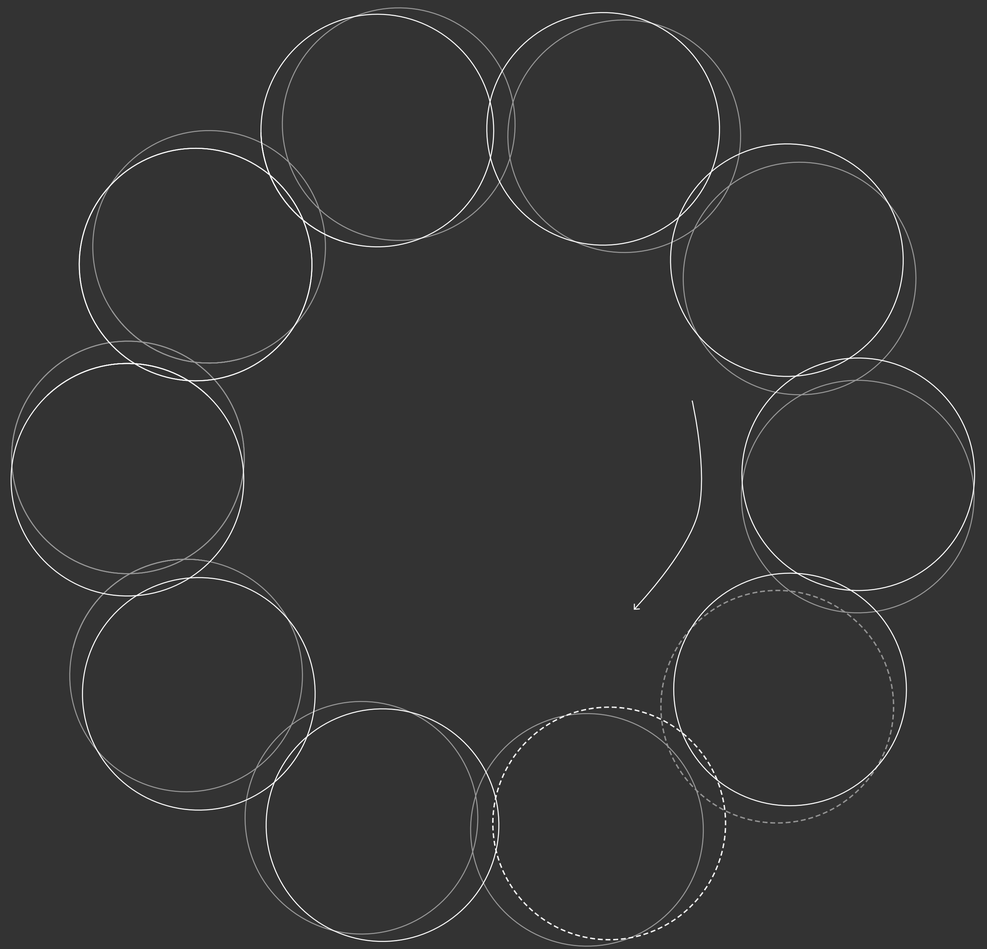
# [ ephemeral roots ]

## Continuity of Use and Components in Public Building Design



03.07.2025
P5 Presentation
Ayris Findik | 6086292 | AE Graduation Studio 24/25

# problem statement

Growing challenge of disposibility

-> therefore obsolescence and demoliton of buildings



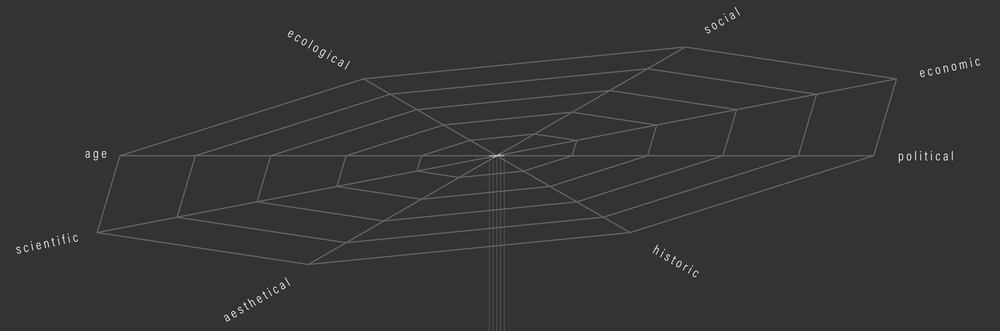

problem statement

# methodology

WHY

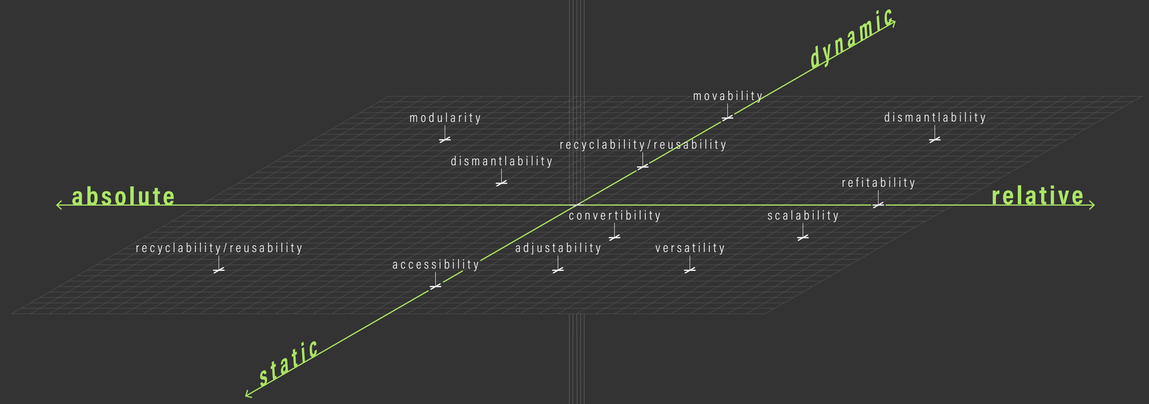
HOW & WHAT

Primary
Cultural Values




social
economic
political
historic
aesthetical
scientific
age
ecological

Layered
Permanence Matrix
with
Adaptability Dimensions

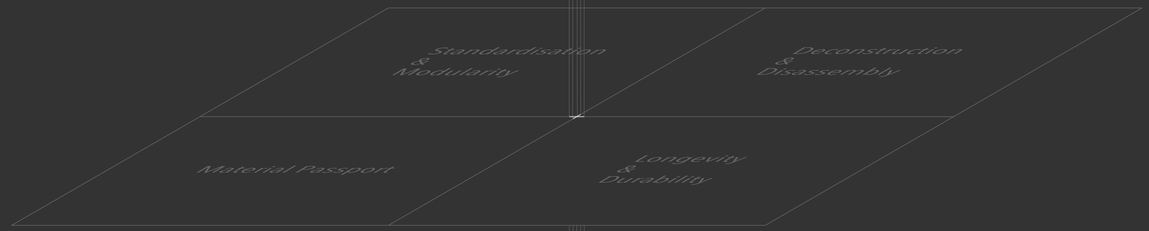



modularity
adjustability
movability
recyclability/reusability
dismantlability
refitability
scalability
convertibility
versatility
accessibility

Service Life

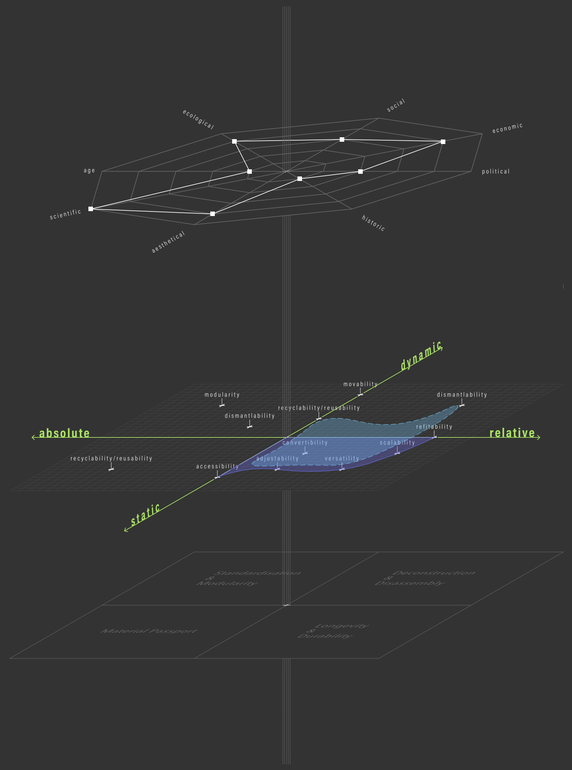
End of Life

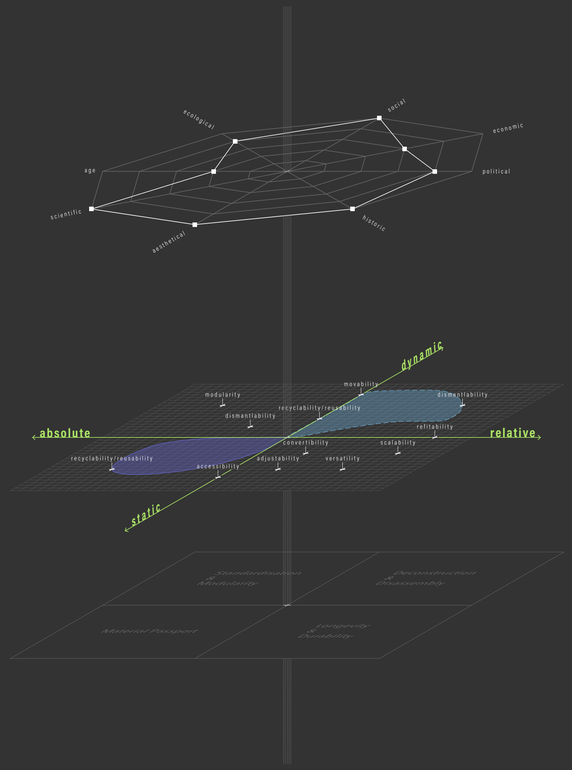
Main Circular
Building Strategies

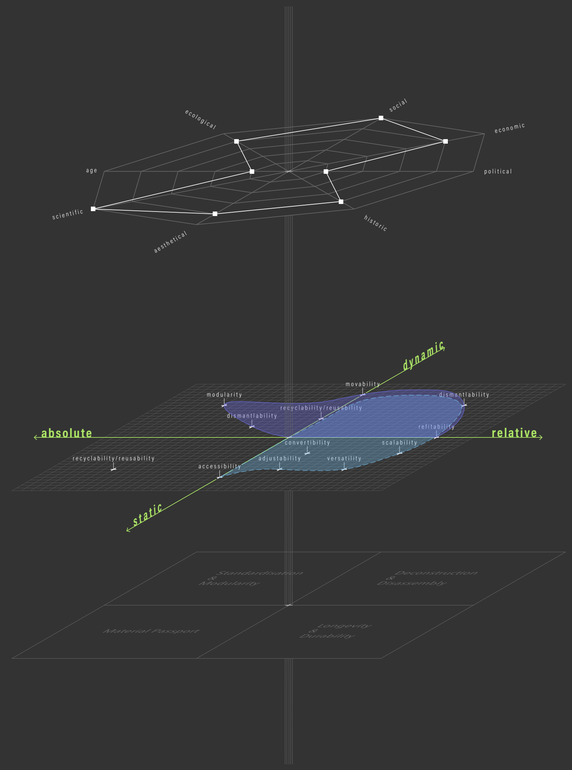


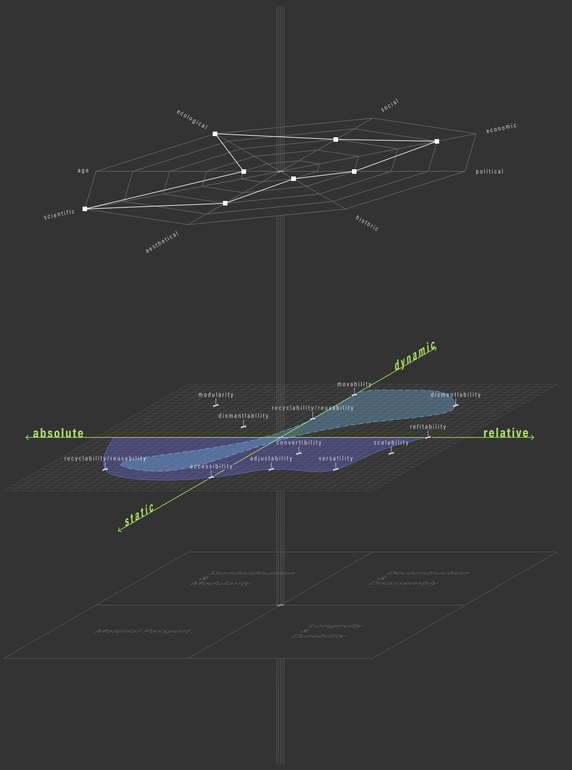

Standadisation & Modularity
Deconstruction & Disassembly
Material Passport
Longevity & Durability

# analysis






■ Tamedia Office Building

Dezeen. (2023, March 17). Shigeru Ban's timber-skeleton Tamedia building left engineers "incredulous" [image]. Dezeen. https://www.dezeen.com/2023/03/17/tamedia-office-building-shigeru-ban-timber-revolution/



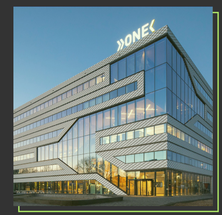
■ Ise Jingu

Rose, A. (2019, September 12). Long-term building in Japan [image]. The Long Now Foundation. https://medium.com/the-long-now-foundation/long-term-building-in-japan-796c4f0ad3e7



■ Cardboard Cathedral

Barrie, A. (2013, July 10). Christchurch transitional cardboard cathedral. ArchitectureAU. Retrieved January 14, 2025, from https://architectureau.com/articles/christchurch-transitional-cardboard-cathedral-1/#



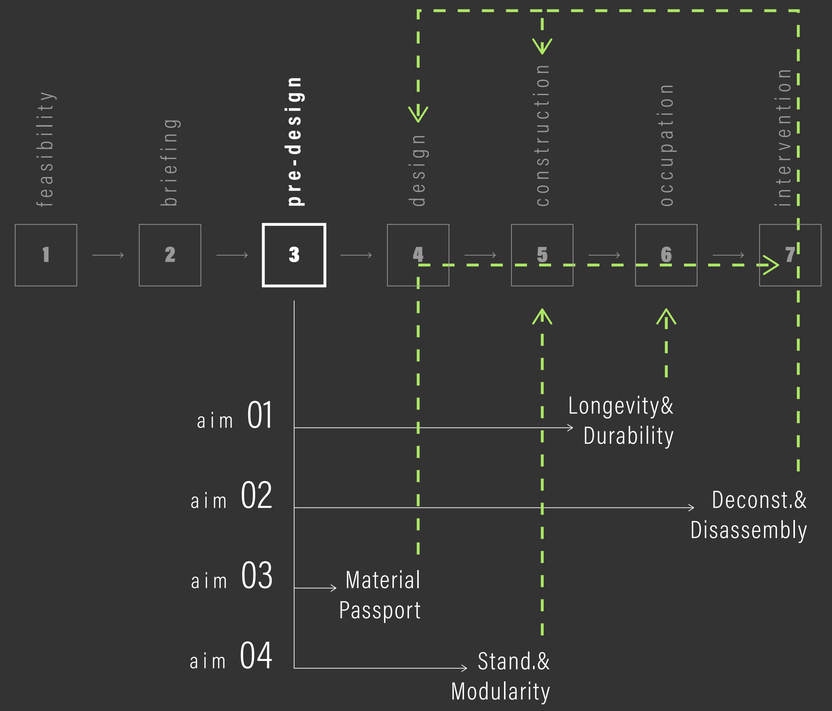

■ Matrix One

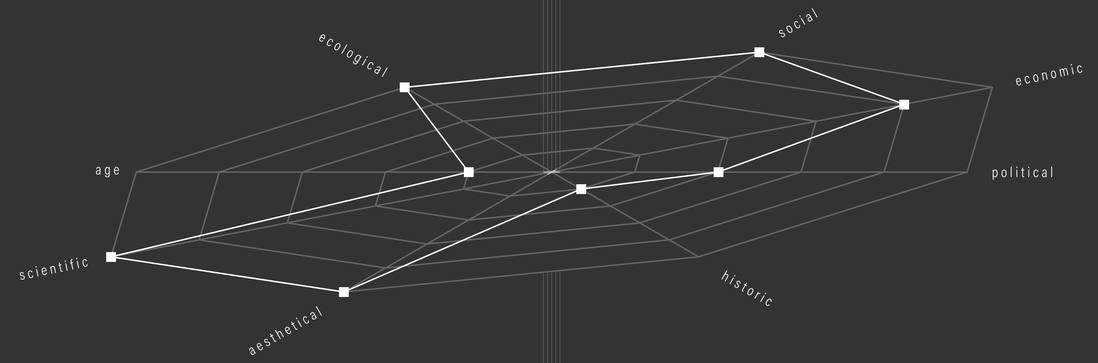
Baunetz Wissen. (n.d.). Büro- und Laborgebäude Matrix One in Amsterdam. Retrieved January 14, 2025, from https://www.baunetzwissen.de/elektro/objekte/forschung-industrie/buero--und-laborgebaeude-matrix-one-in-amsterdam-8332130

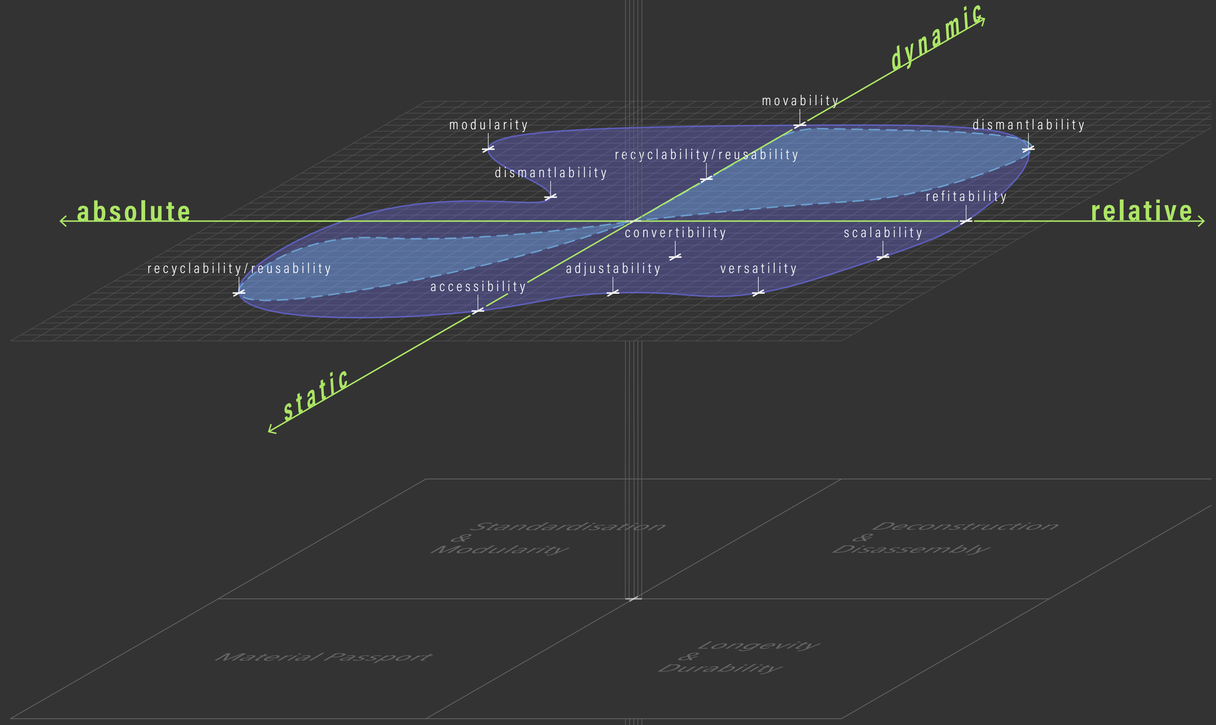
# analysis

?

