

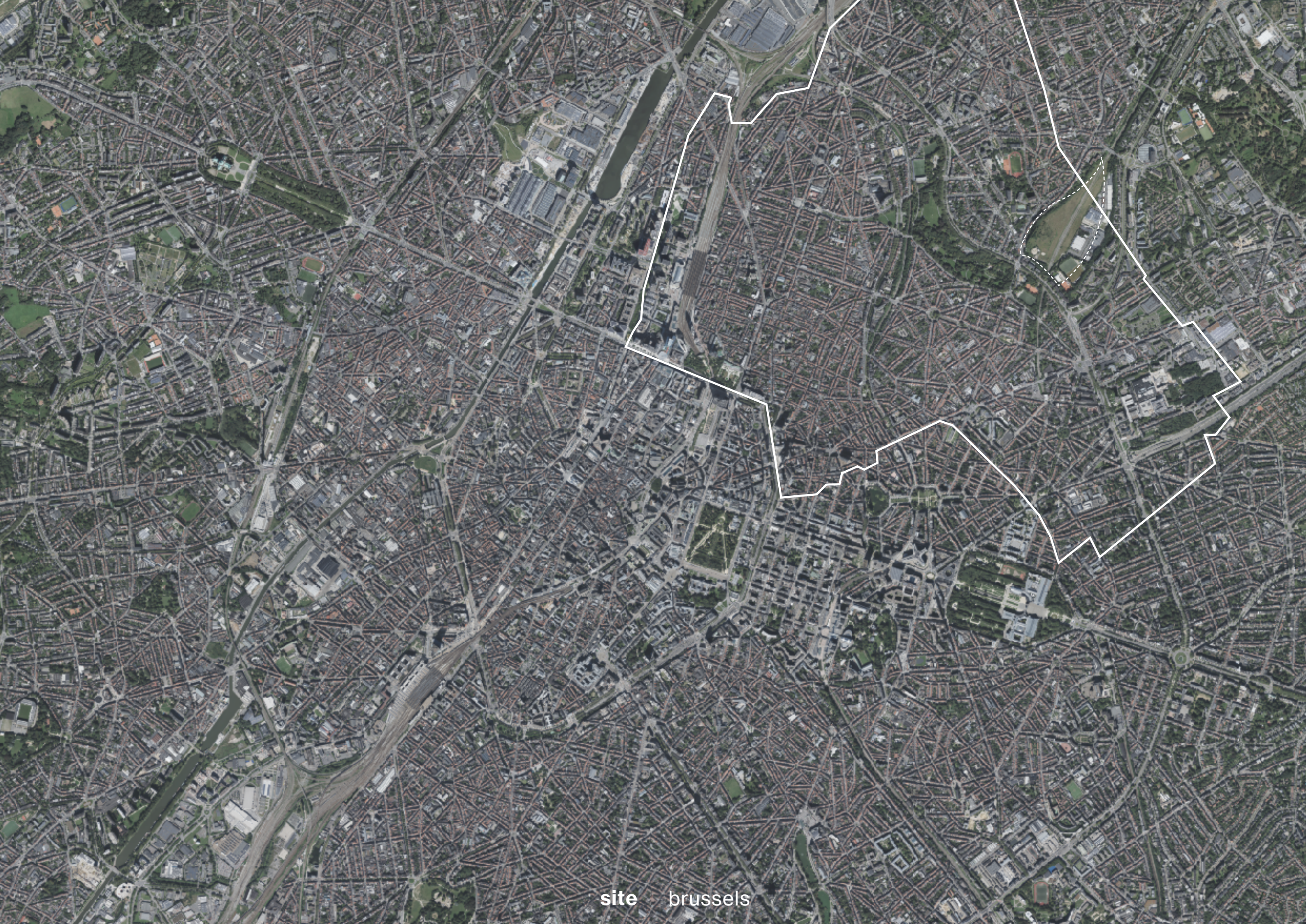
negotiating ways to intervene

transforming an existing
warehouse into a vocational
school

Jaron smit
TU Delft
Architecture
Urban Architecture

tutors
Eireen Scheurs
Sam Stalker
Anet Meijer

26.06.2024



site brussels

marshalling yard

^
north



1930

first buildings

^
north



1971

removal marshalling yard

^
north



1996

new soil

^
north



2012

today

^
north



2023



isolated behind a dense tree line



2 to 8 metres lower than its surroundings

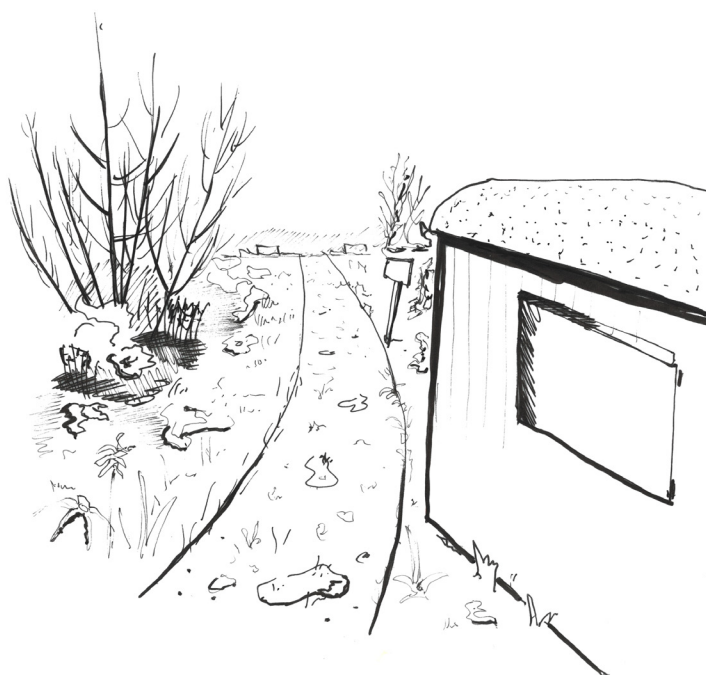


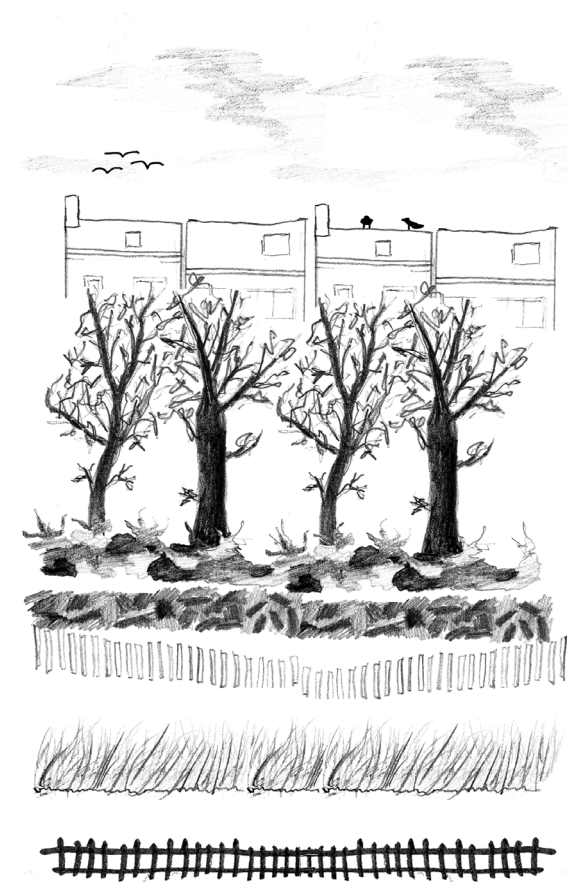
split by a train track



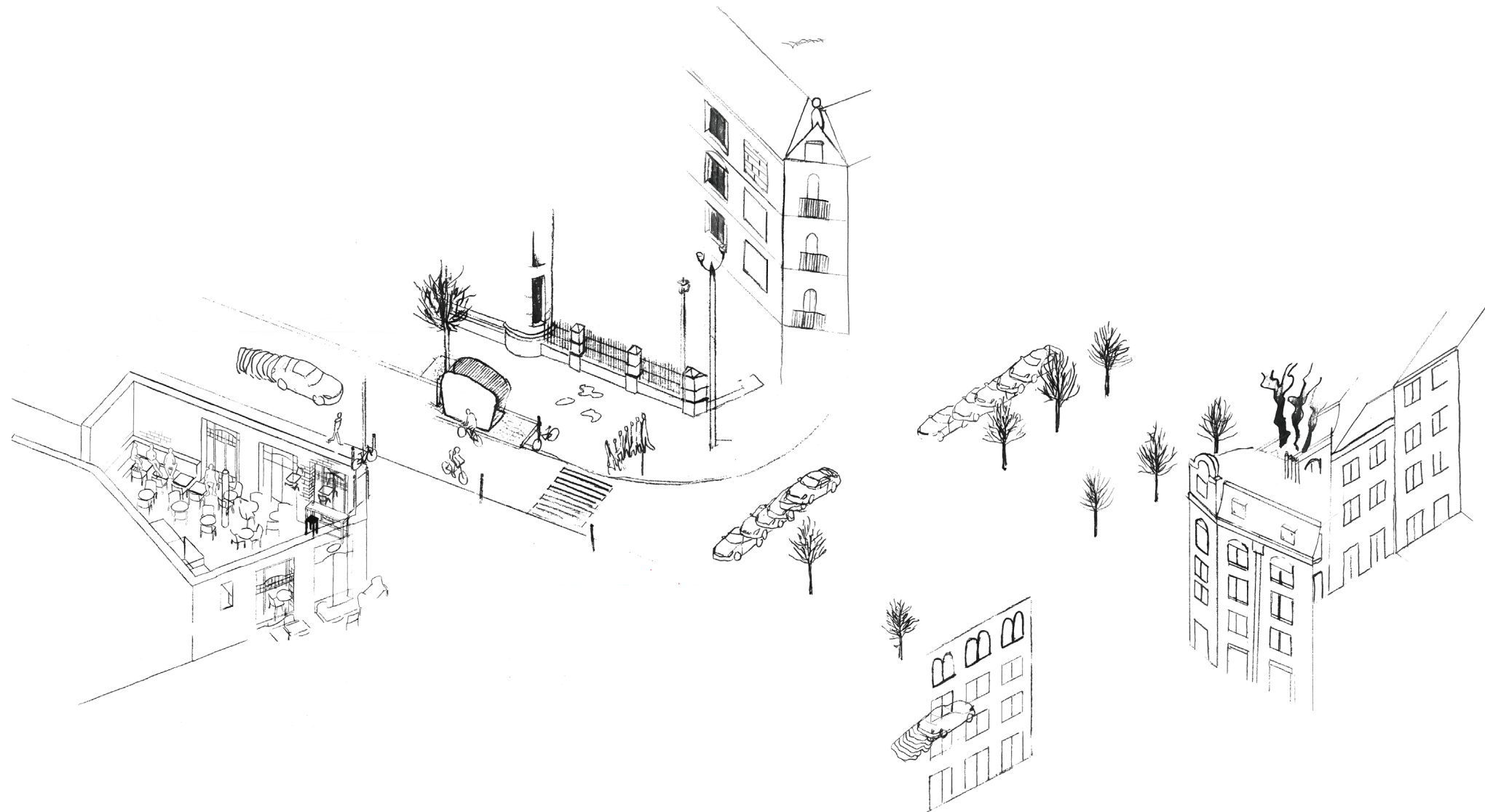
industry on the east side

La Friche Josaphat industry





stay





contested

^
north



preserve nature on the west side



^
north



densify existing constructors
and logistical functions



^
north



keep central 3 buildings



^
north



connect to surrounding
neighbourhoods



^
north



keep tree-line intact

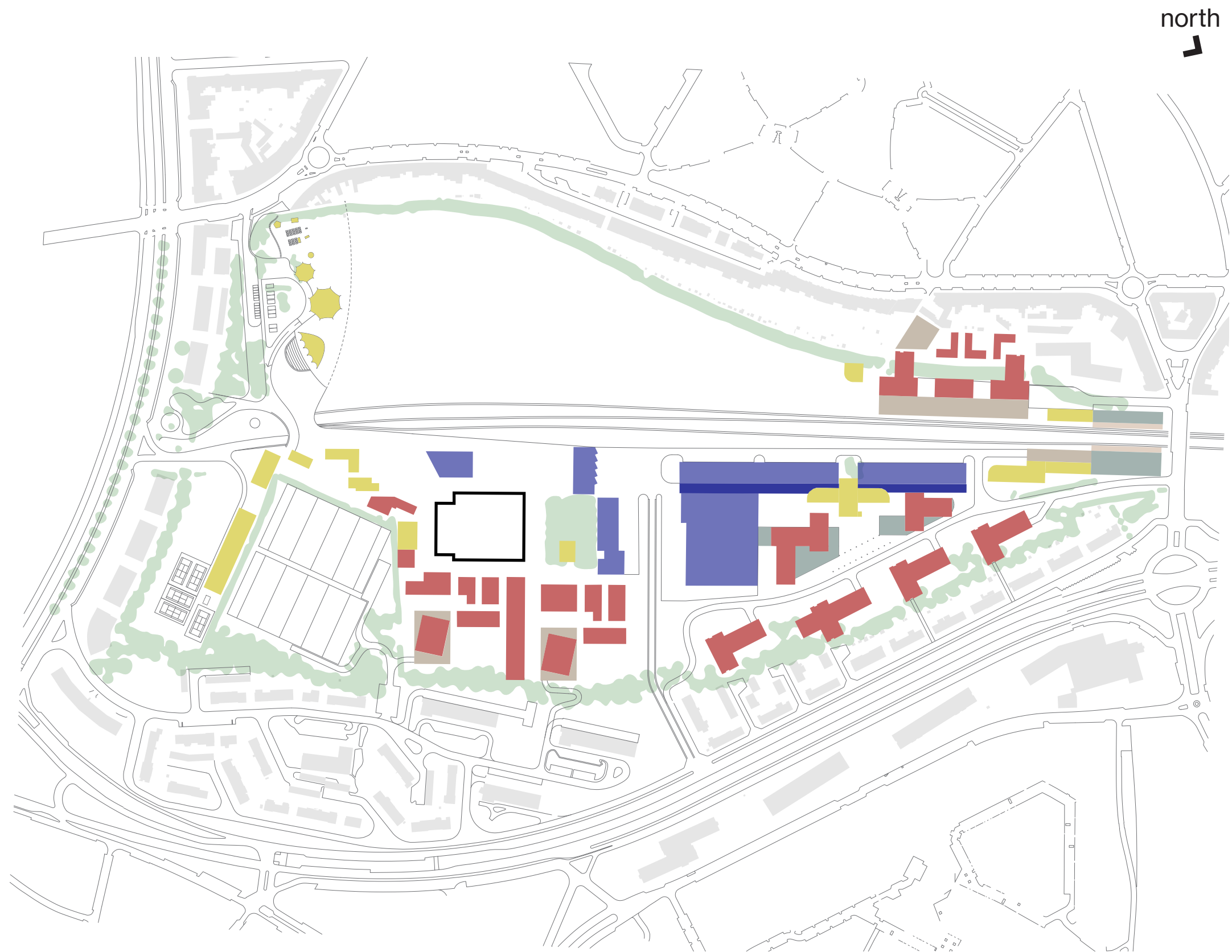


^
north



car free

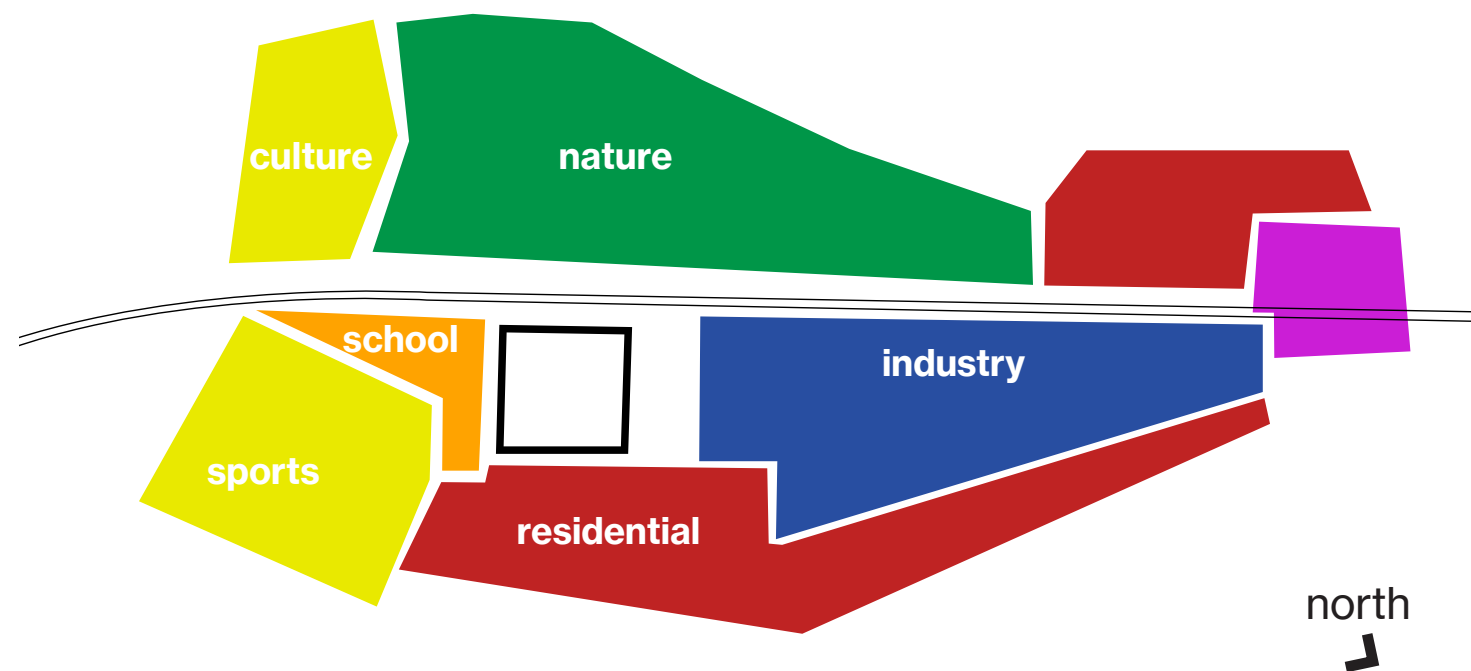




north
└

 railway station  nature  industrial  residential  sports, culture & education

urban plan masterplan



-> the programme should be robust enough to withstand noisy neighbours whilst simultaneously being friendly and inviting for the nearby school and residents.



built in 1963

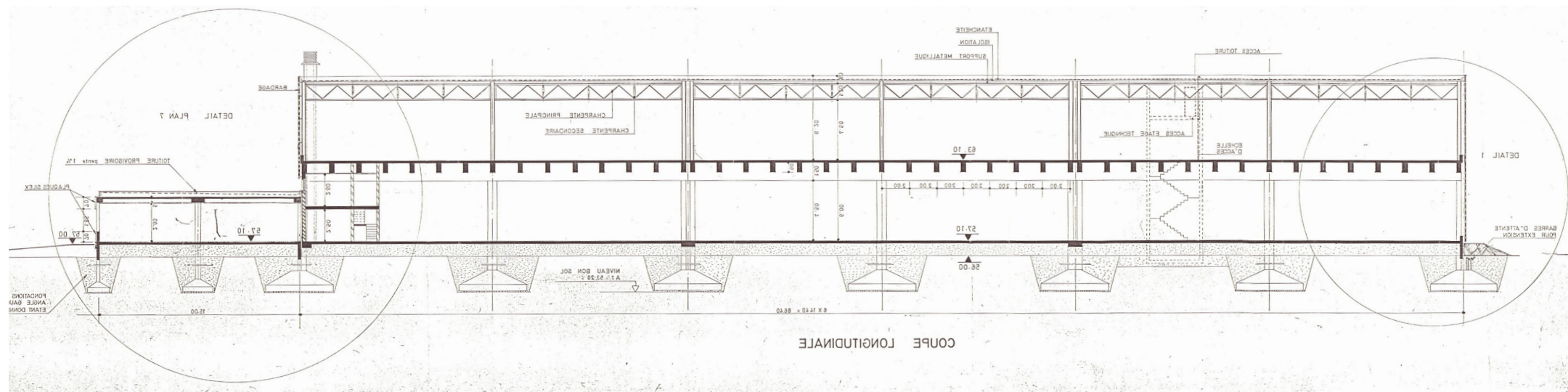


2

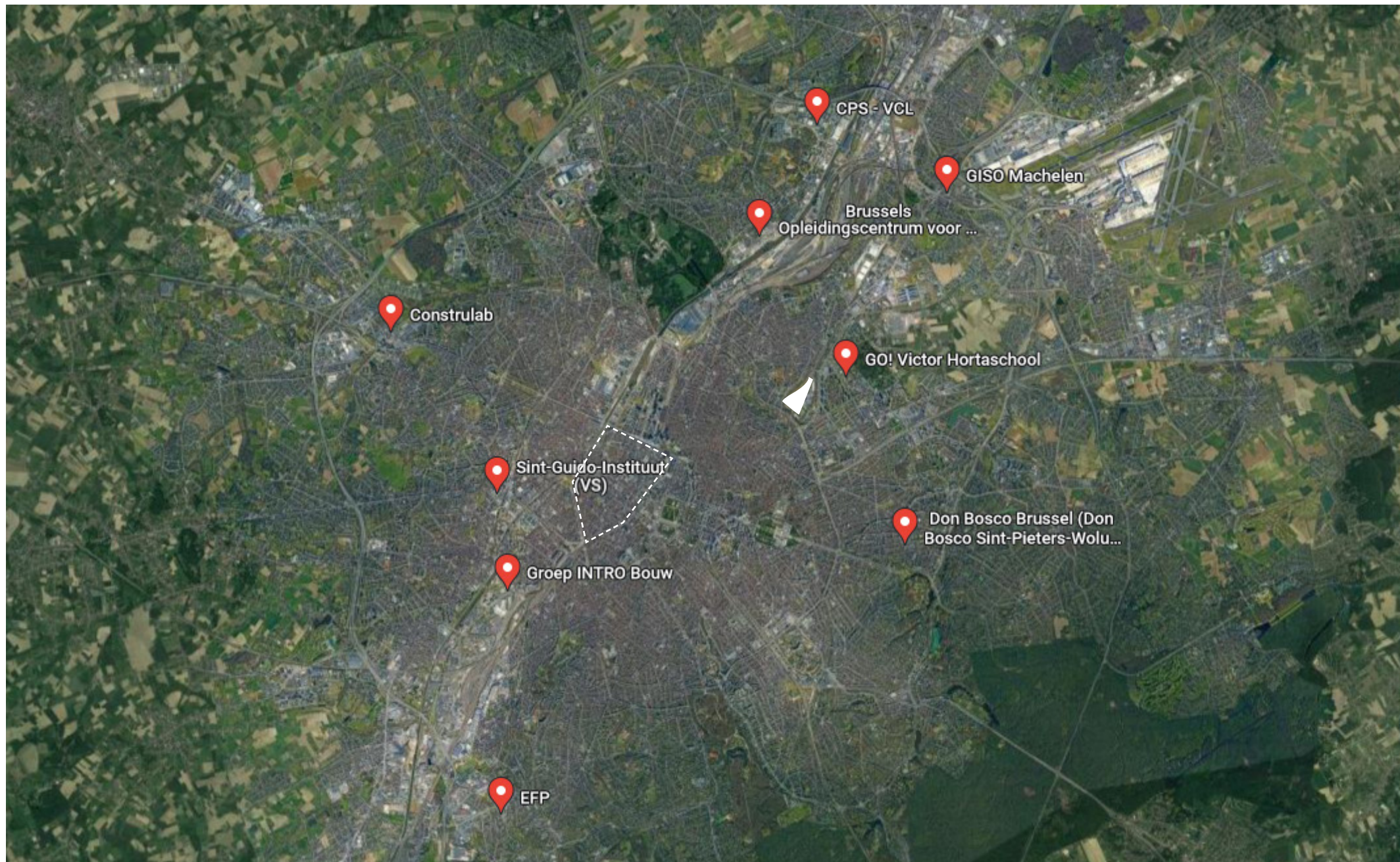




2014



site warehouse



building schools
and training
centres Brussels

education

Victor Horta

care
construction
logistics

workshops

making

workshops as commons
workshops as public backdrop

local

community

use existing network and materials
recuperated building material depot



vocational school

types of spaces

wood workshop
steel workshop
masonry workshop
material depot
classrooms for logistics
classrooms for care



