

Problem Statement

Tactics & Approach

Programmatic Response

Site Selection

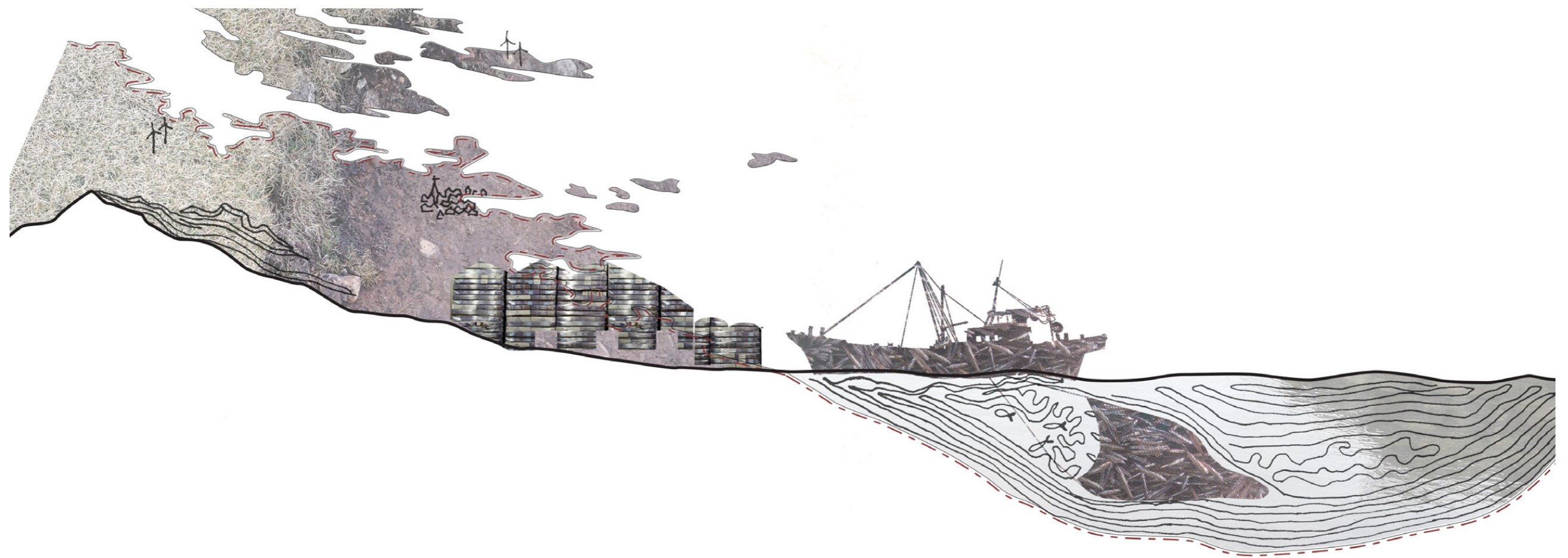
Design Response

Reflection



"in order to navigate the anthropocene, we must understand the ideology which created it, and who"

- Davis & Todd, 2017



Borders of Extraction
land | sea



Segregated Spaces

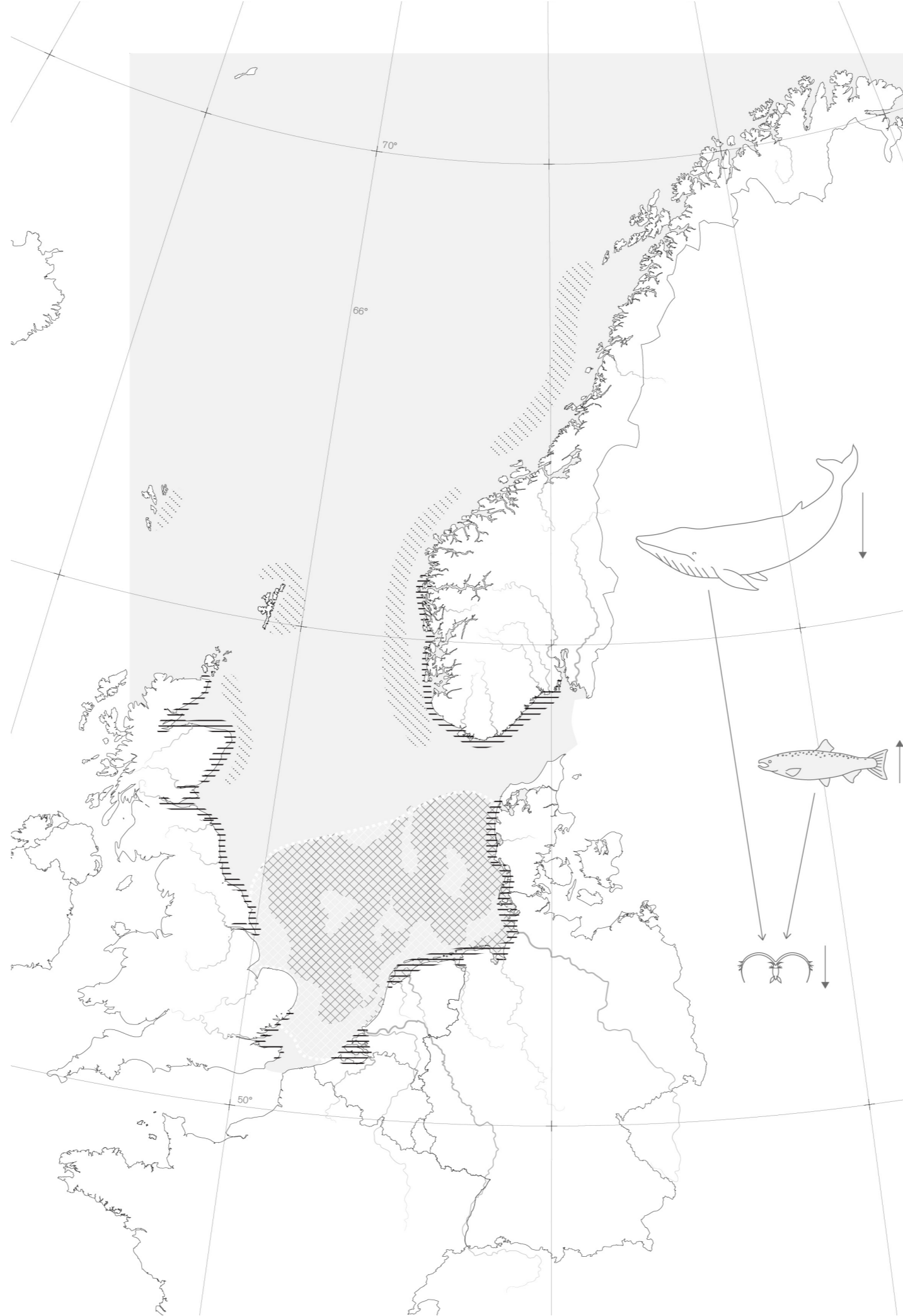
production | consumption

Image: NIMBY 1, Atlas of Places, 2018



Monocultural Production
anthropocentric landscapes

Image: Feedlots, Mishka Henner, 2012-2013



Projected invasive species due to farming

1:10 000 000 @ A3
TT Atlas, 2018

- 01 Plankton population under pressure
- 02 Salmon farms
- 03 Shellfish farms



Scales of Extraction
quantity, quantity, quantity



One or Many?
reframing perceptions

RESEARCH QUESTIONS

How can the **agency of design** be utilised to facilitate a new infrastructure for food production and consumption, moving from **exploitation to co-existence** and encouraging a **shift in our perception** of other animals?

- 1. What are the needs of other animals within our environments and how can these be (re)built into human-shaped scapes of coexistence?*
- 2. How can design be used as a form of activism, creating value for the structurally undervalued and enabling changed individual perceptions?*
- 3. How can we learn from the coming urbanisation of the sea in order to better inform and transform our urbanisation of the land?*

| | PRECONTEMPLATION | CONTEMPLATION | PREPARATION | ACTION | MAINTAINENCE |
|-------------------------------------|------------------|------------------------------|----------------------------|----------------------------|--|
| | | <i>ambivalence, conflict</i> | <i>gathering knowledge</i> | <i>tangible, noticable</i> | <i>consistency, repetition</i> |
| <i>denial, ignorance</i> | | | facilitate | reward successes | reinforce through positive association |
| encourage rethinking | | communicate confidence | demonstrate success | encourage social support | make habitual |
| explain & demonstrate current risks | | identify barriers | motivate | enable & provide | repeat & incorporate |
| encourage self-reflection | | identify pros & cons | | | |

Stages of Change
shifting perceptions

Prochaska & DiClemente's Transtheoretical model

Infrastructural/Technical

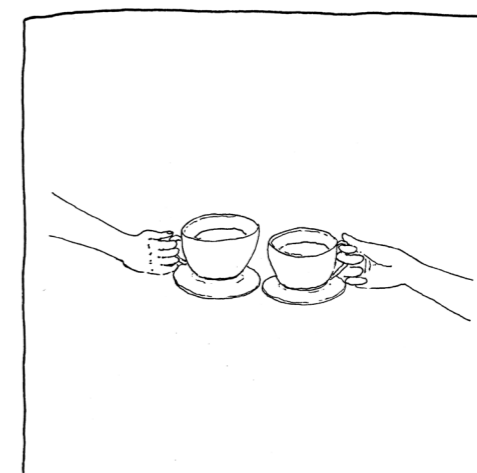
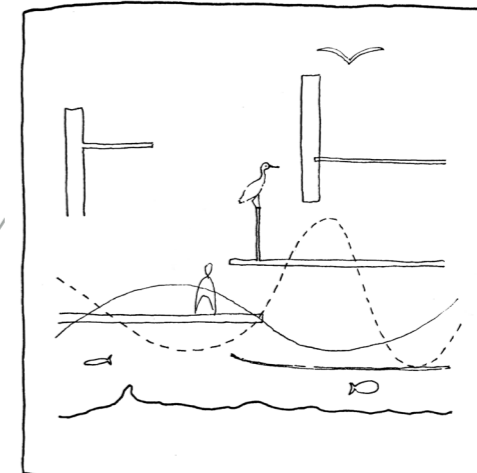
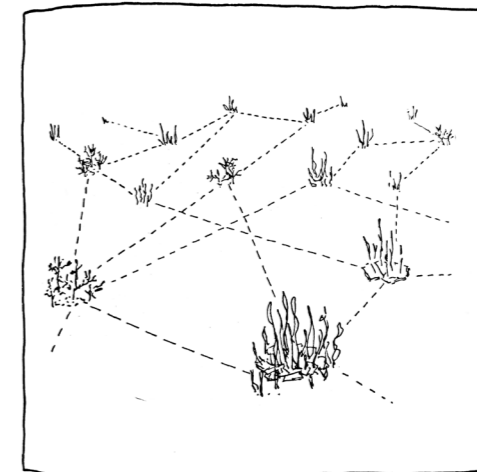
- *physically enable change*

Socio-Spatial

- *visual & physical adjacency or intersection*

Cultural/Aesthetical

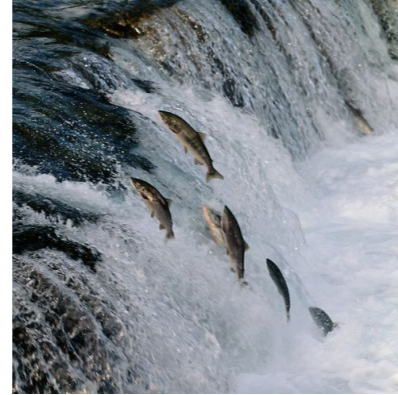
- *influence cultural shifts*



Territory



Farmed Salmon occupy an average of 200m diameter pens.



Wild Salmon travel up to 3220000m annually to spawn

Diversity



Salmon farms function as a monoculture, dominating the local ecosystem



Kelp beds support life from up to 260 different species at all trophic levels

Mineral Balance

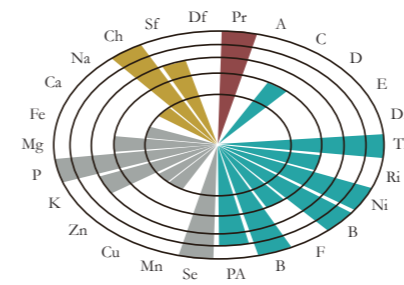


Equivalent of 9.4 million peoples' sewage pollutants released by Shetlands farms

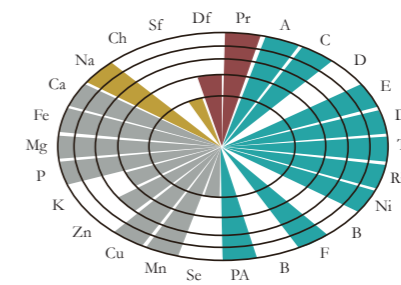


Sea plants absorb contaminants, nitrates and CO₂, cleaning the seas

Sustenance

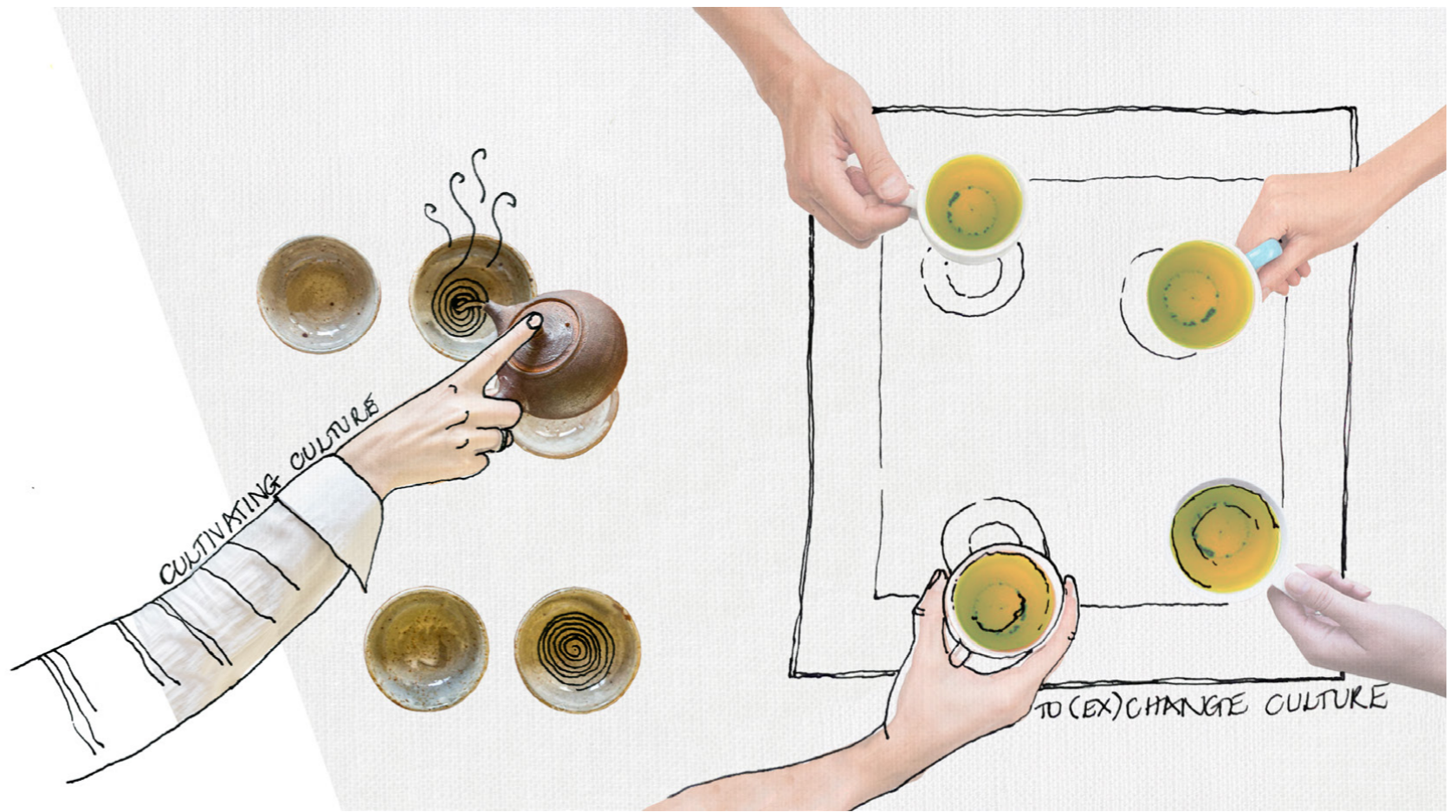
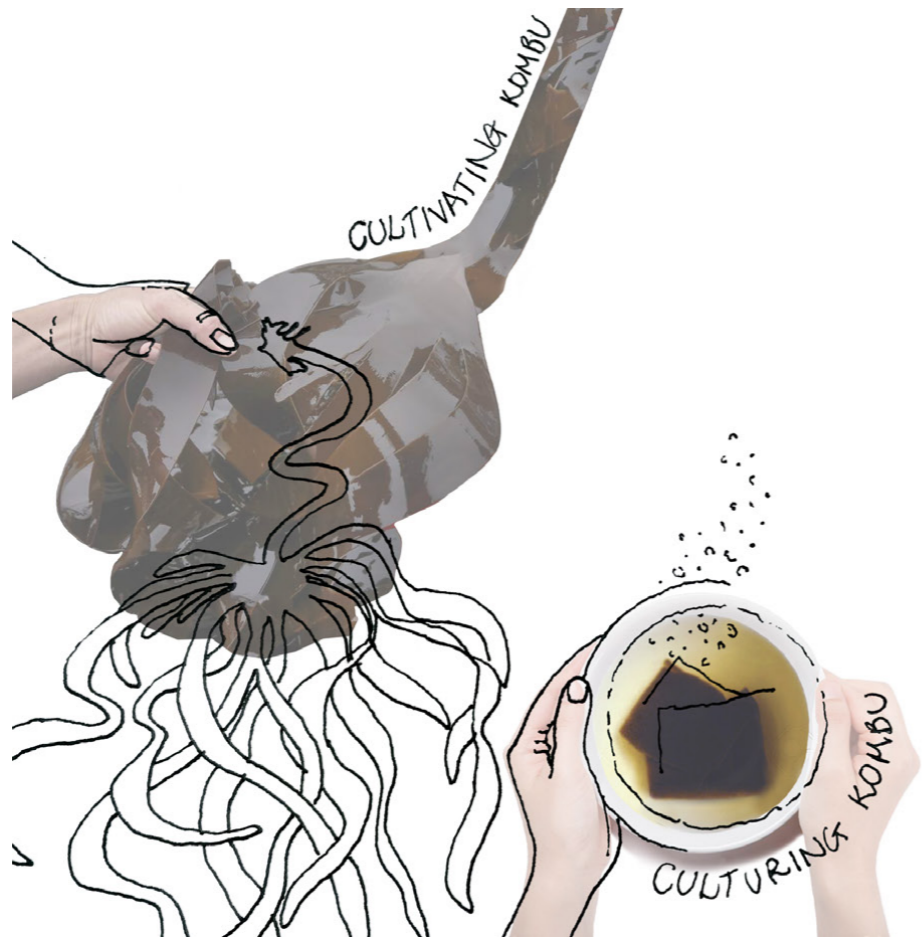


