



*landscape in motion - recomissioning Andøya Air Station*

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*Censor booklet*

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Diploma / Spring 2017

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This project looks at the future of the Andøya Air Station, a military base in Northern Norway slated for closure in 2023.

By decommissioning the military functions of the Andøya Air Station, the Norwegian air force is leaving behind an extensively transformed site, and a community facing an uncertain future.

This project investigates how the manmade and natural materials and processes at play in this constructed nature can be harnessed as resources that instigate a transformation of the site and enable a public reclamation by informing a progressive implementation of new uses for both locals and tourists.

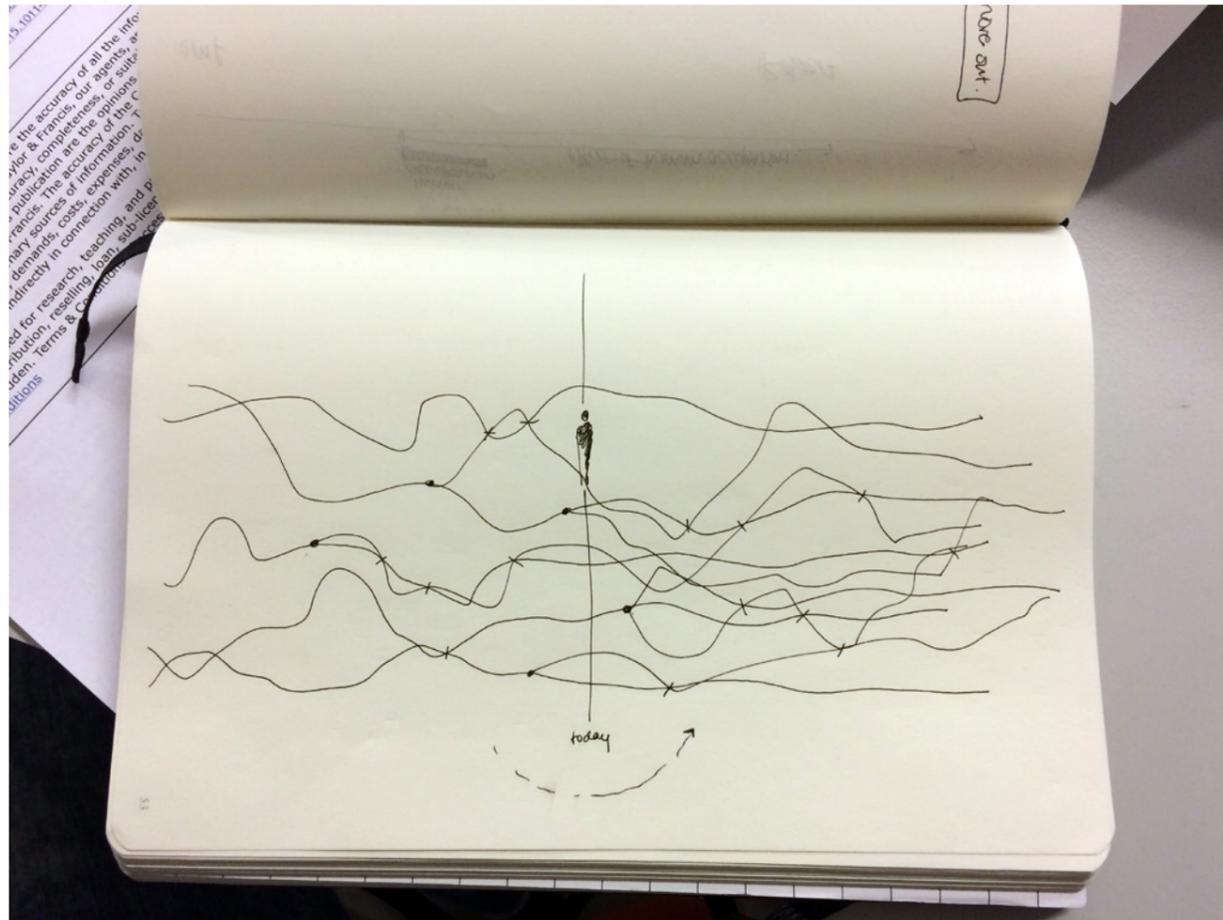
By developing an understanding of the site's dynamics, this project envisions a decommissioning process that allows for future scenarios to unfold while preserving the inherent and inherited values of the site.

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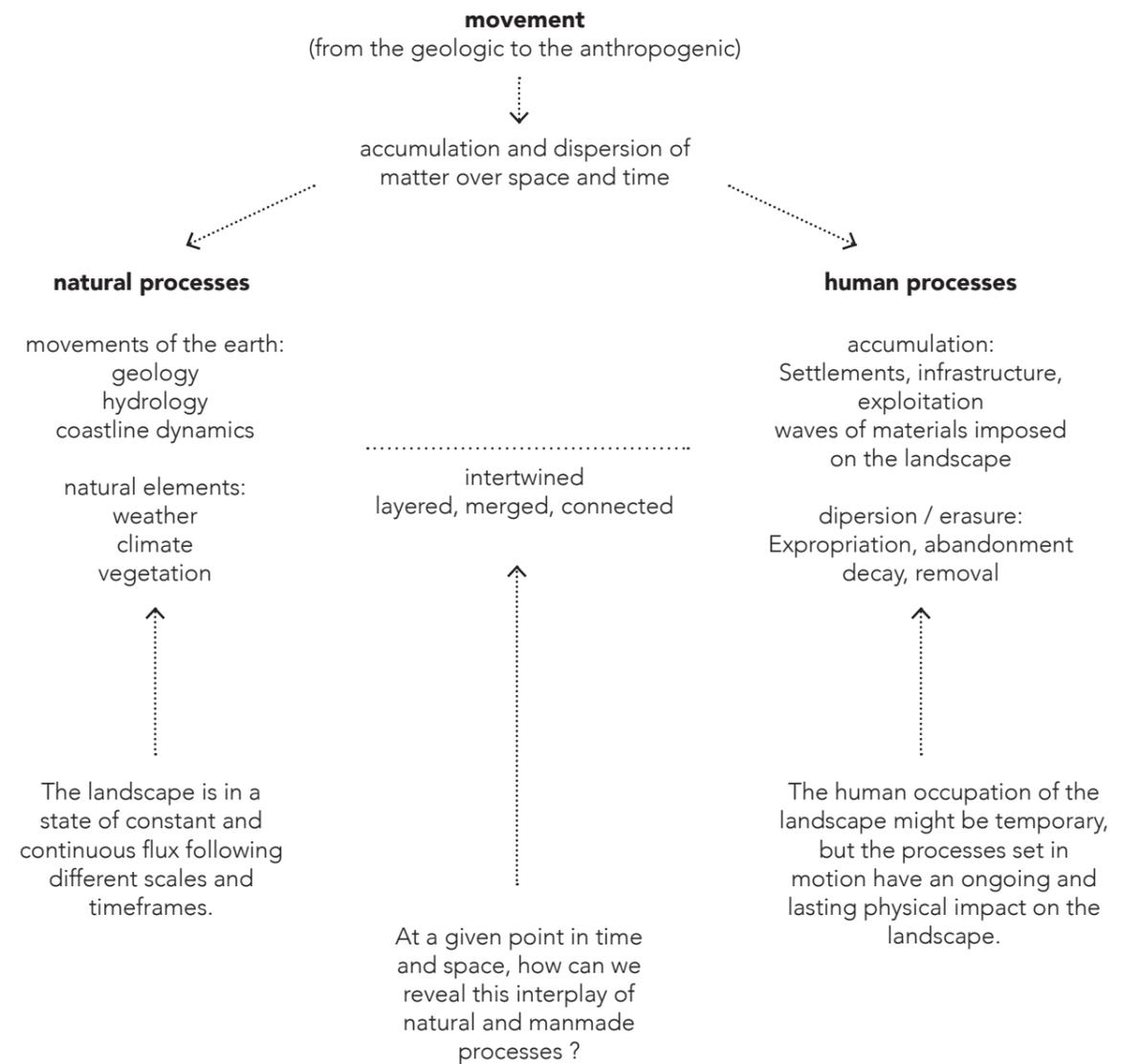
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**initial interest and departure point**



Early conceptual sketch: positioning oneself in the present and looking at past processes to inform future speculations

The initial interest of this diploma project revolved around the notion of movement: the flux and processes inherent to the landscape, and the movement of humans in it. My interest ranged from the geologic scale to the fleeting presence of people on the land, and I intended to explore the intricate connexions between the two by focusing on the material traces resulting from this wide range of motions.



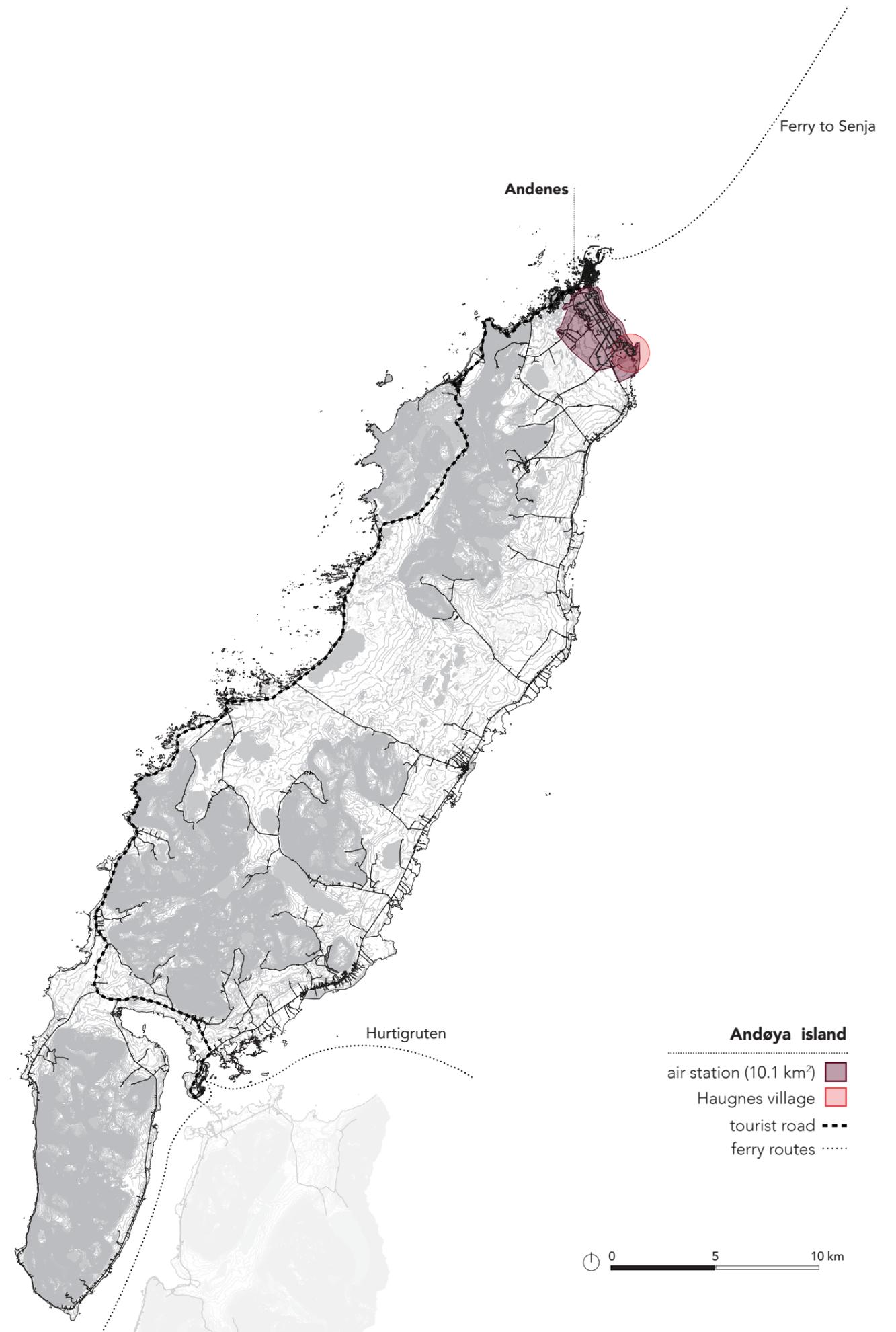
## Context site introduction

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Andøya is an island situated in the county of Nordland, in Northern Norway.