site visit

site visit measuring



backside railway tracks

canopy



office & warehouse



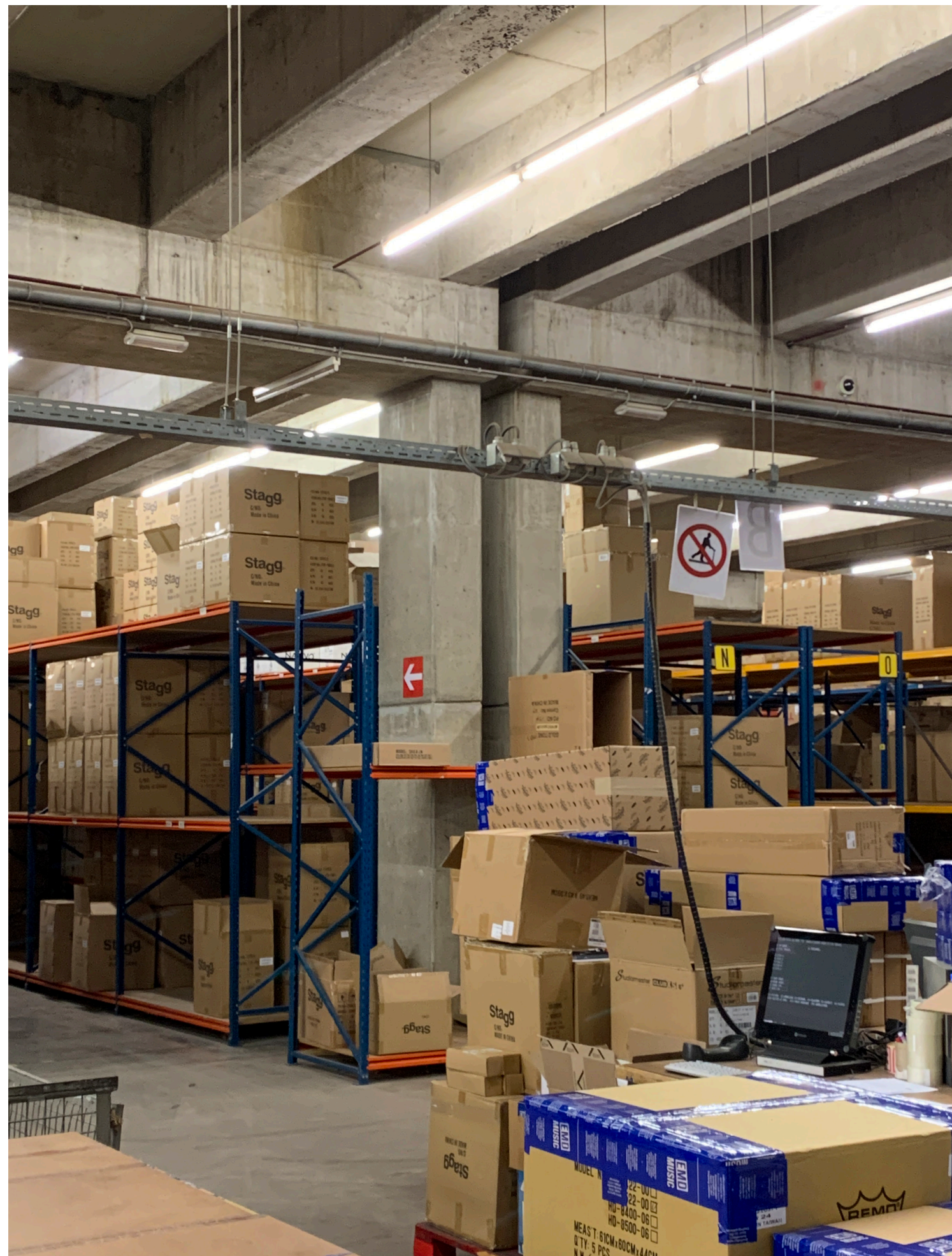
overhead doors



square windows



low ceiling



column size

dilatation



depth

open plan

no insulation

challenges

facade

light

organisation plan

big spans

big plan

high ceiling

robust structure

opportunities

strategy

potentialities

washed out
paint

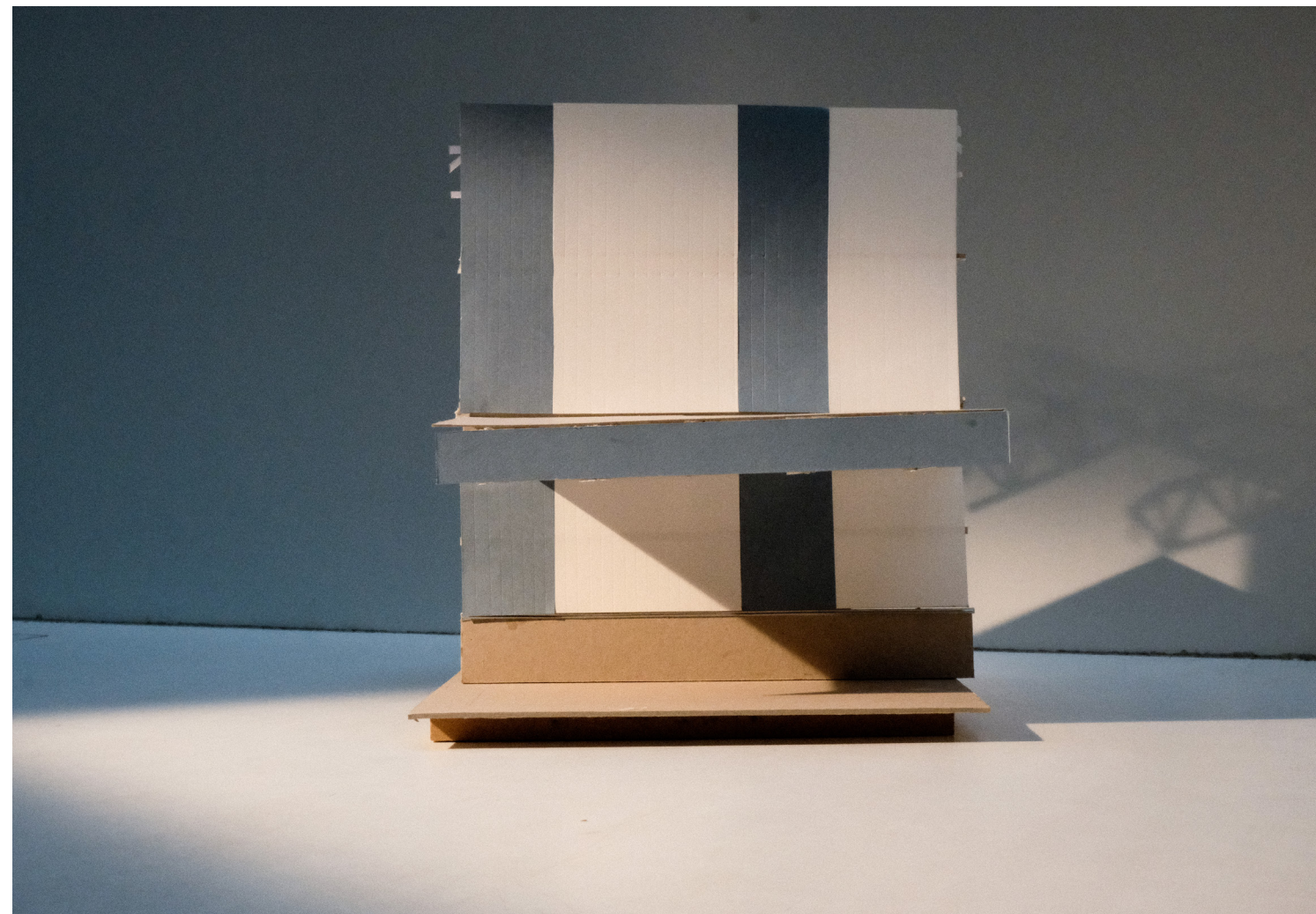


bumps

dents



moss

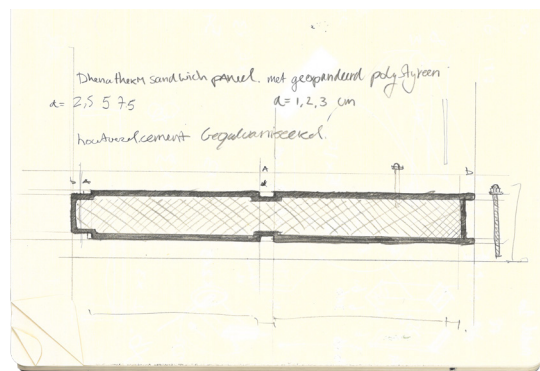


maintain existing facade, intervene where needed

cut deteriorated facade plates

add windows

add insulation

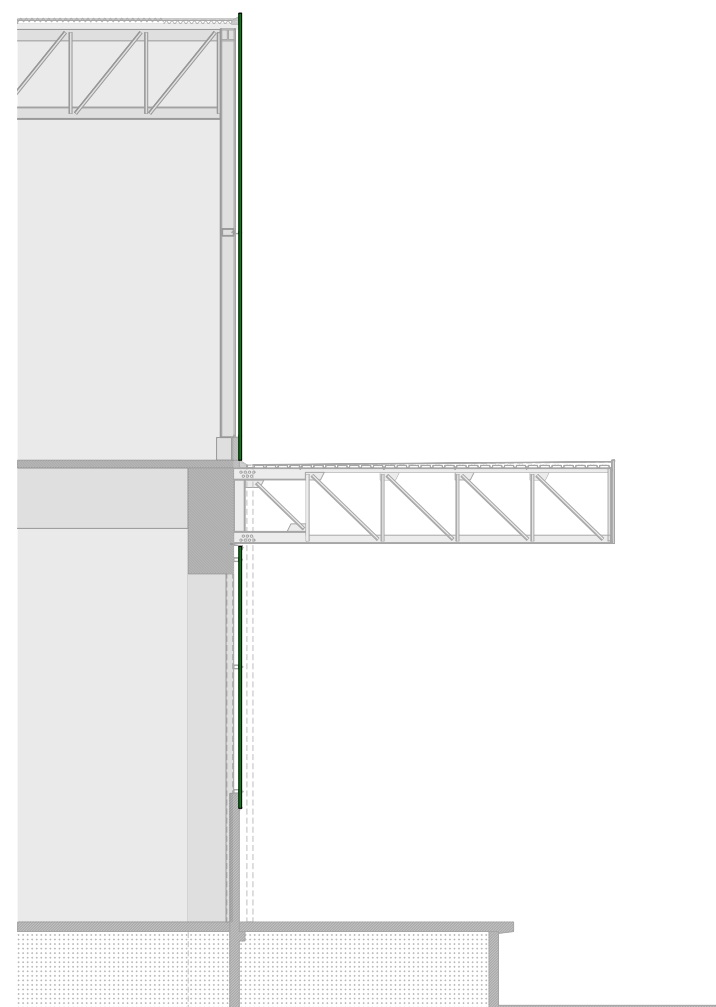


insulation inside

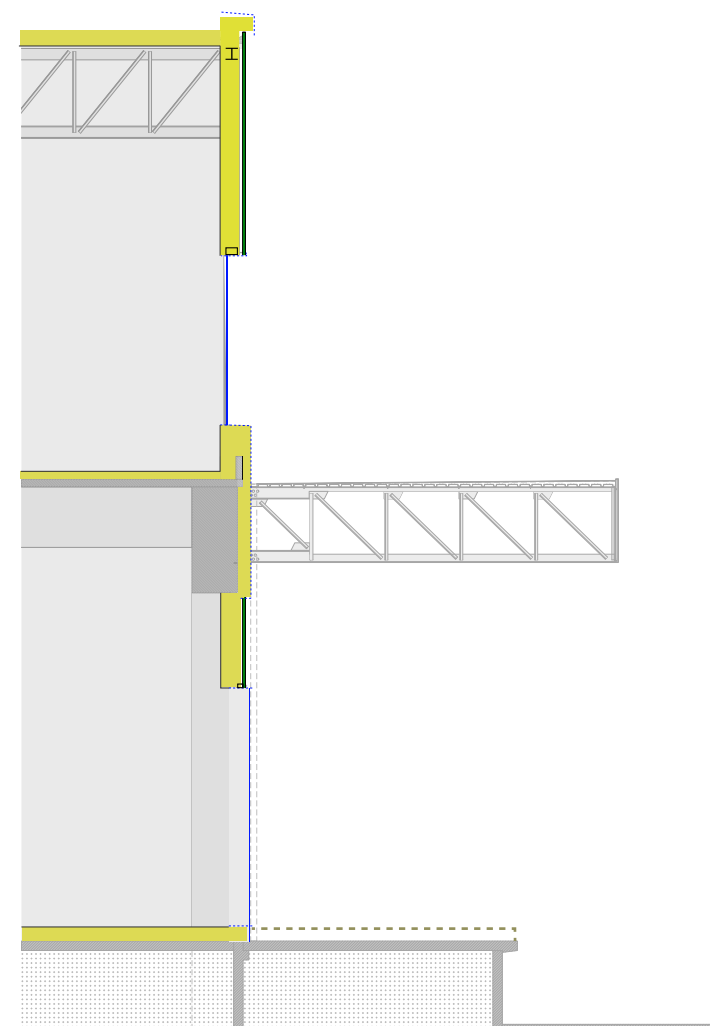
insulation on the outside >
deterioration

use existing sub-structure, to
keep panels attached >
window height

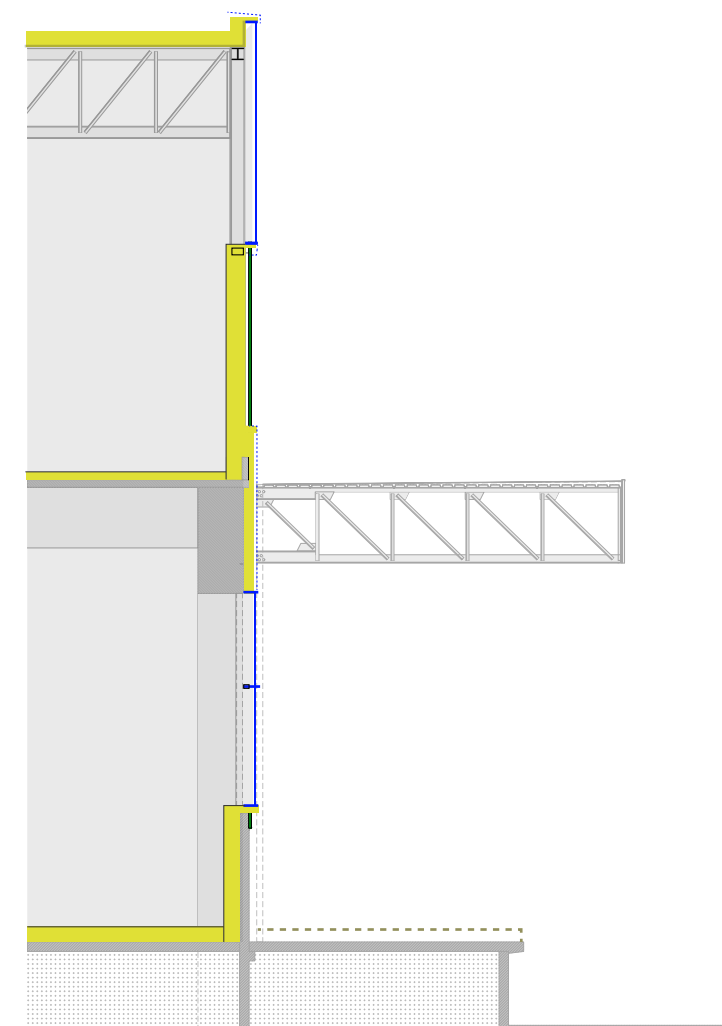
insulated sandwich panels
between canopy trusses



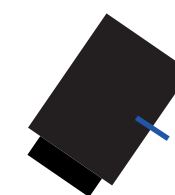
existing



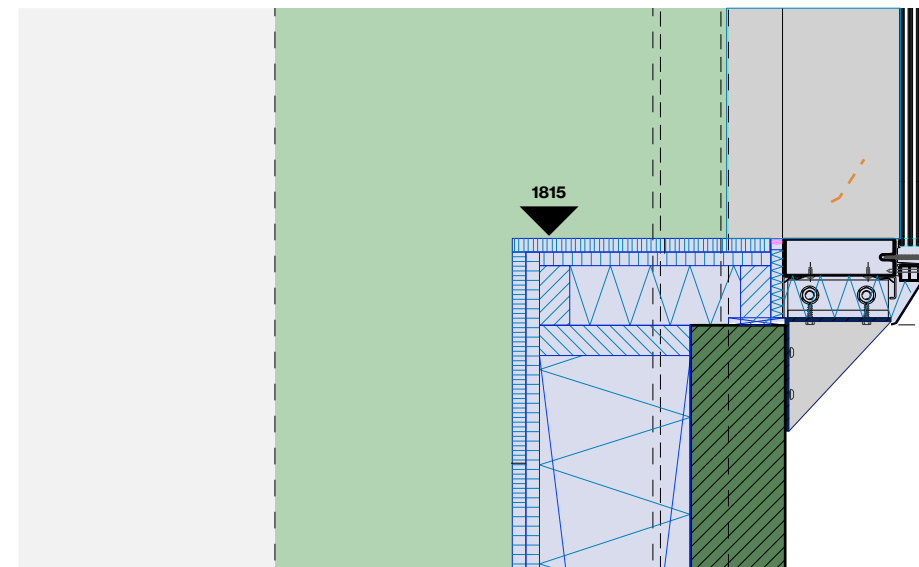
insulation on the inside



insulation on the outside



multiplex 18mm
 osb10mm
 hsb insulation 220mm
 existing concrete slab 125mm

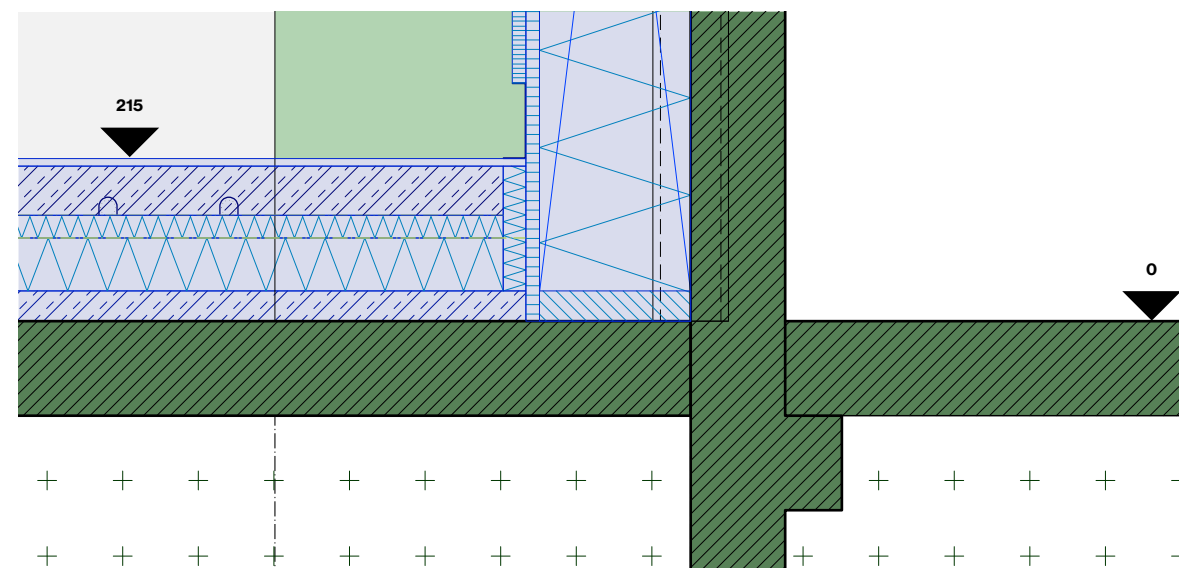


aluminium curtain wall
 triple glazing

steel L-profile
 150x150x10mm

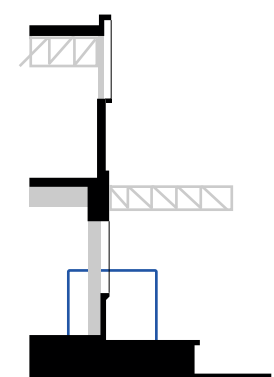
steel plinth h=100mm

finish 10mm
 heat elements in cement 65mm
 protective membrane
 xps insulation 30mm
 vapour barrier
 eps insulation 70mm
 equalising layer 40mm