my design

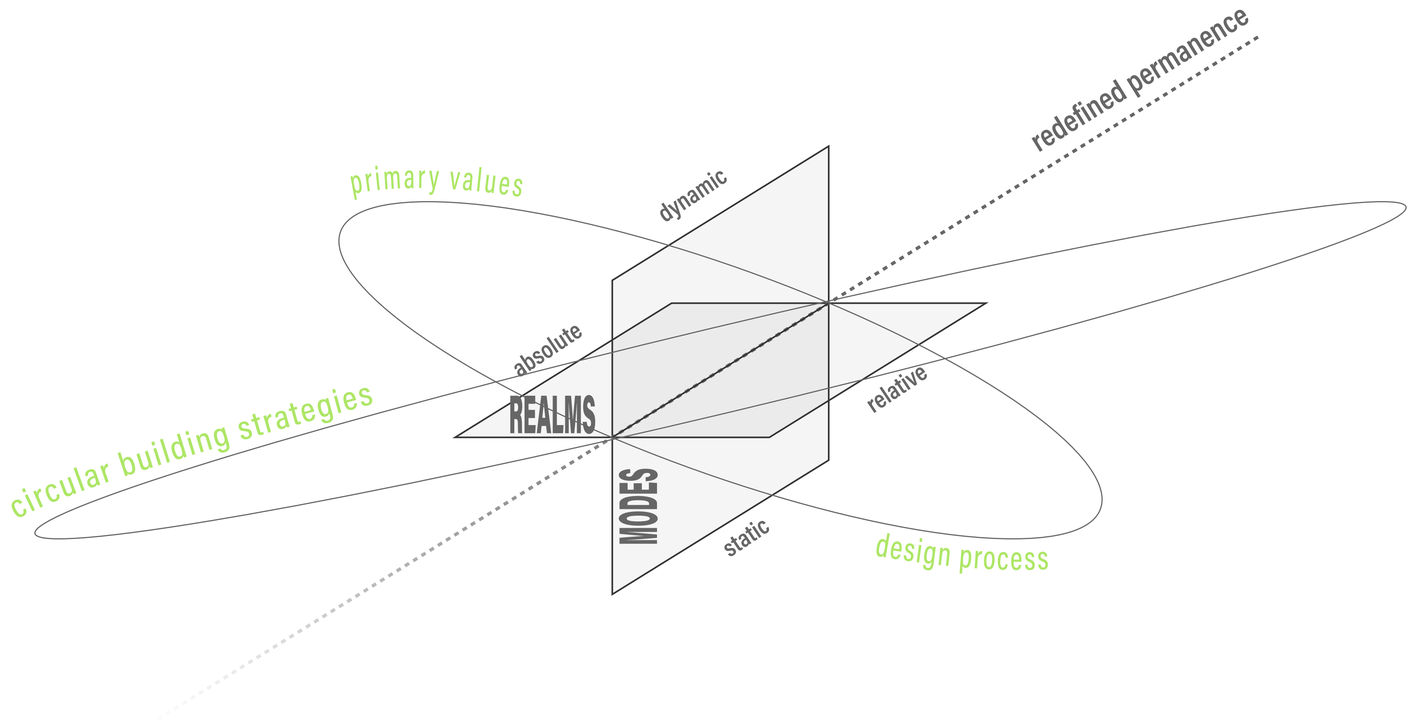


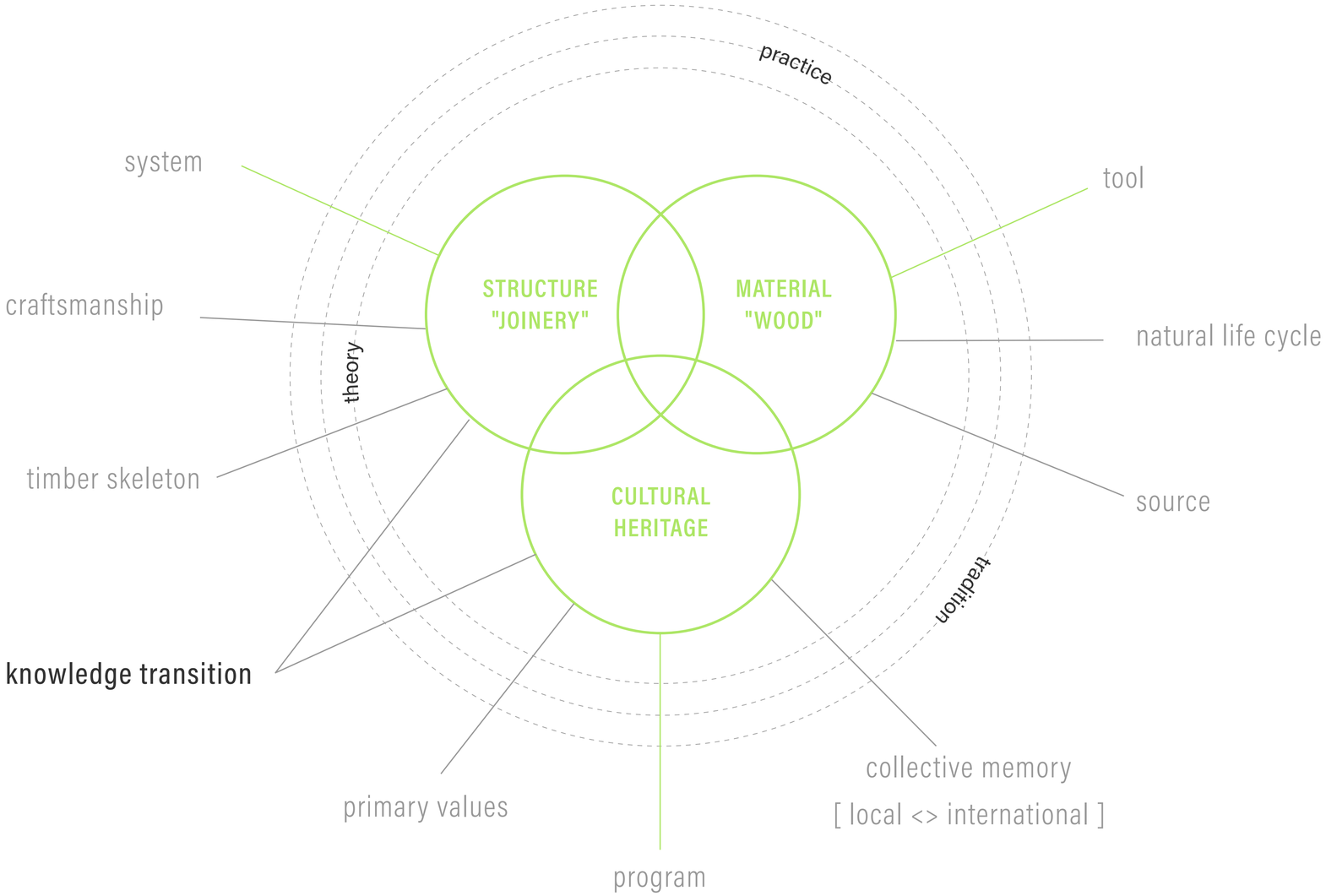



# research theory to design

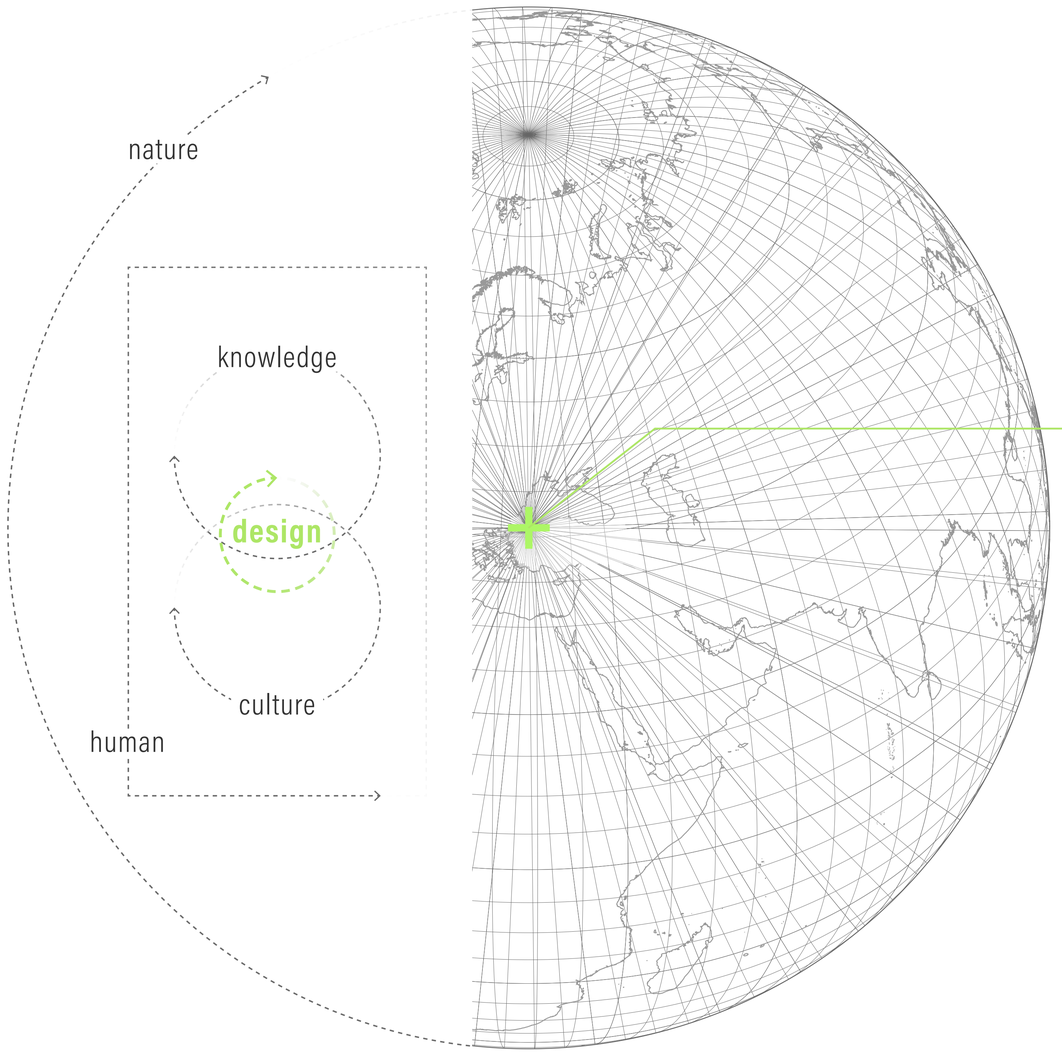
What if a design could redefine the boundaries of the concept of permanence?



## core concept



# design assignment




**Istanbul, TURKEY**

lat: 41.015137, long: 28.979530

Population: 15,66 million

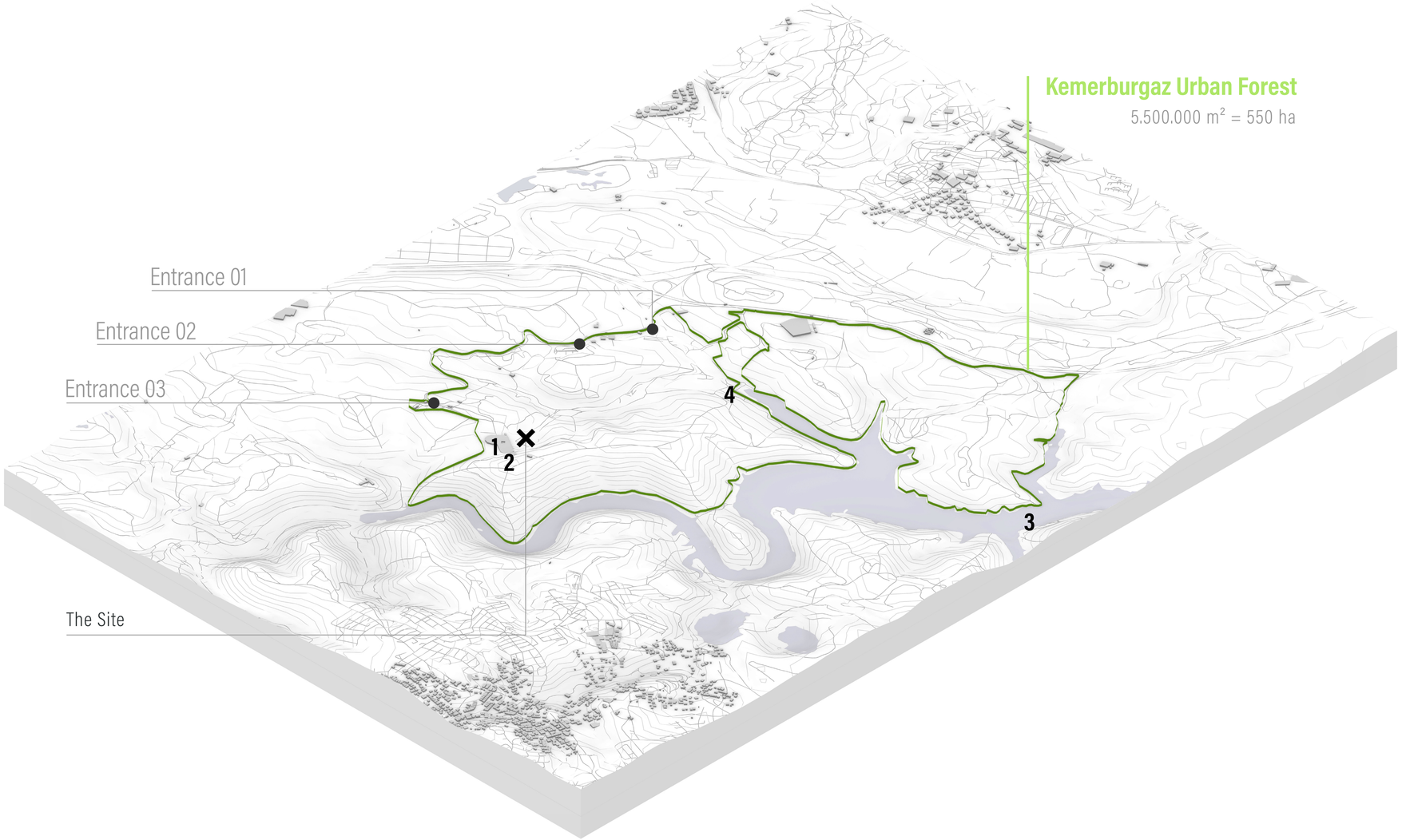
Area: 5.461 km$^2$

# Istanbul


Istanbul Airport
Kemerburgaz Urban Forest
city cetre
museums
universities

# location

the urban forest - Kemerburgaz






**1** event area



**2** sports centre



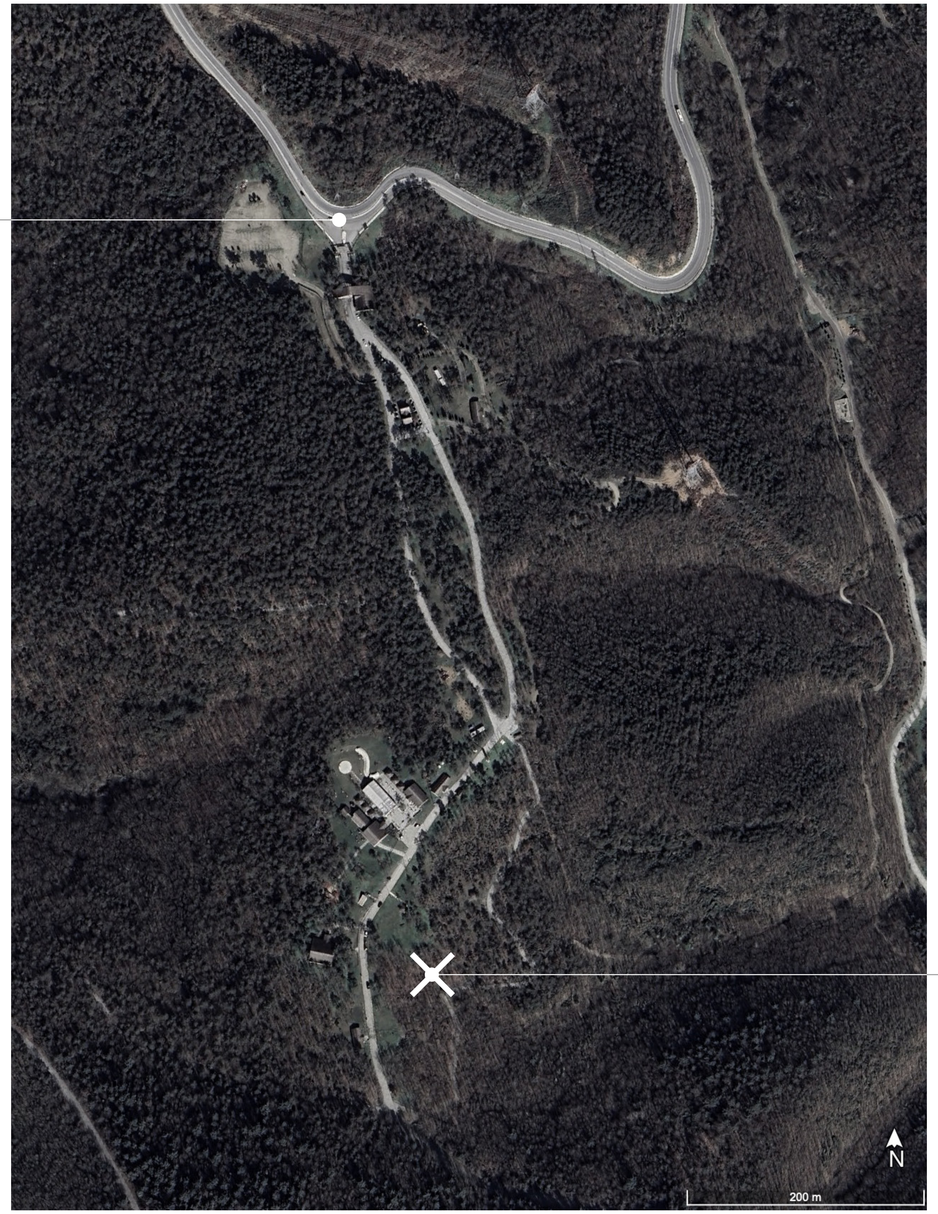
**3** historical landmark



**4** cafe & restaurants

Image 1, 3 and 4 - Boğaziçi Yönetim. (n.d.). [Photograph of Kemerburgaz Kent Ormani park landscape] [Photographs]. https://www.bogaziciyonetim.istanbul/kemerburgaz-kent-ormani/

# the site




Google. (2025). [Satellite image of Kemerburgaz Kent Ormanı, Istanbul, Turkey] [Google Earth image]. Retrieved July 1, 2025, from https://earth.google.com/

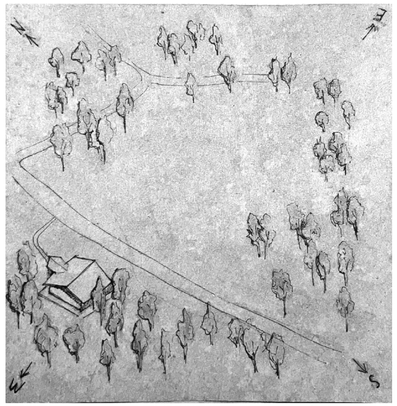
# the site

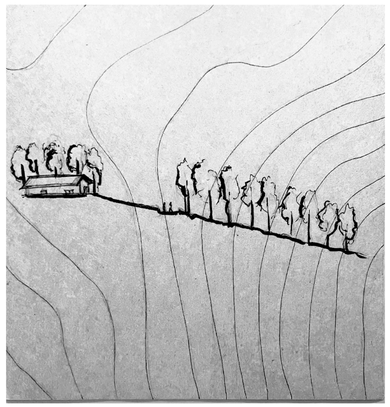


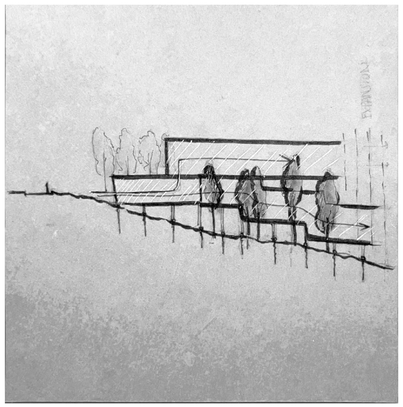


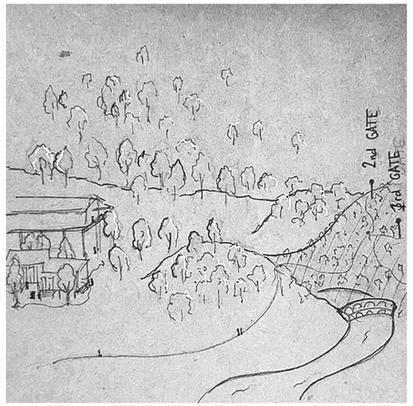


# the site








2nd GATE
1st GATE




↔ IN BETWEEN




INTRO VERTED
DARK
QUITE ACTIVE
LOCAL
QUITE ACTIVE
LIGHT
EXTRI- VERTED

# the trees

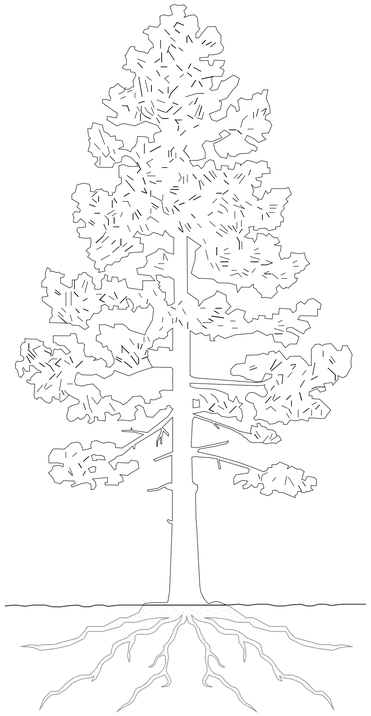
wood as a resource

Pinus Brutia turkish pine

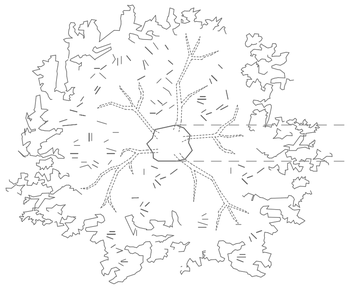
Pinus Pinea

Pinus Pinaster

Pinus Nigra



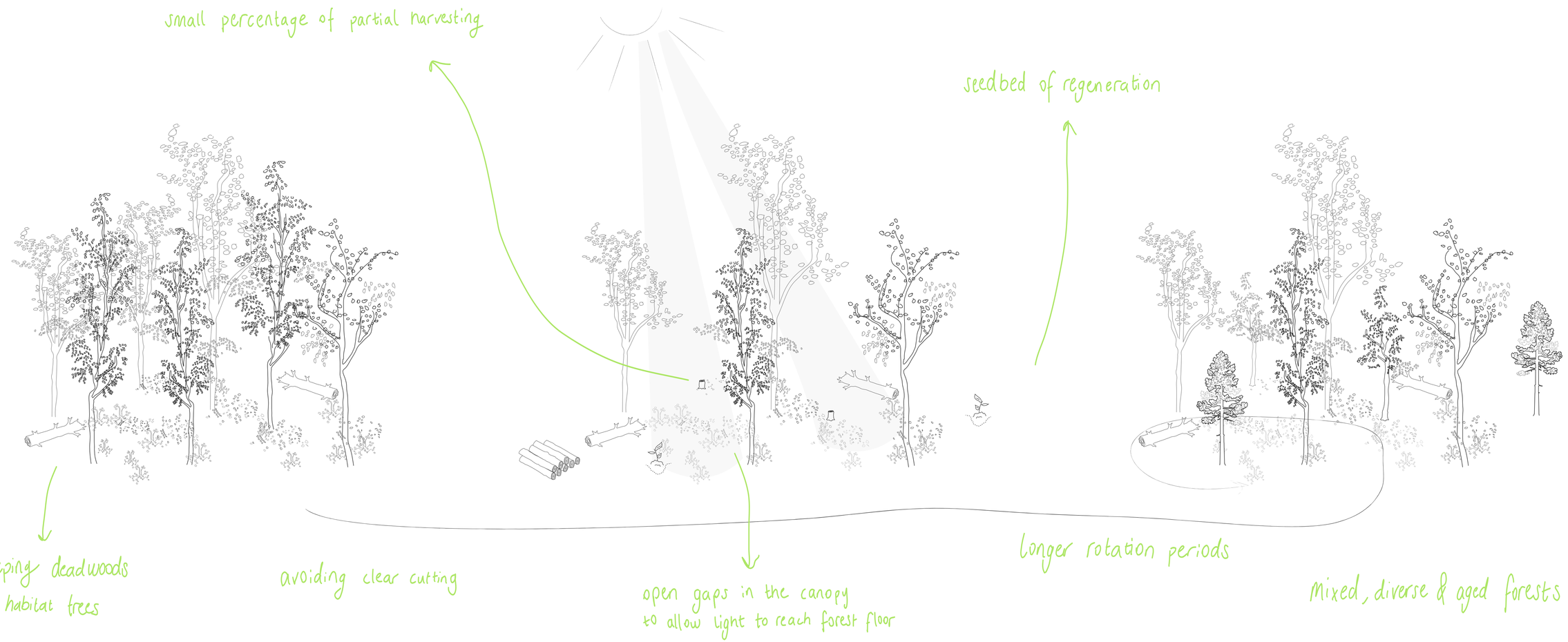
1 m



35 - 50 cm

# forest management

Closer-to-Nature Forest Management (CtNFM)