Salmon comprise 25% protein, along with plentiful vitamins & minerals

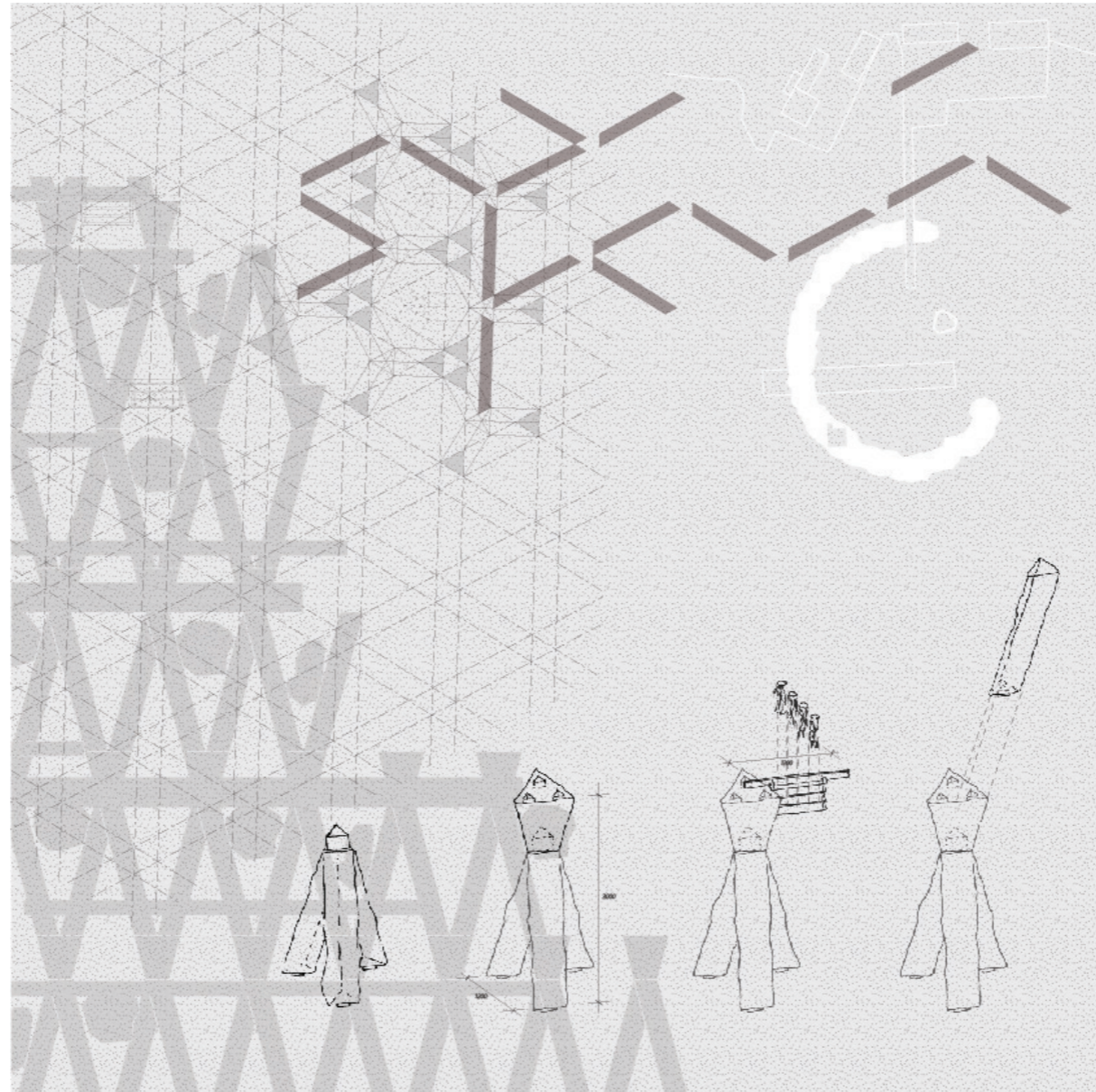


Sea vegetables provide 24% protein, along with plentiful vitamins & minerals

Protein Sources
plant-based vs animal-based

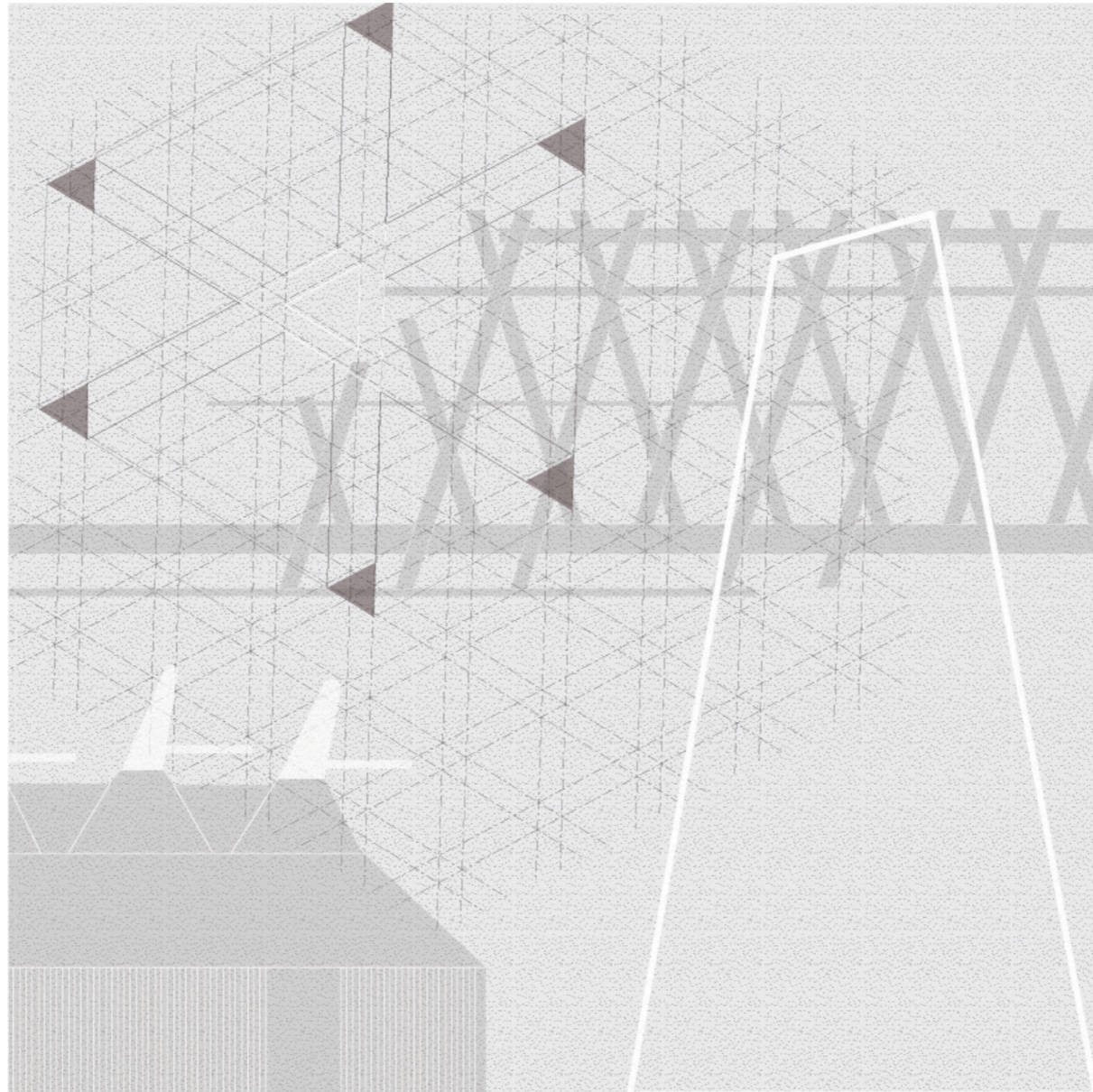


Kombu Culture
a new connection to food



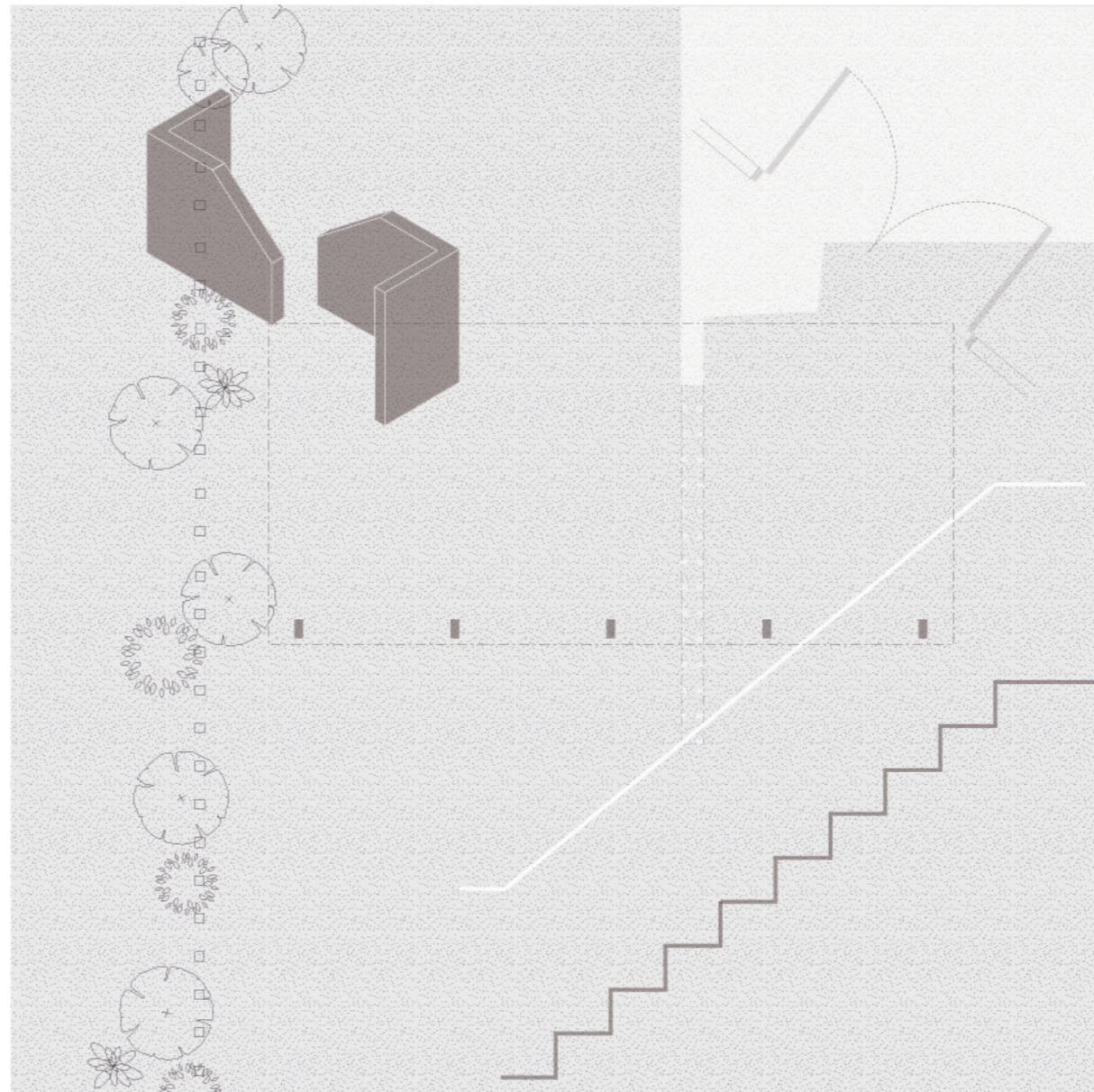
Infrastructural/Technical Response

(Infra)structure Provision

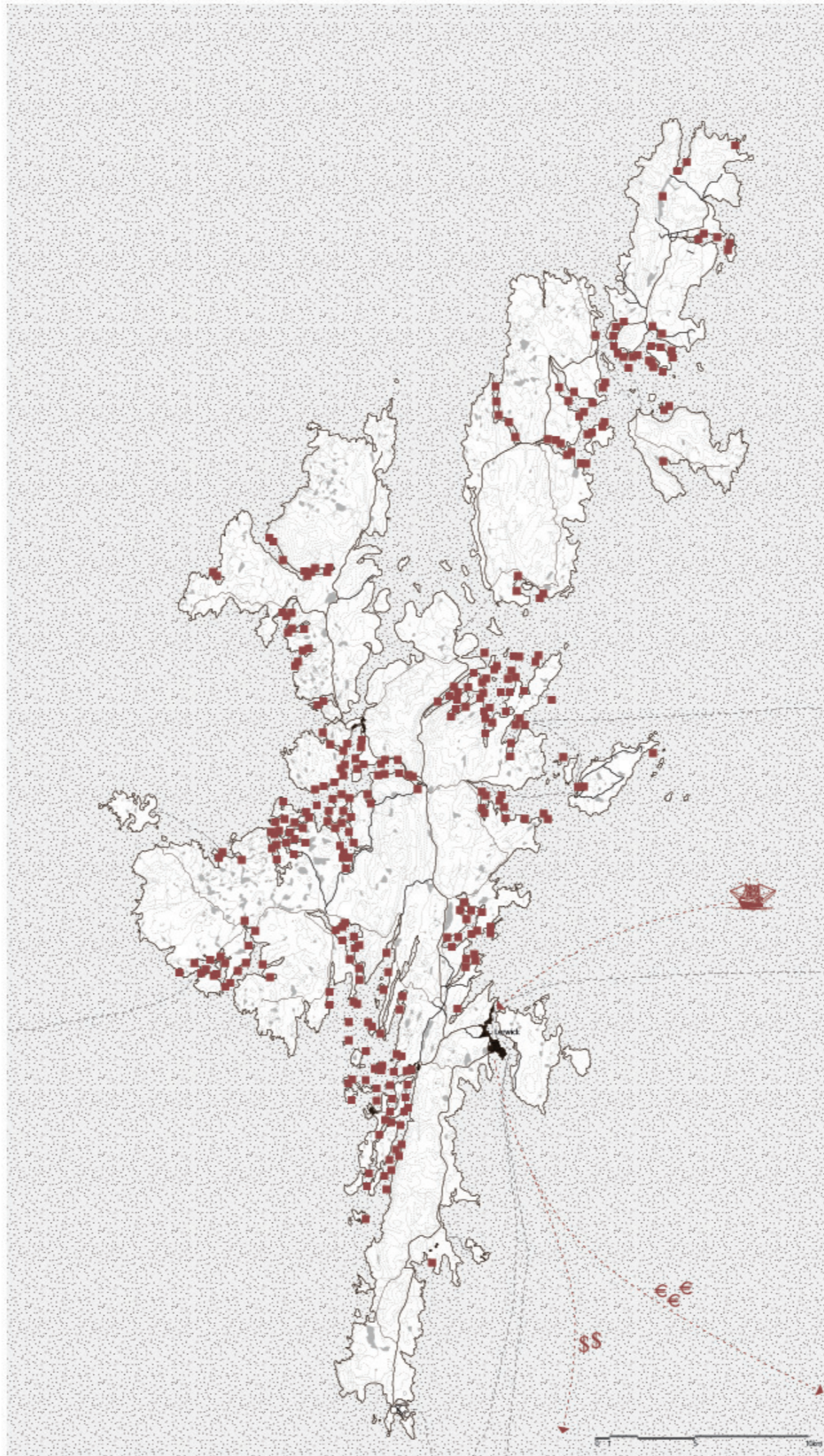


Aesthetical/Cultural Response

signs of transition



Socio-Spatial Response
thresholds for change



Impacts of Food Production on the Shetland Isles

- 01 Inland fresh water
- 02 2000 fishing vessels, carrying over 57000 tonnes of pelagic fish per year
- 03 £57 million worth processed fish exported to EU and globally
- Salmon farm

01



02



07



08



03



04



09



10



05



06



11



12





01



02

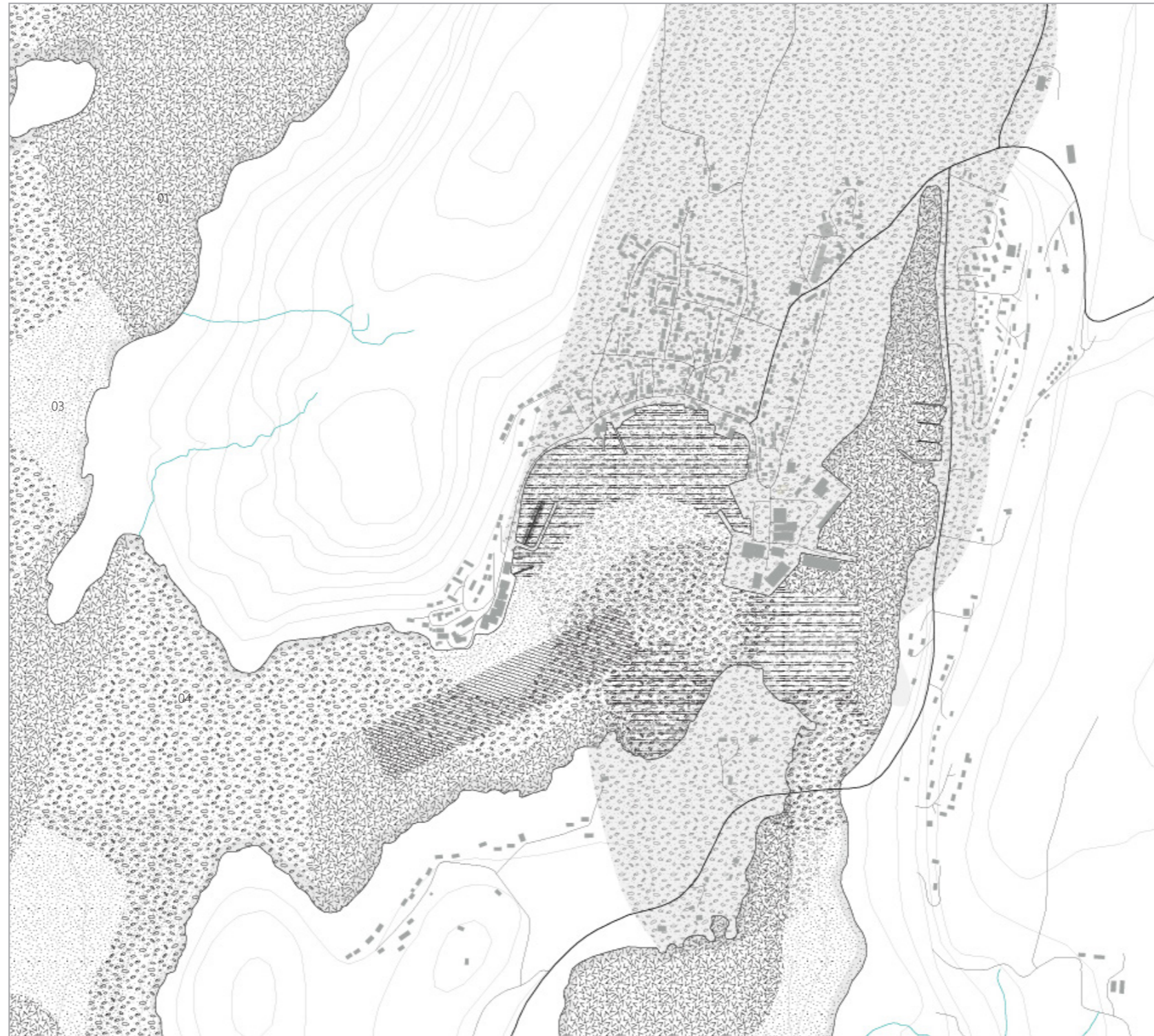


03



Topography and Program
a lack of accessible culture

- 01 NAFC Marine Research Centre
- 02 Historic pier and workshops
- 03 Fishing harbour and boat repair



Geology and ground conditions, Scalloway

- 01 Rock
- 02 Mud
- 03 Sand
- 04 Shells
- 05 Brown Earth and Limestone



Territorial Strategy
reclaiming space



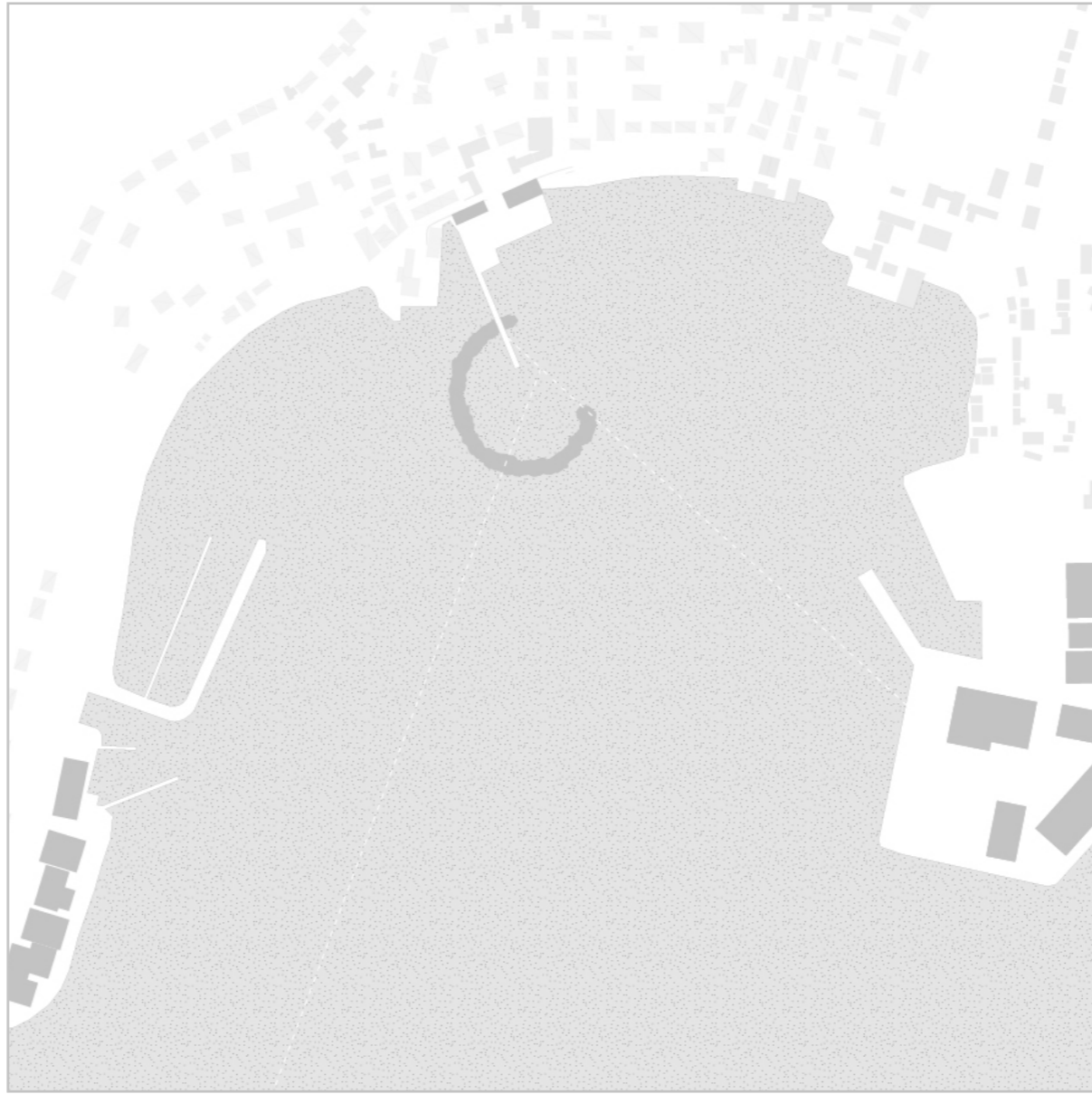
Site Strategy
from sea to land



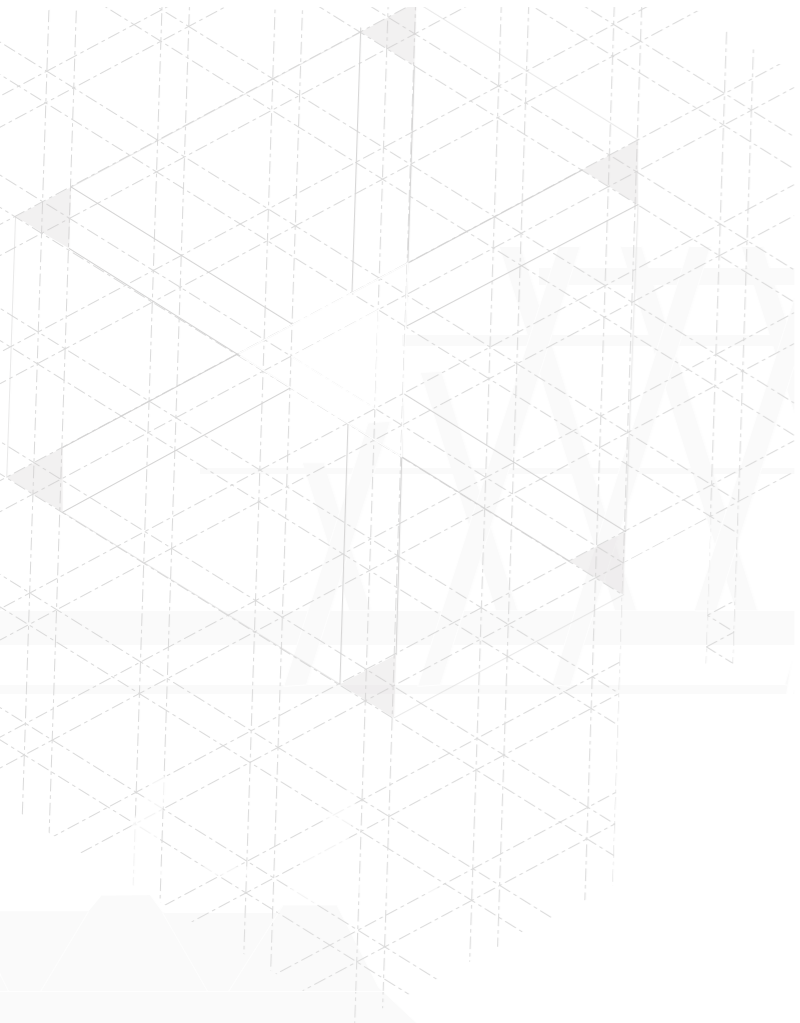
Site Plan
rebalance



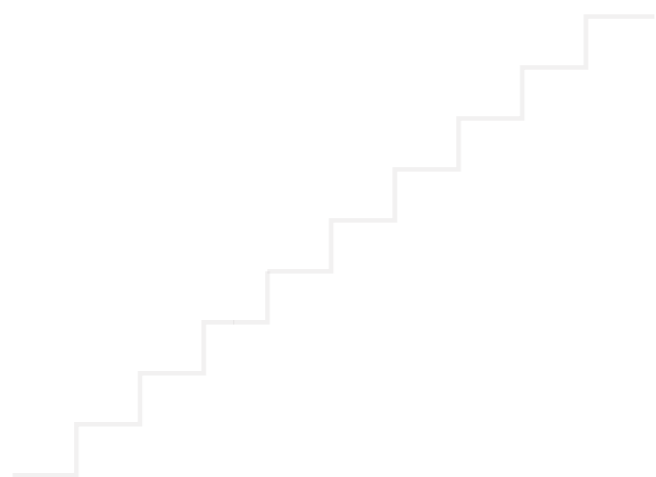
Intervention Composition
axes & views



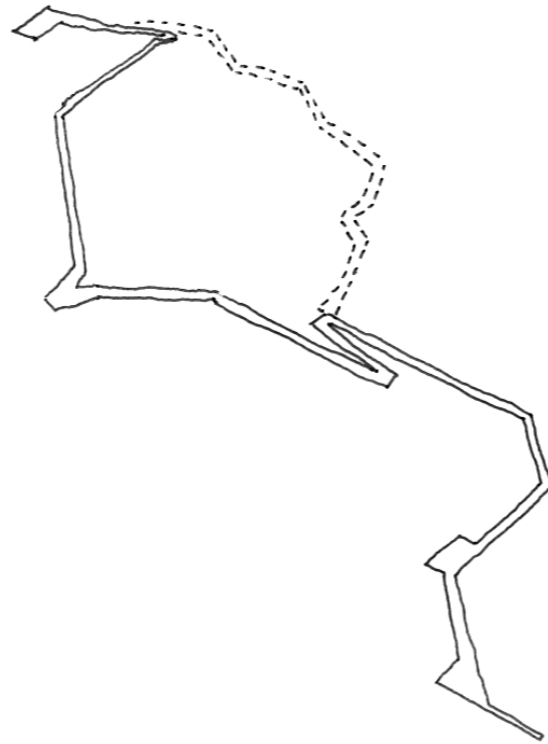
Intervention Composition
ecology first



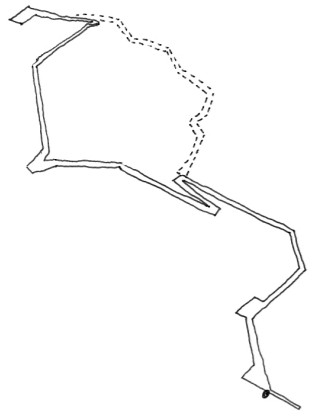
Intervention Composition
embedded experience



