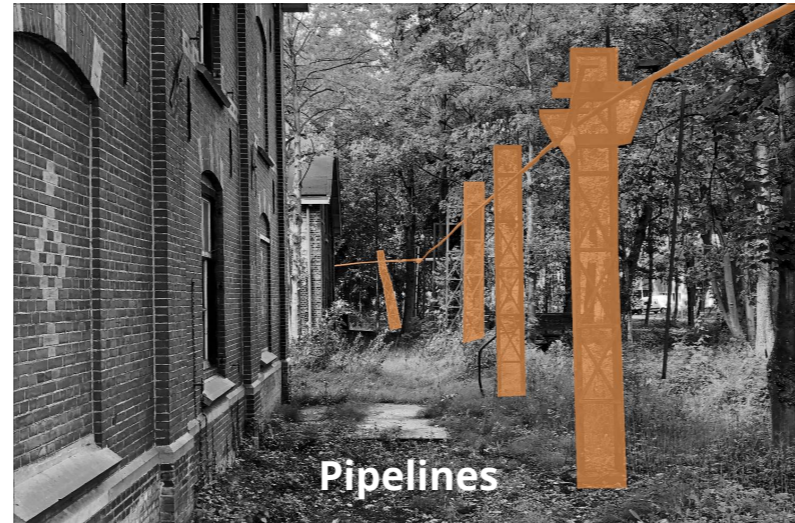


Canals

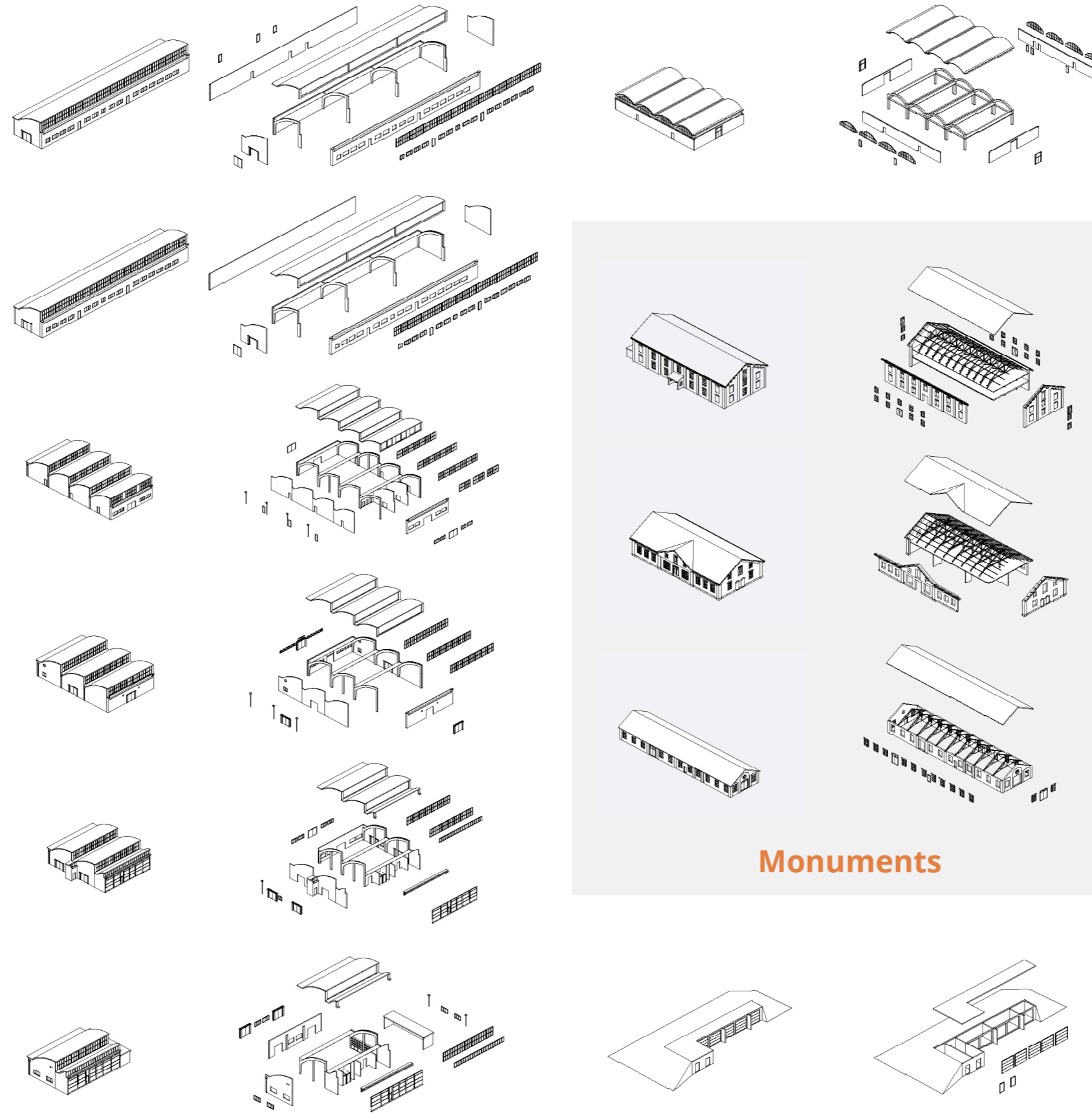


Trees

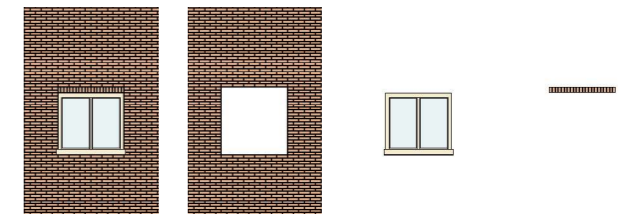
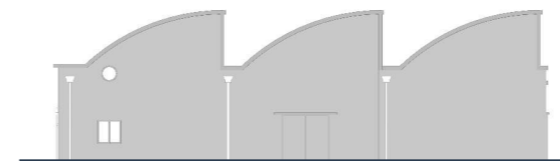
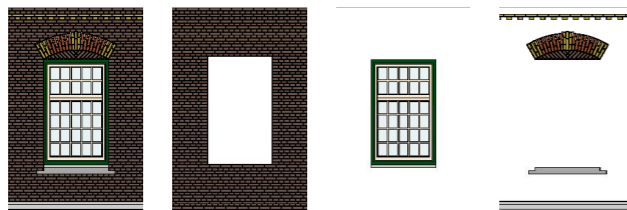
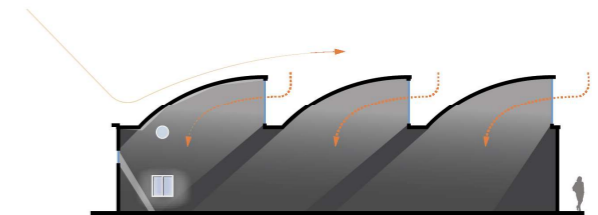
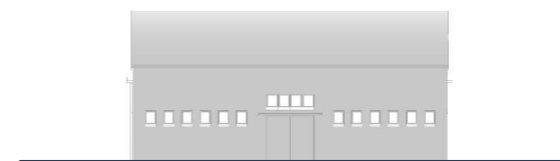
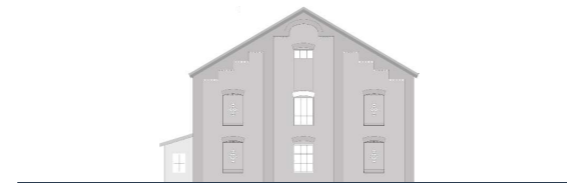
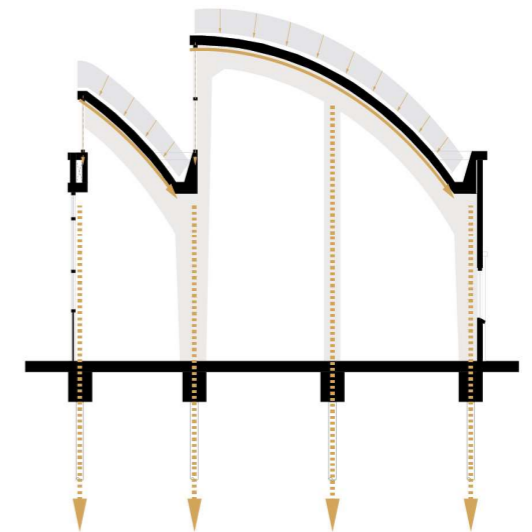
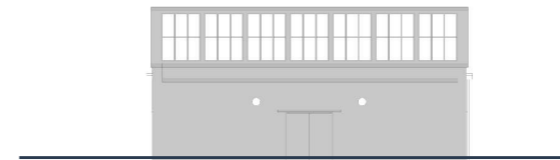
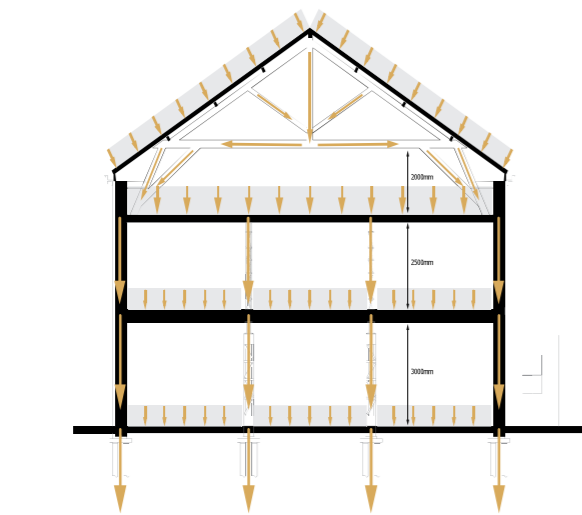
CHARACTERISTIC TRAITS PLOFBOS



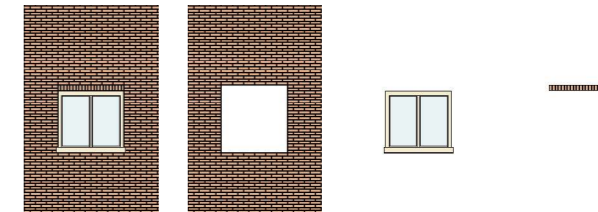
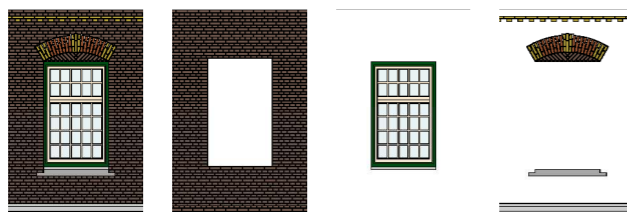
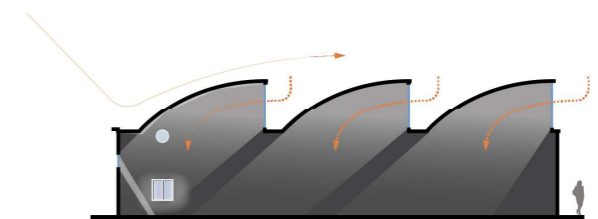
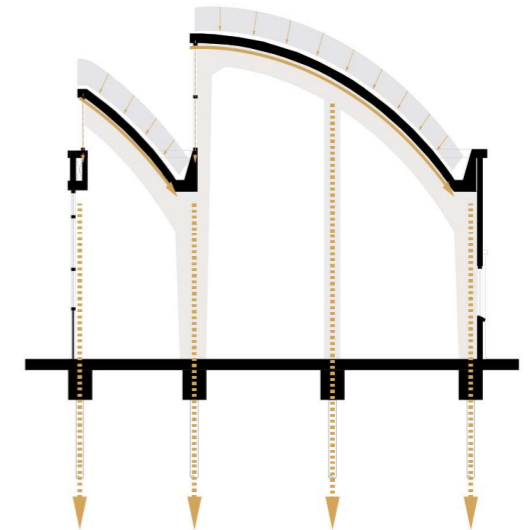
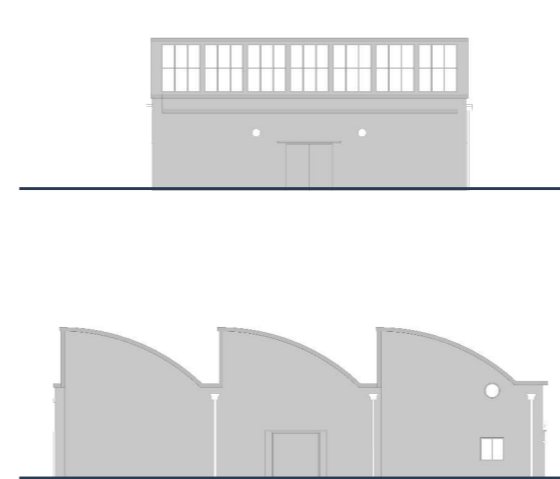
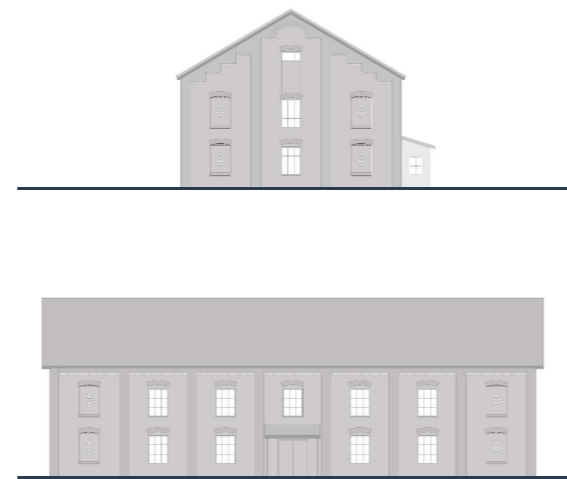
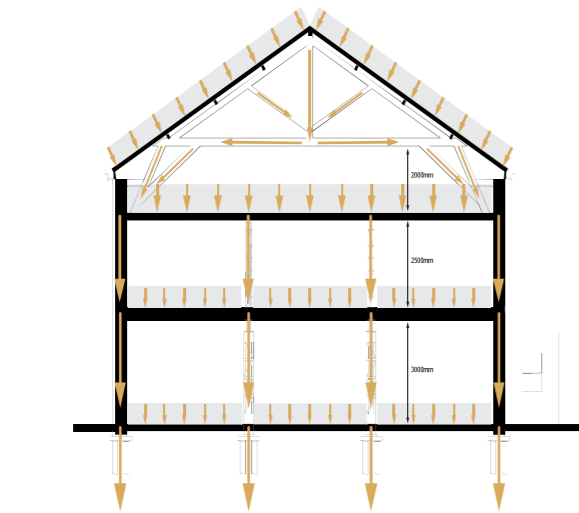
BUILDINGS PLOFBBOS