The Andøya Air Station is situated at the Northern tip of the Andøya island, right next to the town of Andenes. It covers approximately 10.1 km<sup>2</sup>, which makes it much larger than the neighboring settlements. A segment of the road circling the island is designated as a National Tourist Road and ends next to the air base.

A portion of the air base used to be home to Haugnes, a village that was entirely expropriated during the construction of the air base in the context of the Cold War.



## context military

### Andøya Air Station

The Andøya Air Station was built in the 1950s to fulfill NATO's interest during the Cold War. Following a reorganization of defense activities and the issuing of a new long-term plan, the air station is now slated for closure. It is expected that the air surveillance activities will be moved to the Evenes base, and that the military activities will cease by 2023 in Andøya. The air base doubles as a civilian airport that will remain active.

Andøya air station is one of many military facilities built in Northern Norway during the Cold War. In the general context of changes to come in the distribution of military activities, it provides an example of the complexities inherent to the cultural landscapes that decommissioned facilities leave behind, with concerns ranging from transformed ecologies to abandoned communities.

The air base has been the most important employer of Andøy kommune, and the loss of the military activities weighs heavily on a fragile economy and declining population. By decommissioning the military functions of the Andøya Air Station, the Norwegian air force is leaving behind an extensively transformed site, and a community facing an uncertain future.



## site investigation site definition



### Andøya air station

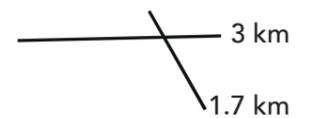
- air station fencing ---
- Haugnes perimeter ---



Andenes town



Air Station perimeter



runways

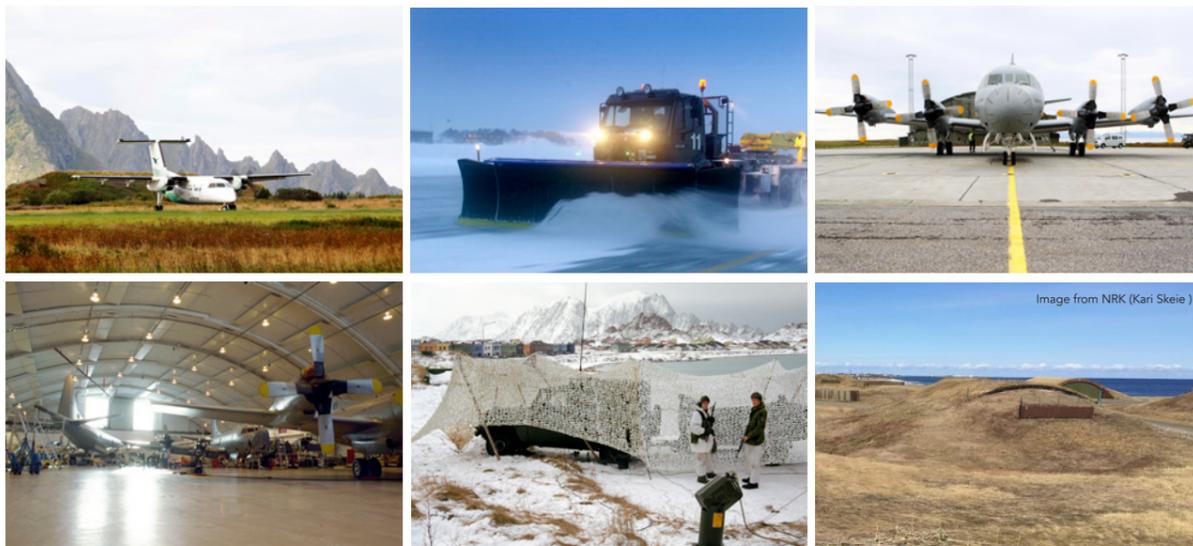
**site investigation** before & today

**Settlement / Haugnes village**



images from Digitalt Museum, Vesterålen Info and pictures shared on social media by Jan M. Øygård (private collection)

**military / Andøya Air Station**



images from Forsvaret's media archive / by Torbjørn Kjosvold, Jonas Christie, Kim H. Bjorheim, Per Thrana

The landscape comprised in the perimeter of the air station has been deeply transformed by human occupation. The settlement have left traces of a productive use of the landscape (peat cutting, effects of grazing, traces of built elements and transformed surfaces). The military has had an even more noticeable impact on the landscape, as the construction of the air base has required extensive transformation of the land (flattening of the terrain, removal of almost all previously built elements, deep manipulations of the ground).

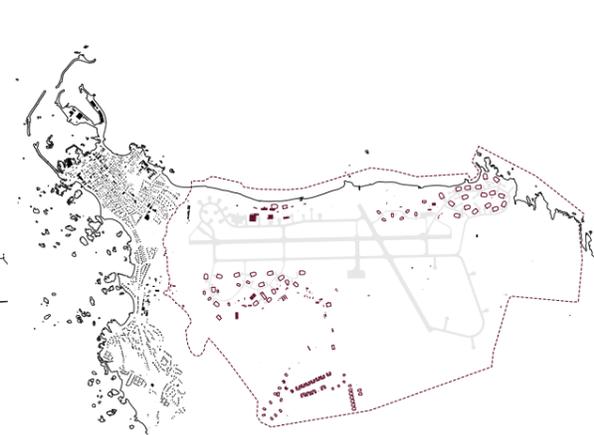
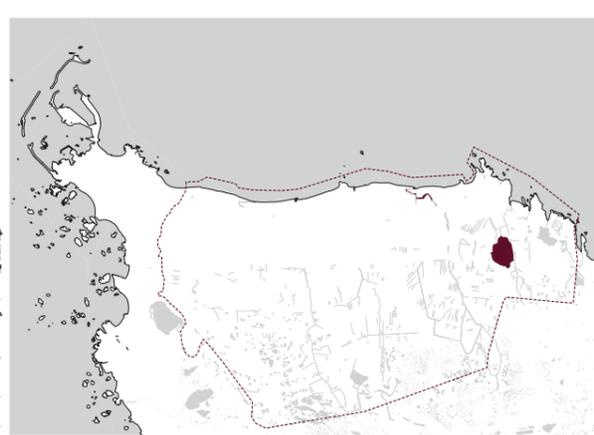
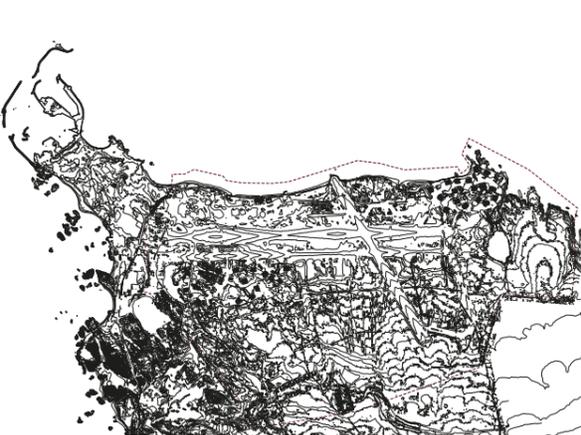
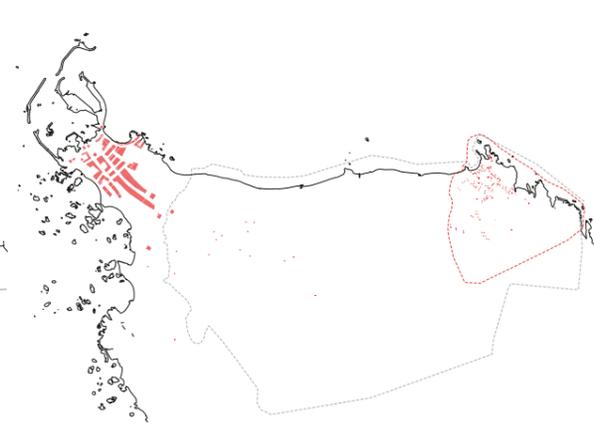
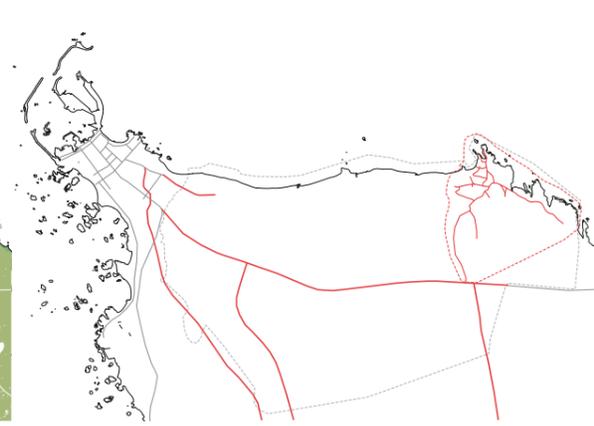
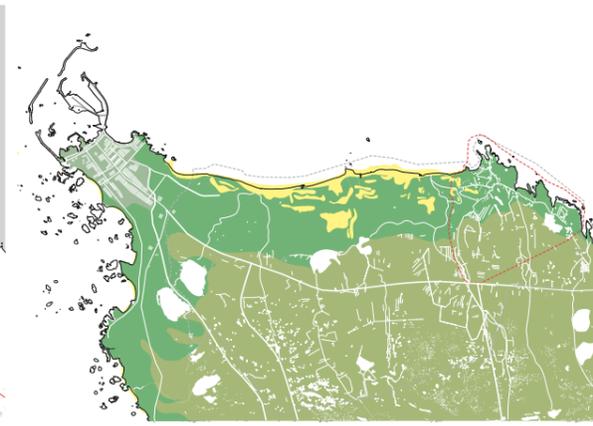
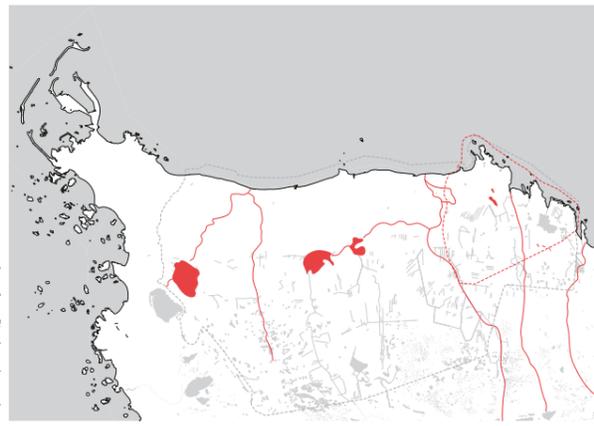
Today, the resulting landscape is a constructed nature where the natural and manmade elements and processes are deeply intertwined, to the point where the limit between human and non-human gets blurred.