Intervention Composition
intersecting lives

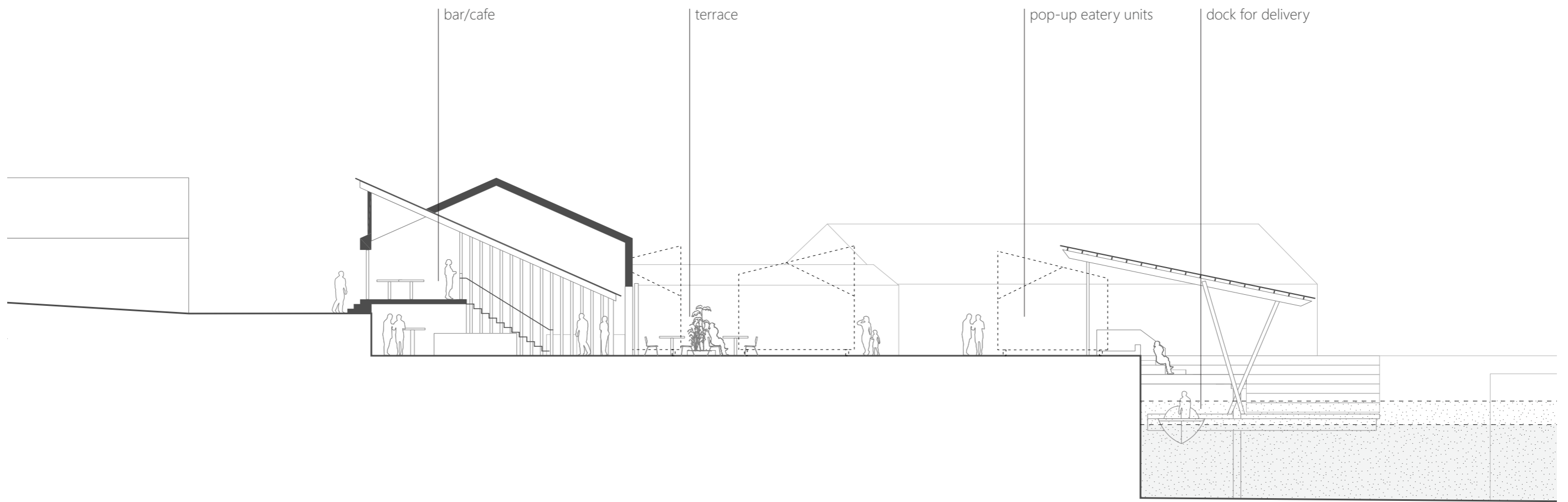


Cultural Cultivation
creating spaces of (ex)change

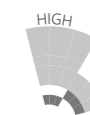
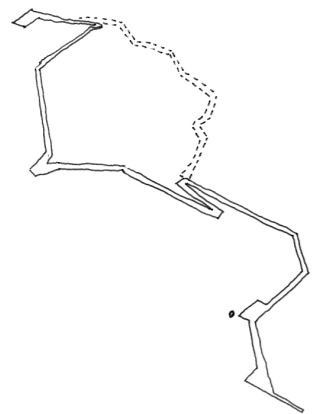


LOW

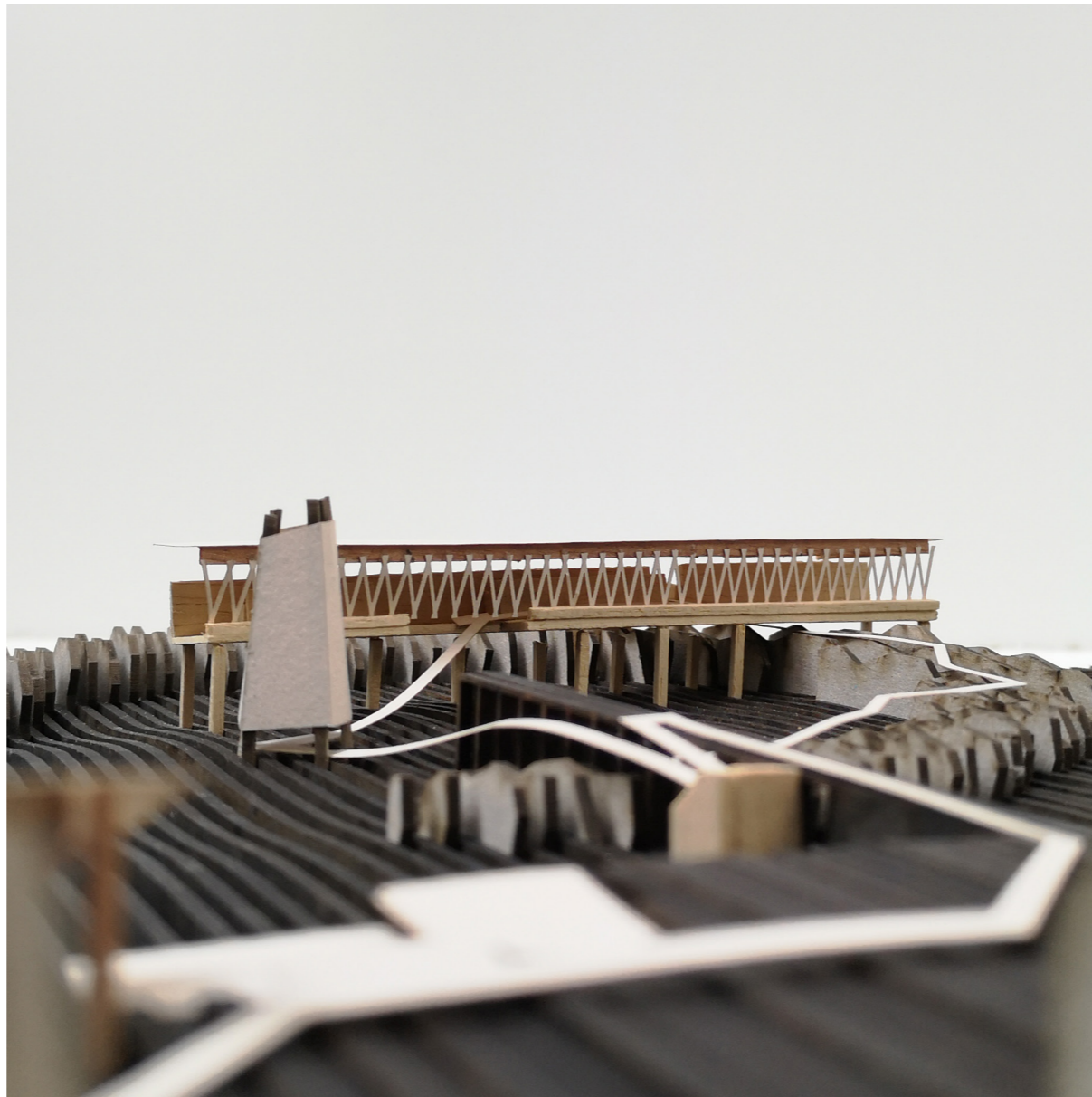
Arrive | entrance



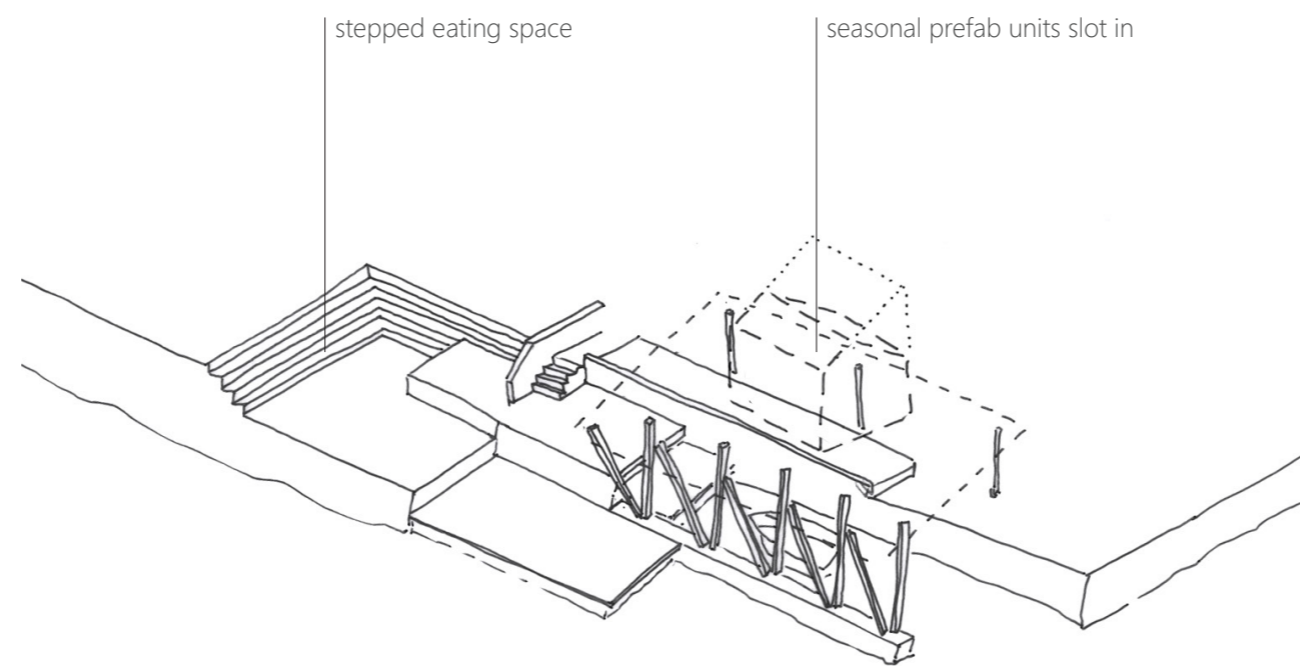
Section A
the shore edge



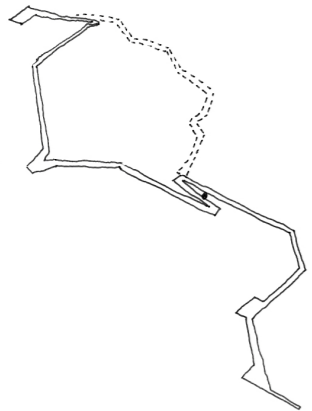
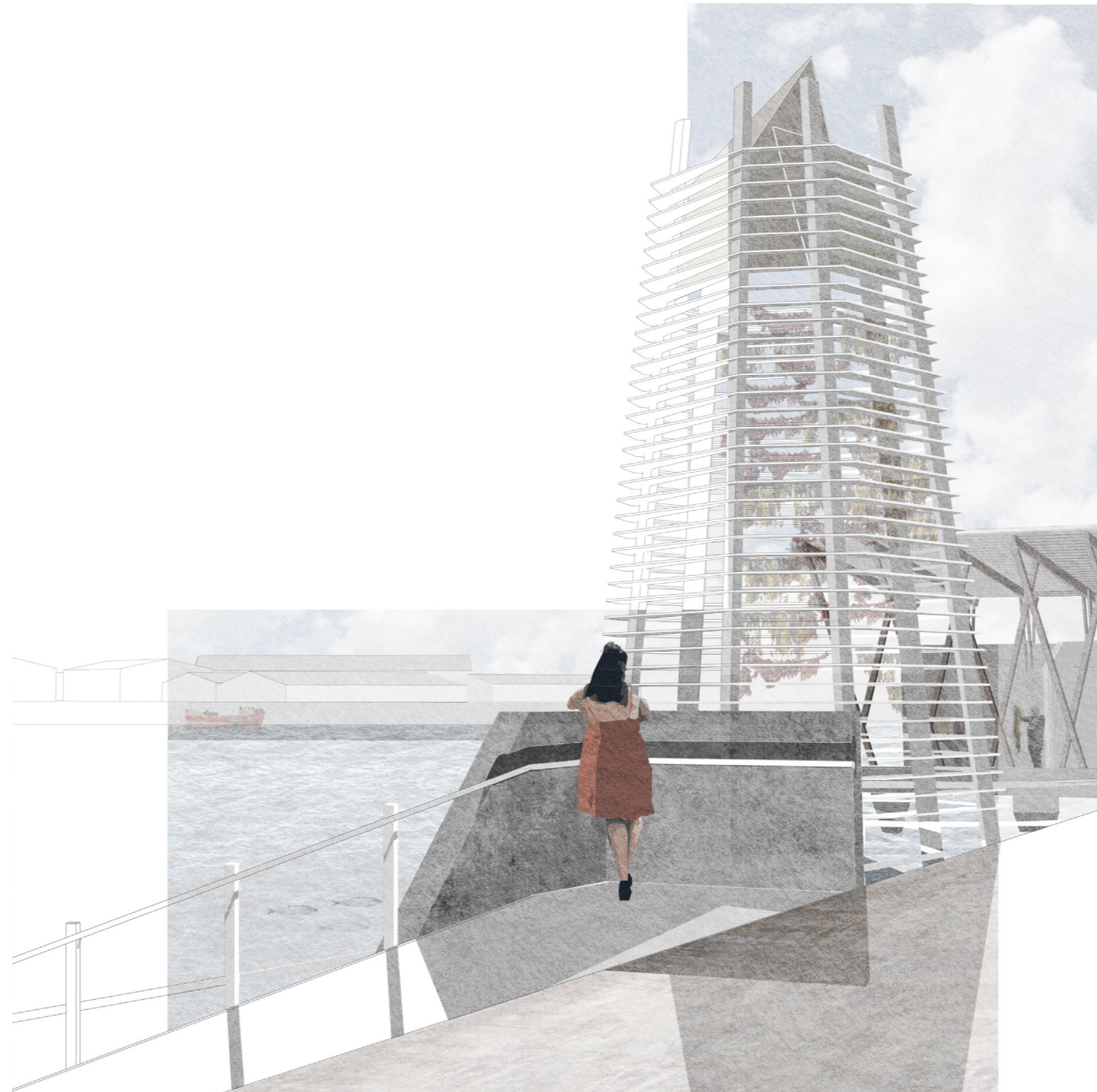
LOW

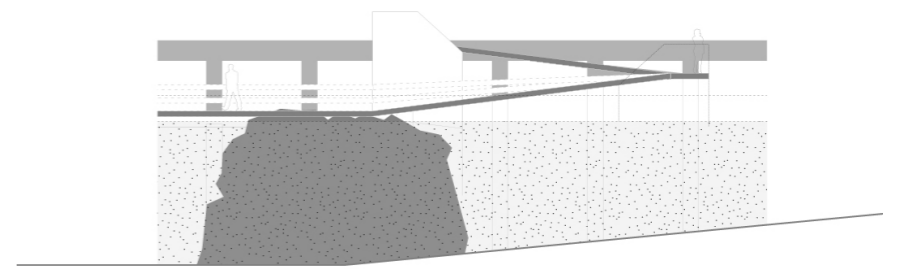
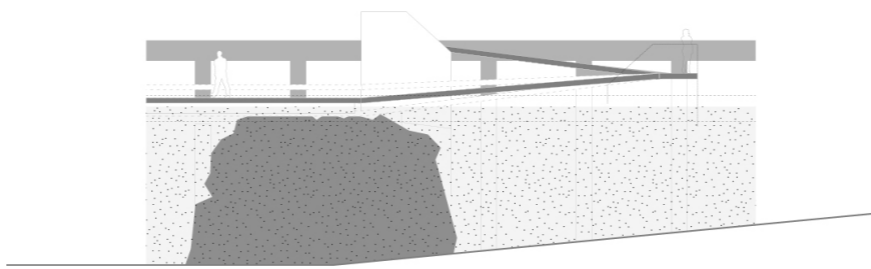
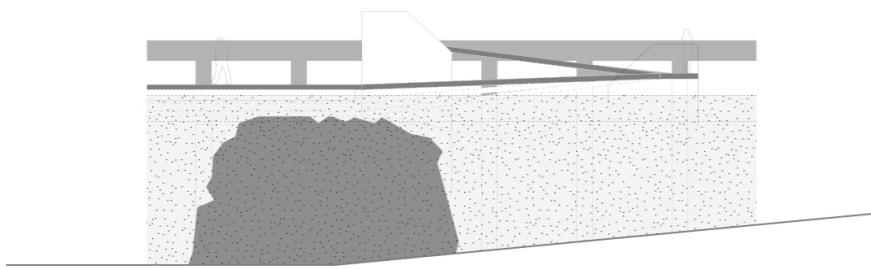
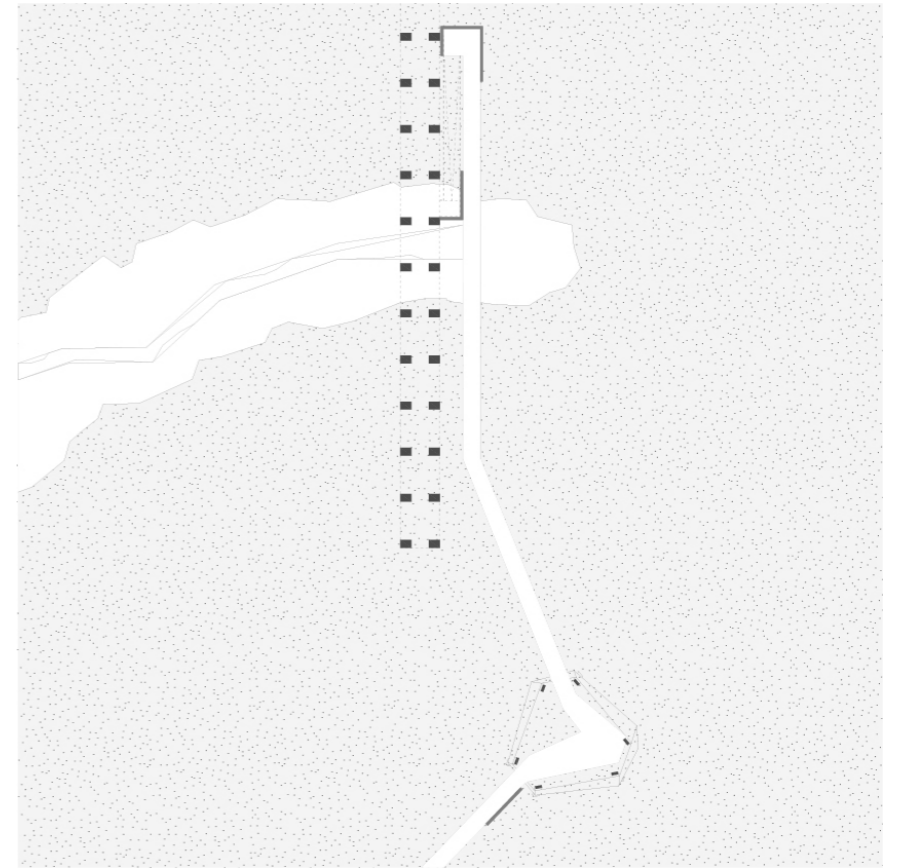
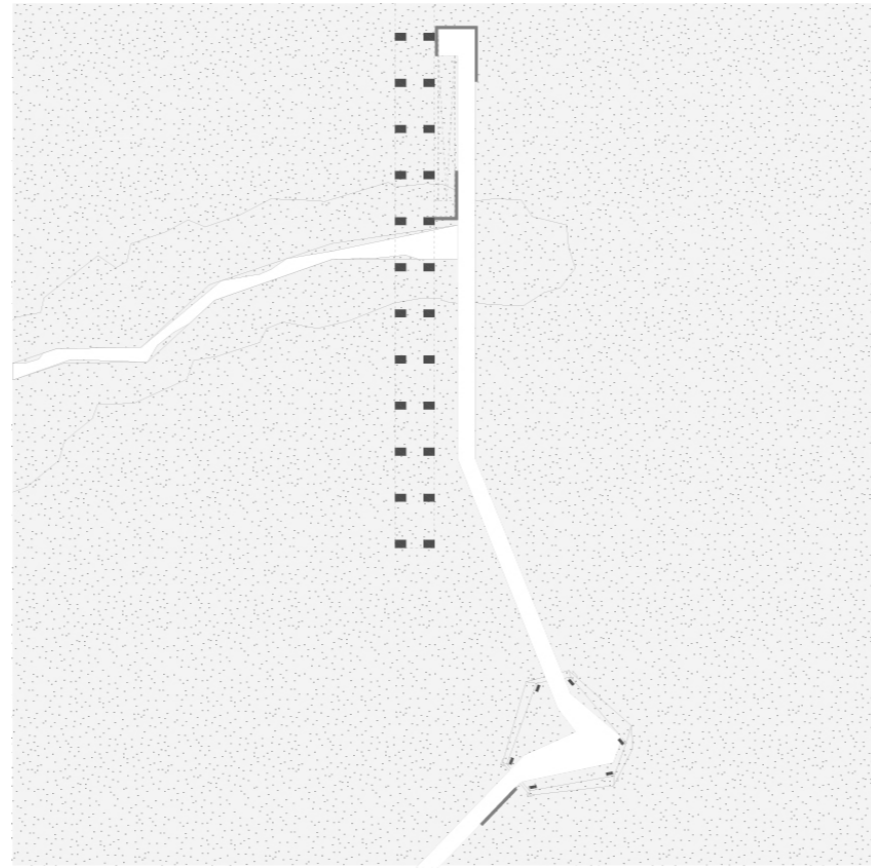
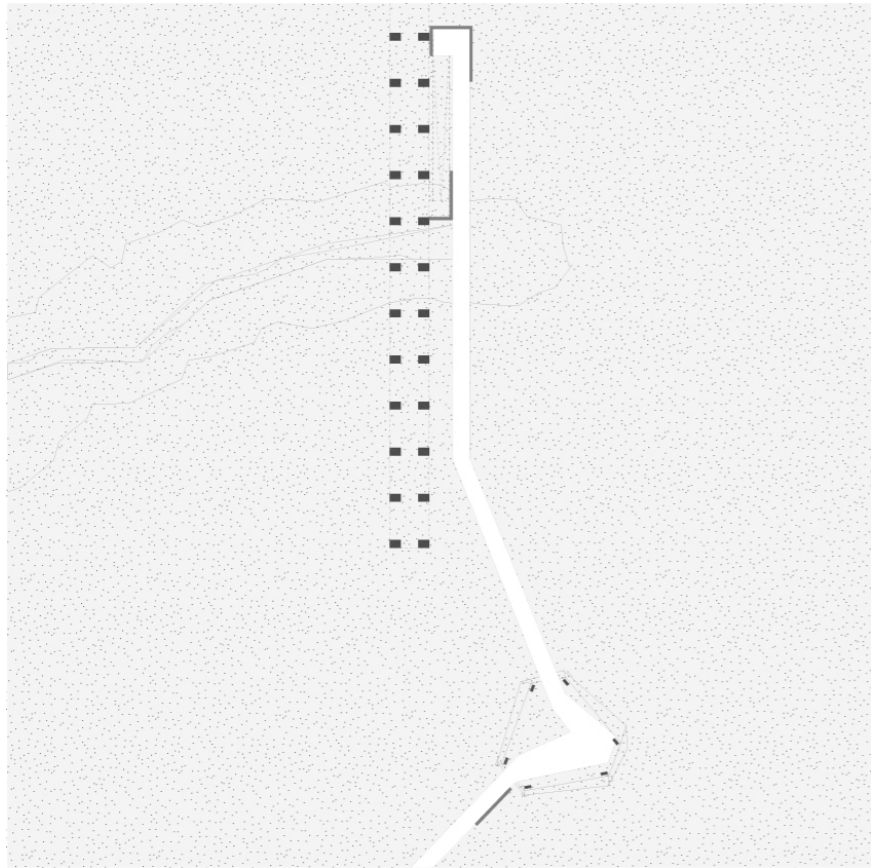