ANALYSIS BUILDINGS



TWO TYPOLOGIES



COMPARISON



Monumental façades

Spirit of place

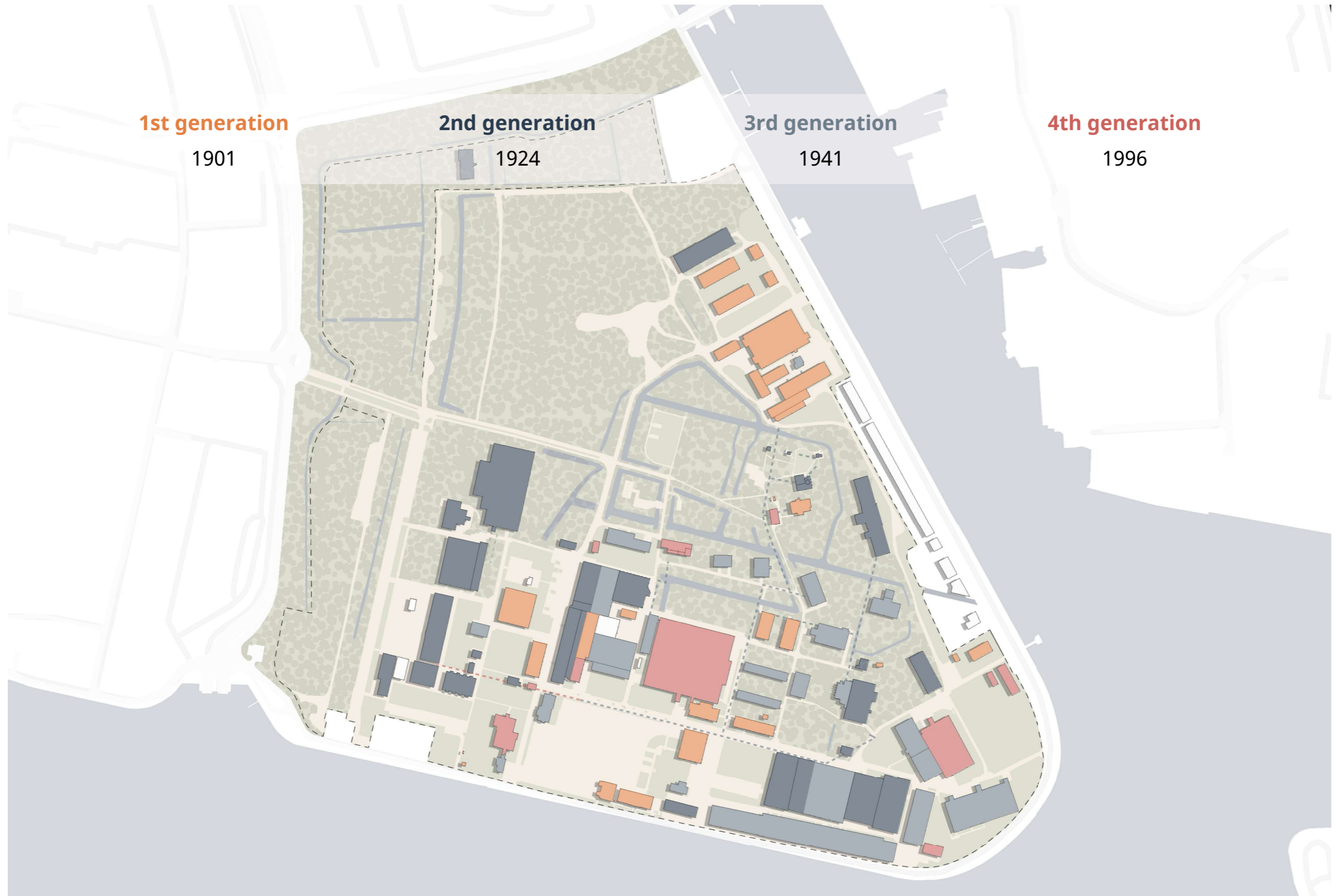
GENERATIONS



1st generation
Boerderijen

3rd generation
Shell Roofs

GENERATIONS



TIMELINE

1st generation

1901



2nd generation

1924



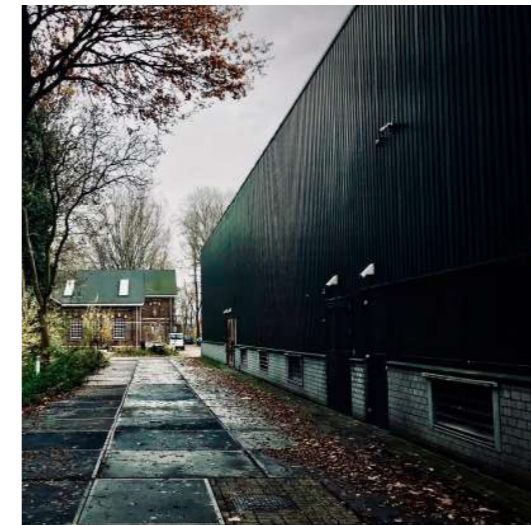
3rd generation

1941



4th generation

1996



5TH GENERATION

1st generation

1901



2nd generation

1924



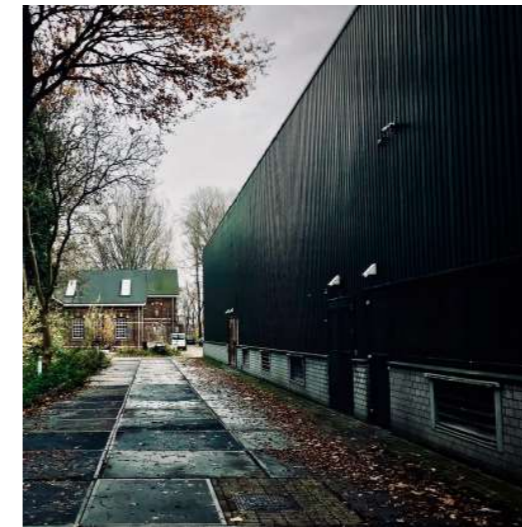
3rd generation

1941



4th generation

1996



5th generation

2019



MASTERPLAN

DESIGN

NEW CITY



source: <http://sensrealestate.nl/portfolio/hembrugterrein-2/>

MASTERPLAN HEMBRUG



Students



Elderly



Families



Park



Green house



Shopping



Sport



Culture



PLOFBOS NEIGHBOURHOOD



Students



Couples



Families



Park



Green house



Shopping



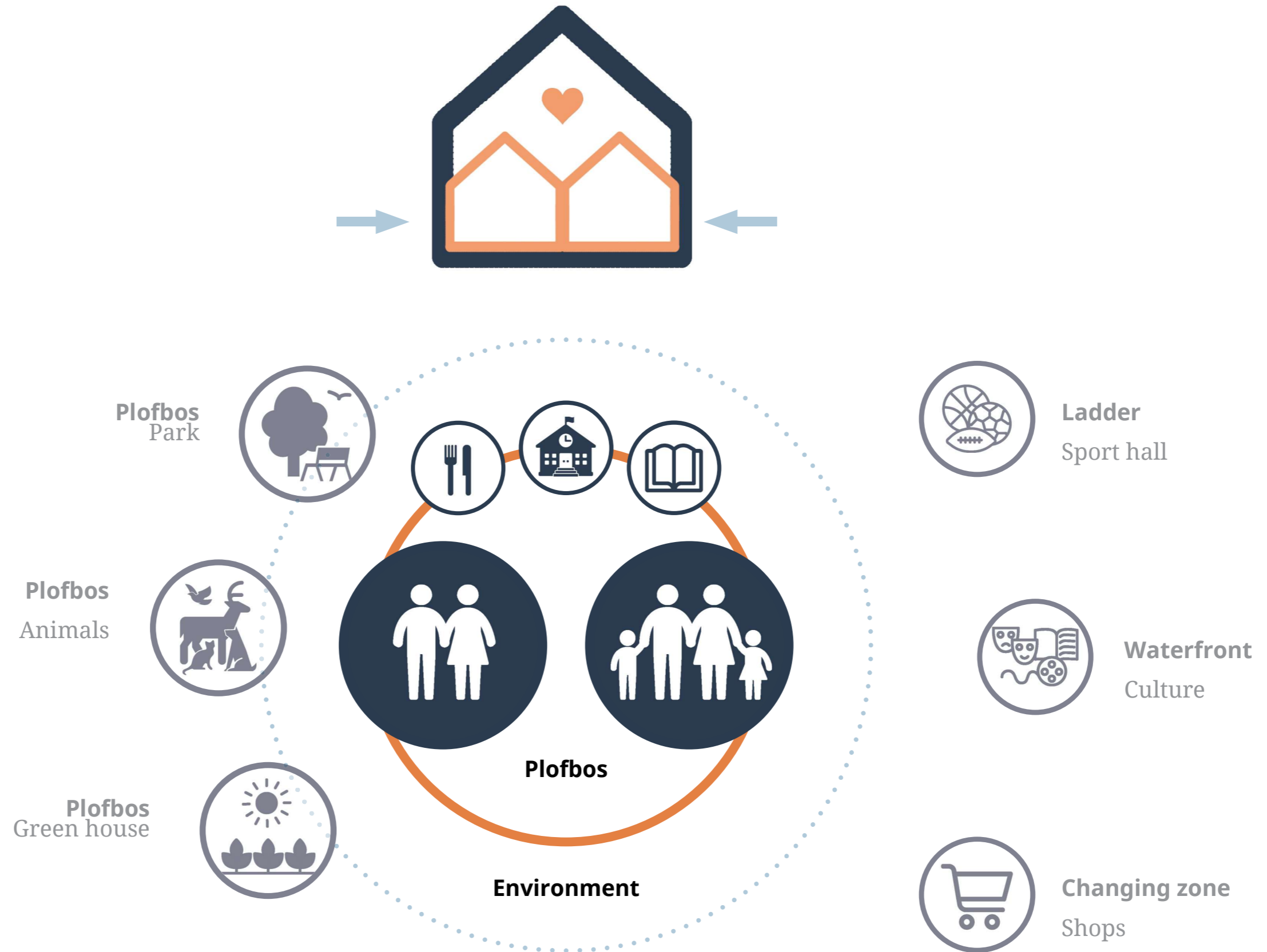
Sport



Culture



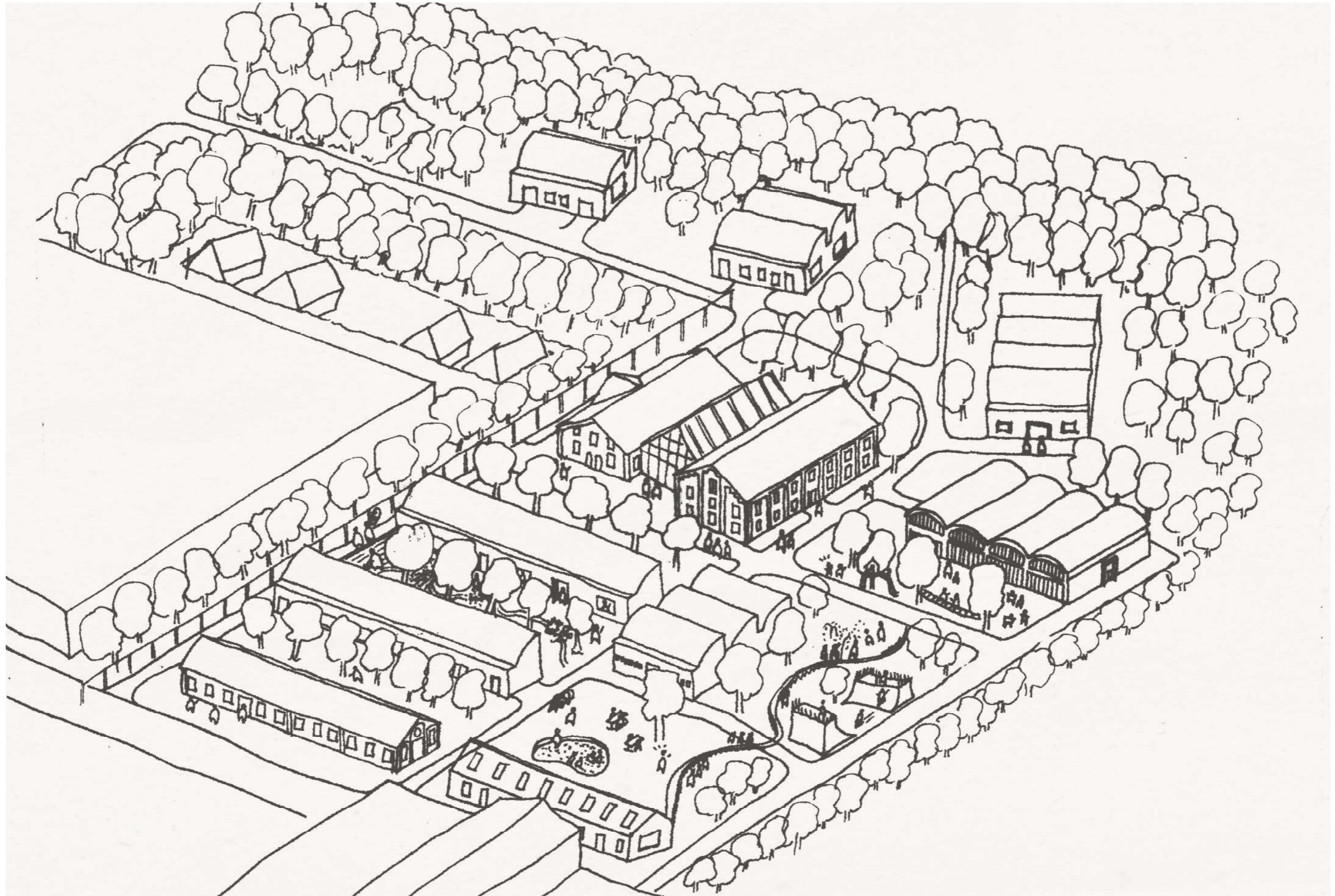
FAMILY HOUSING



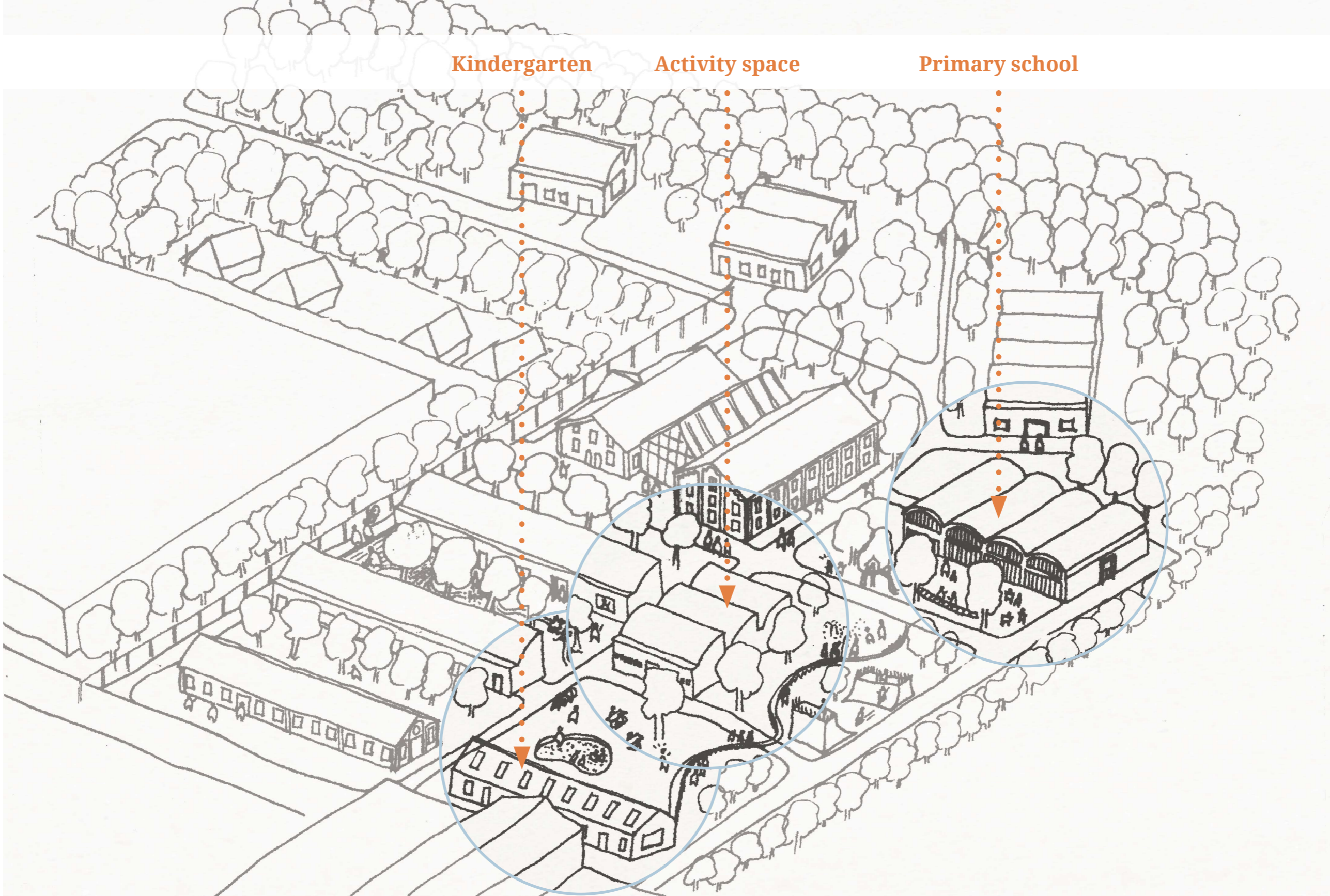
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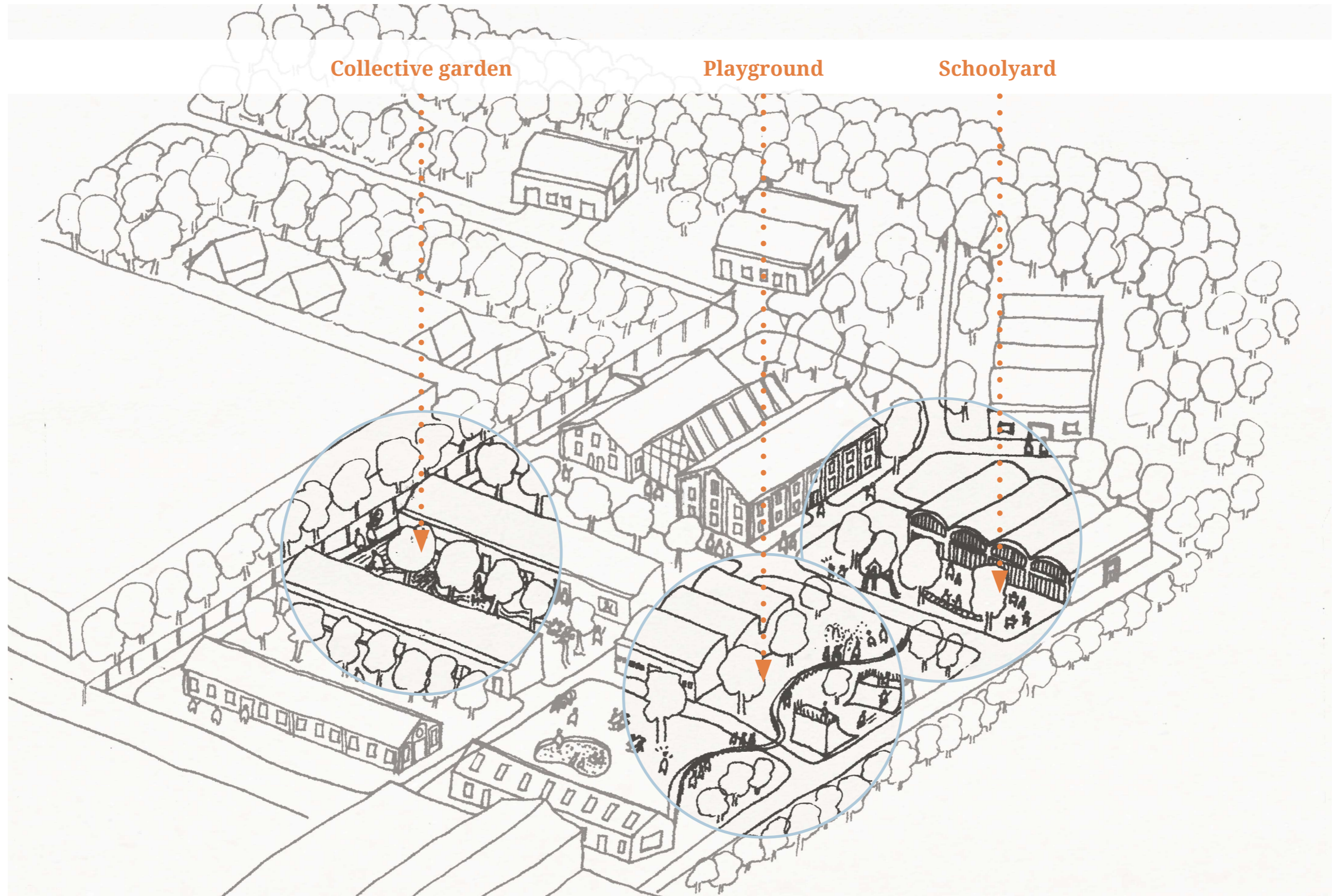
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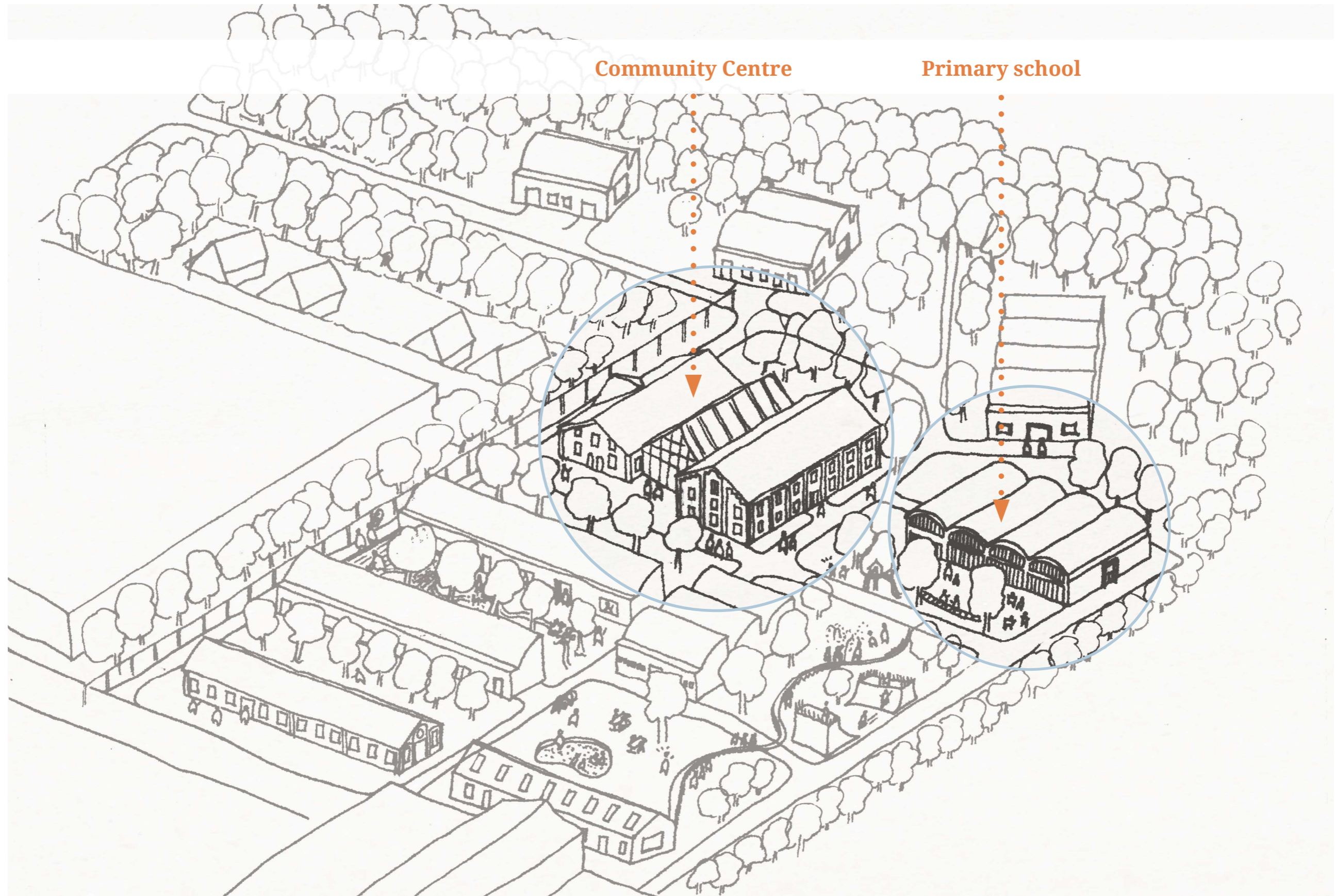
PLOFBOS - CHILDHOOD