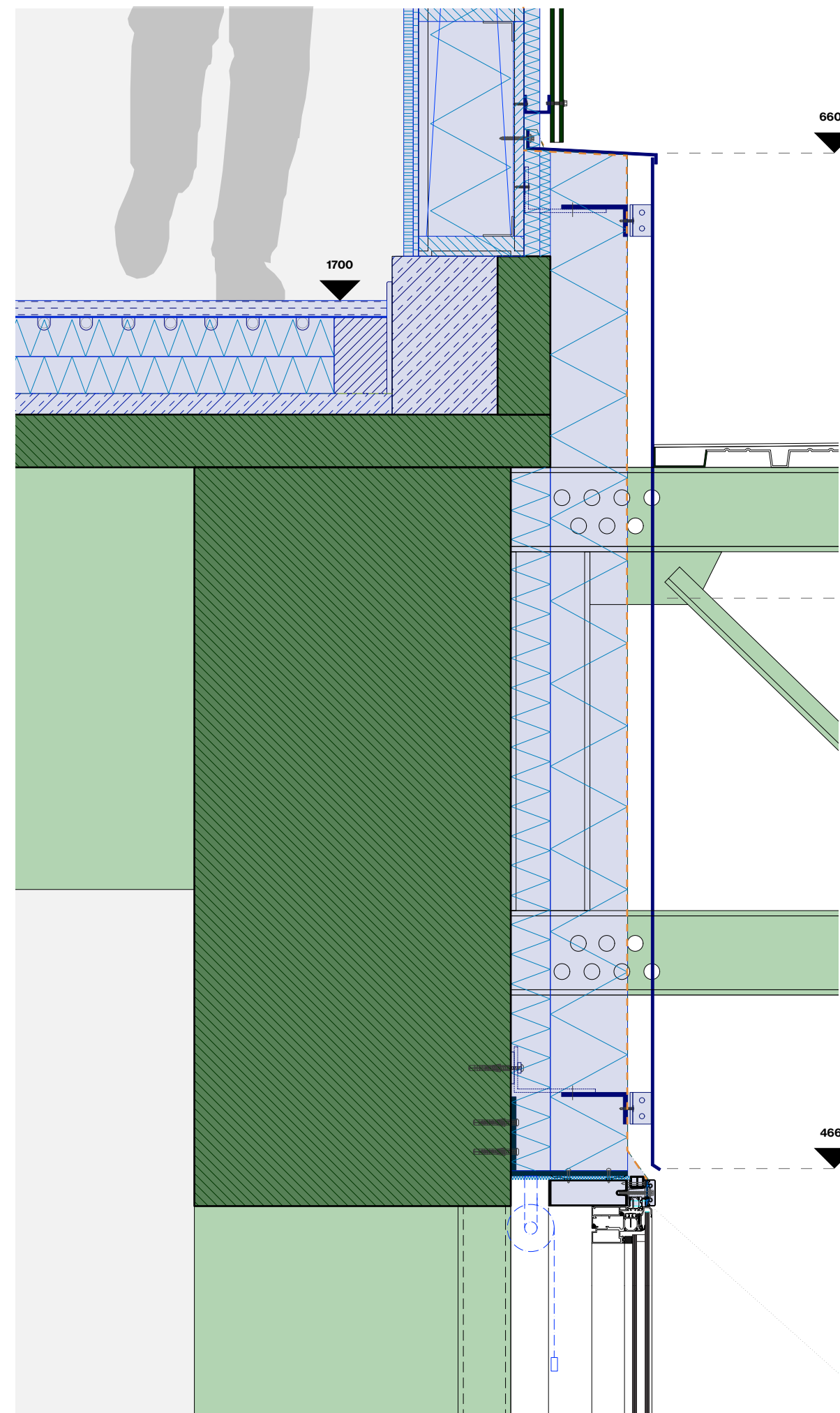


facade ground floor detail

1:10



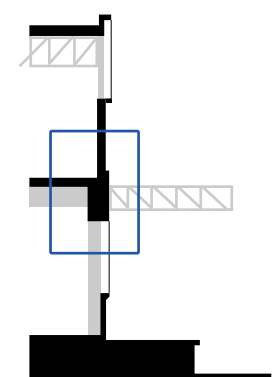
finish 10mm
 heat elements
 insulation plates 24 mm
 thermally inductive plates
 vapour barrier
 insulation 70 mm
 equalising layer 40 mm



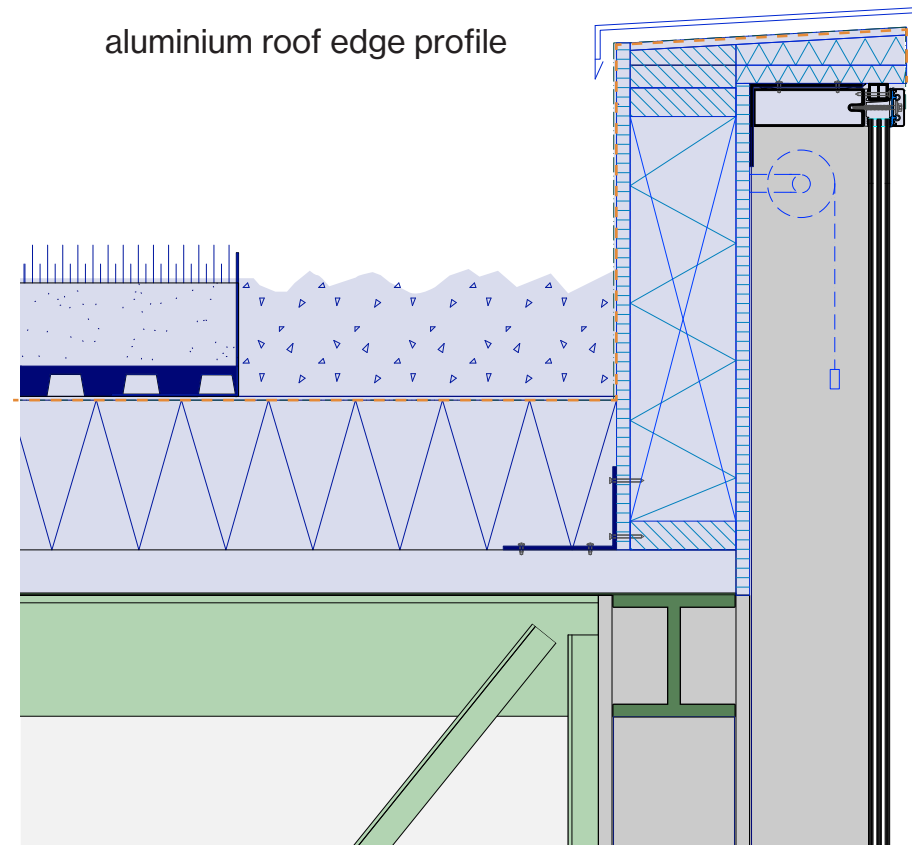
polished steel plate 5 mm
 water barrier, vapour open
 insulation 150 mm
 insulation plates 75 mm
 concrete structure

facade floor detail

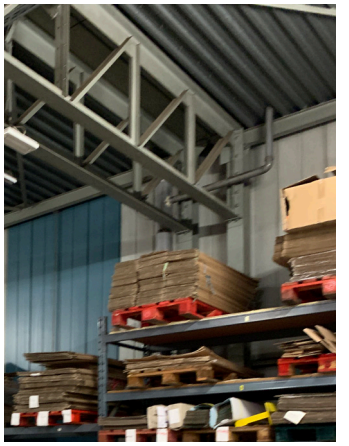
1:10



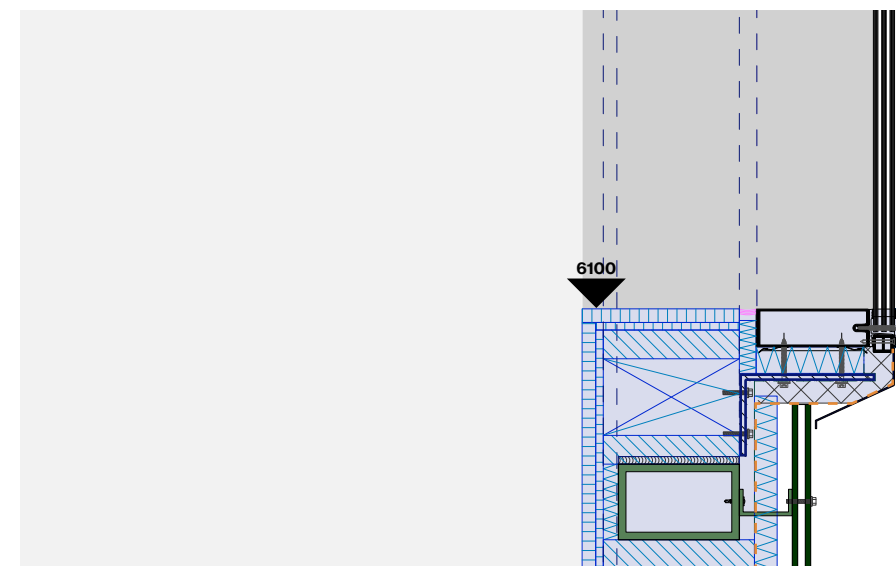
soil 70mm
 filter fabric 0.2mm
 moisture-retention layer 79mm
 aeration layer 10mm
 drainage layer 30mm
 root barrier 5mm
 membrane protection 0.2mm
 green roof waterproofing membrane 0.2mm
 thermal insulation 200mm
 trapezoidal sheet 60mm
 steel structure



steel L-profile
 110x150x10mm



multiplex 18mm
 osb 10mm
 hsb-insulation 220mm
 water barrier
 xps 30mm
 ventilation 45mm
 existing wood fibre cement
 (galvanized in steel panels) 25mm



aluminium curtain
 wall, triple glazing

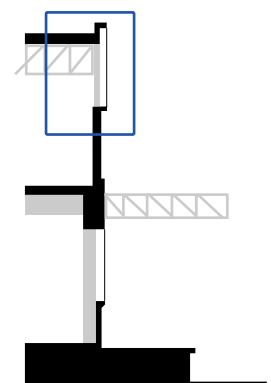
aluminium profile
 5mm

xps insulation

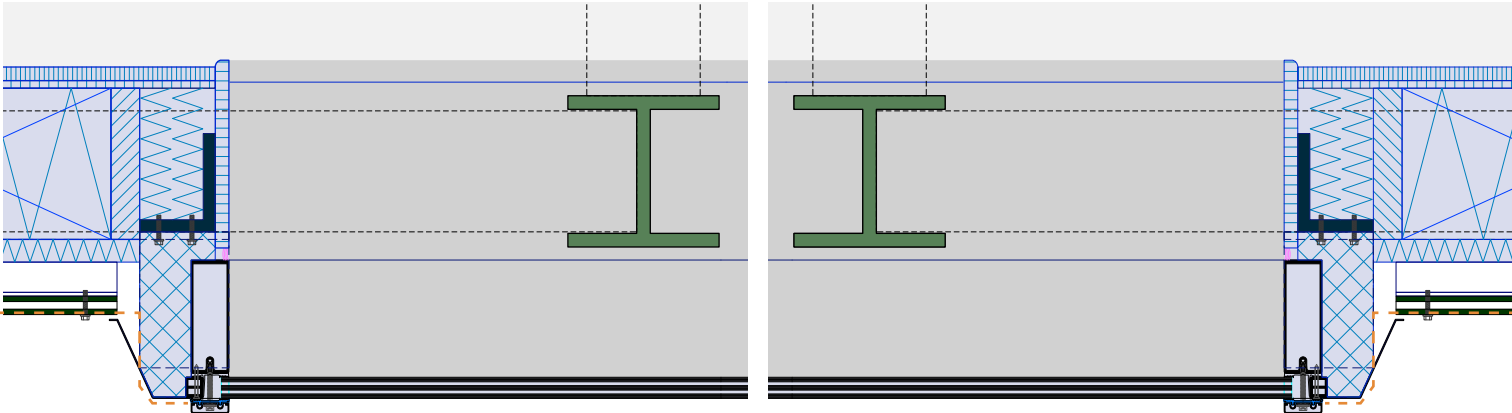
steel L-profile
 110x180x10mm

facade roof detail

1:10



multiplex 18mm
 osb10mm
 hsb-insulation 220mm
 water barrier
 xps 30mm
 ventilation 45mm
 existing wood fibre cement
 (galvanized in steel panels) 25mm

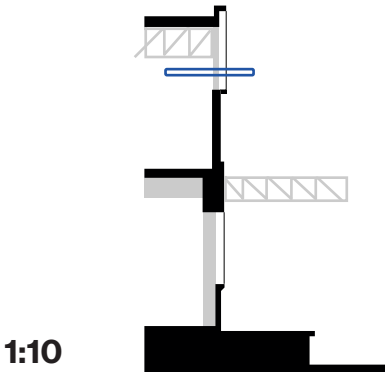


thermal line around the truss

aluminium curtain
 wall, triple glazing

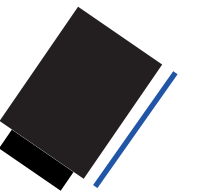
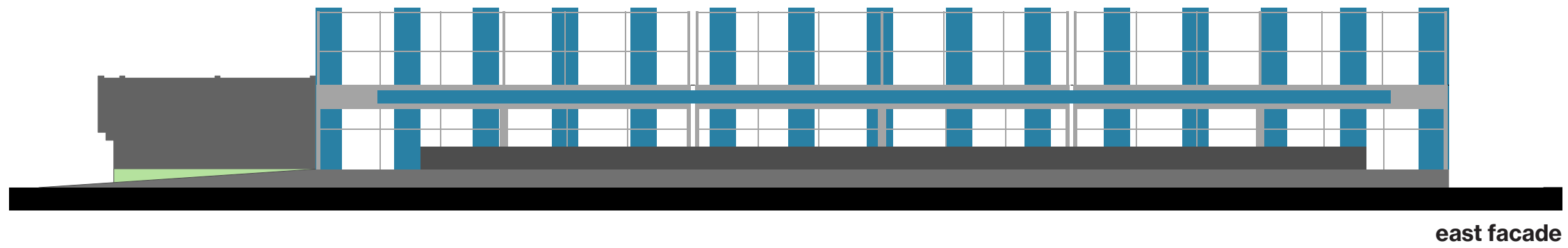
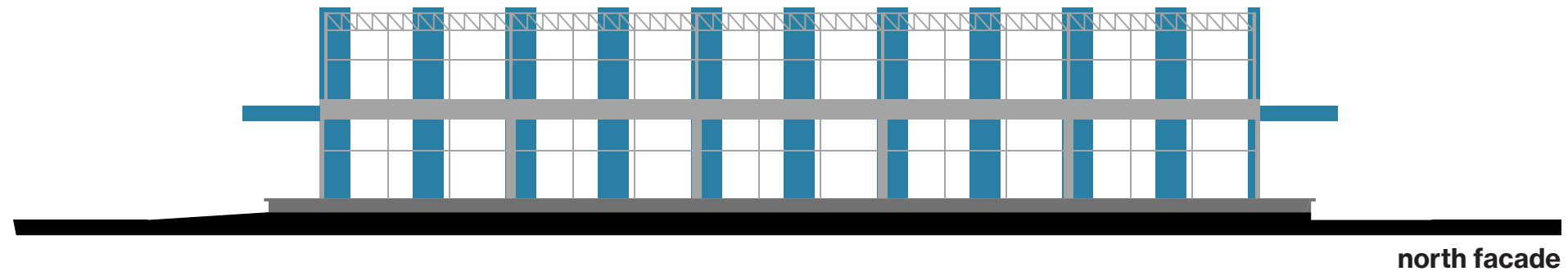
 aluminium profile
 5mm
 xps insulation

 steel L-profile
 110x180x10mm

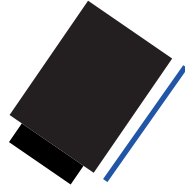
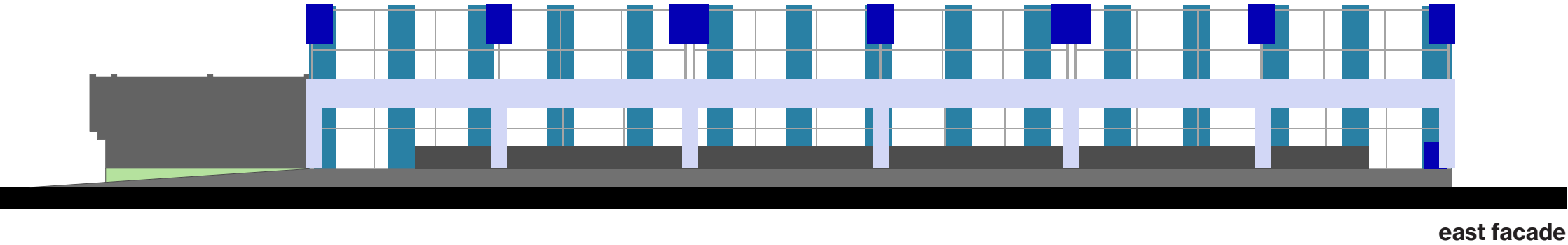
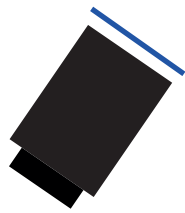
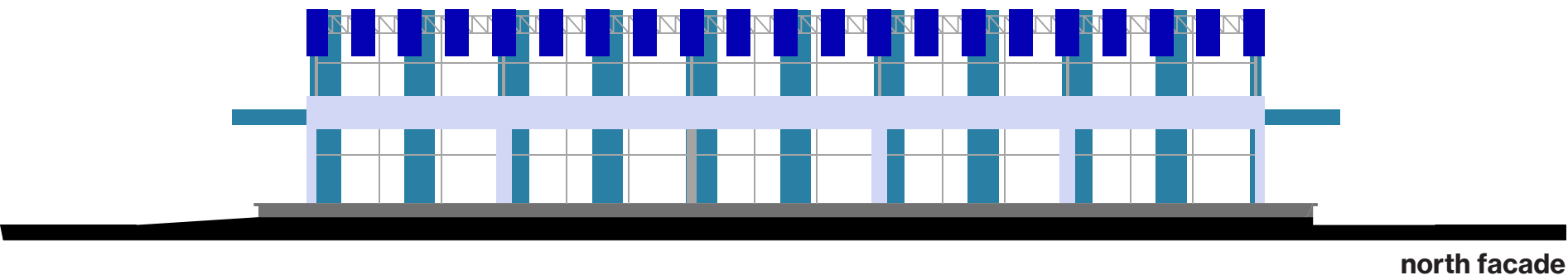