Water Edge
the journey ahead



Water Edge
gradual introductions

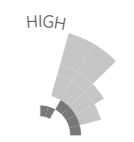
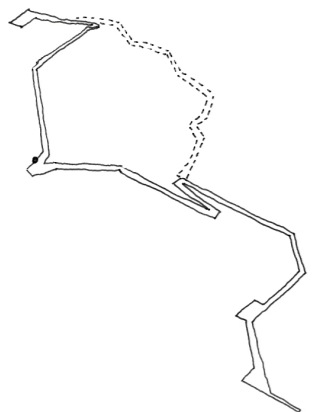
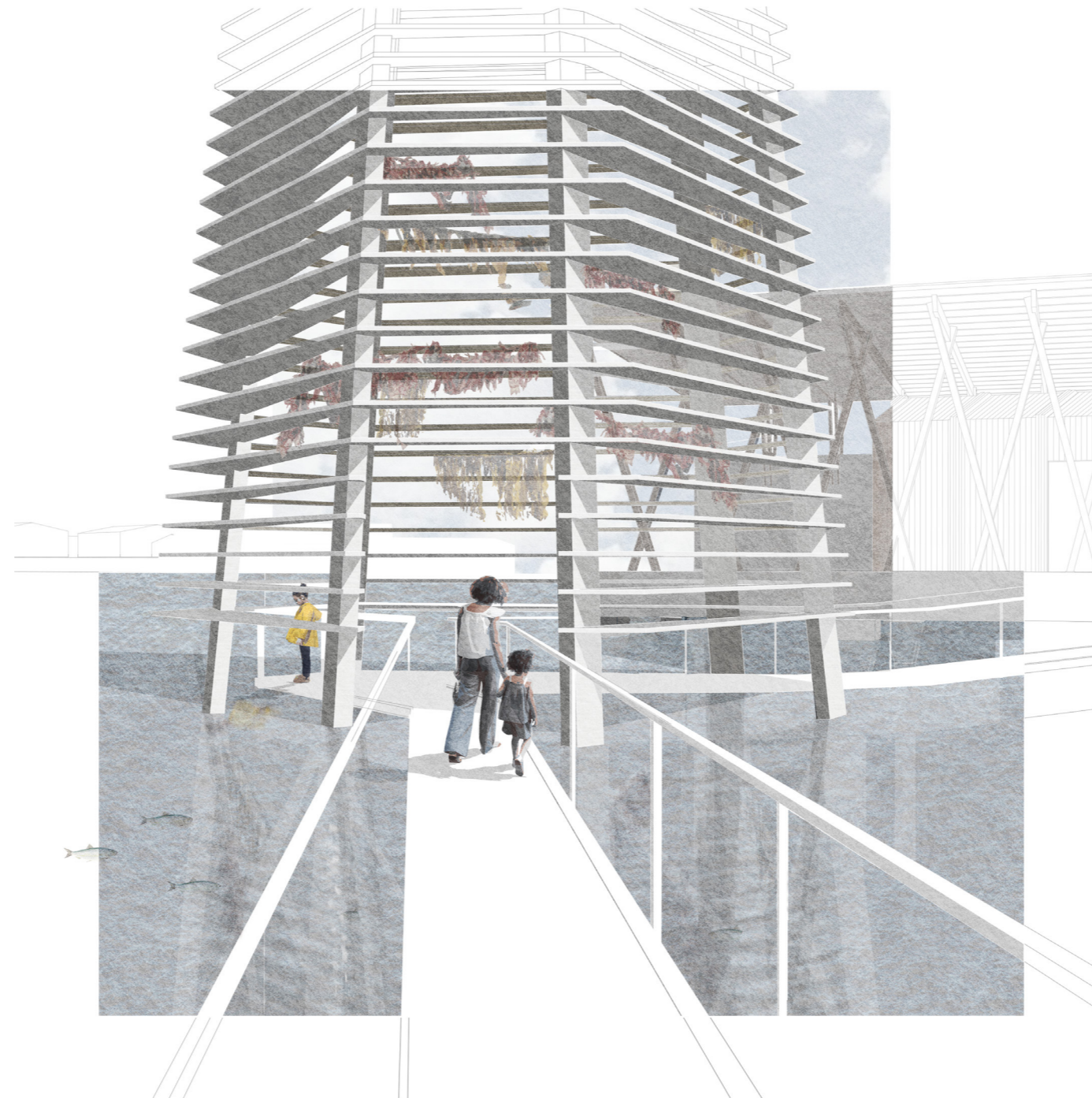




Tide In

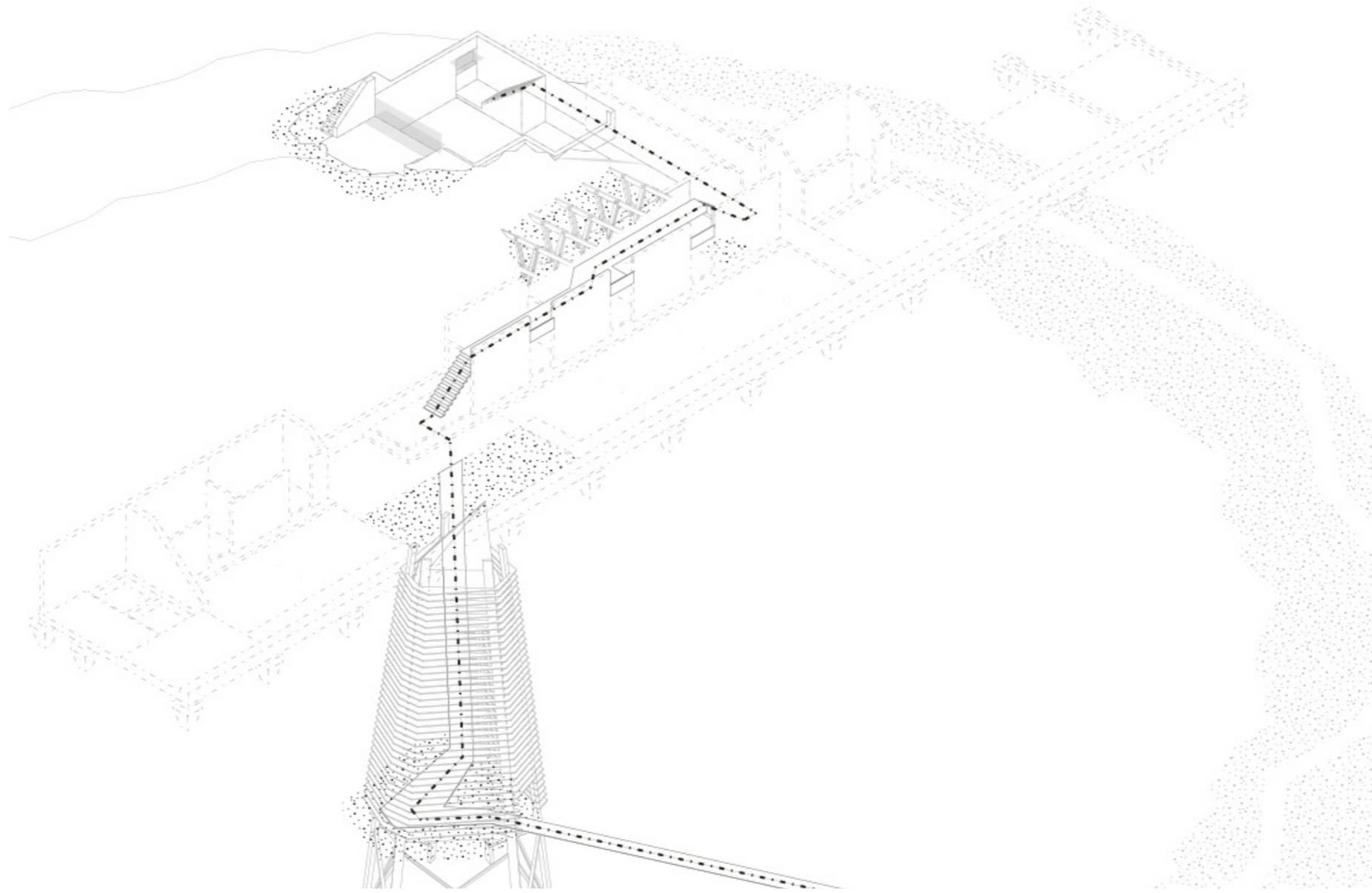
Tide Halfway

Tide Out



LOW

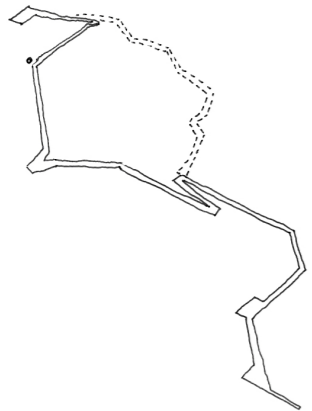
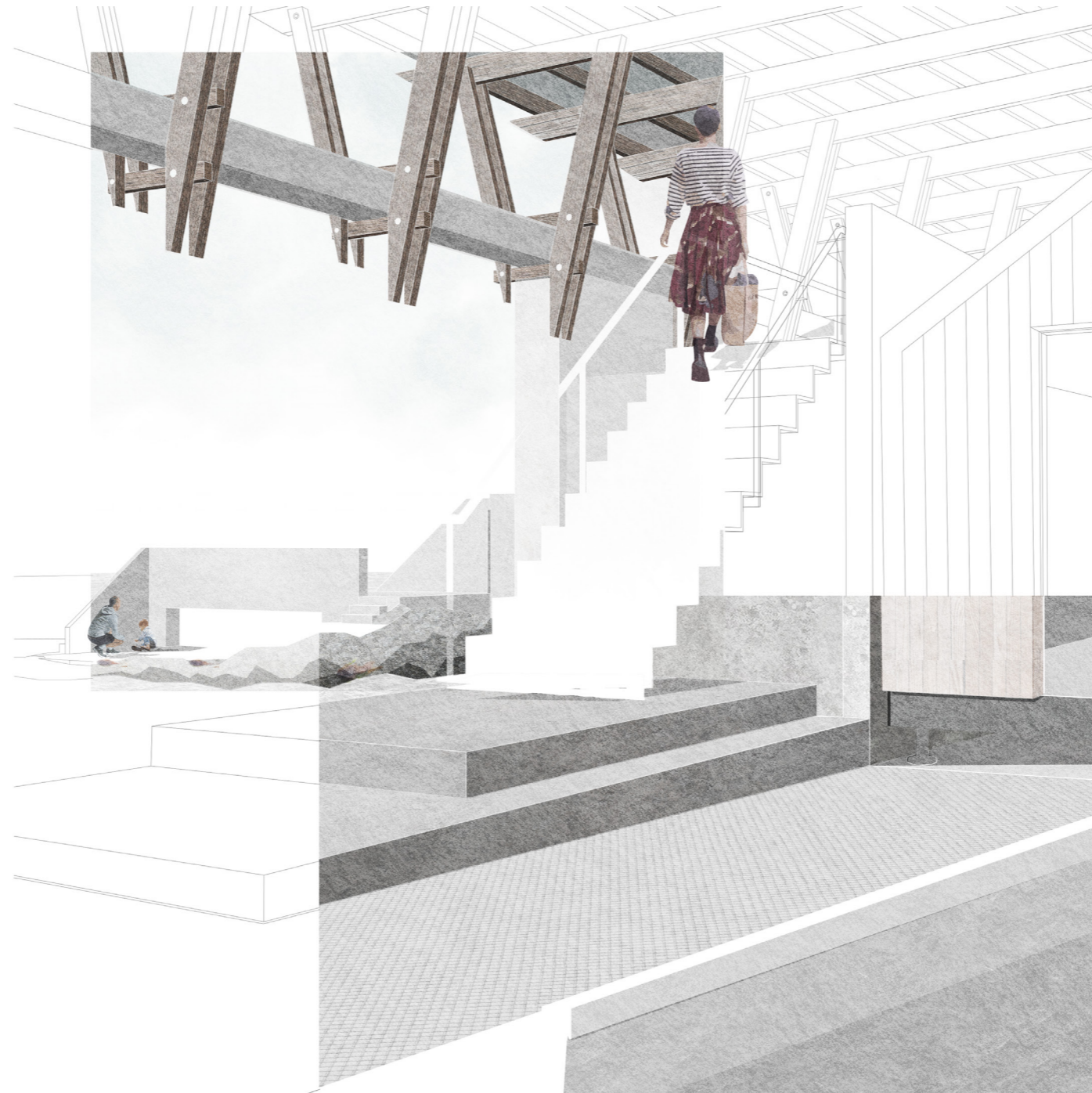
Reorient | tower