## forest management

Closer-to-Nature Forest Management (CtNFM)



structural diversity

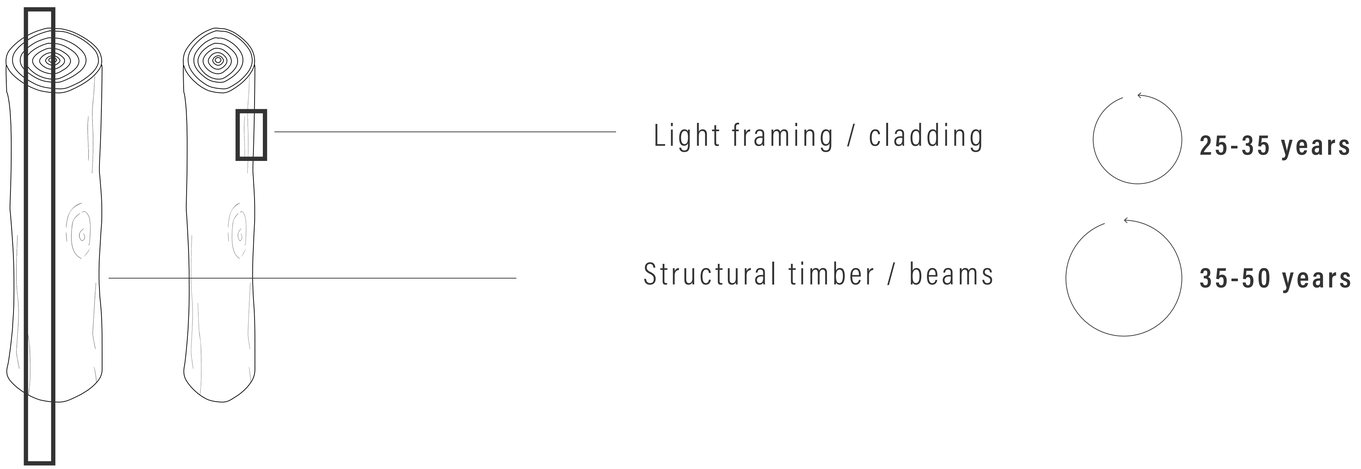
ecological corridors

species diversity

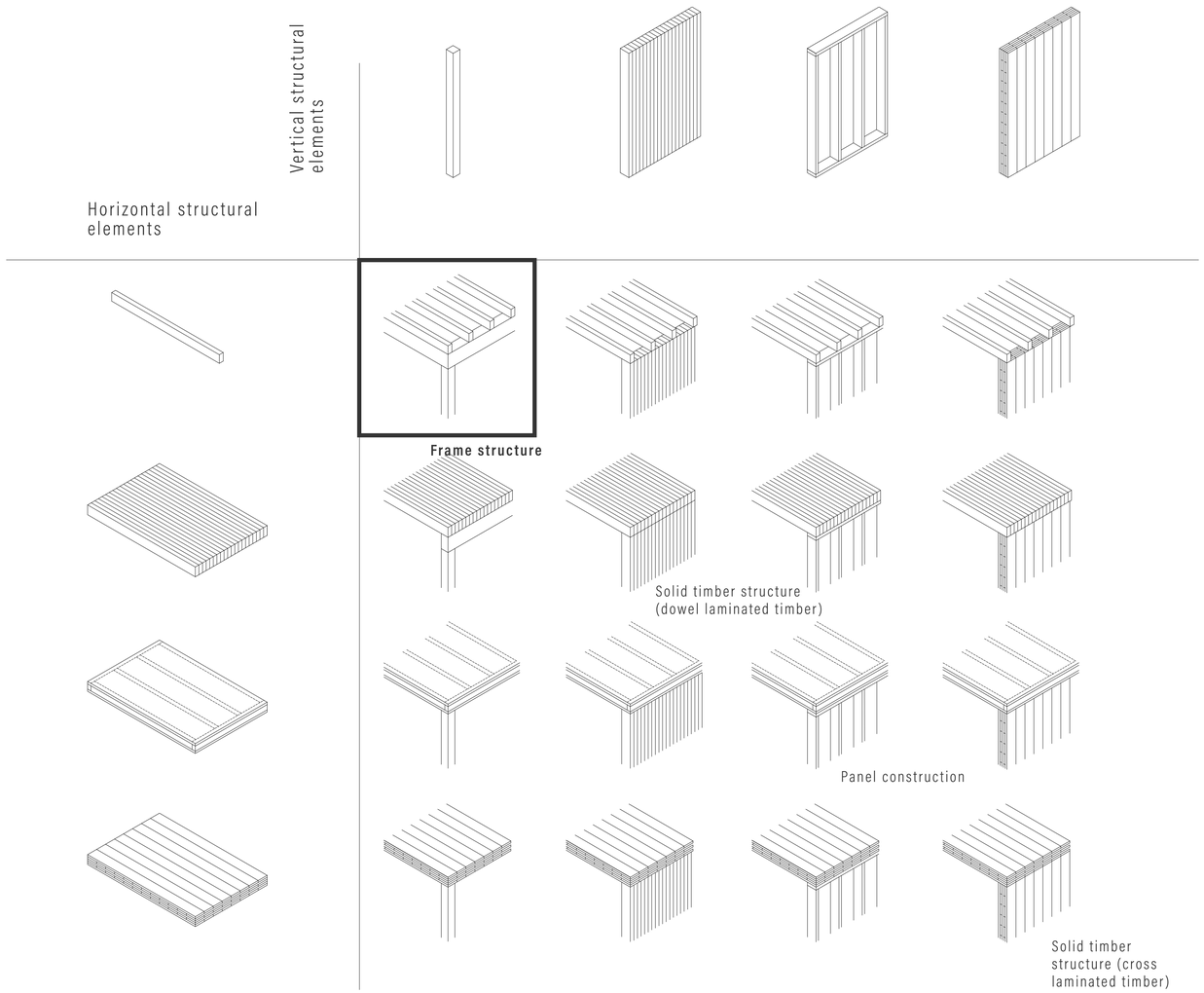
age diversity

habitat conservation

# growth cycle of wood



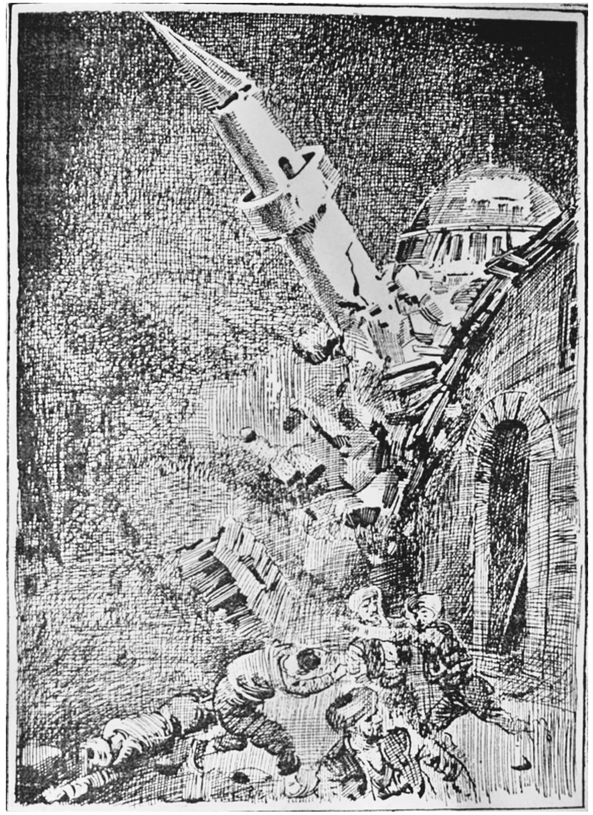
# structural choice




Structural classification of timber systems based on horizontal and vertical elements. Adapted and redrawn from Manual of Multi-storey Timber Construction (p. 40) by H. Kaufmann & S. Krötsch, 2018, Detail – Institut für internationale Architektur-Dokumentation

# traditional architecture

## the little apocalypse in Istanbul



1509 earthquake

Unknown. (n.d.). [Image of the 1509 Great Istanbul Earthquake]. Wikimedia Commons. Public Domain. https://commons.wikimedia.org/w/index.php?curid=30447457

# traditional architecture

traditional construction

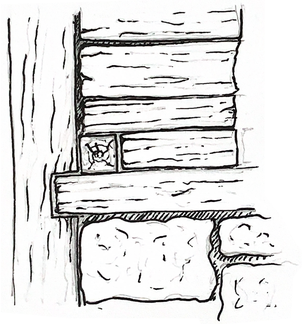


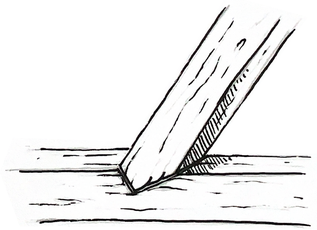
"hatil"

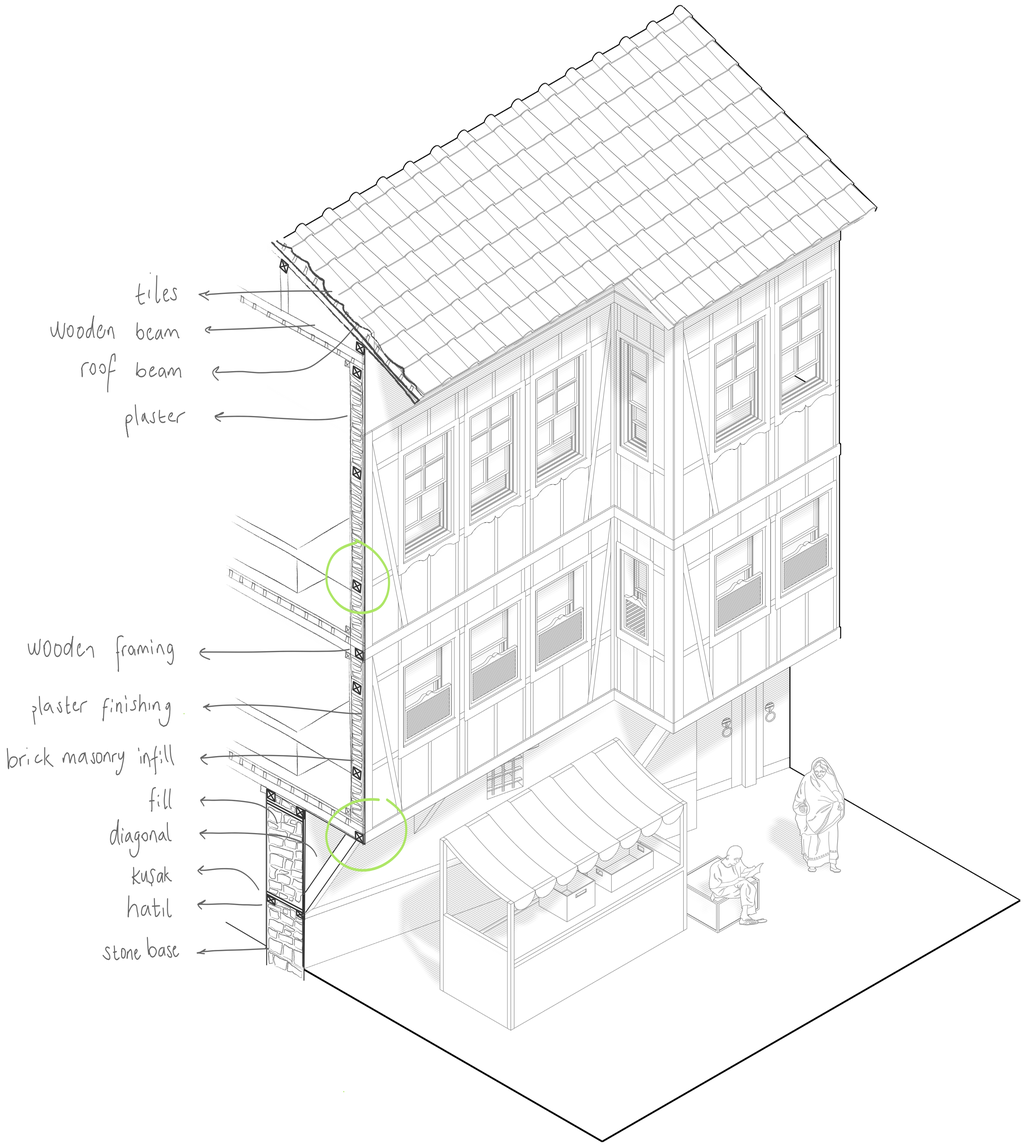


"himiş"

# traditional architecture

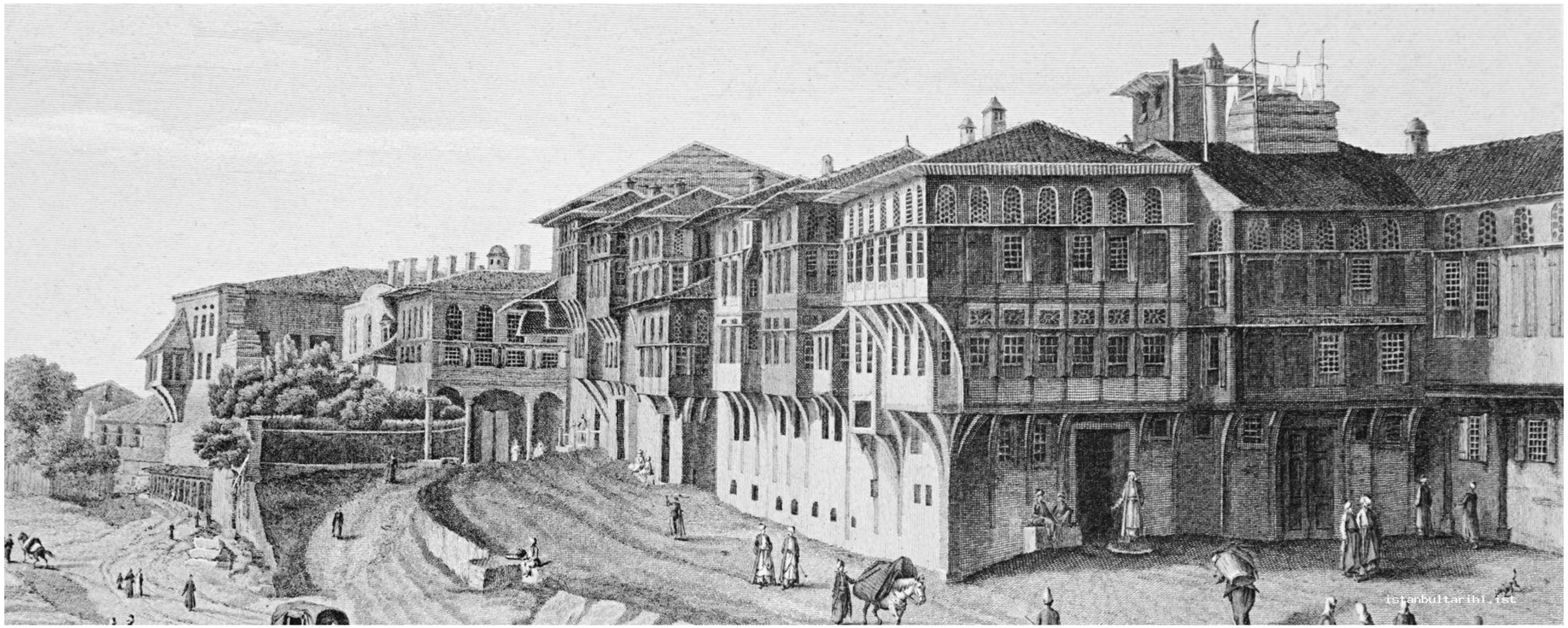






# traditional architecture

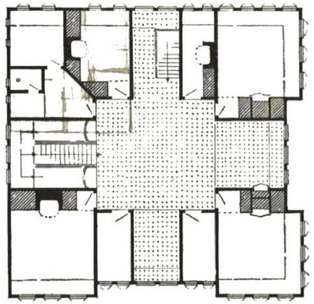
the facade and street

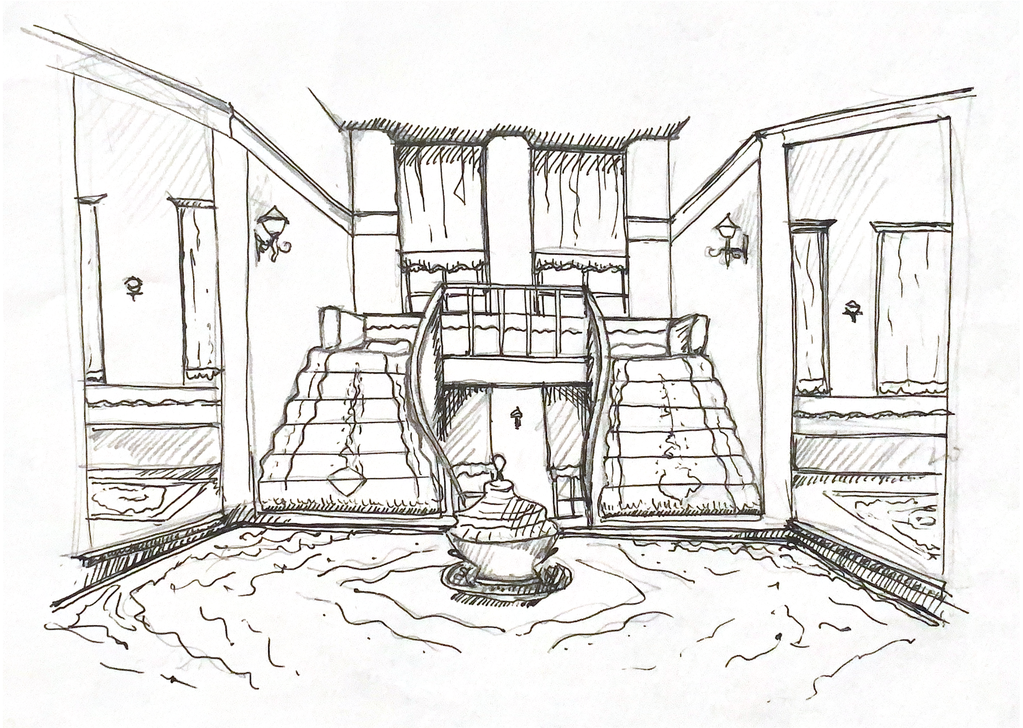


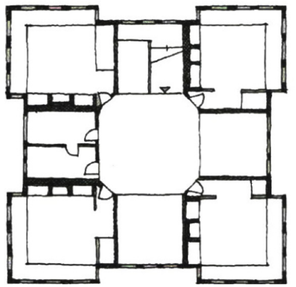

The mansions in Sultanahmet. Illustration by A.-I. Melling (n.d.). A History of Istanbul. https://istanbultarihi.ist/706-eighteenth-century-istanbul-houses

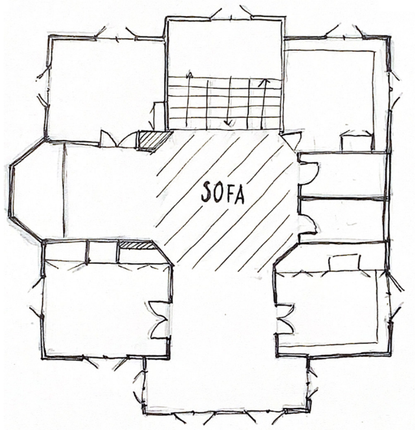
# traditional architecture

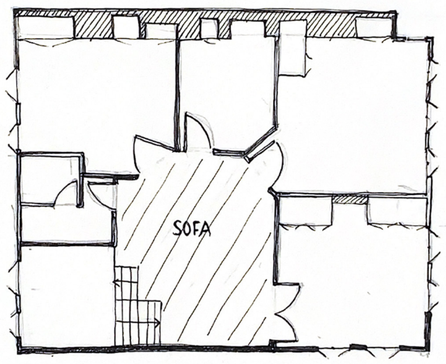
" sofa/hayat "

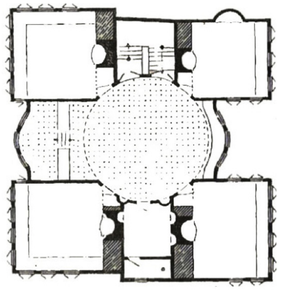


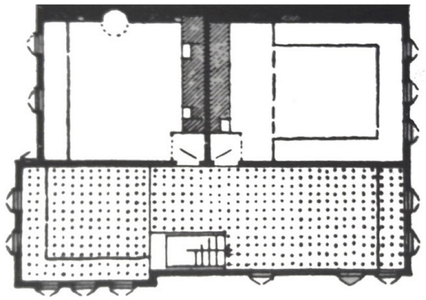






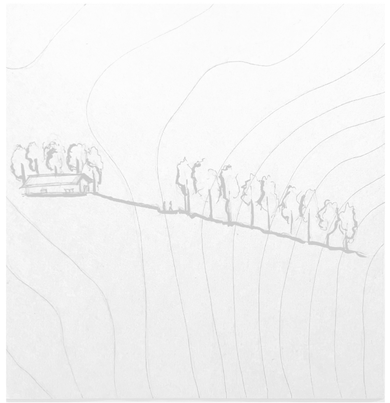





Çelemoğlu, Ş. (n.d.). Anadolu'daki geleneksel Türk evlerinin plan, cephe ve süsleme özellikleri [PDF]. Ondokuz Mayıs Üniversitesi. https://avys.omu.edu.tr/storage/app/public/suayip.celemoglu/64639/Anadolu'daki%20Geleneksel%20Türk%20Evlerinin%20Plan,%20Cephe%20ve%20Süsleme%20Özellikleri.pdf