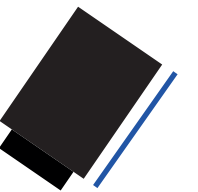
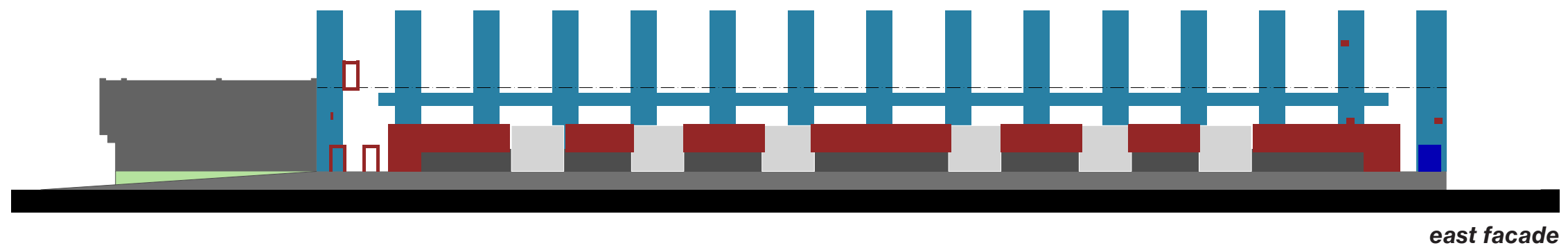
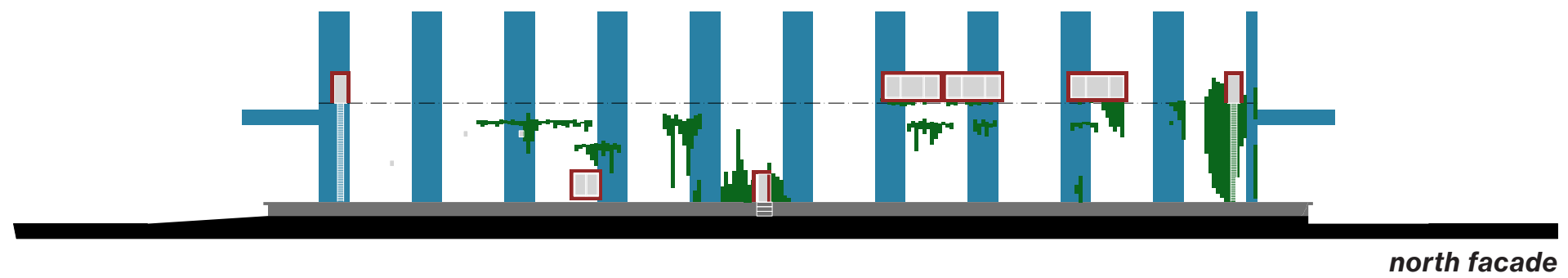
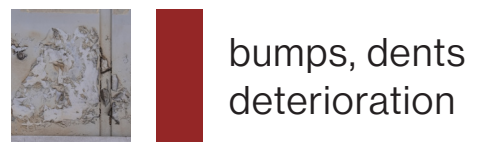


facade 1:33

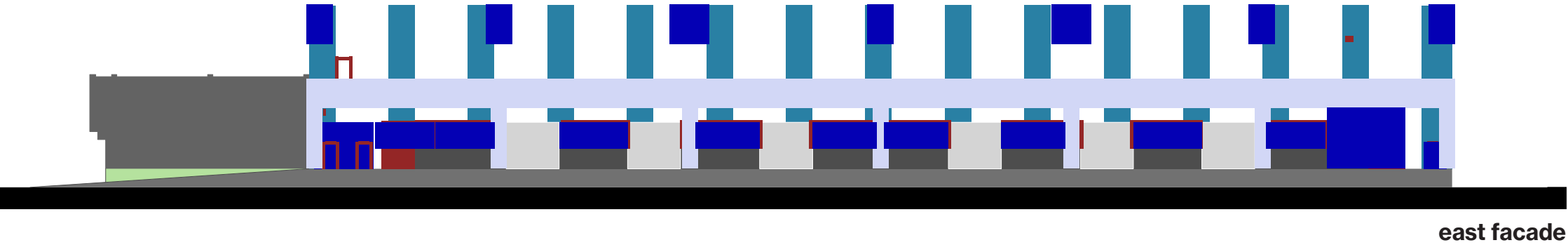
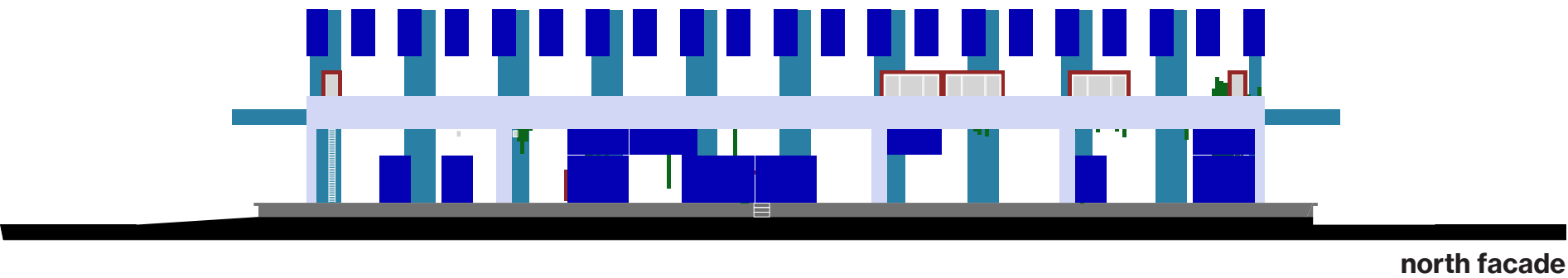


- extruded windows
- extruded metal sheet sandwich

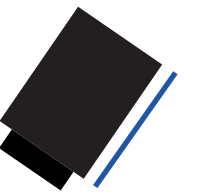
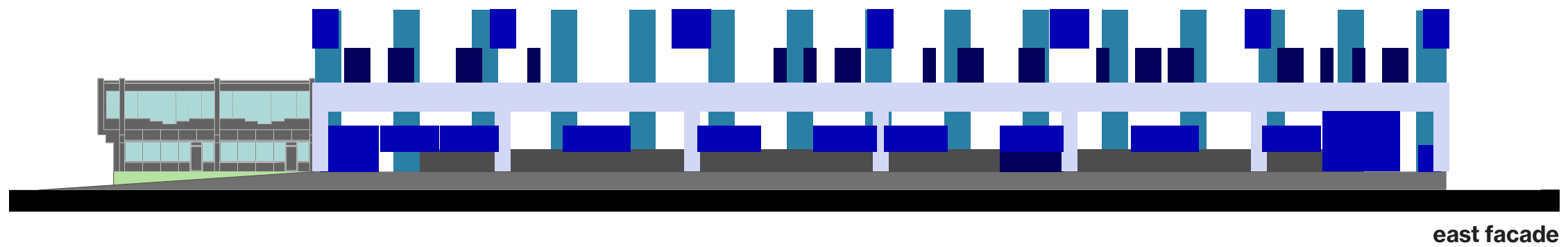
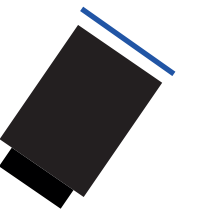
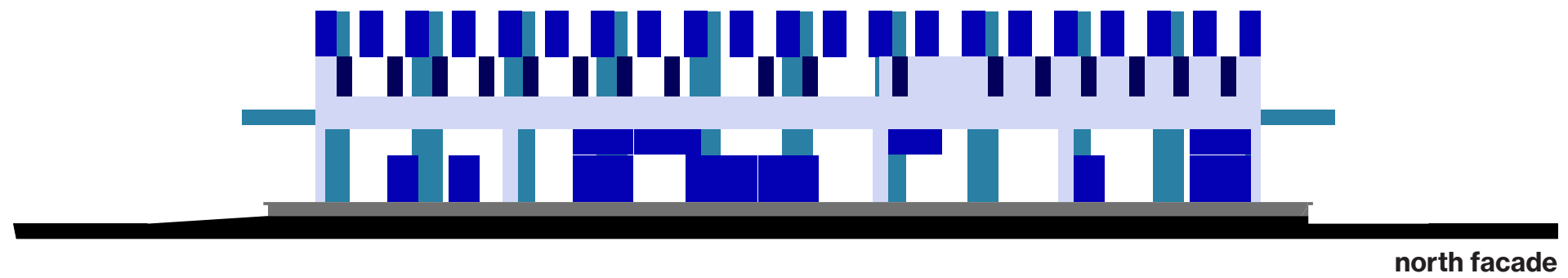




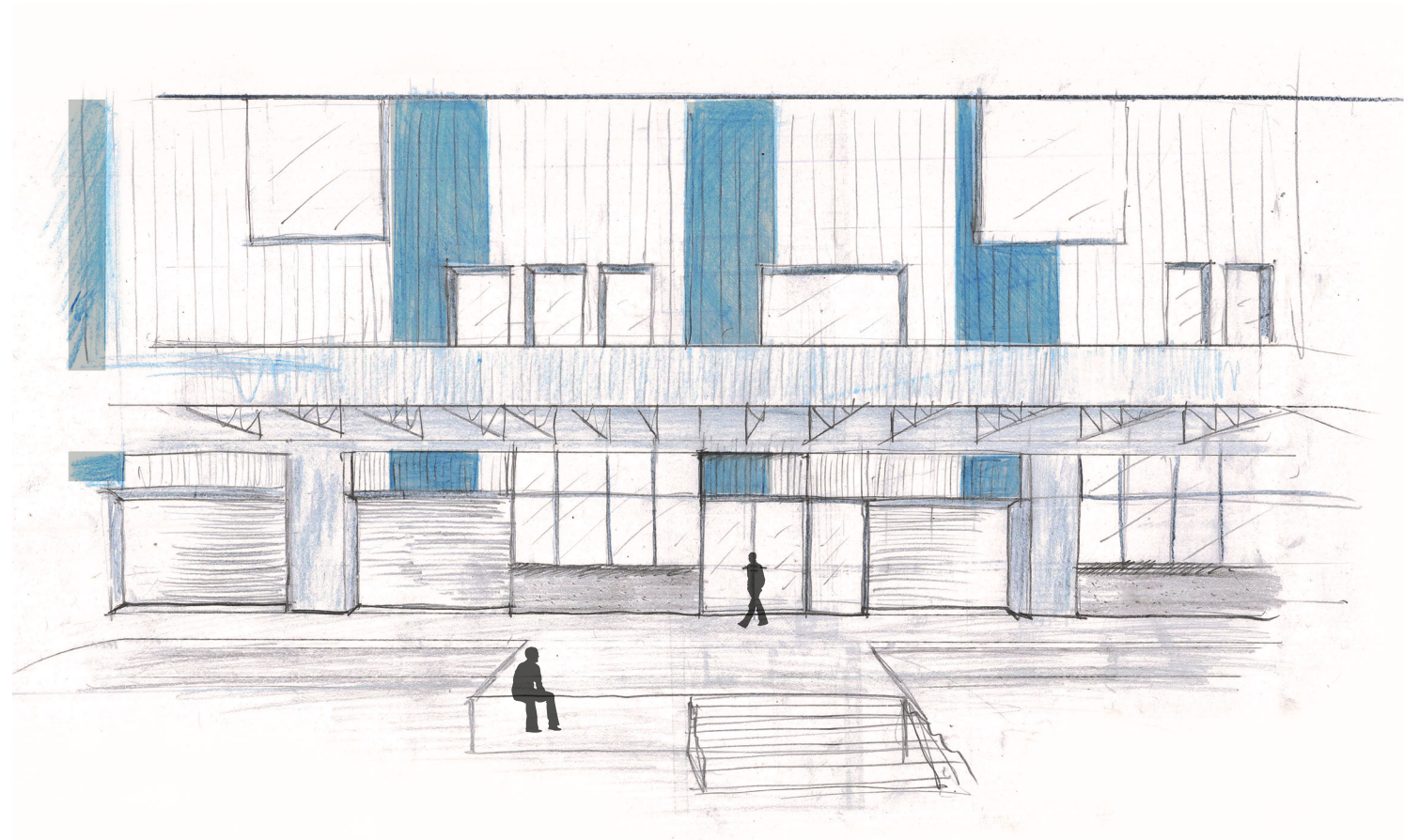
- extruded windows
- extruded metal sheet sandwich



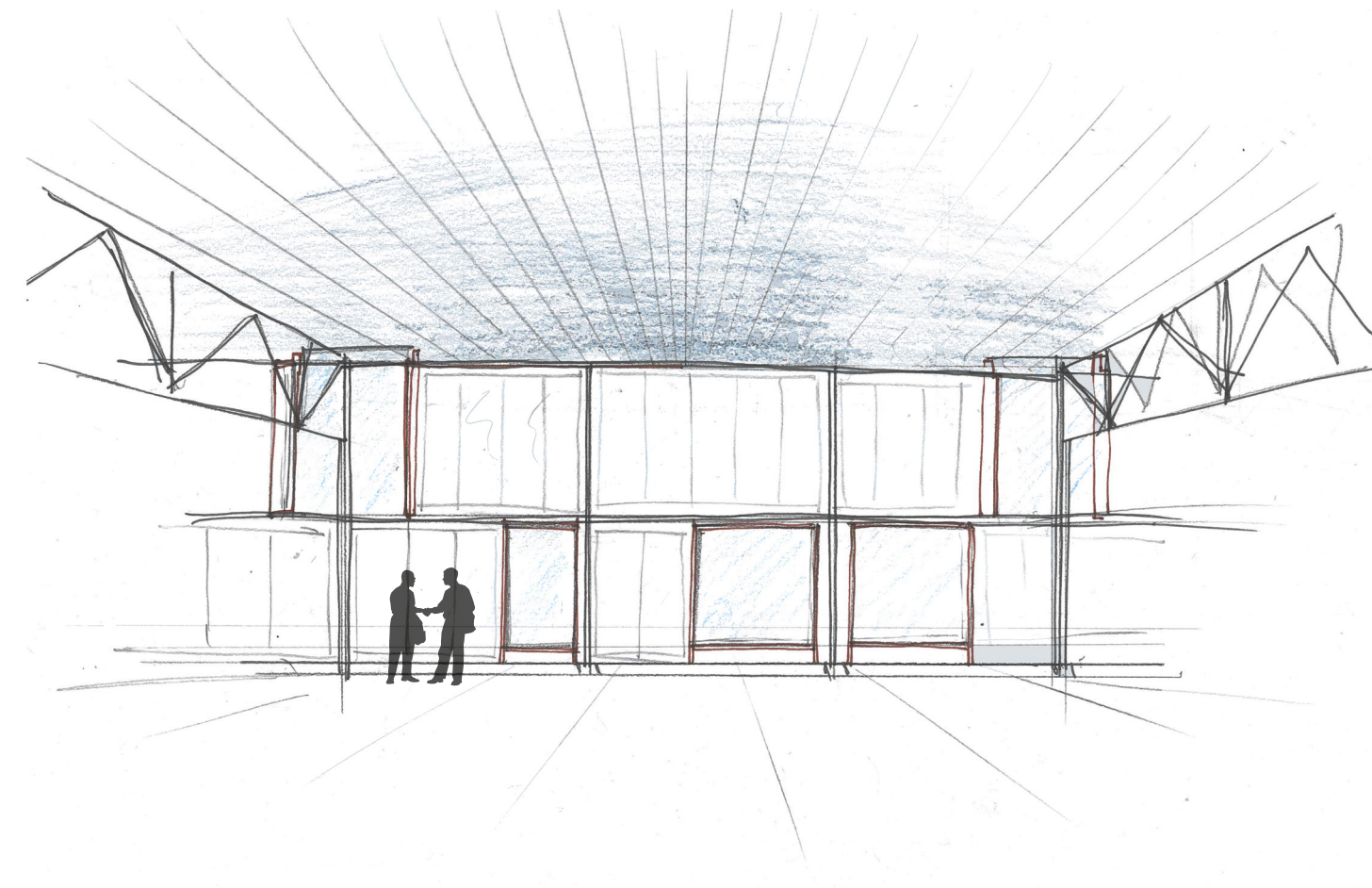
-  extruded windows
-  extruded metal sheet sandwich
-  intruded windows



impression
exterior East
facade



impression
interior facade



facade elevation

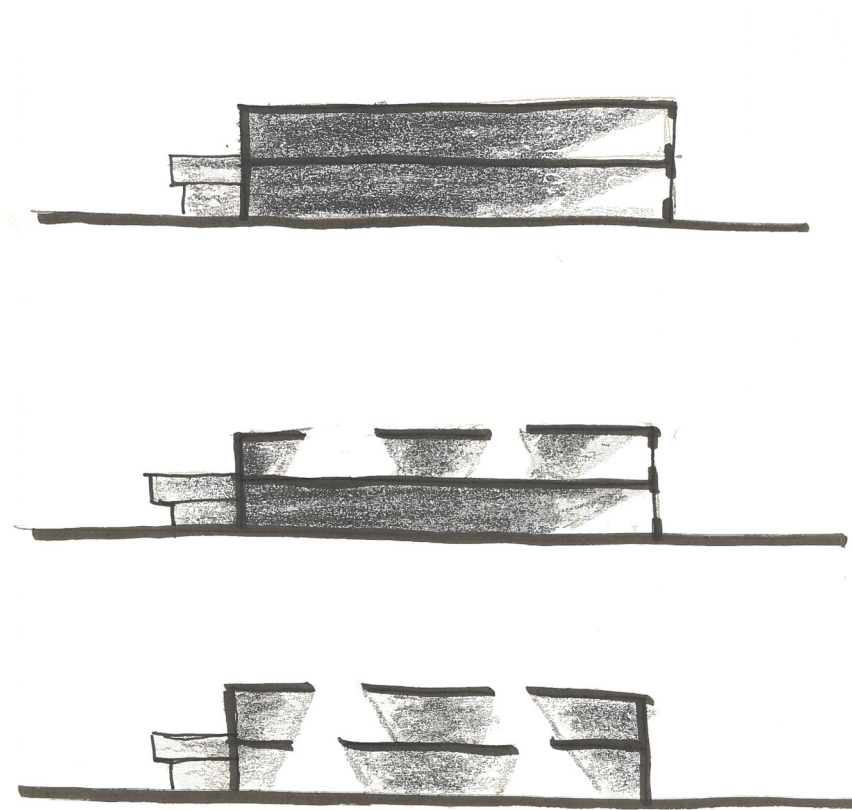
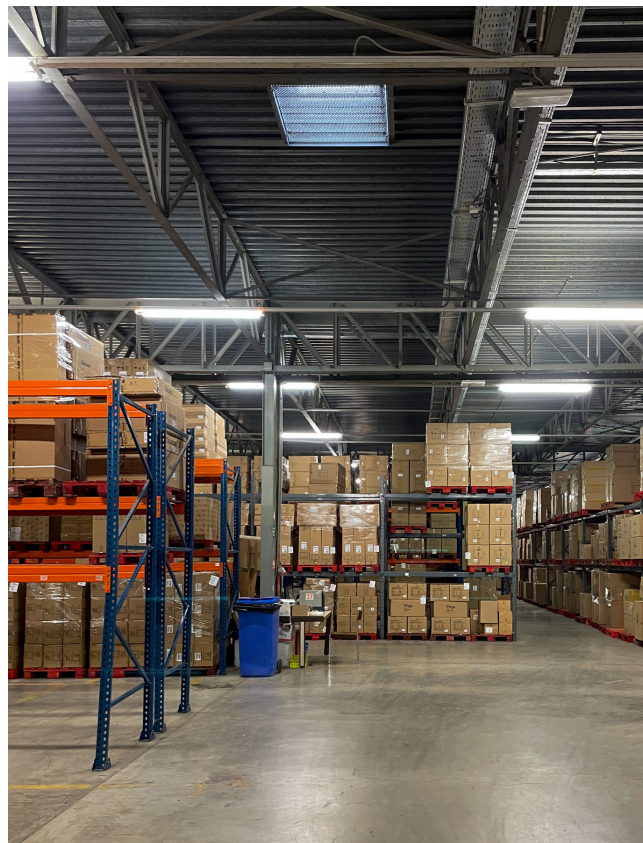
challenges