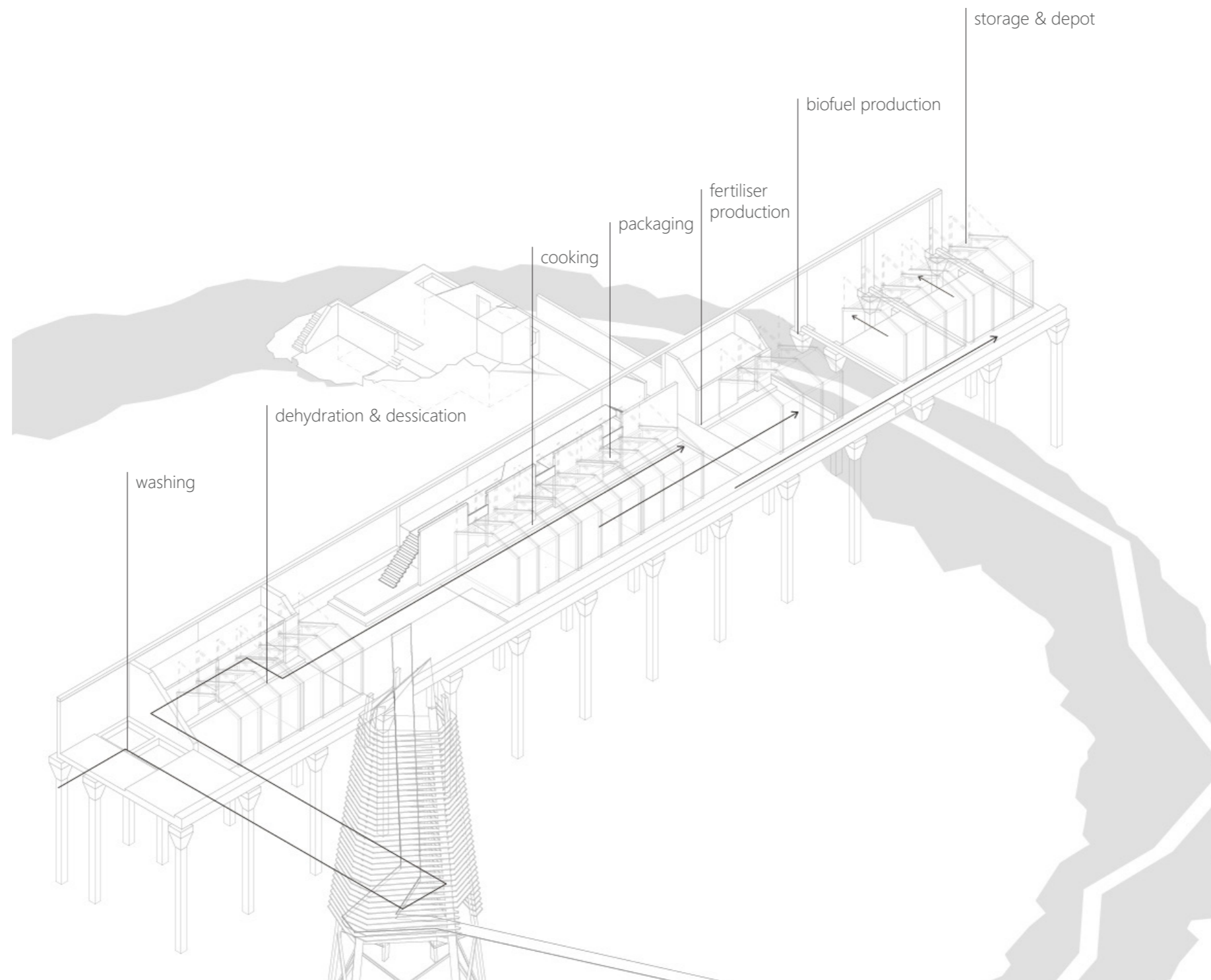


Intersections
spaces of co-existence

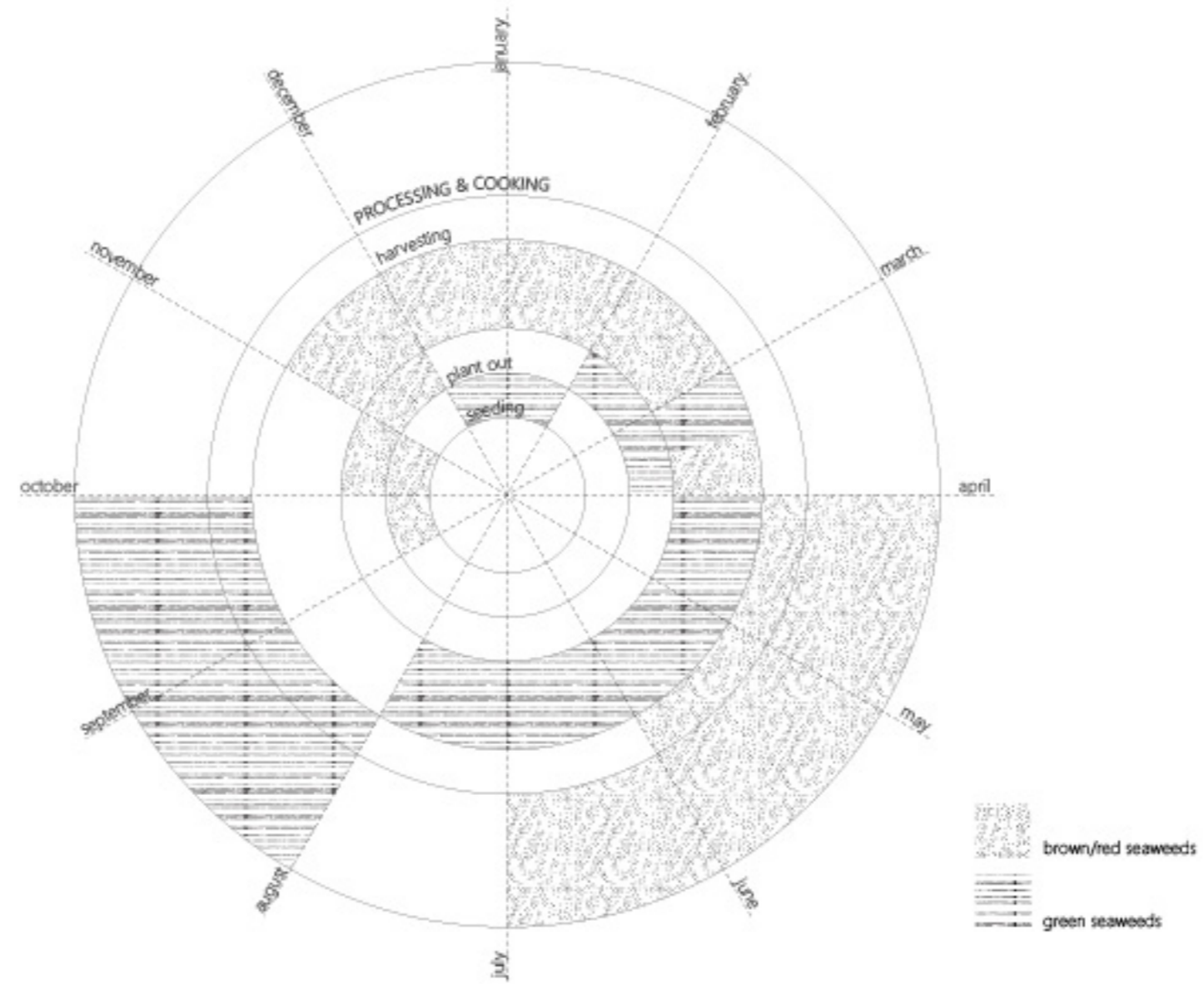


Drying Tower
reflection on reflection

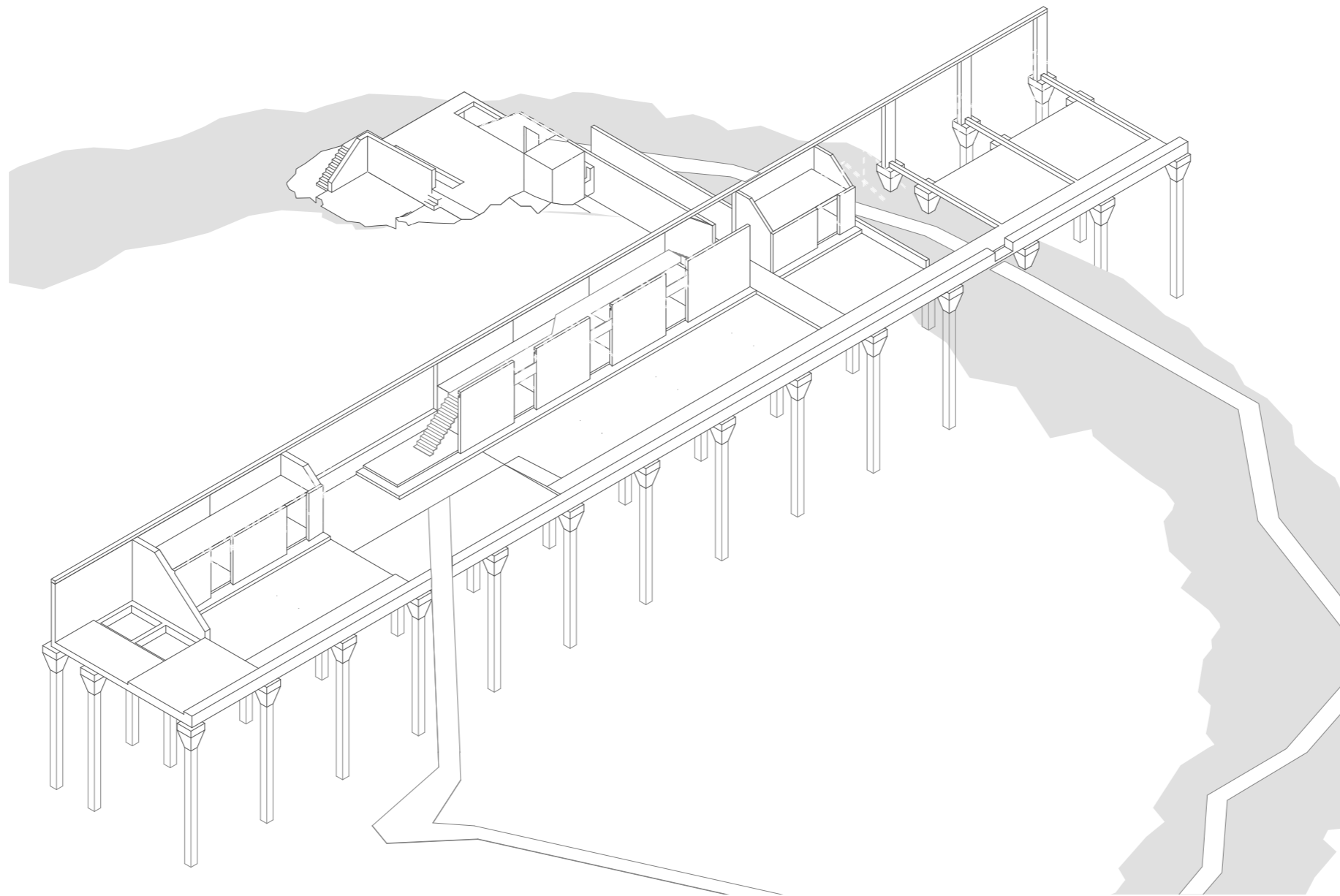




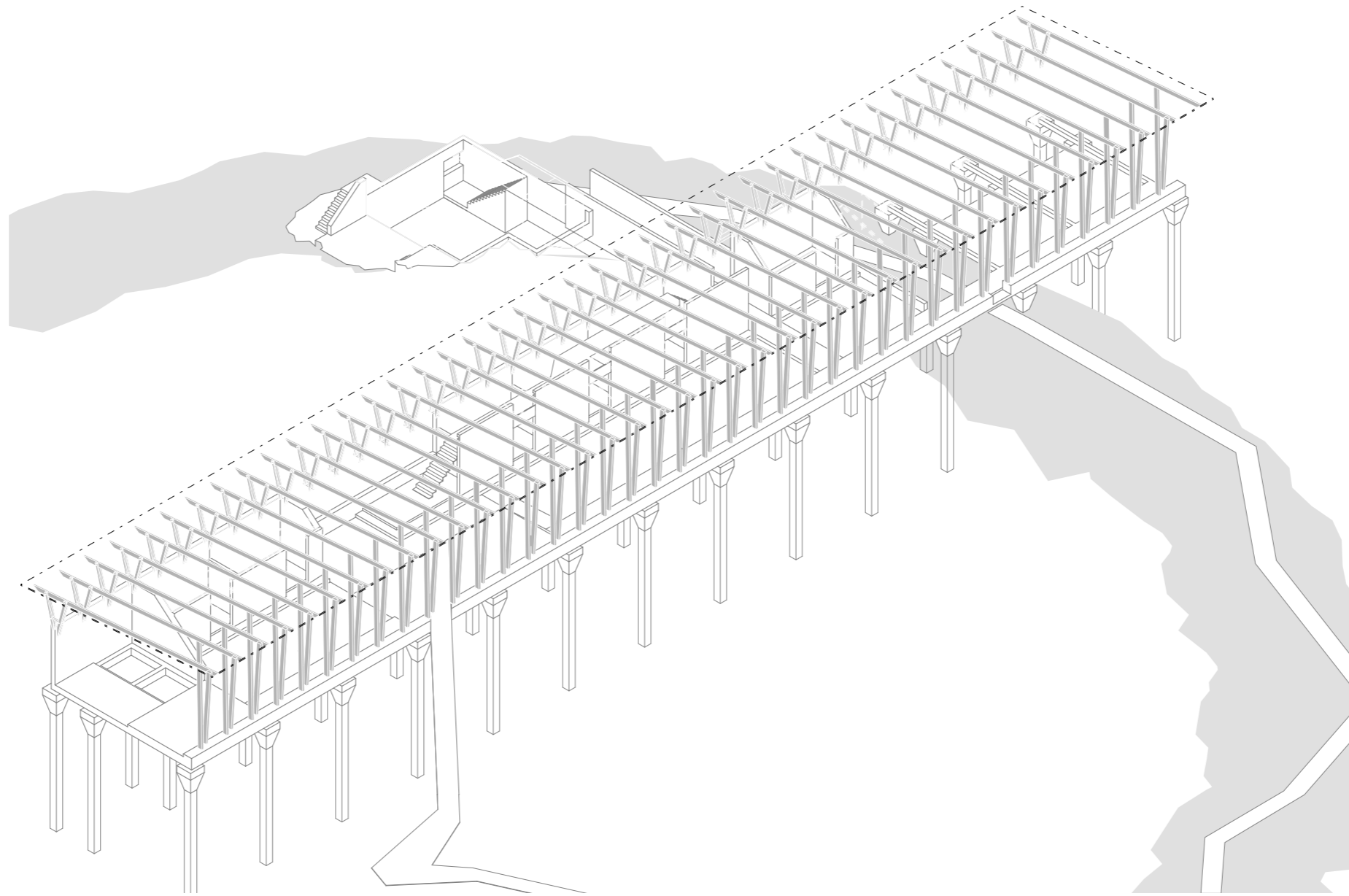
Processing
the route of production



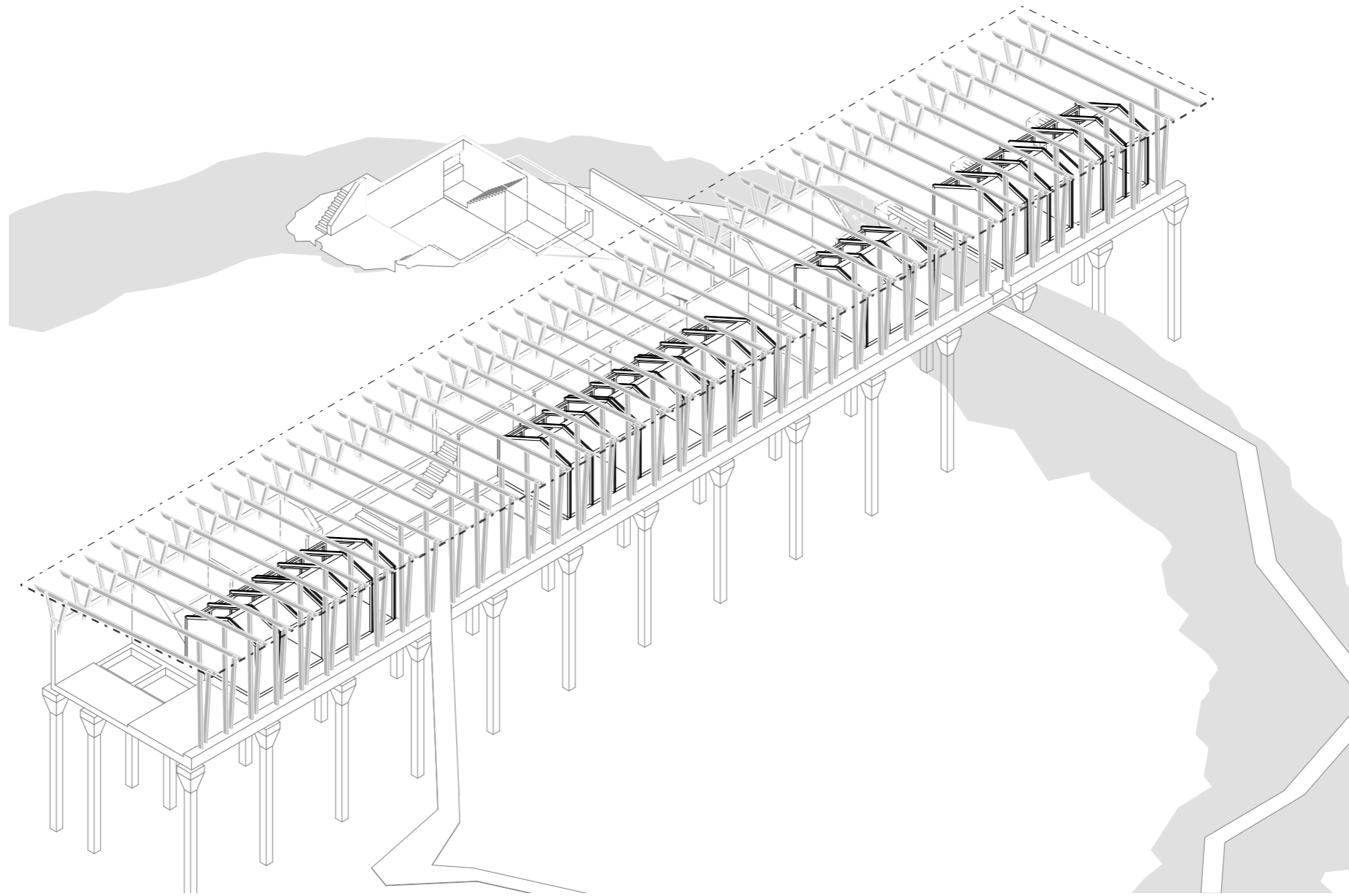
Production Cycle
seasonal change



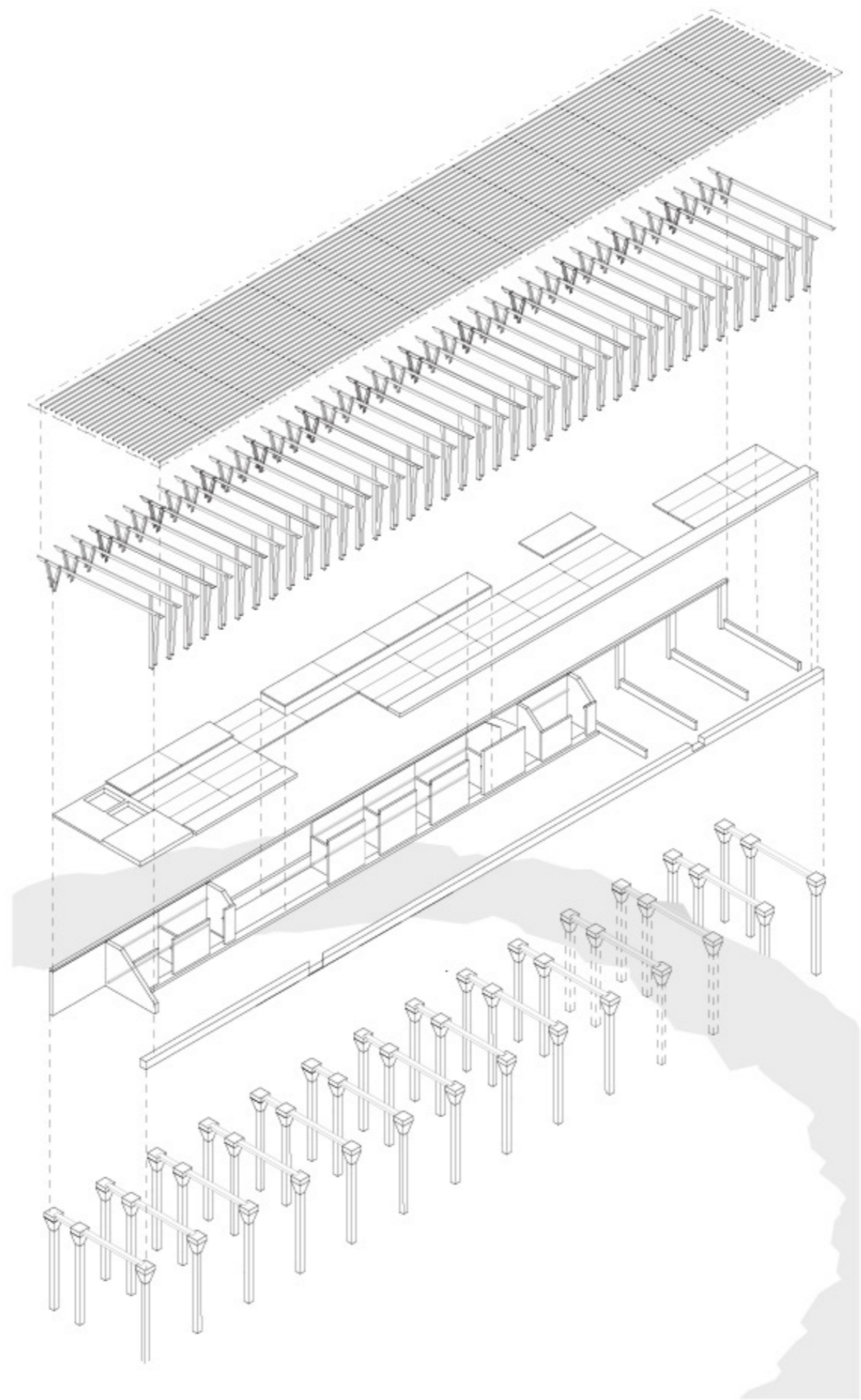
Longevity
permanent infrastructure

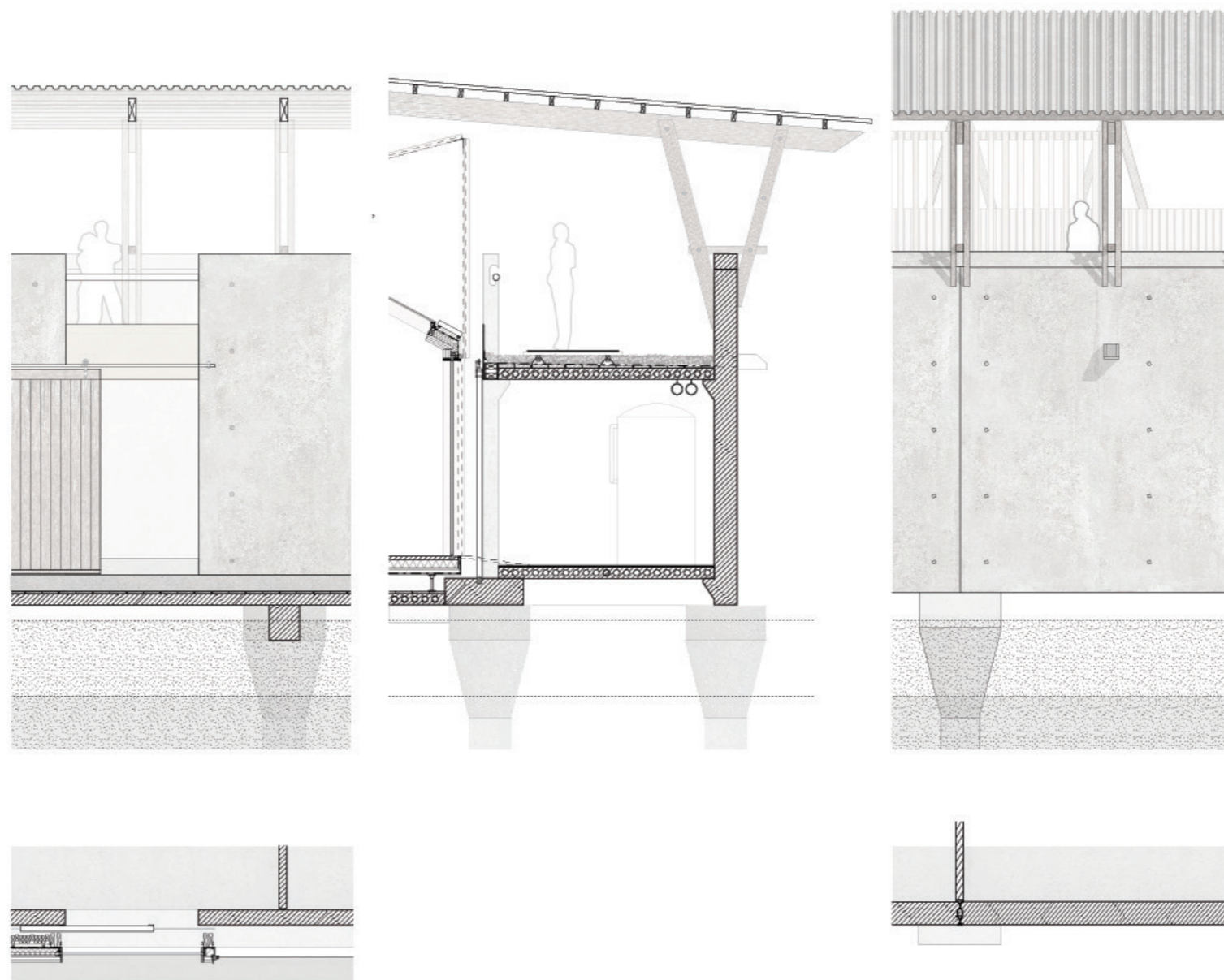


Longevity
transient shelter

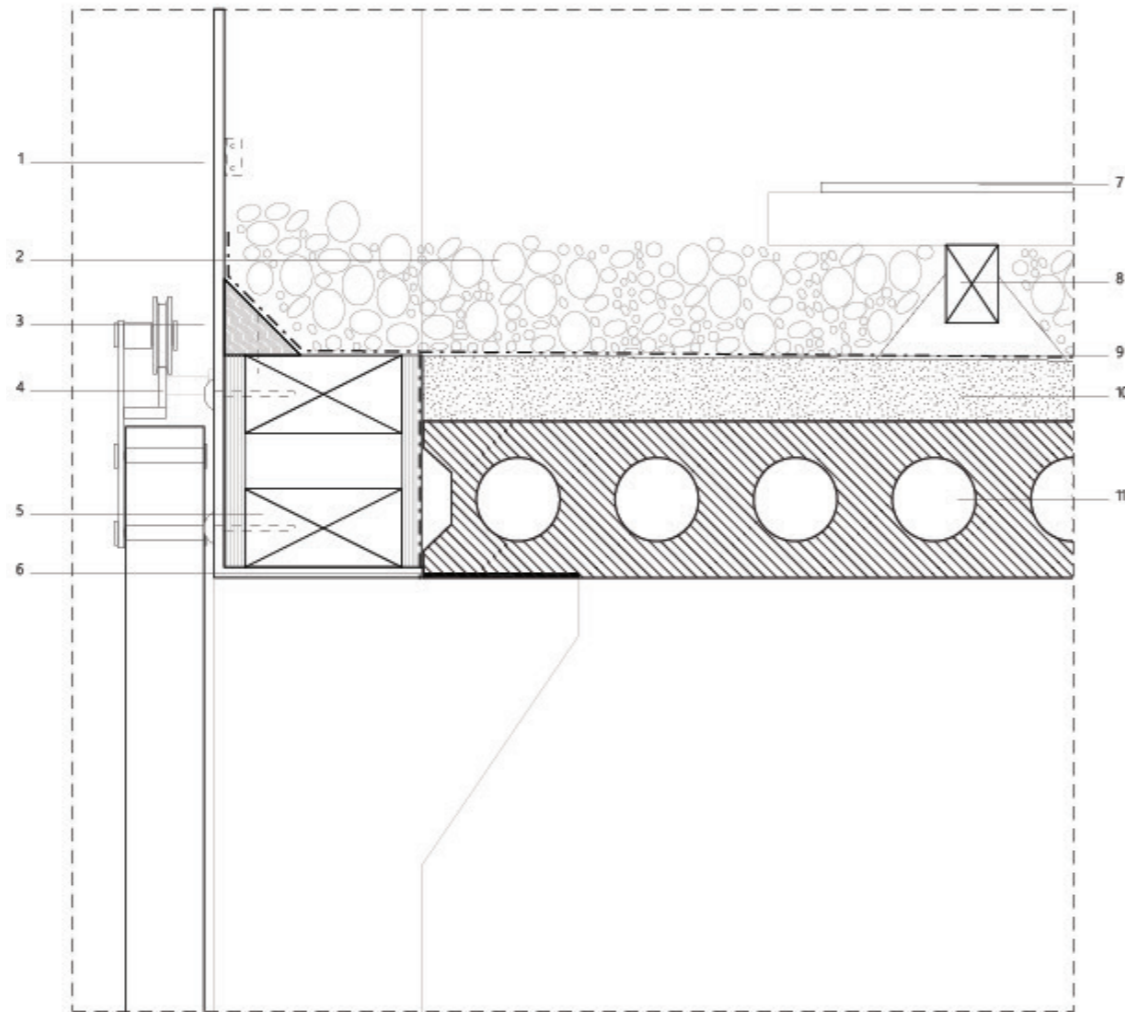


Longevity
seasonal infrastructure



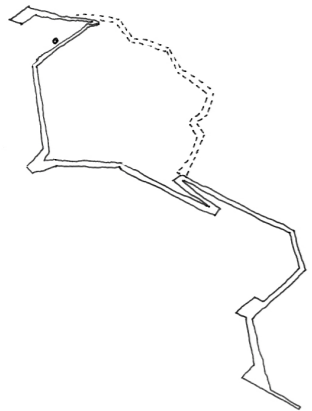
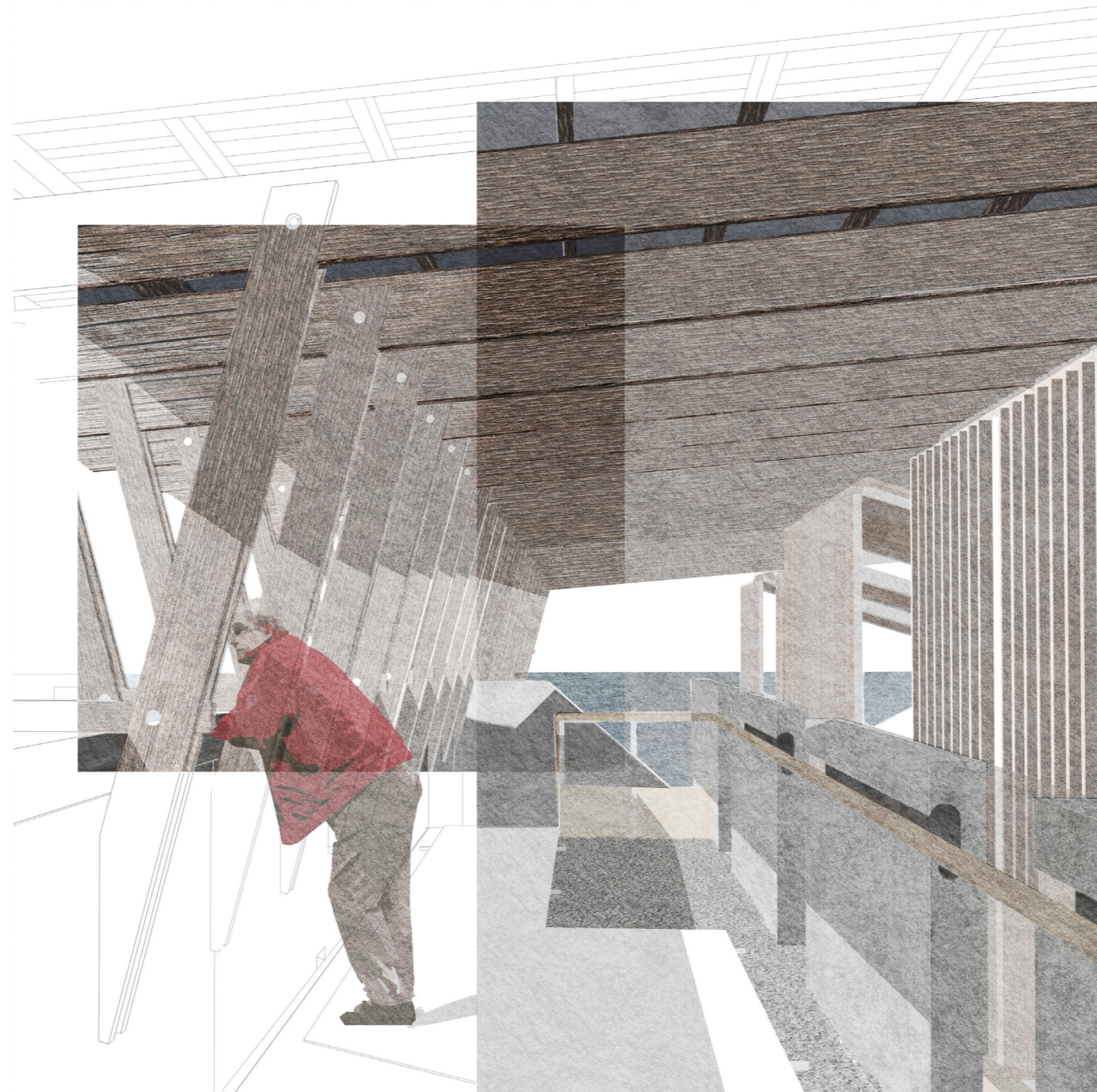