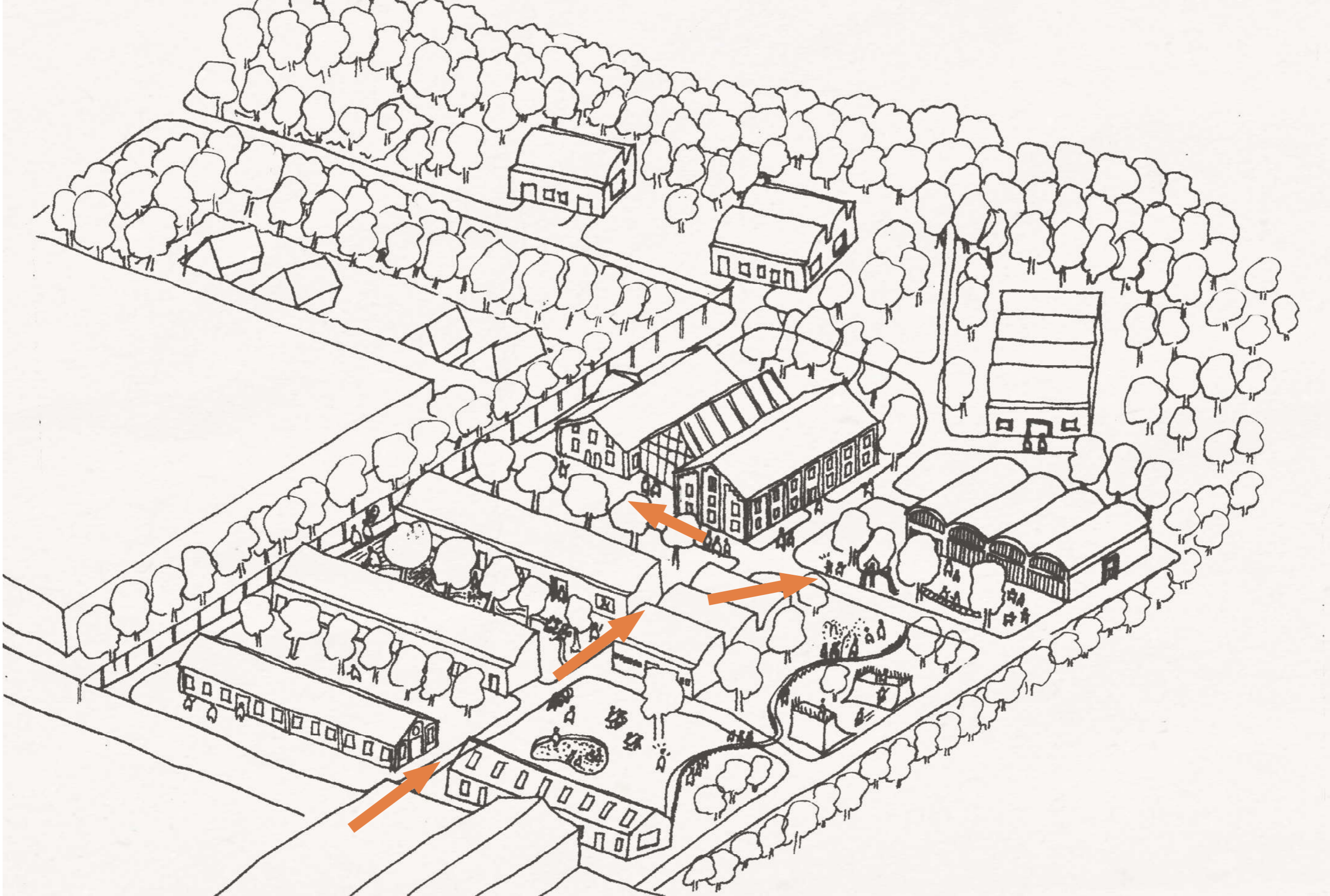
PLOFBOS - OUTDOOR SPACES



PLOFBOS - DESIGN



PLOFBOS ROUTE



ENTRANCE PLOFBOS



ENTRANCE PLOFBOS



PLOFBOS PATH



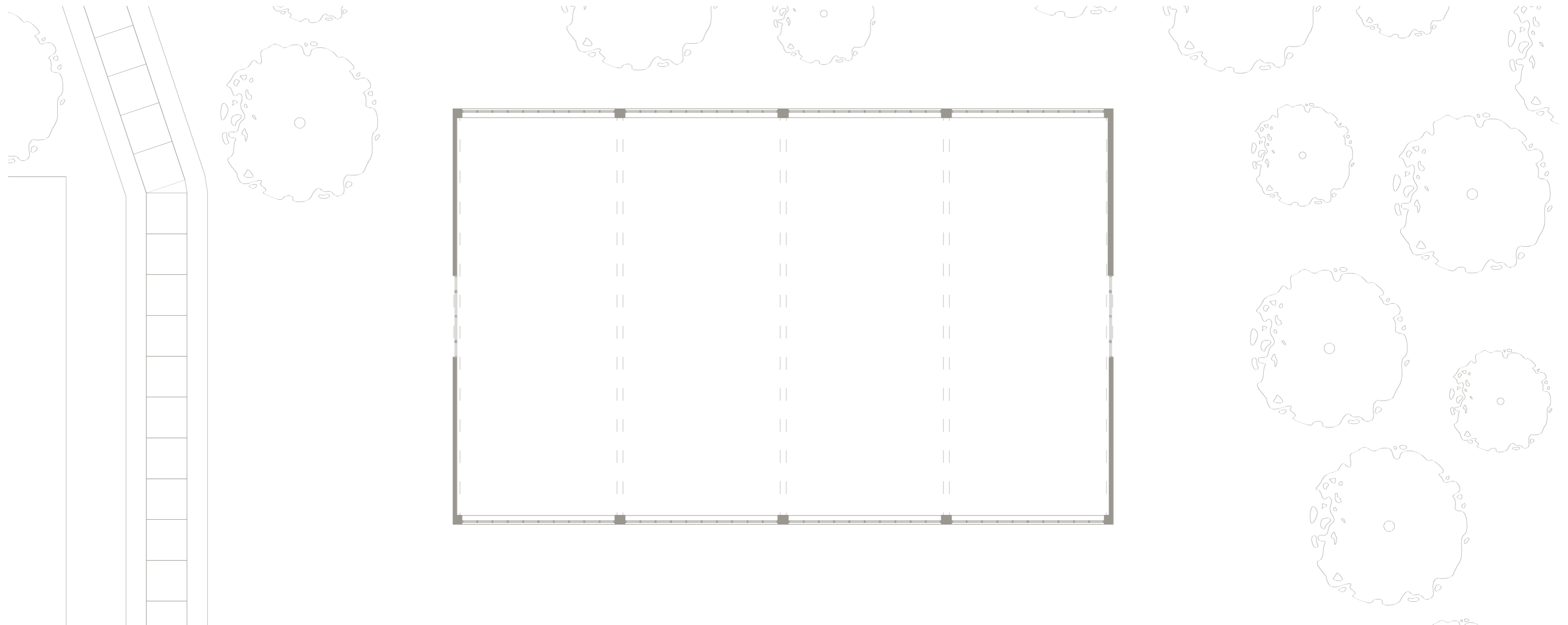
BUILDING 414



SCHOOL BUILDING



BUILDING 414



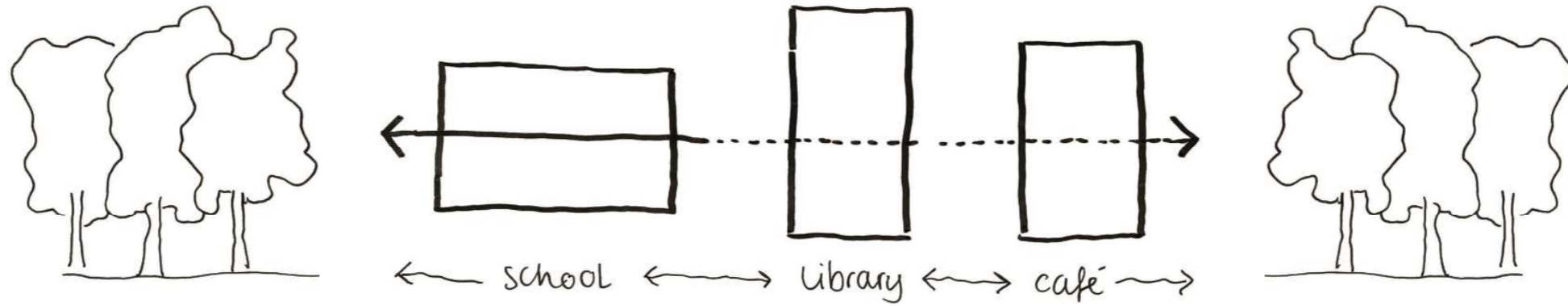
LIGHT AND VIEW



source: photo by carin toren

STARTING POINTS

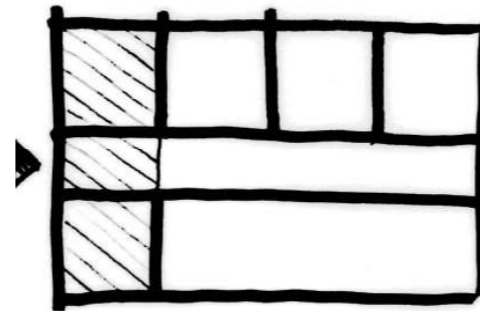
Connection with the environment



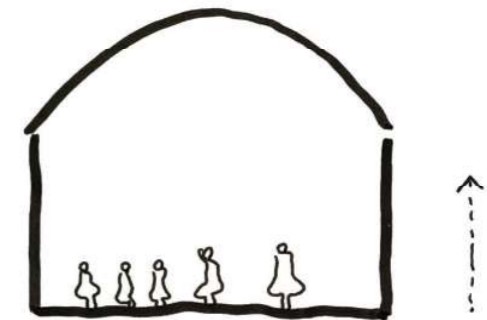
Rhythm of the building



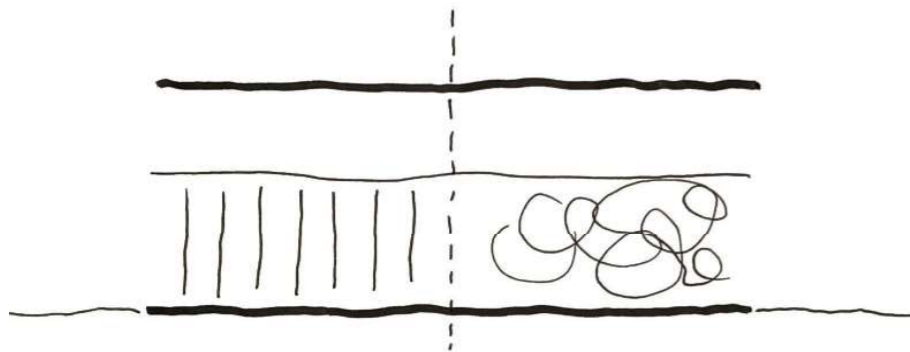
Direction and entrances > Routing



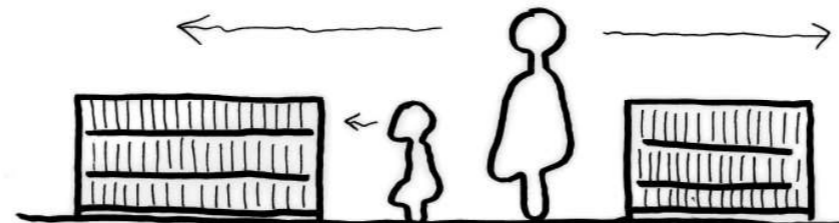
Break the height of the classrooms