facade
light
organisation plan

long spans
big plan
high ceiling
robust structure

opportunities

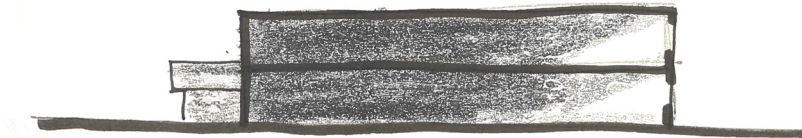
strategy possibilities



1. light from windows

2. **light from roof window**

3. light from roof window through floor



1. light from windows



2. light from roof window



3. **light from roof window
through floor**



a lot of beams

perpendicular
with beams



parallel with
beams

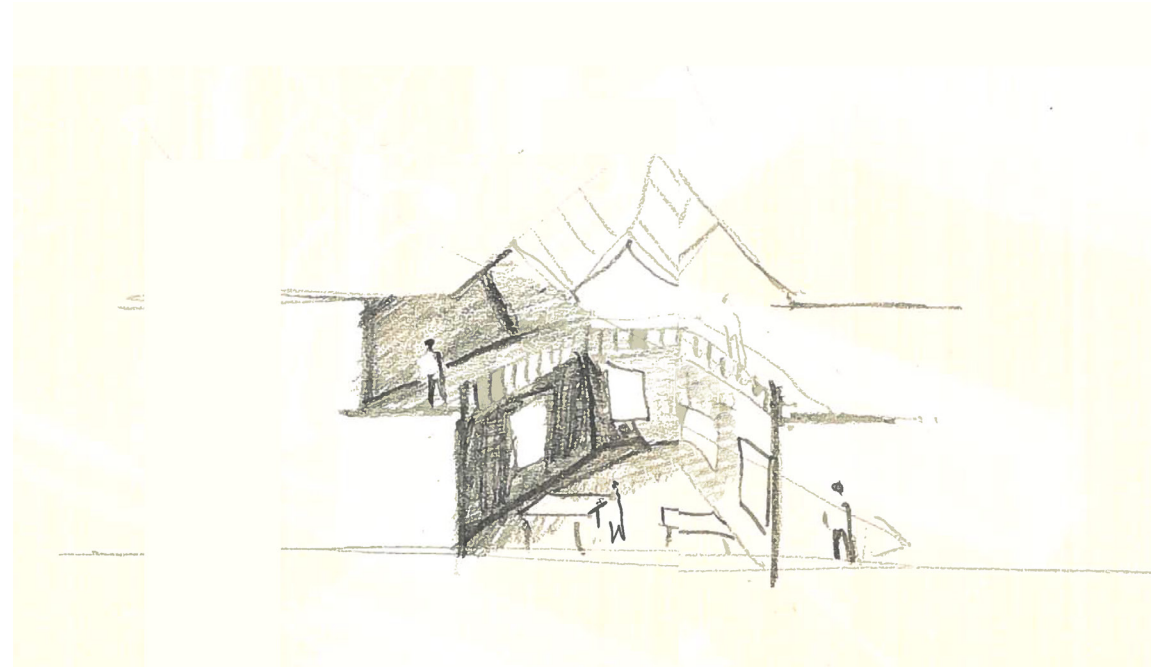


perpendicular
without beams

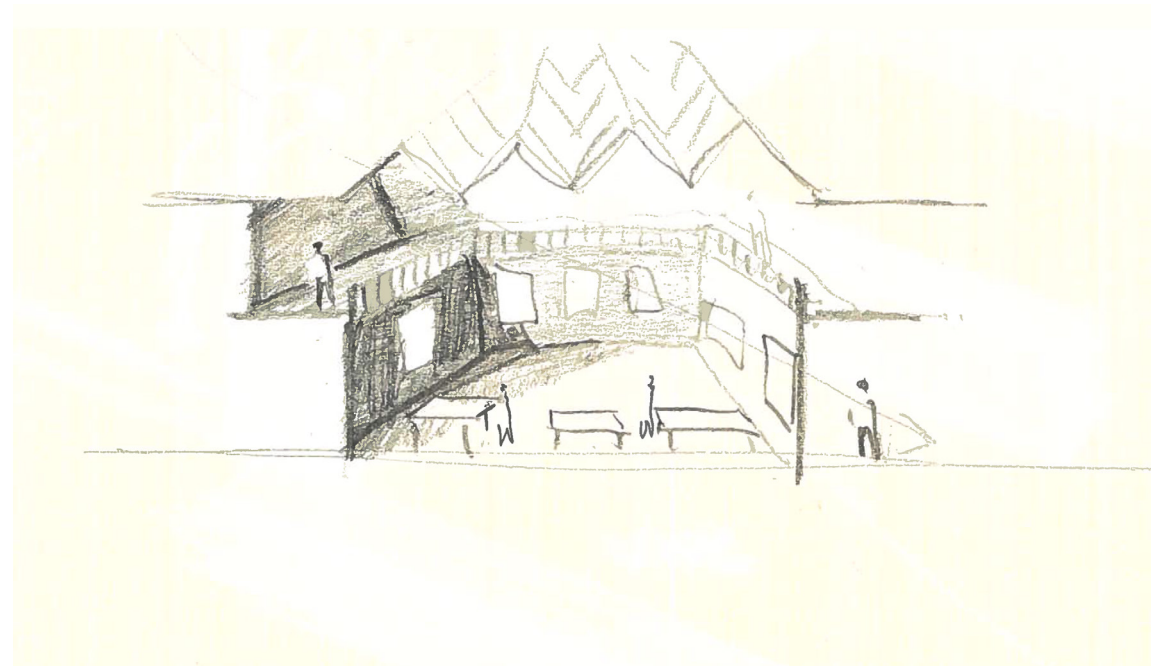


parallel without
beams





roof windows
and floor
openings



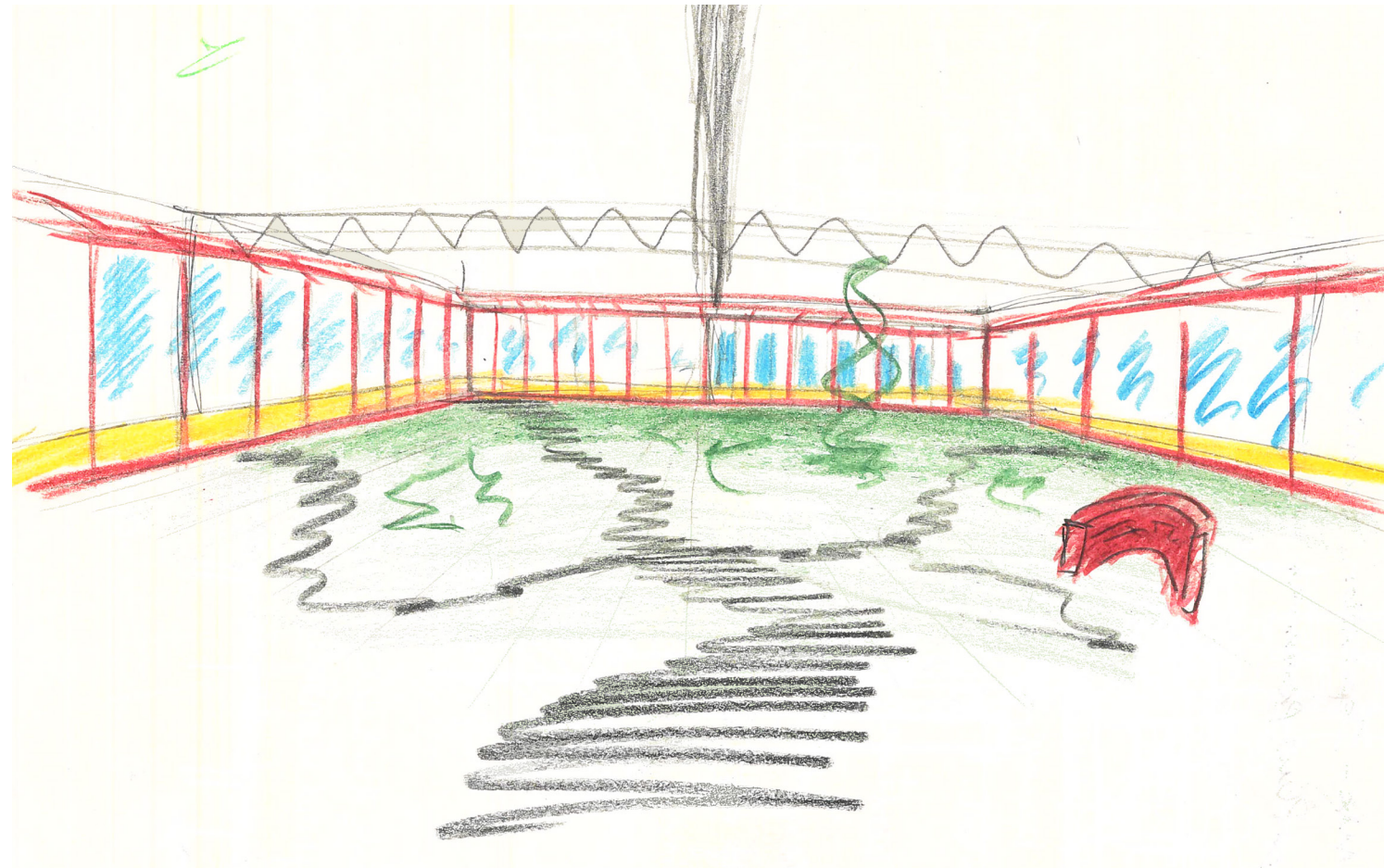
worth it?



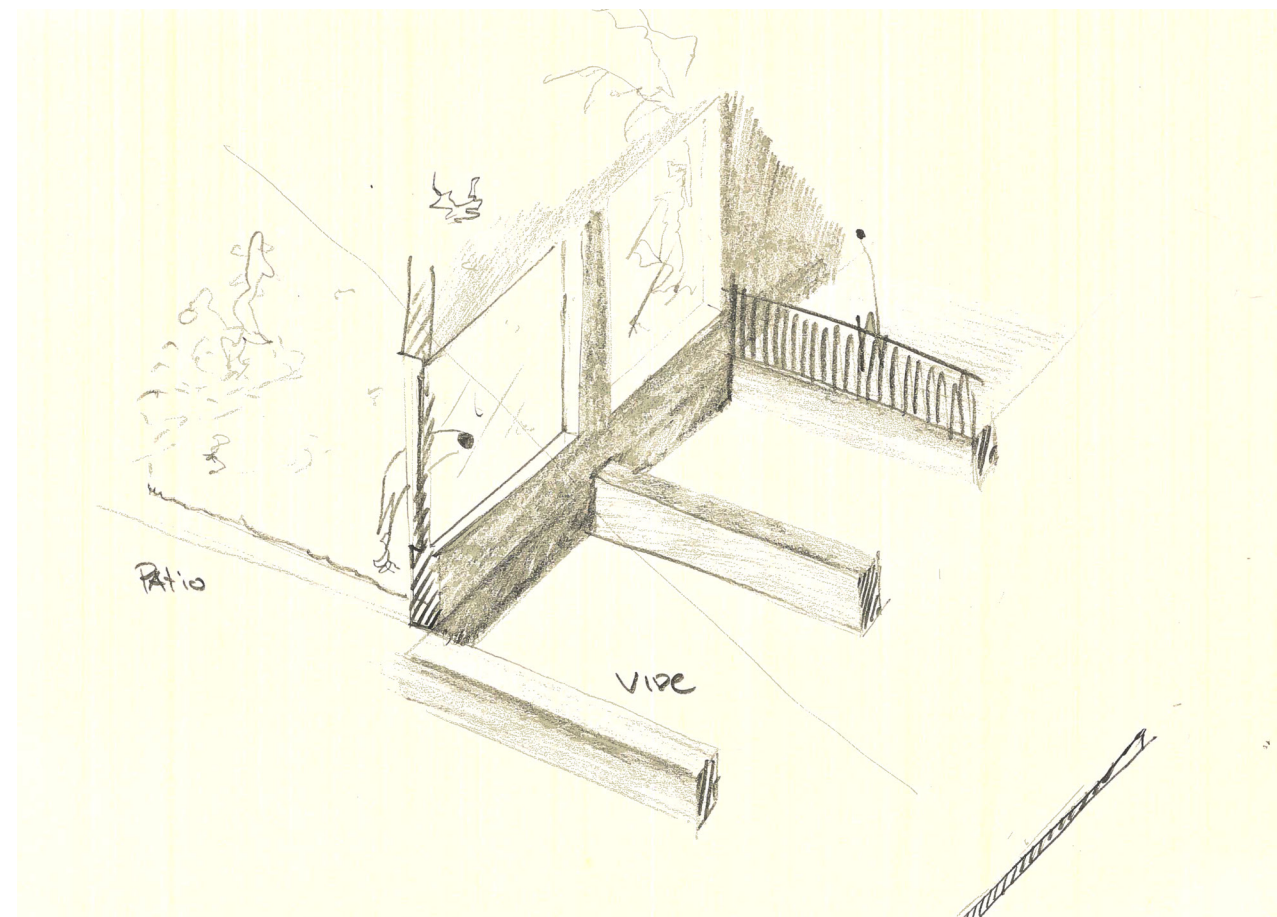
column in the
spotlight



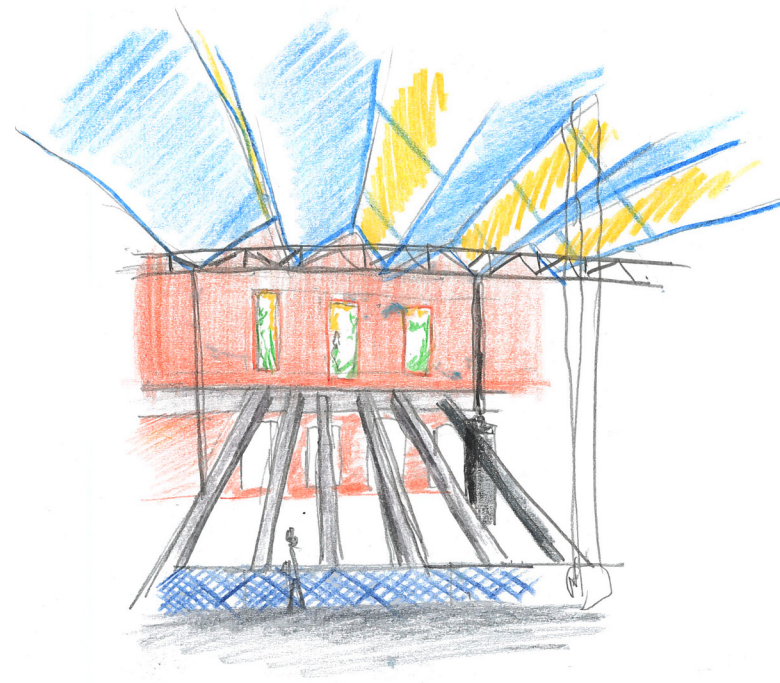
extending the
opening just
over the main
beam lightens up
the ceiling



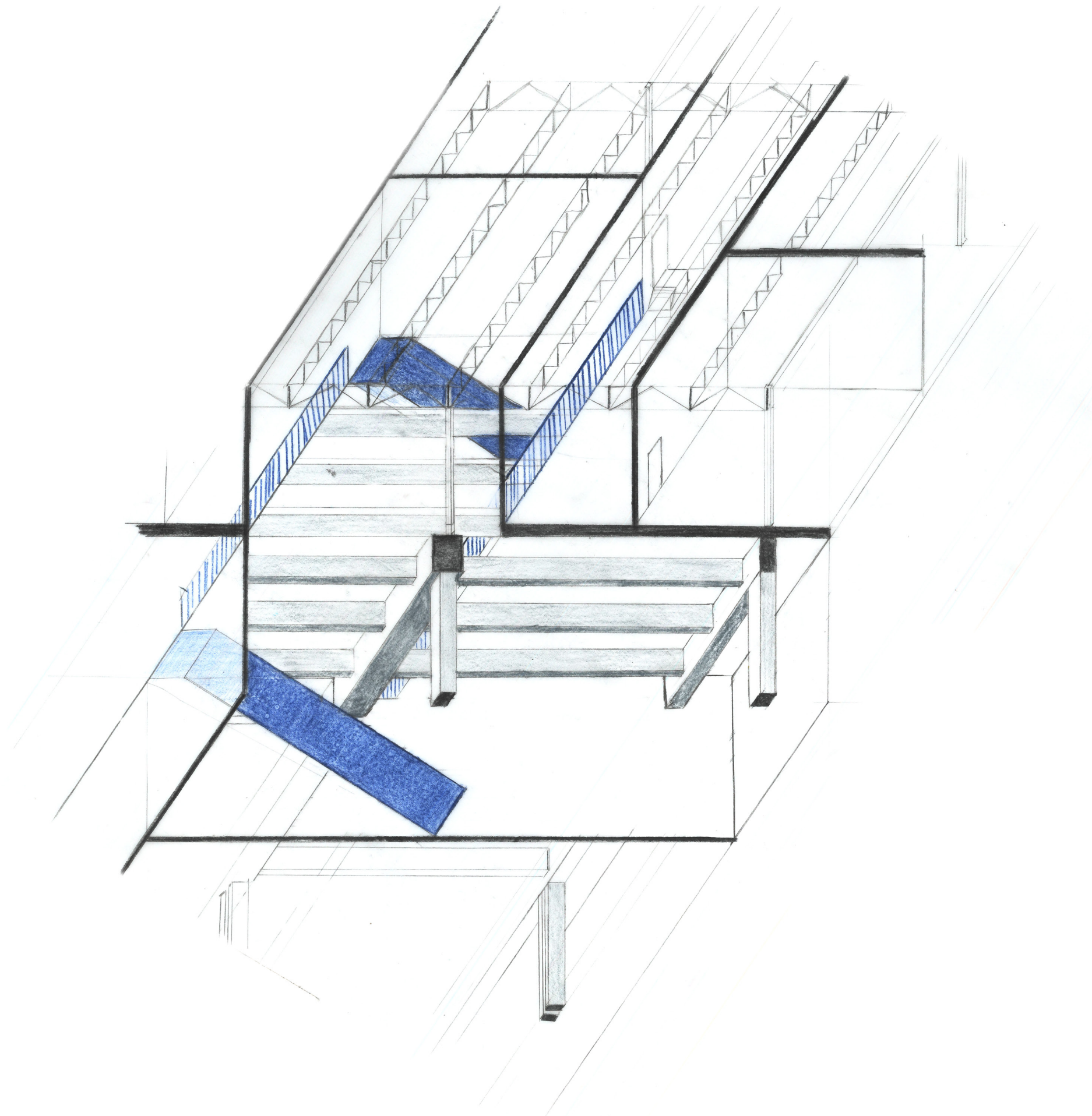
patios provides extra facade to place extra classrooms on the first floor

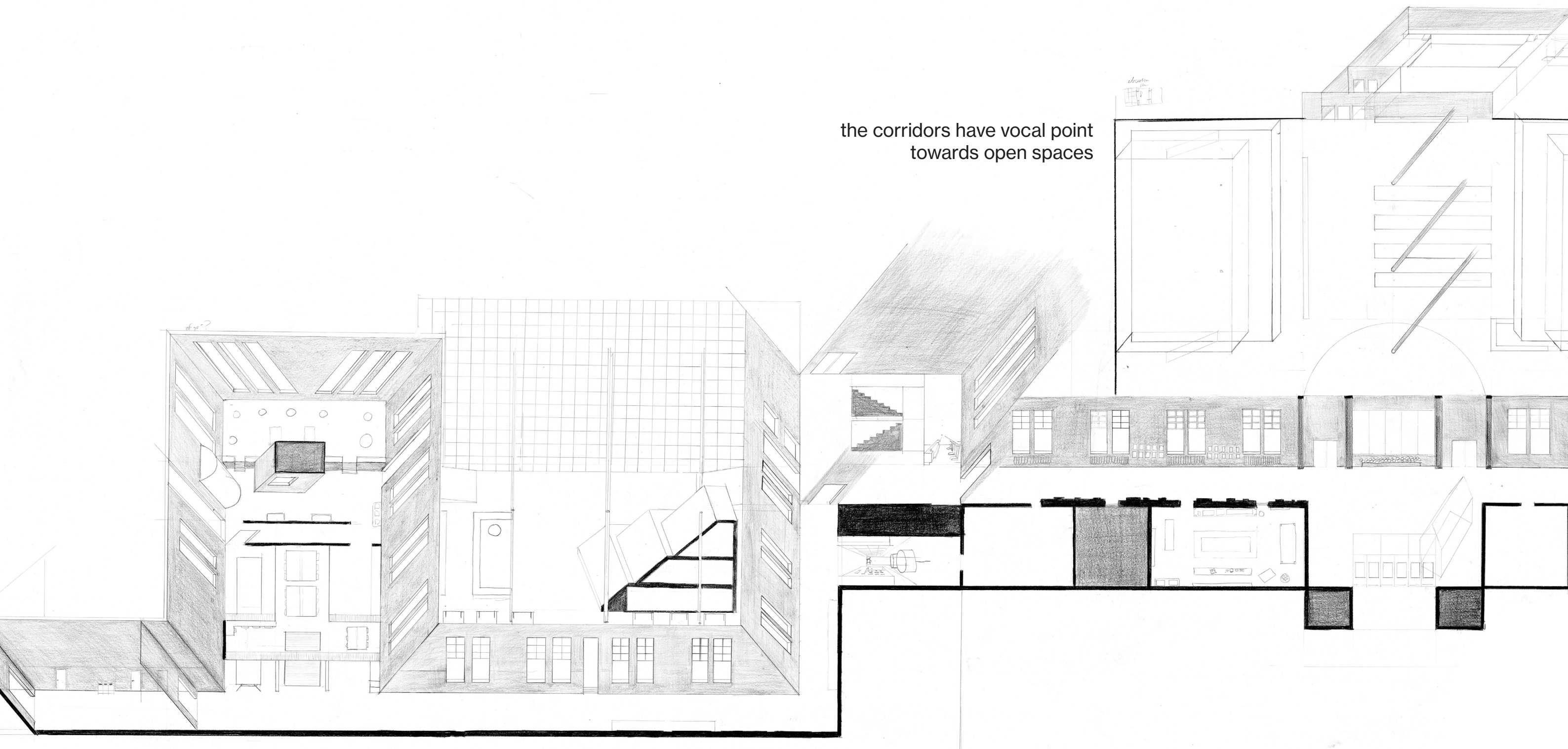


the windows of the patio serve as a roof light for ground floor



combine patio-vide-roof light to
get light deep into the building





the corridors have vocal point
towards open spaces



challenges

facade
light
organisation plan

long spans
big plan
high ceiling
robust structure

opportunities

organisation plan the puzzle

first floor



3 dimensional puzzle
between the ground and
first floor

red: core/service

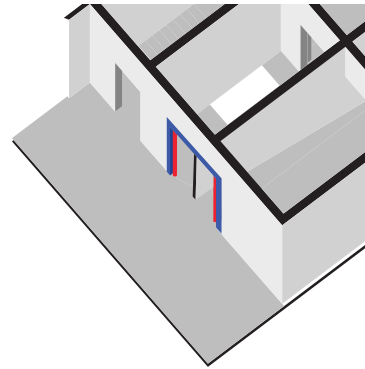
grey: classroom

white: corridor

blue: stair/bridge

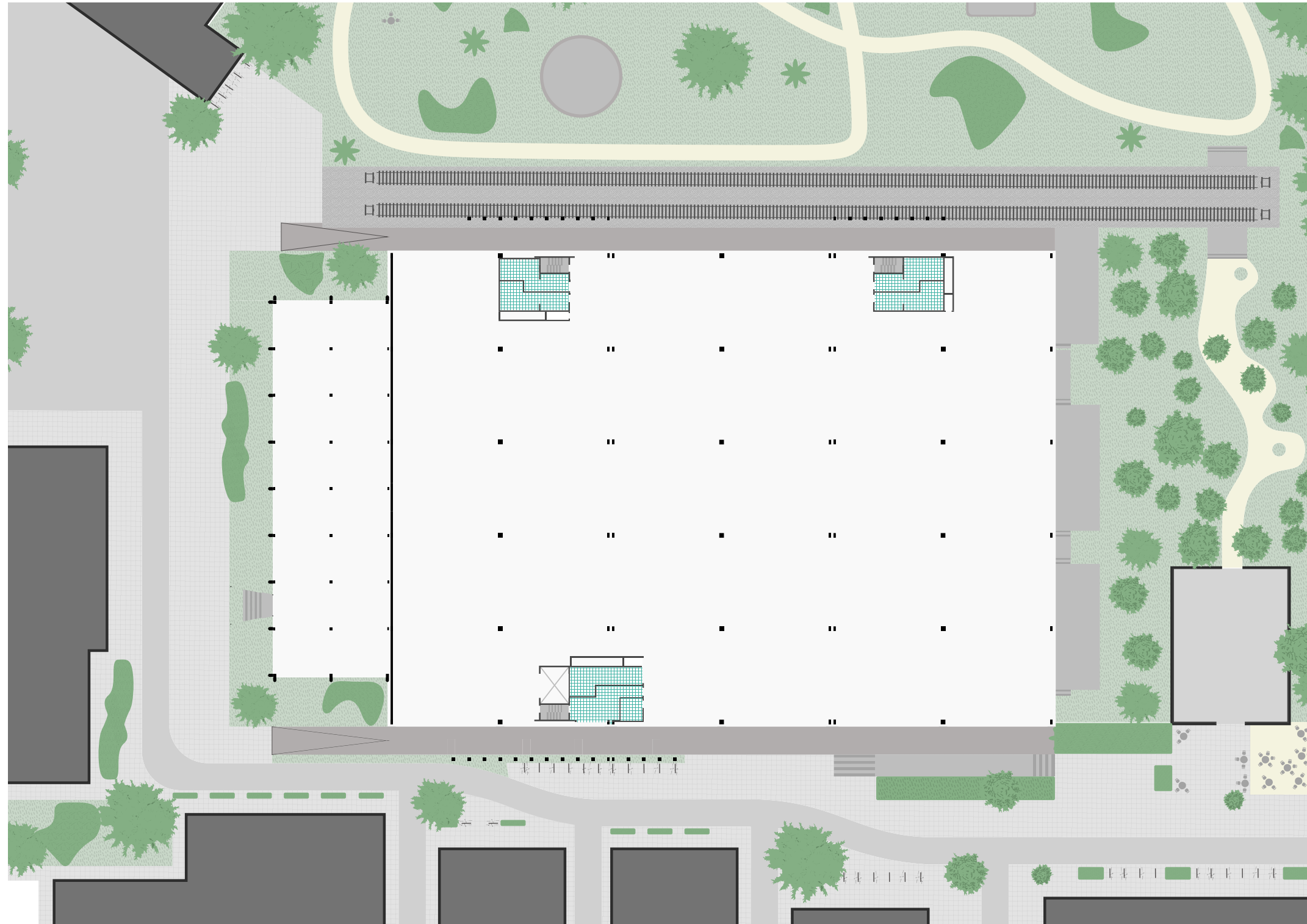
brown: patio

(not final design)