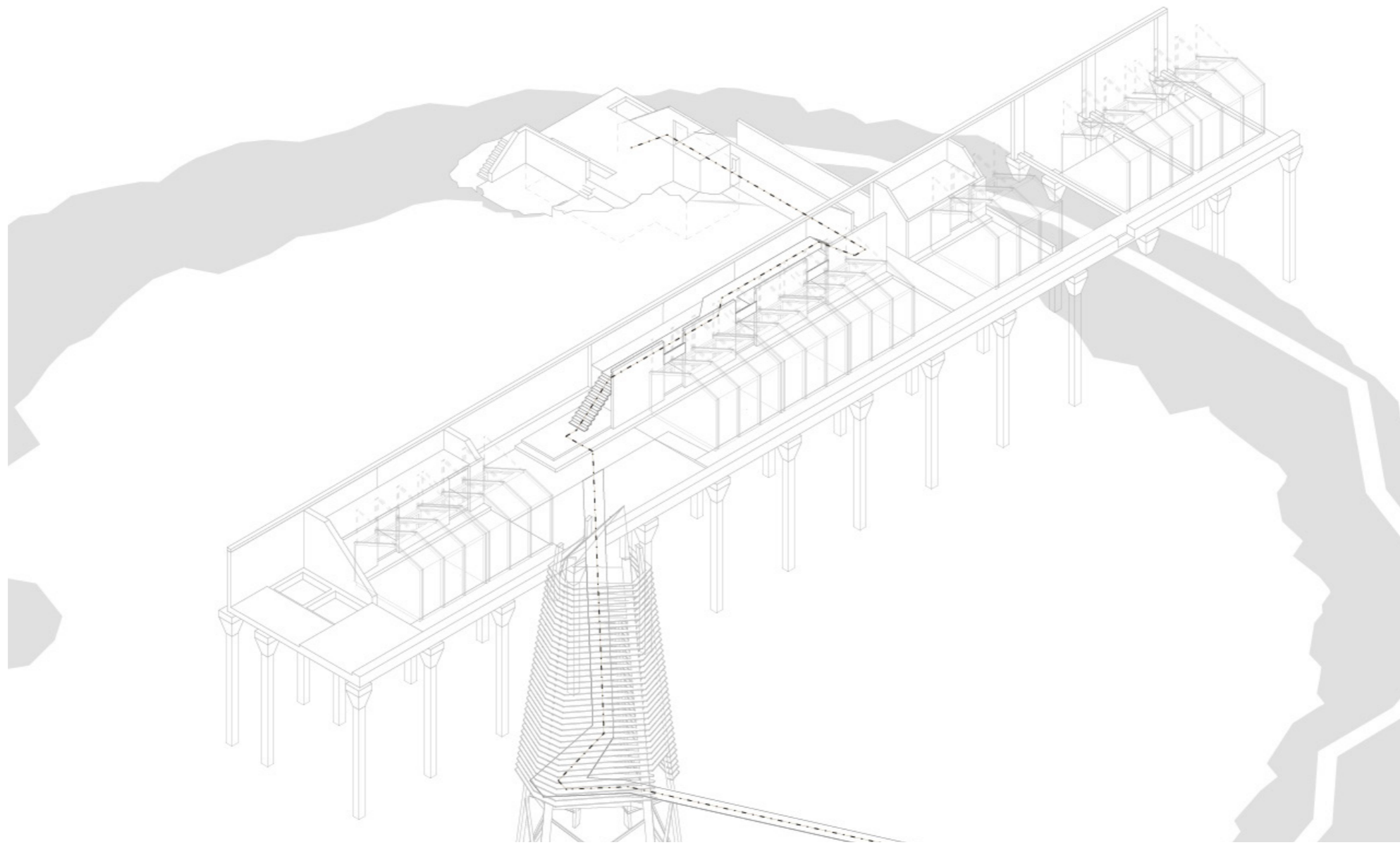
Articulation
key section, plan, elevation



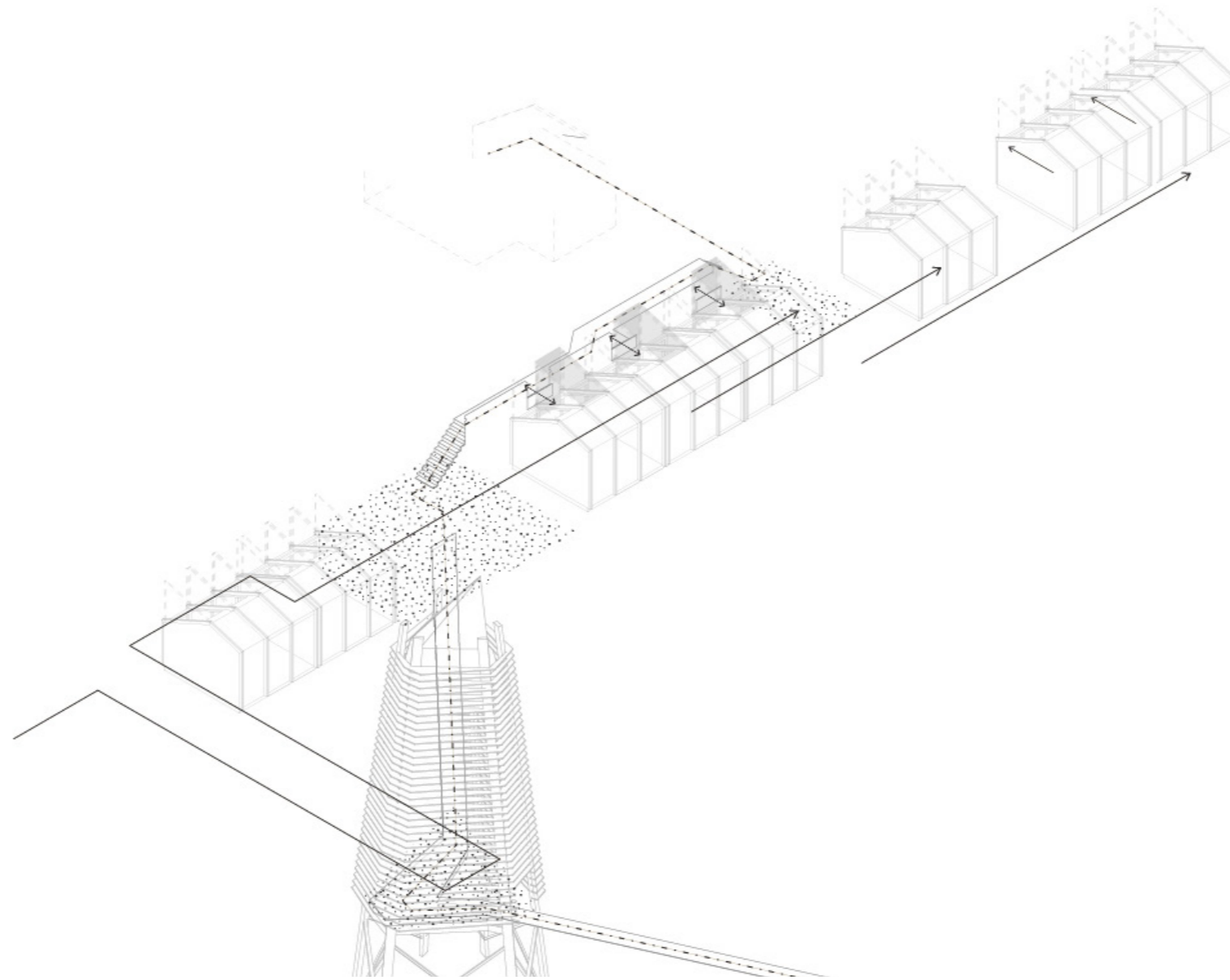
Processing | Detail A - internal wall-floor & door head
scale 1:5

- 1 10mm brushed brass sheet angle
- 2 loose pebble drainage layer
- 3 timber fillet angle
- 4 overhead rail for sliding door, stainless steel
- 5 timber substructure spans between precast concrete walls
- 6 rubber bearing strip
- 7 10mm galvanized steel sheet walkway
- 8 25mm x 50mm timber walkway support on cement bedding
- 9 bituminous roof felt water proofing layer
- 10 screed layer laid to falls, 1:40
- 11 exposed precast hollow core ceiling slab

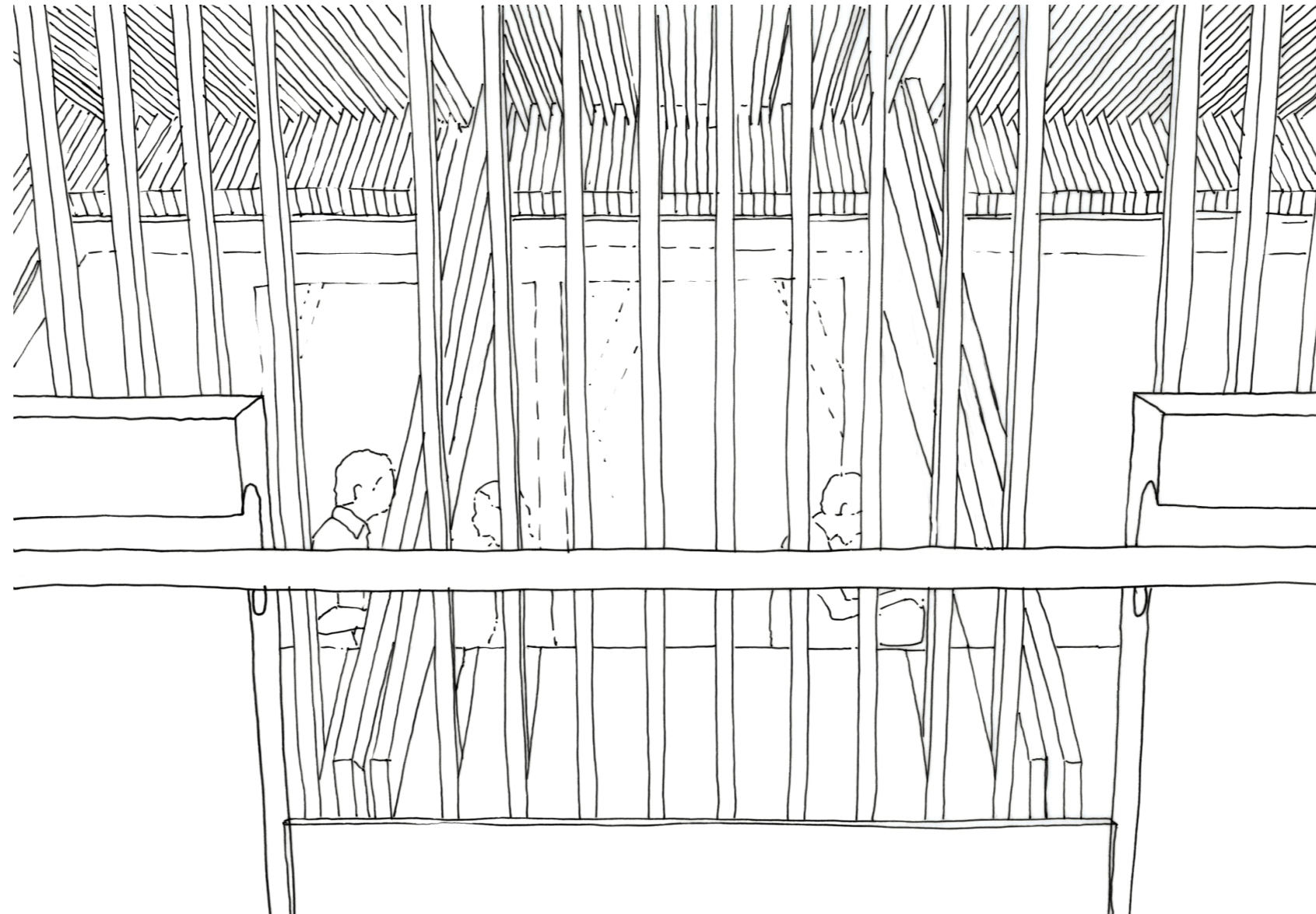




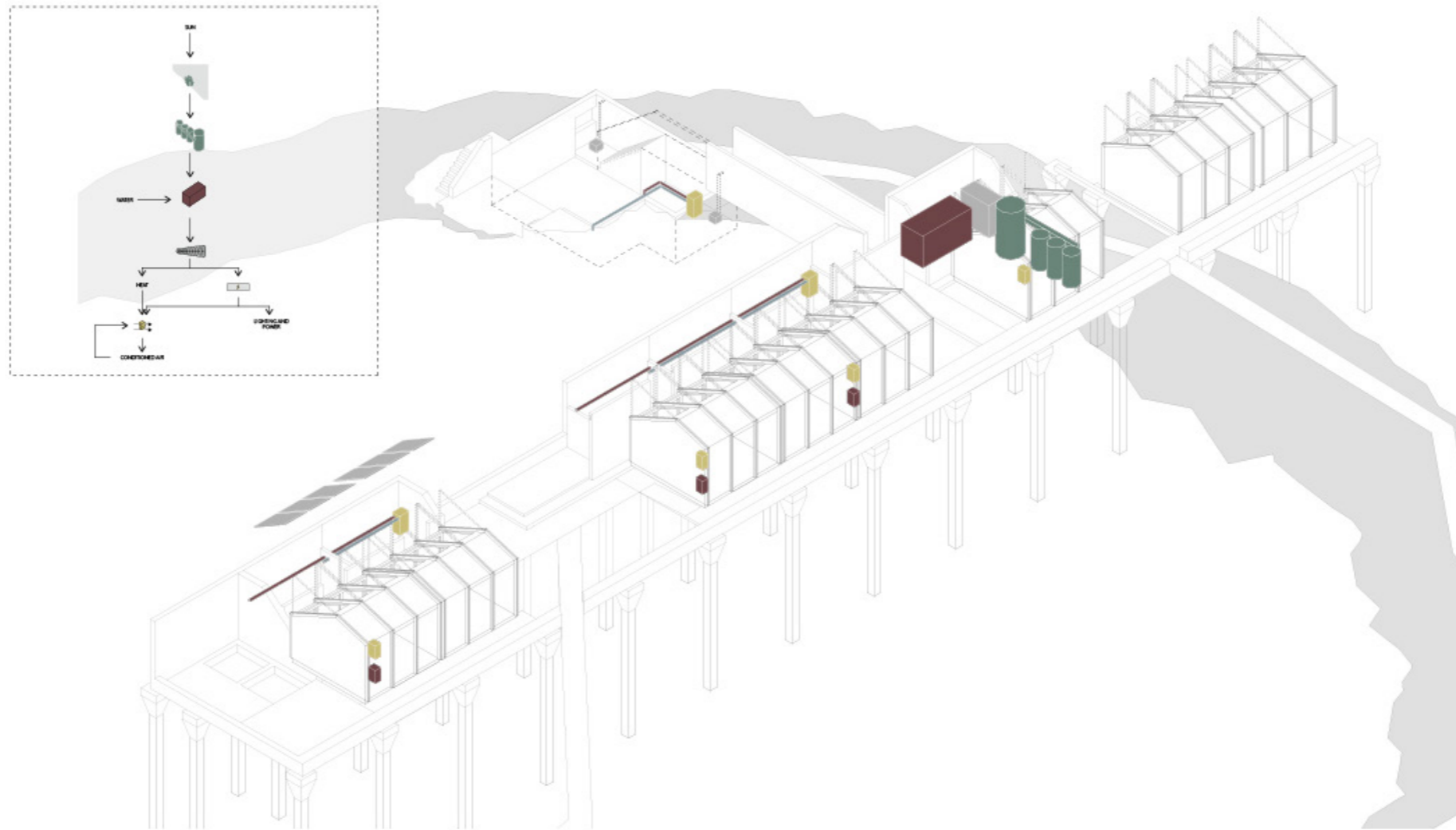
Access
visitor route



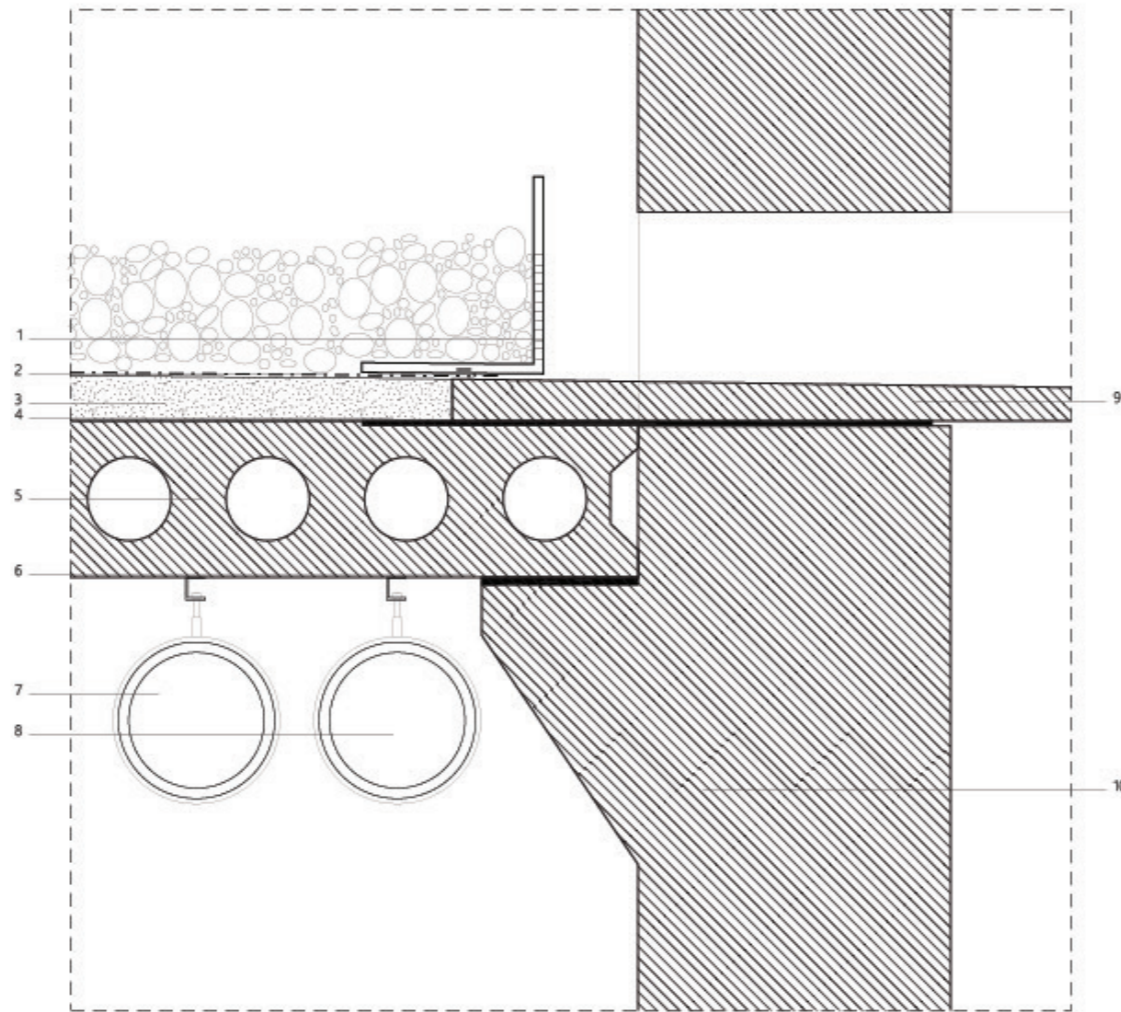
Access
producer & consumer intersections



view into production spaces

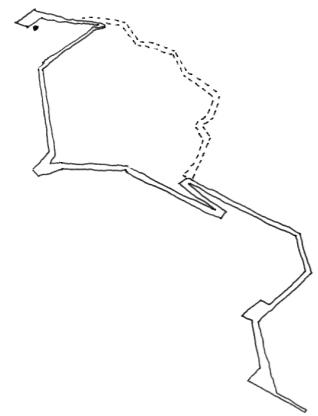
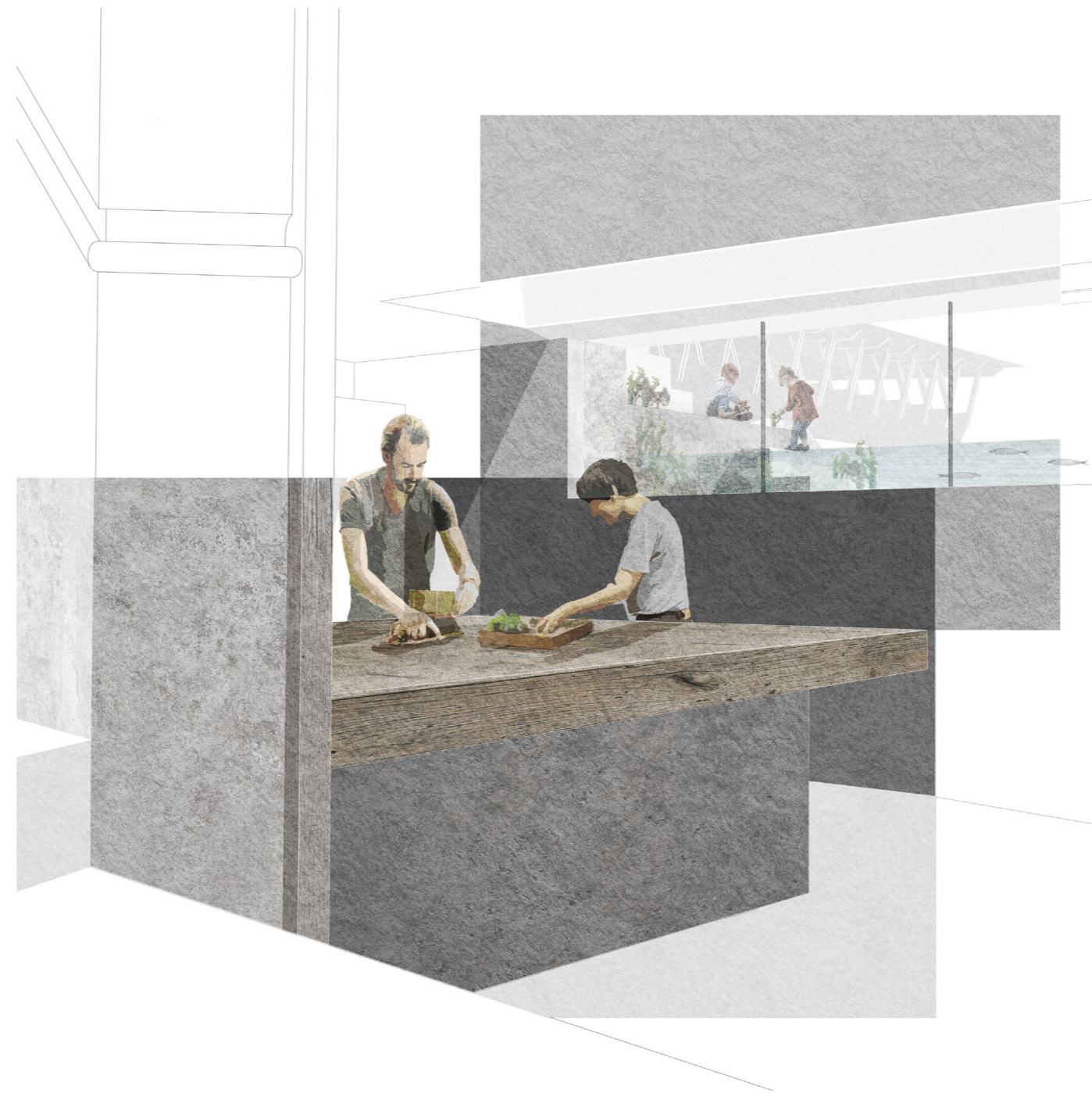


