

Taste of the Reitdiep

Agricultural Continuity in a Shifting Landscape

Technologies & Aesthetics
P5 Presentation 19/06/2024
Mila Kovacev

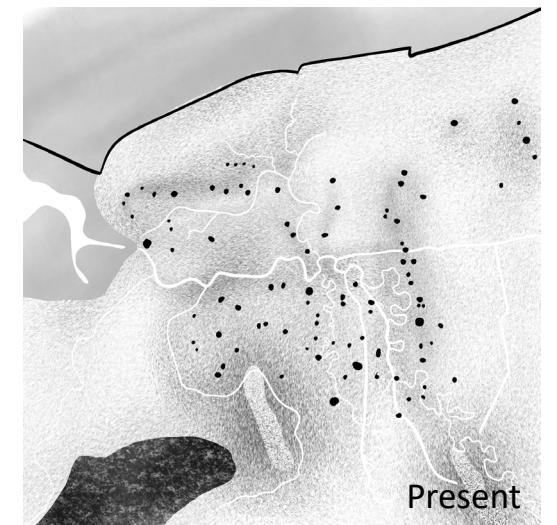
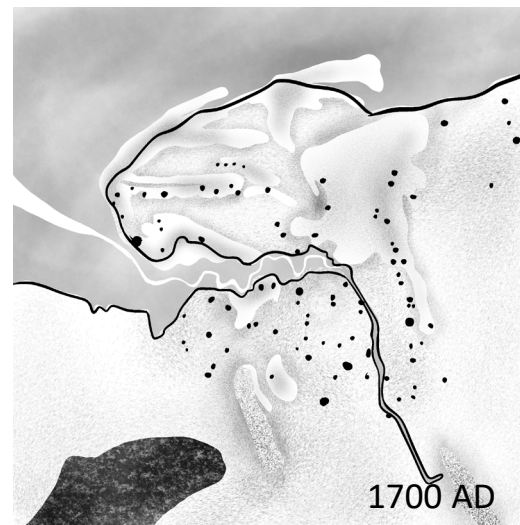
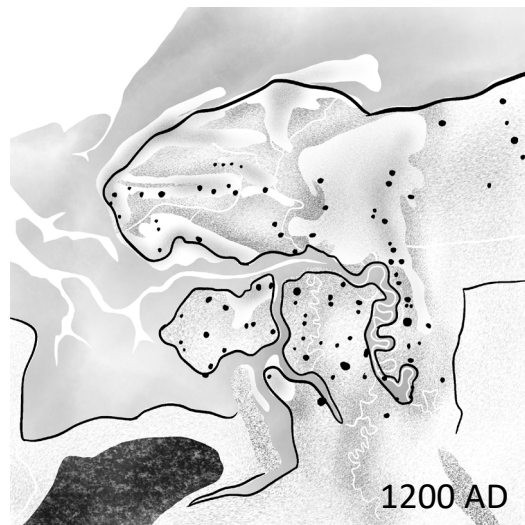
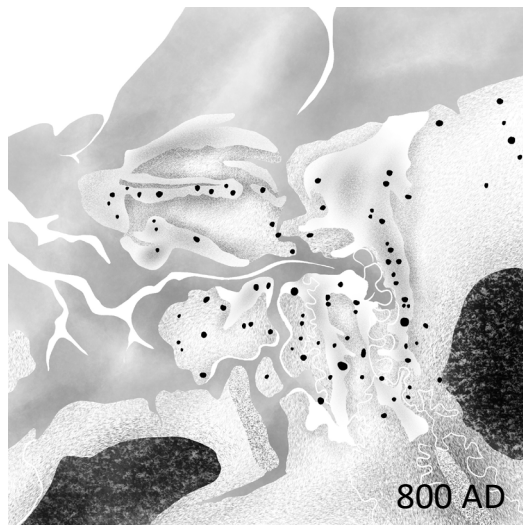
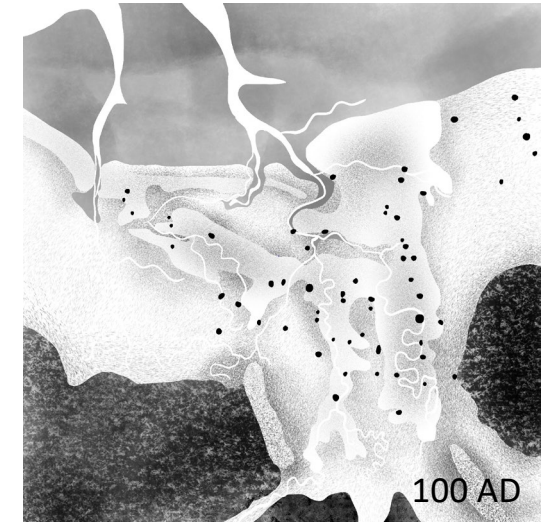
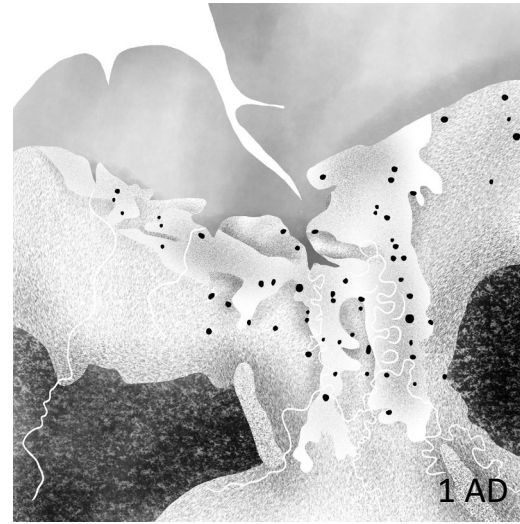
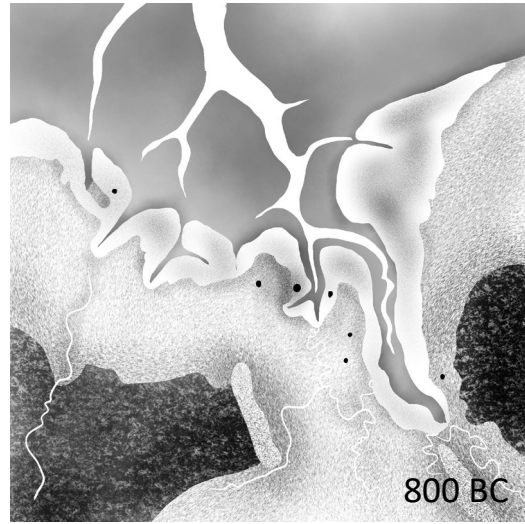
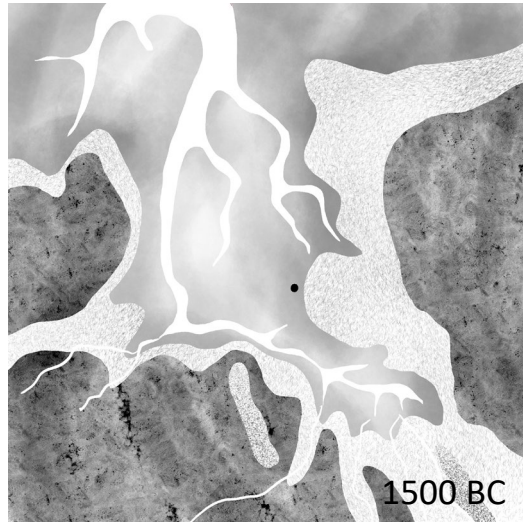


The Context



Groningen

Landscape formation Northwest Groningen



The Context



Groningen

Land use
Agriculture

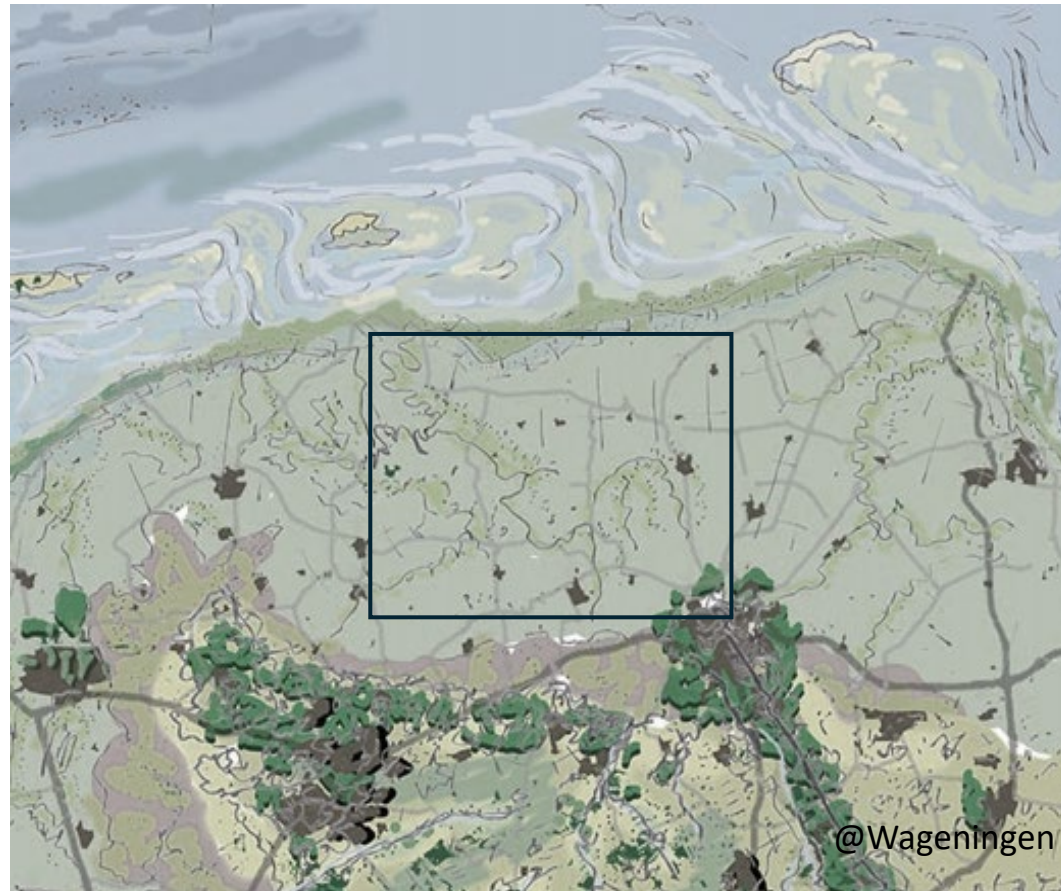


Arable farming (seed potato, sugar beet, winter wheat)



Dairy farming

Future of the site?
Northwest Groningen



Salt marsh landscape
coastal protection

The Challenges

Water

Rising sea levels
Rising ground water levels

Agriculture

Soil degradation
Nitrogen
emissions

Climate

C02 emissions
Loss of
biodiversity

The Challenges

Water

Rising sea levels
Rising ground water levels

Agriculture

Soil degradation
Nitrogen
emissions

Climate

C02 emissions
Loss of
biodiversity

The current agricultural system relies on a static and predictable environment. However, this approach is becoming less sustainable. Could accepting the landscape as dynamic lead to a more resilient system?

What about the agriculture?

Productive

Large scale

Global market

Monocultures

Static

Hard boundaries

Agriculture

Private

What about the agriculture?

Productive

Large scale
Global market
Monocultures
Static
Hard boundaries
Agriculture
Private

Performative

Small scale
Local market
Local diversity
Dynamic
Soft boundaries
Agrotourism
Public

Research Question

How can architecture both preserve the past and accommodate the future through the experience of food in the context of a changing landscape?

Research Question

How can architecture both preserve the past and accommodate the future through the experience of food in the context of a changing landscape?

Temporality

Permanent

Temporary

Seasonal

Adaptive

Research Question

How can architecture both preserve the past and accommodate the future through the experience of food in the context of a changing landscape?

Temporality

Permanent
Temporary
Seasonal
Adaptive

Taste

Sensory
Local identity
Cultural
Social

Research Question

How can architecture both preserve the past and accommodate the future through the experience of food in the context of a changing landscape?