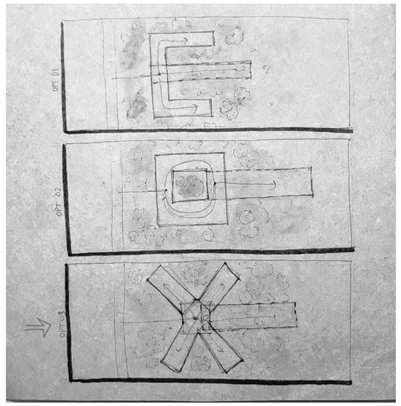
# forming

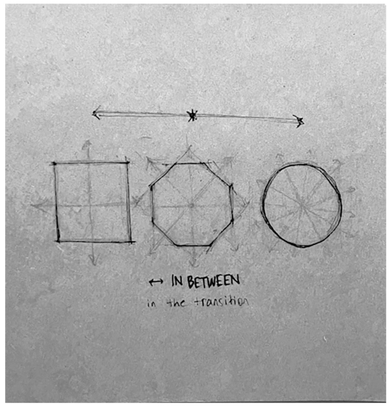


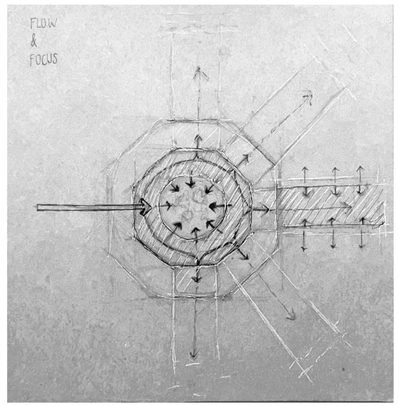


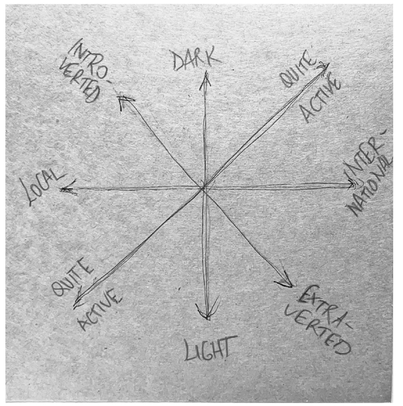



2nd GATE
1st GATE

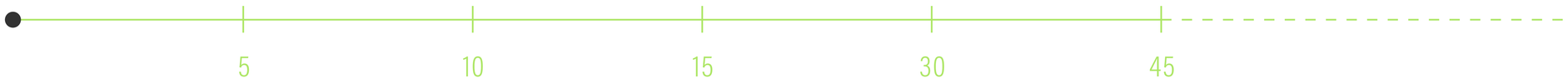

OPT 01
OPT 02
OPT 03

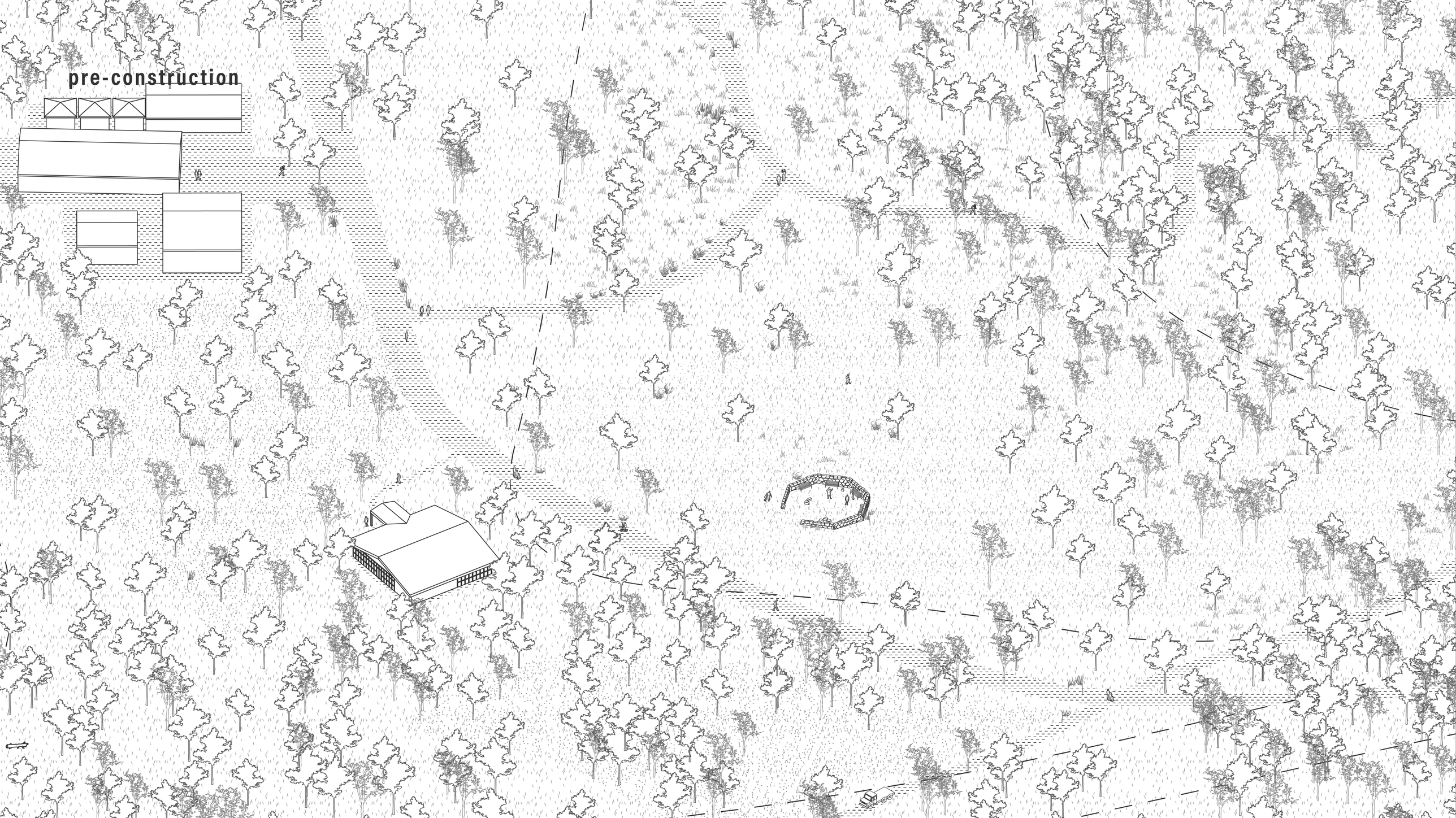

↔ IN BETWEEN
in the transition


FLOW
&
FOCUS

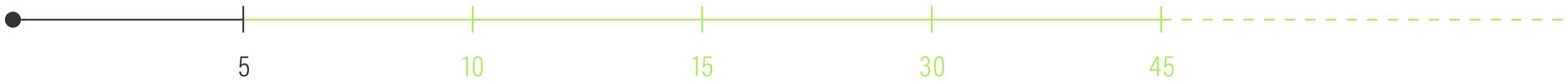

INTRO-VERTED
DARK
QUITE ACTIVE
INTER-NATIONAL
LOCAL
QUITE ACTIVE
EXTRA-VERTED
LIGHT

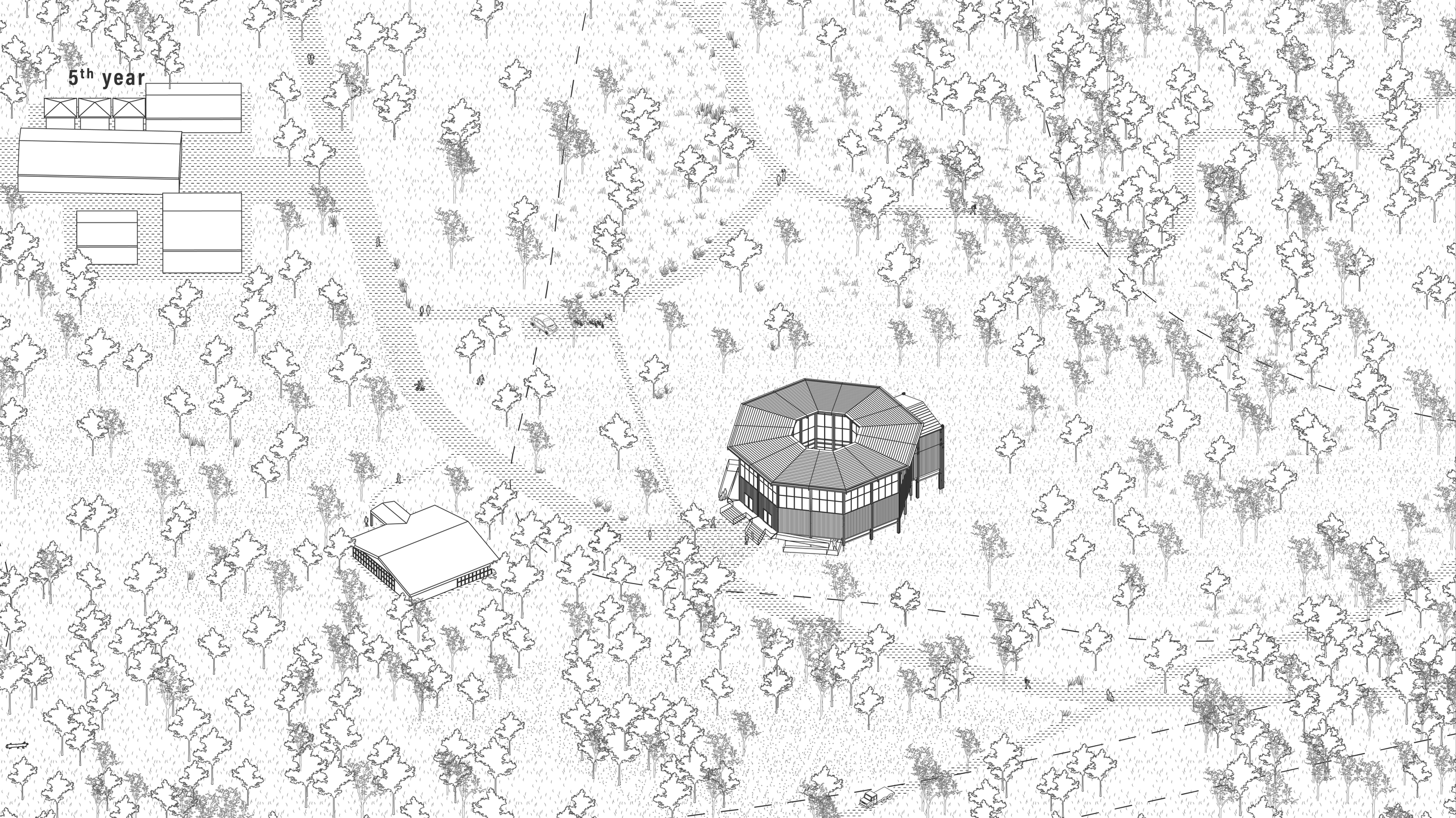
## timeline




pre-construction

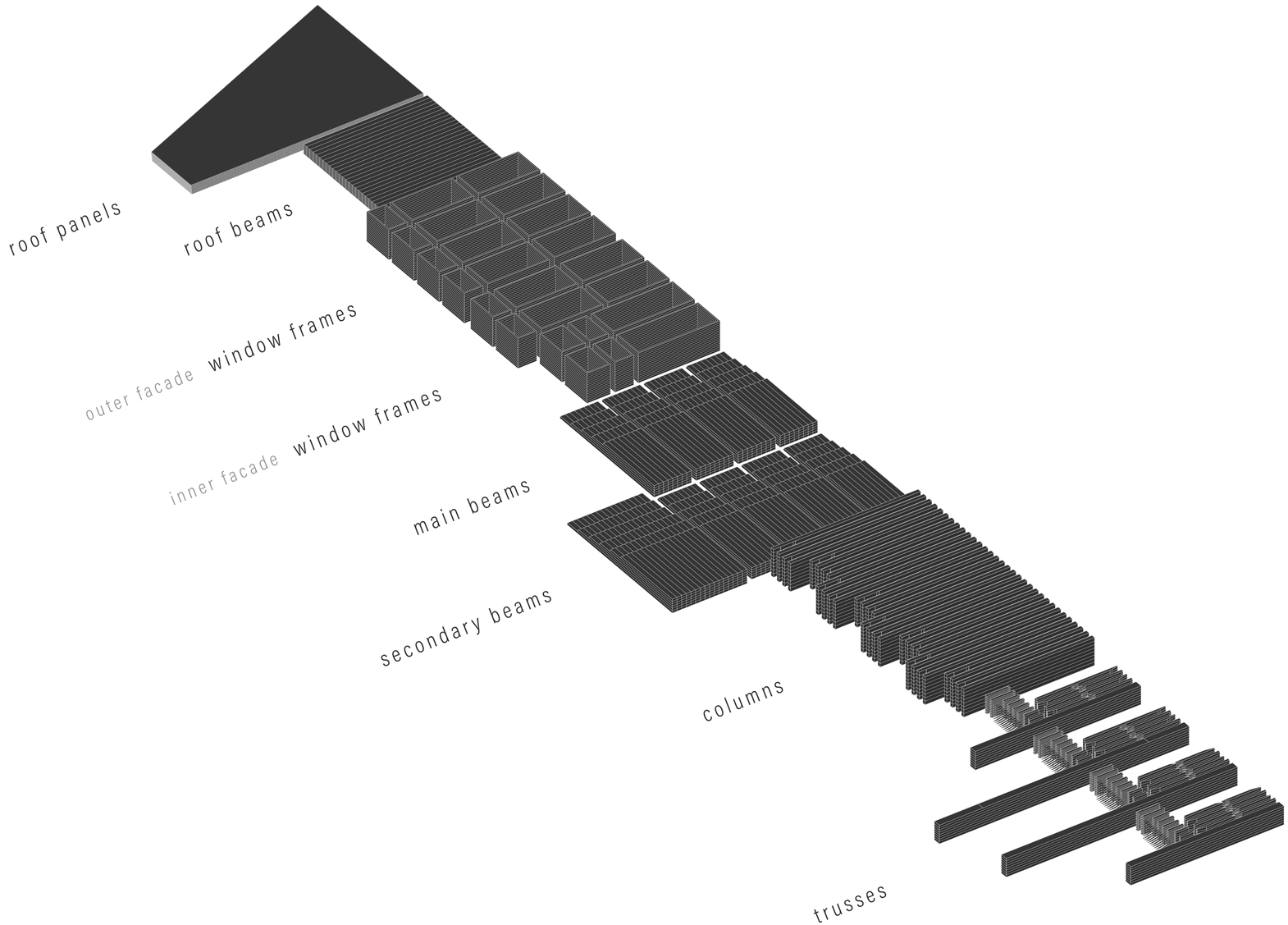
## timeline




5th year

# material catalogue

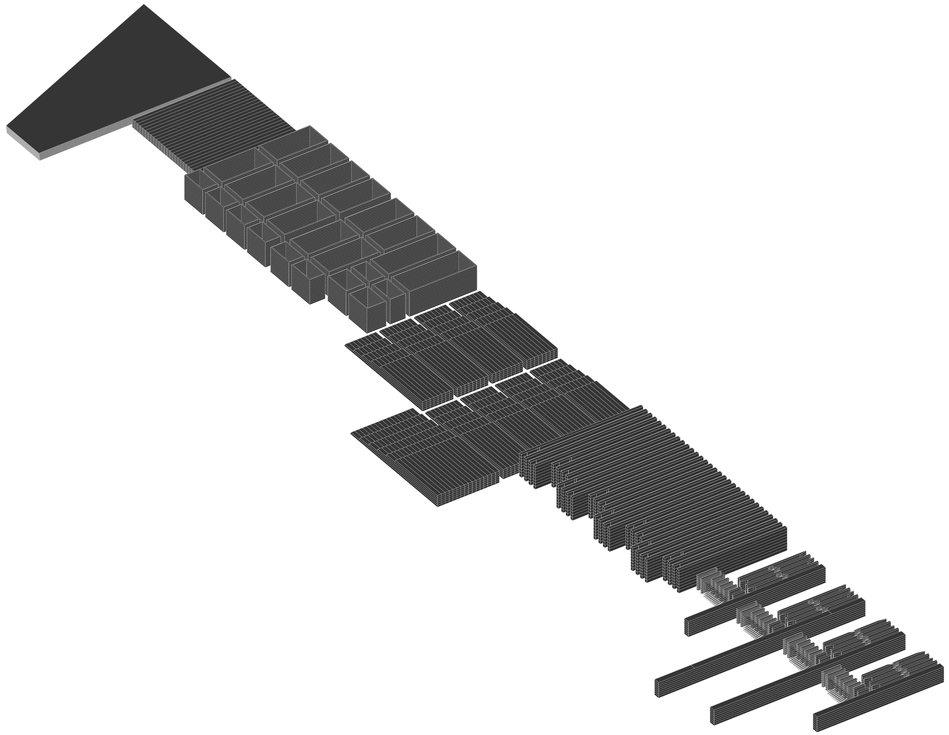
the sofa



# harvest zone calculation

the sofa

5 years of construction period
tree spacing 9m² (semi managed recreational forest)



## the structure

120 trees in total
24 trees per year

**sustainable radius (2% harvest rate)**

required forest size = 24 / 0,02 = 1200 trees

area = 1200 x 9 = 10.800 m²

r = $\sqrt{10.800/\pi}$ ≈ 58,6 m

**unsustainable radius (cut all at once)**

area = 120 x 9 = 1080 m²

r = $\sqrt{1080/\pi}$ ≈ 18,5 m

## shingles

220 trees in total
44 trees per year

**sustainable radius (2% harvest rate)**

required forest size = 44 / 0,02 = 2200 trees

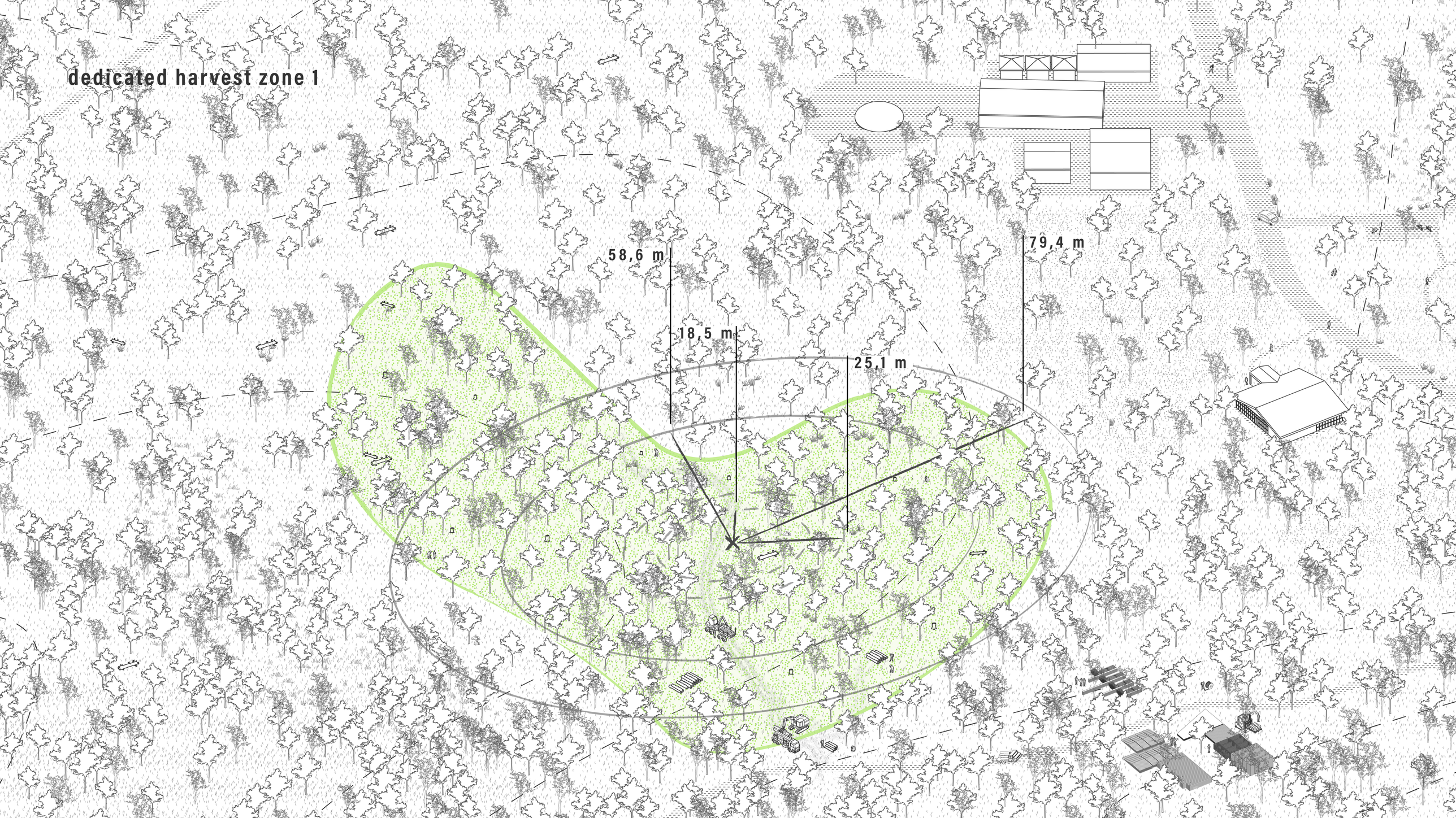
area = 2200 x 9 = 19.800 m²

r = $\sqrt{19.800/\pi}$ ≈ 79,4 m

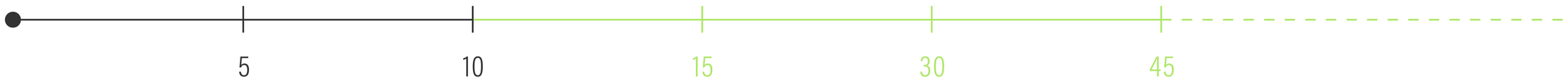
**unsustainable radius (cut all at once)**

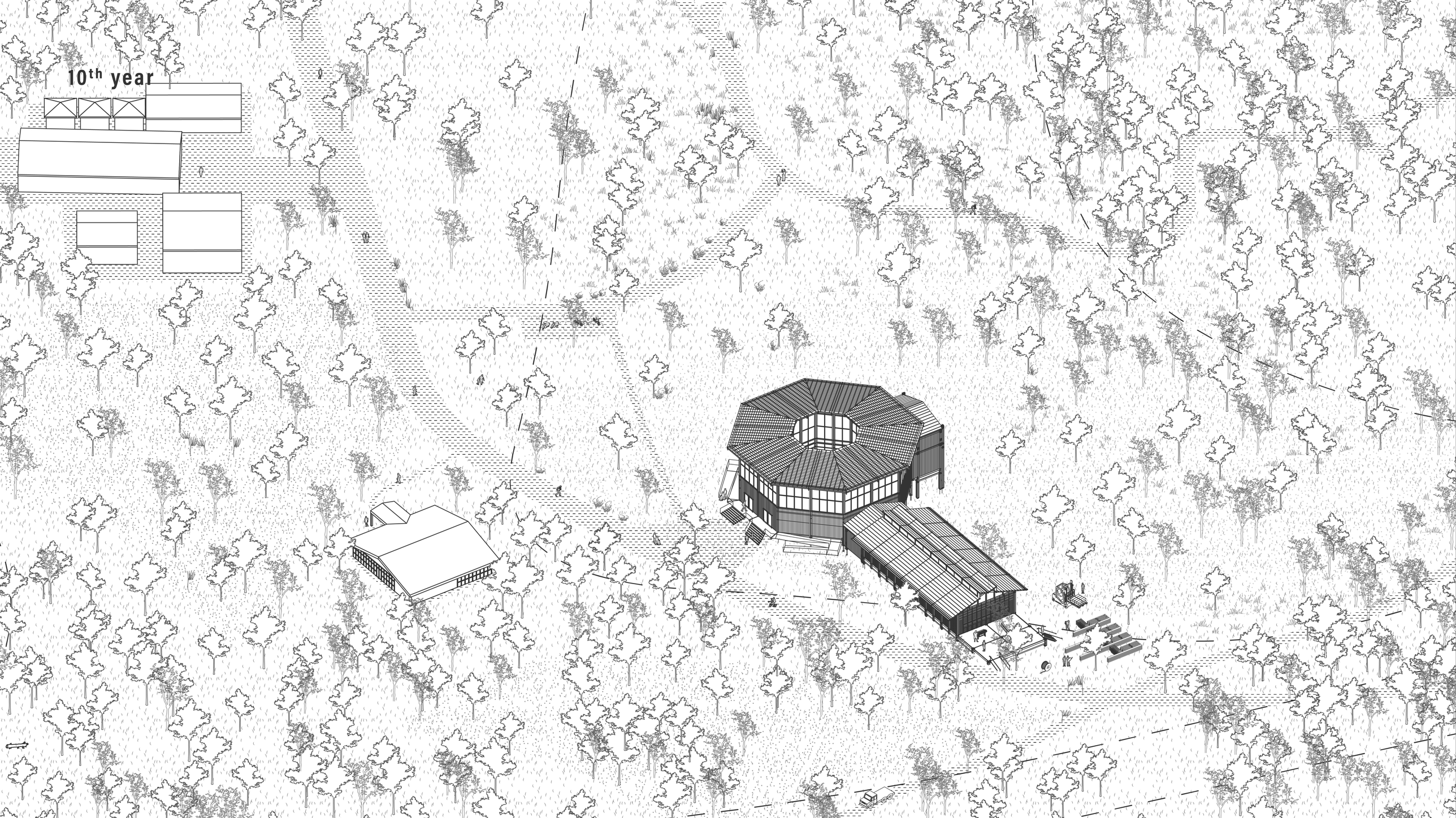
area = 220 x 9 = 1980 m²

r = $\sqrt{1980/\pi}$ ≈ 25,1 m

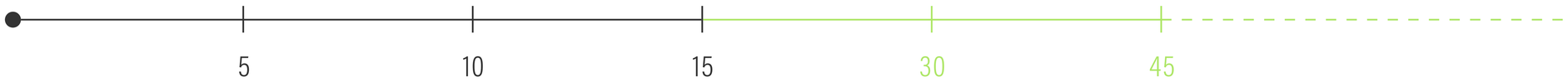

dedicated harvest zone 1
58,6 m
18,5 m
25,1 m
79,4 m

# timeline

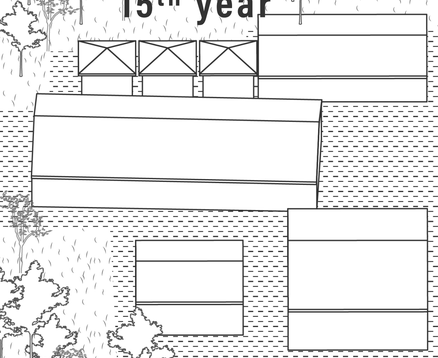


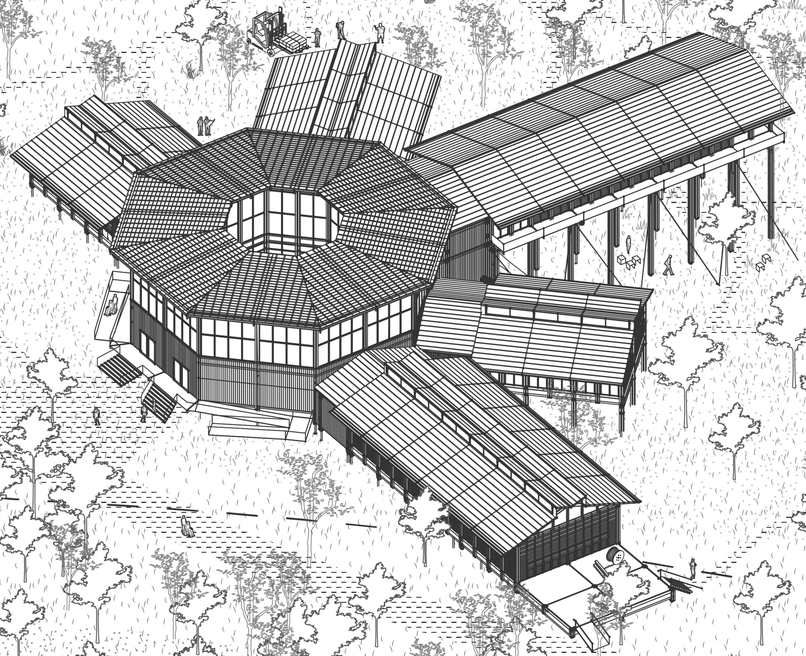

10th year

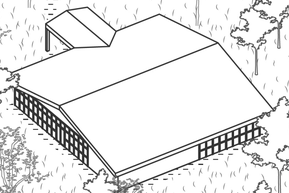
# timeline



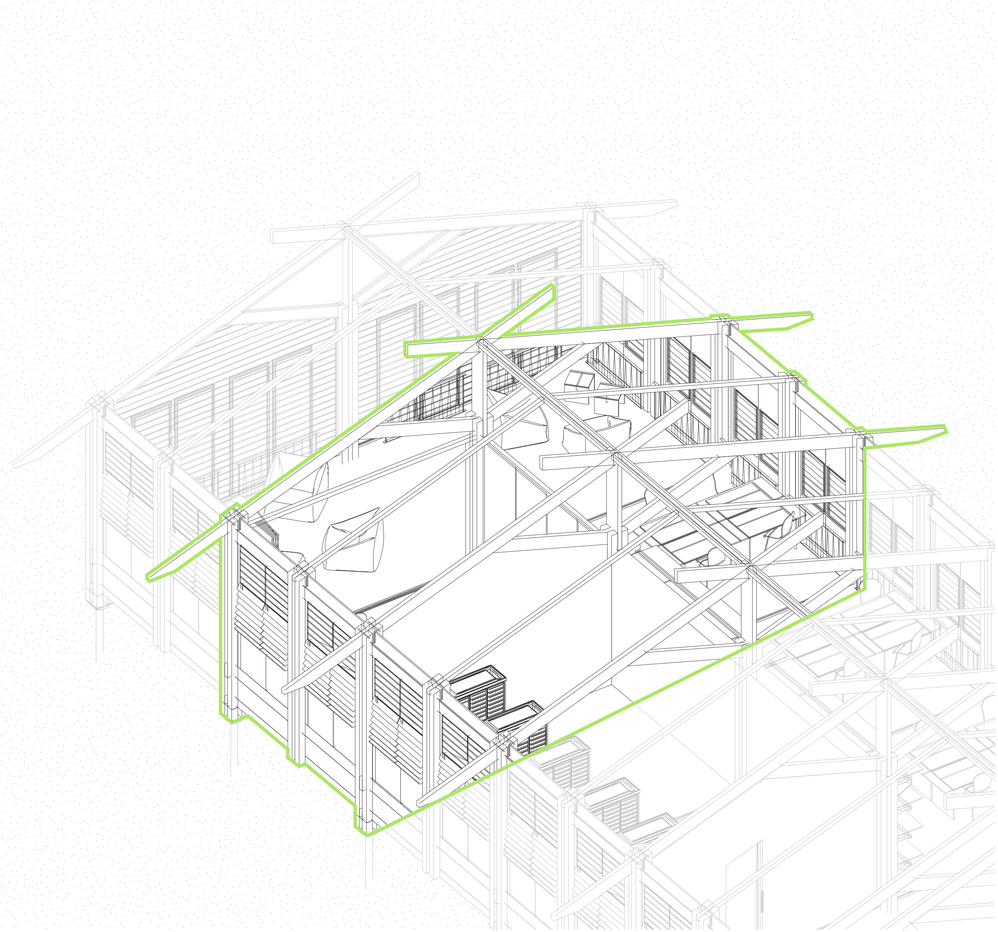
15th year





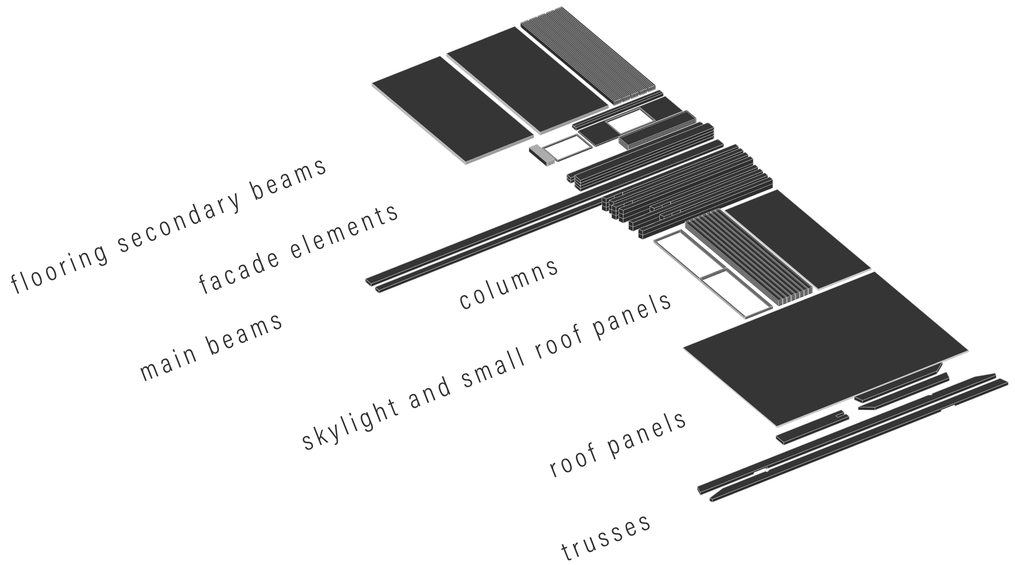


# sample frame fragment



# material catalogue

x1 frame fragment



# harvest zone calculation

x20 frame fragments

10 years of construction period
tree spacing 9m² (semi managed recreational forest)