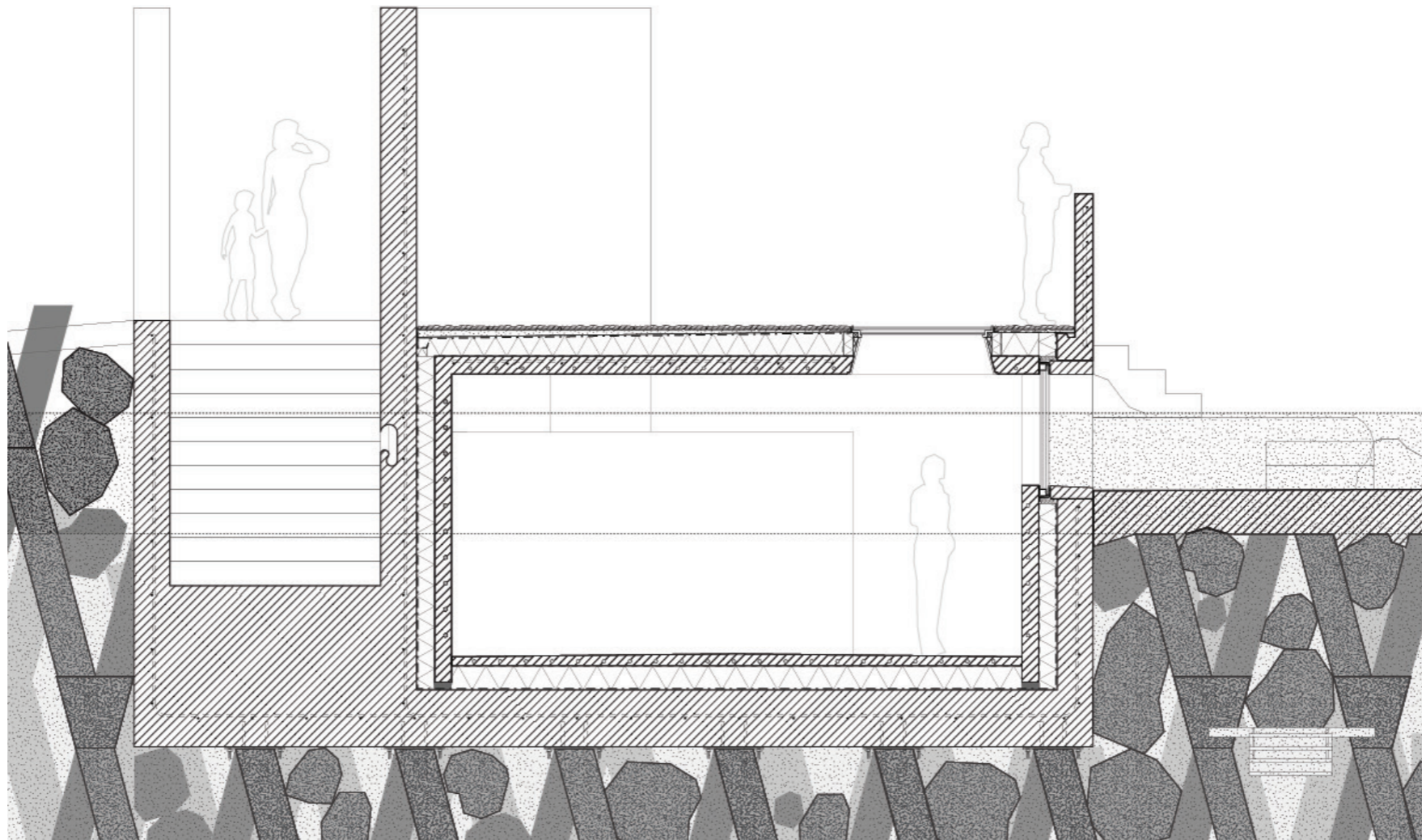
Climate & Energy Strategy
green energy



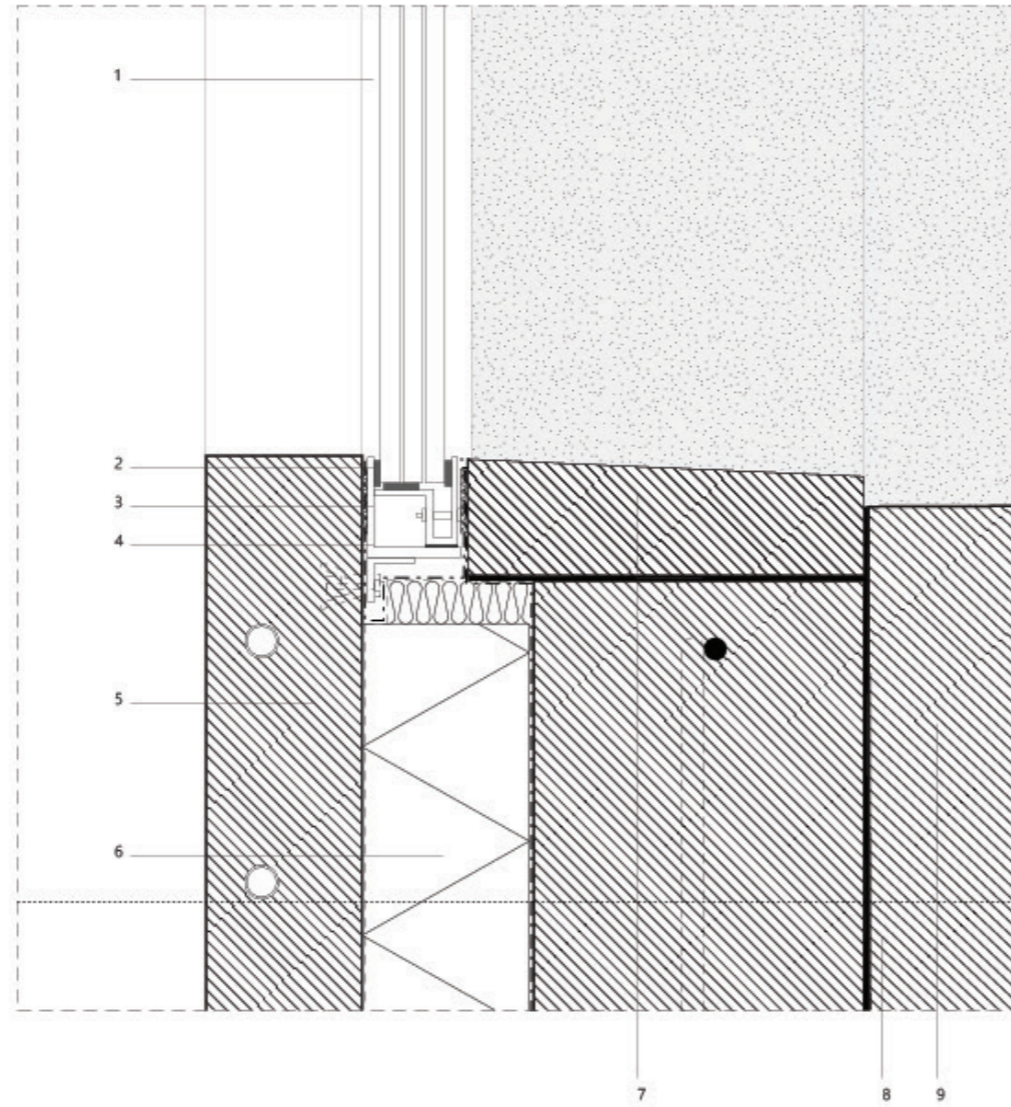
Processing | Detail B - roof parapet drainage detail
scale 1:5

- 1 stainless steel gravel stop
- 2 bituminous roof membrane to lap drainage joint
- 3 screed layer laid to falls, 1:40
- 4 rubber bearing strip
- 5 precast hollow core floor slab
- 6 rubber bearing strip
- 7 MVHR intake duct
- 8 MVHR outtake duct
- 9 precast concrete drainage chute
- 10 precast concrete wall unit



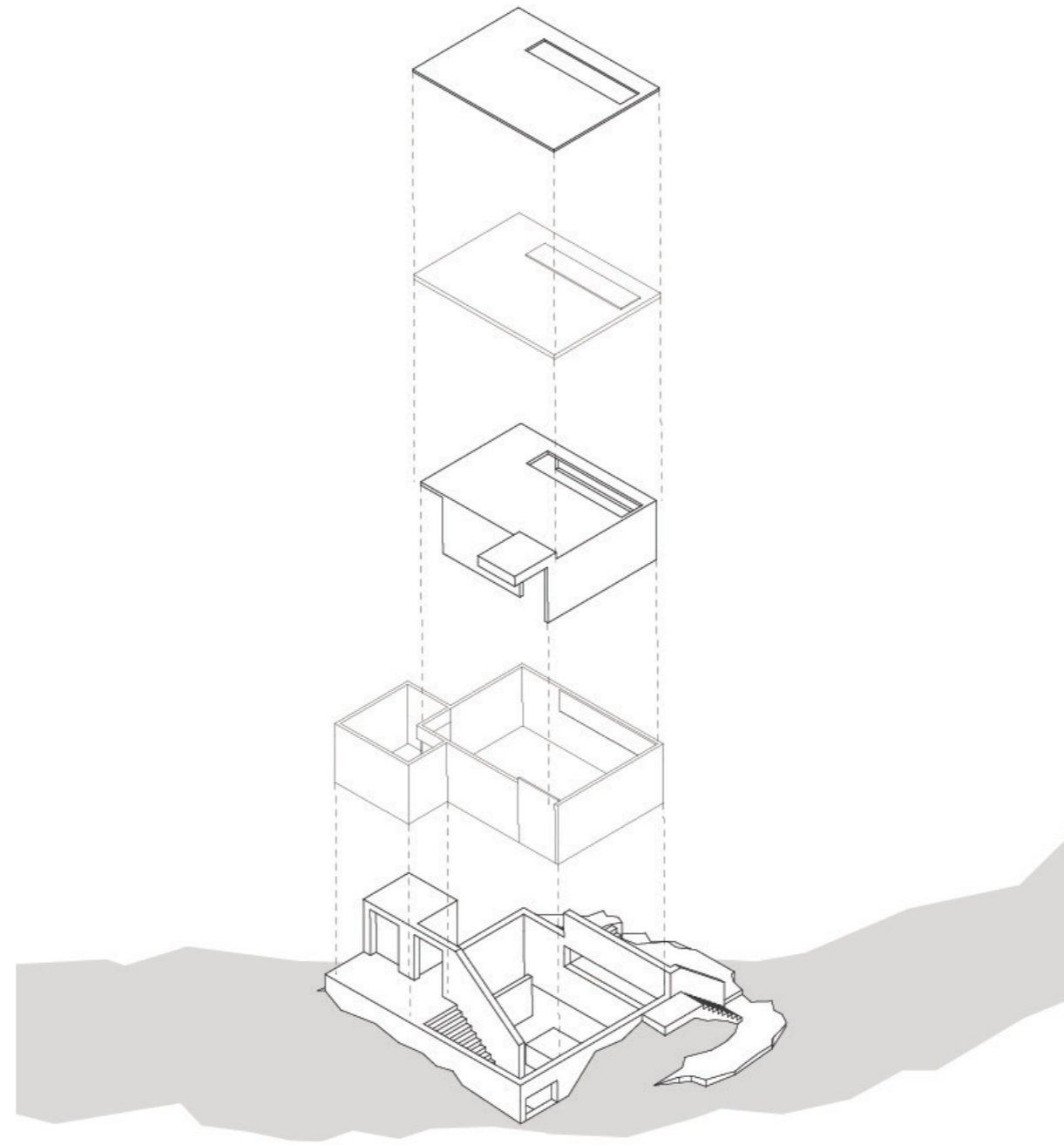


Section
a play of levels

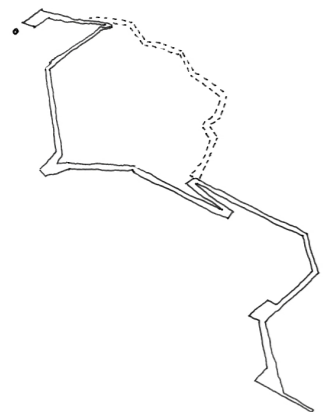
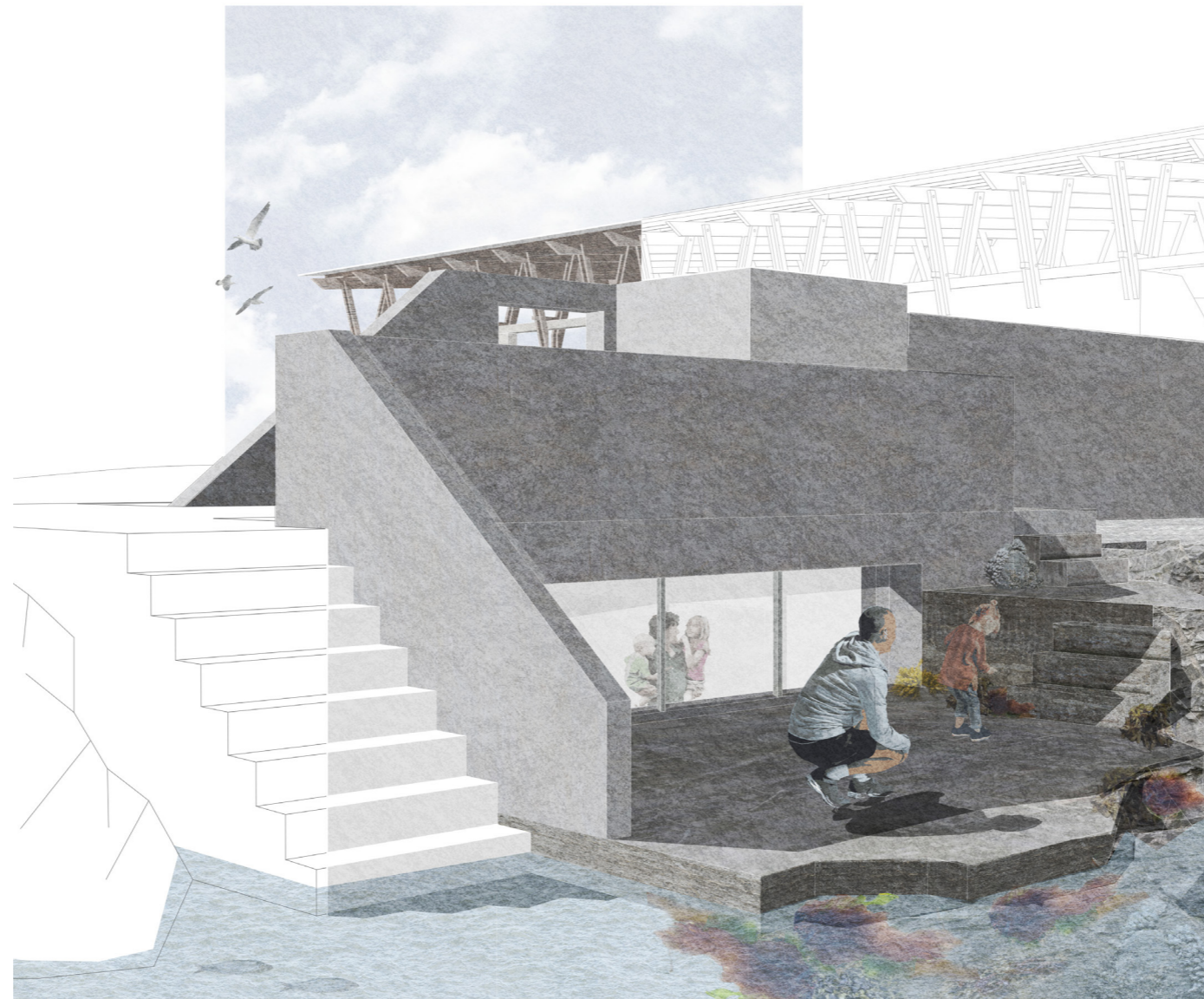


Teahouse | Detail B - window base
scale 1:5

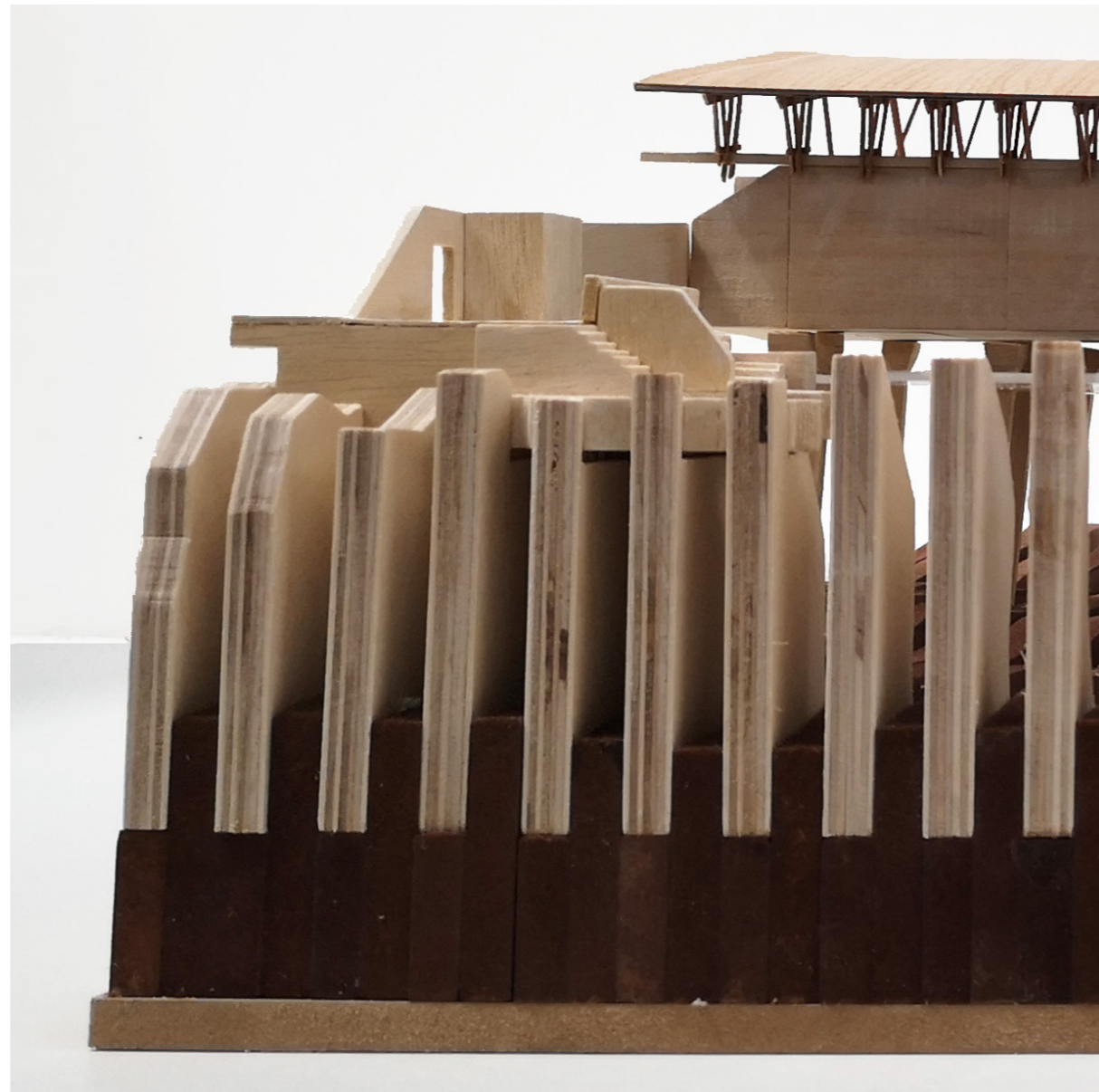
- 1 triple layer laminated safety glass
- 2 silicone compressive seal
- 3 stainless steel underwater window frame bolt anchored to concrete
- 4 waterproof membrane to lap around window frame
- 5 heat activated exposed concrete inner leaf
- 6 150mm rigid insulation
- 7 removable concrete tile, sloped to drain
- 8 bearing strip
- 9 cast in situ concrete terrace