Temporality

Permanent
Temporary
Seasonal
Adaptive

Taste

Sensory
Local identity
Cultural
Social

Visitor route
Tasteries and attractions along the Reitdiep

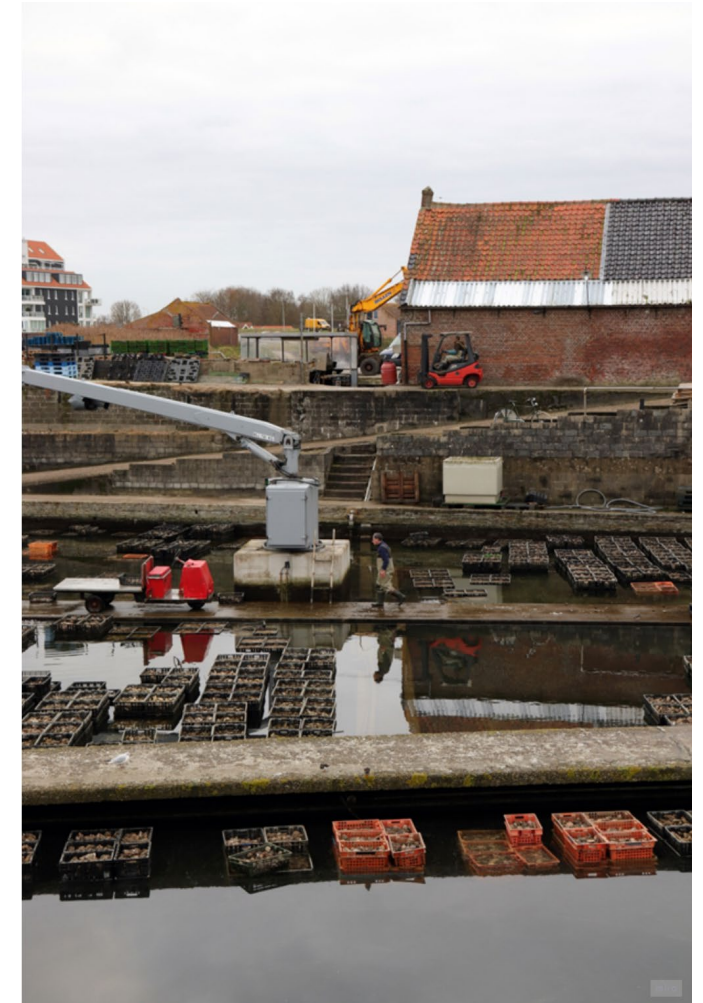
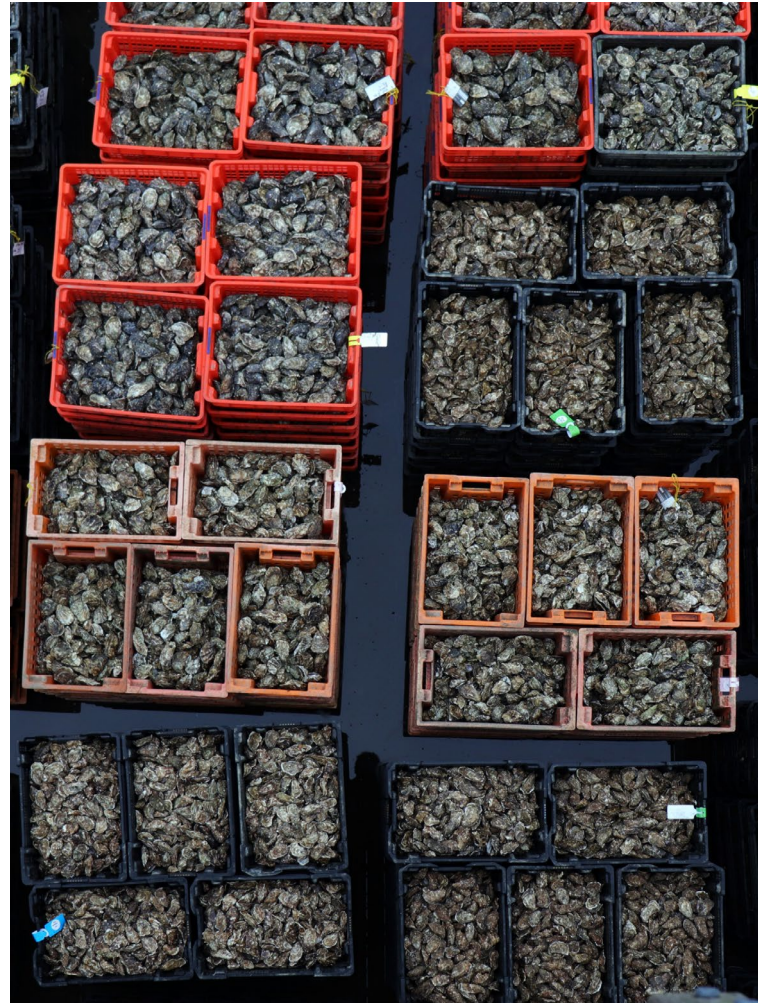


Touristic route
Tasteries and attractions along the Reitdiep



What happens when this area becomes a salt marsh landscape?
Tourism – dynamic experience
Agriculture – oyster farming

Excursion
Salt marsh oyster farming
Yerseke, Zeeland



Excursion
Salt marsh oyster farming
Yerseke, Zeeland



Salt marsh at high tide
Oyster tables

Excursion
Salt marsh oyster farming
Yerseke, Zeeland



Oyster pools &
Tasting rooms above

Excursion
Salt marsh oyster farming
Yerseke, Zeeland



Old roof tiles
Used as hard bedding
Placed at the bottom of the salt marsh

Clay

Starting the research with a material

Baked clay (bricks and roof tiles) is prominent in this whole region's architecture



Garnwerd, Groningen

Fertile **raw clay** drives its agricultural economy and is not as visible.



@Saar van Greevenbroek

Clay

Starting the research with a material

Baked clay (bricks and roof tiles) is prominent in this whole region's architecture



Garnwerd, Groningen

Fertile **raw clay** drives its agricultural economy and is not as visible.



Excursion

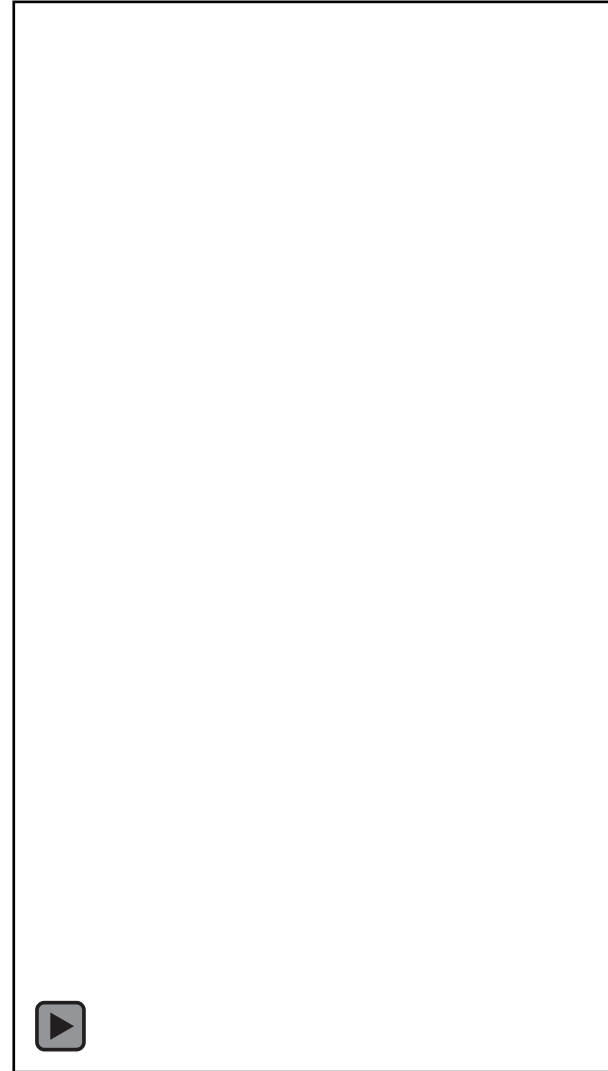
Wienerberger Roof tile factory, Deest

Process

Automated

Efficiency

New technology



Result

Standard products

Large scale production

Global outreach

Application

Reuse as cultural layer

Whole and crushed as aggregate



Excursion
Vogelensangh, Deest

Process
Ring oven
Less efficient
Old technology



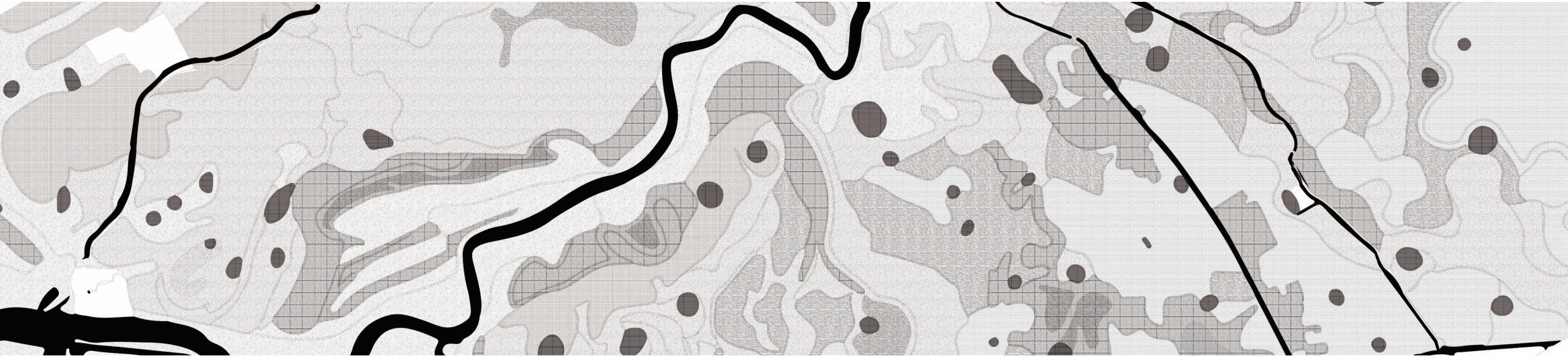
Result
Irregular shape
Irregular colour

Application
Reuse; Aggregate



Geological Map

Selected site



nature of the clay
construction condition
limescale progression
landform

normal clay
light clay
calcareous
salt marsh wall

normal clay
heavy sand
calcareous
residual channel

crunchy clay
clay
low in lime
salt marsh wall

crunchy clay
light sand
low in lime
plain of tidal
deposits

normal clay
light sand
low in lime
plain of tidal
deposits

crunchy clay
clay
low in lime
plain of tidal
deposits

no data
clay
low in lime
plains created by excavation

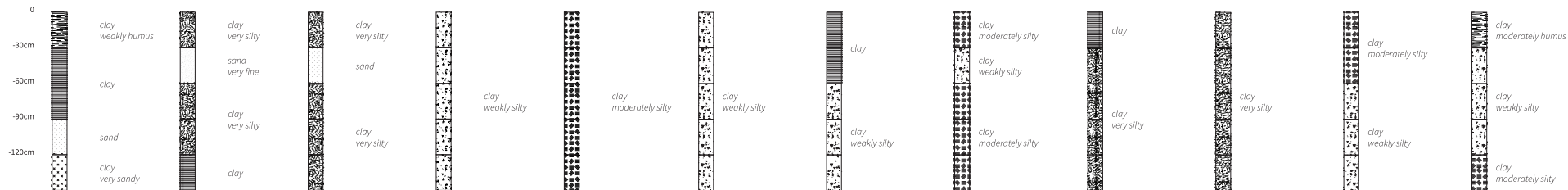
crunchy clay
sand and heavy clay
low in lime
plain of tidal
deposits

normal clay
light clay
calcareous
tidal estuary ridge

crunchy clay
heavy clay
low in lime
plain of tidal estuary
deposits

normal clay
clay
low in lime
residual channel

crunchy clay
heavy clay
low in lime
plain of tidal
estuary deposits



Extraction locations
Varied clay types and geomorphologies



01

02 03

04

05 06

07 08

09

10

11

12 13

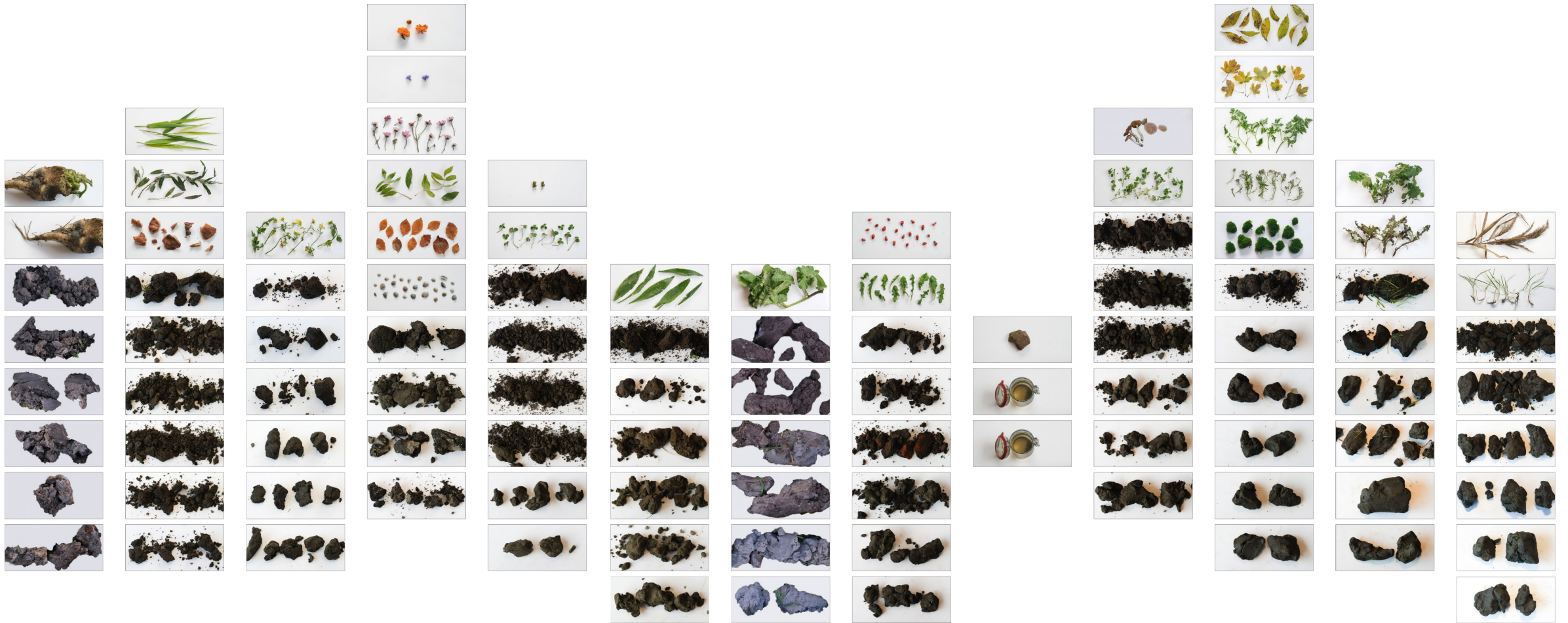
Extraction and Collection



Earth Auger
120 cm deep
20 cm
biomaterial

Sapmples

Clay and biomaterial



01

02

03

04

05

06

07

08

09

10

11

12

13

Processing
Plants – lake pigment method



@Saar van Greevenbroek

Processing
Clay – drying, settling, grinding



@Saar van Greevenbroek

Exhibition - outcome



Rammed earth workshop
Raw earth as a building material

Testing different earth mixes
Different quantities of water
Varying pressure



@Babette van Tilborg

Rammed earth workshop
Raw earth as a building material



@Babette van Tilborg

Rammed earth columns
Rammed earth wall
Compressed Earth Block (CEB)