ground floor

north

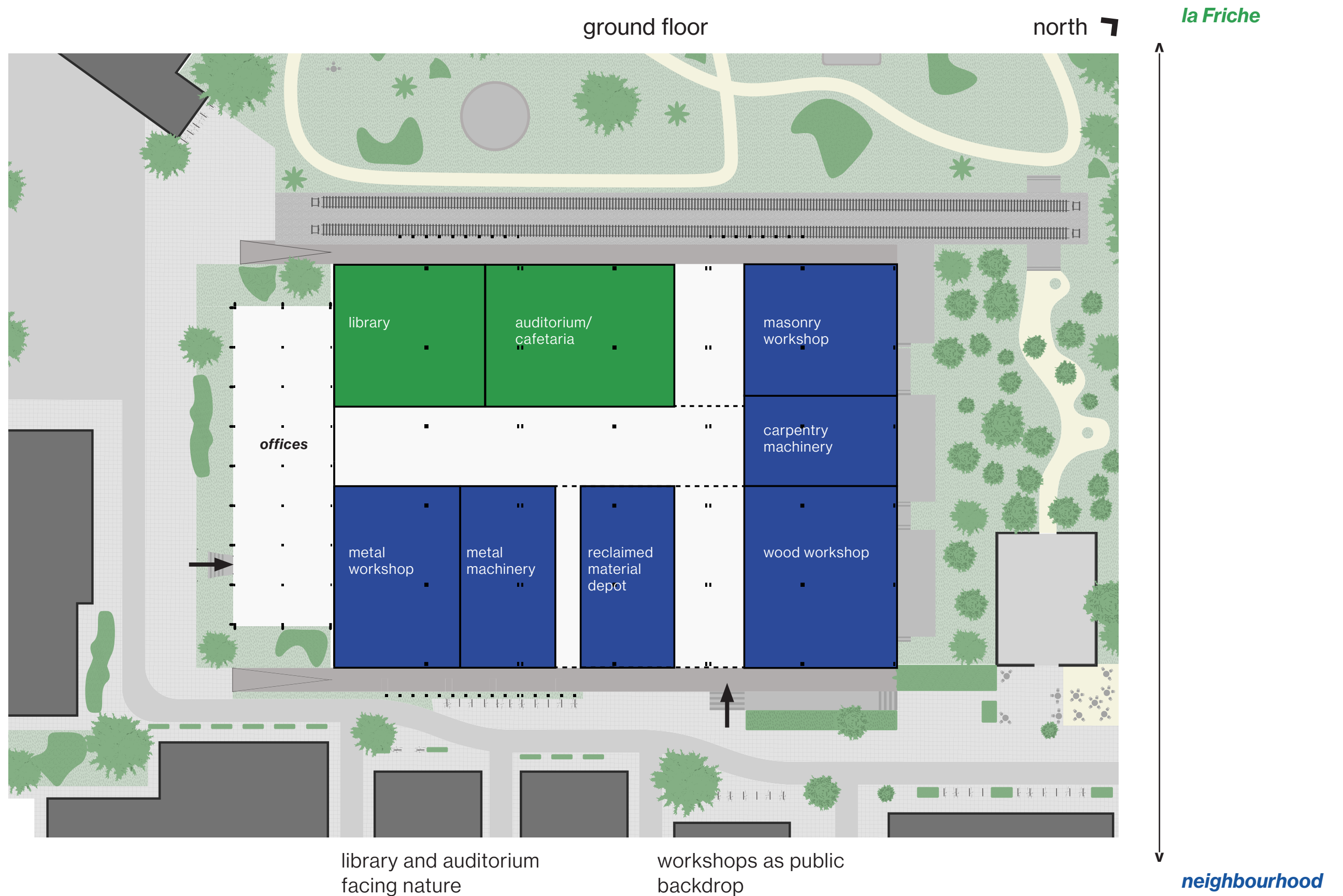


la friche

neighbourhood

open plan

organisation plan cores



ground floor

north 



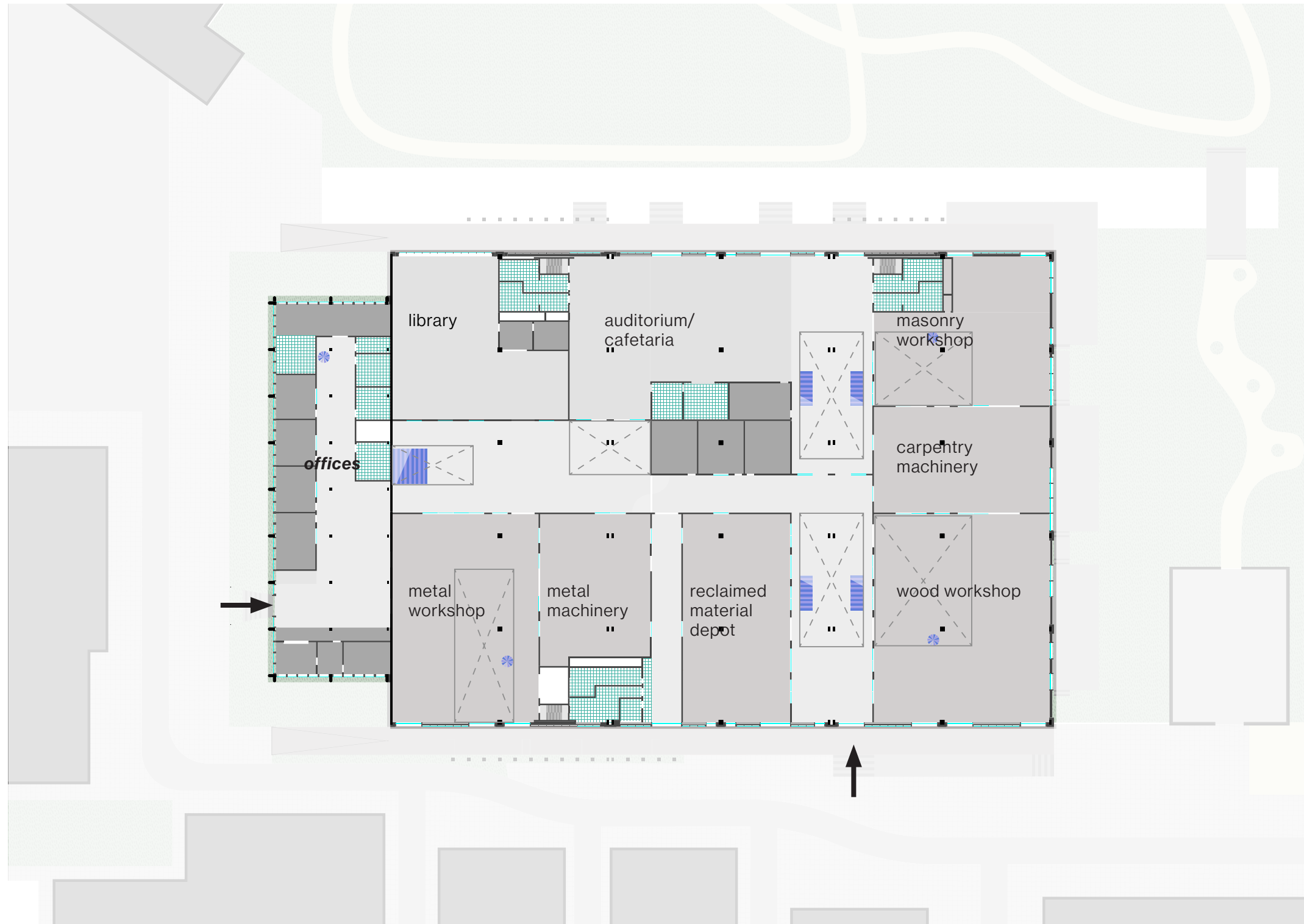
connect office and
warehouse

material depot at entrance

organisation plan circulation

ground floor

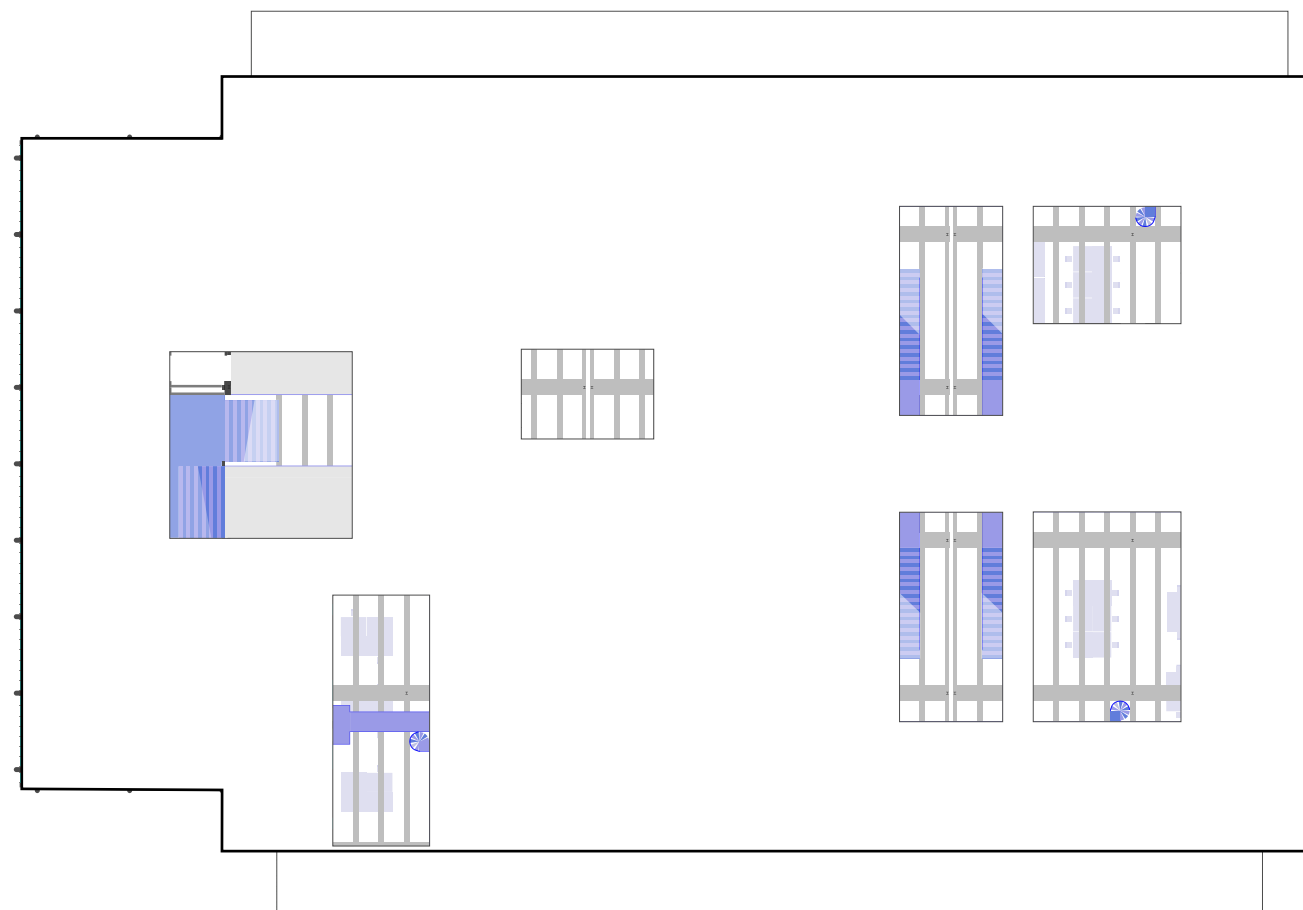
north 



above workshops & corridors

first floor

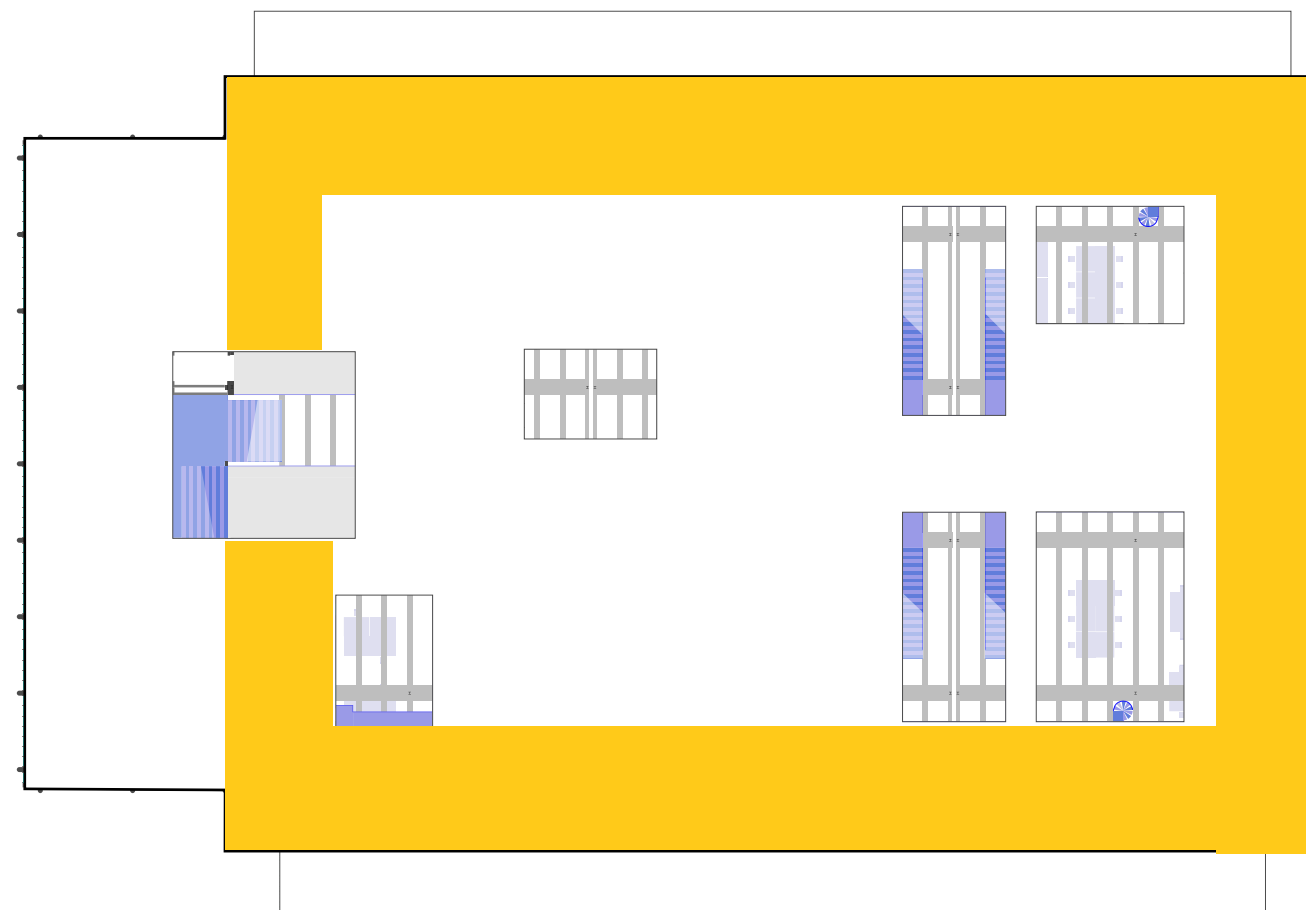
north 



floor opening

first floor

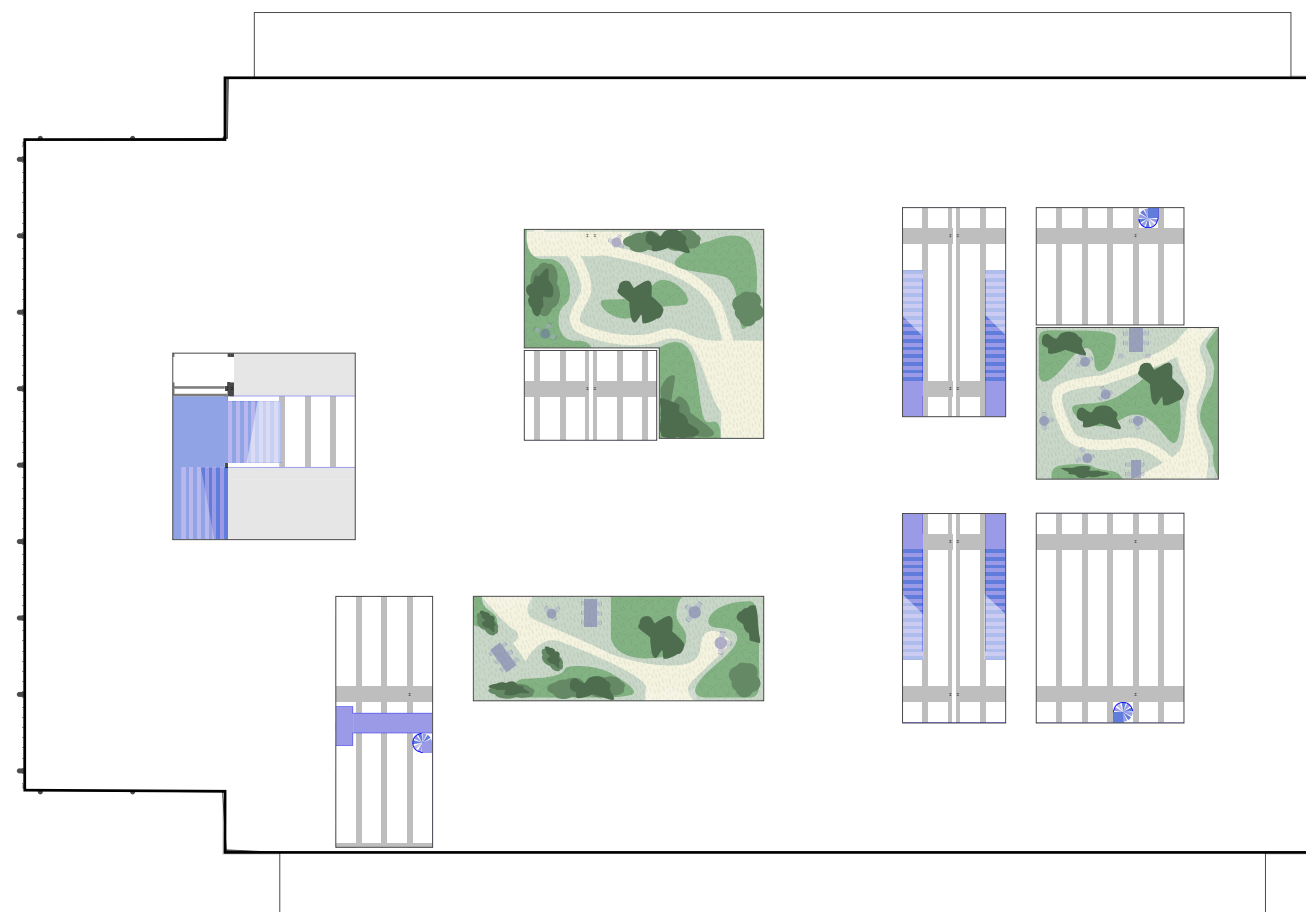
north 



distance from facade

first floor

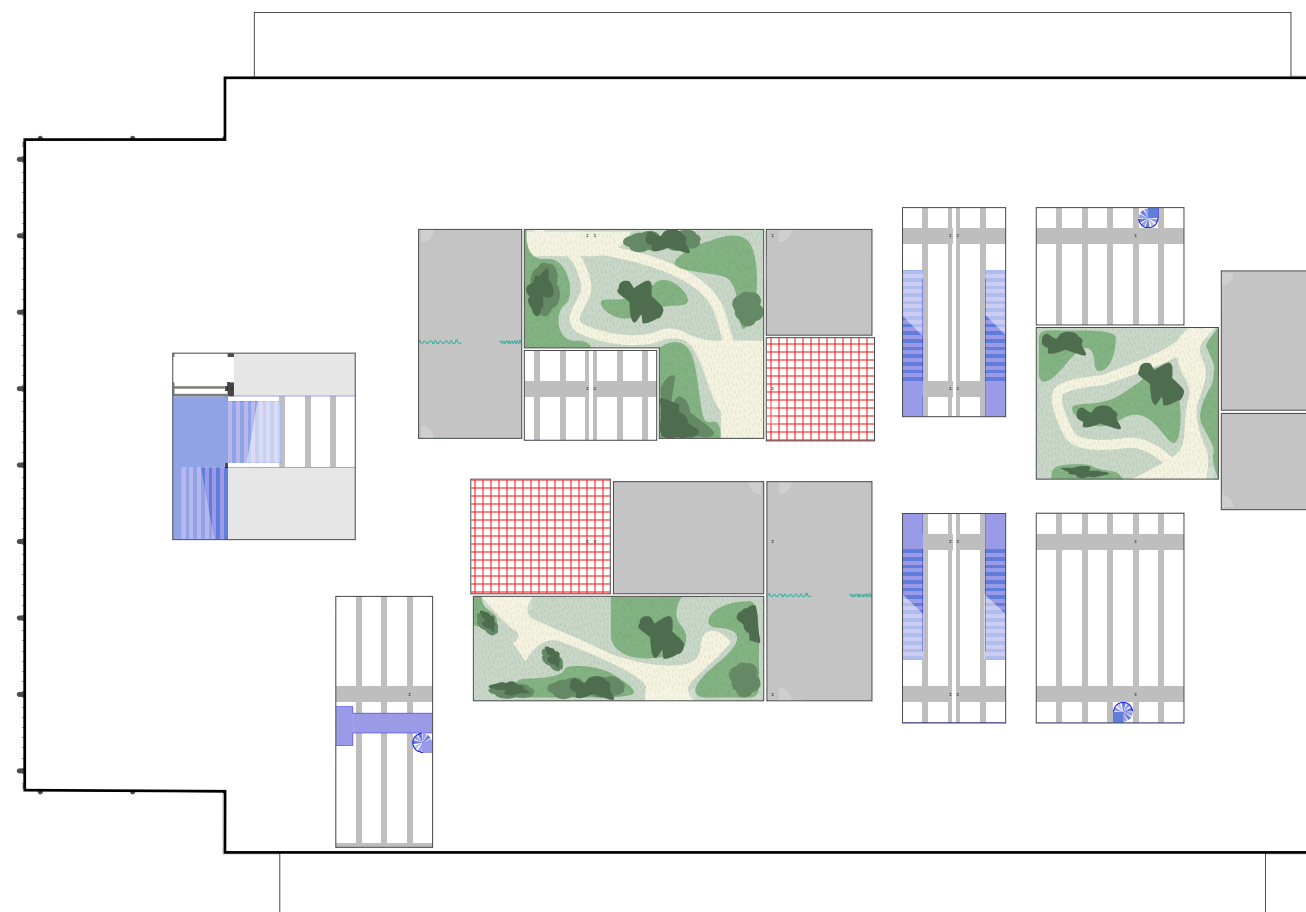
north 



vide - patio

first floor

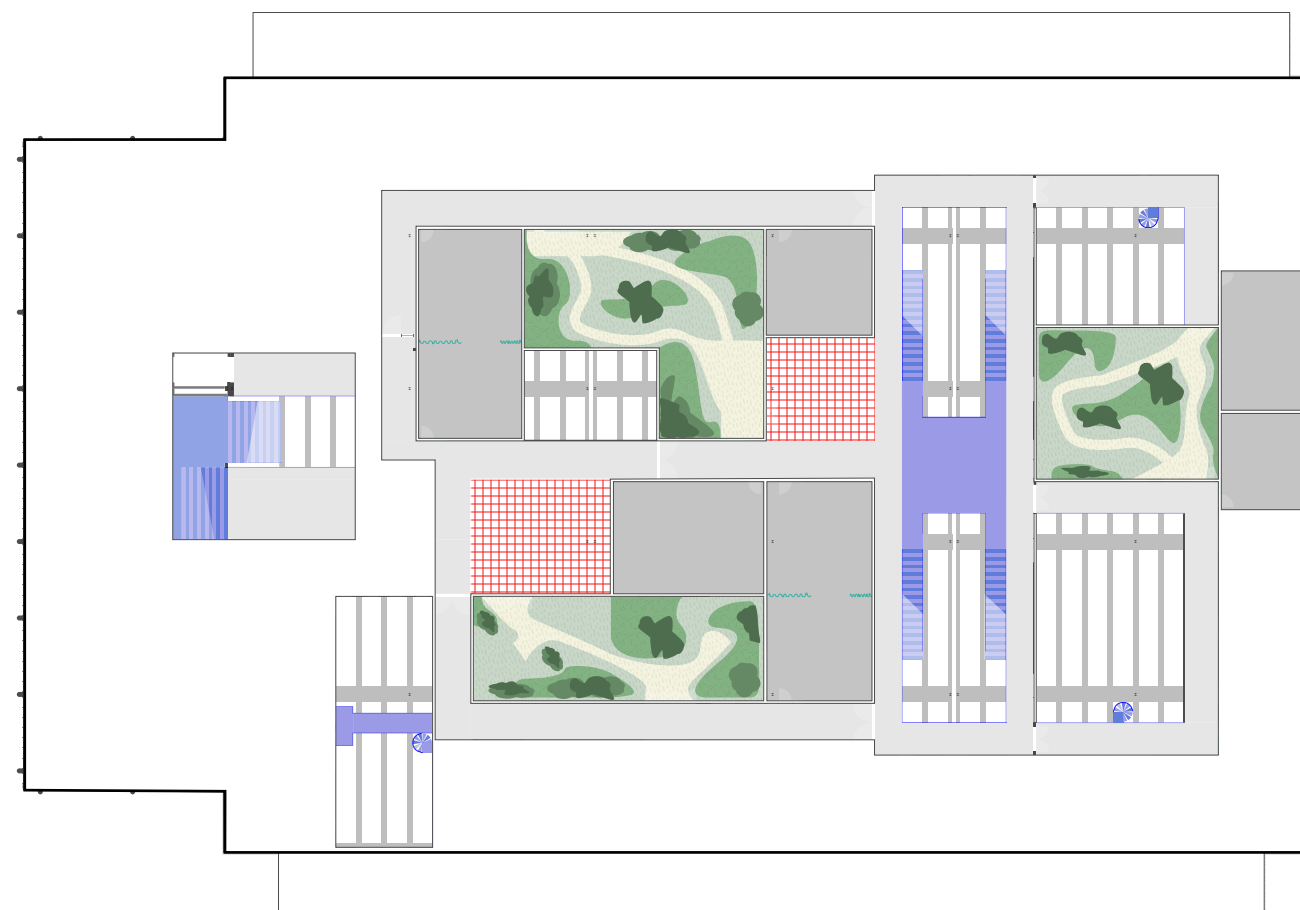
north 



vide - patio - classrooms

first floor

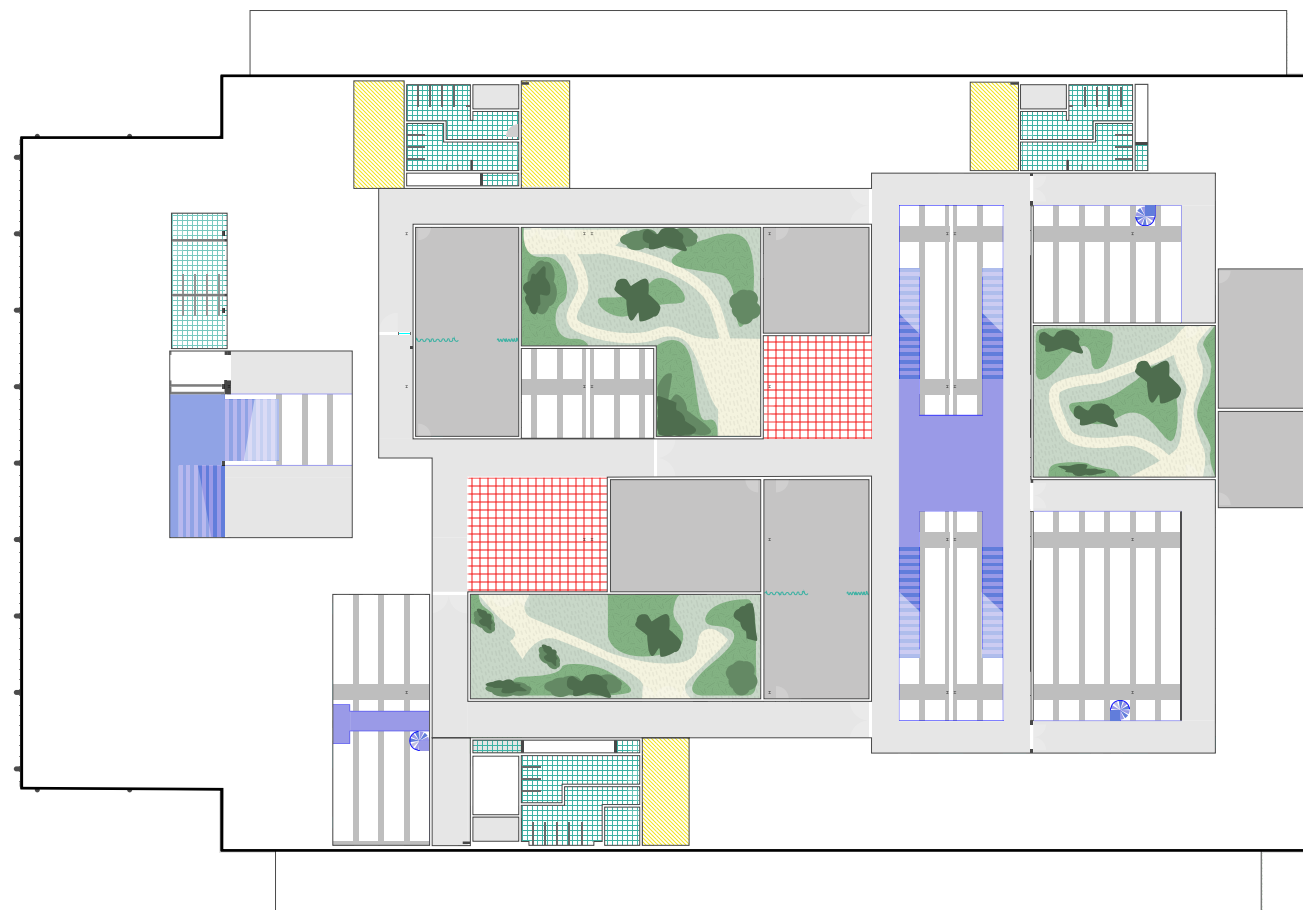
north 