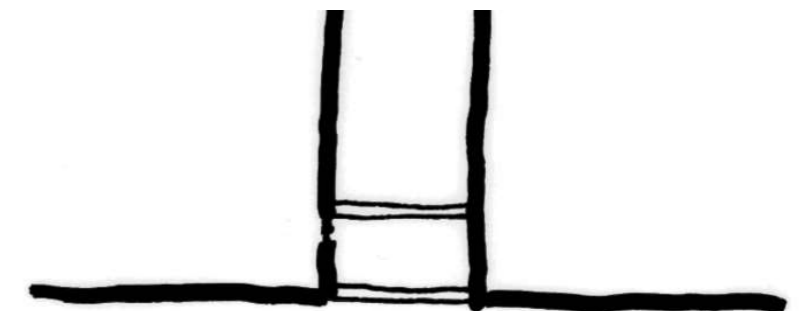
Learning and playing



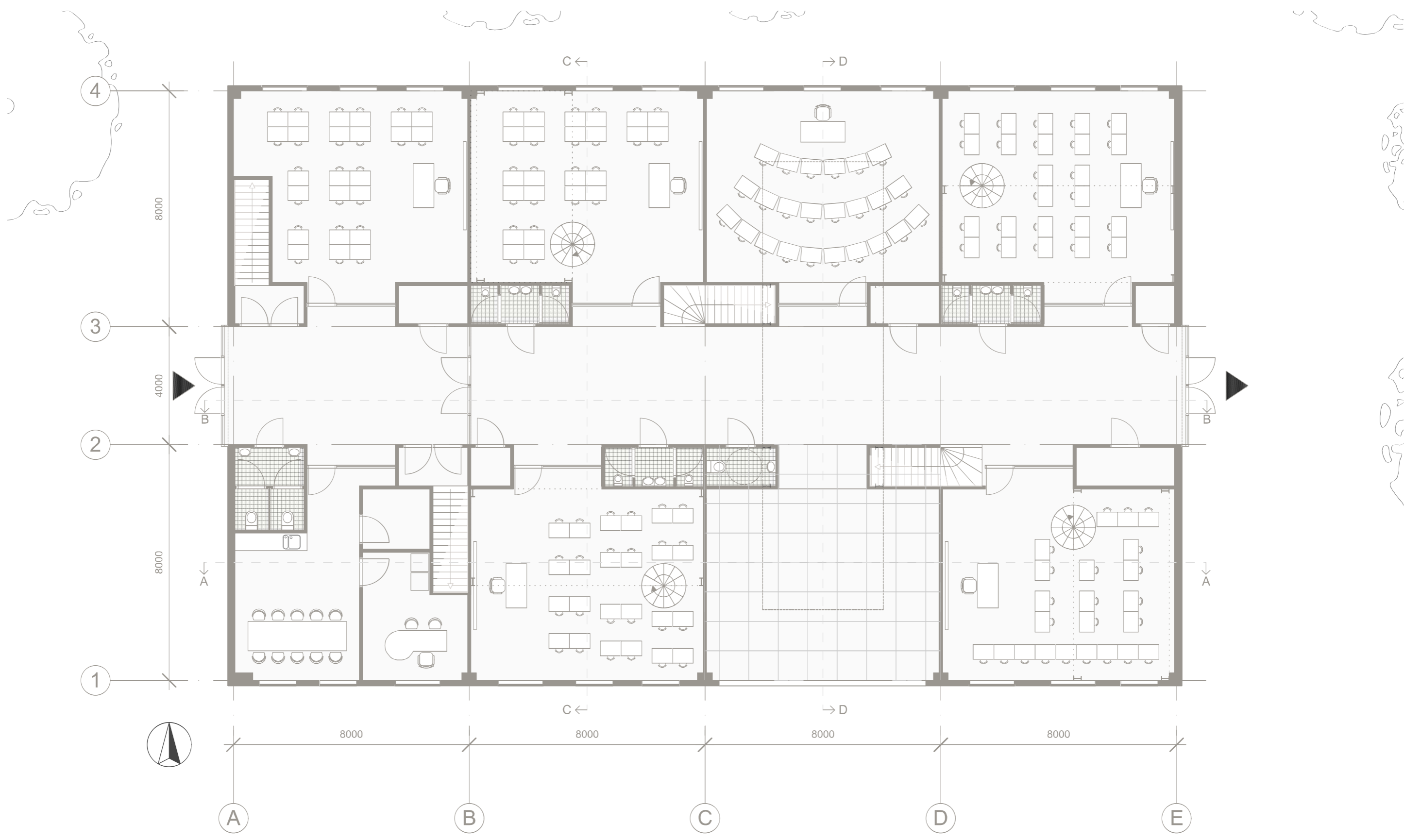
Sight lines and corners



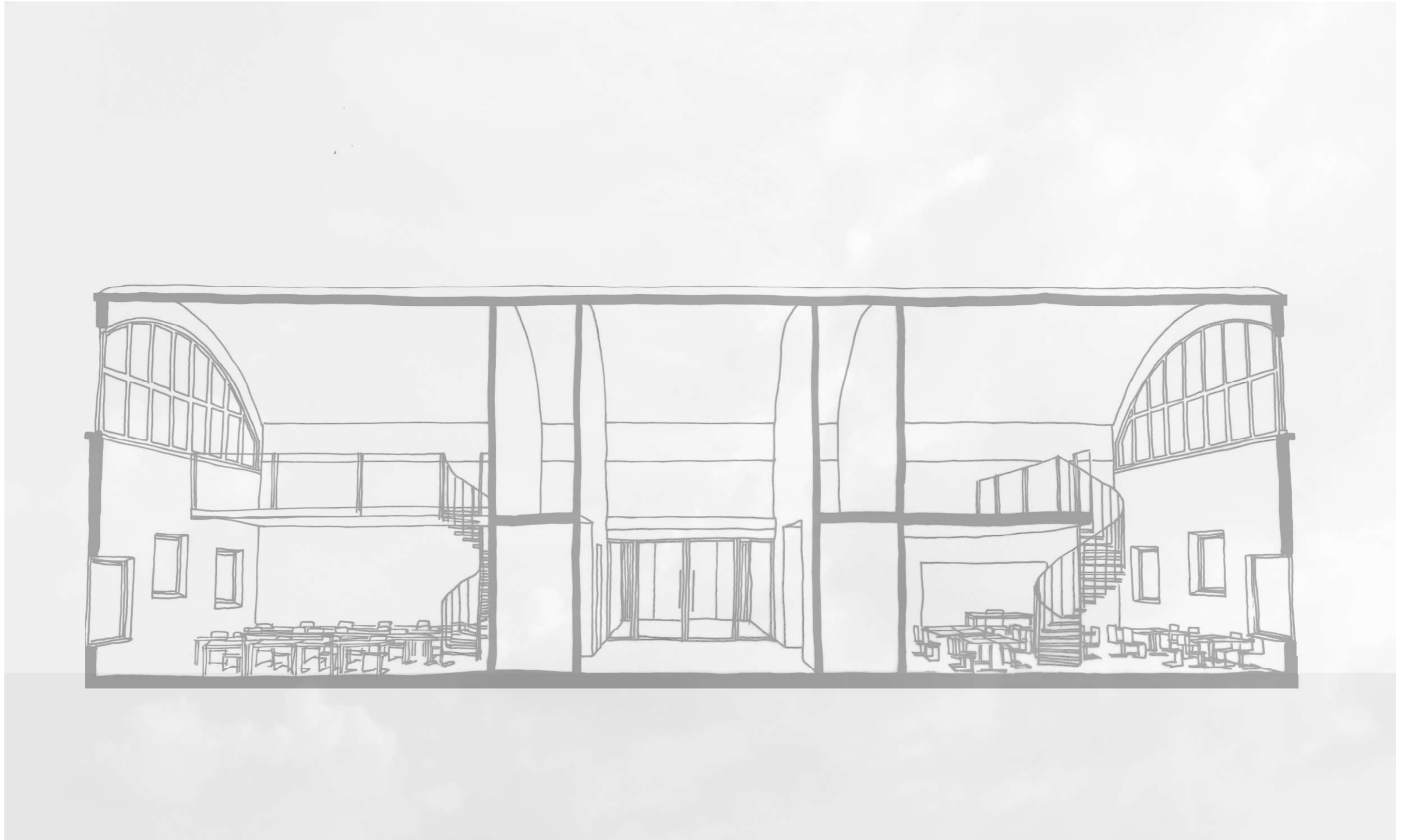
Doors and routing



PRIMARY SCHOOL 414



CLASSROOMS



HALLWAY



HALLWAY



Autumn

Winter

Spring

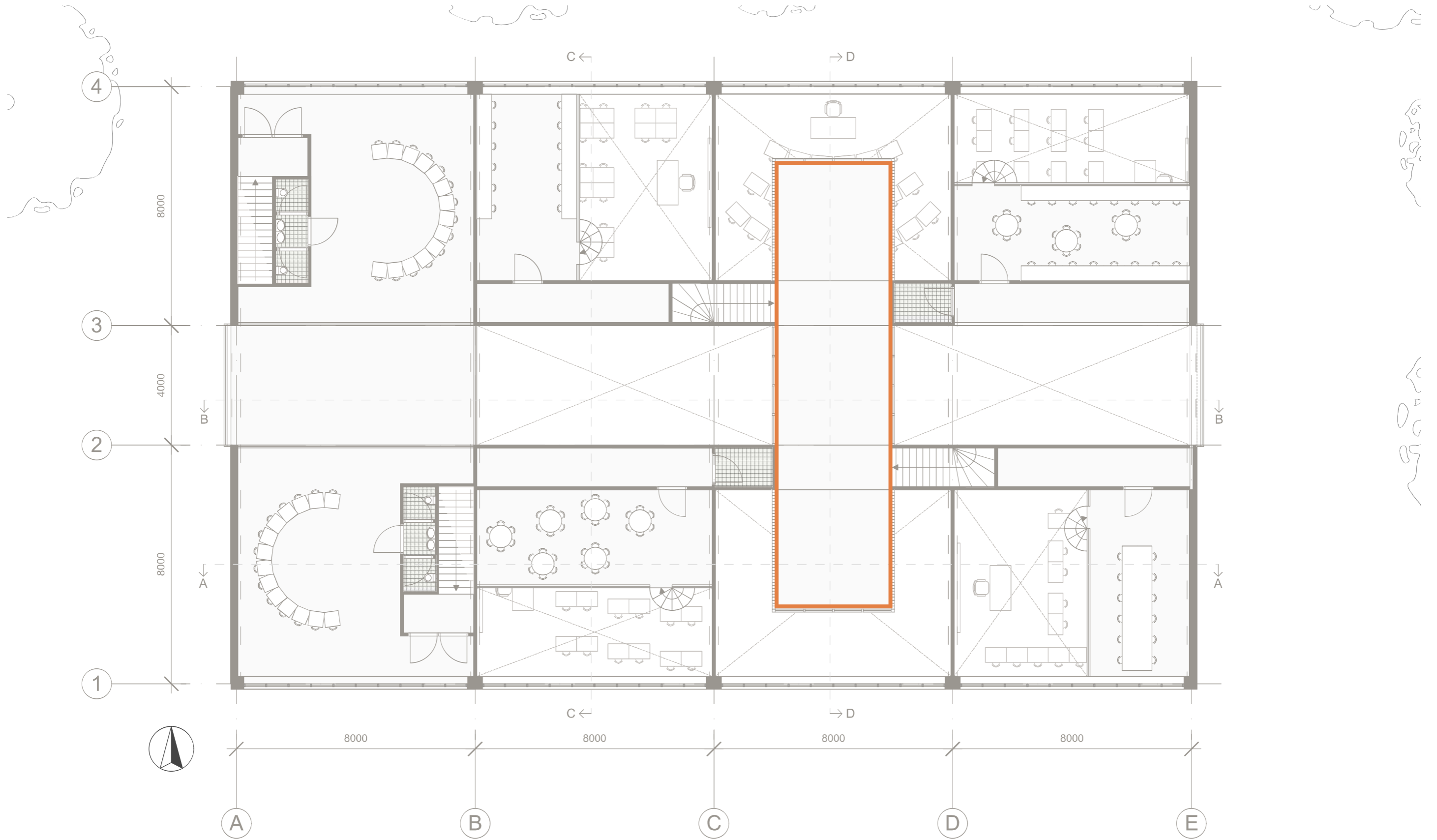
Summer



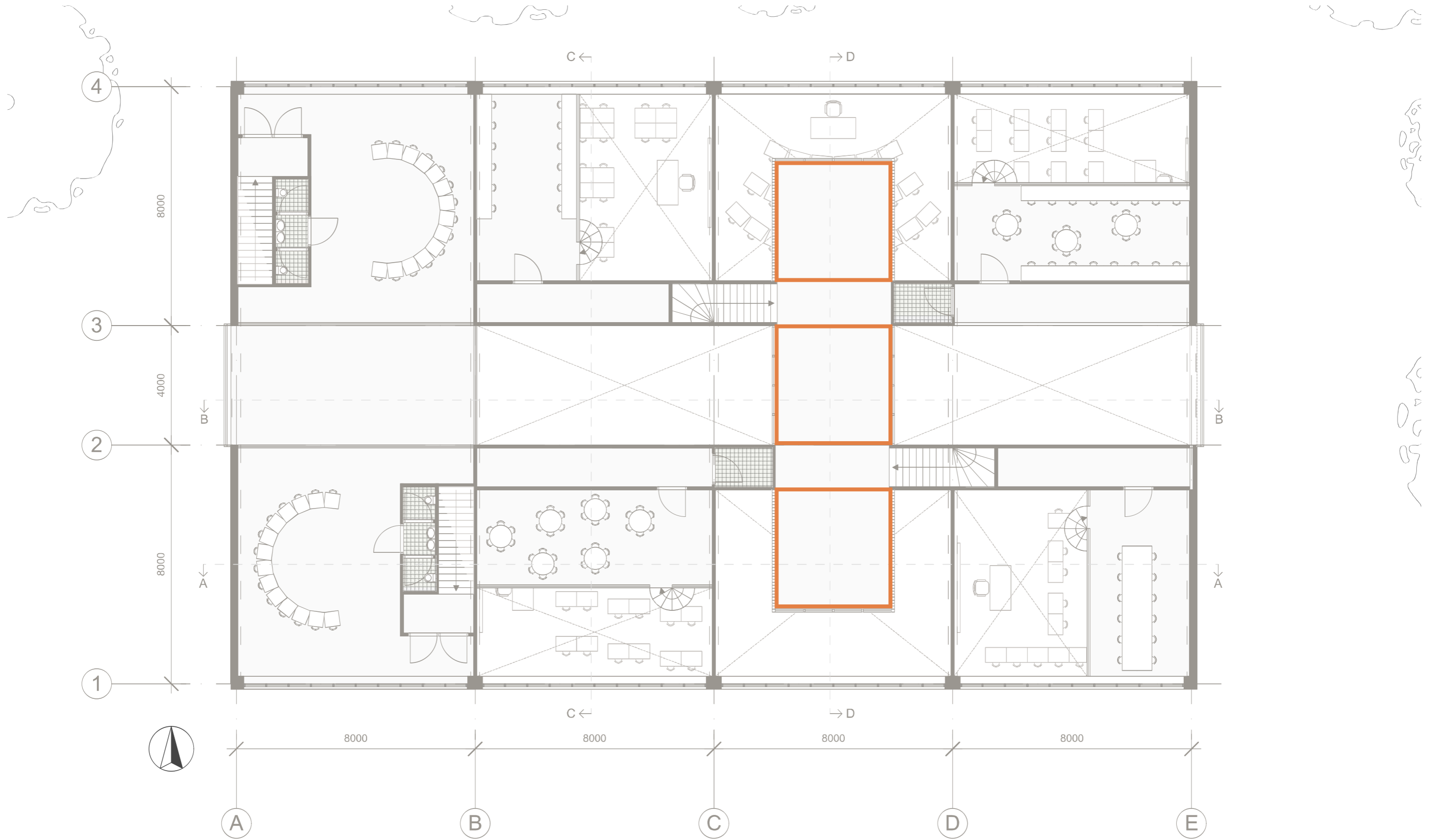
HALLWAY



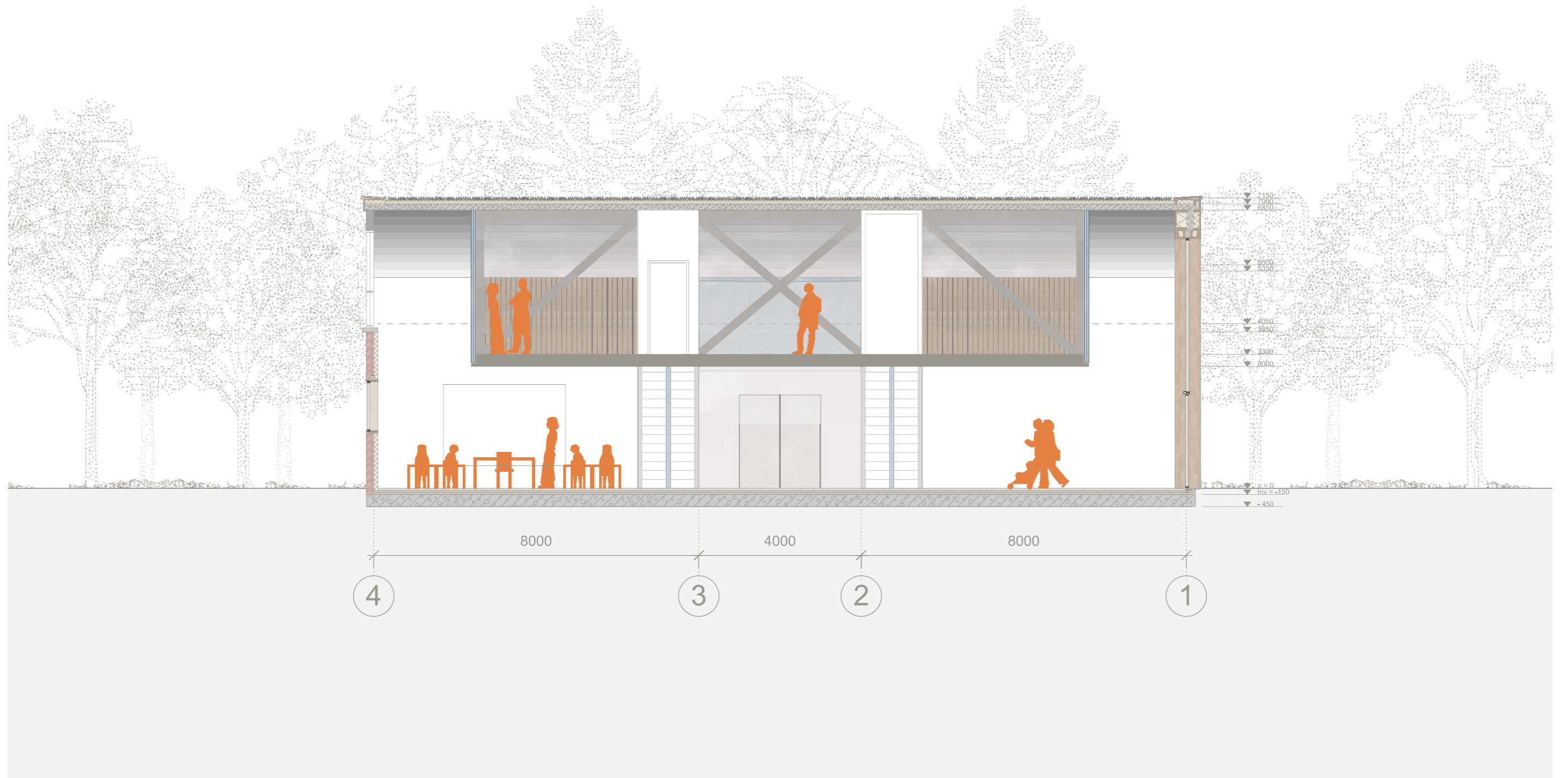
NEW BOX



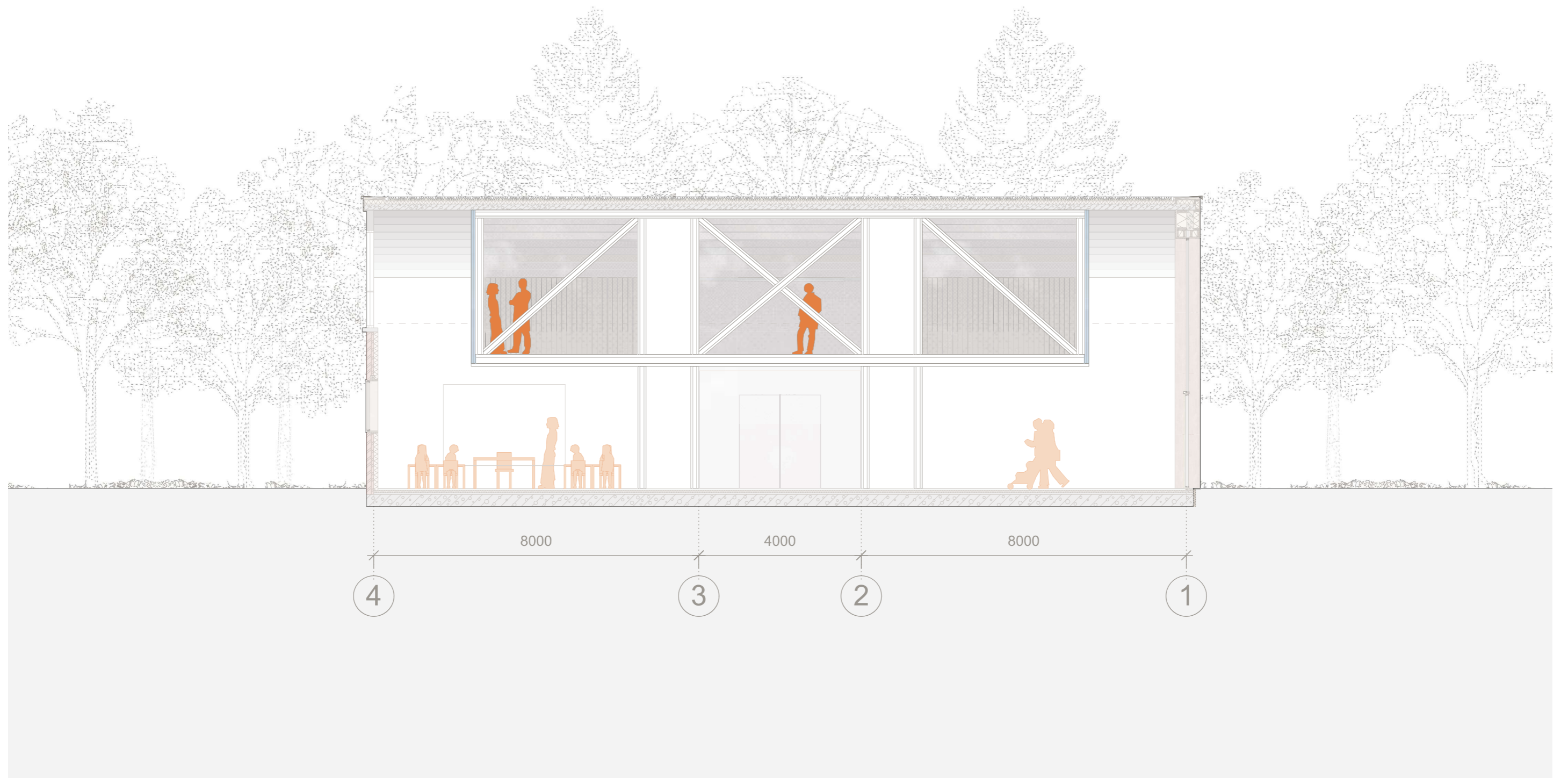
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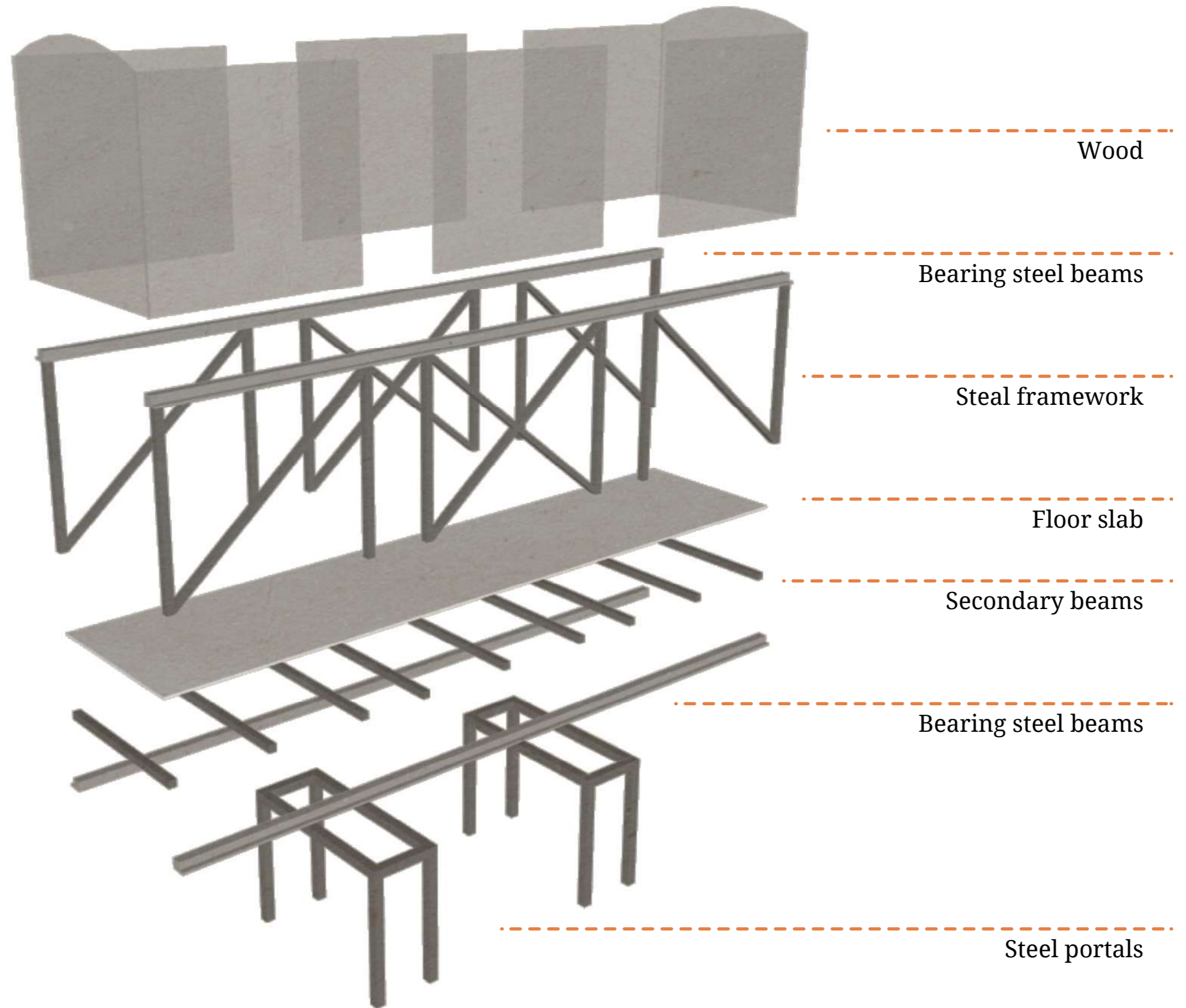
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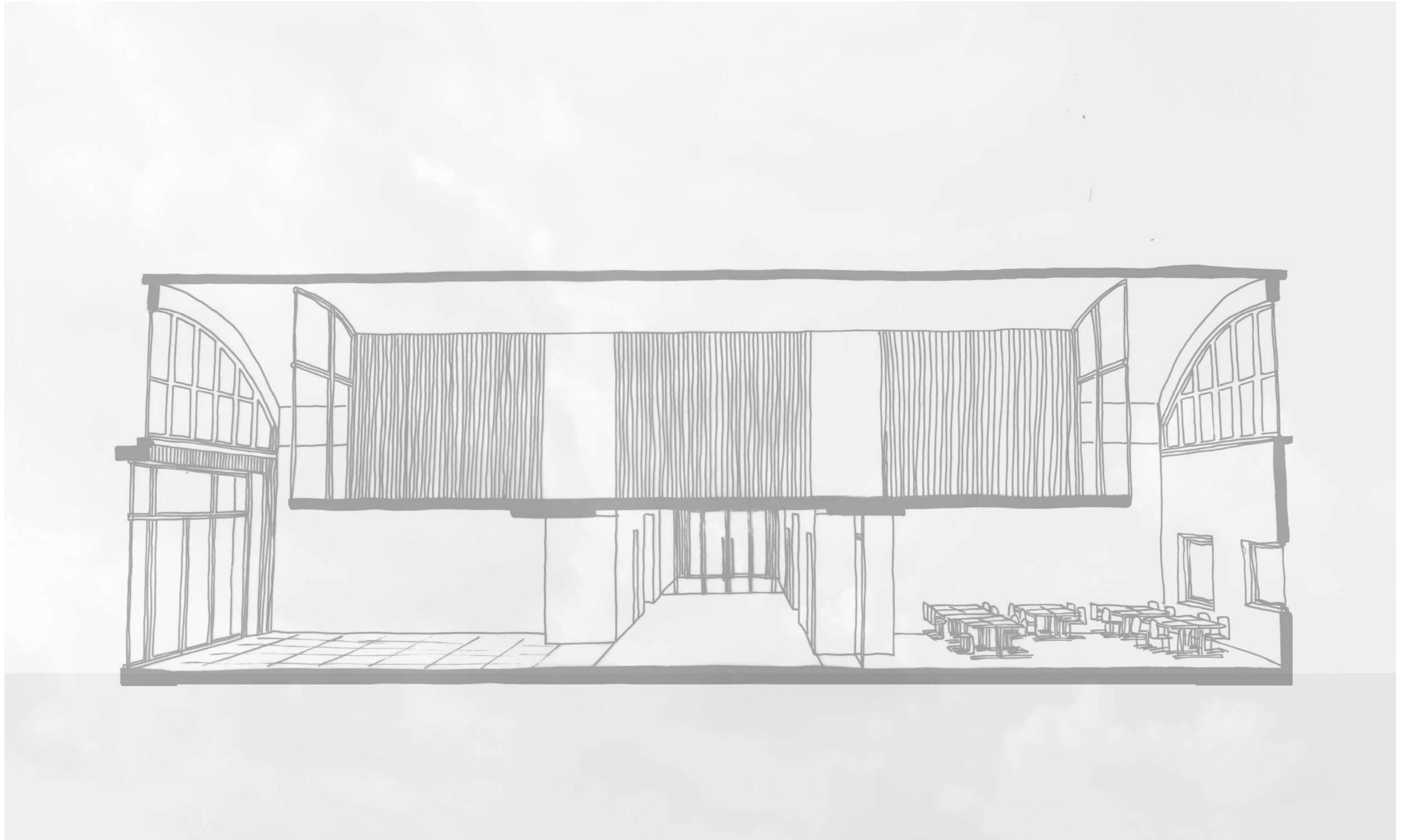
CONSTRUCTION