Rammed Earth Excursion
Observation Tower, Belgium
De Gouden Linaal Architecten, 2016



Rammed Earth & Temporality

@De Gouden Linaal Architecten

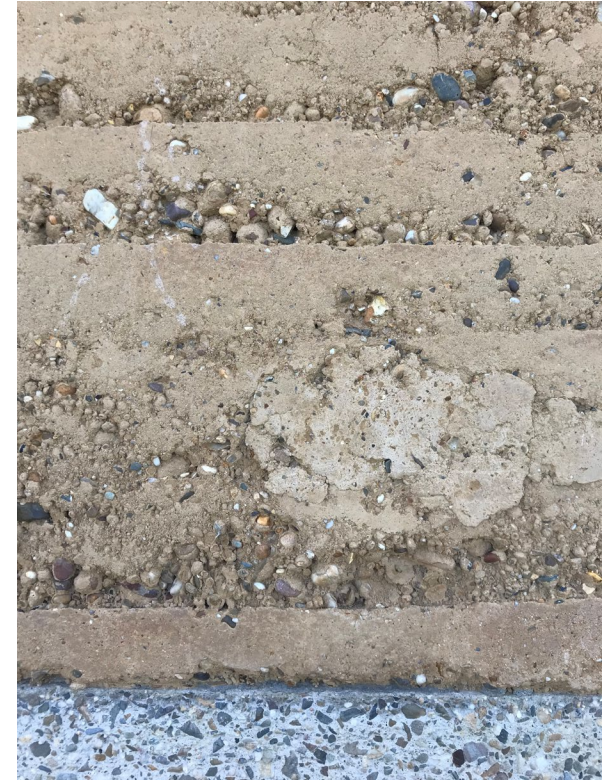
Rammed Earth Excursion
Observation Tower, Belgium
De Gouden Linaal Architecten, 2016

Protected
sheltered
smooth



Rammed Earth Excursion
Observation Tower, Belgium
De Gouden Linaal Architecten, 2016

exposed
worn
rough



Research Takeaways

Function

Adaptive (temporal)
Productive & performative
Embedded into the
landscape

Materiality

Temporality (soft & hard)
Mainly Local materials (clay)
Layering – weaving of old and
new materials

Climate

Natural materials
High thermal mass
Natural insulation

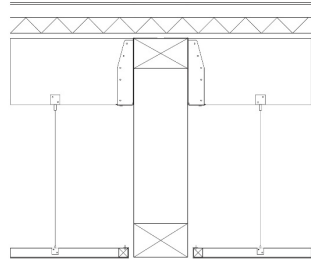
Design/Form

Approaching the building, view from the touristic route

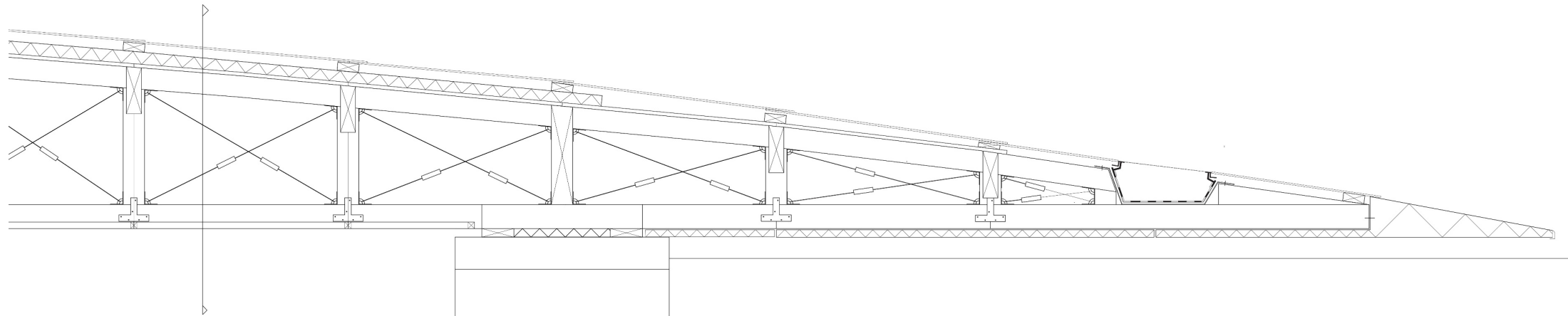


Roof detail

1:10

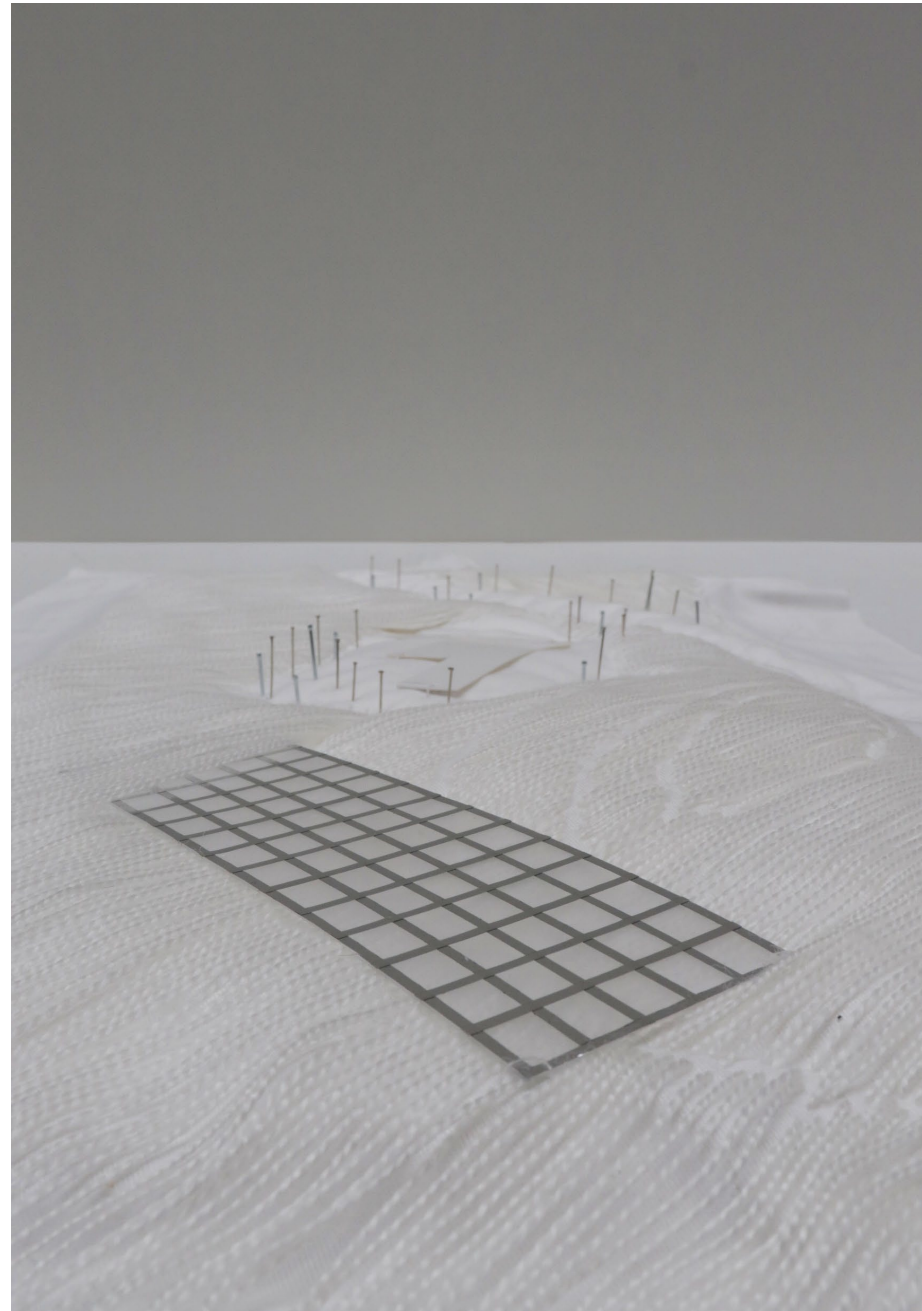


Suspended ceiling
Linen fabric pulled over wooden frame



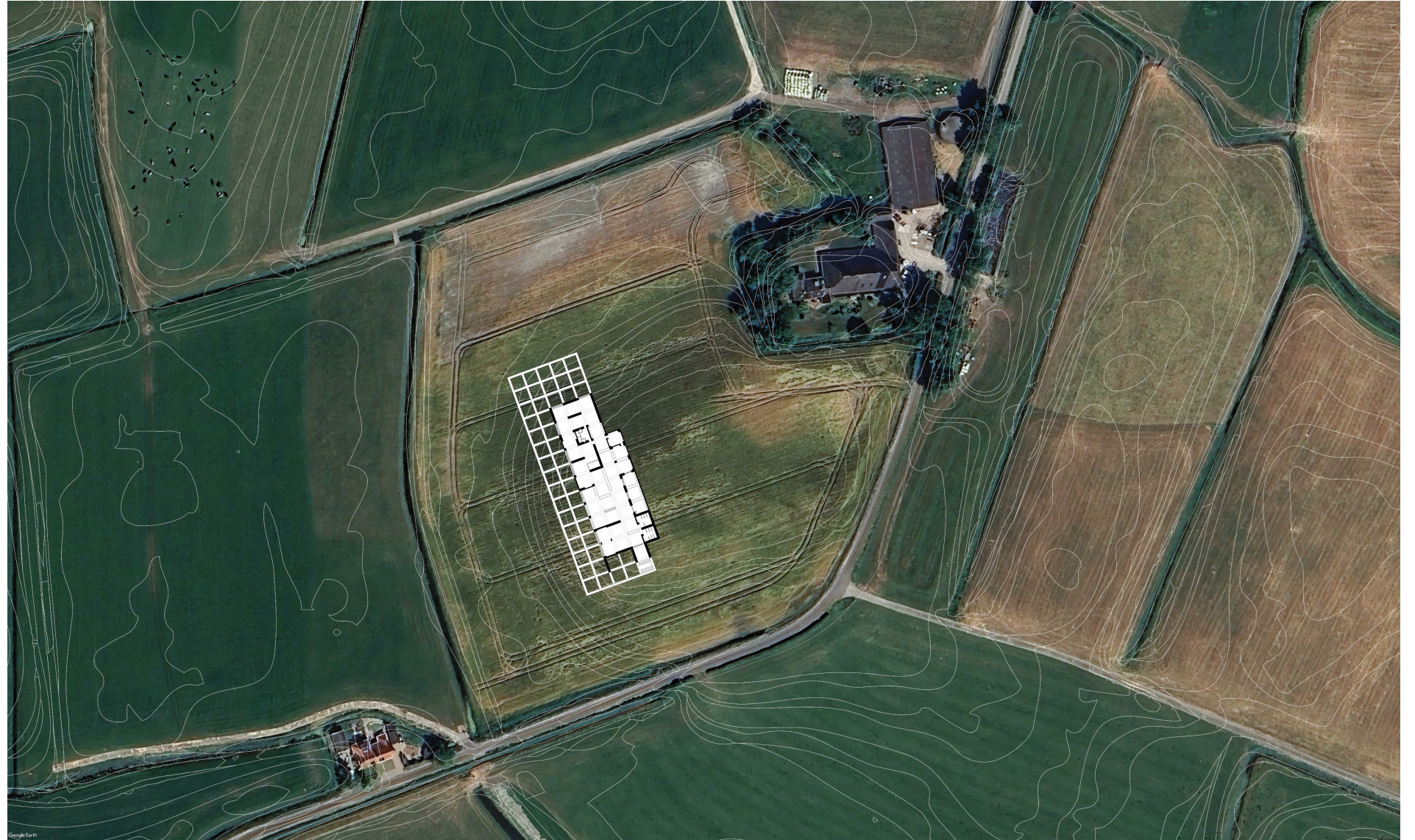
Timber truss
Steel ties
Hidden gutter
Sandwich panel on the end
Solar panels