## the structures

600 trees in total
60 trees per year

**sustainable radius (2% harvest rate)**

required forest size = 60 / 0,02 = 3000 trees

area = 3000 x 9 = 27.000 m²

$r = \sqrt{27.000/\pi} \approx 92,7$ m

**unsustainable radius (cut all at once)**

area = 600 x 9 = 5400 m²

$r = \sqrt{5400/\pi} \approx 41,45$ m

## shingles

240 trees in total
24 trees per year

**sustainable radius (2% harvest rate)**

required forest size = 24 / 0,02 = 1200 trees

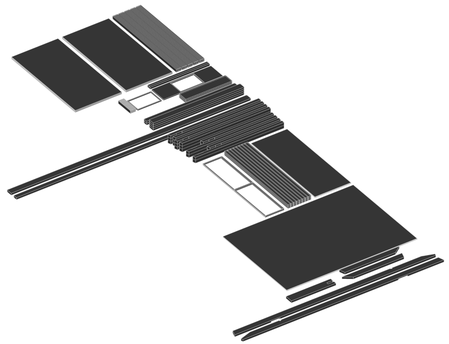
area = 1200 x 9 = 10.800 m²

$r = \sqrt{10.800/\pi} \approx 58,6$ m

**unsustainable radius (cut all at once)**

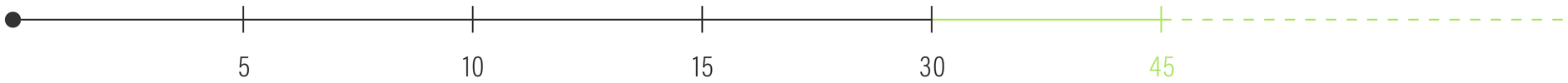
area = 240 x 9 = 2160 m²

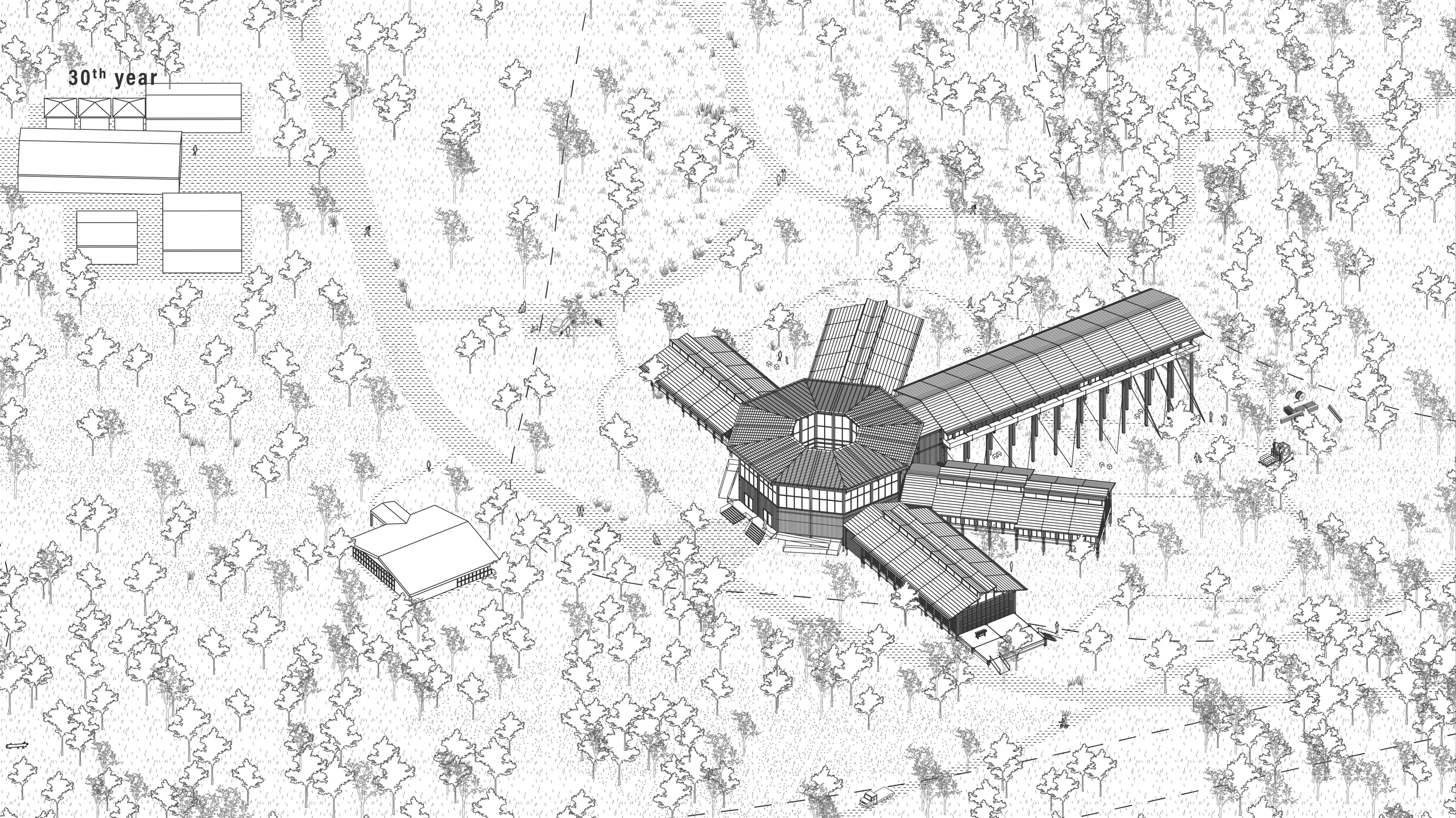
$r = \sqrt{2160/\pi} \approx 26,22$ m



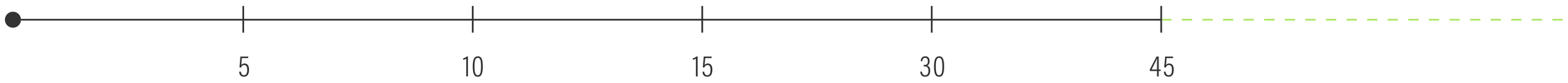

dedicated harvest zone 2
26,22 m
41,45 m
58,6 m
92,7 m

## timeline

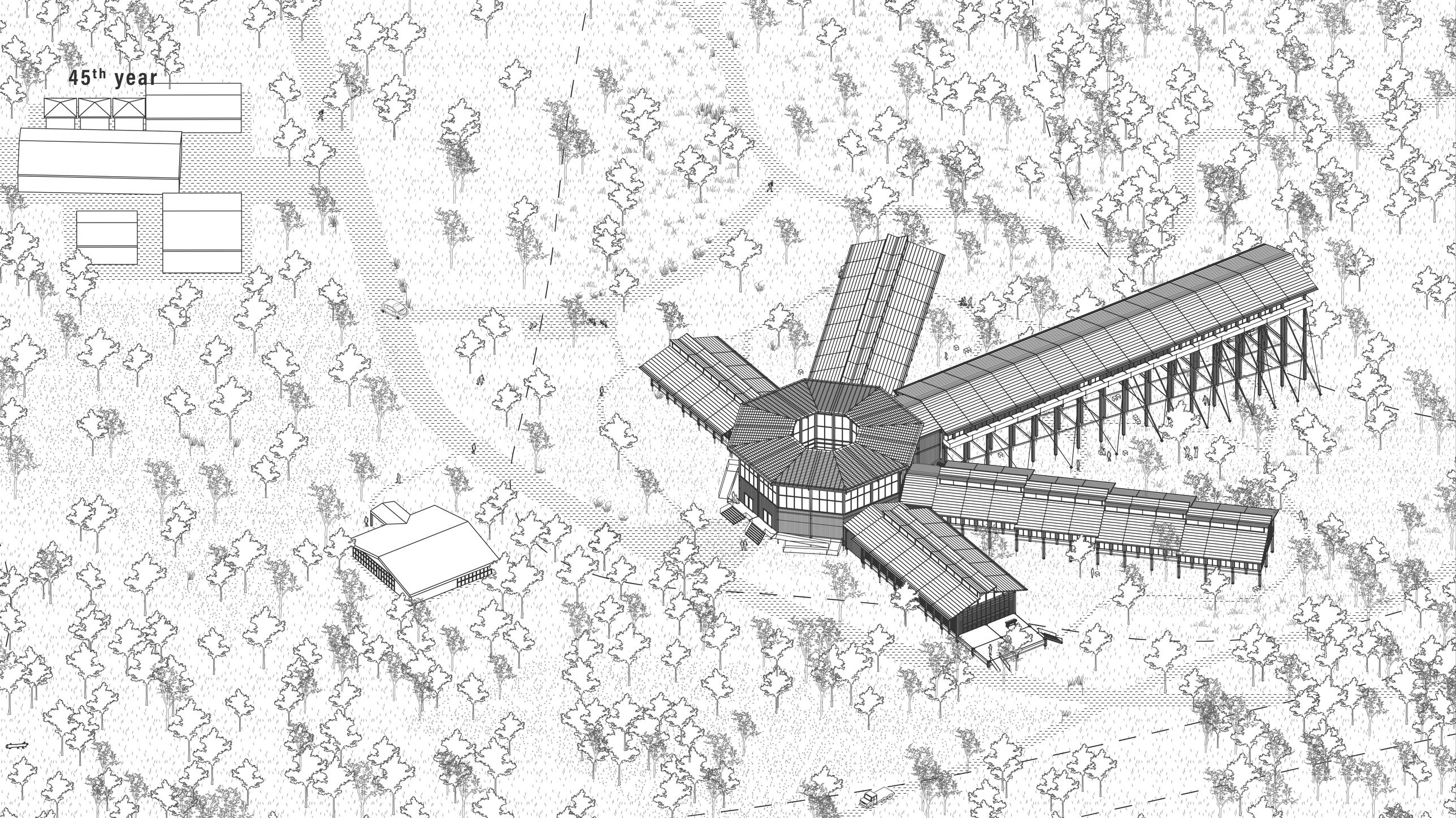



30th year

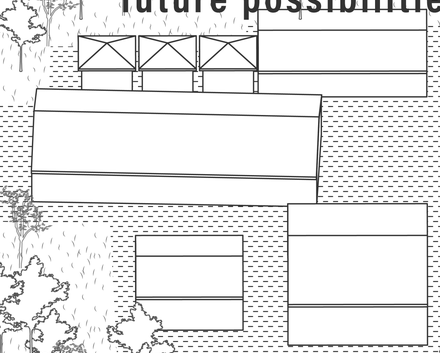