vide - patio - classrooms - corridor

first floor

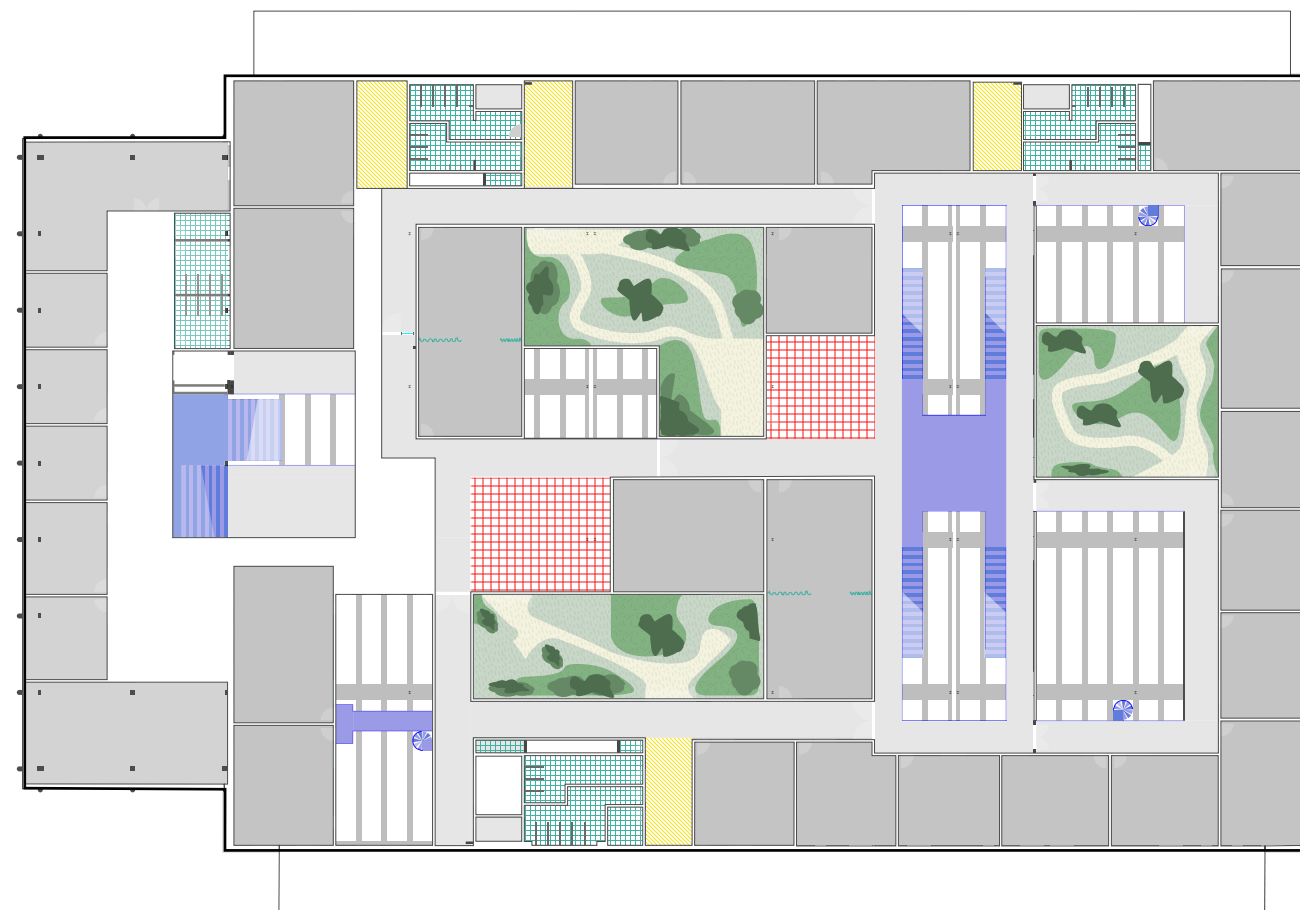
north 



vide - patio - classrooms - corridor - cores

first floor

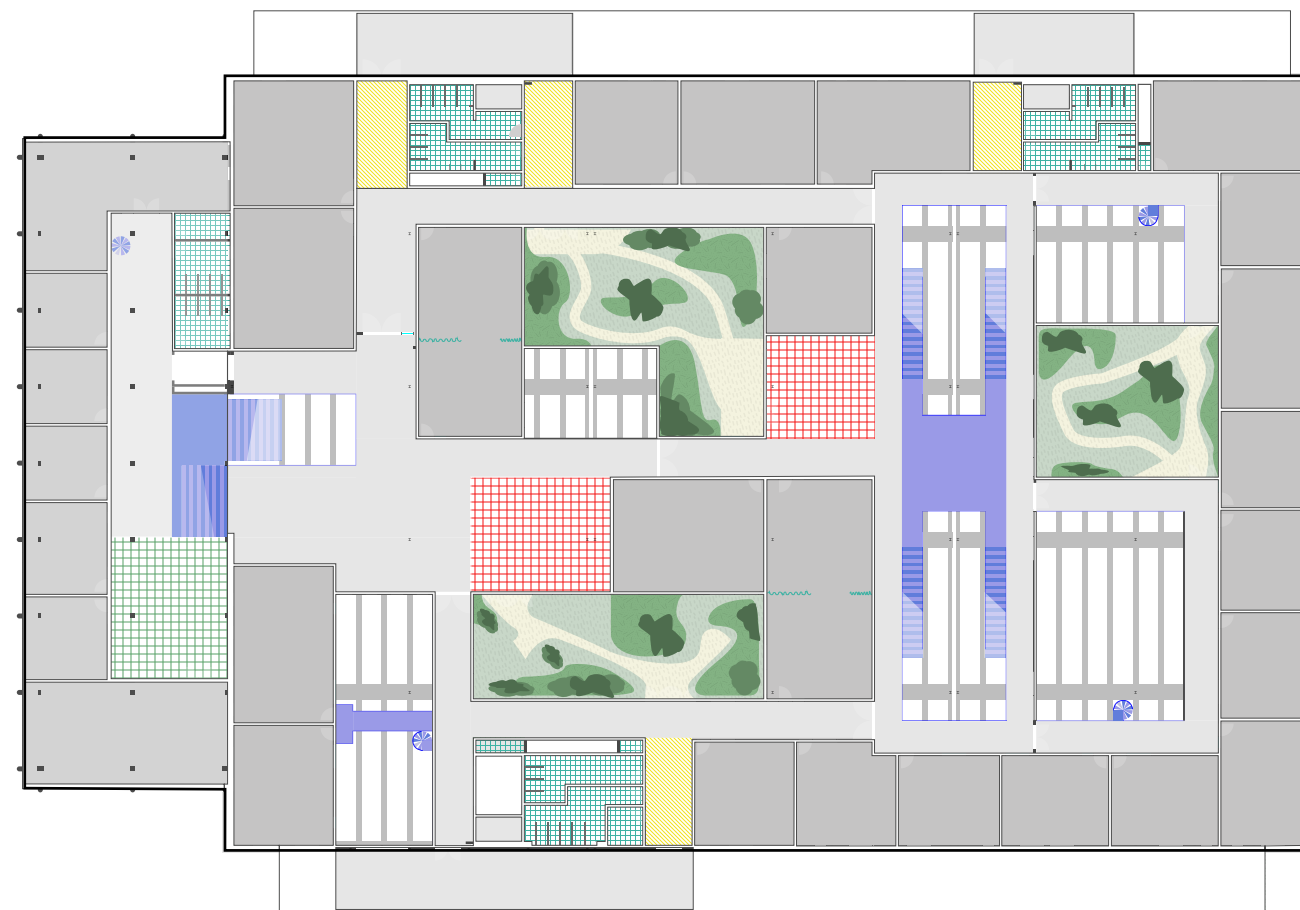
north 



vide - patio - classrooms - corridor - cores - classrooms

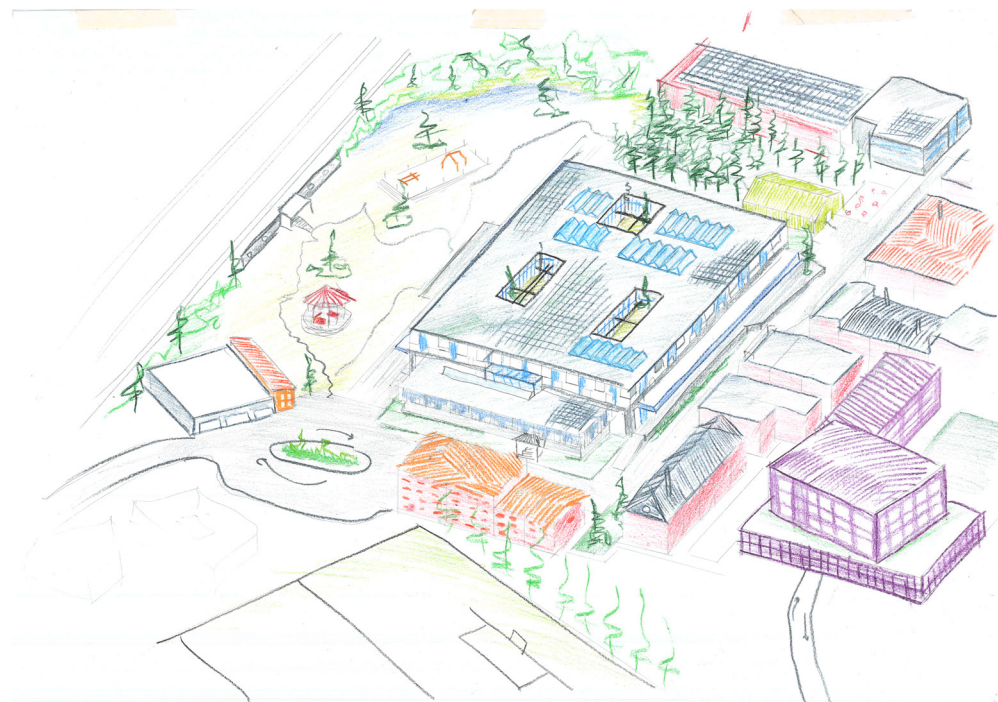
first floor

north 



vide - patio - classrooms - corridor - cores - classrooms - the rest

context

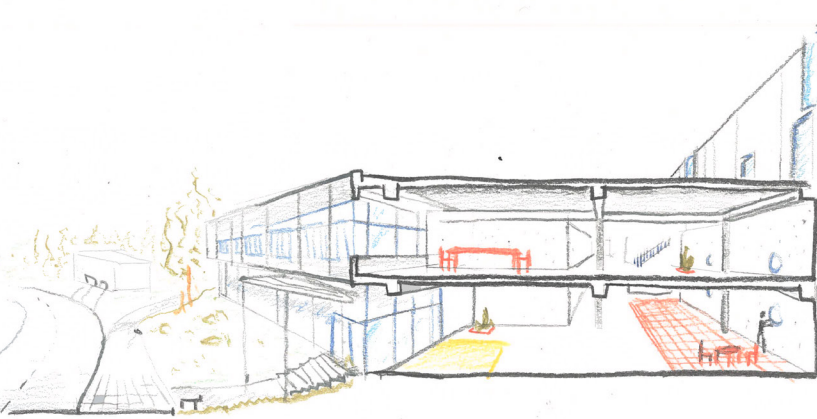


neighbours

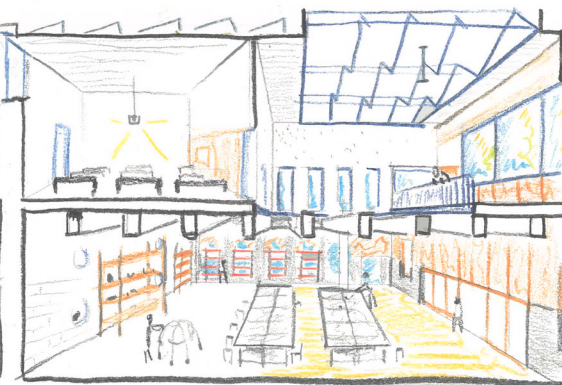


street

entrance



classroom



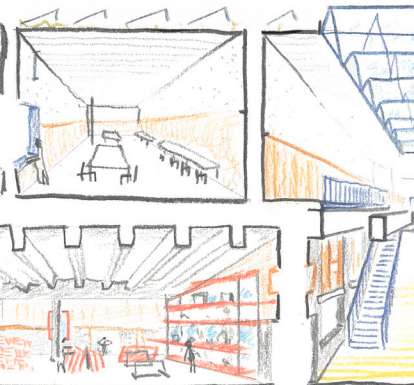
metal workshop

patio



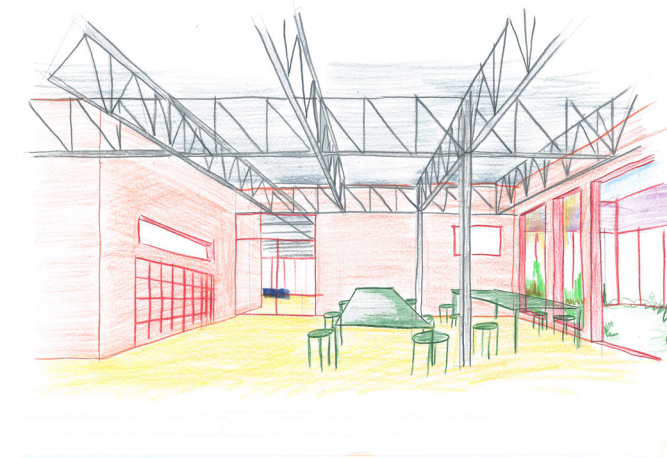
metal machinery

classroom



material depot





patio



break-out



classroom

patio

classroom

classroom



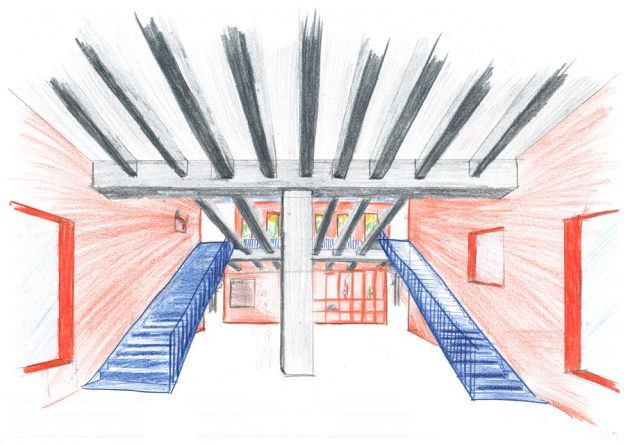