CONSTRUCTION



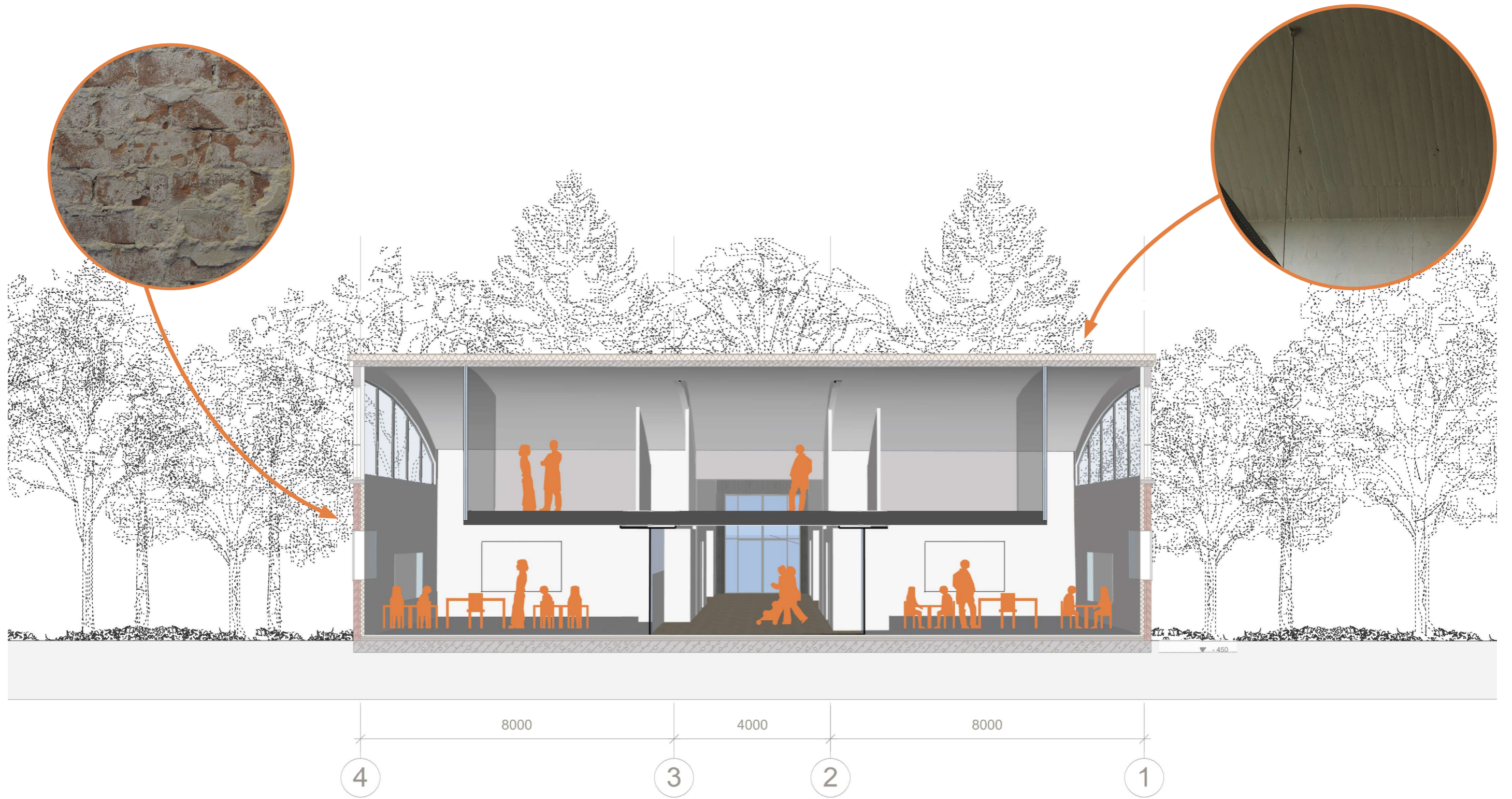
NEW BOX



VIEW OF THE BOX



ISOLATING



VIEW OF THE BOX



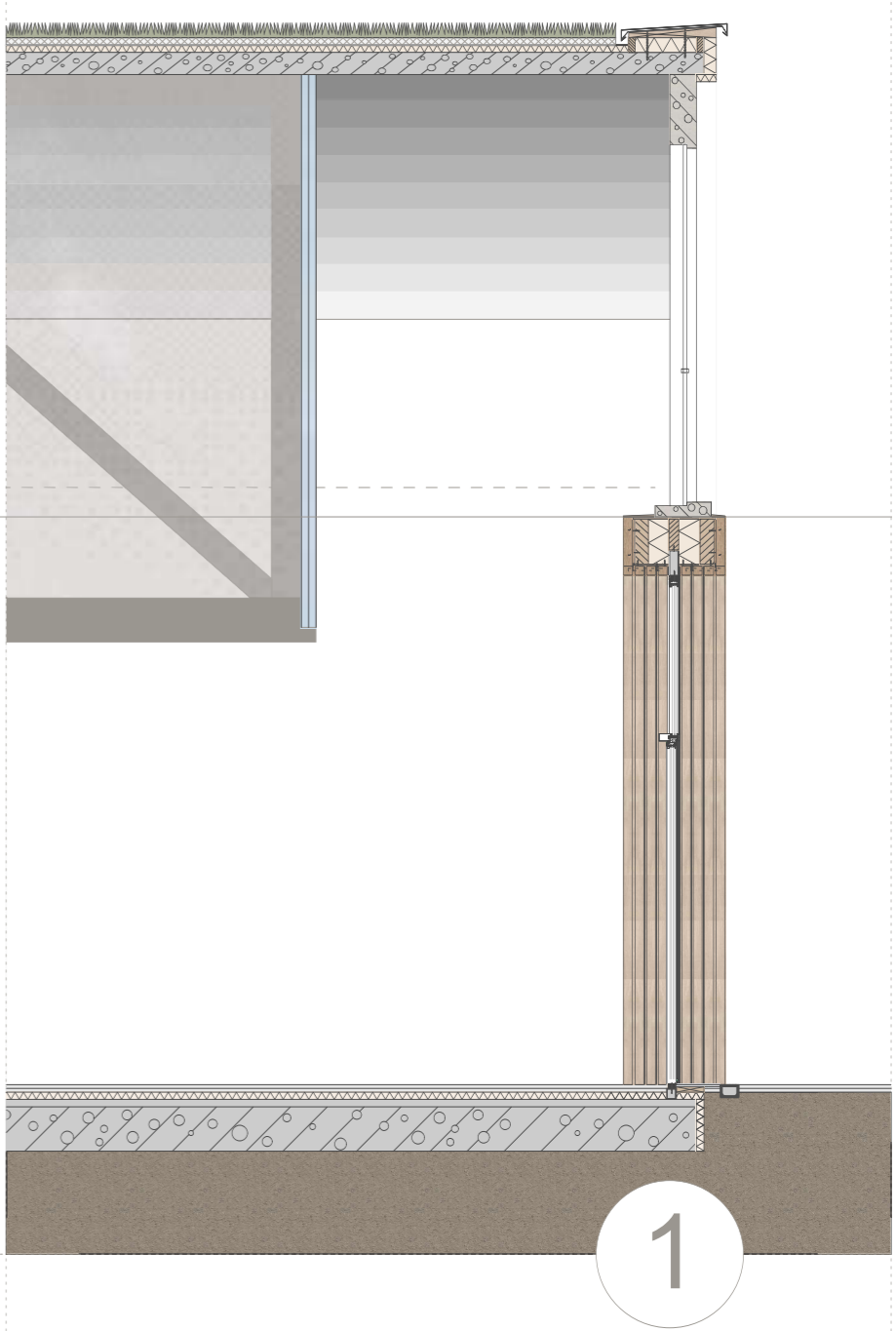
ENTRANCE



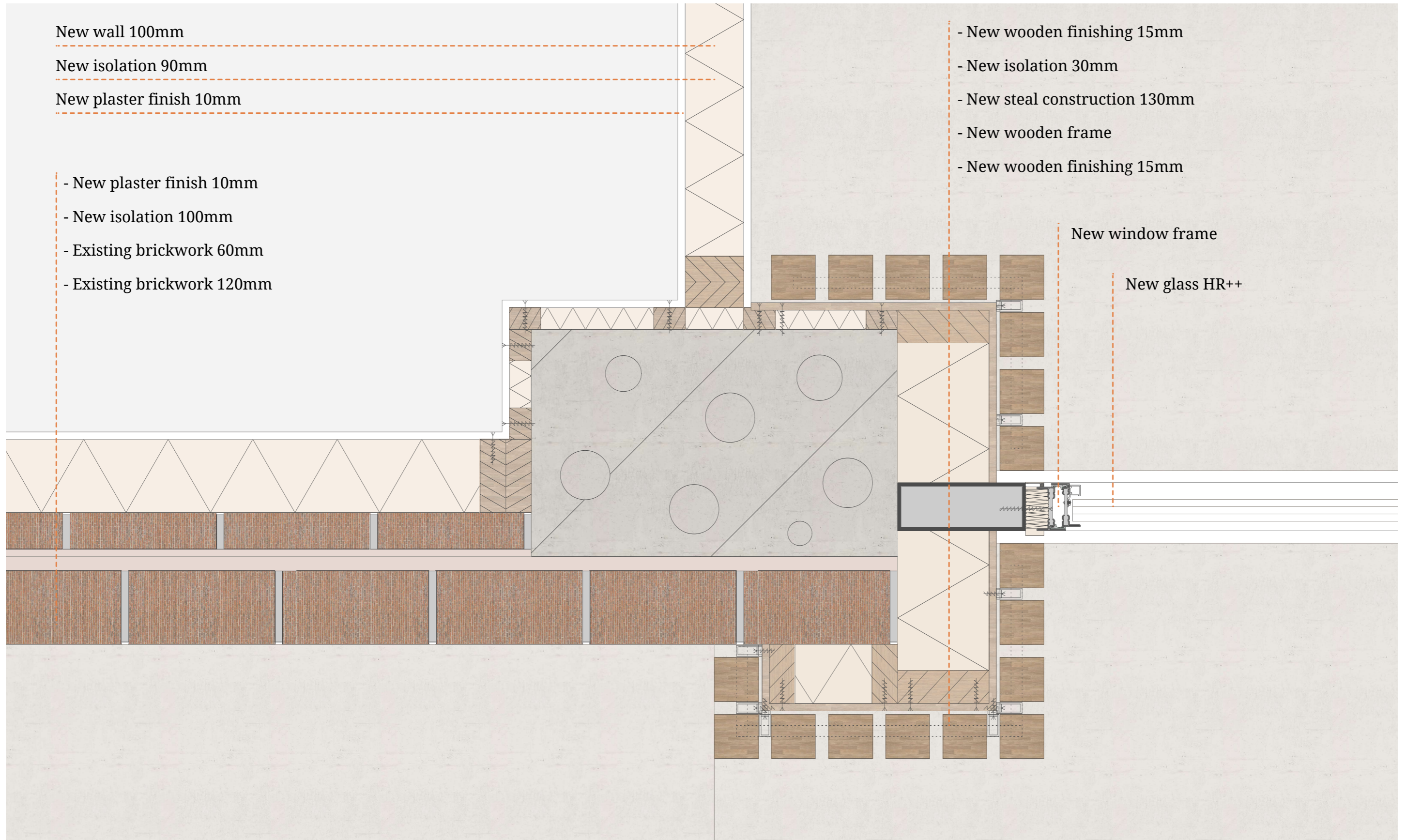
ENTRANCE



ENTRANCE FRAGMENT



HORIZONTAL DETAIL



SCHOOL YARD ENTRANCE



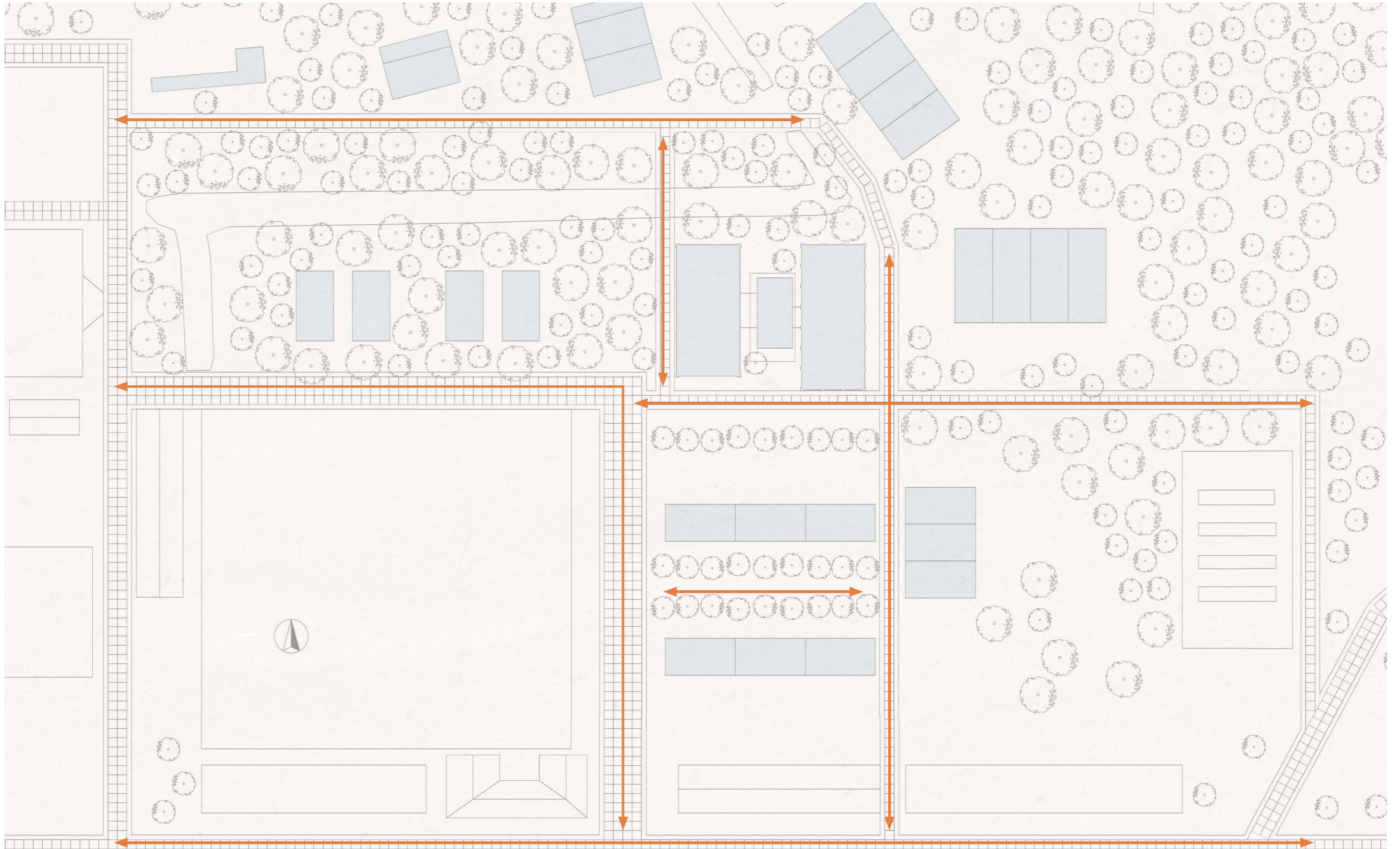
OVERVIEW



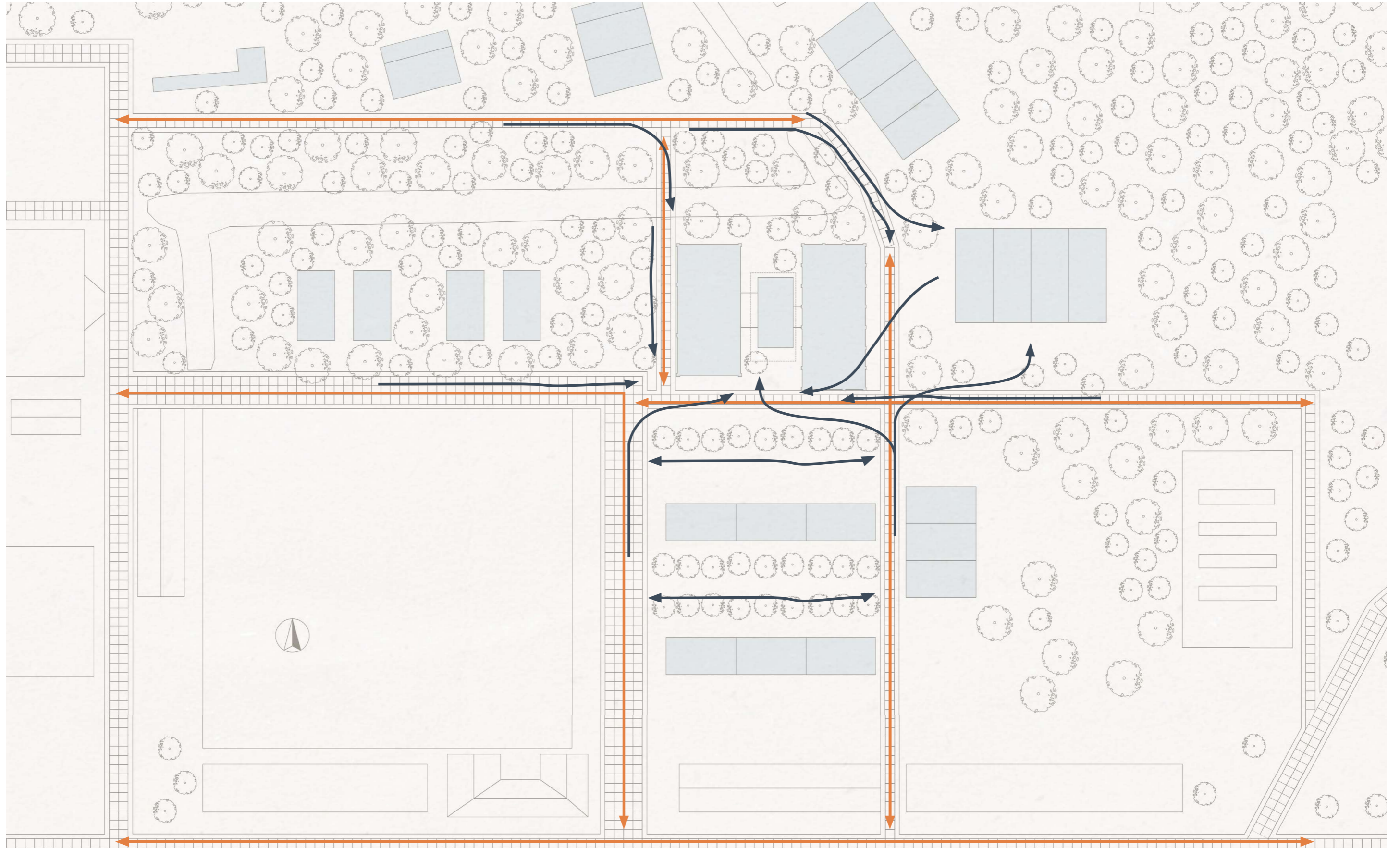
BOERDERIJEN



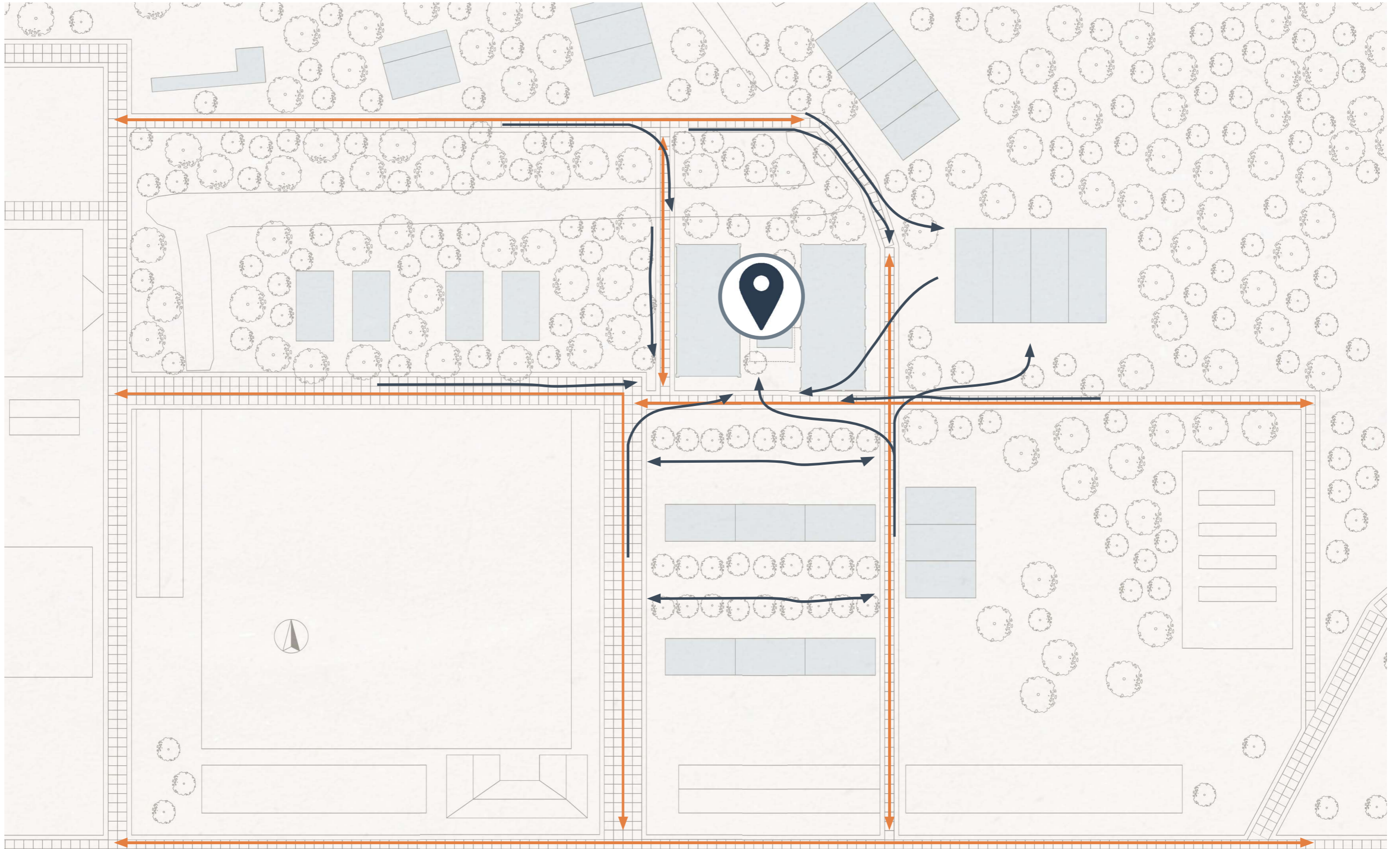
STRUCTURES



STRUCTURES



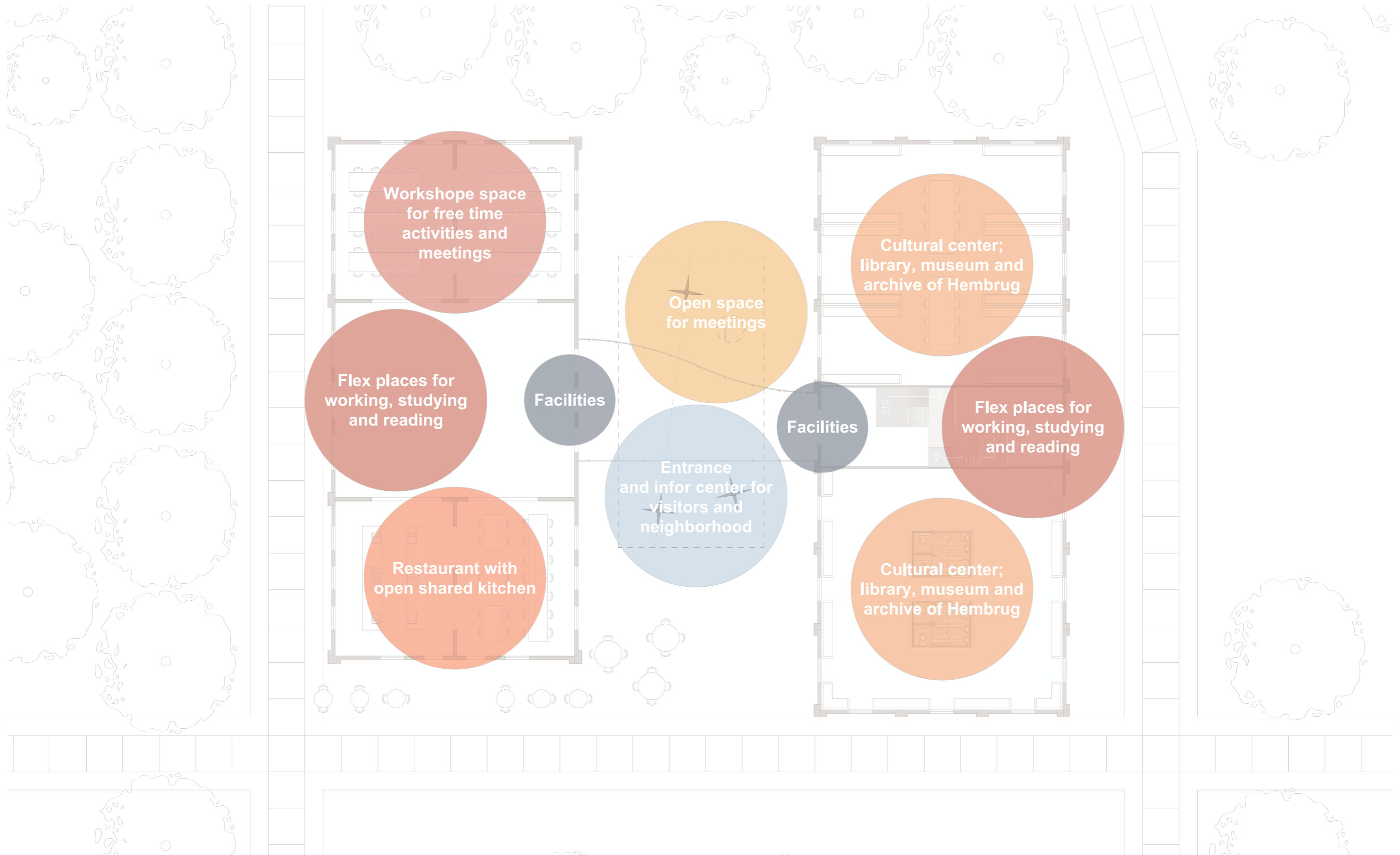
STRUCTURES



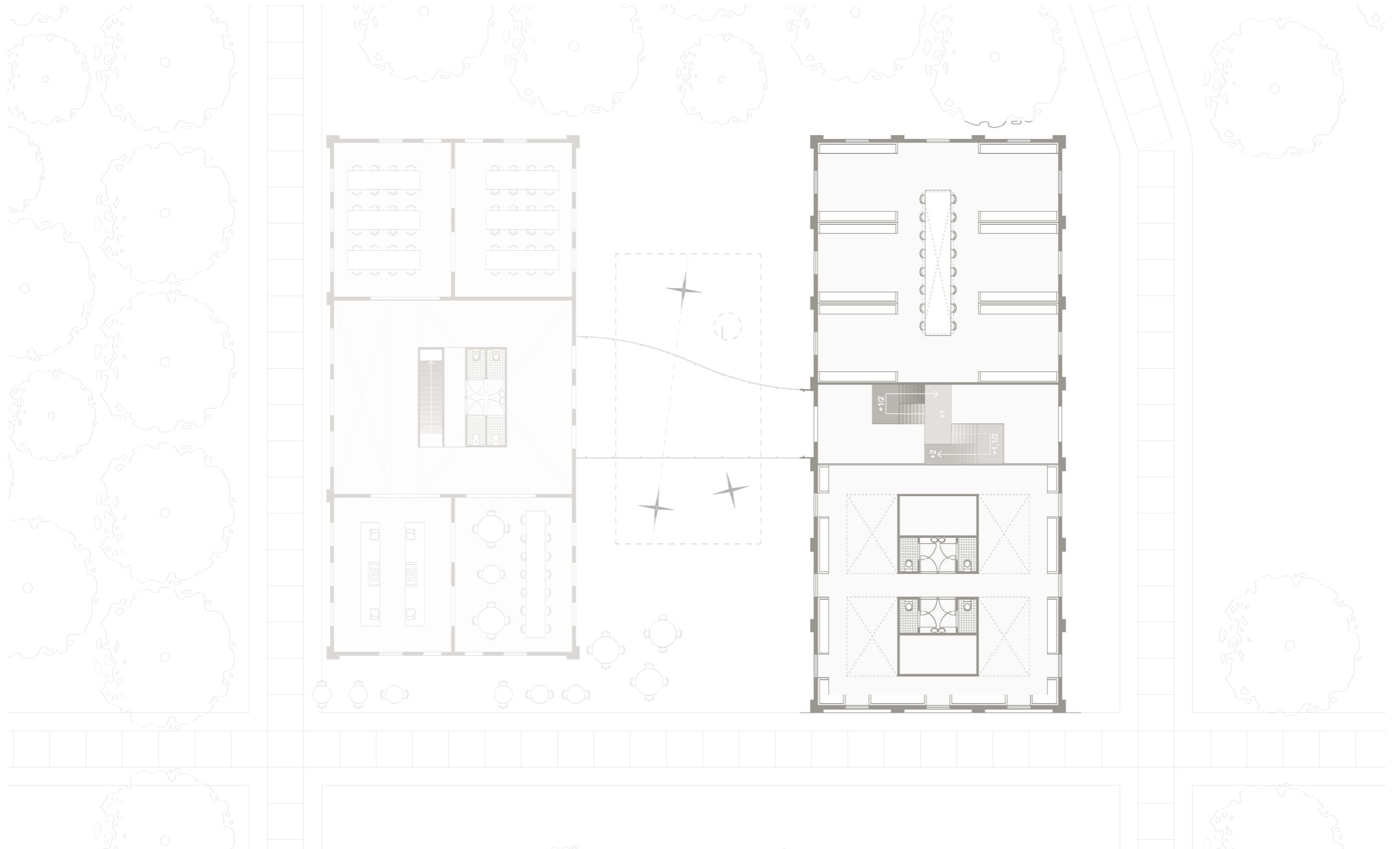
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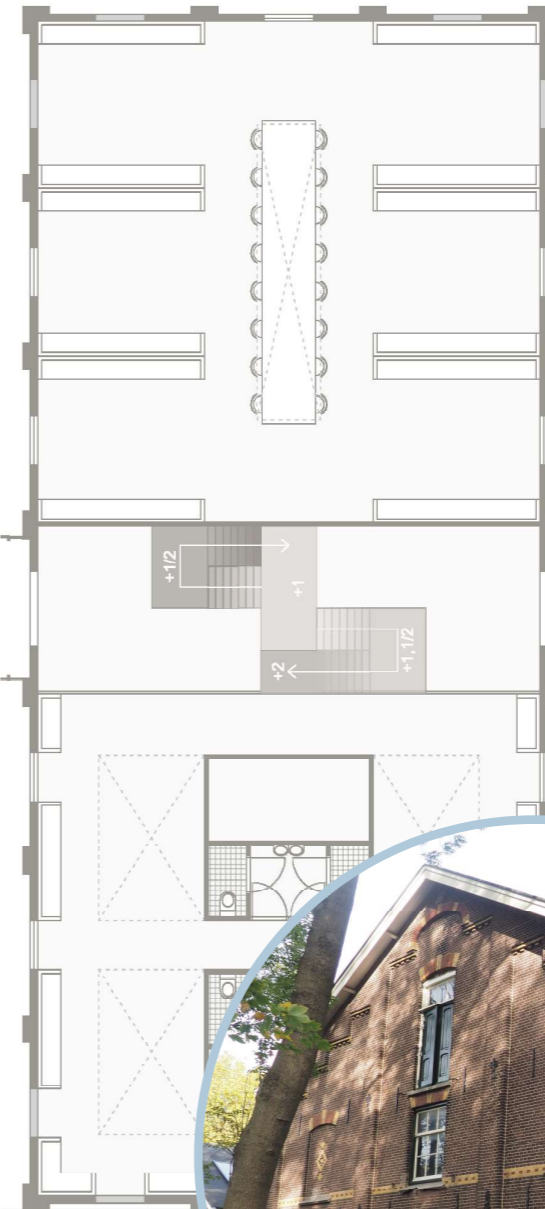
FUNCTIONS COMMUNITY CENTRE