## timeline



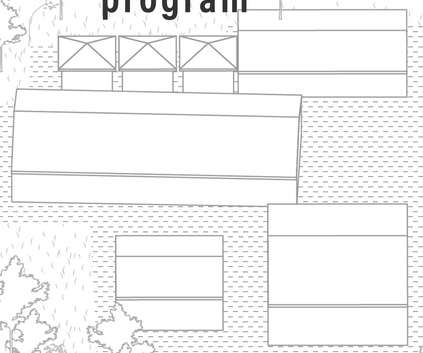
45th year



## future possibilities



## program

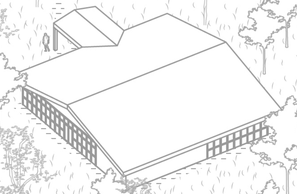


CAFE& RESTAURANT

STUDY PLACES

**DIGITAL ARCHIVE**
international

ADMINISTRATION



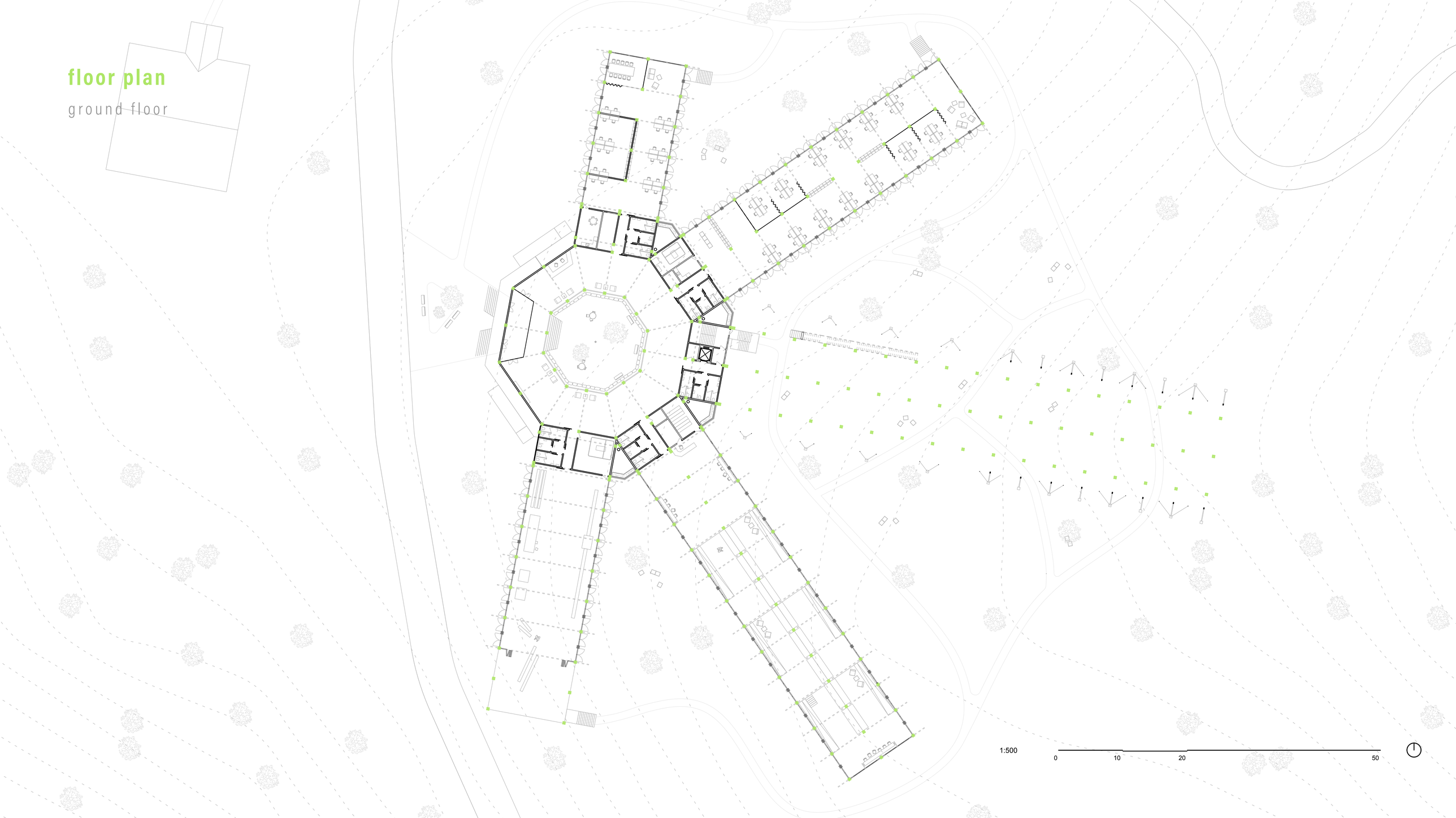
FOYER

WORKSHOP

**PHYSICAL COLLECTION**
local

# floor plan

ground floor

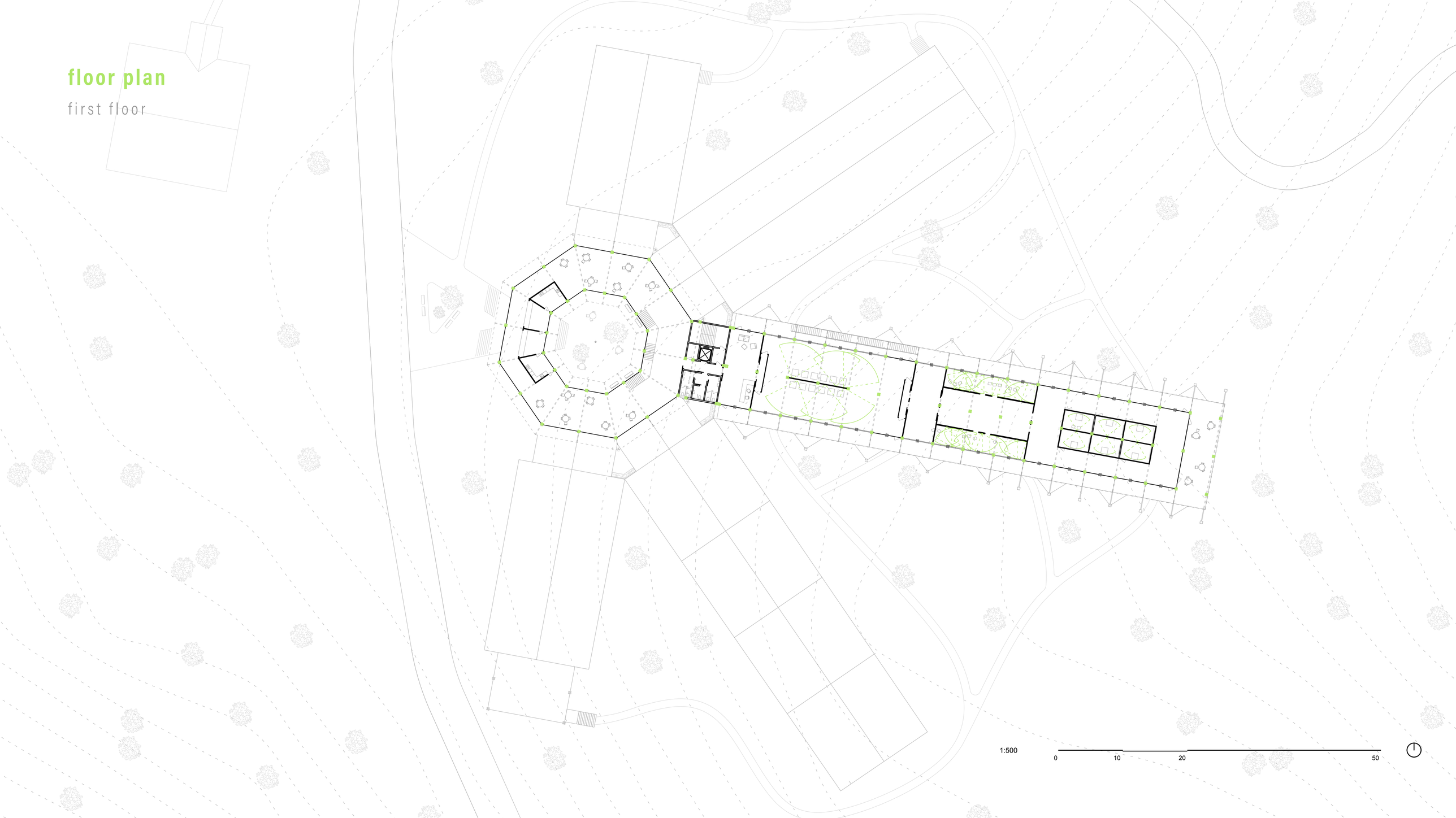


1:500

0 10 20 50

# floor plan

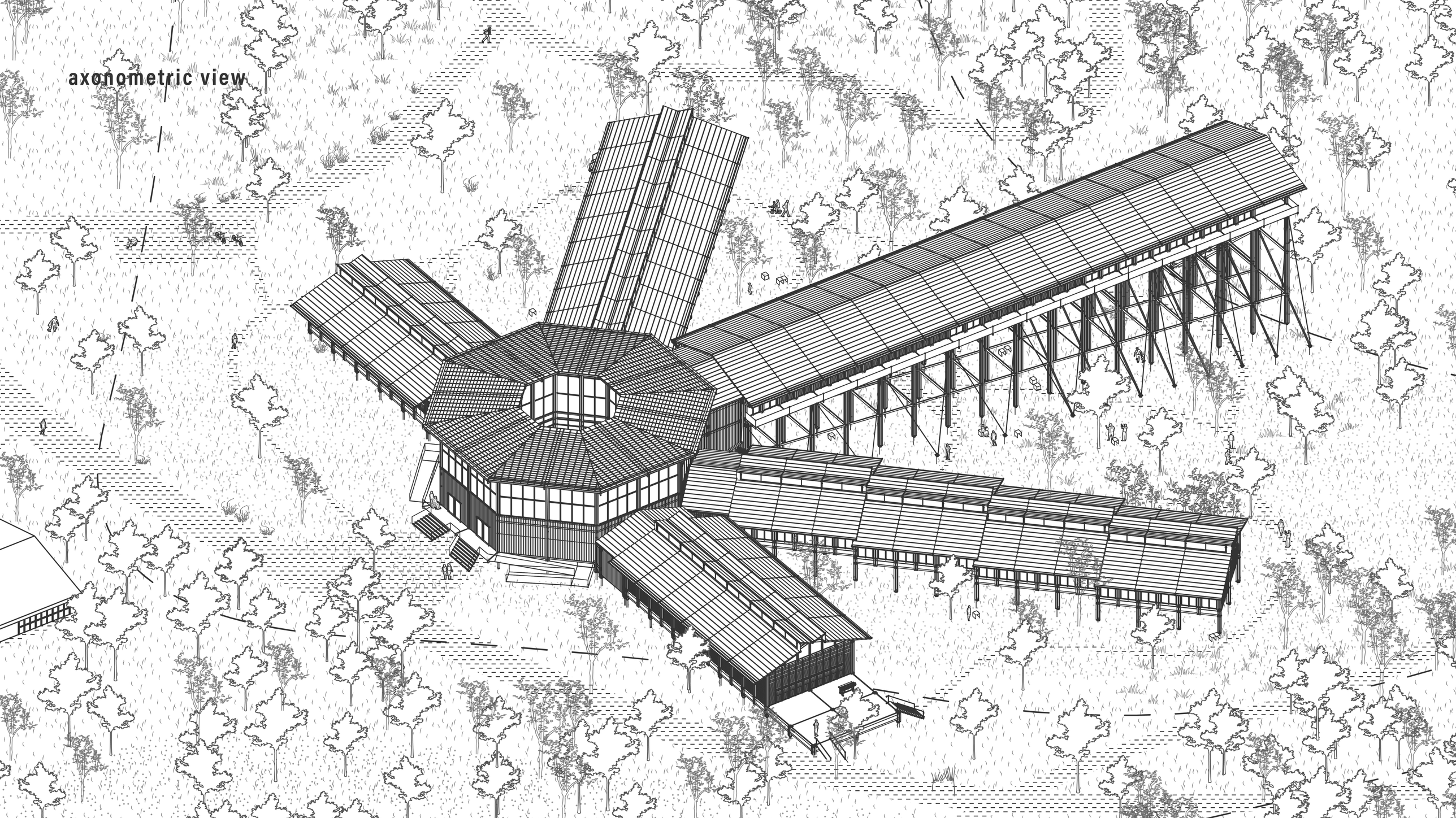
first floor



1:500

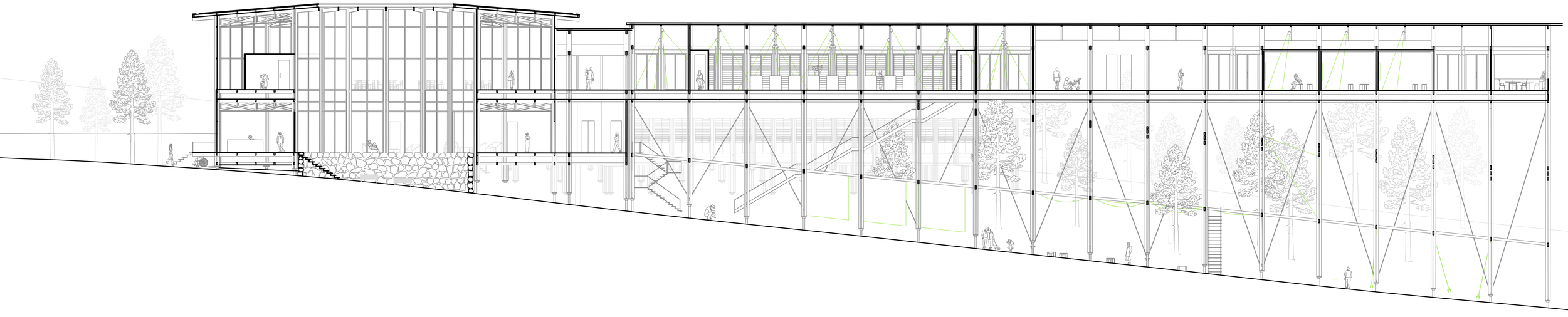
0 10 20 50

# axonometric view



# section

A-A

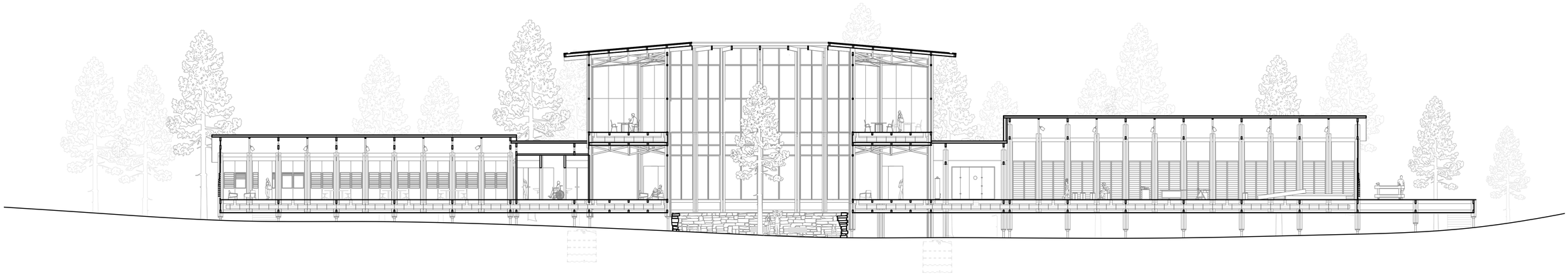


1:200

0 5 10 20

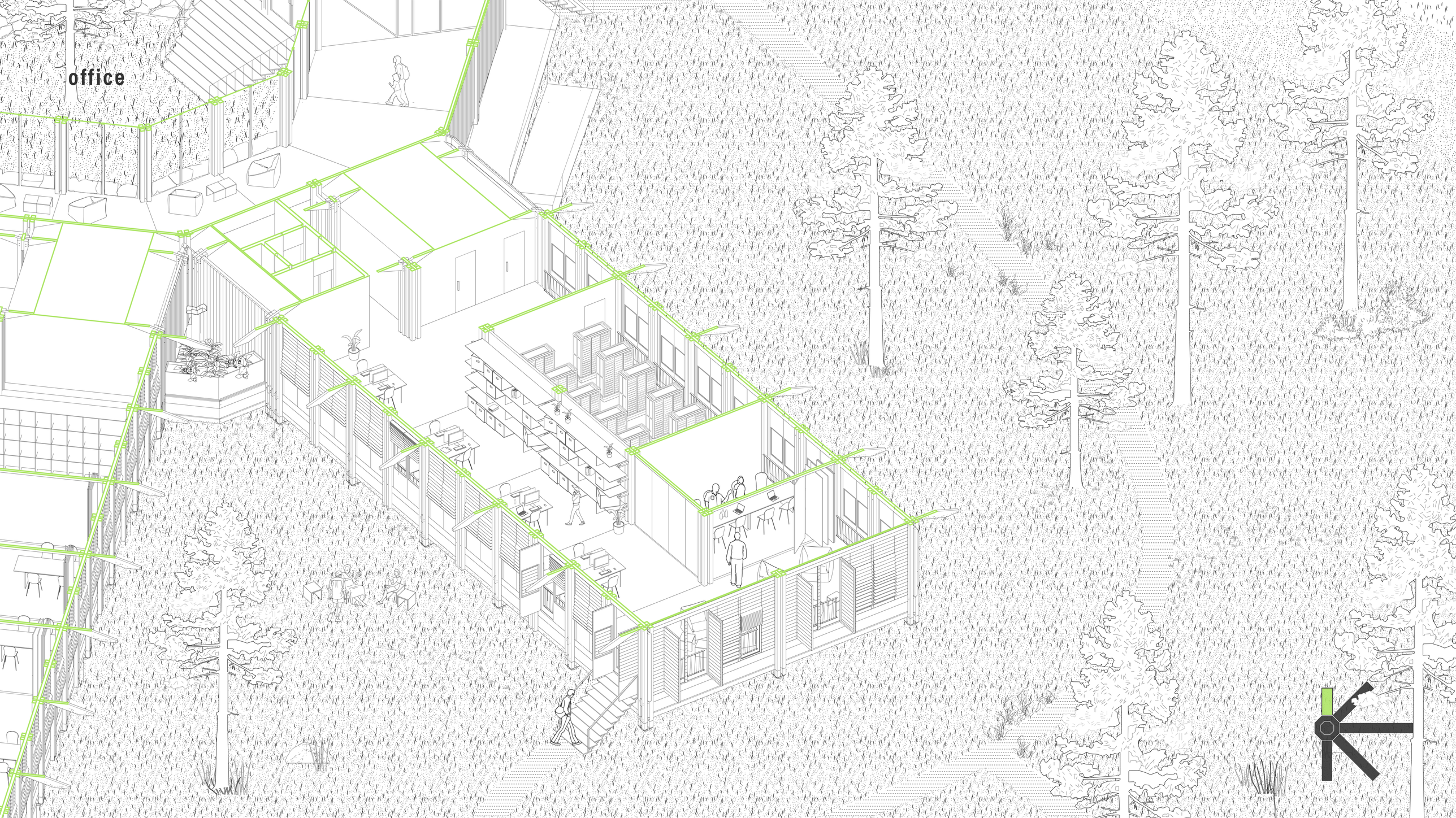
# section

B - B

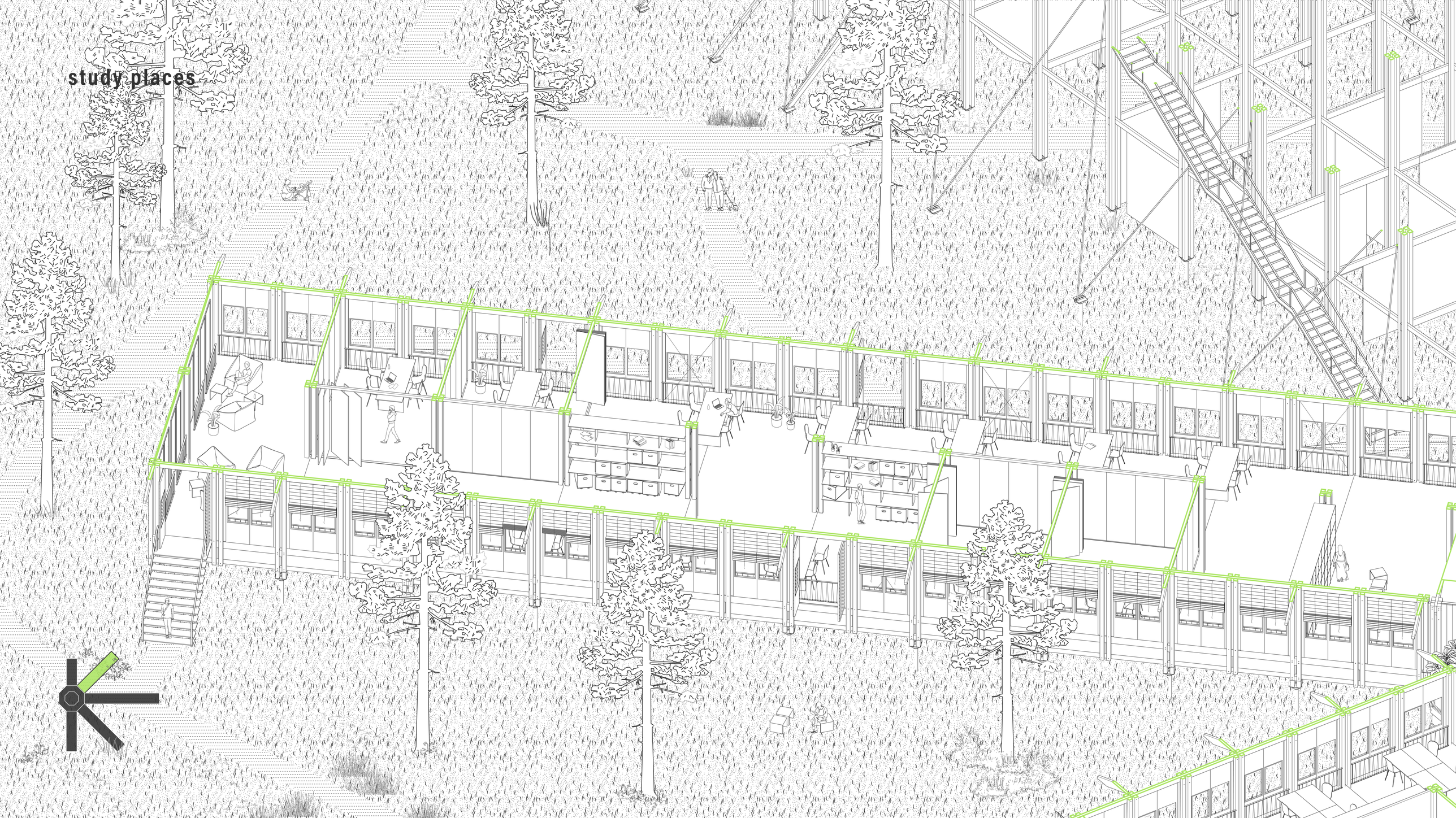


1:200

0 5 10 20


office

study places




workshop

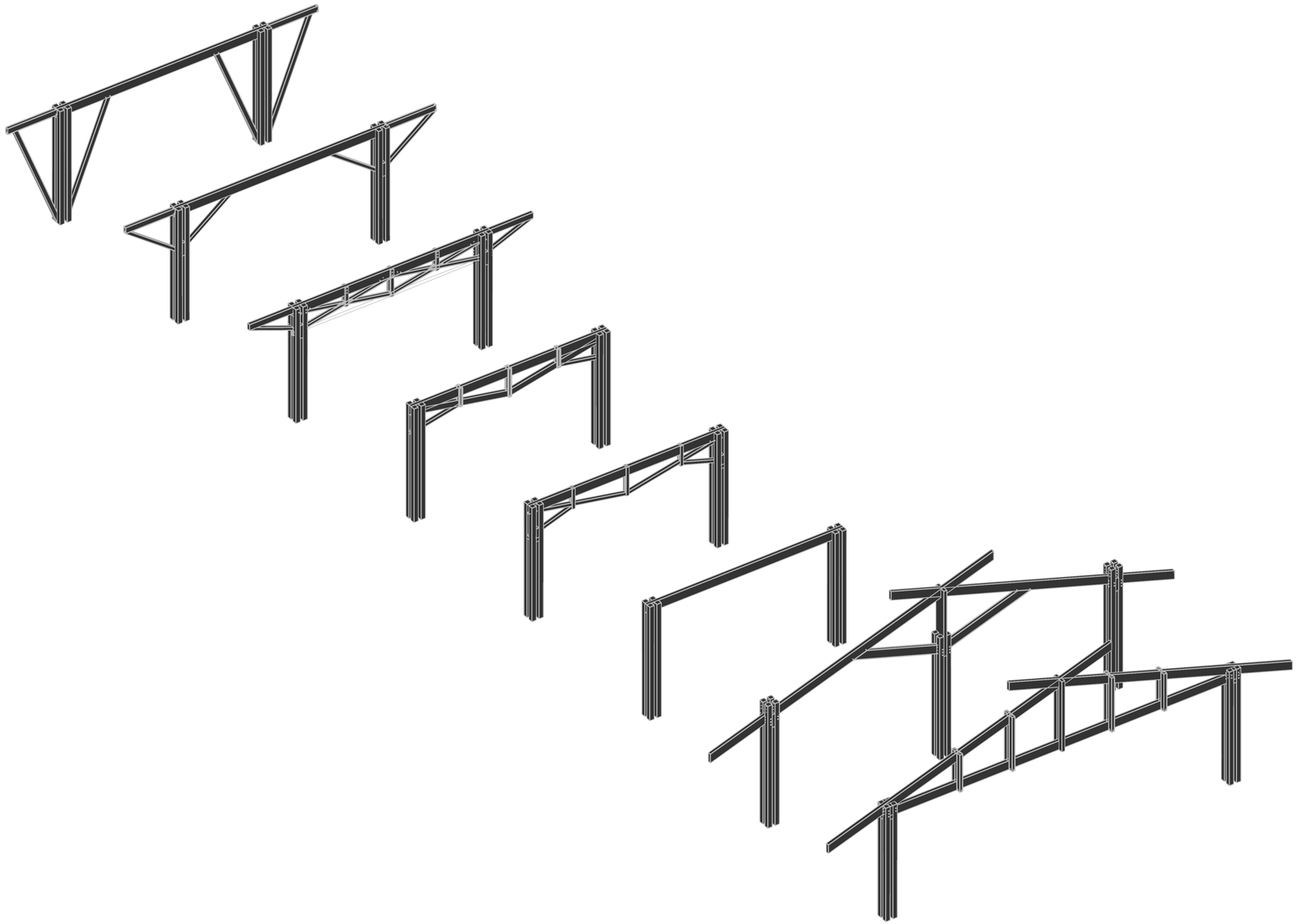
# physical collection




digital archive

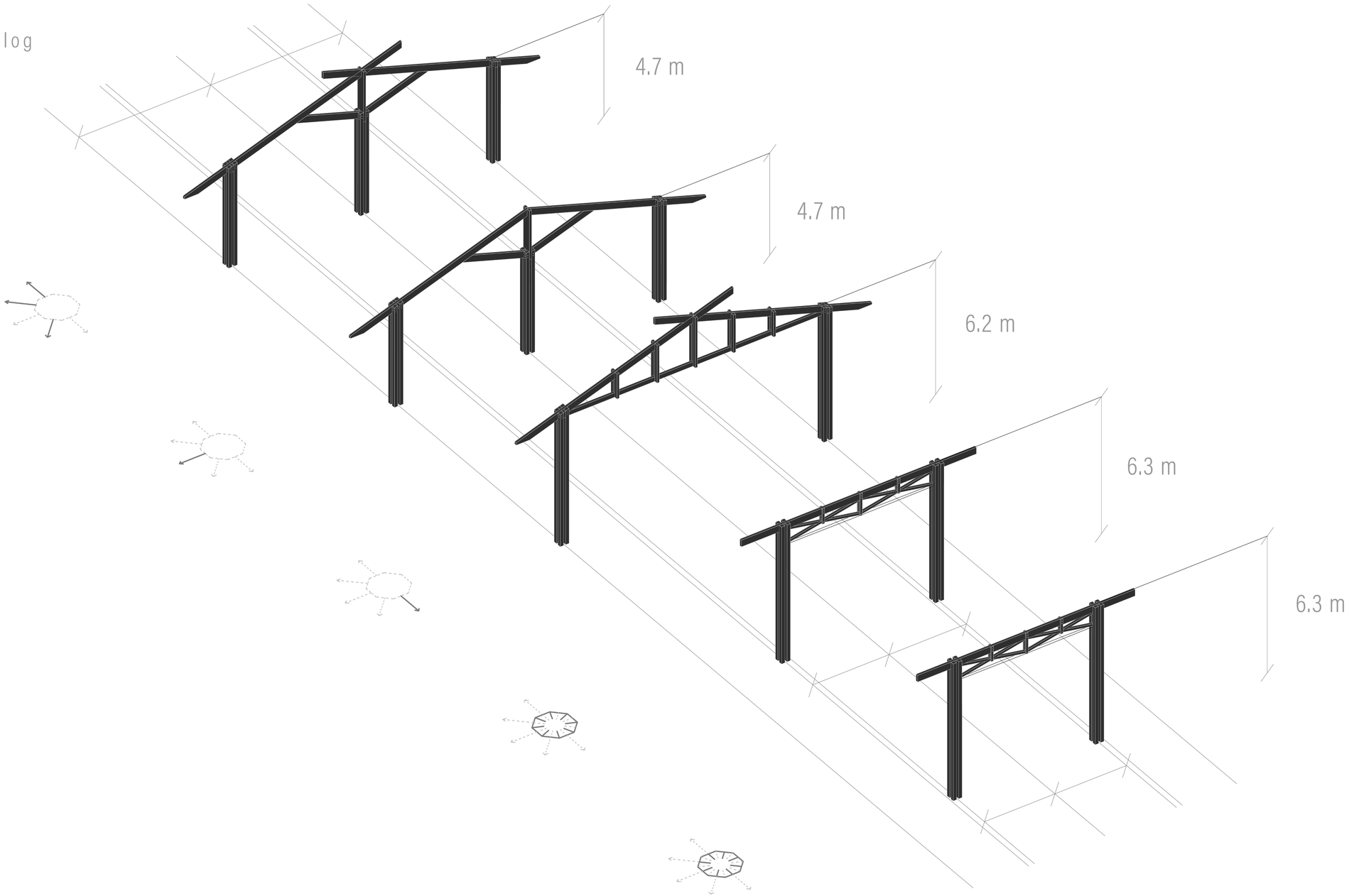
## structure

option studies



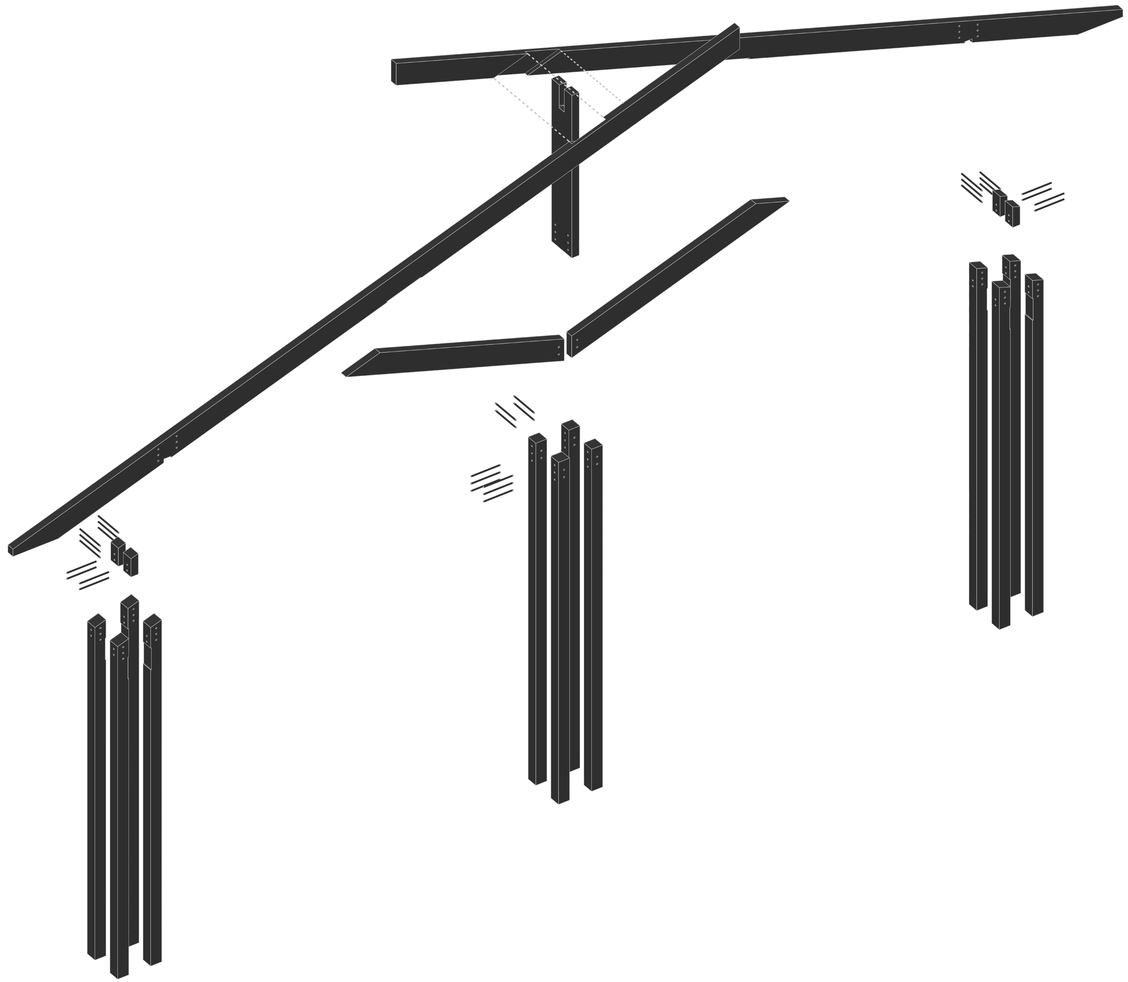
## structure

frame structure catalog