entrance

metal workshop

metal machinery

material depot

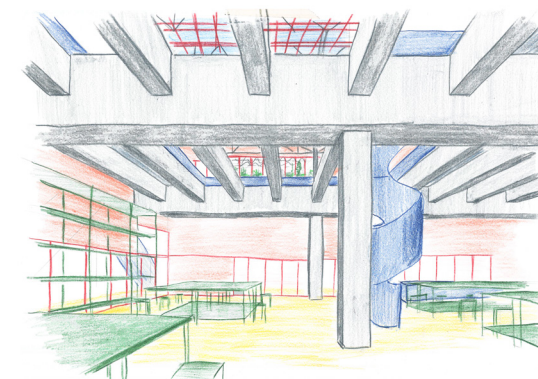
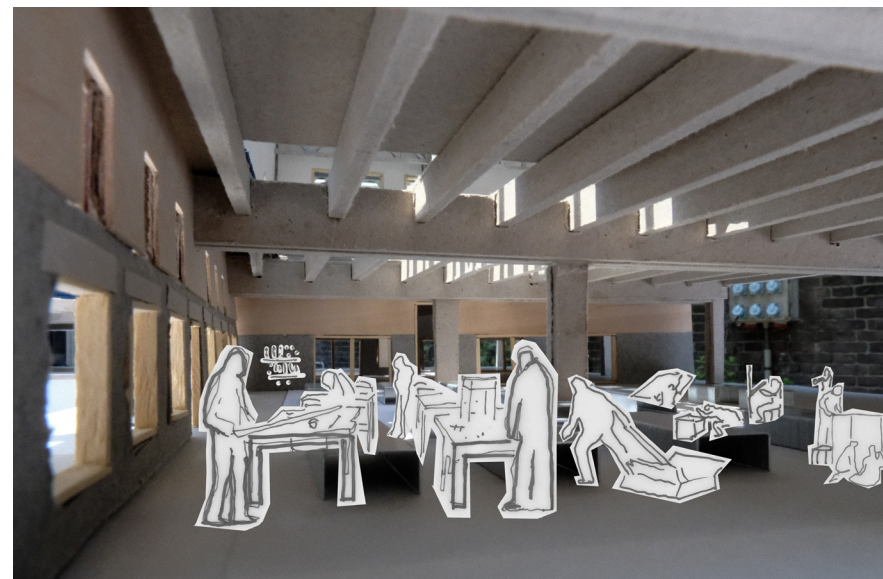
material depot



entrance



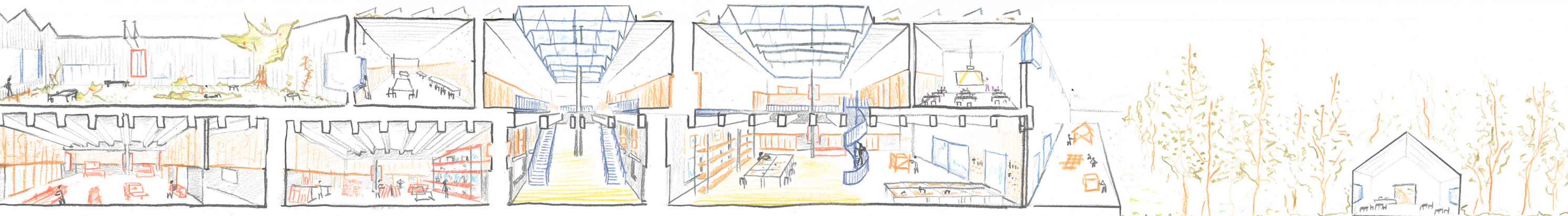
carpentry workshop



atio

classroom

classroom



etal machinery

material depot

entrance

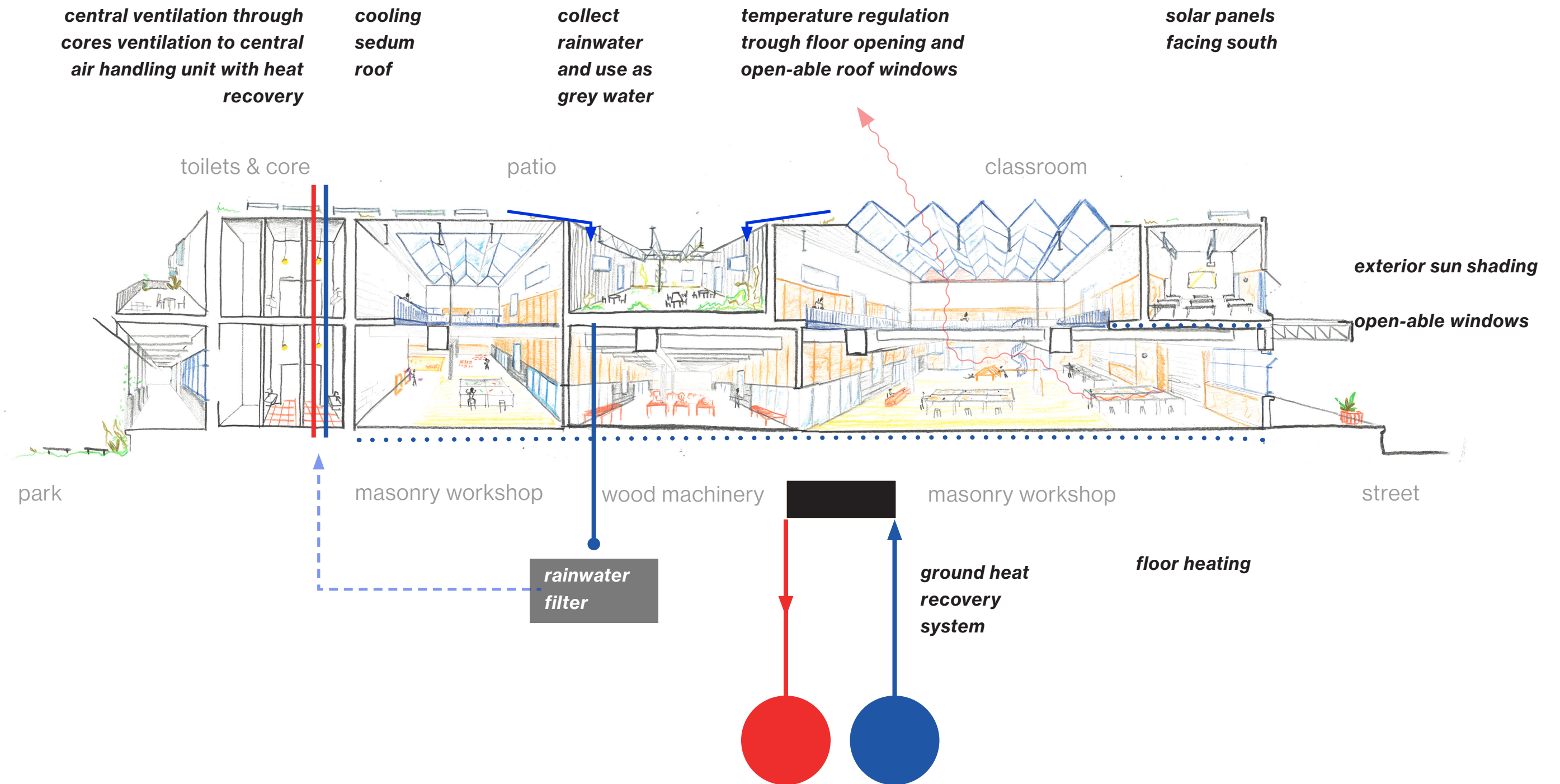
wood workshop

summer workshop
extension

section

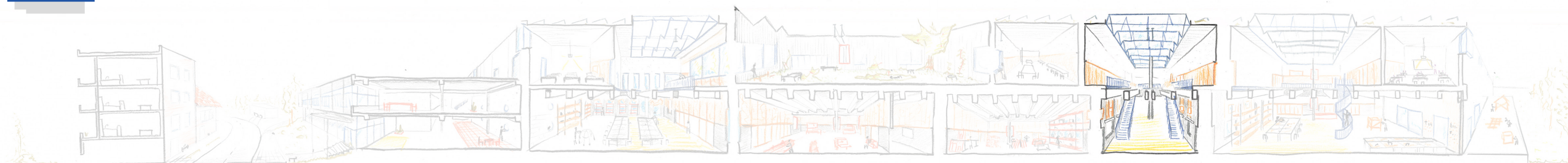
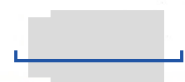
walk trough

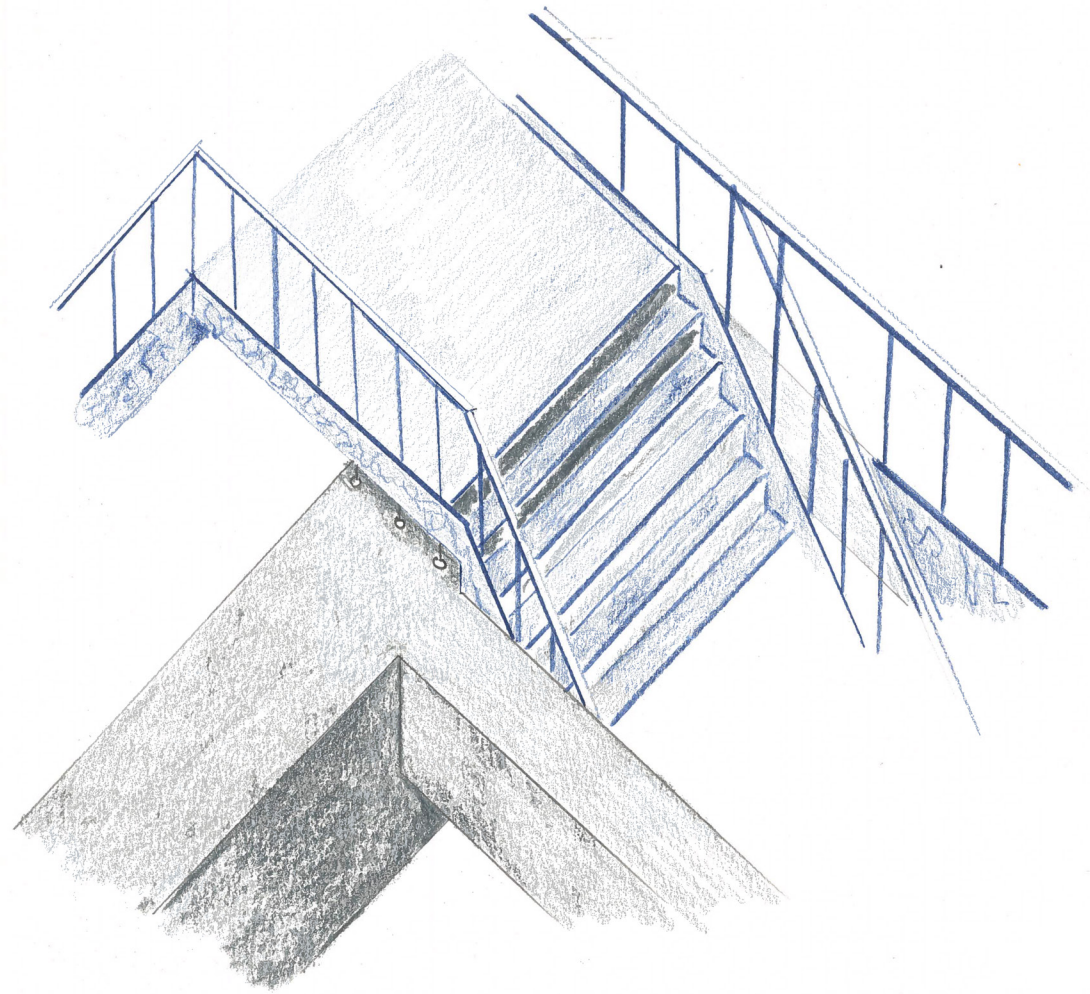




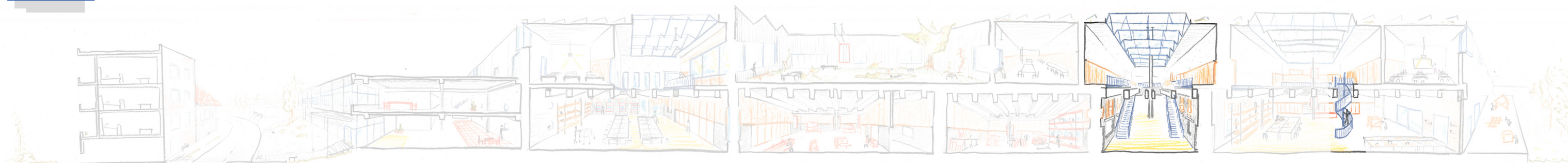


continuing

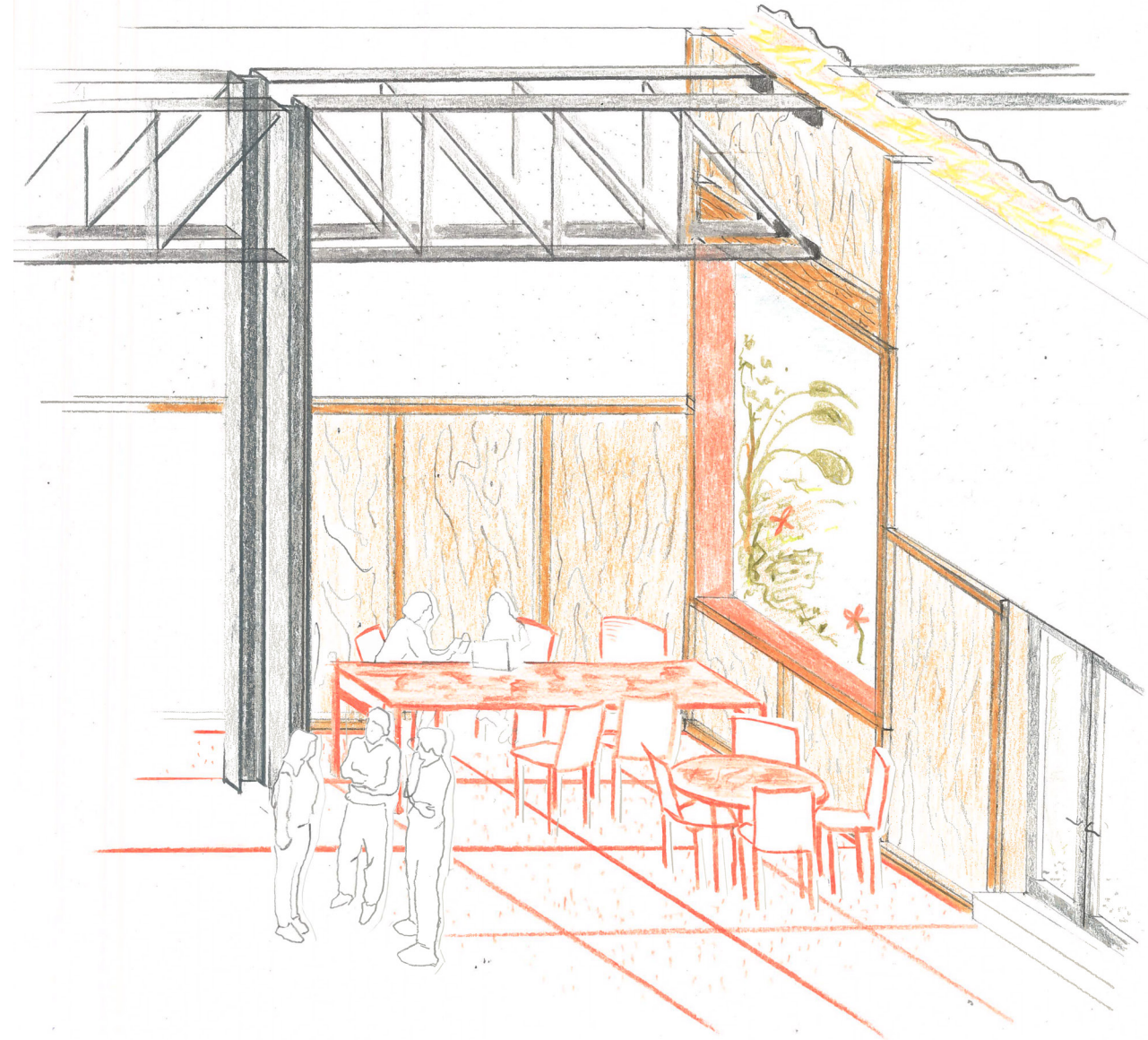




elevated

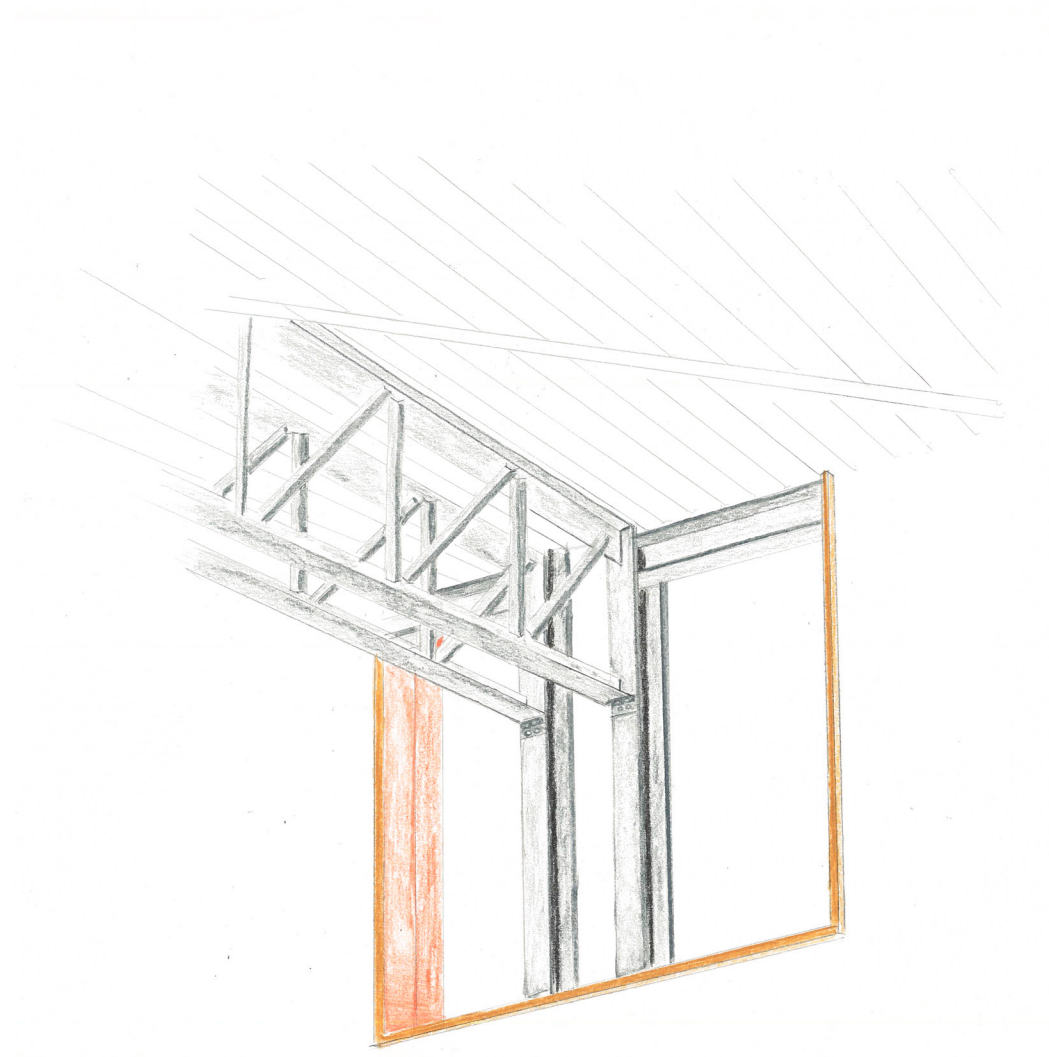


materiality dealing with the structure



interrupting





poking through