**manmade & natural / intertwined processes**



images from site visit 08.11.2016

site investigation before & today mappings



topography /before

- Haugnes perimeter
- air base perimeter
- ⚡ Haugnes hills (approx.)
- ⋯ Unkown topography

hydrology /before

- Haugnes perimeter
- air base perimeter
- ~ streams (removed)
- 🟡 lakes (removed)

vegetation /before

- Haugnes perimeter
- air base perimeter
- 🟢 myre
- 🟢 controlled lawn
- 🟢 grassy cover
- 🟡 sand

infrastructures /before

- Haugnes perimeter
- air base perimeter
- roads (removed)

buildings /before

- Haugnes perimeter
- air base perimeter
- 🔴 individual buildings (removed)
- 🔴 urbanized zones (Andenes)

topography /today

- air base perimeter
- 1m contourlines

hydrology /today

- air base perimeter
- 🟡 manmade lakes
- ~ manmade streams

vegetation /today

- air base perimeter
- 🟢 myre
- 🟢 controlled lawn
- 🟢 grassy cover
- 🟢 shrubs and tall grasses
- 🟡 sand

infrastructure /today

- air base perimeter
- civilian roads
- military infrastructures

buildings /today

- air base perimeter
- 🔴 civilian buildings
- 🔴 military buildings
- 🔴 covered buildings
- 🔴 buildings traces from Haugnes (2)

**site investigation** material resources

**built structures**

- buildings 
- plane hangars 
- underground facilities 
- lighting 
- terrestrial fencing 
- underwater fencing 

**manmade grounds**

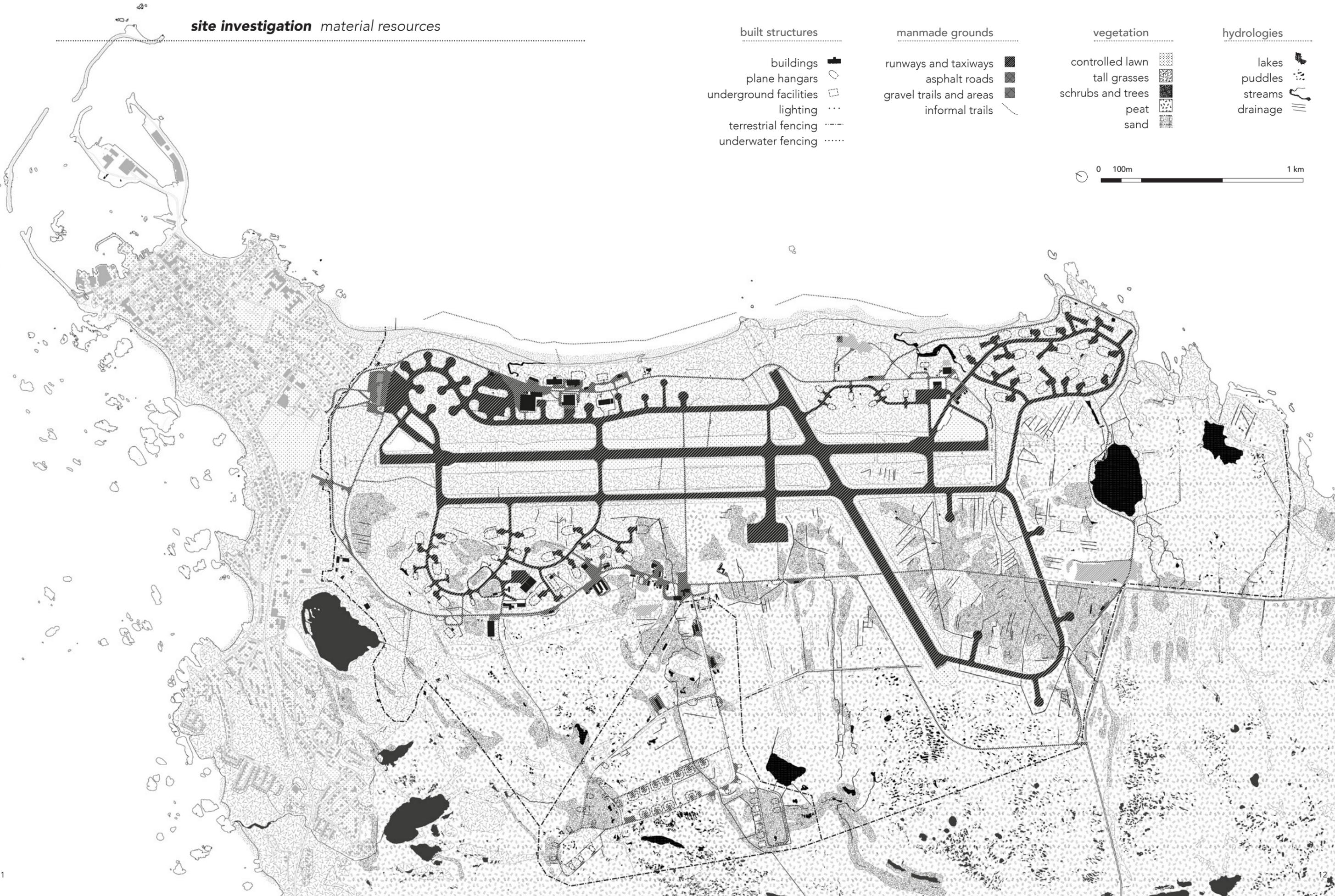
- runways and taxiways 
- asphalt roads 
- gravel trails and areas 
- informal trails 

**vegetation**

- controlled lawn 
- tall grasses 
- schrubs and trees 
- peat 
- sand 

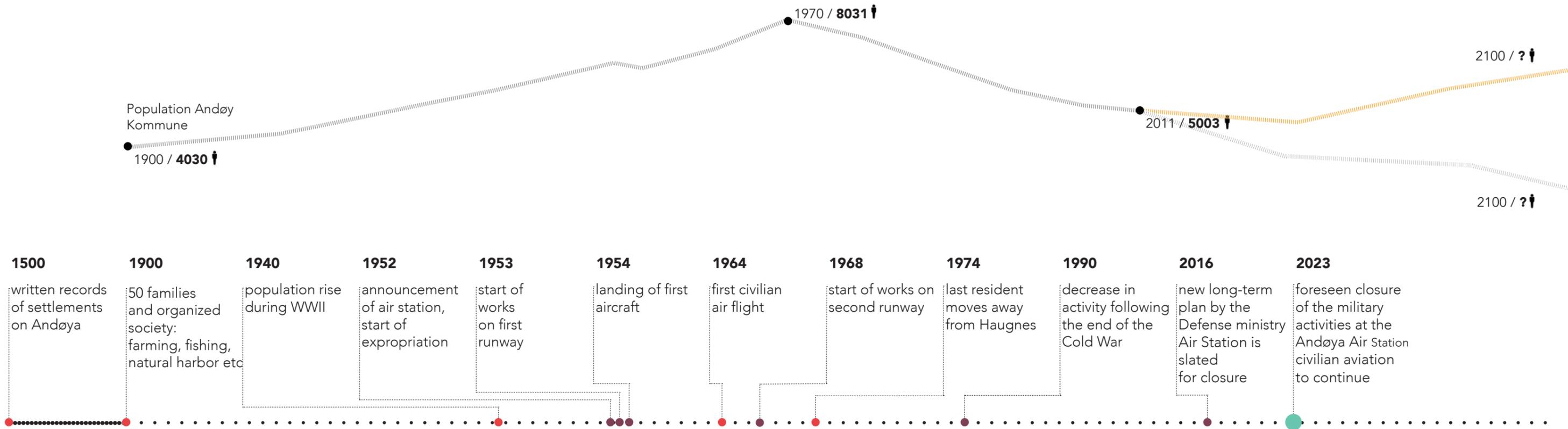
**hydrologies**

- lakes 
- puddles 
- streams 
- drainage 



## timeline

- Haugnes period
- military period
- air base closure
- future period

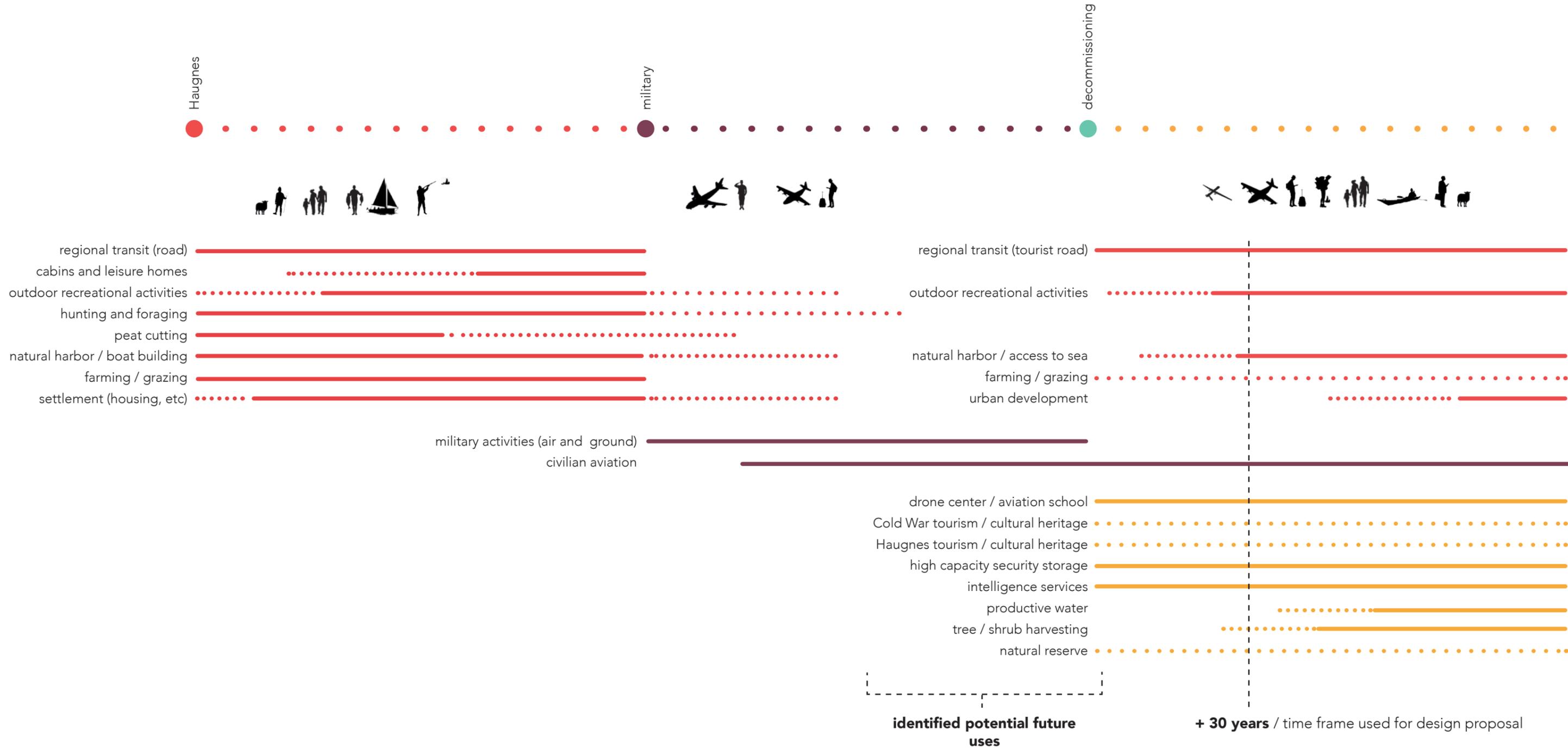


## uses & users

- historic use of landscape
- military related uses
- new uses

A speculative approach has been used to identify potential future uses for the air station:

- previous uses that still match the social context of the island and could be reintroduced in the landscape
- activities that are likely to continue after the military functions are discontinued
- potential future uses that have been mentioned in local medias
- uses related to the increasing touristic potential of the island
- uses taking advantage of the changing ecologies of the site