Temporality
Scale 1:500



Hard – foundation/bedding/oyster
pools,
Soft – fluctuating landscape; raw clay

Temporality
Scale 1:500



1:500 site
Dairy farm/tastery

Temporality
Scale 1:500

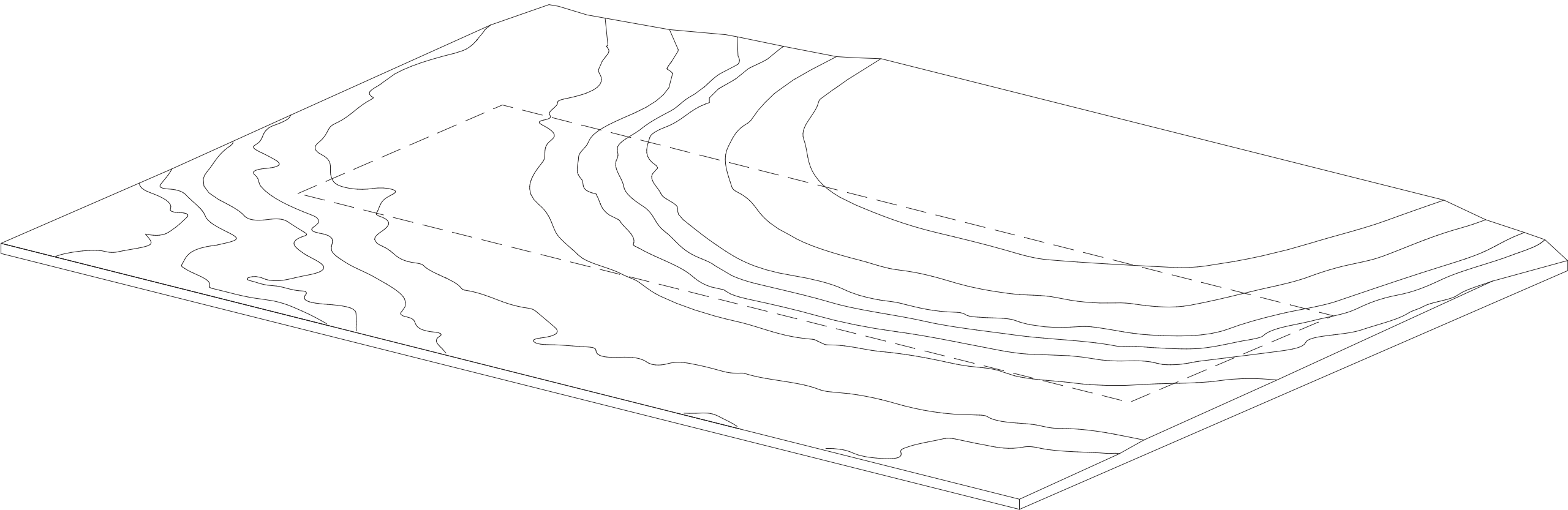


1:500 site
Oyster farm/tastery

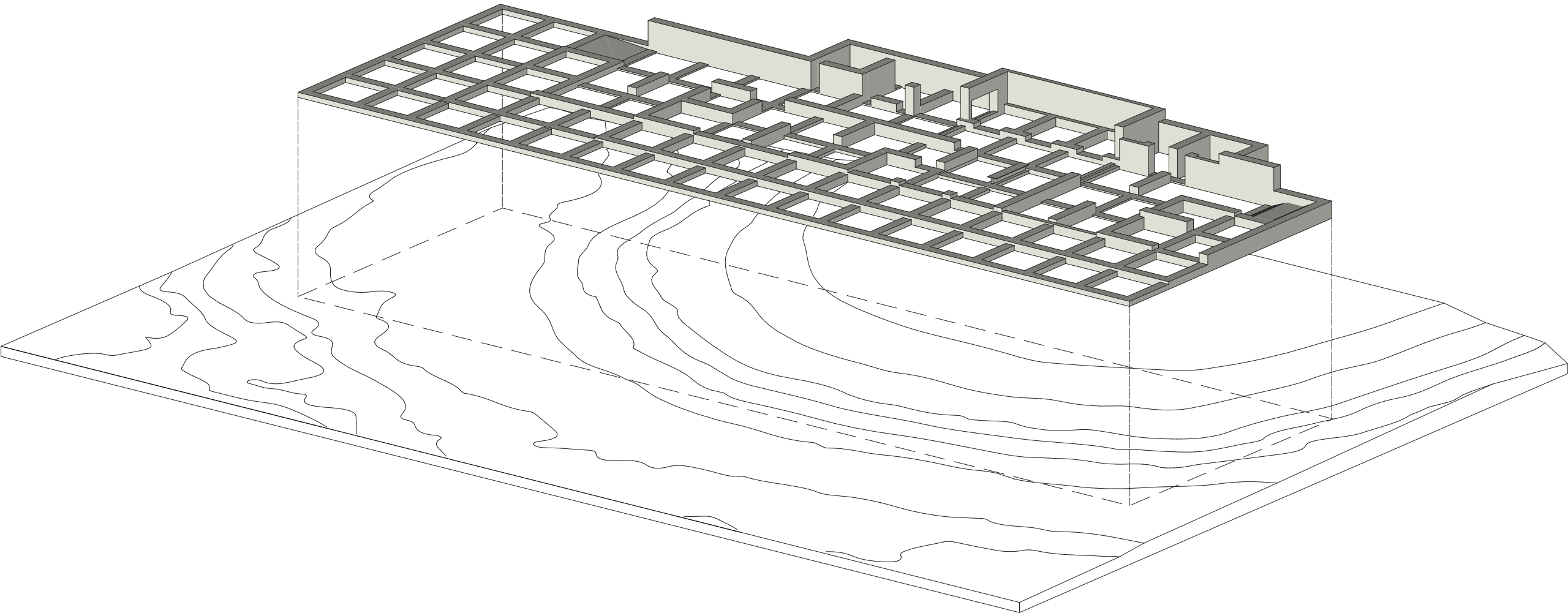
Construction Phases

Phase 1

Excavation



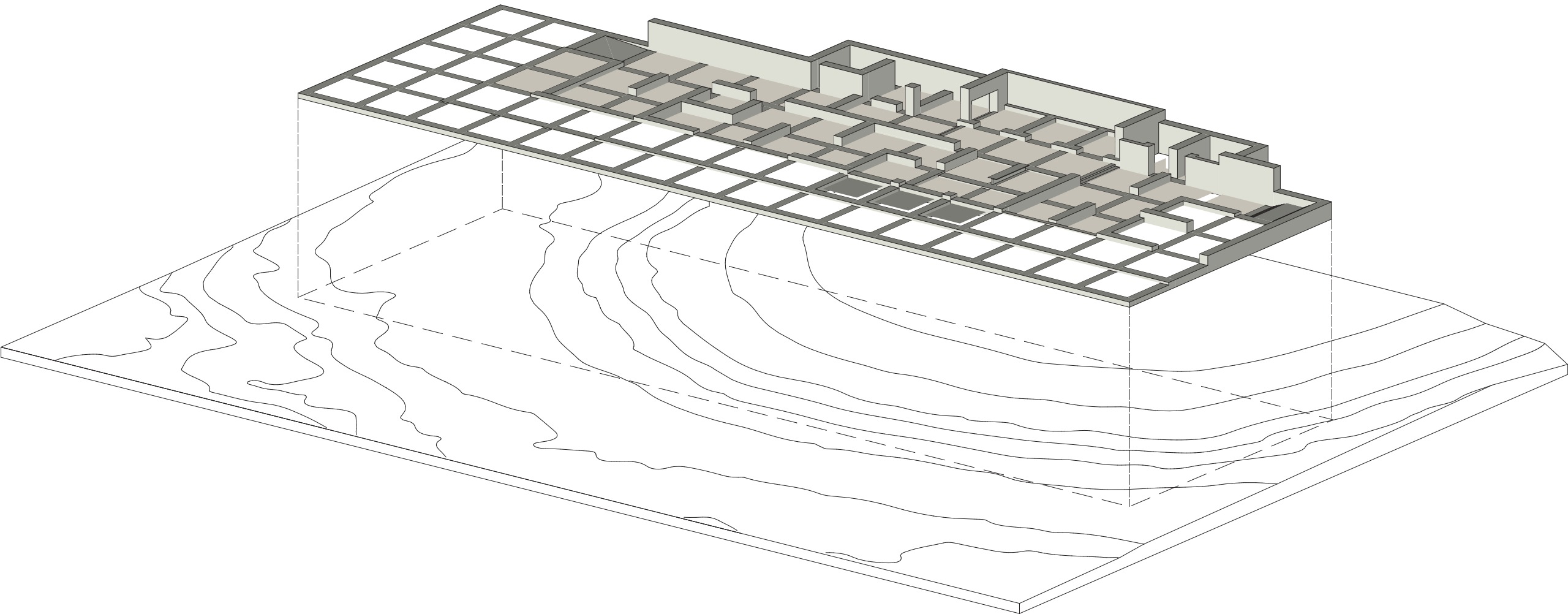
Construction Phases
Phase 2
Foundation



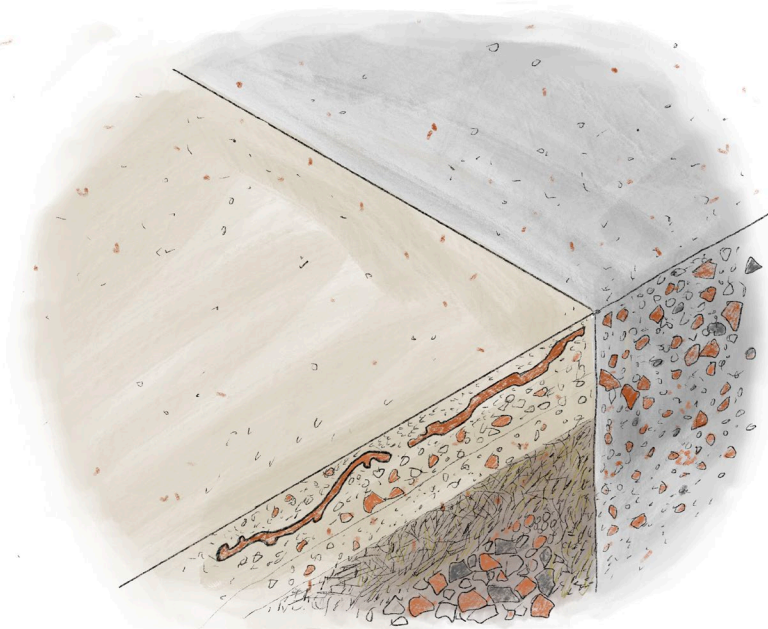