CULTURE CENTRE



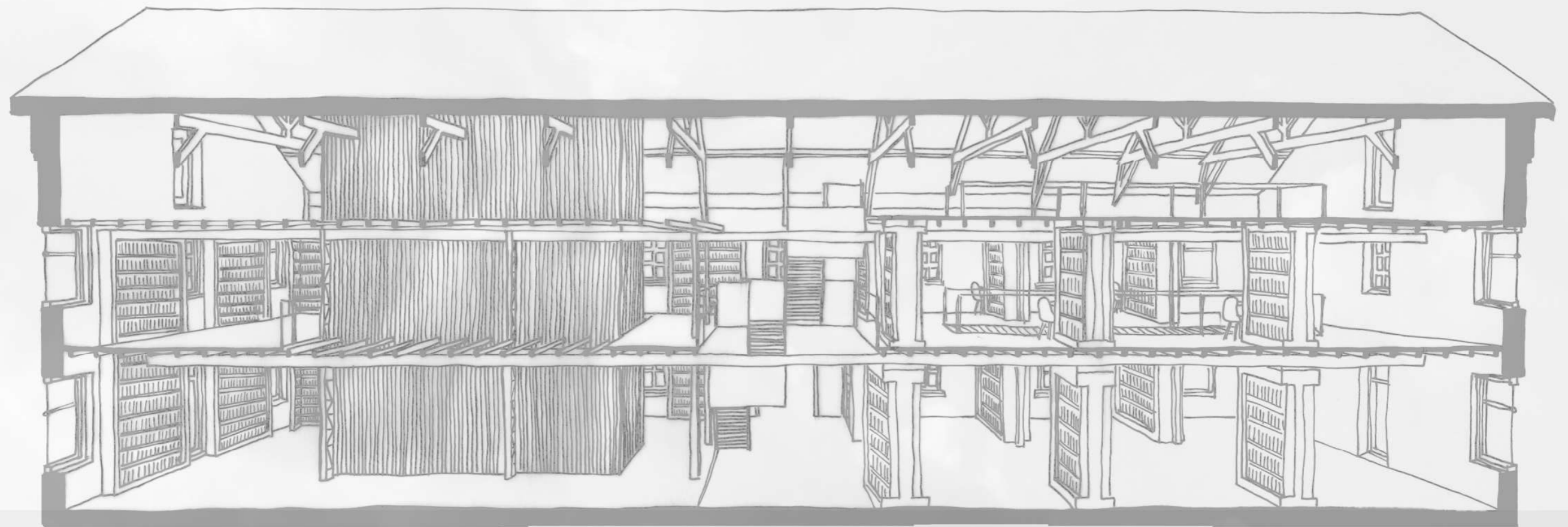
GROTE BOERDERIJ



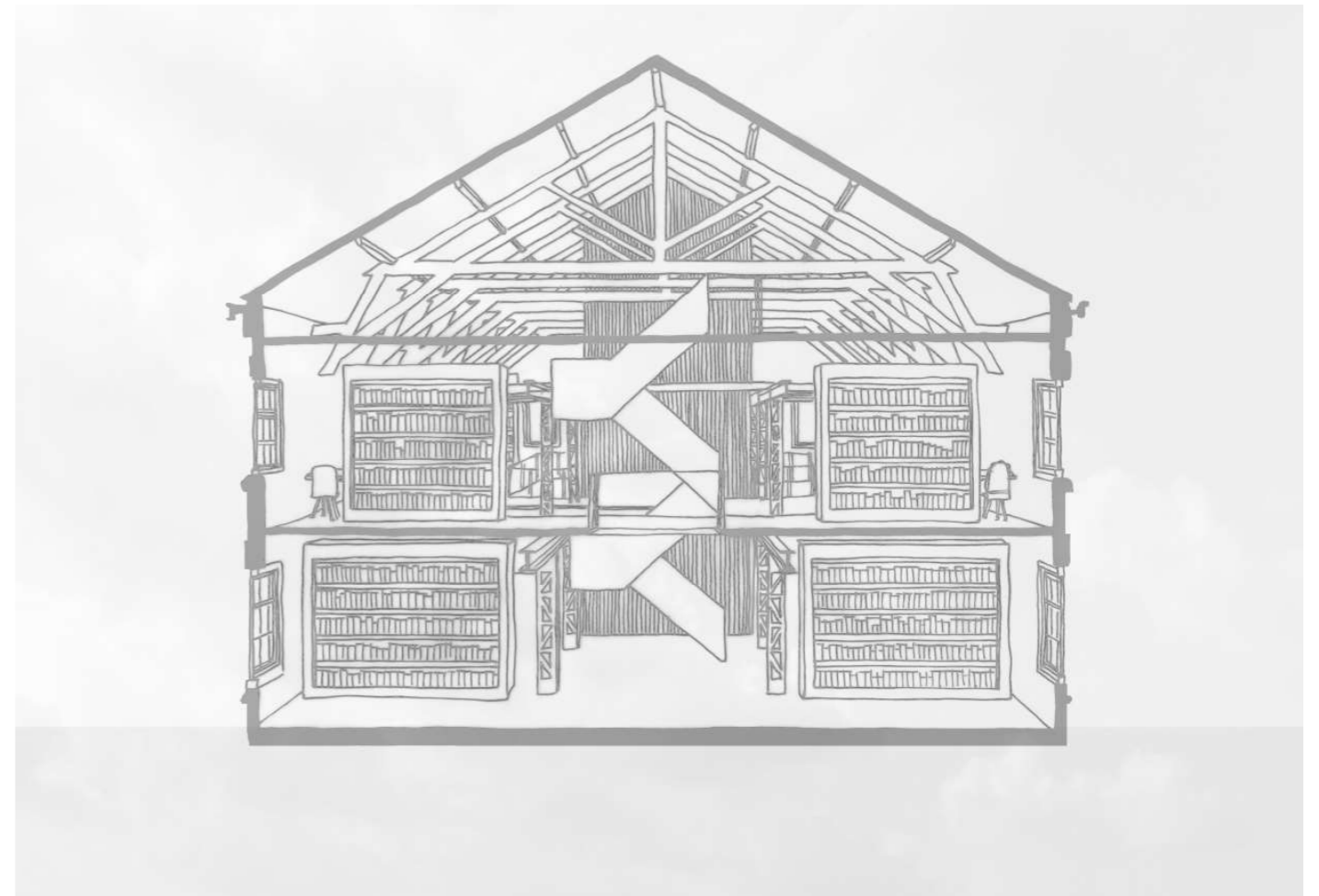
LIGHT AND SHADOW STUDY



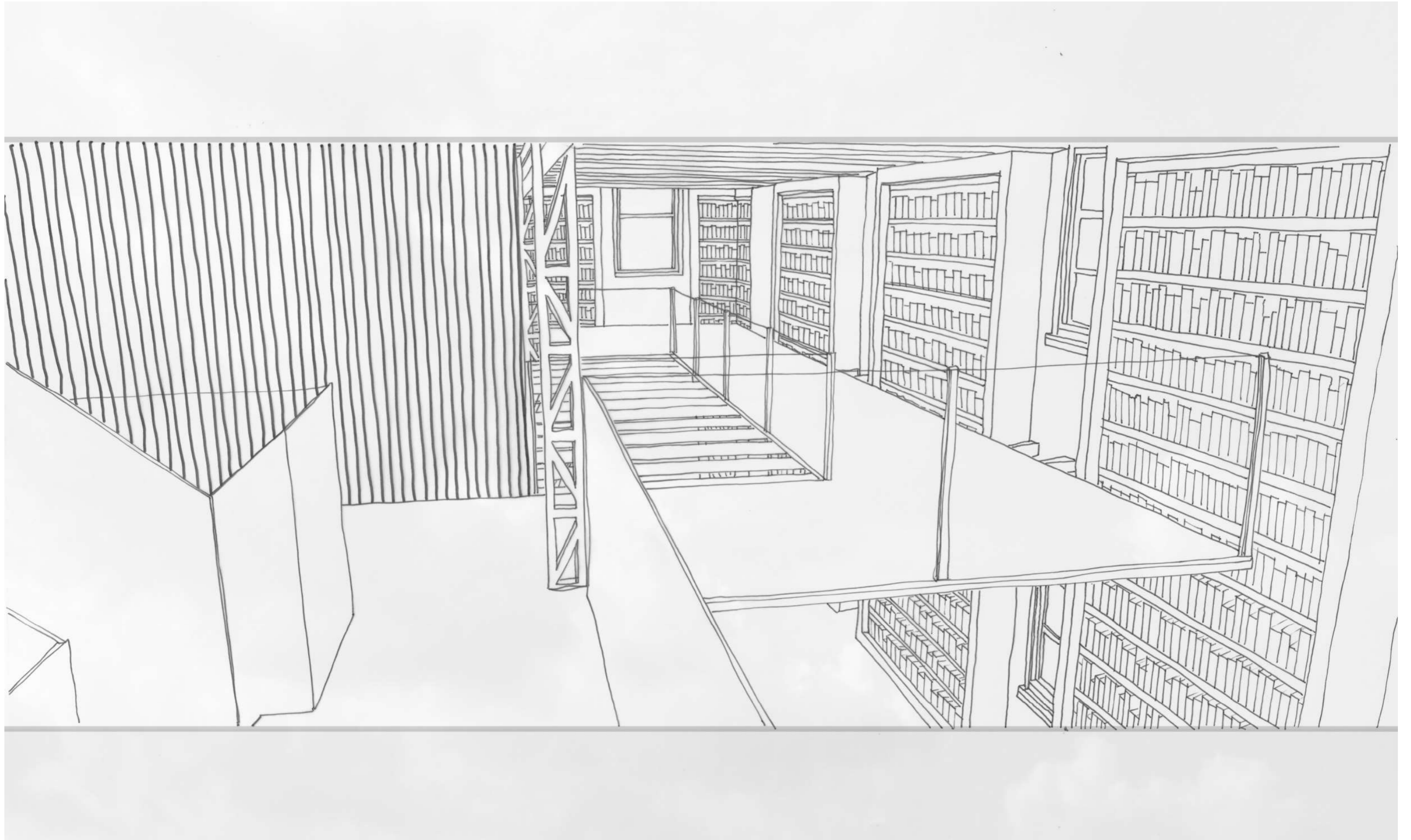
GROTE BOERDERIJ



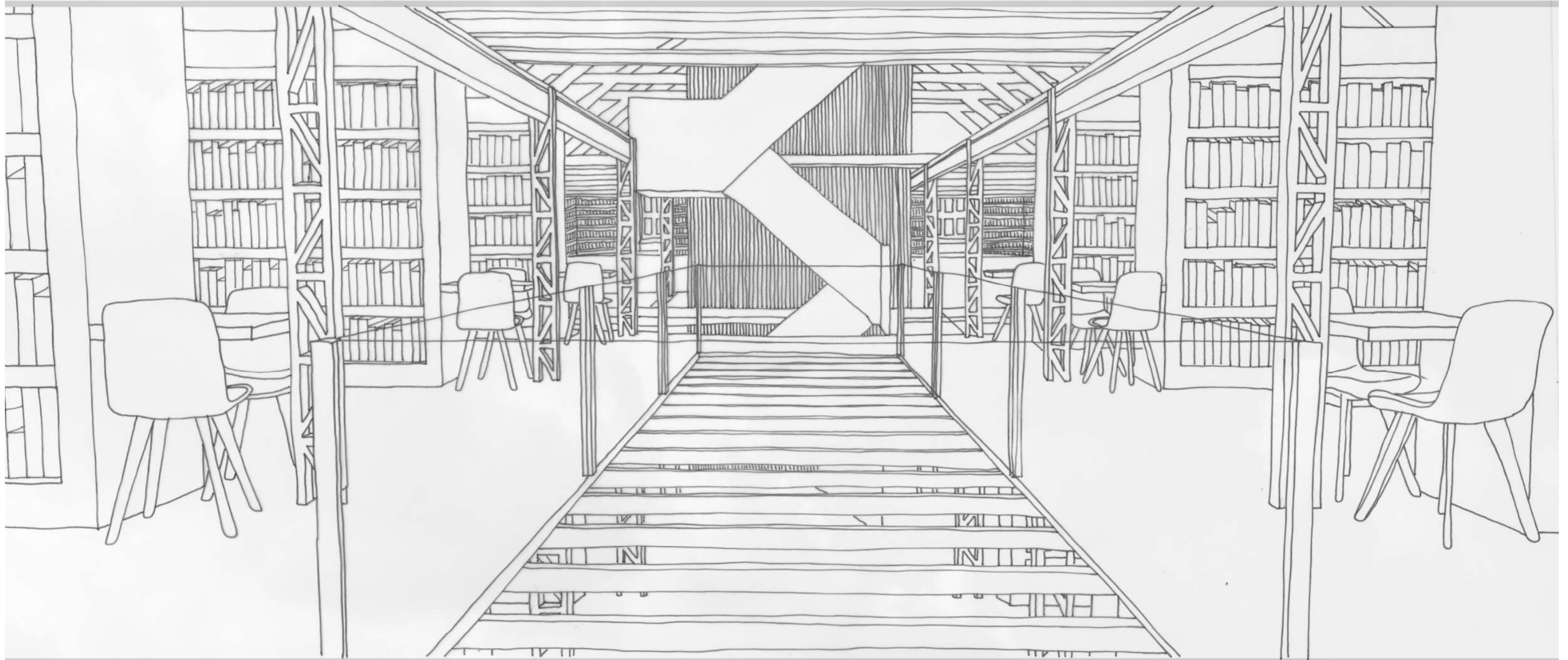
GROTE BOERDERIJ



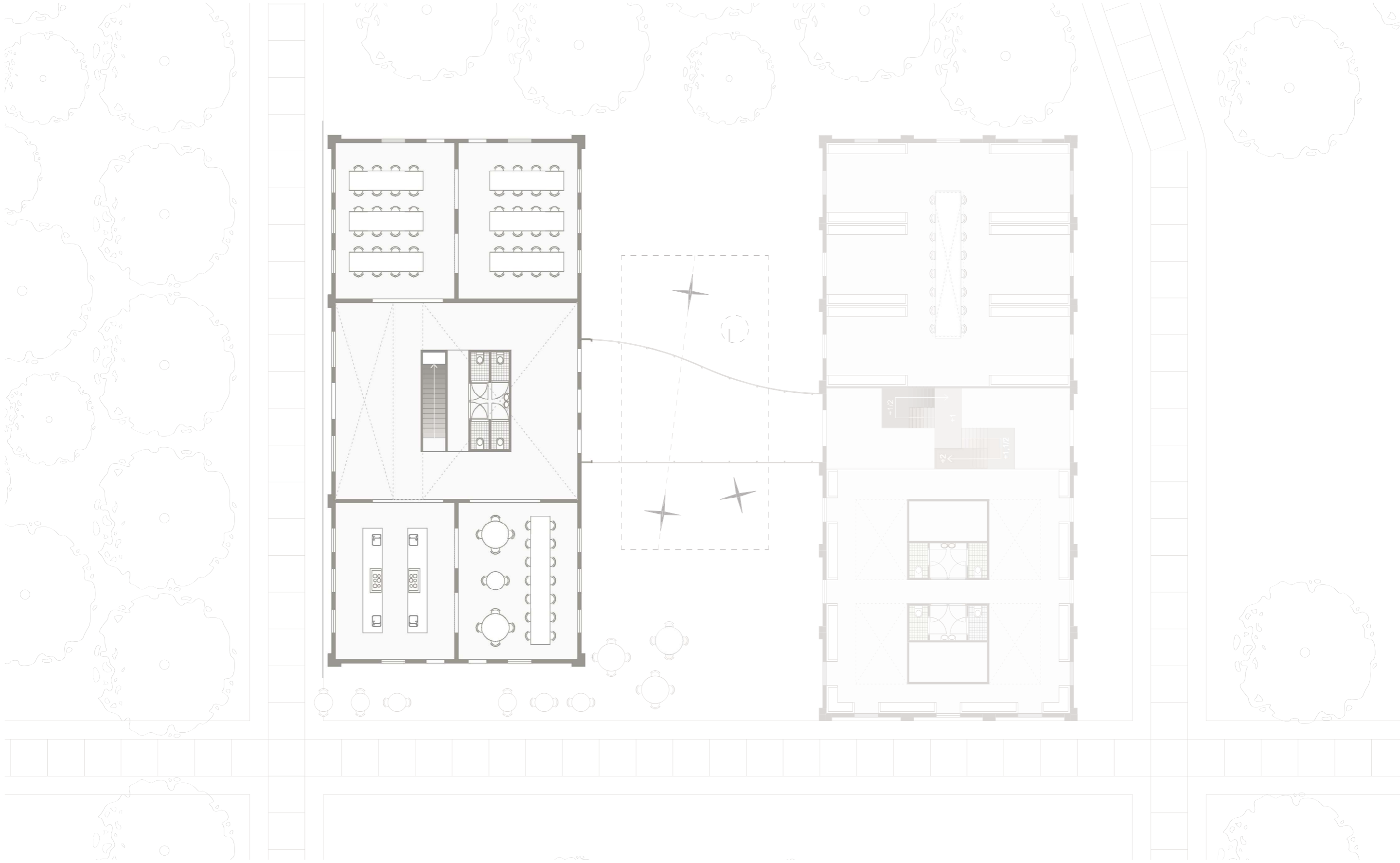
GROTE BOERDERIJ INTERIOR



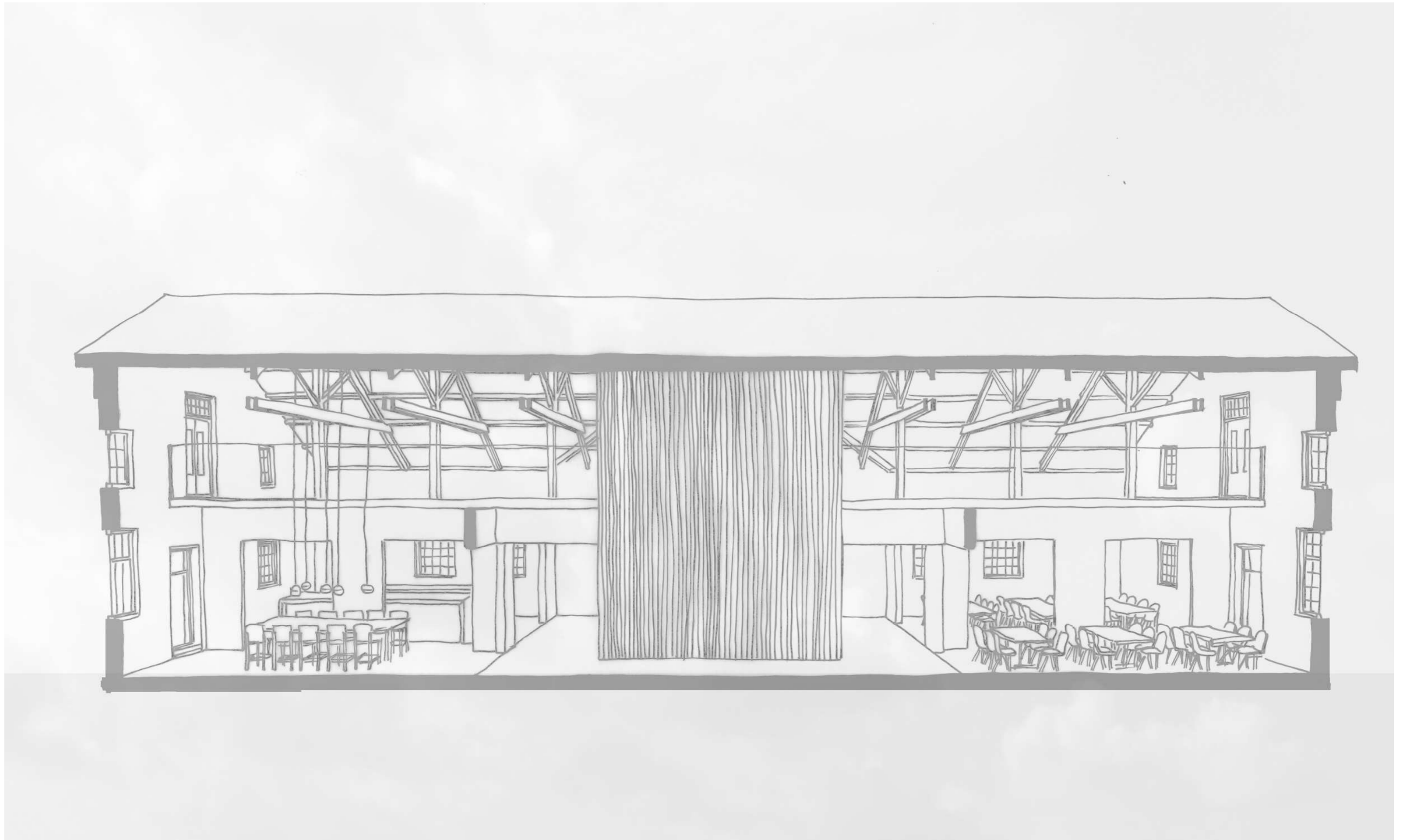