## development

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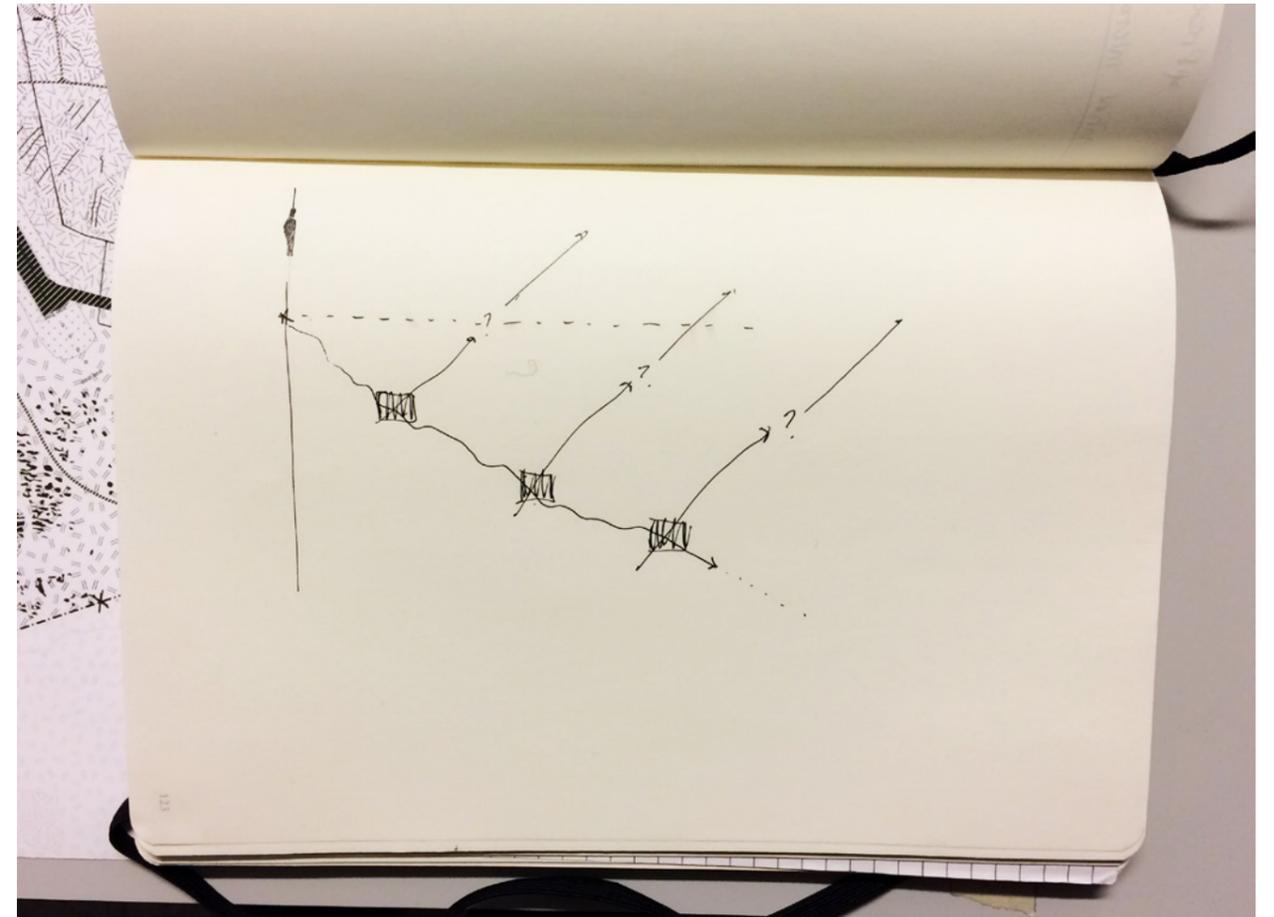
This project investigates how the manmade and natural materials and processes at play can be harnessed as resources that instigate a transformation of the site and enable a public reclamation by informing a progressive implementation of new uses for both locals and tourists.

By developing an understanding of the site's dynamics, this project envisions a decommissioning process that allows for future scenarios to unfold while preserving the inherent and inherited values of the site.

The site is understood as a reserve of available materials, both natural and manmade (see material resources in the next pages). A diagram of their processes is developed to understand and orchestrate the transformations of the site over an extended period of time (see material processes, following). Through each process-thread, the diagram illustrates how the different materials came to be, how they can evolve in the context of the decommissioning of the air station, and which actions can be taken to influence the material unfolding of the site.

By enabling an awareness of the material dynamics of the site, the diagram is meant as a tool to develop a flexible design strategy that can adapt to the changing circumstances of an uncertain social, political and economic context.

In this instance, the diagram is used to choreograph the implementation of the specific future uses identified for the site. Some threads are chosen over others in the development of a strategy for a 30-year time frame.

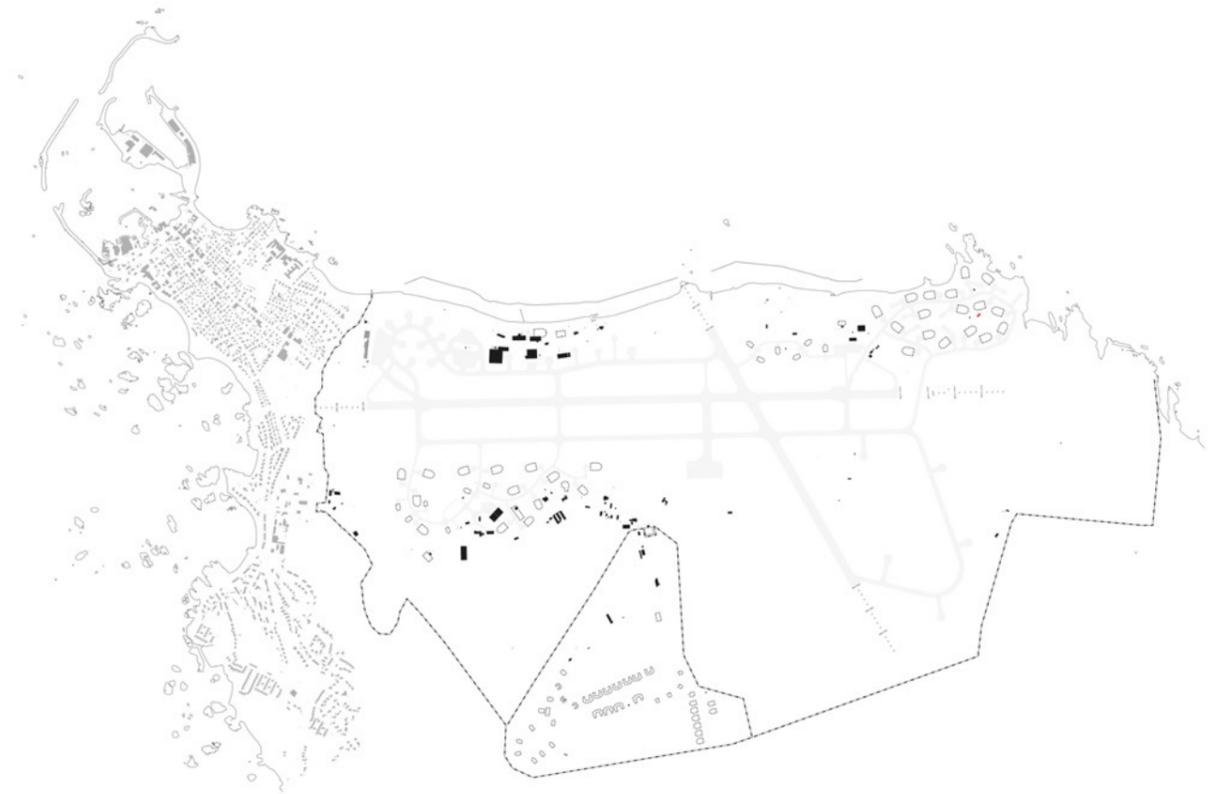
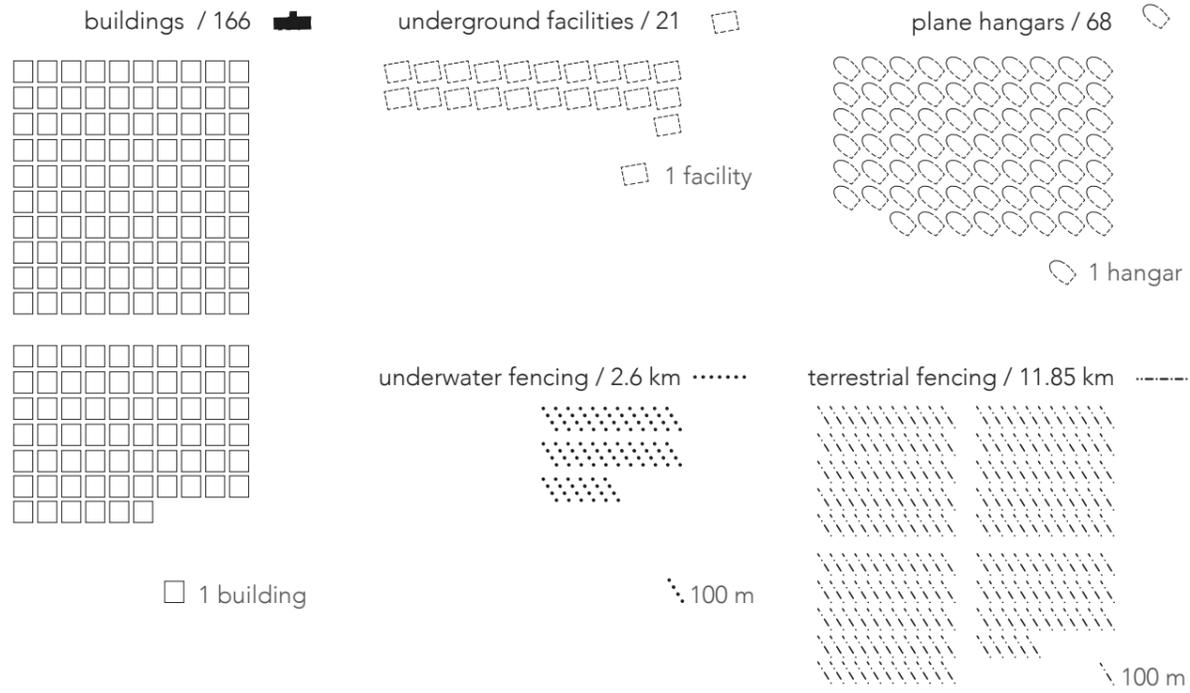


conceptual sketch: Defining a decommissioning process that allows for future scenarios to unfold while preserving the inherent values of the site