Construction Phases

Phase 3

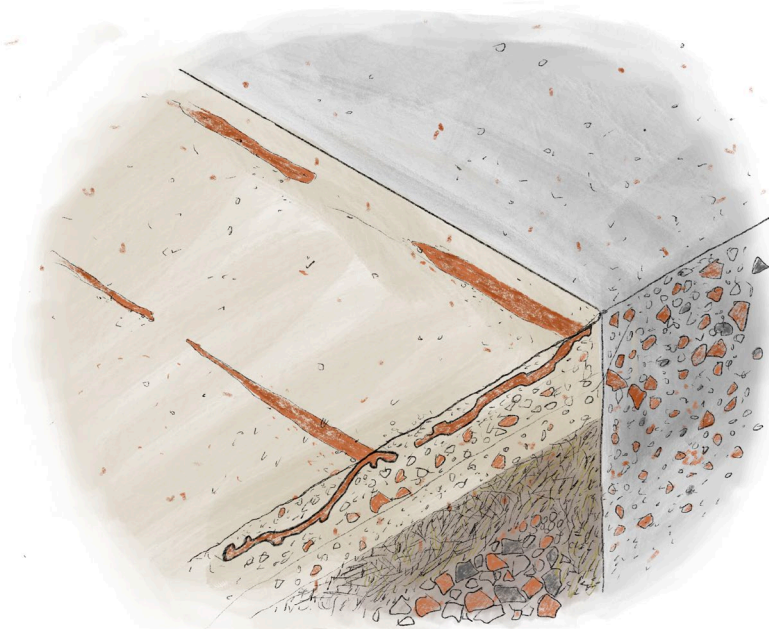
Floors



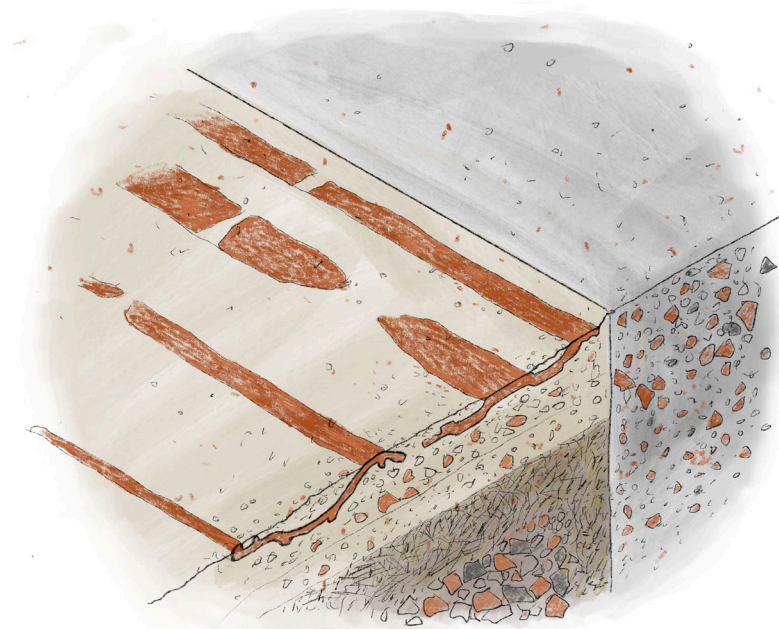
Inside floors over time
Detail 1:10



New



20 years

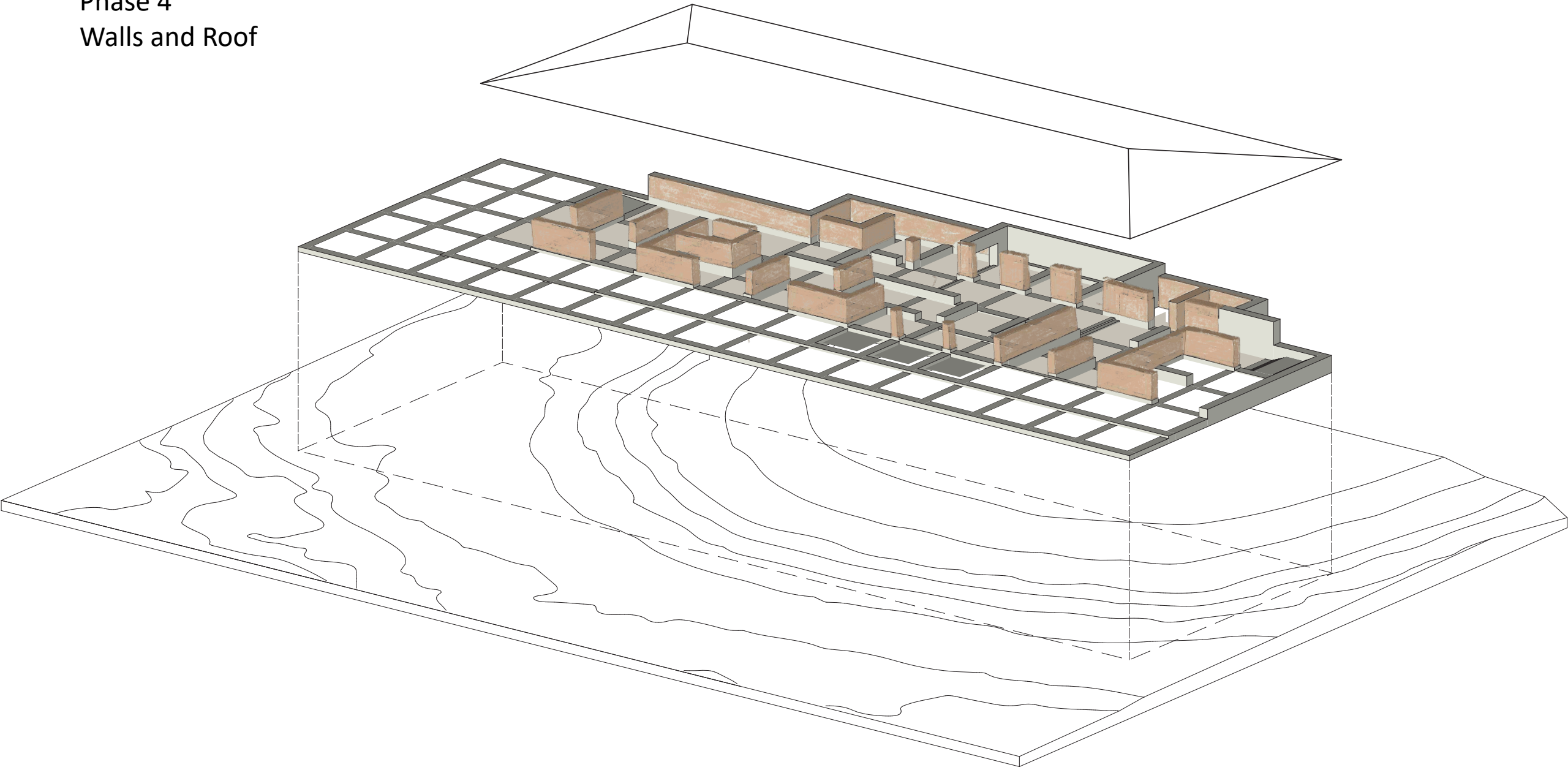


50 years

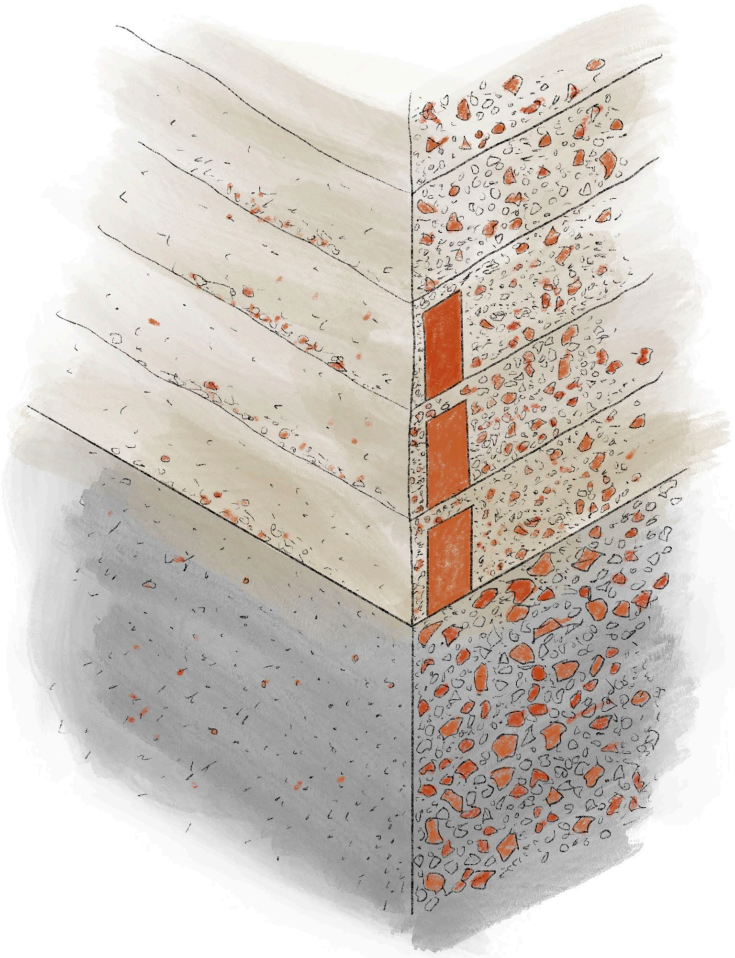
Construction Phases

Phase 4

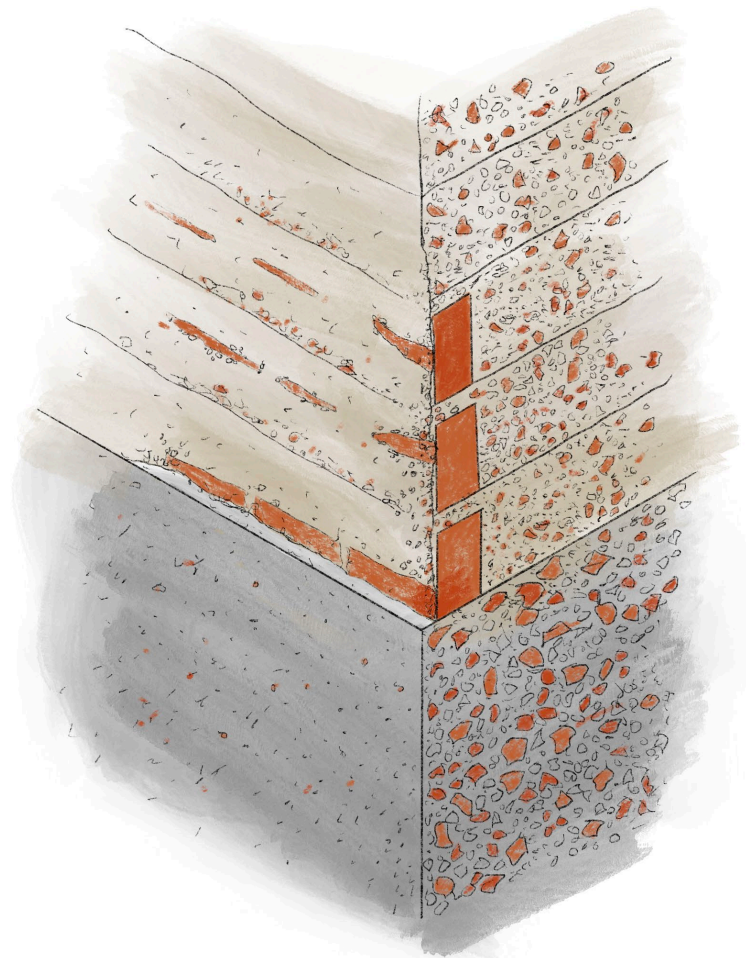
Walls and Roof



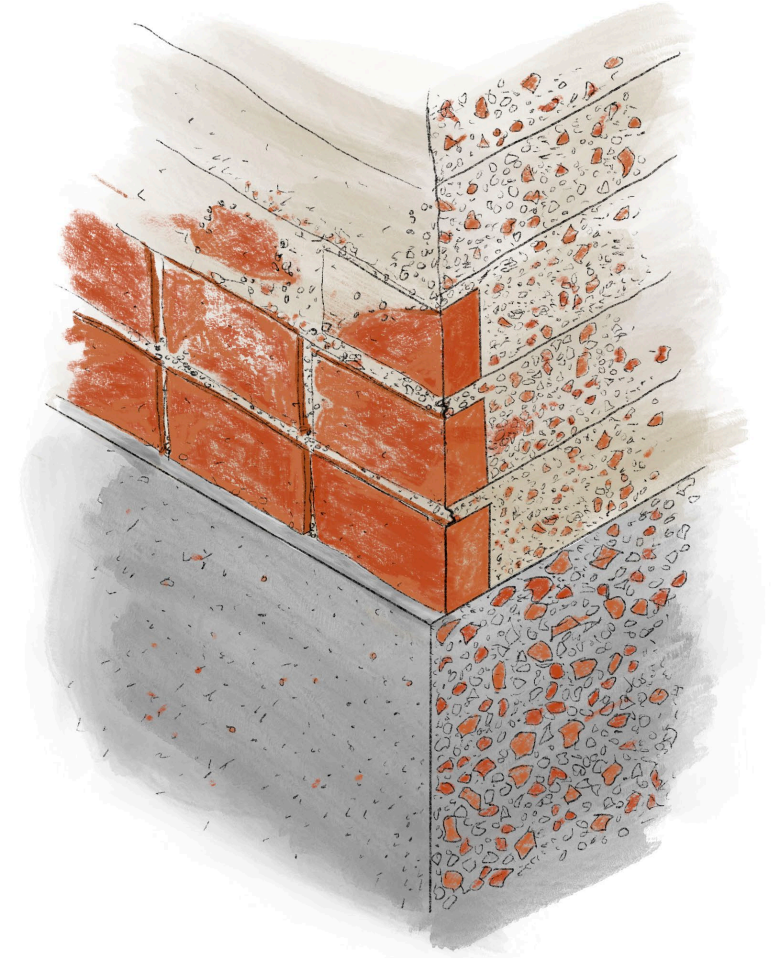
Rammed earth walls over time
Detail 1:10