GROTE BOERDERIJ INTERIOR



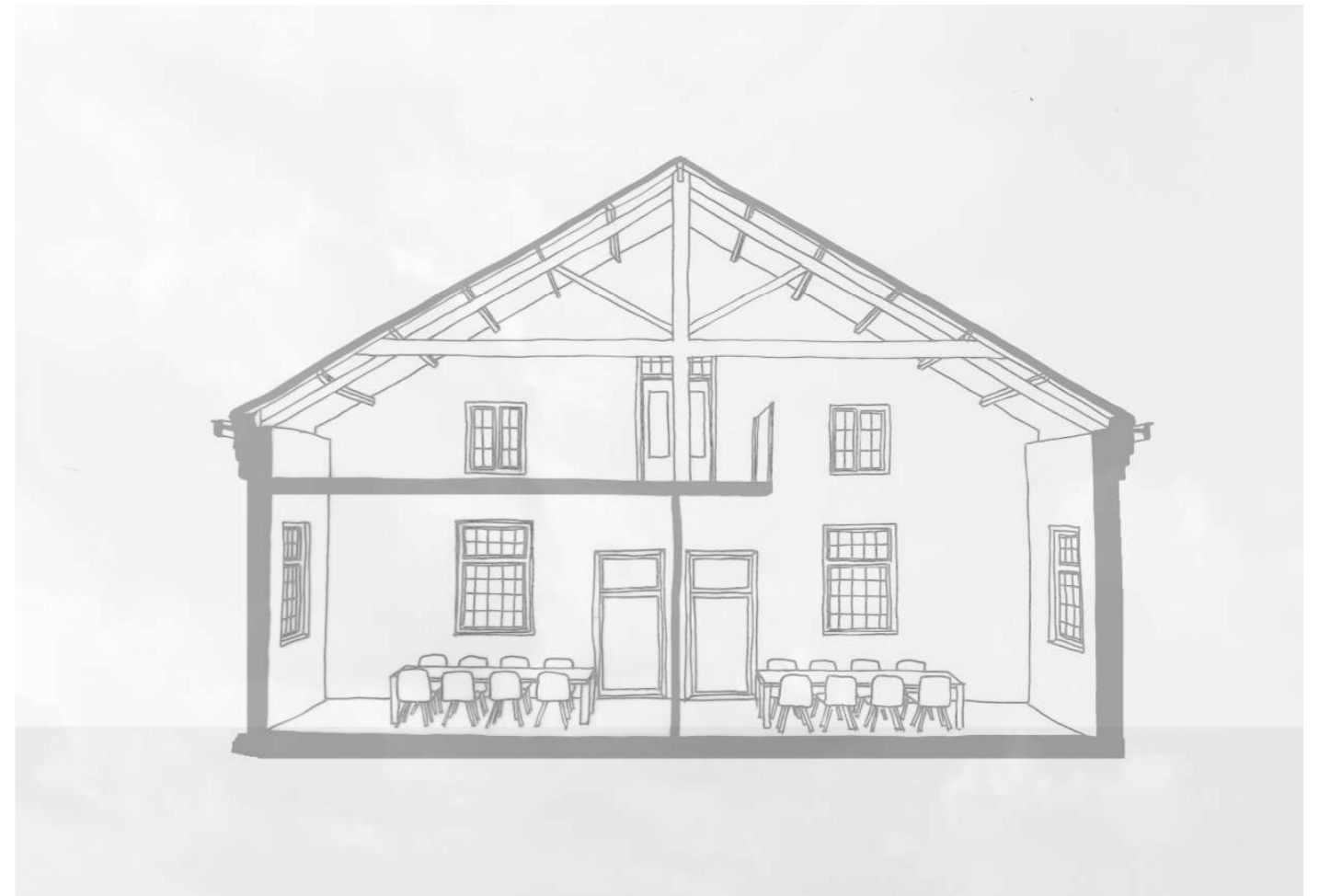
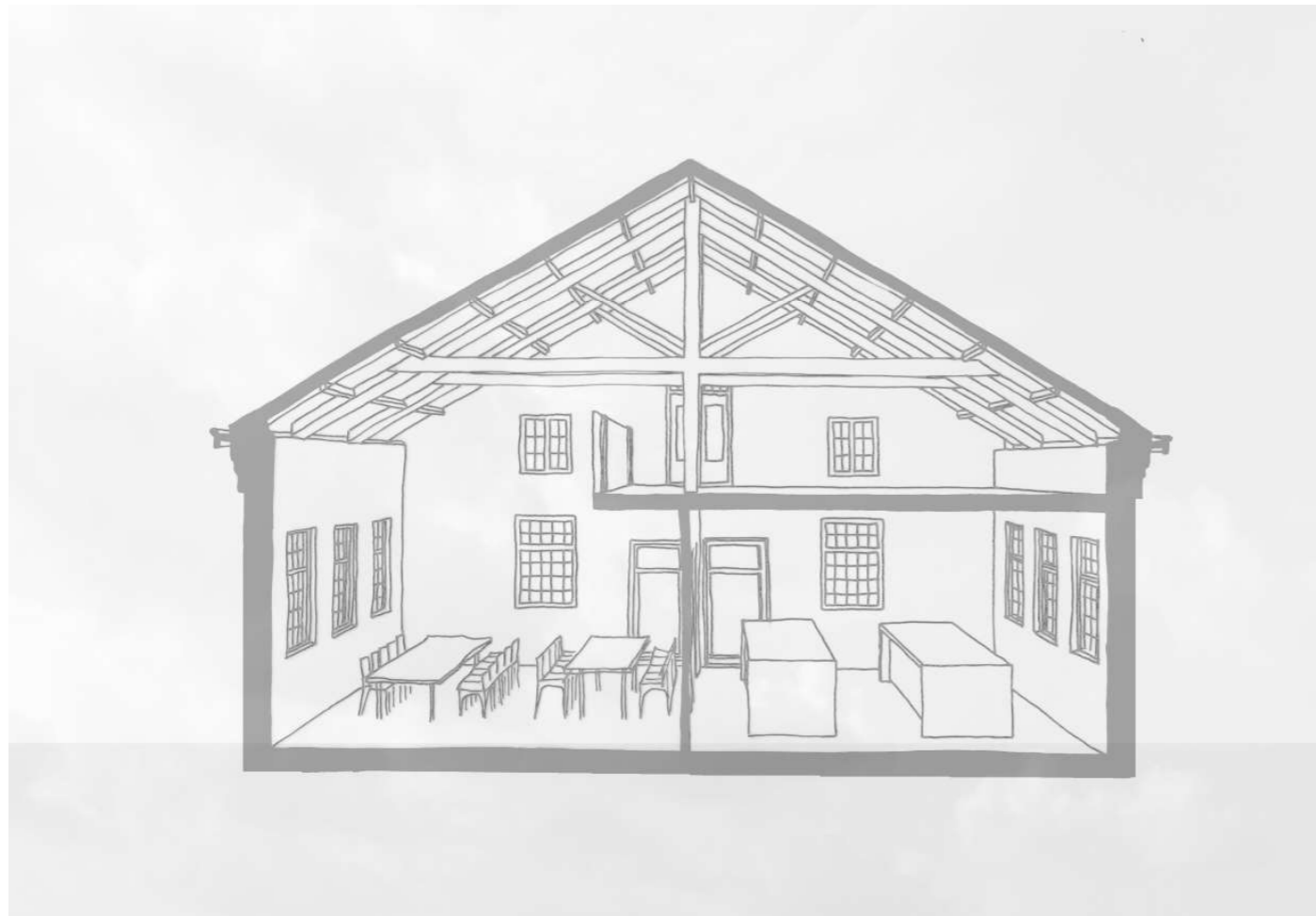
KITCHEN AND WORKSHOPS SPACES



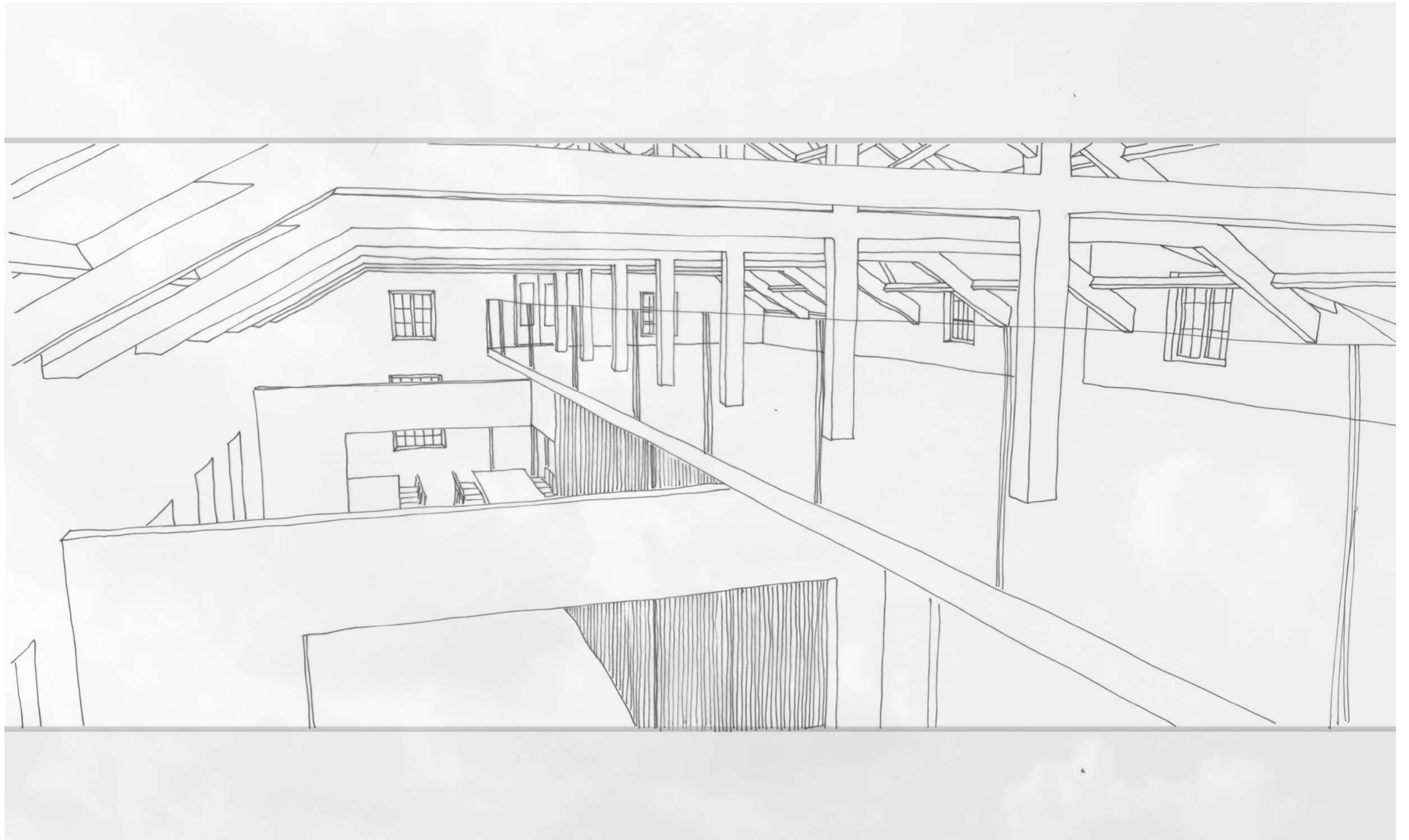
KLEINE BOERDERIJ



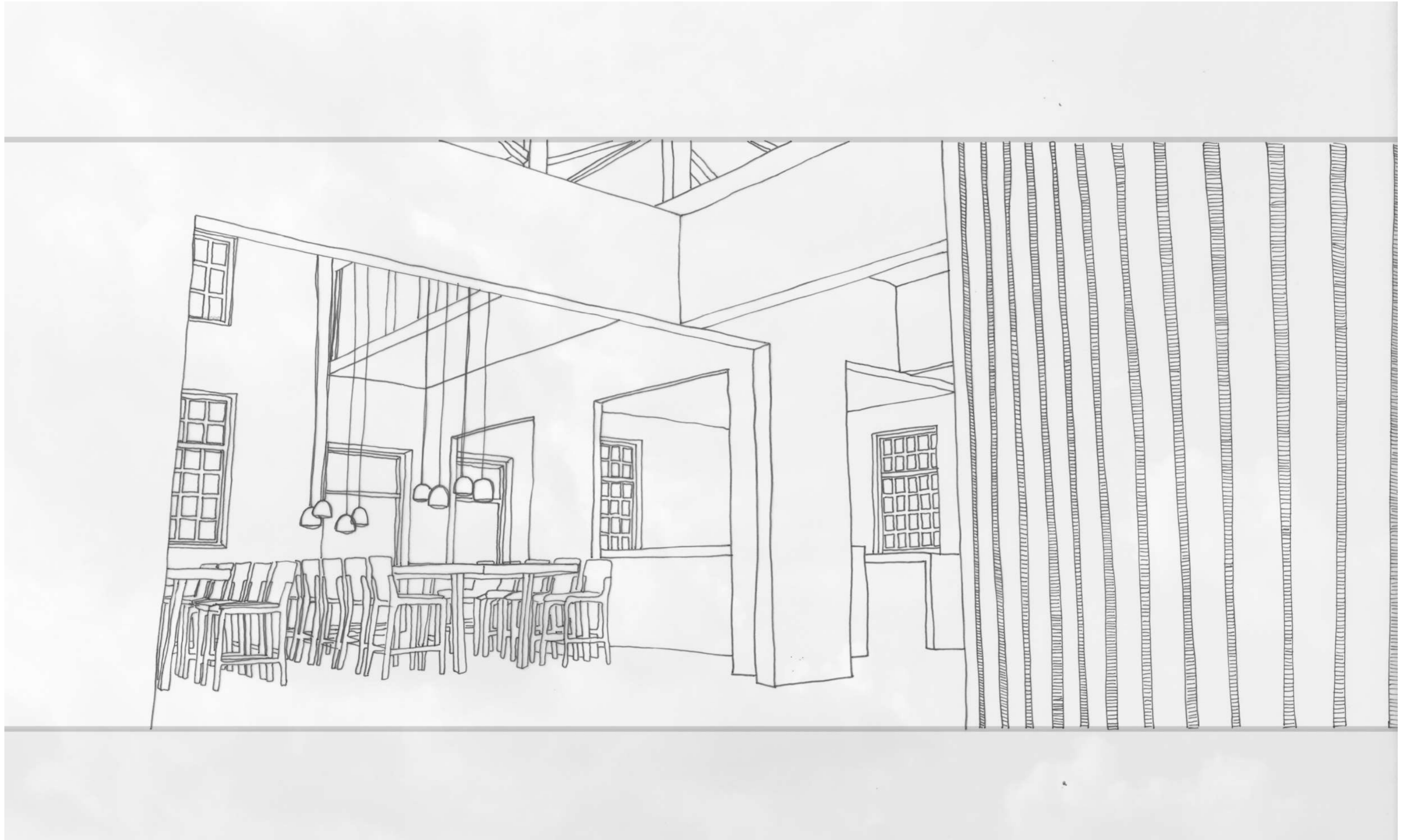
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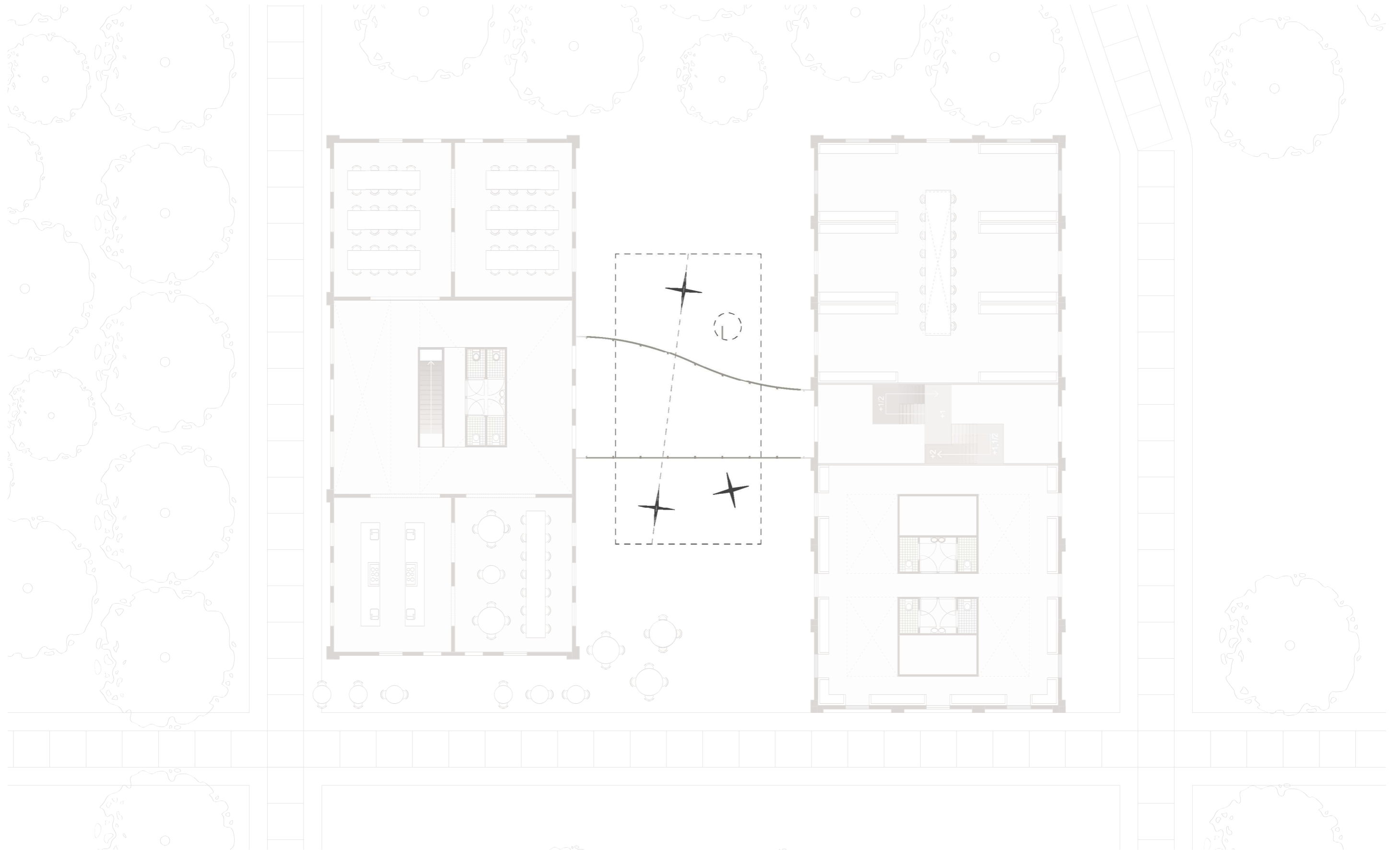
KLEINE BOERDERIJ INTERIOR