**development** material resources / manmade

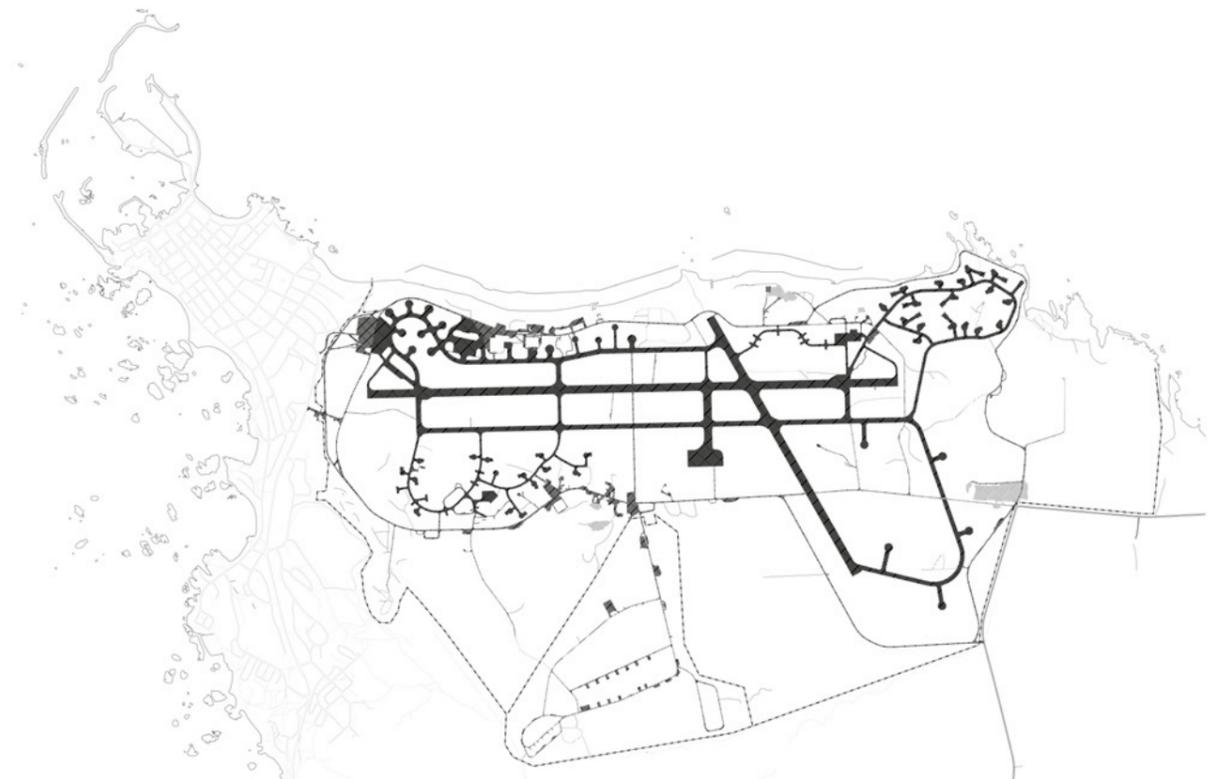
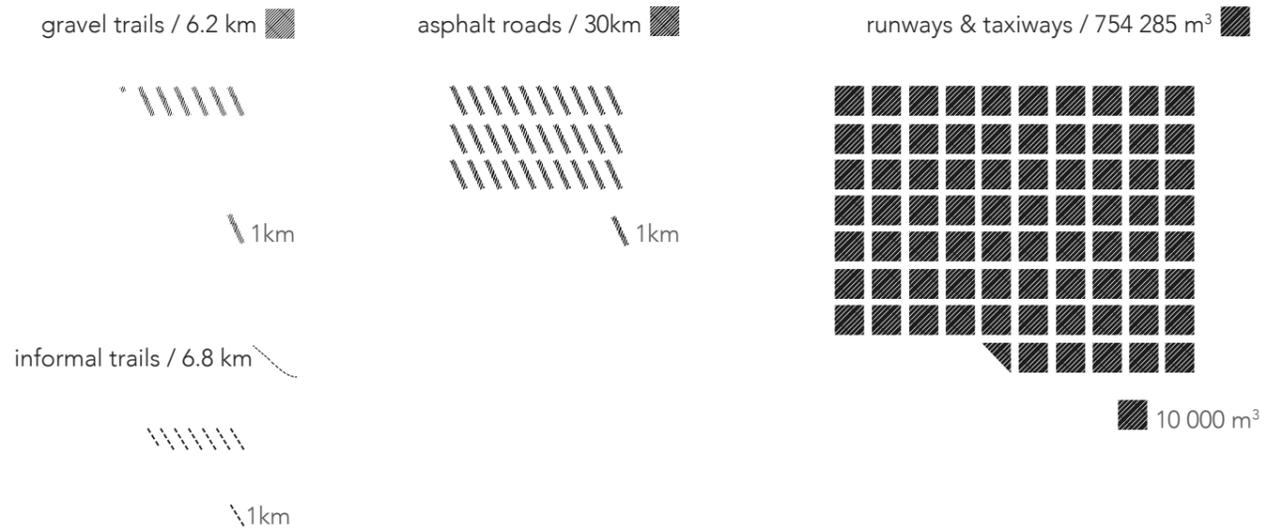
**built structures**

*military structures to be decommissioned and possibly dismantled*



**manmade ground**

*ground areas constructed or modified to fit military purposes*



**development** material resources / natural elements

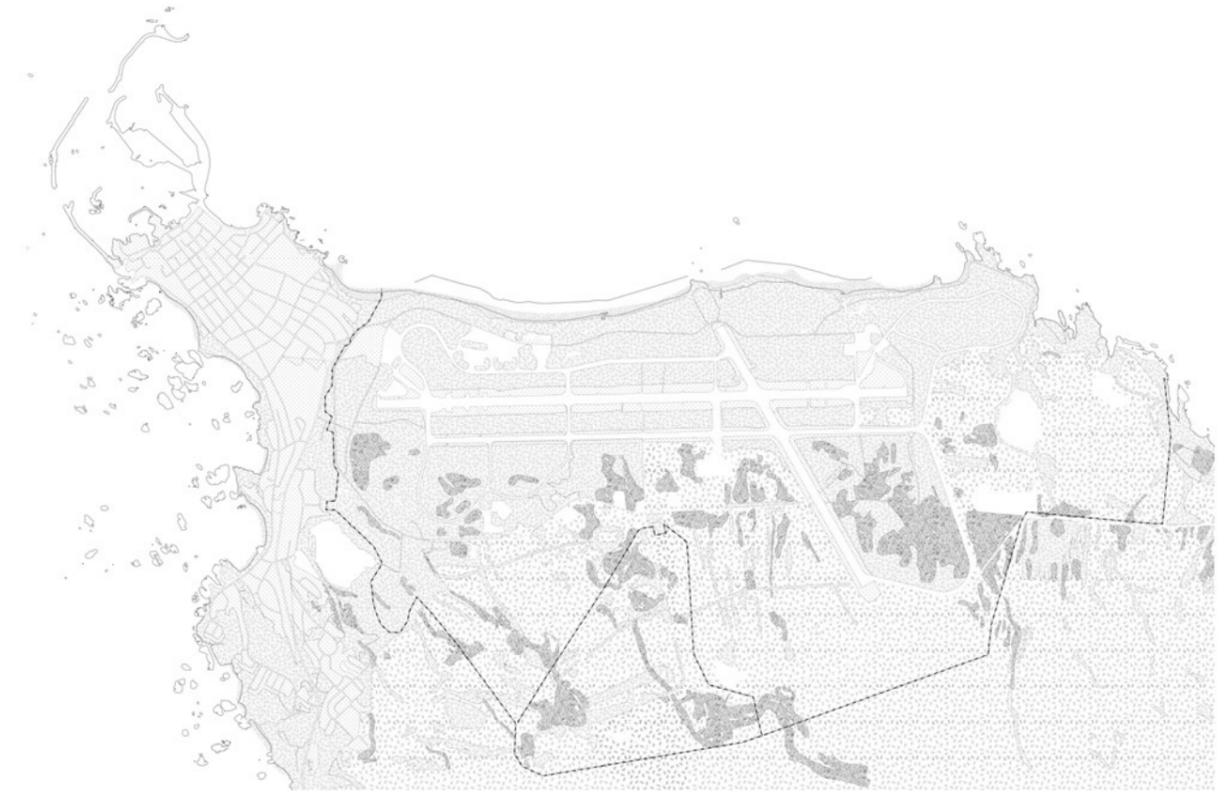
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**vegetation**

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vegetation revealing ongoing natural and man-induced processes

- controlled lawn 
- tall grasses 
- schrubs and trees 
- peat 
- sand 



**hydrologies**

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- lakes 
- puddles 
- streams 
- drainage 

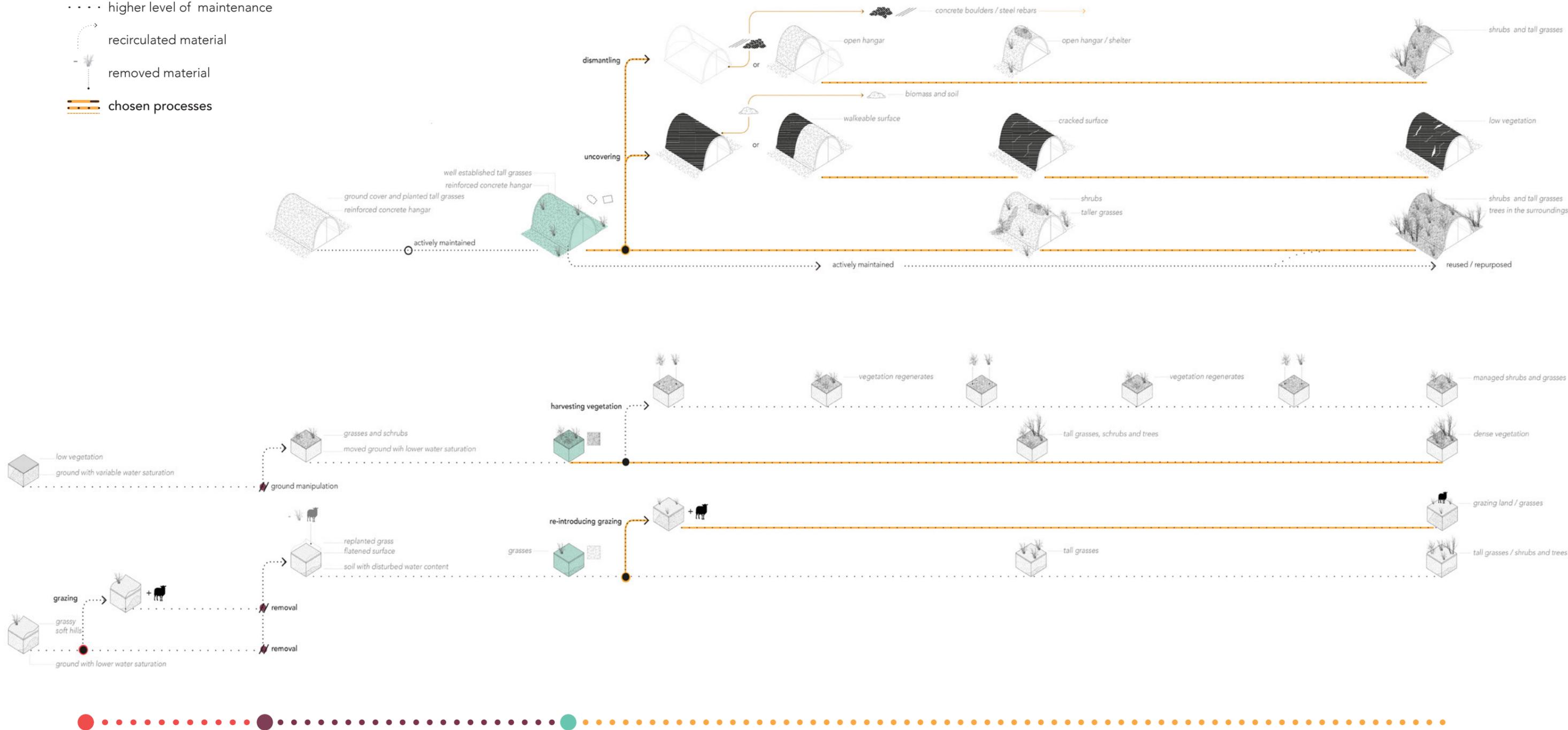


# development material processes / examples

## reading the processes

- disruption
- action taken changing the material state
- material state at date of decommissioning
- low/no maintenance
- higher level of maintenance
- recirculated material
- removed material
- chosen processes

The materials of the site are investigated: how they came to be, how they can evolve, and what are the possible actions that can be taken to influence their evolution. Here are some examples of the process-threads that are proposed.