New

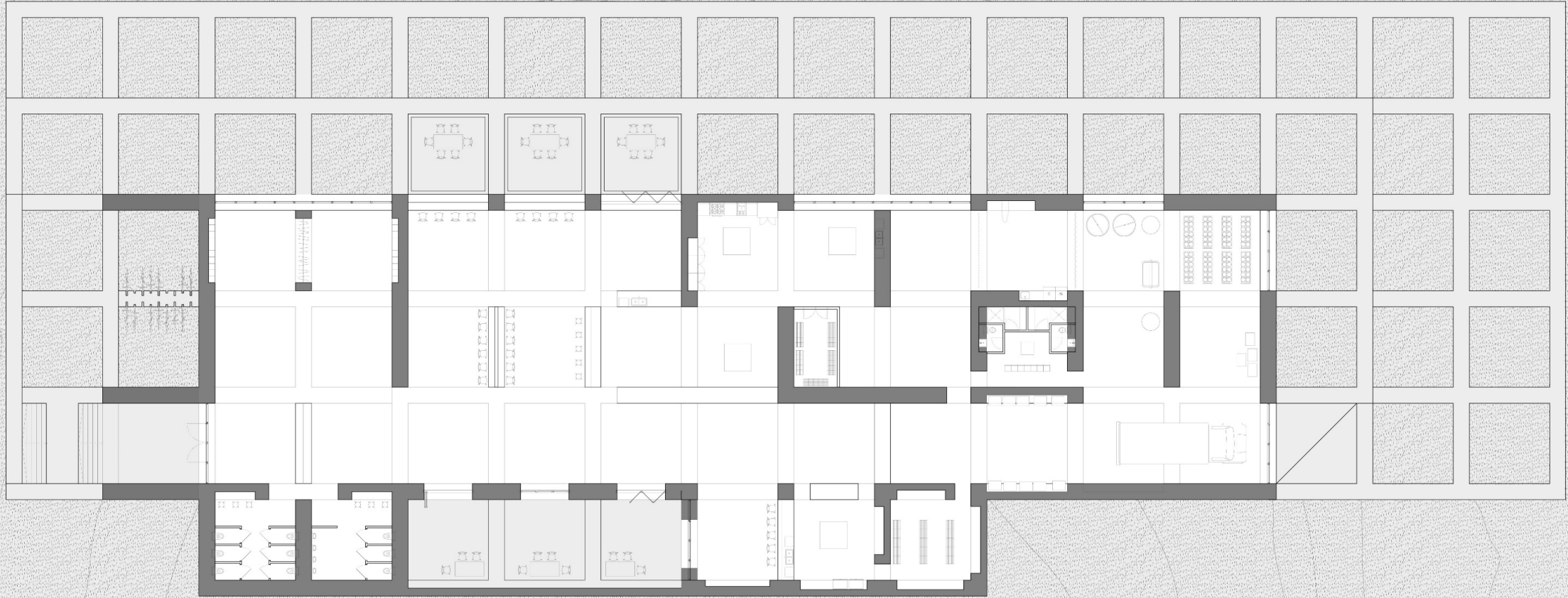


10 years



30 years

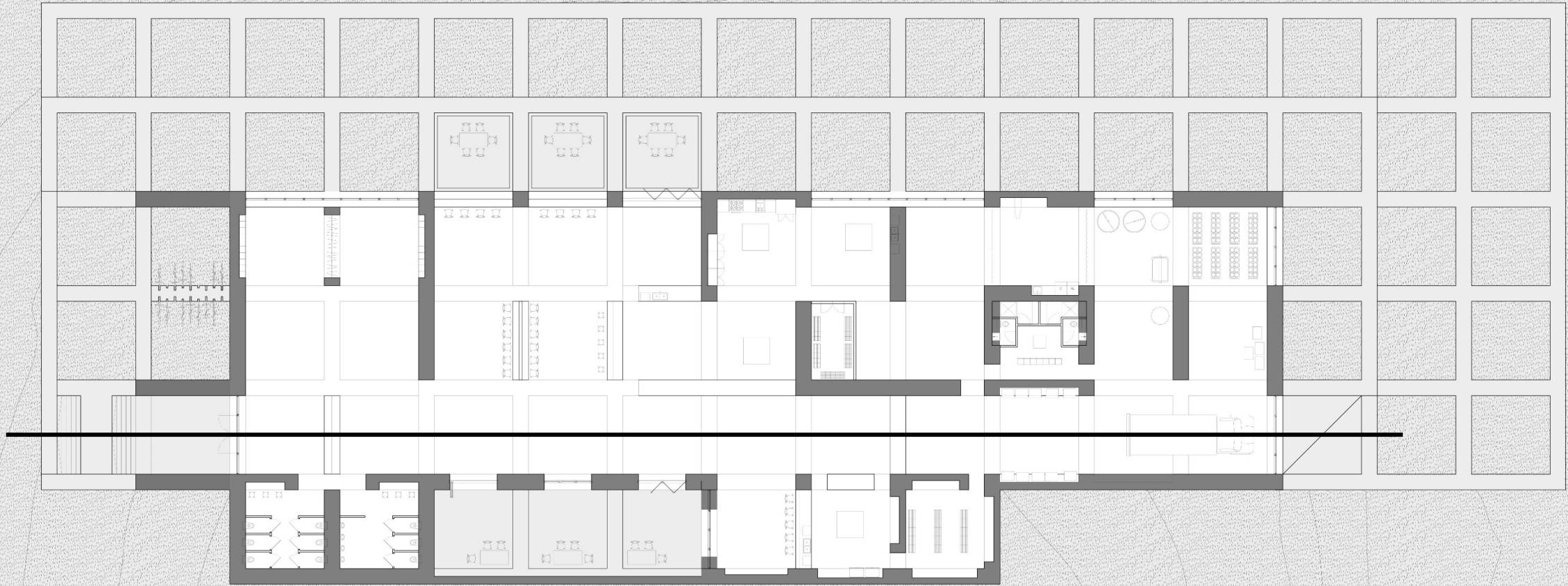
Spatial Organization Floorplan



Longitudinal View

Connecting the entrances of the visitors and staff

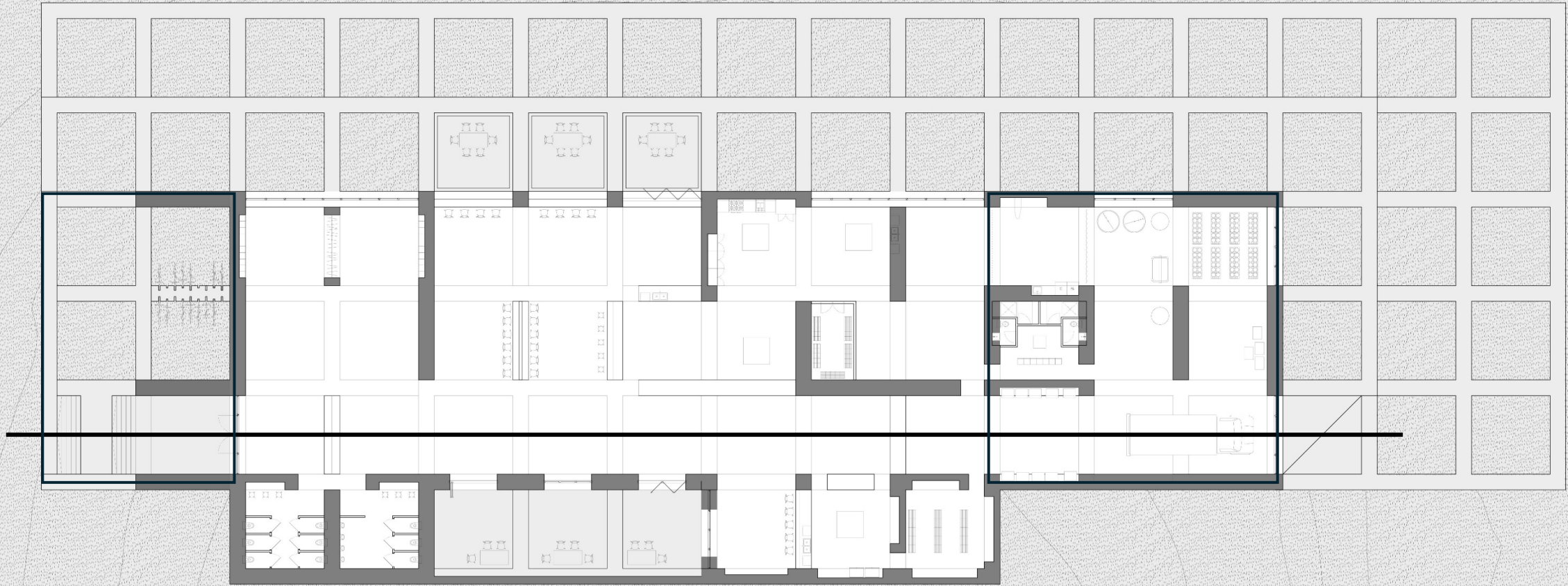
Connecting productive and performative aspects of the building and site