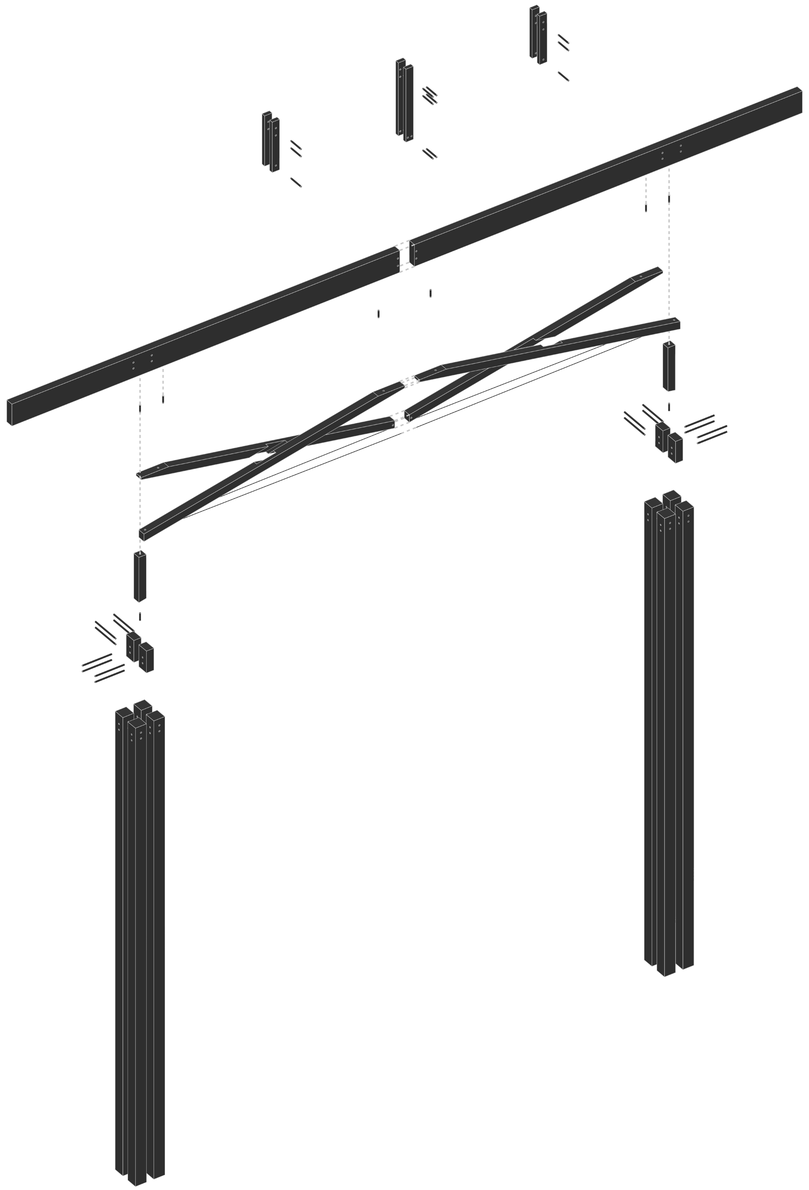
## structure

assembly - frame structure



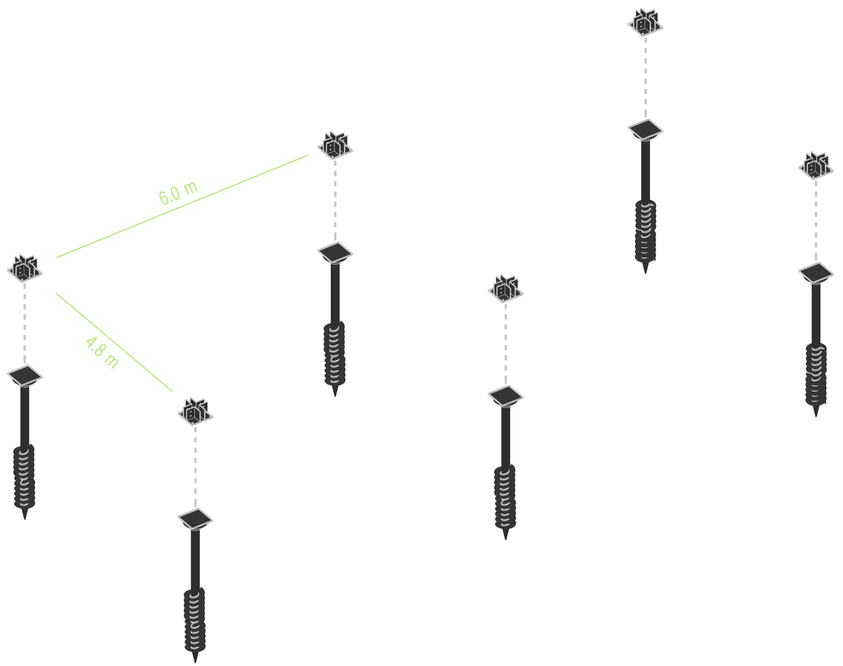
## structure

assembly - ring truss



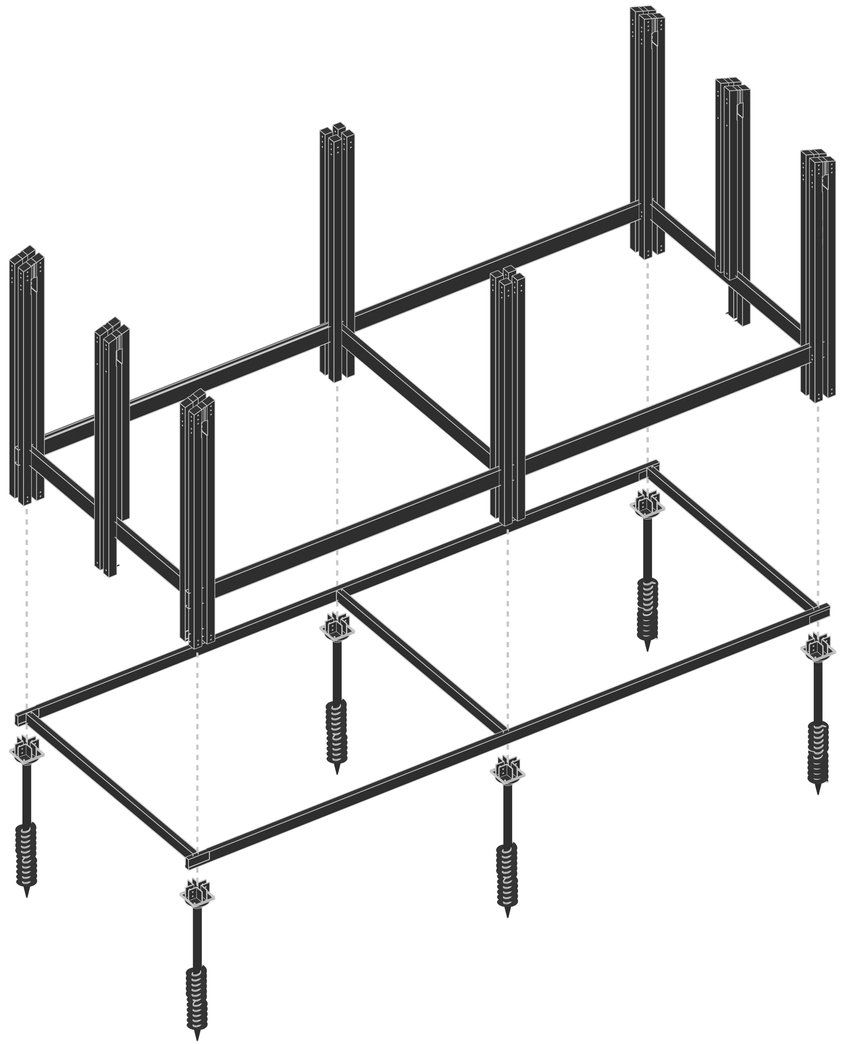
# structure

modular construction



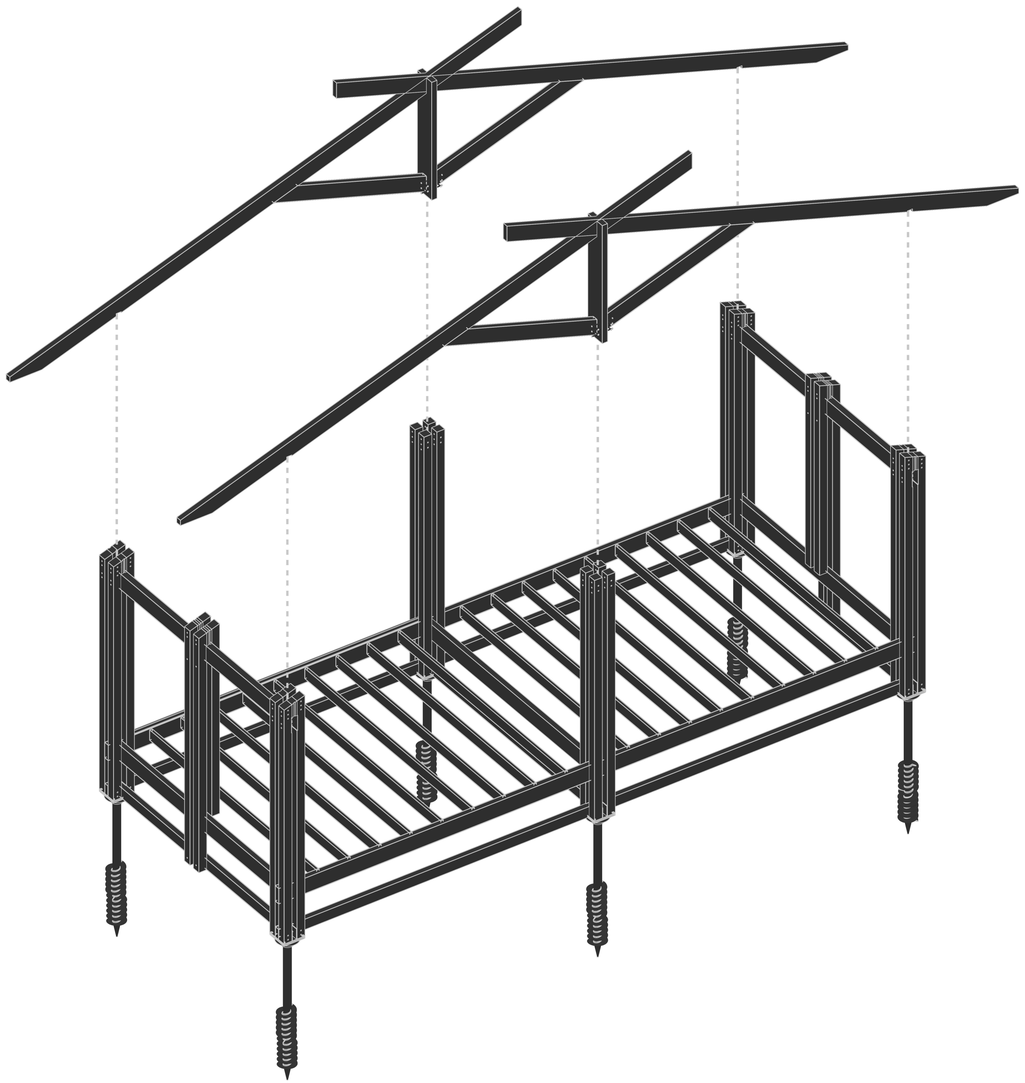
## structure

modular construction



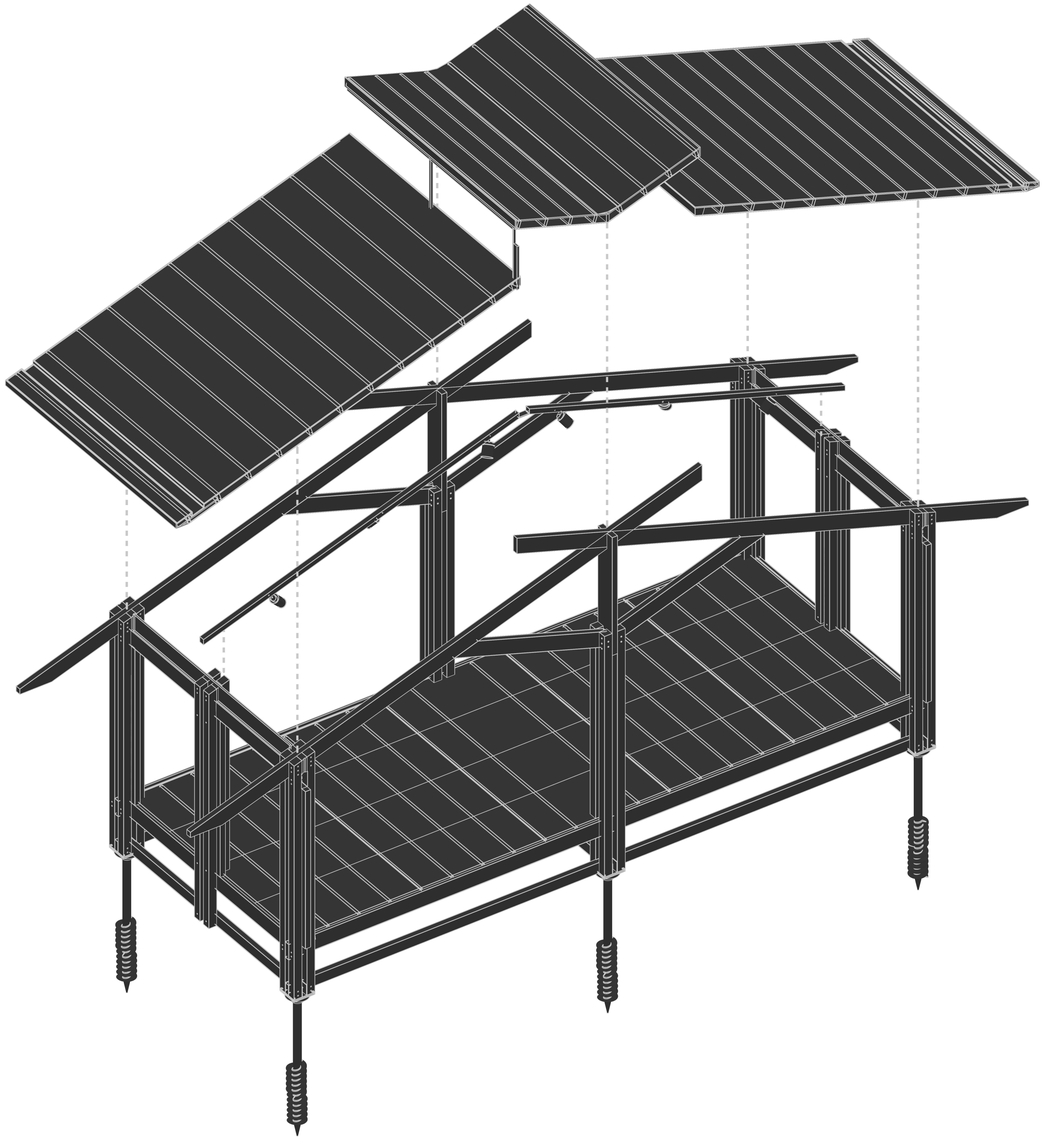
## structure

modular construction



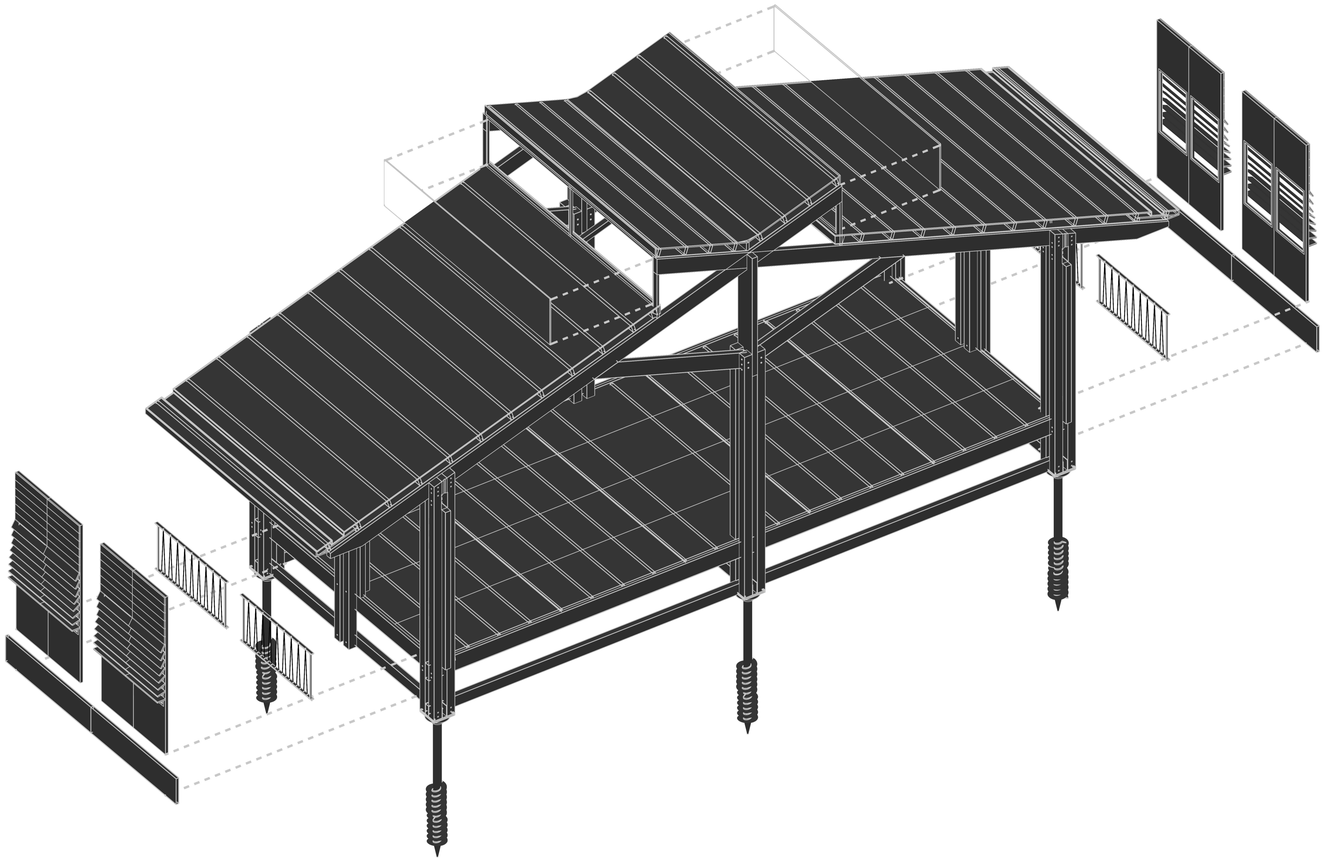
## structure

modular construction



## structure

modular construction



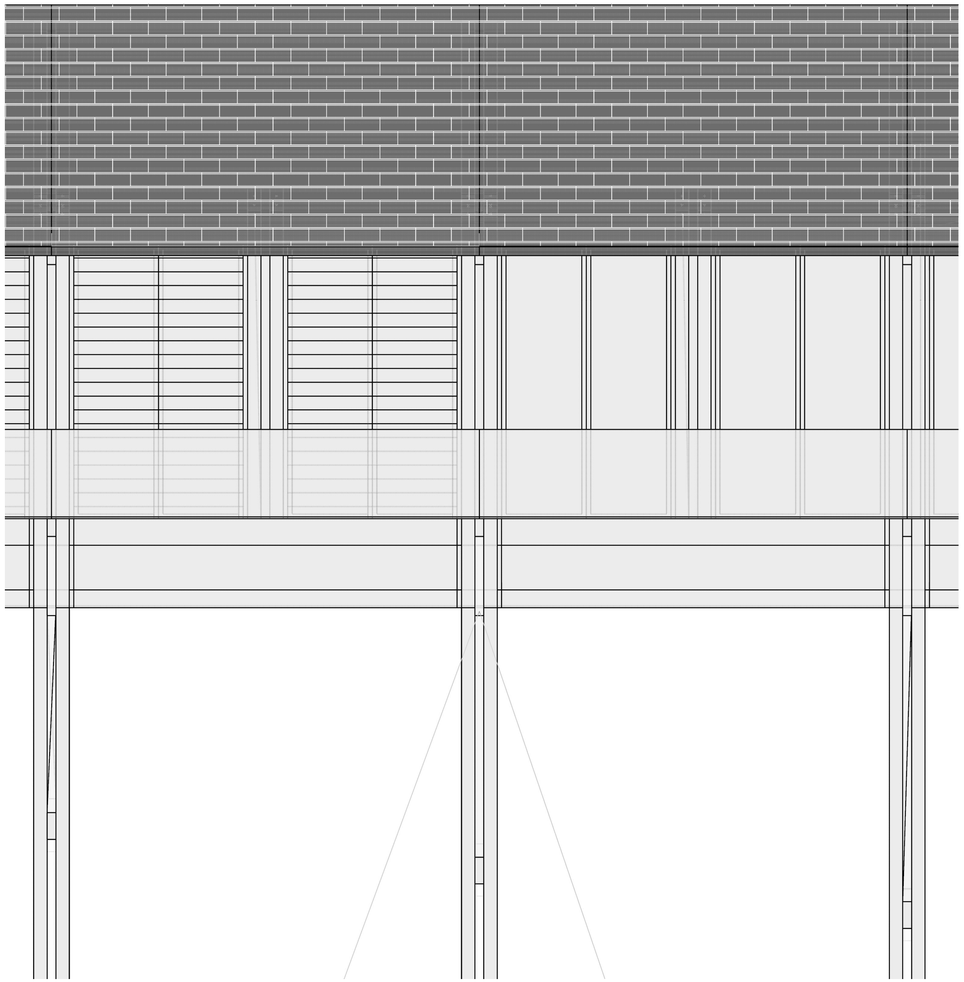
## structure

modular construction



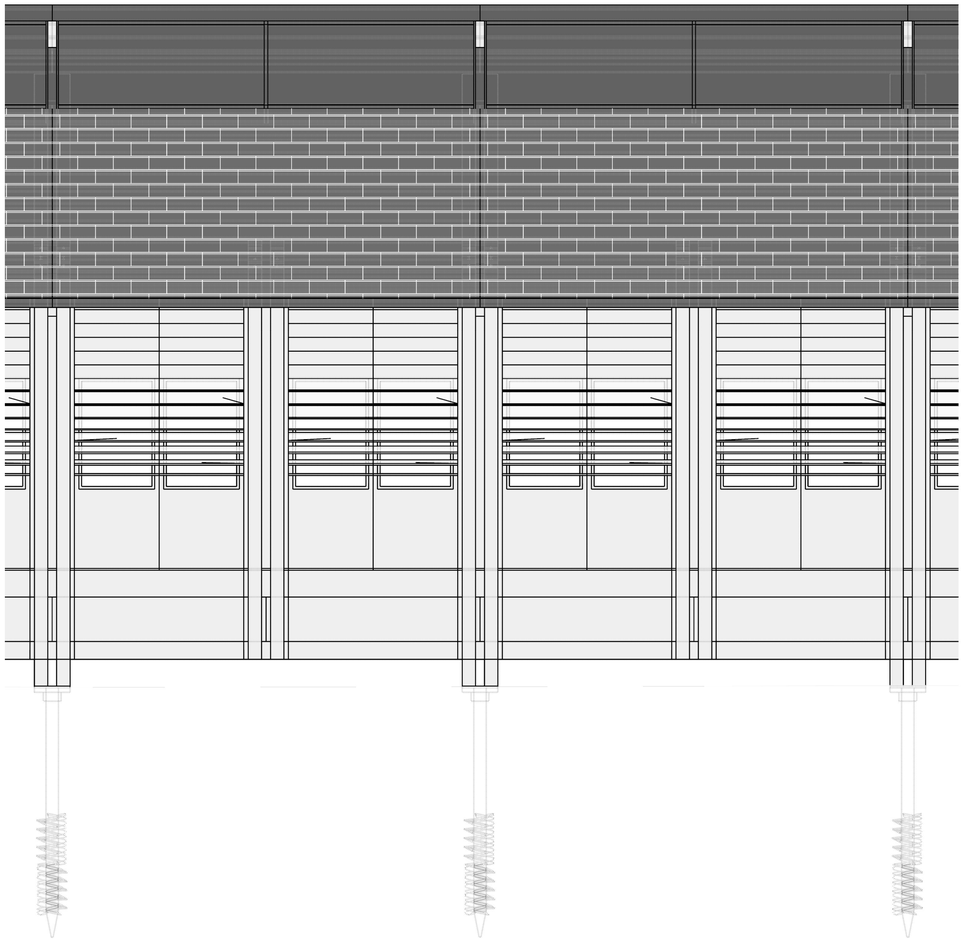
# facade

archive



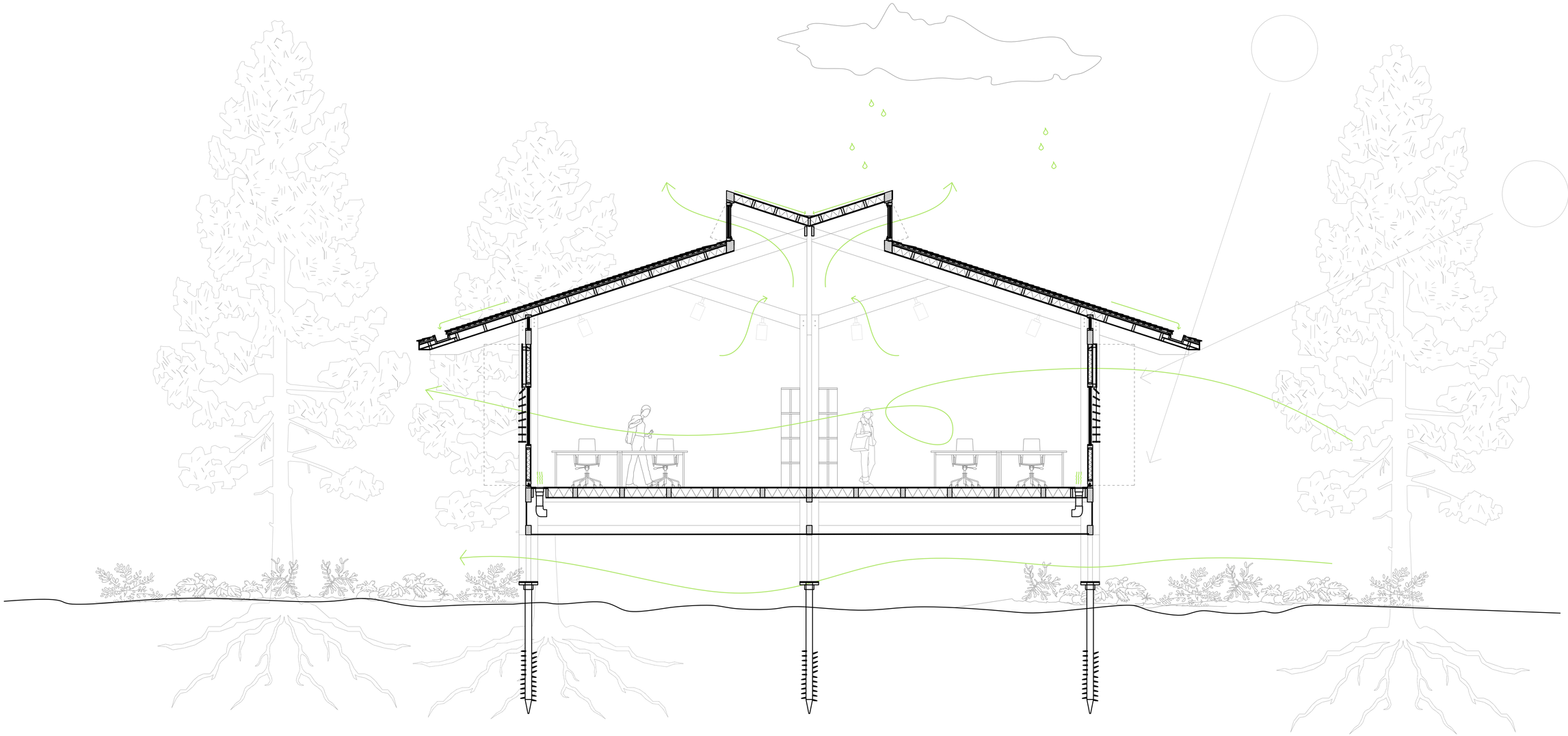
# facade

office & working spaces



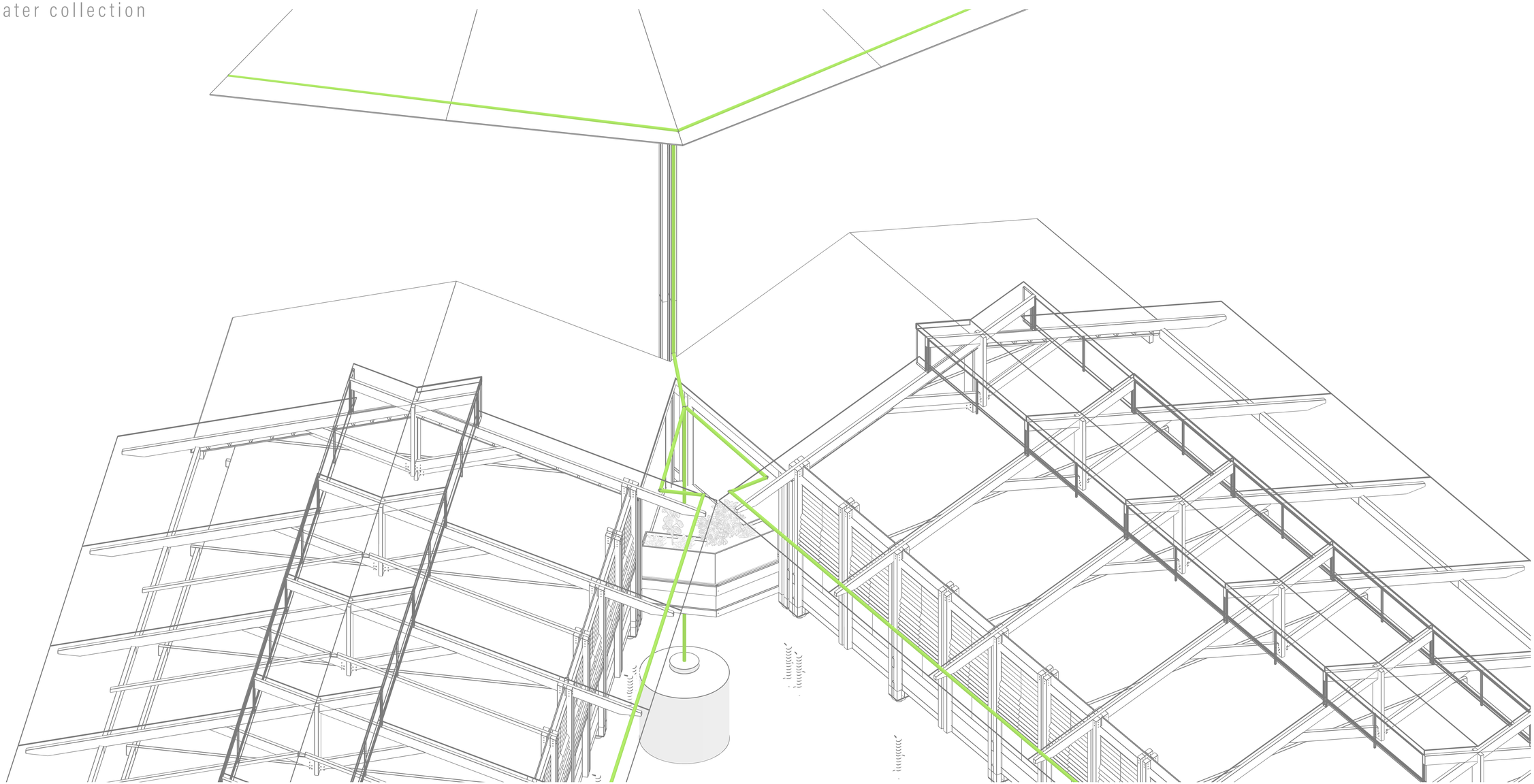
# climate design

1:50 ventilation and climate control



## detail

rain water collection



# detail

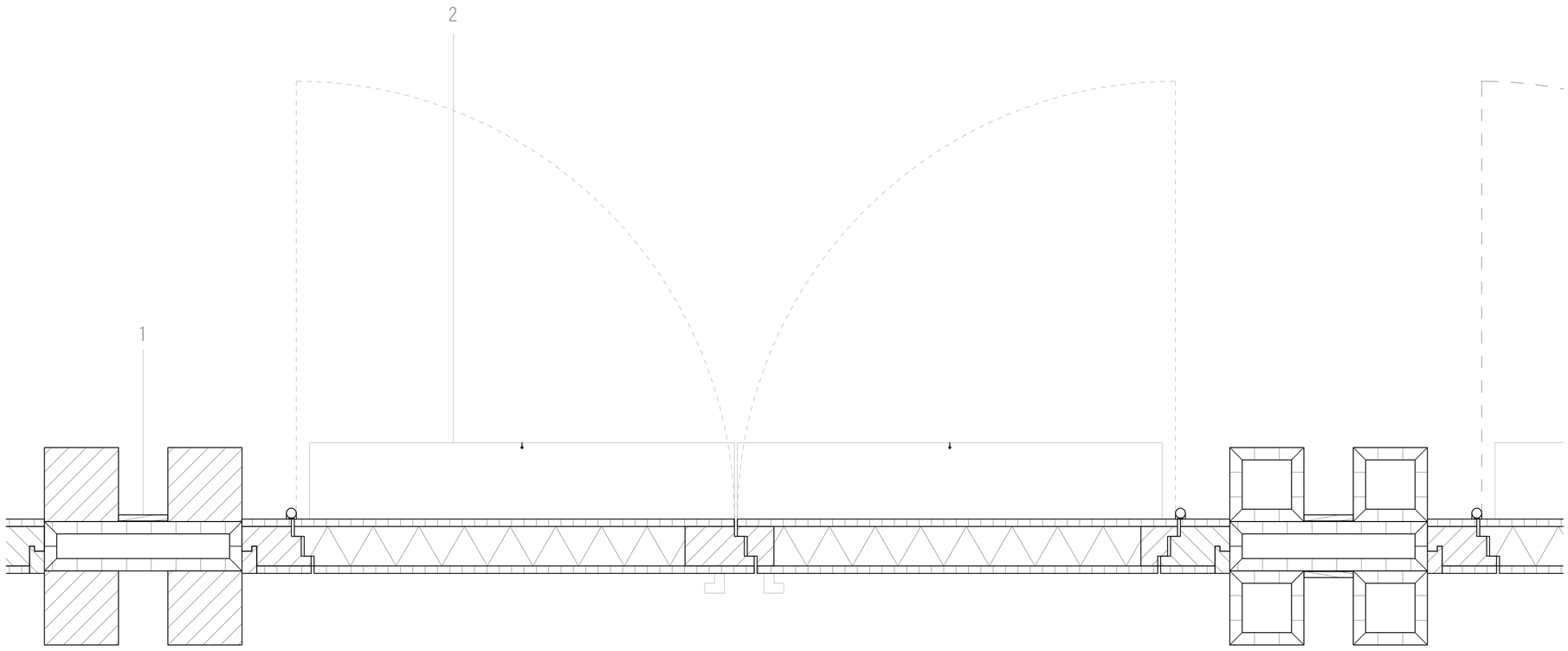
1:5 facade horizontal

1

150/150 mm Pinus Bruta (Turkish Pine)