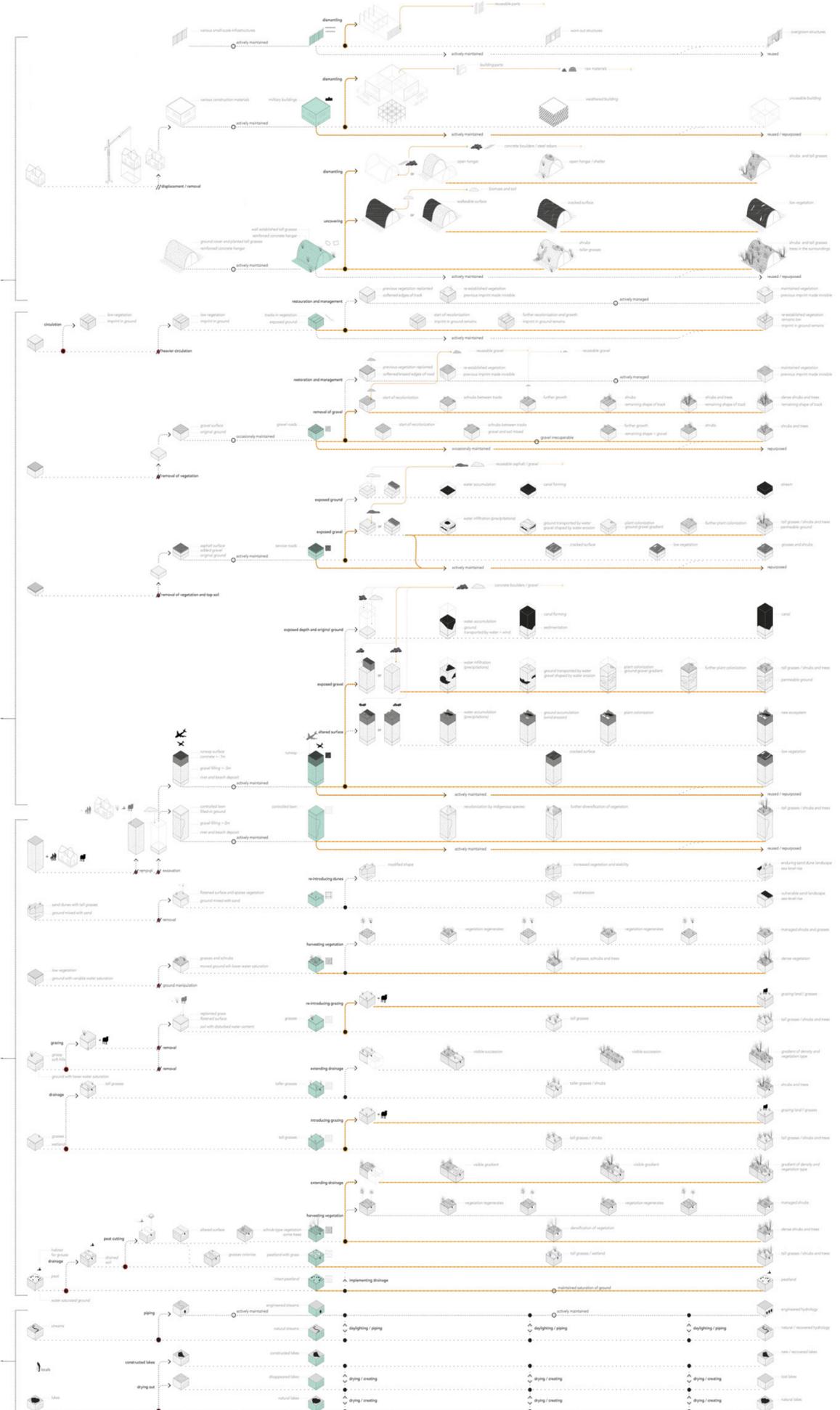
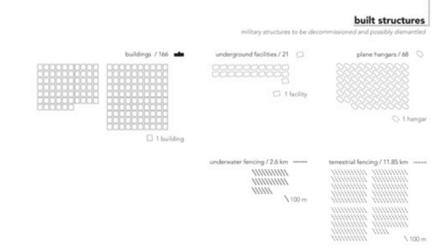
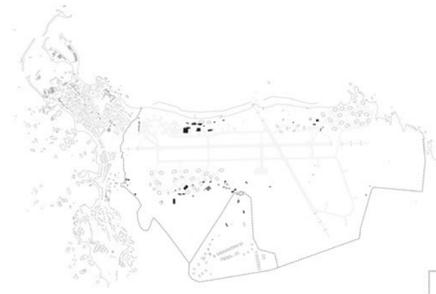


**development material processes / complete diagram**

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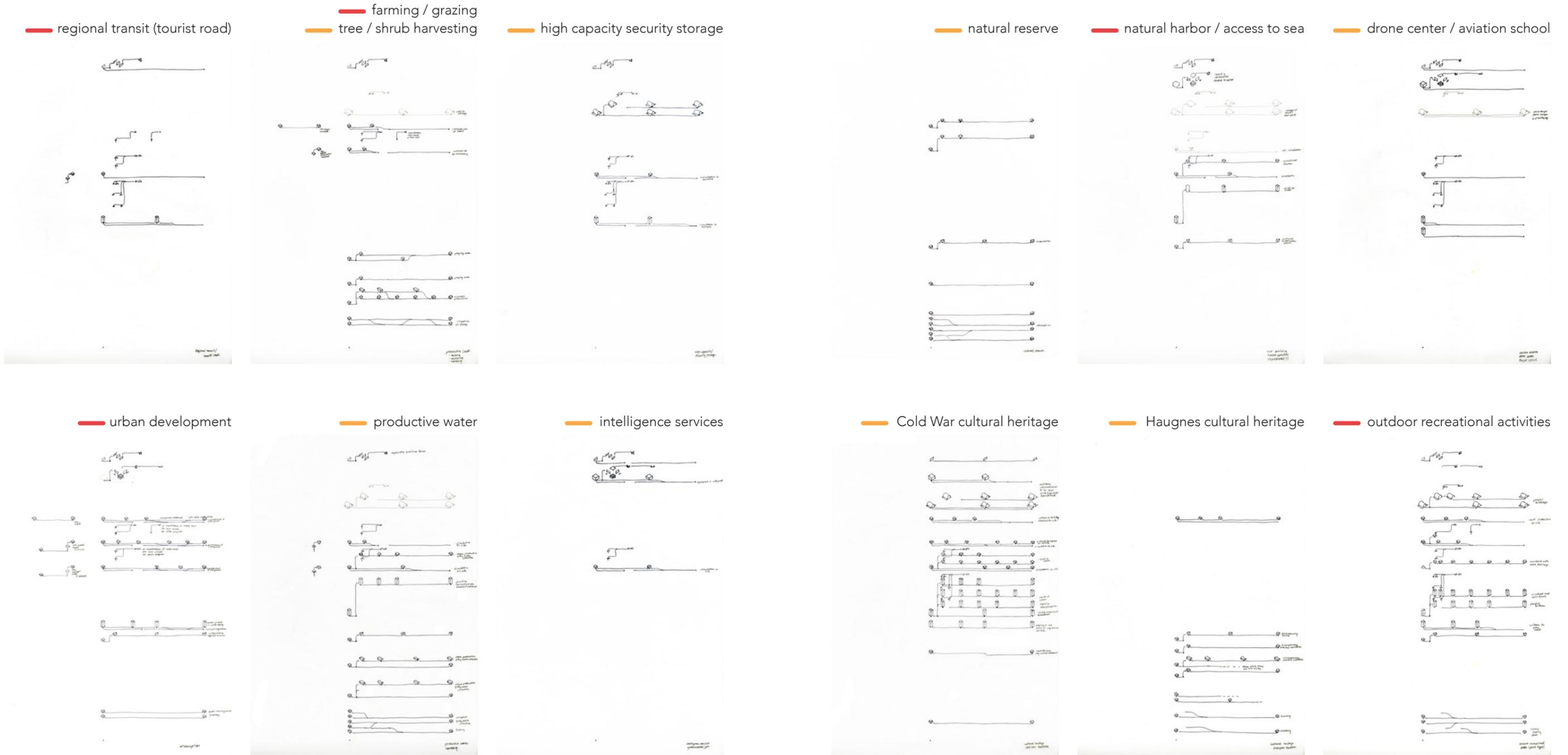
The investigation of the material processes results in a diagram that offers an overview of the possibilities of the site.

By enabling an awareness of the material dynamics of the site, the diagram is meant as a tool to develop a flexible design strategy that can adapt to the changing circumstances of an uncertain social, political and economic context.



**development** assessing future uses

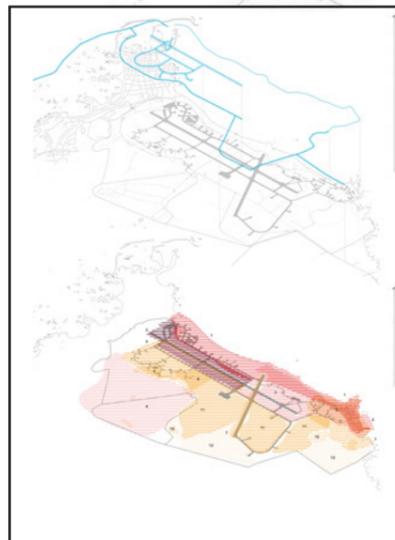
The diagram is used to assess the potential future uses. The objective is to propose a distribution of the uses over space and time that optimizes the materials and processes of the site.