Spatial sequence

arrival

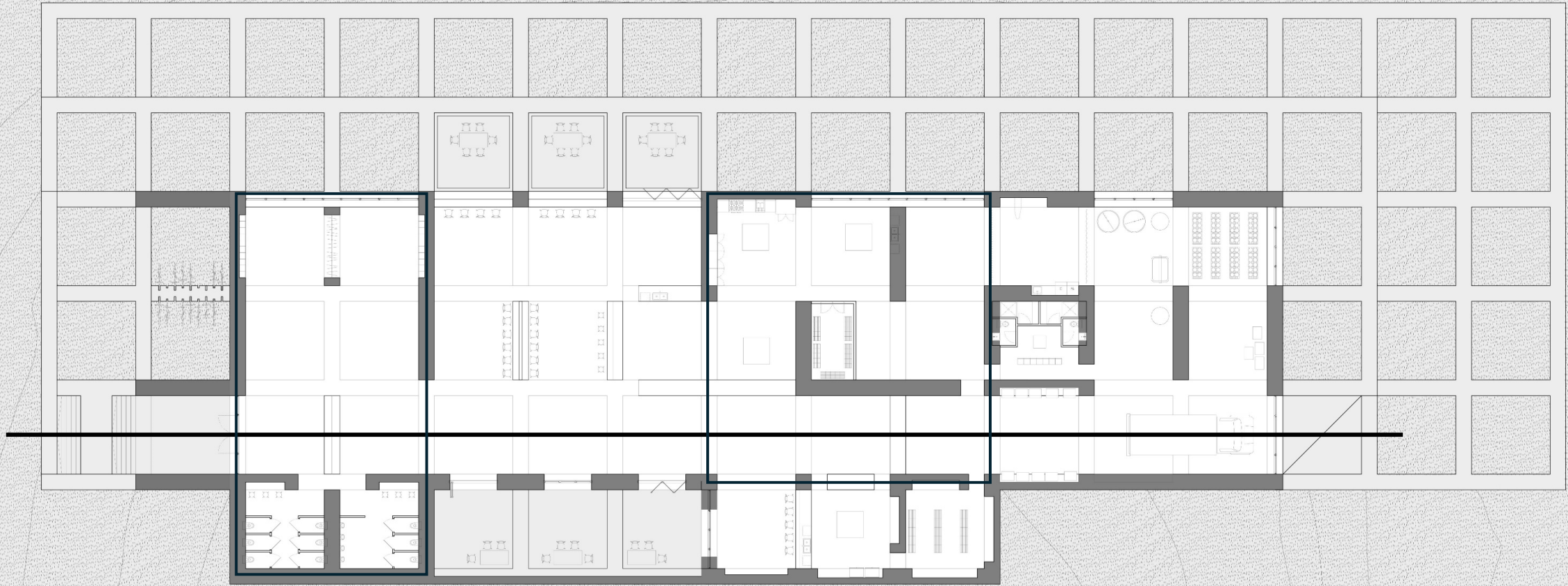
arrival



Spatial sequence

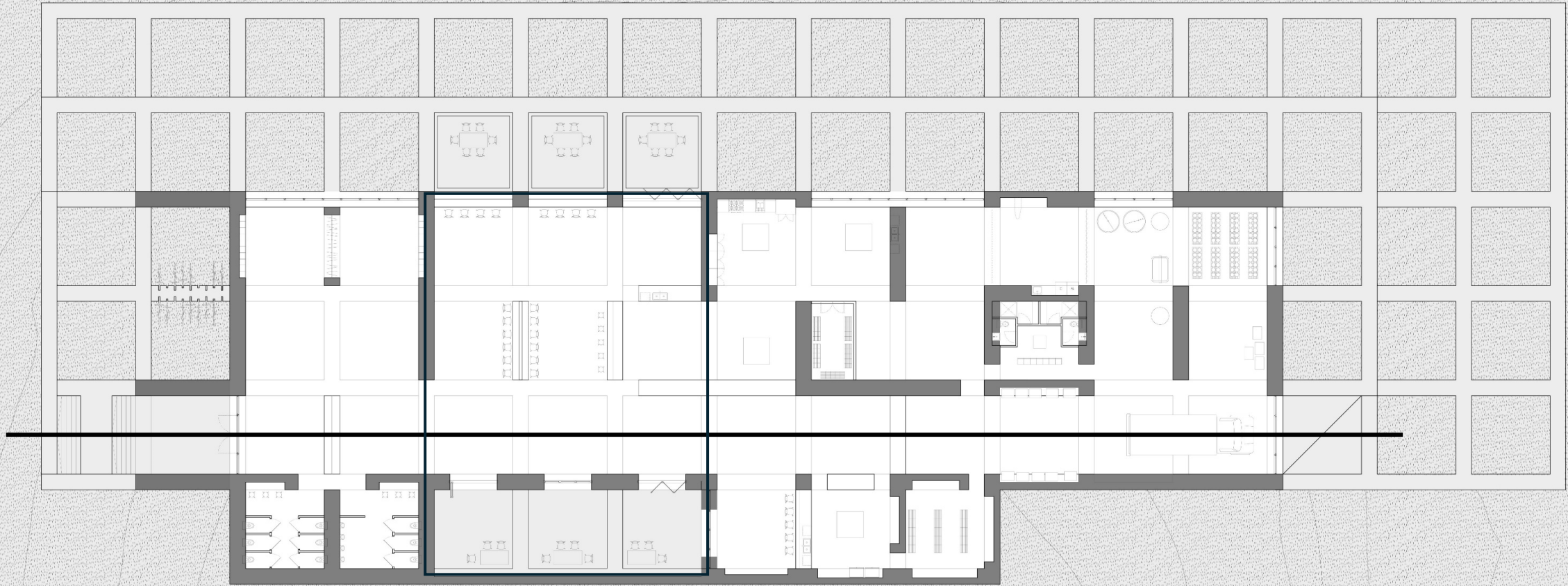
preparation

preparation

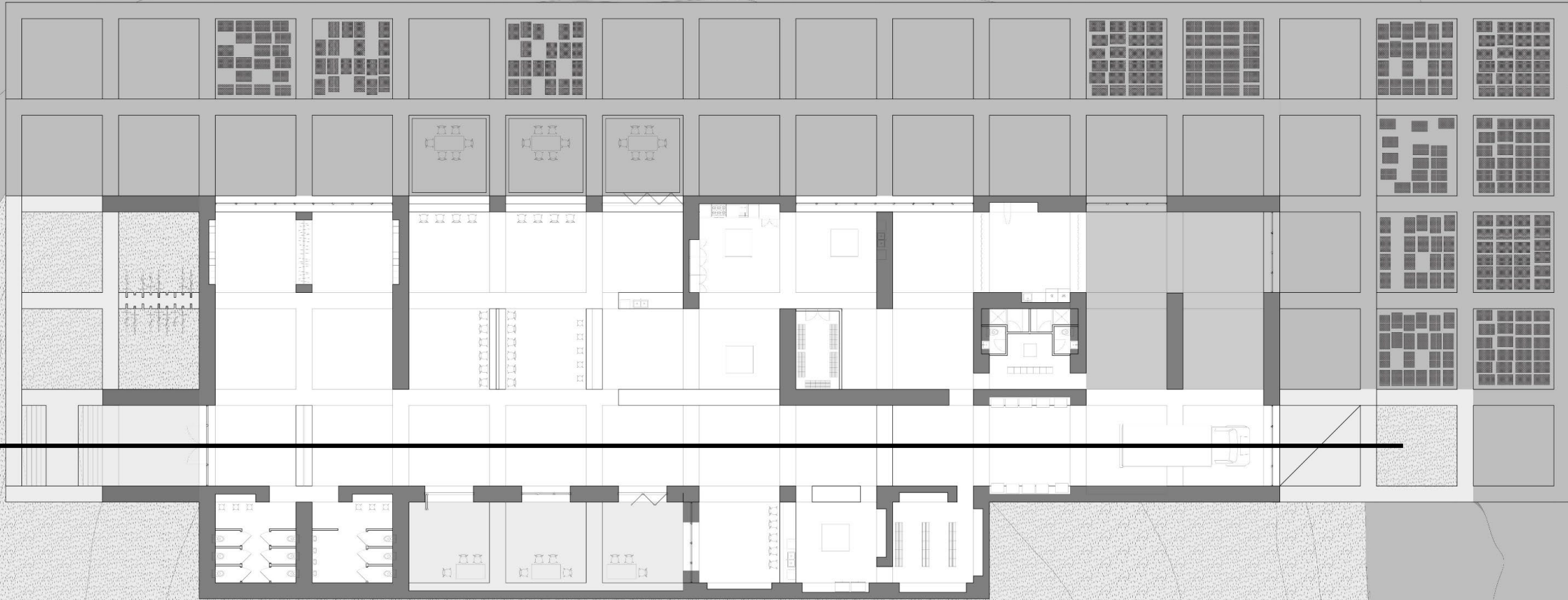


Spatial sequence

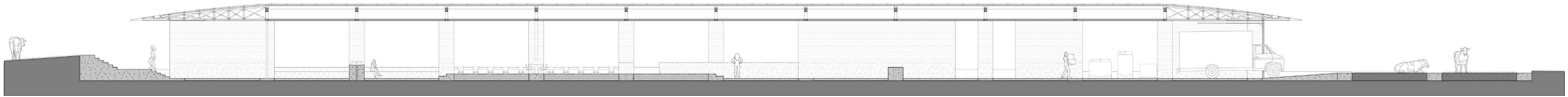
tasting



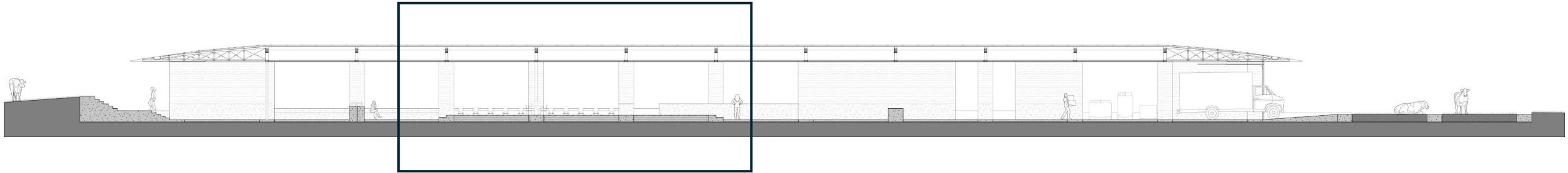
100 year scenario



Longitudinal section
Flows
Meeting at the center



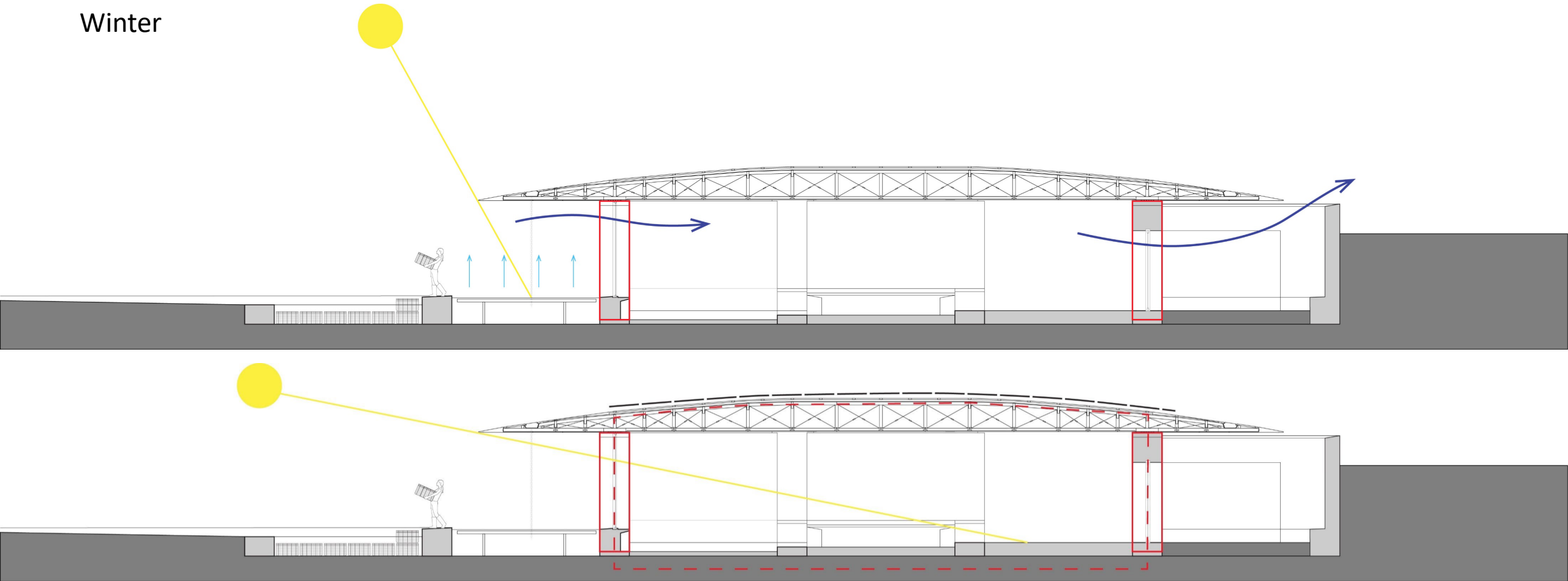
Longitudinal section
Flows
Meeting at the center



Tastery View

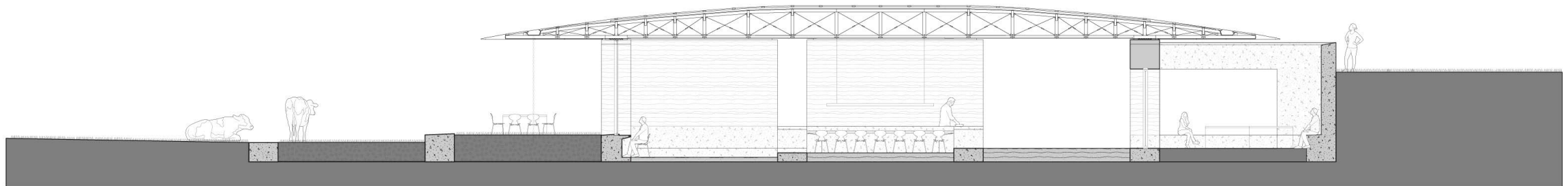
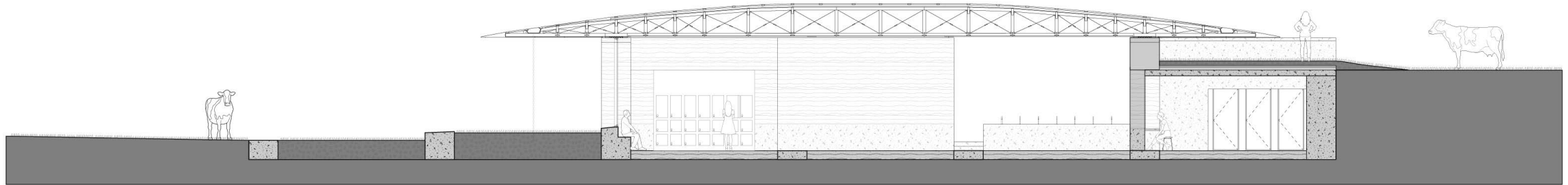


Climate diagram
Summer
Winter

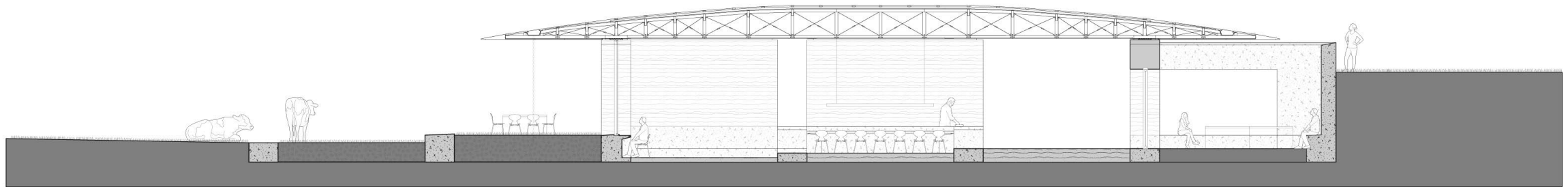
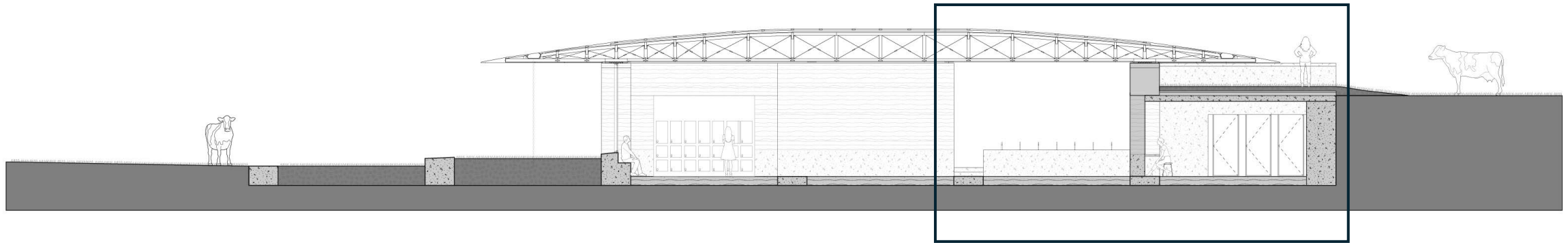


Apart from adapting to the landscape in terms of **function** and **materiality**, the building also adapts to the seasonal **climate**.

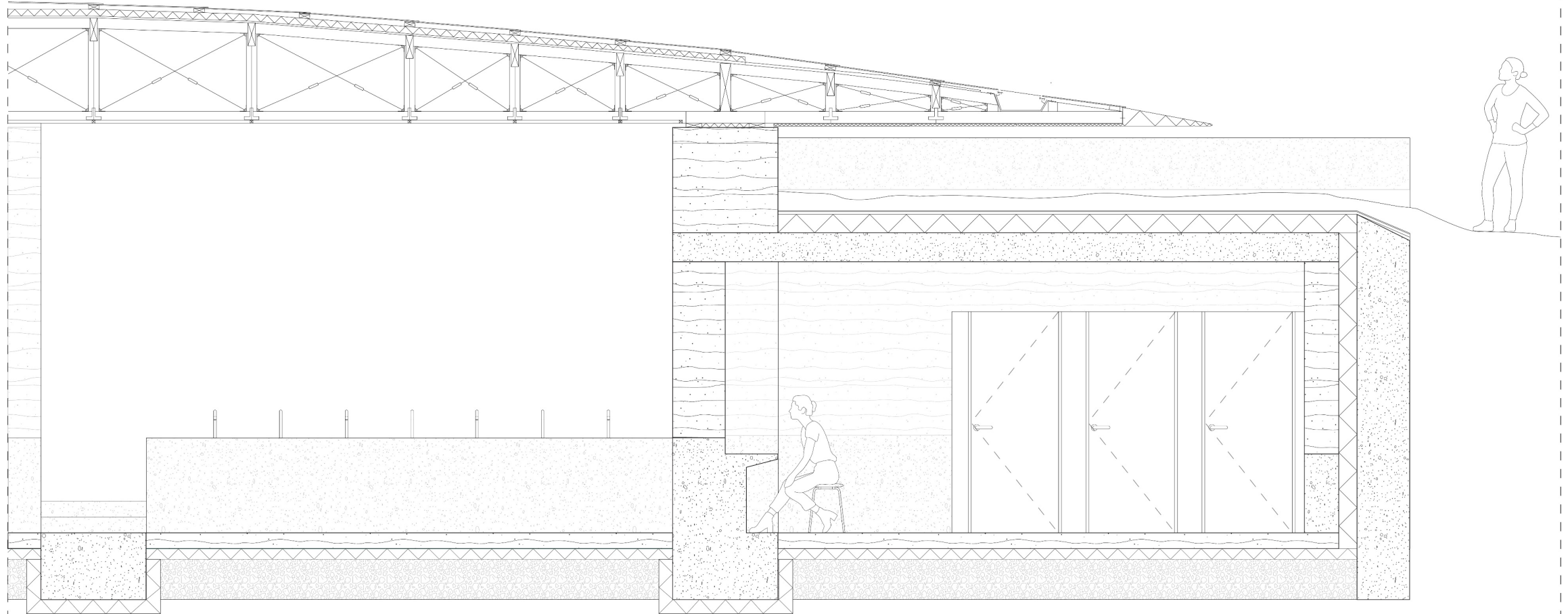
Short sections – phase 1
Visitor preparation space
Tastery



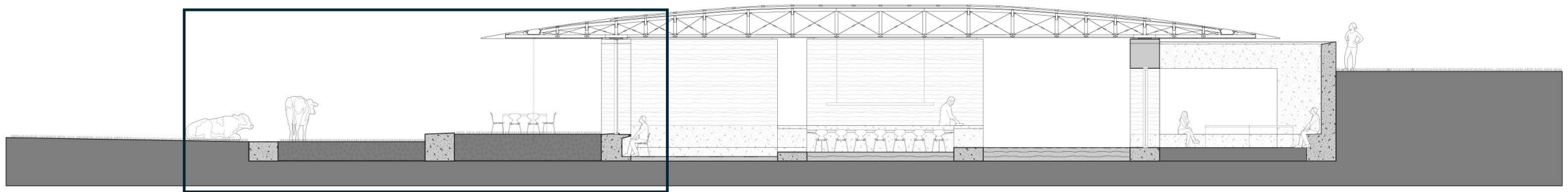
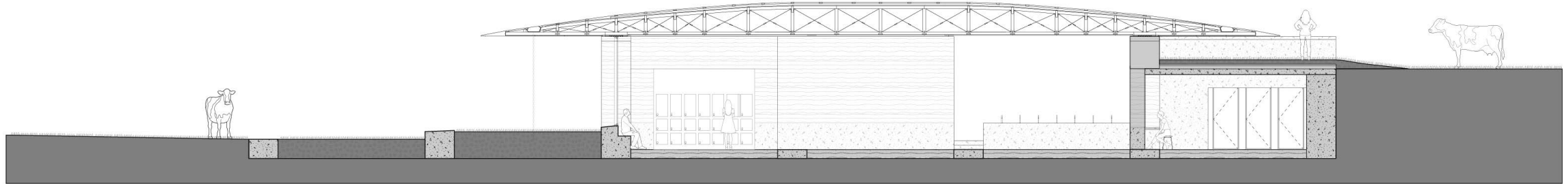
Short sections – phase 1
Visitor preparation space
Tastery