wooden column
protective plywood
100/400 mm pine wooden box column

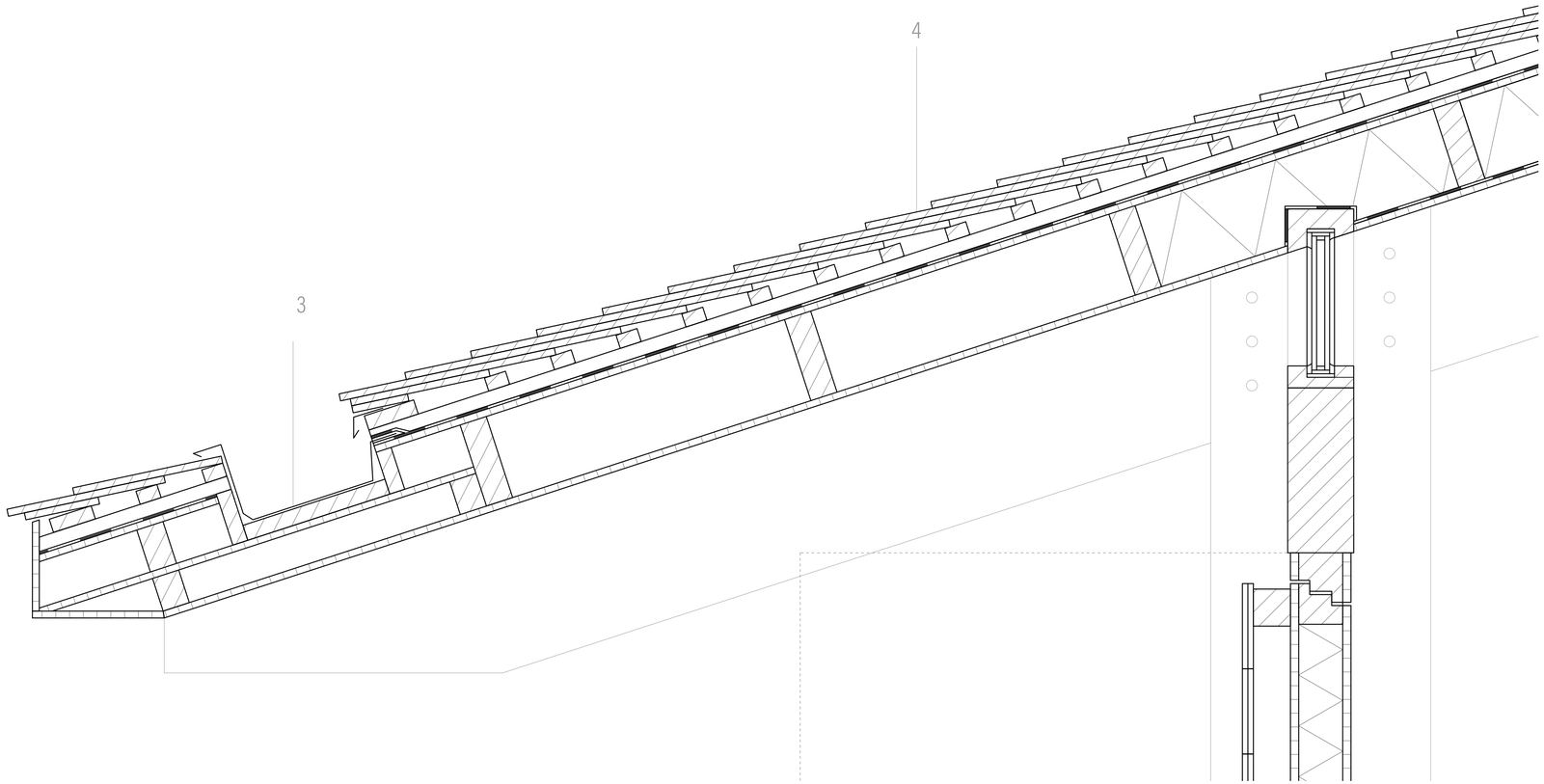
2

155 mm Turkish Pine slat
wooden demountable frame (Pinus Bruta)
plywood 12.5 mm filled with
wood fibre thermal insulation panel 80 mm



# detail

## 1:5 roof-facade section




3

ca. 250/120 mm rain gutter

4

ca. 40 mm threelayer pine shingle roofing (3x 13 mm) to 125 mm gauge

40/25 mm battens

60/25 mm counterbattens

two-layer bituminous seal

plywood 12.5 mm filled with 150 mm EPS thermal insulation
vapour barrier

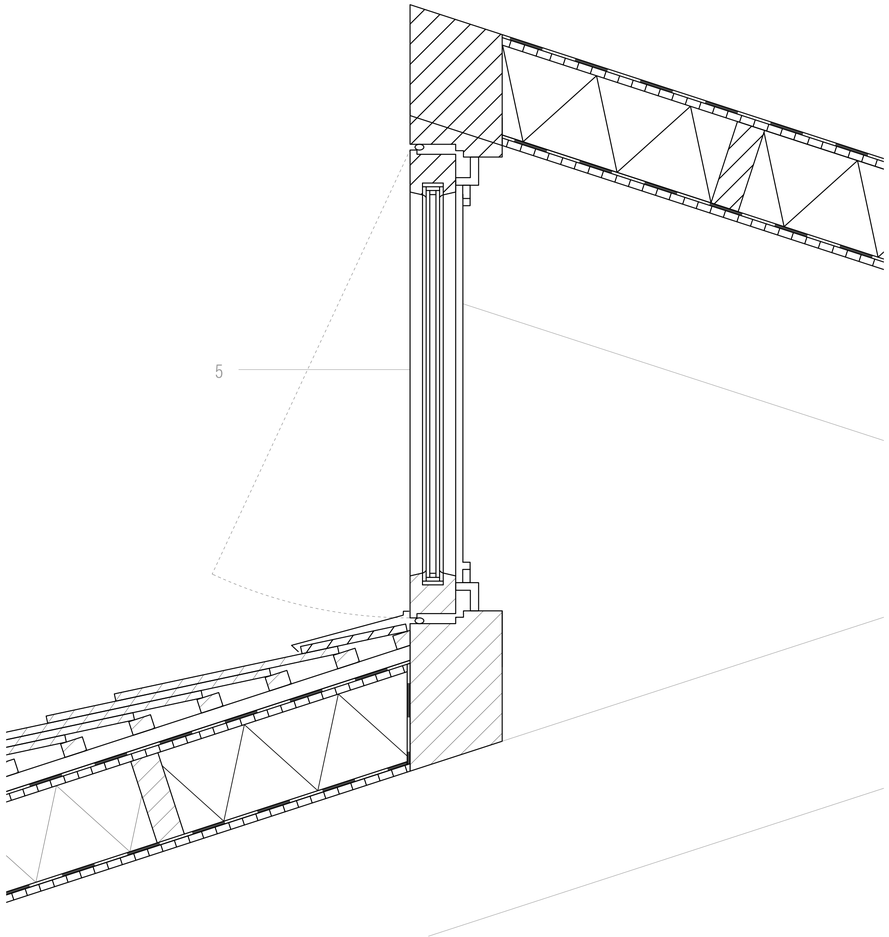
300/100 mm Pinus Bruta wooden beam

# detail

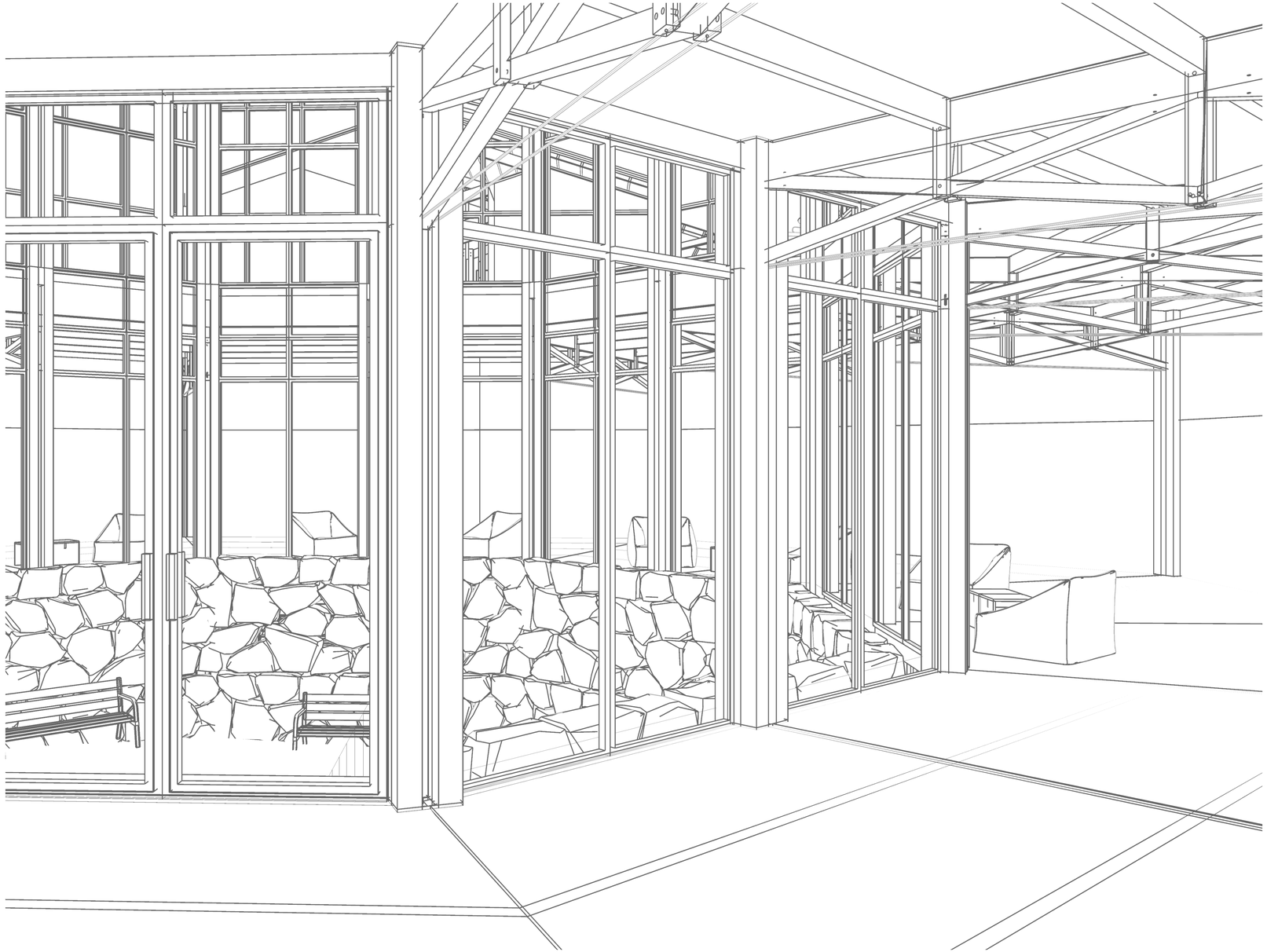
## 1:5 roof skylight section

5

demountable openable skylight -
insulating glazing in oiled pine frame



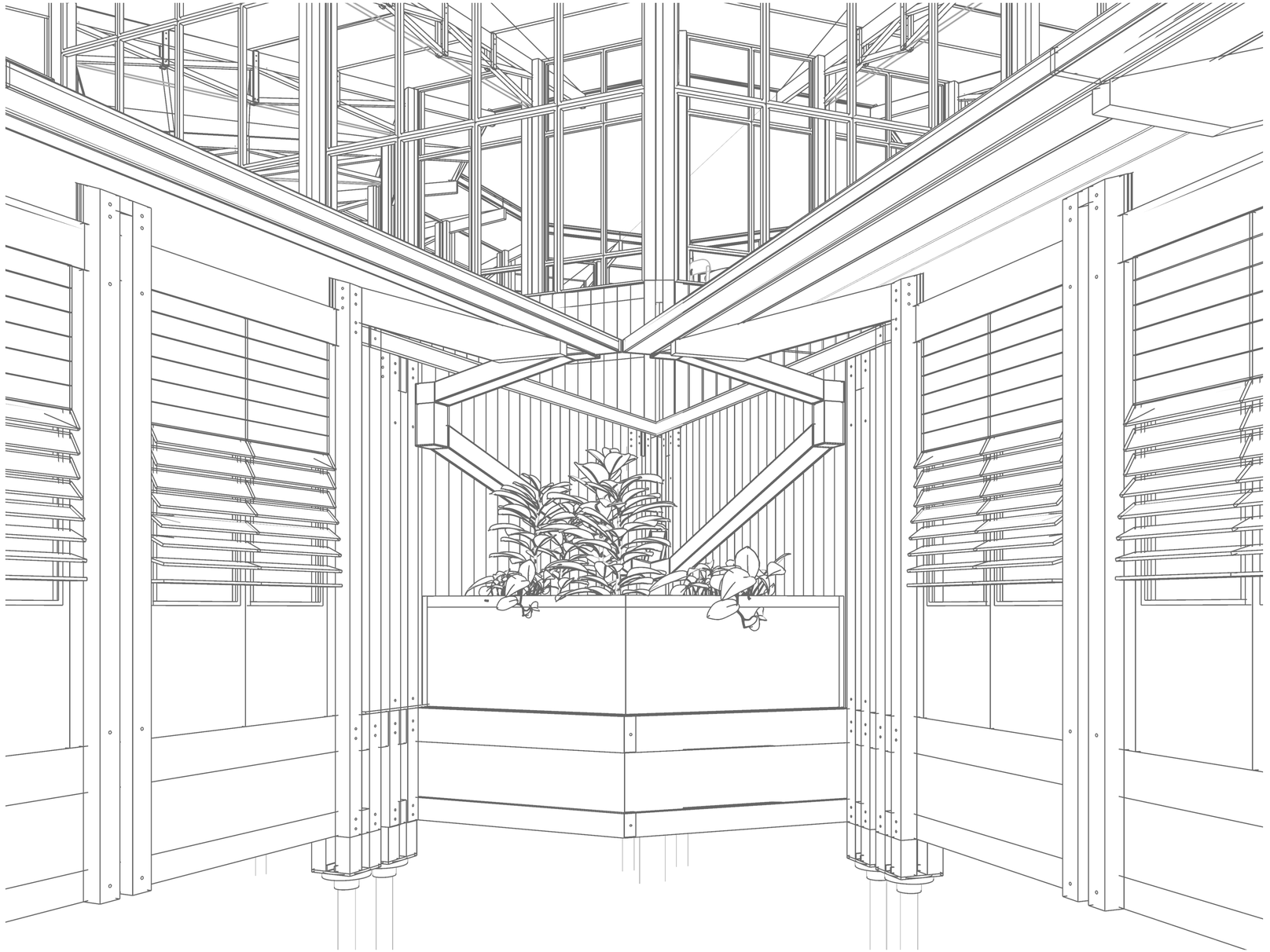
# atmospheric view



# atmospheric view



## atmospheric view



## interior

study place



## details

study place



# exterior

digital archive



# facade

digital archive




thank you