— historic uses of landscape  
— new uses

**site strategy** *distributing uses and circulation*

**global site strategy**



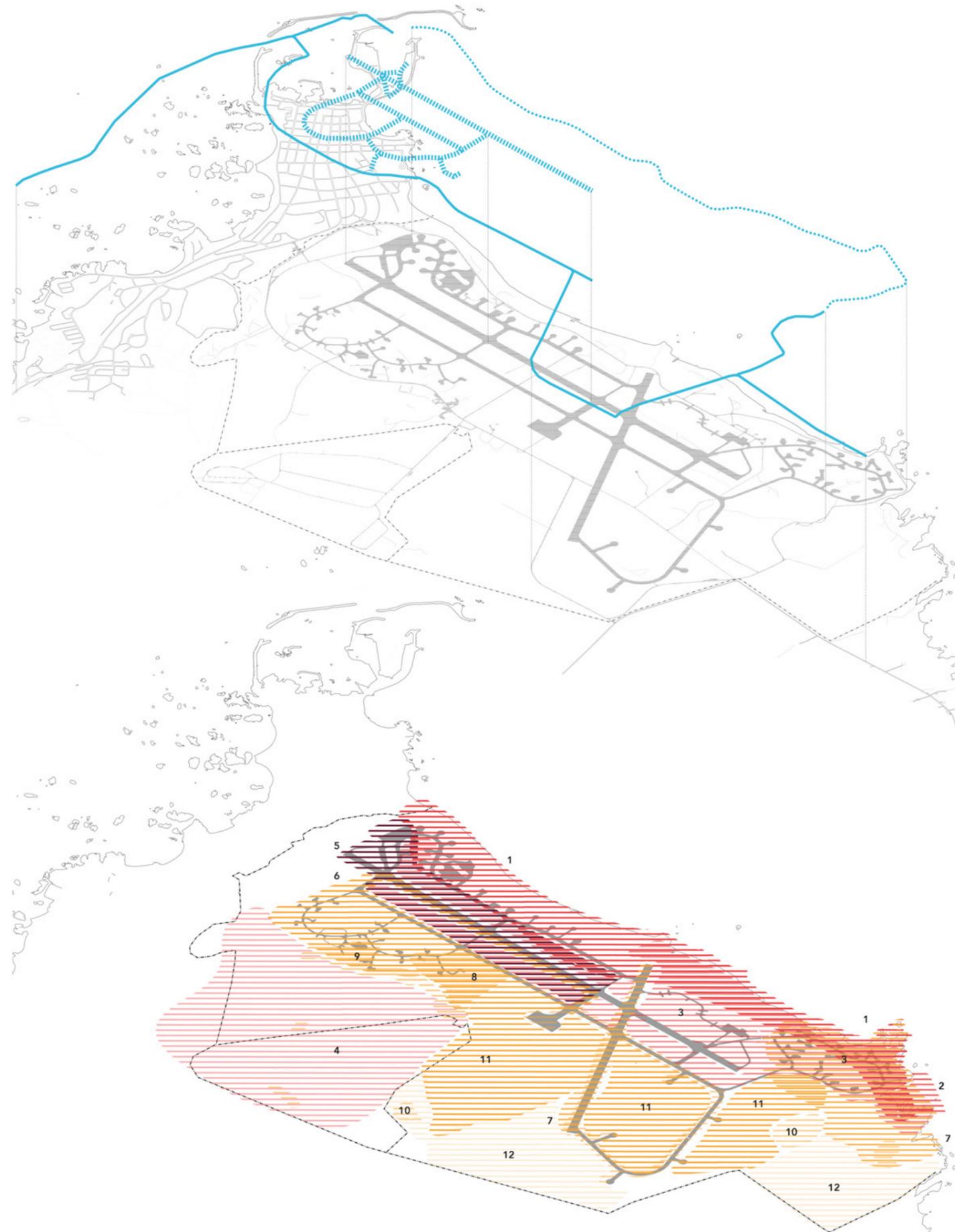
**proposed circulation**

repurposed infrastructures

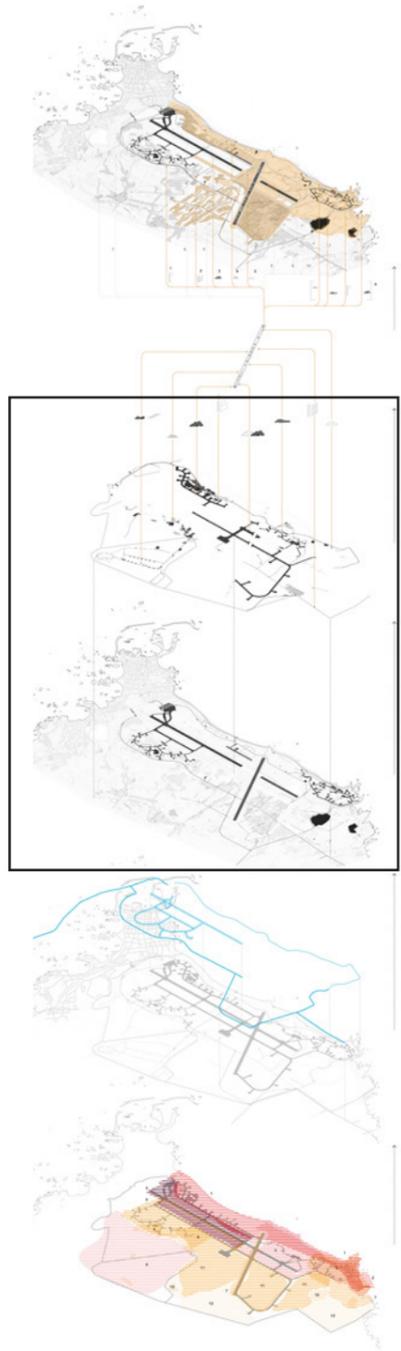
- plane / drone circulation 
- main vehicular circulation 
- main pedestrian / cycling path 

**distribution of uses**

- outdoor recreational activities 
- natural harbor / access to sea 
- farming / grazing 
- urban development 
- civilian aviation 
- drone center / aviation school 
- cultural heritage 
- high security storage 
- intelligence services 
- productive water 
- tree / shrub harvesting 
- natural reserve 



**site strategy** keeping or dismantling materials



**dismantled materials**

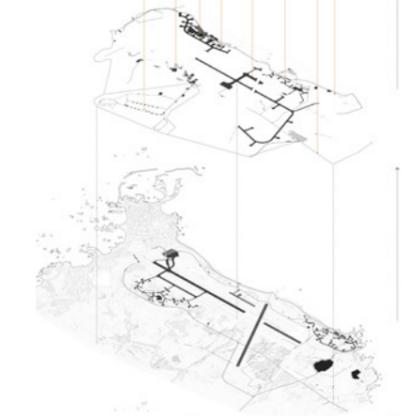
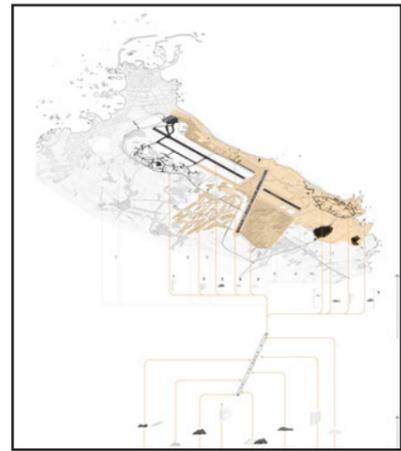
- gravel 
- asphalt 
- concrete 
- building parts 
- infrastructure parts 
- soil / vegetation 

**untouched materials**

- buildings 
- plane hangars 
- runways and taxiways 
- asphalt roads 
- gravel trails and areas 
- informal trails 
- peat 
- tall grasses 
- schrubs and trees 
- controlled lawn 
- sand 



**site strategy** recirculating and transforming materials



**transformation & new uses**

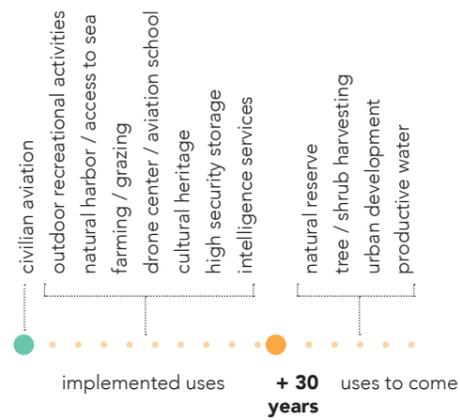
recirculated materials →

future material movement →

managed grasses

free-growing shrubs and trees

managed peatland



**the repository**

varying composition

gravel

asphalt

concrete

building parts

infrastructure parts

soil / vegetation

transformed materials

building parts / repurposed buildings 1

infrastructure parts / repositioned fence 2

concrete / maintained runway 3

gravel / main pedestrian path 4

soil / filling dismantled runway 5

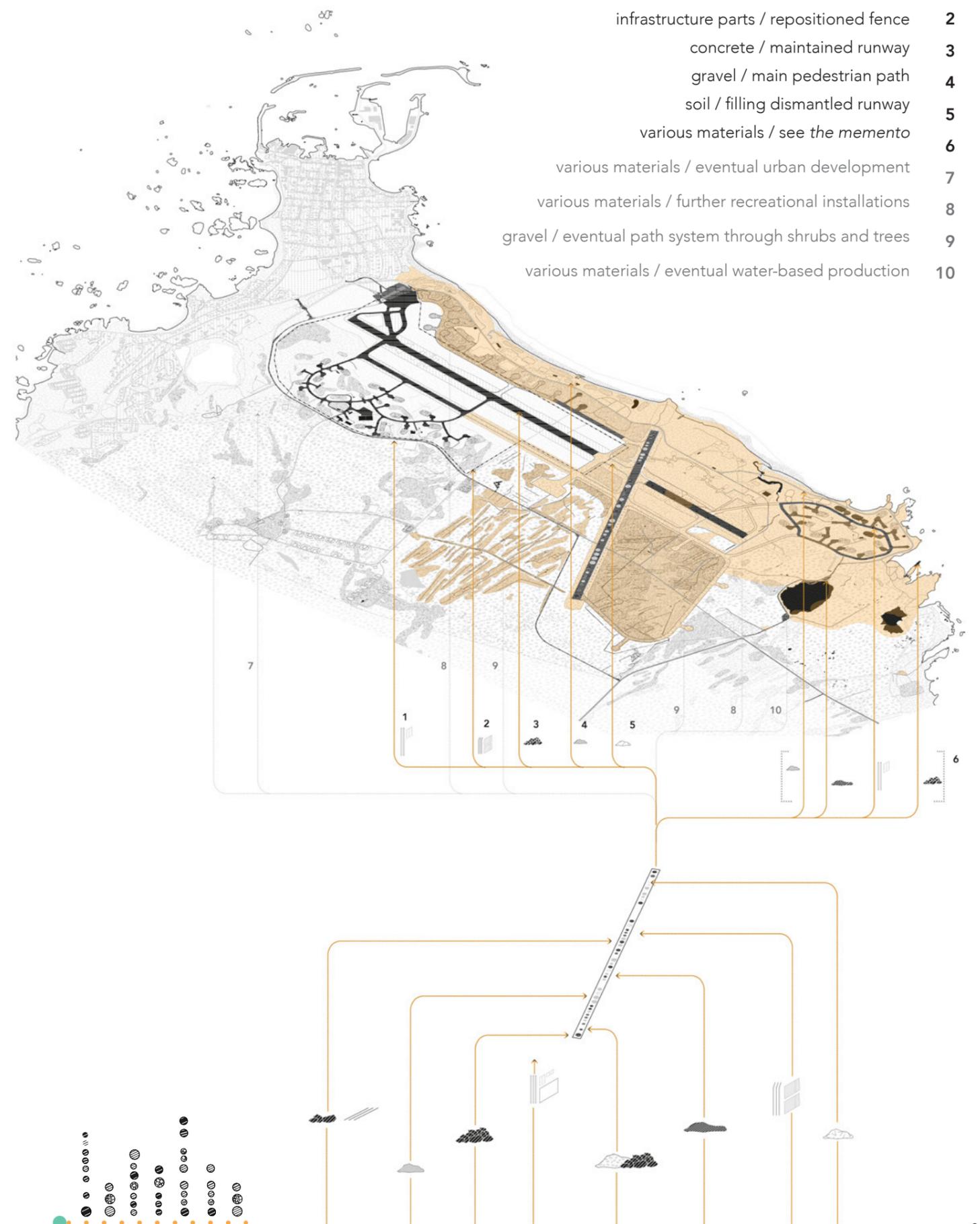
various materials / see *the memento* 6

various materials / eventual urban development 7

various materials / further recreational installations 8

gravel / eventual path system through shrubs and trees 9

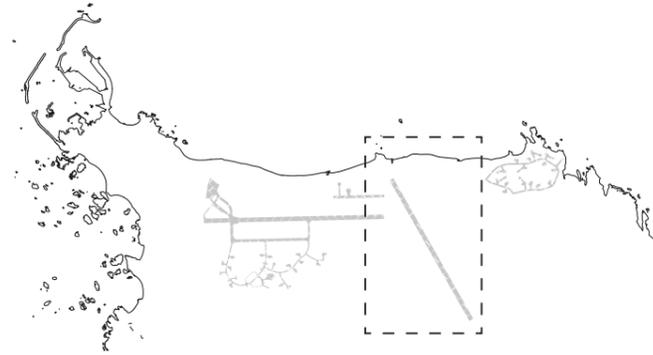
various materials / eventual water-based production 10



## detailed design A the repository

The secondary runway of the air station is transformed in a surface to collect and store the dismantled materials of the site until they are repurposed. This repository becomes the centerpiece of a material ecosystem where resources are recirculated, either on site or towards other destinations.