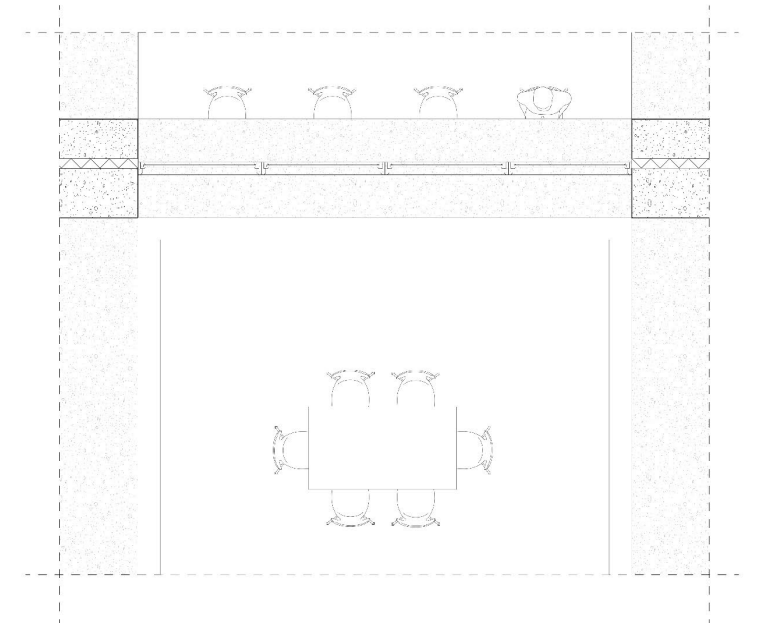
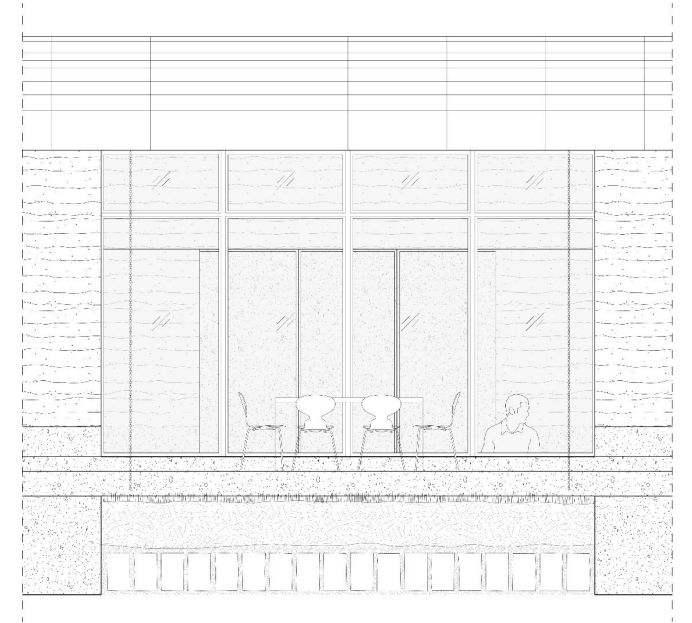
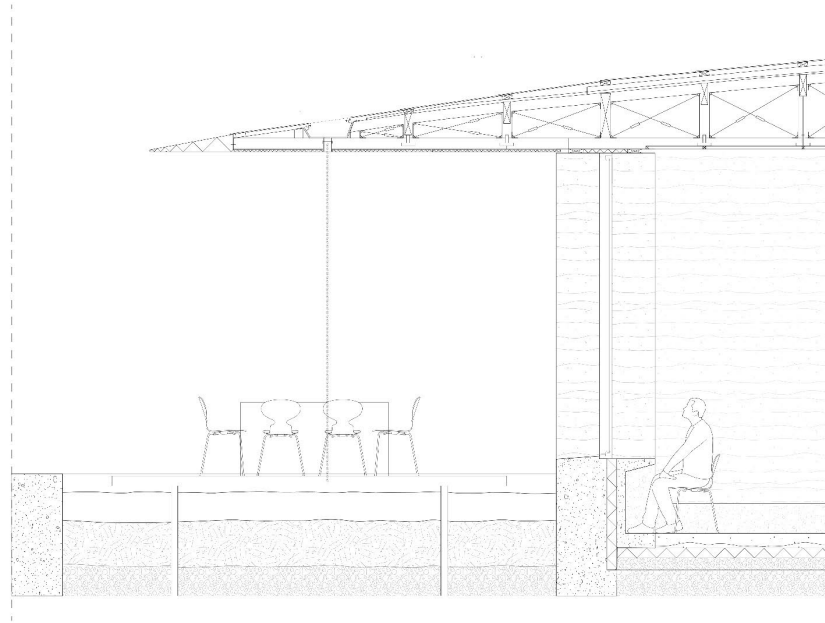
1:20 Detail
Green roof



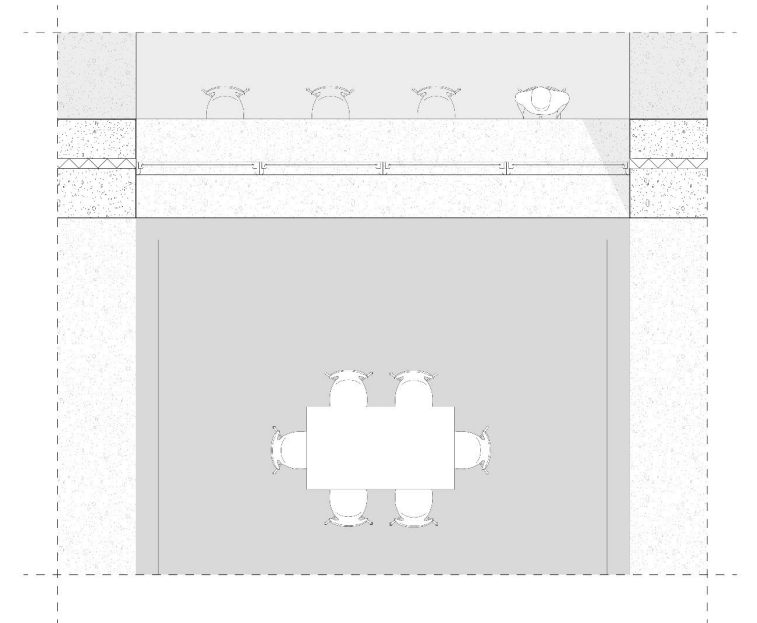
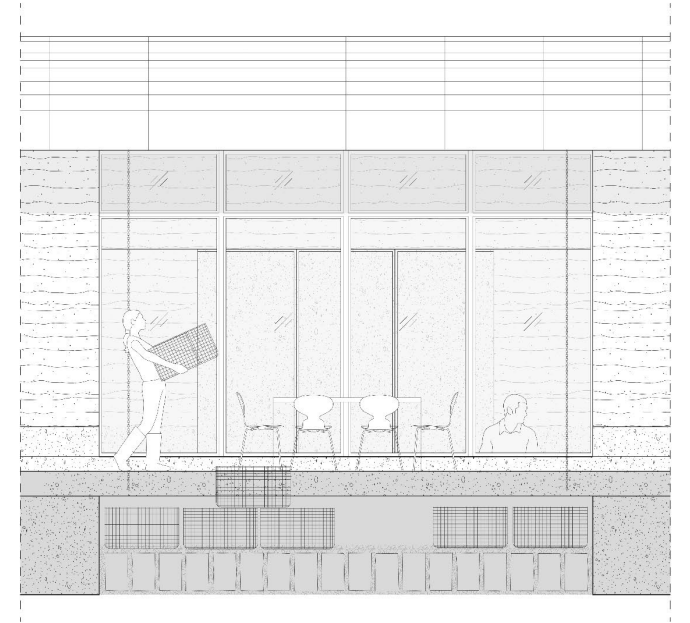
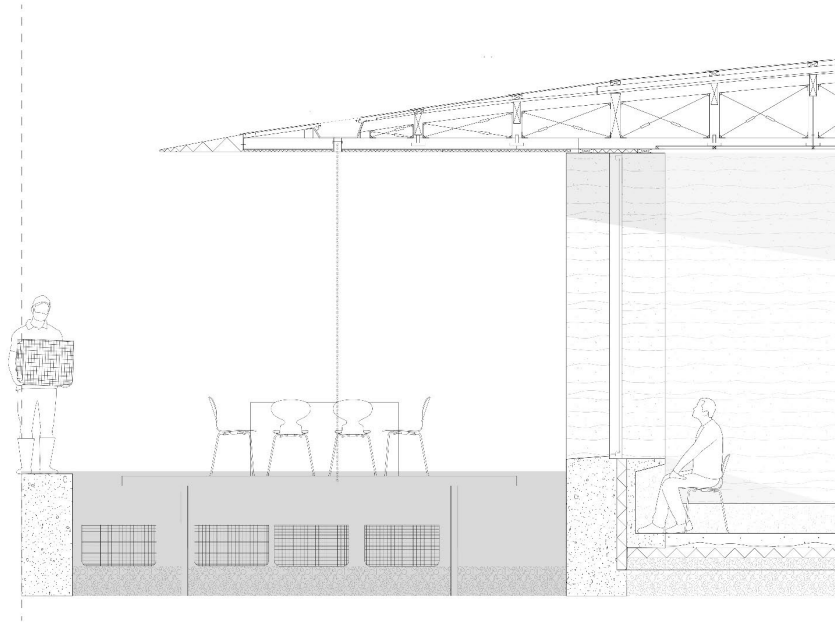
Short sections – phase 1
Visitor preparation space
Tastery



1:20 Combination drawing
South-West Façade
Phase 1



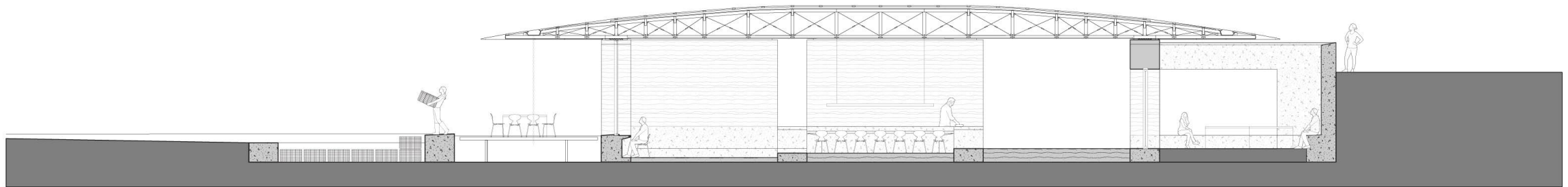
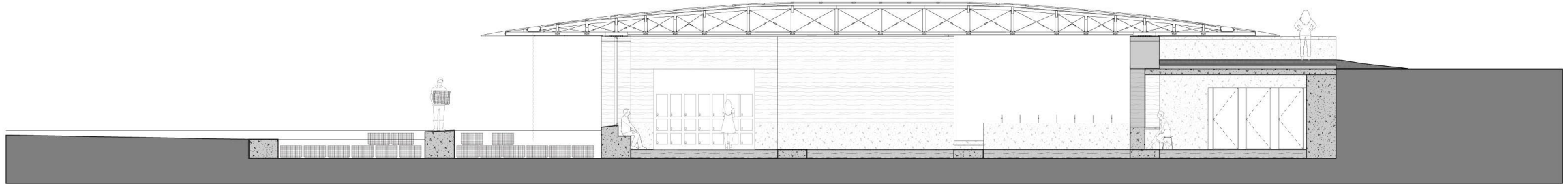
1:20 Combination drawing
South-West Façade
Phase 2



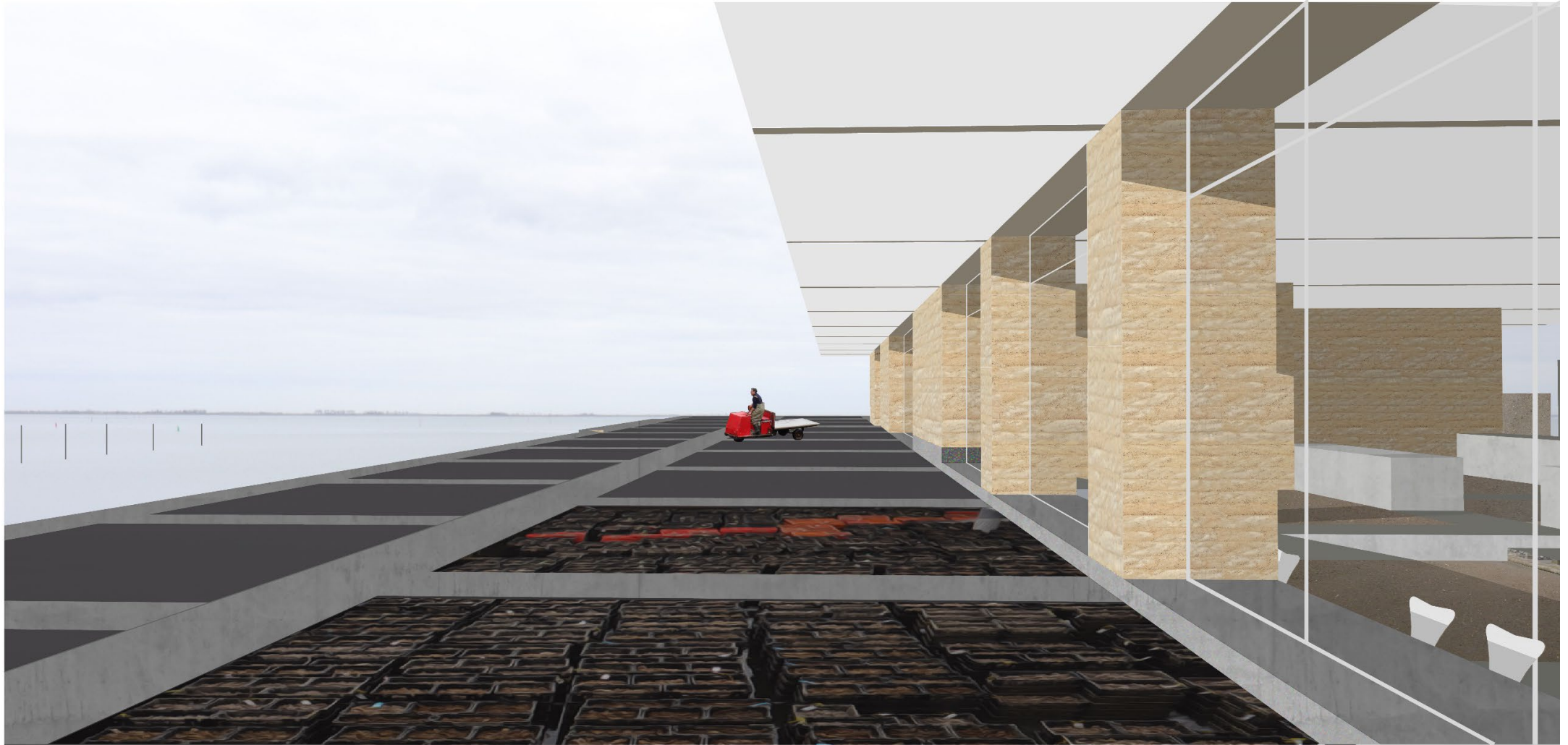
Farm fields view
Phase 1



Short sections – phase 2
Visitor preparation space
Tastery



Oyster fields view
Phase 2



Research Question

How can architecture both preserve the past and accommodate the future through the experience of food in the context of a changing landscape?

1. Incorporating the possibility of a future function
2. Weaving of old and new materials
3. Enriching/elevating an existing function
4. Allowing the building to absorb the changes in the landscape