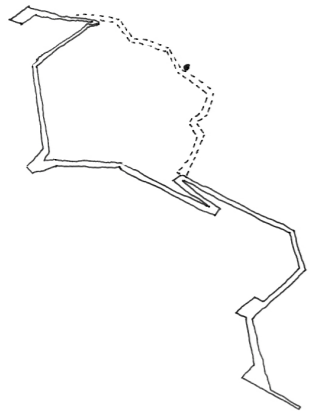
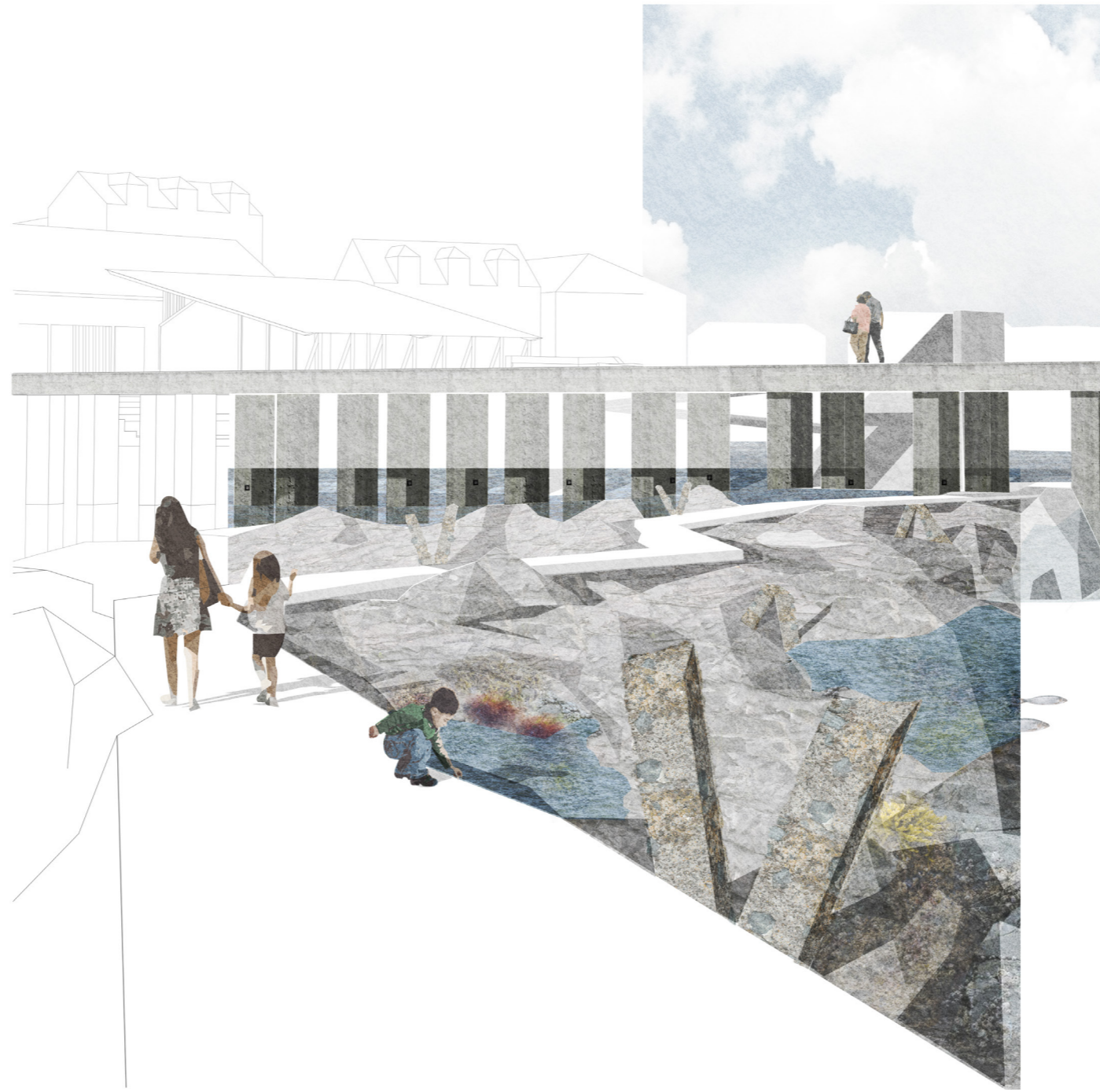
Construction Diagram
sequencing

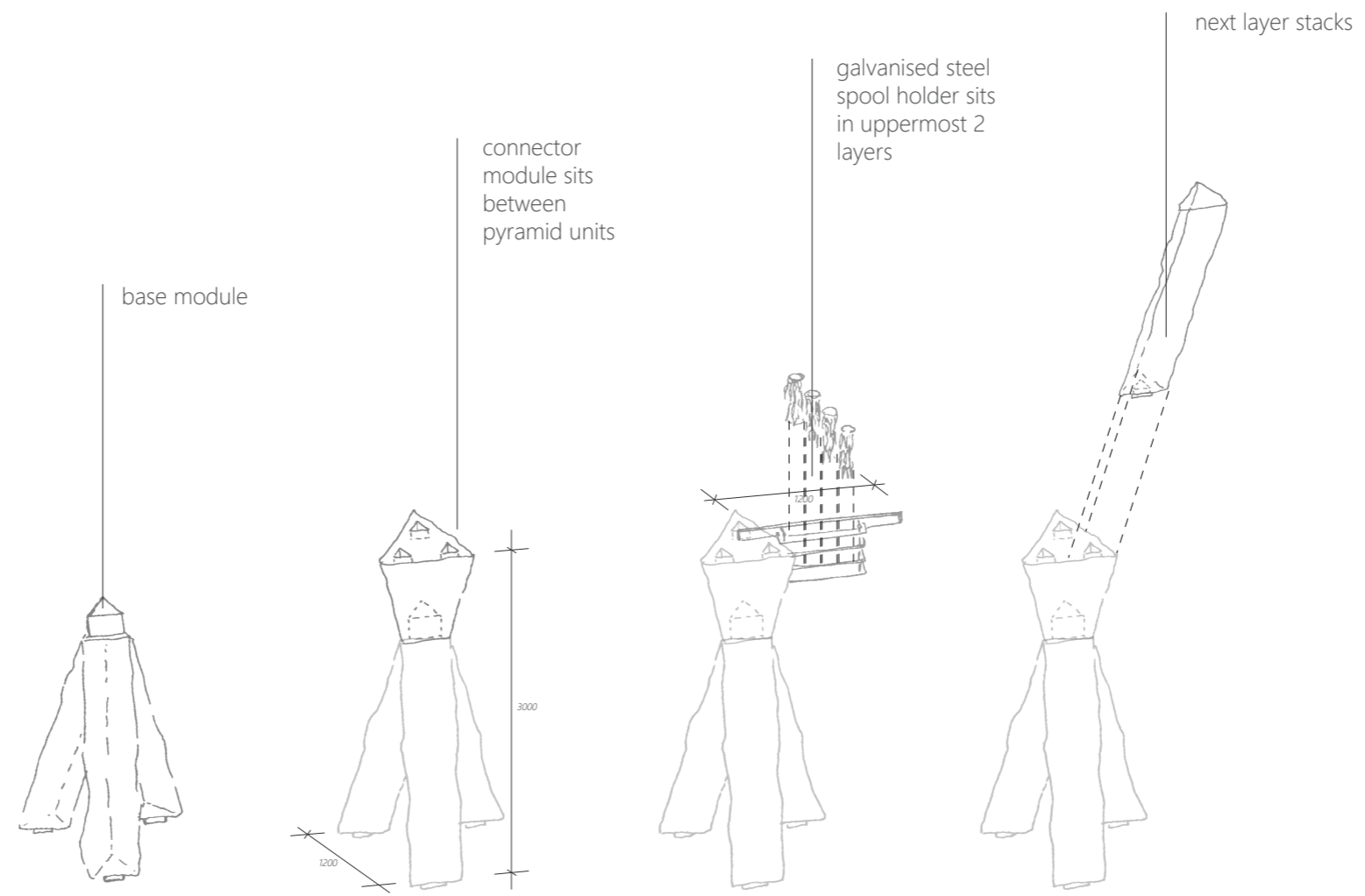


Integrate | terraces

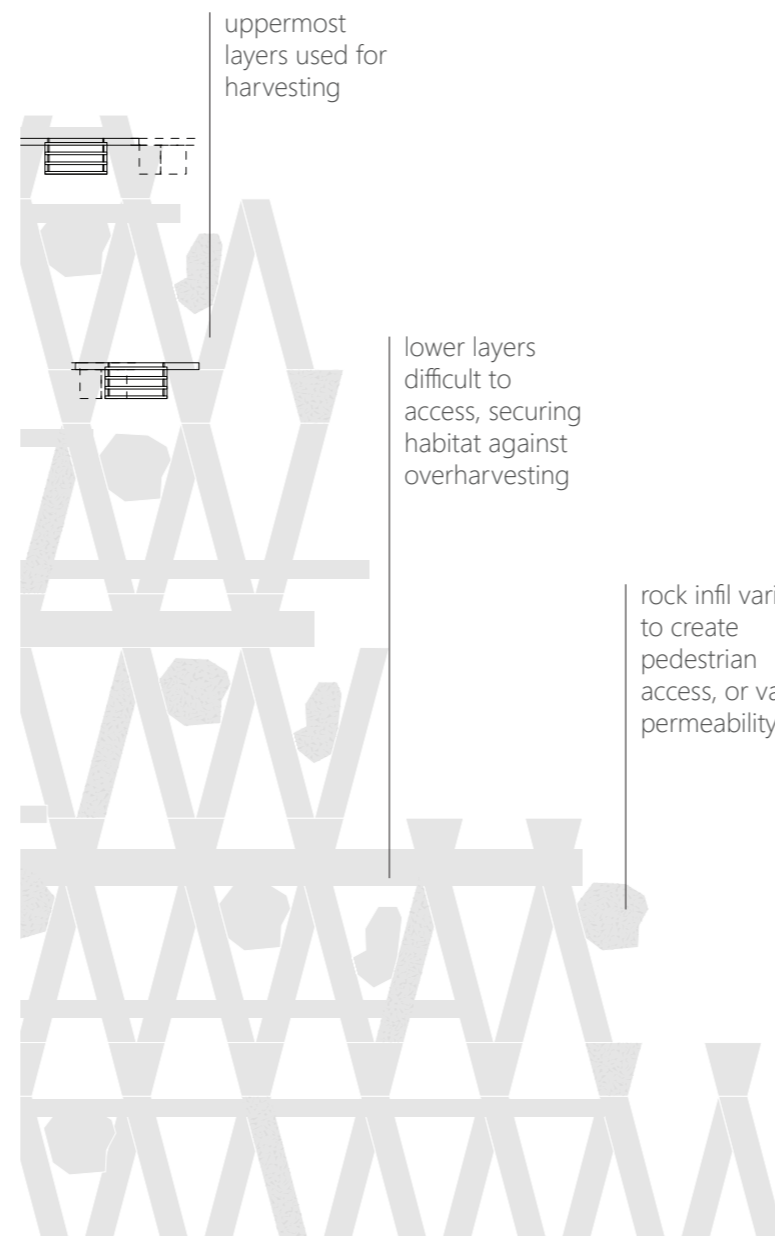


Embeddedness
co-existence with the reef

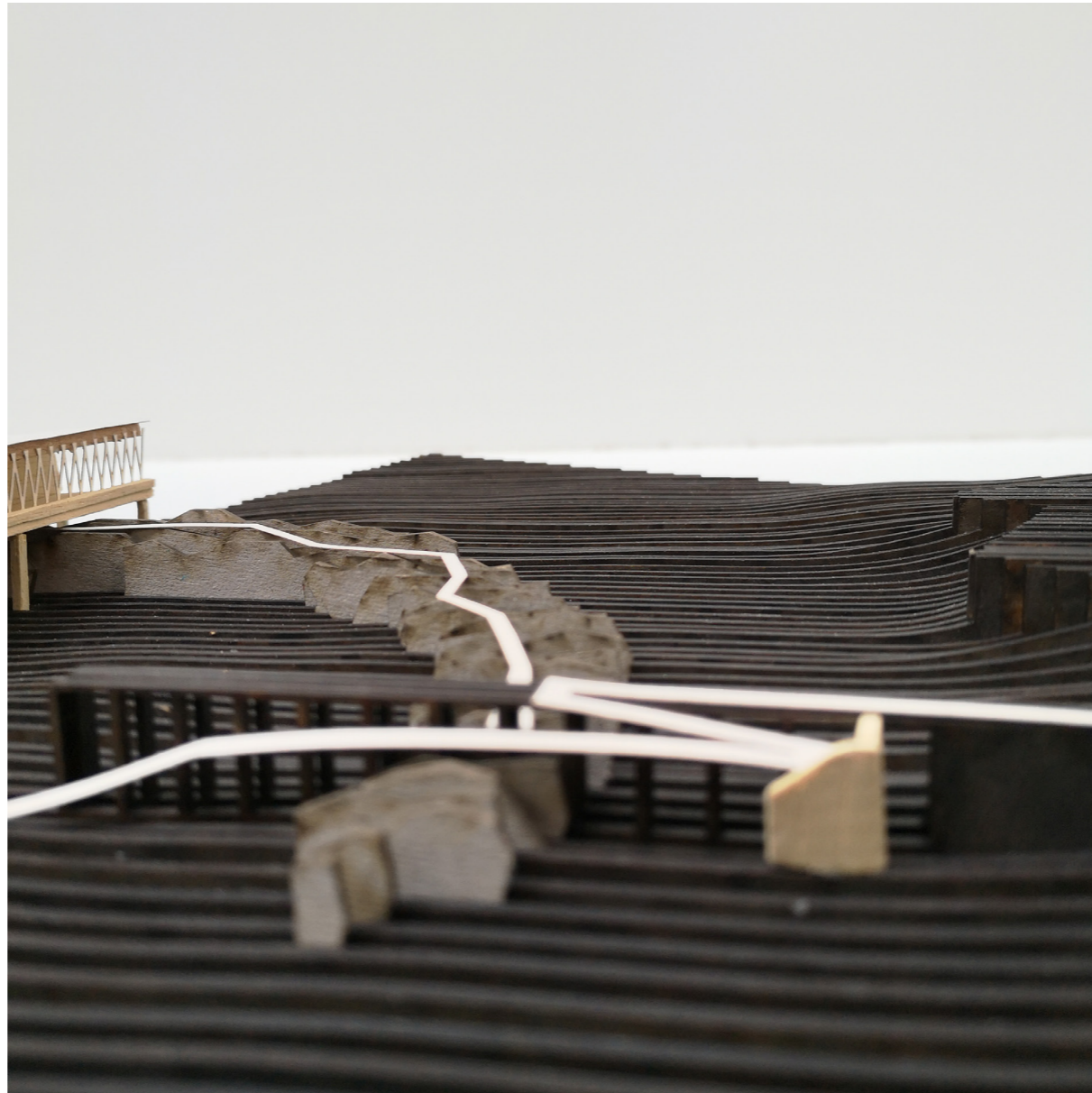




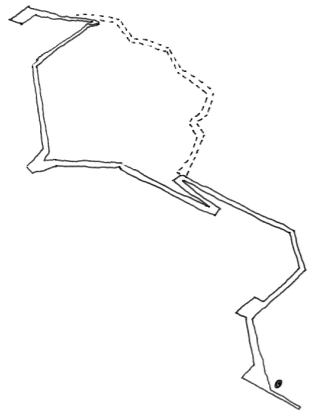
Reef Module
a balanced production



Reef Module
a balanced production



Reef
embedded landscape



RESEARCH QUESTIONS

How can the **agency of design** be utilised to facilitate a new infrastructure for food production and consumption, moving from **exploitation to co-existence** and encouraging a **shift in our perception** of other animals?

- 1. What are the needs of other animals within our environments and how can these be (re)built into human-shaped scapes of coexistence?*
- 2. How can design be used as a form of activism, creating value for the structurally undervalued and enabling changed individual perceptions?*
- 3. How can we learn from the coming urbanisation of the sea in order to better inform and transform our urbanisation of the land?*

Infrastructural/Technical

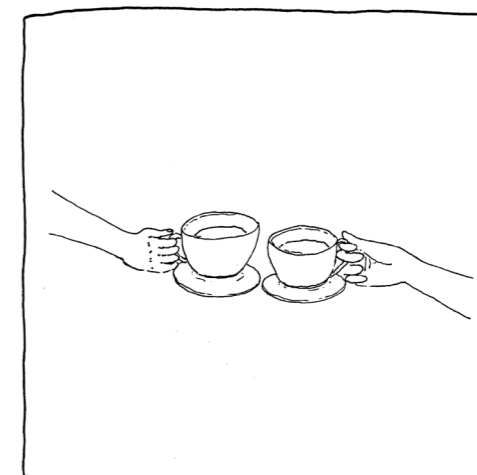
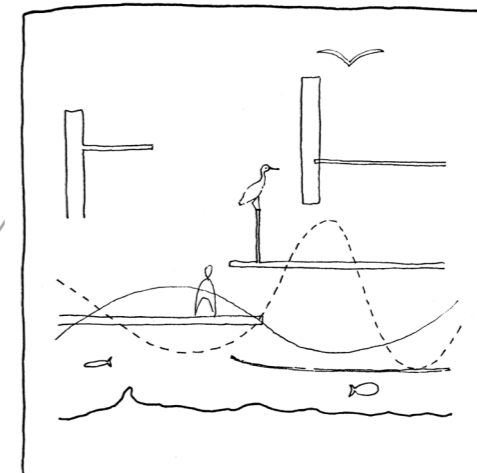
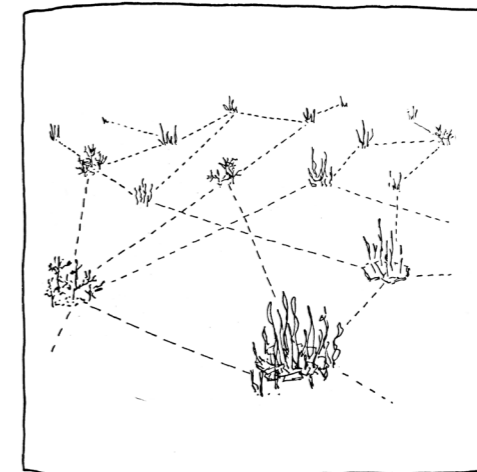
- *physically enable change*

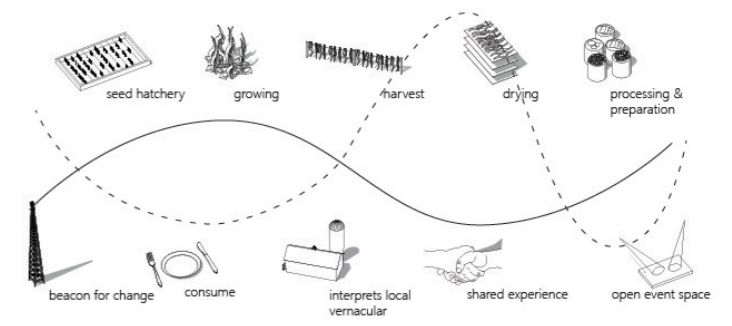
Socio-Spatial

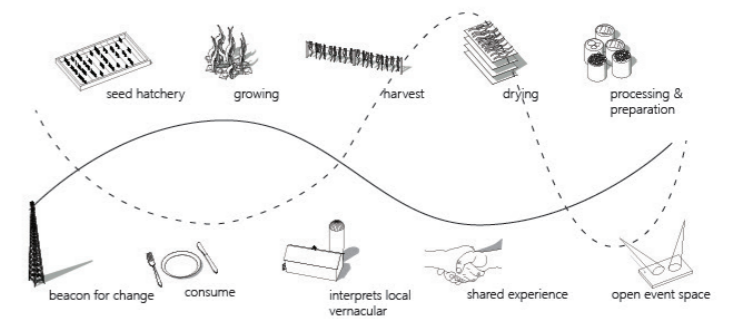
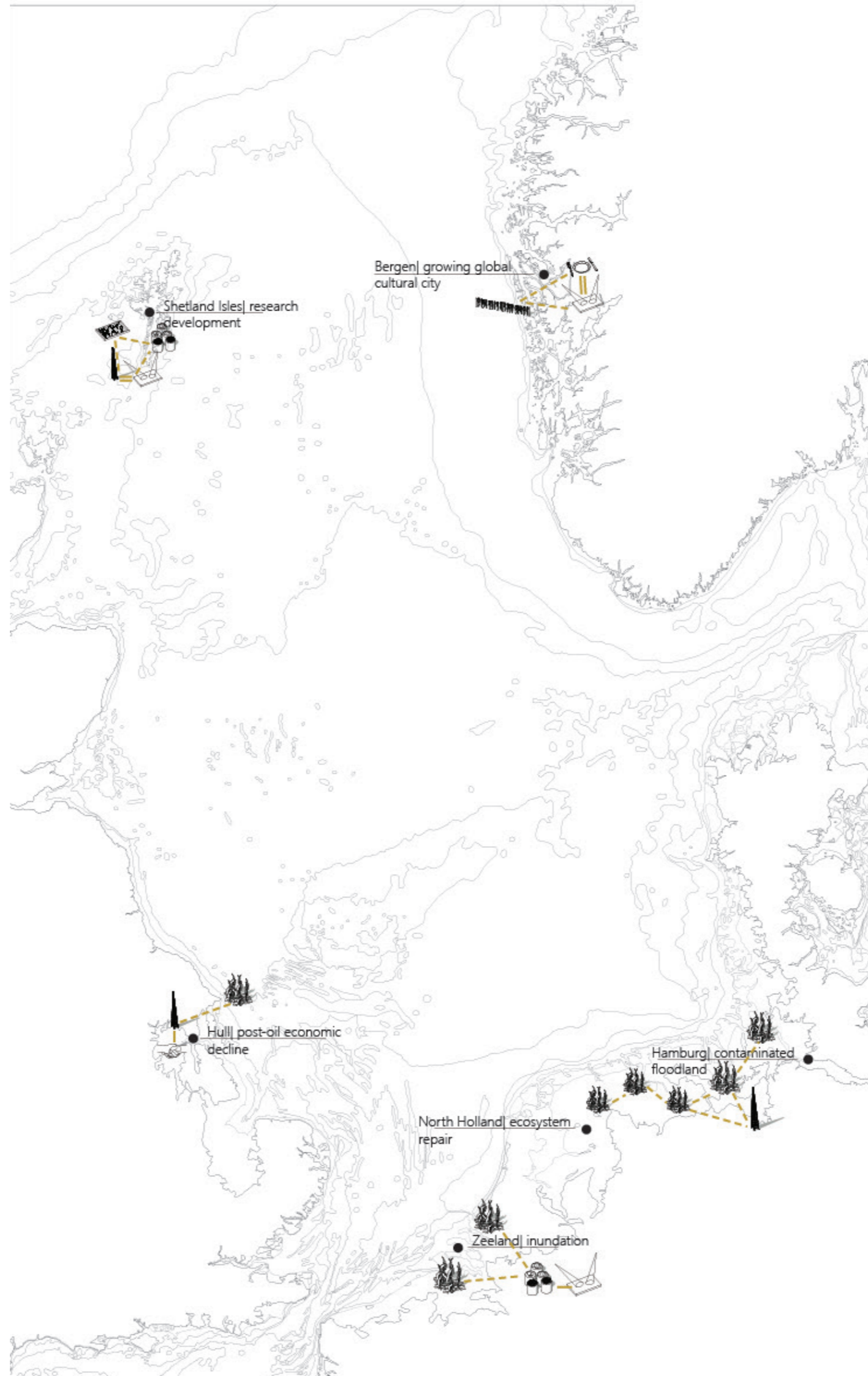
- *visual & physical adjacency or intersection*

Cultural/Aesthetical

- *influence cultural shifts*









From Sea to Land
repeated messages



"Behind the power of every movement we have seen, every call for change, every group is made up of each of us"