KLEINE BOERDERIJ INTERIOR



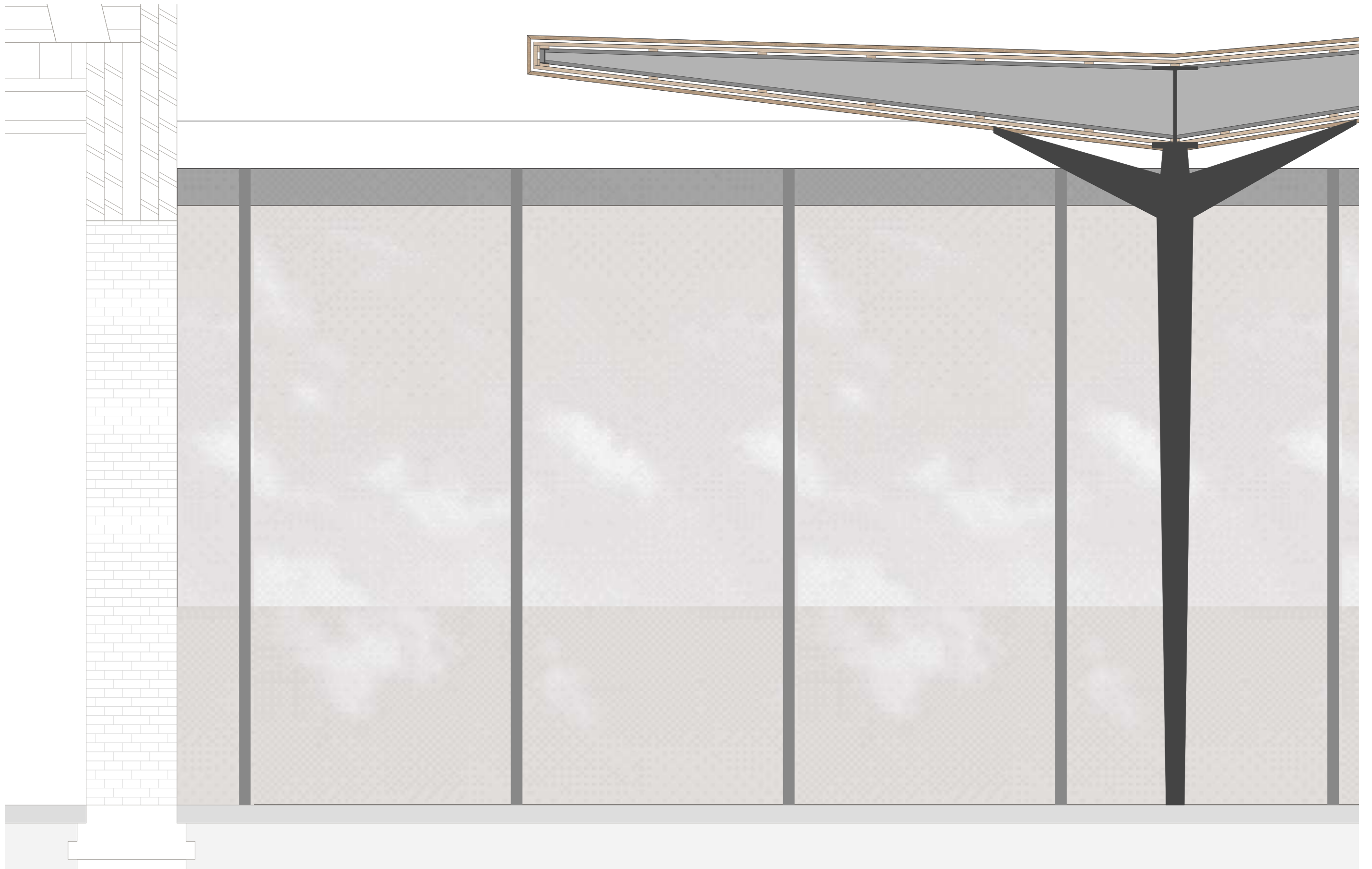
IN BETWEEN PAVILION



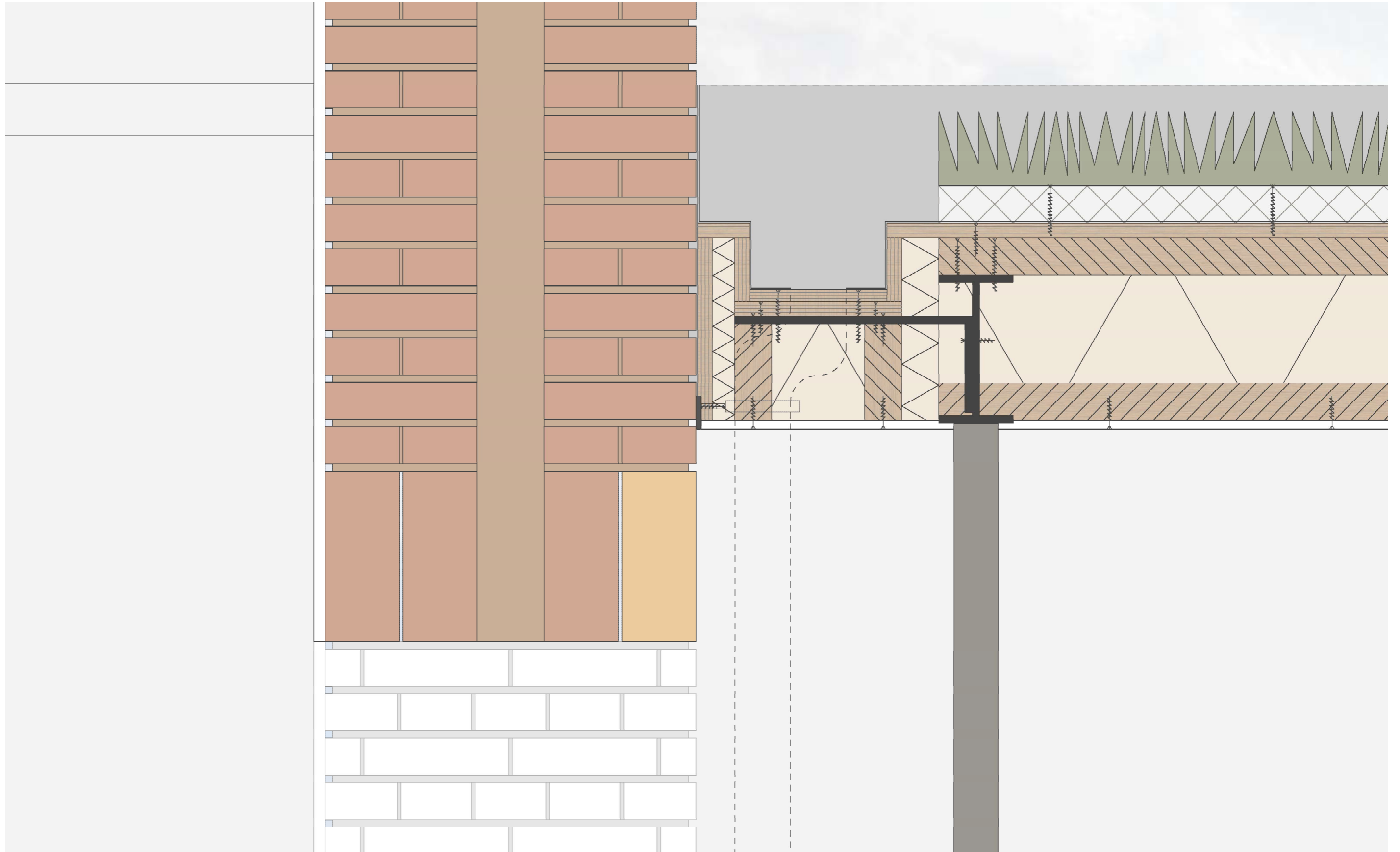
ENTRANCE COMMUNITY CENTRE



PAVILION



CONNECTION OLD AND NEW



ROOF MATERIALS



PAVILION VIEW



FIFTH GENERATION ON HEMBRUG



SEE YOU IN THE NEIGHBOR PLOFBOS!



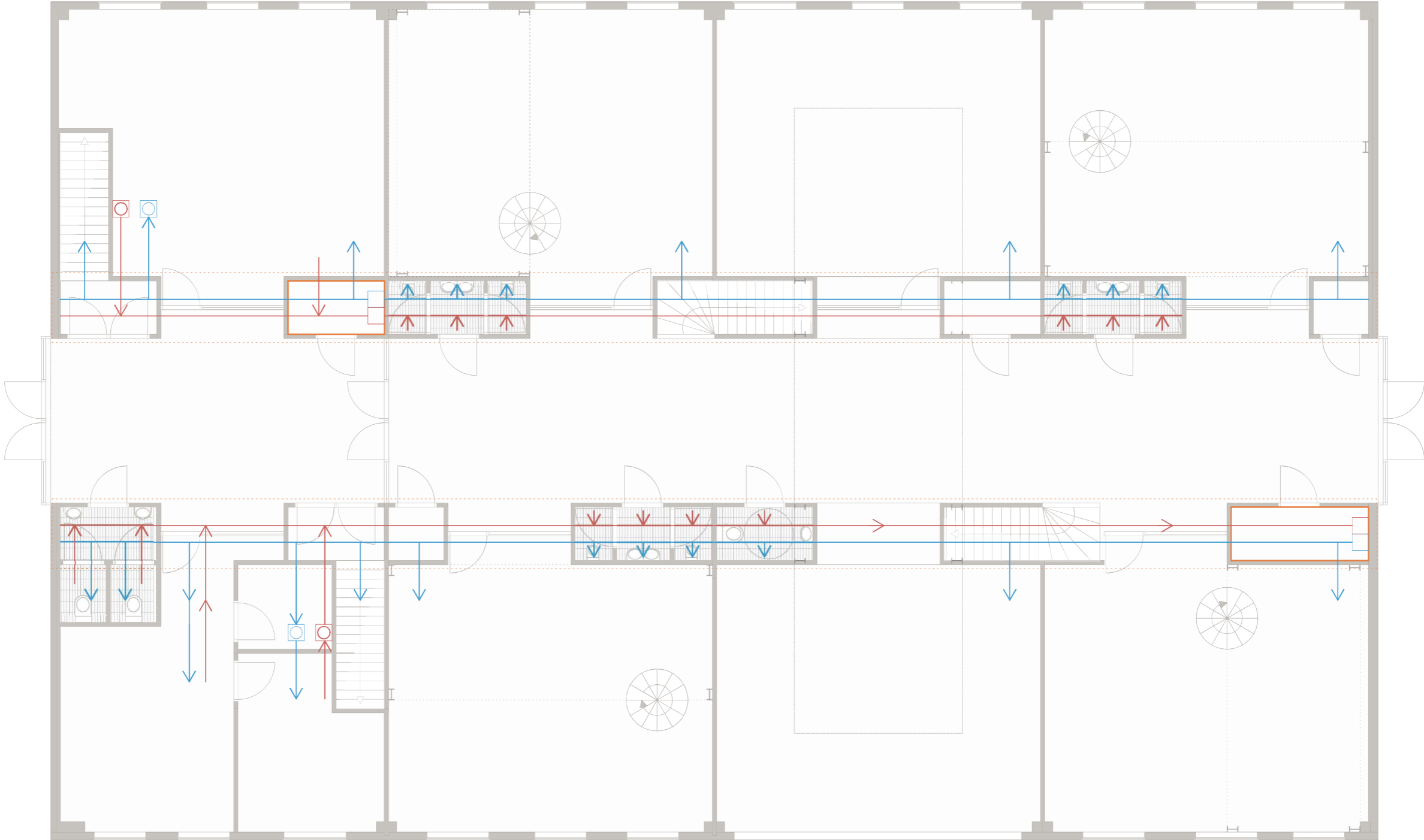


PLOF BOS

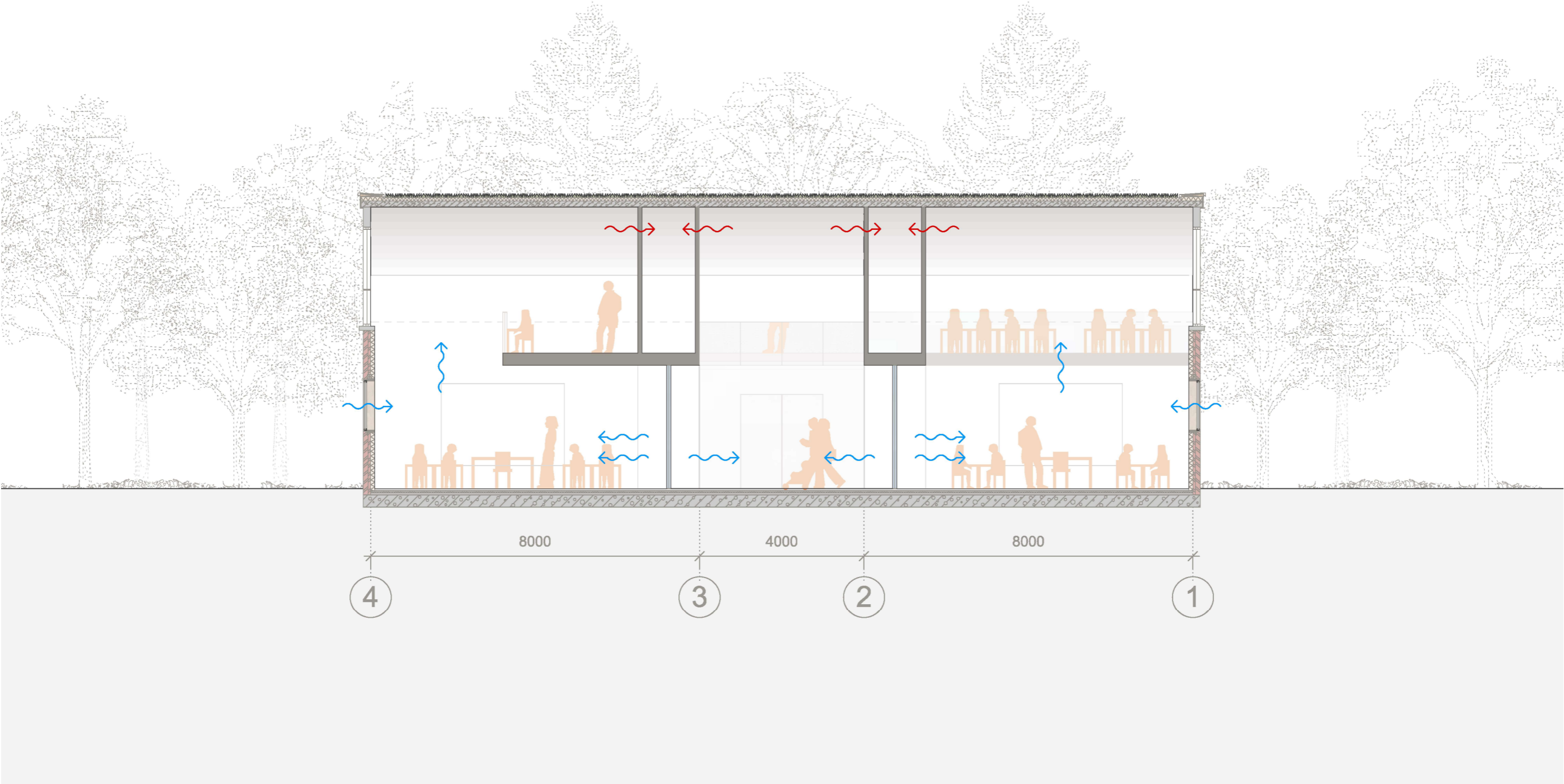
THANK YOU!

source: photo by carin toren

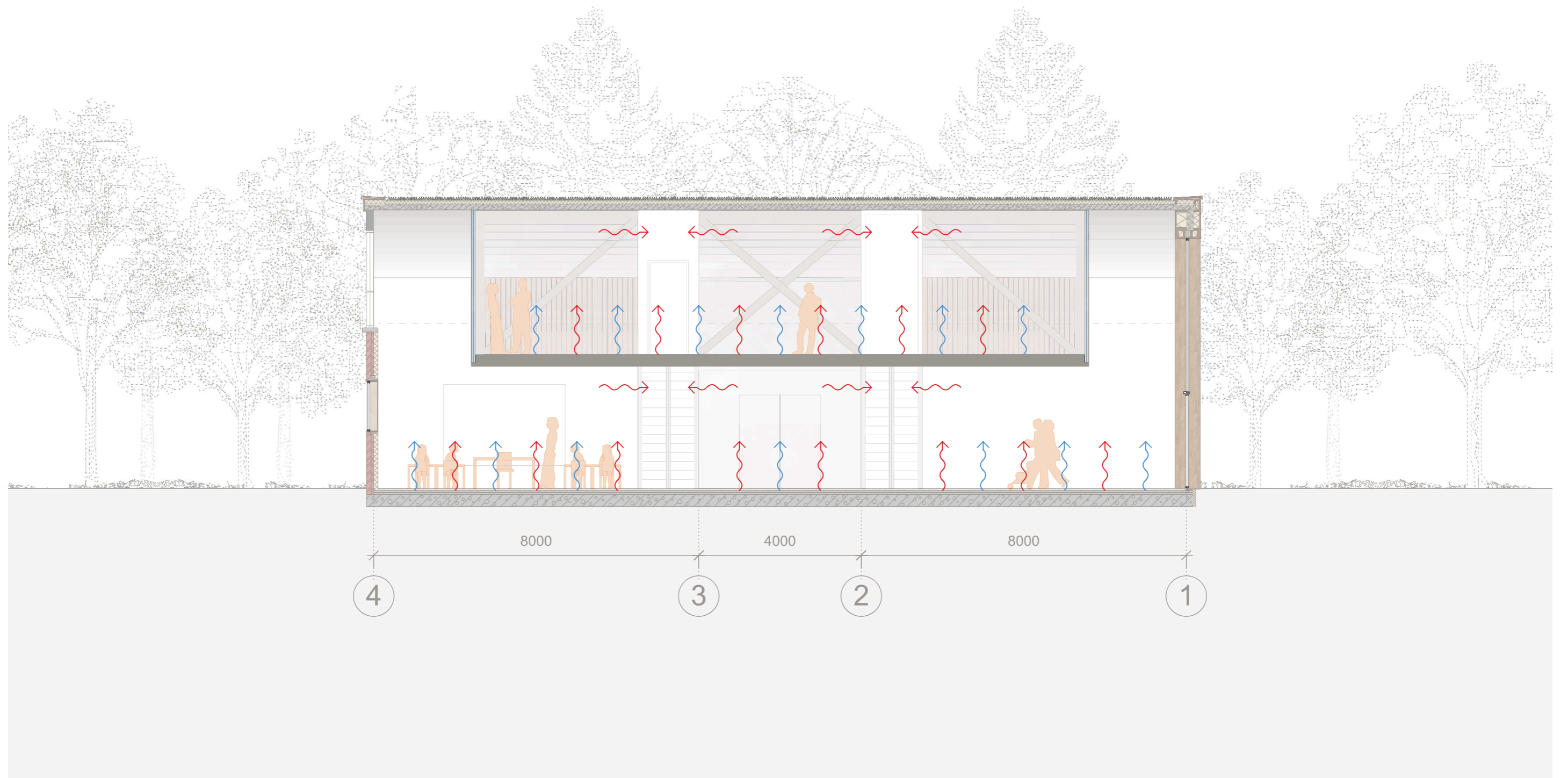
VENTILATION



VENTILATION



TEMPERATURE



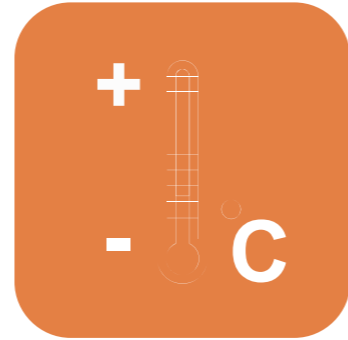
'FRISSE SCHOLEN'



1 Energy



2 Air



3 Temperature



4 Light



5 Noise



EPC - Low energy use and low CO2 emissions



Isolation on the facade, ground floor, roof and isolation glass



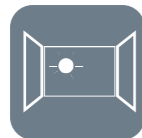
Heat recovery by mechanical ventilation



Low temperature heating, with high efficiency



Summer night ventilation and heat protection sun blinds



Daylight in combination with lights that are individual controllability



Ventilation capacity and CO2 concentration



Vent ventilation and windows that can be opened



Quality of the air and healthy environment



Volume, how higher the ceilings, how the better space



No smoking inside or outside the building or school yard



Adjustability, individual controllability easy to operate



Heat barrier, sun protection blinds on the inside or outside of the building



Tour, air speeds in the classrooms and in the hallway, airtight building system



Floor temperature with uniform heating and cooling for a constant temperature



Vertical temperature gradient and difference in temperature



Radiation asymmetry, temperature difference horizontal



Adjustability, individual controllability easy to operate



Artificial light for study and playing areas in the classrooms and hallway



Natural daylight through the windows and with a view to the outside world



Brightness control, eclipse and light nuisance



Adjustability, individual controllability easy to operate



Sound of the installations or the technical spaces in the building



Reverberation time that is in the building or in the neighbourhood



Sound insulation, from the inside / inside and contact noise



Sound insulation, from the outside to the inside of the building

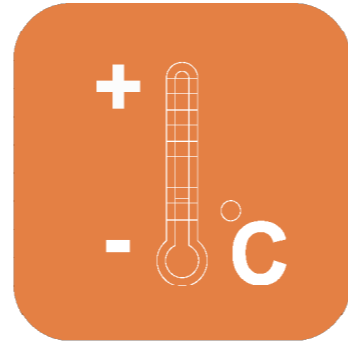
'FRISSE SCHOLEN'



1 Energy



2 Air



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