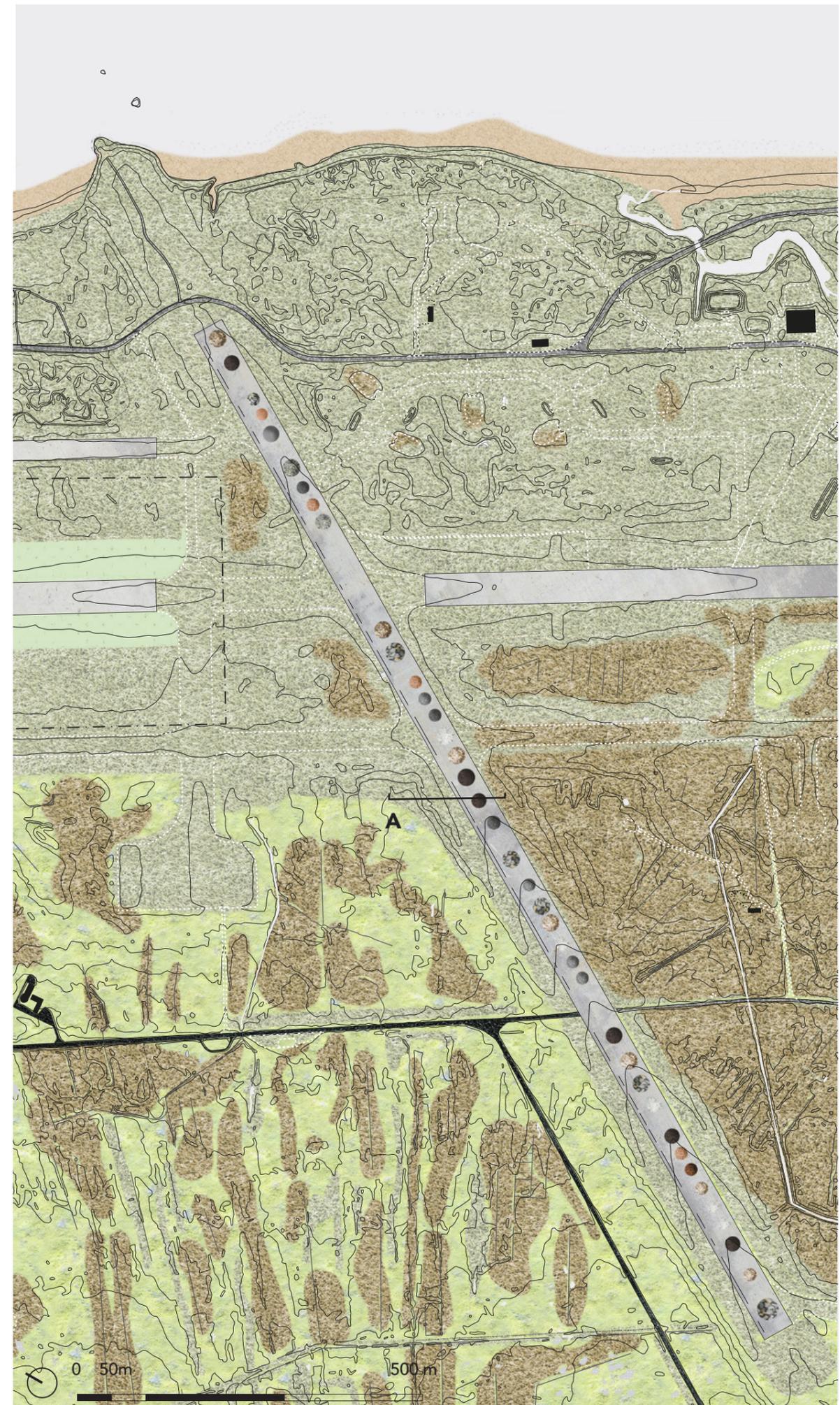
The composition of the repository varies through time as different parts of the site are progressively transformed. A portion of the strip is left exposed to allow for pedestrians and cyclists to thread along the repository. When following this trajectory, one is reminded of the deep material impact the military has had on the site, while also becoming aware of the variety of shapes and textures of these materials. The repository becomes a place where one can appreciate the resources of the site and become aware of the impermanent state of the landscape.



### repository 30 years

- gravel paths / soft circulation 
- asphalt road / access to repository 
- weathered runway / repository 
- gabion bench 
- piles of material / materials in transit 
  - gravel, asphalt, concrete blocks, sand, 
  - soil, bricks, building elements, etc 

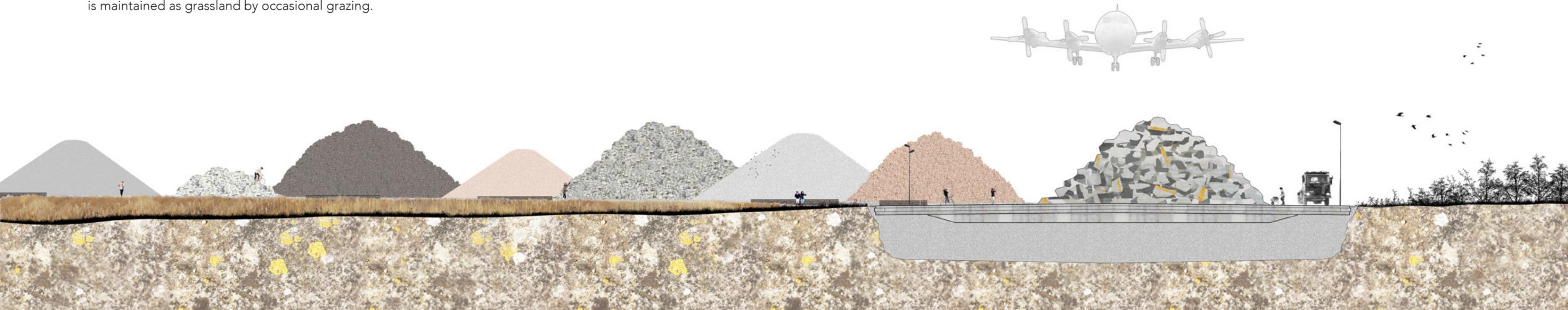
The first core sample is taken through *the repository*. Over the repurposed runway lies a pile of concrete block extracted from the dismantled runways and taxiways of other areas of the site. Two people are represented juxtaposed to the core sample.



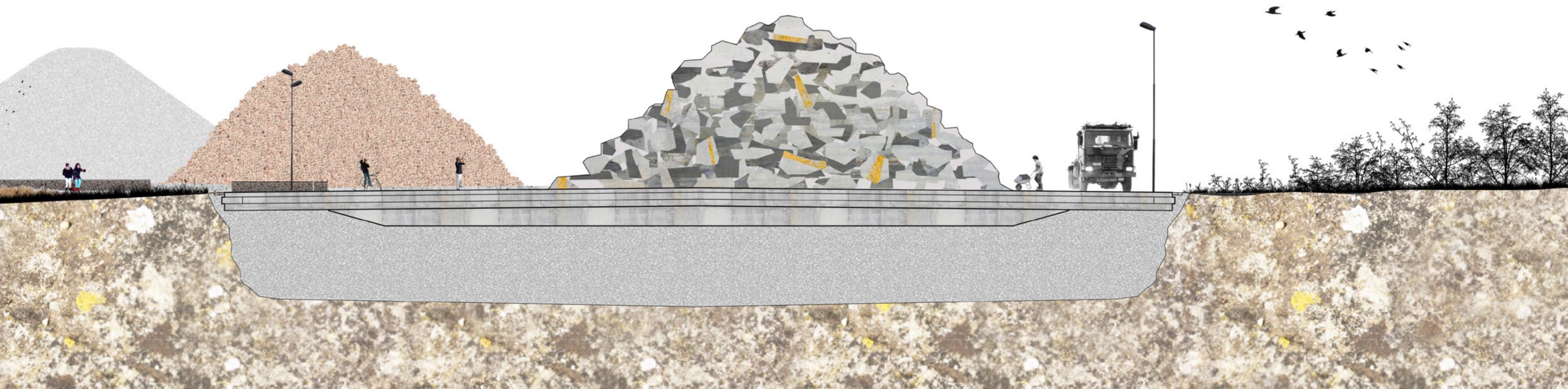
## **detailed design A section**

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This section illustrates the materials collected in the repository and arranged in a succession of mounds. A portion of the repurposed runway is used by trucks and workers who handle the materials, while the other side is dedicated to pedestrians and cyclists. Also visible in this section are two different ways to handle the growing vegetation: one side is left to be overgrown by trees and shrubs, while the other side is maintained as grassland by occasional grazing.



**Section over 180m**



**zoom over 90m**



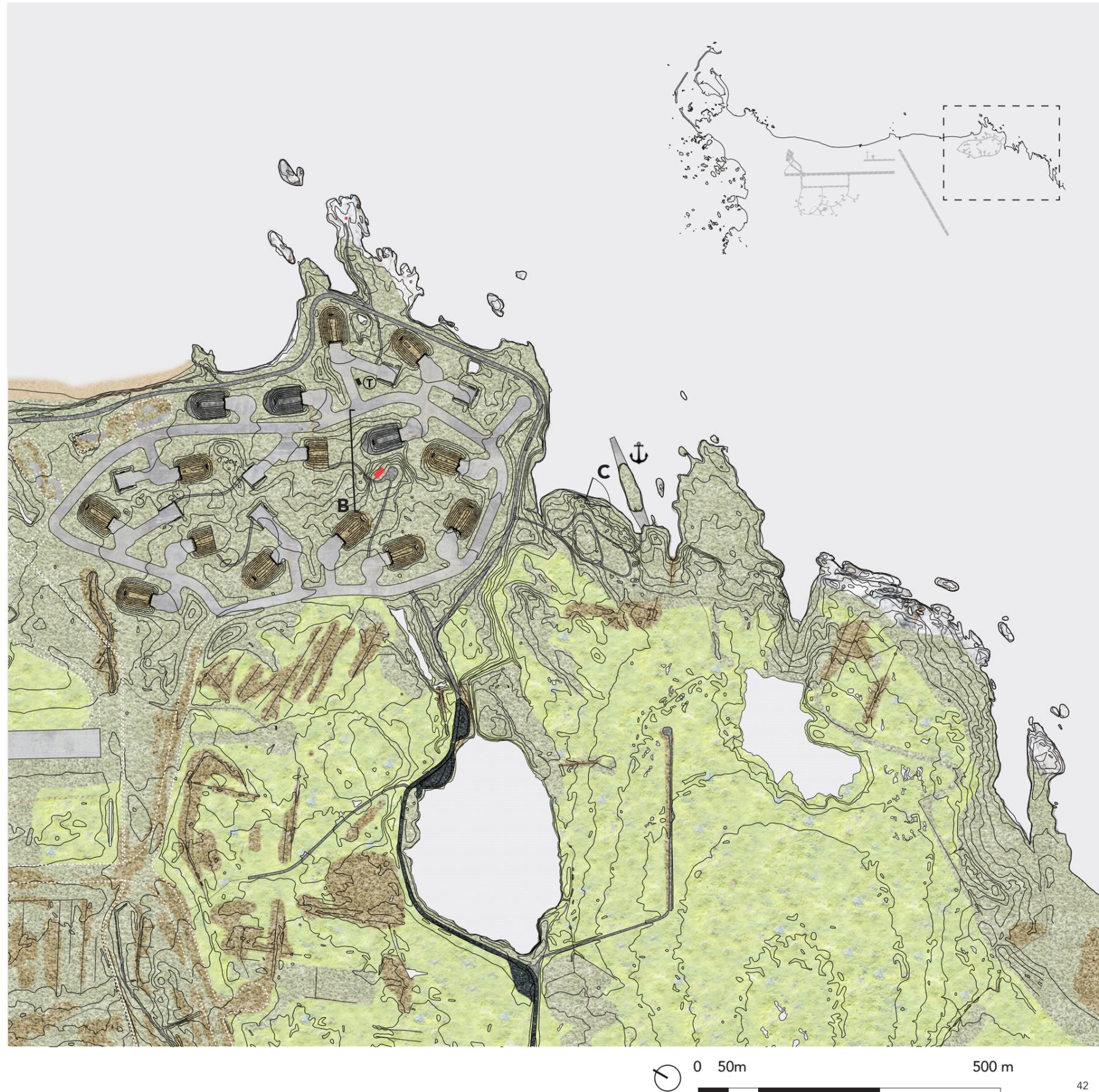
## detailed design B the memento

The space where once stood the village of Haugnes is reopened to the public and becomes a touristic and recreational destination along the extended tourist road that now circles Andøya.

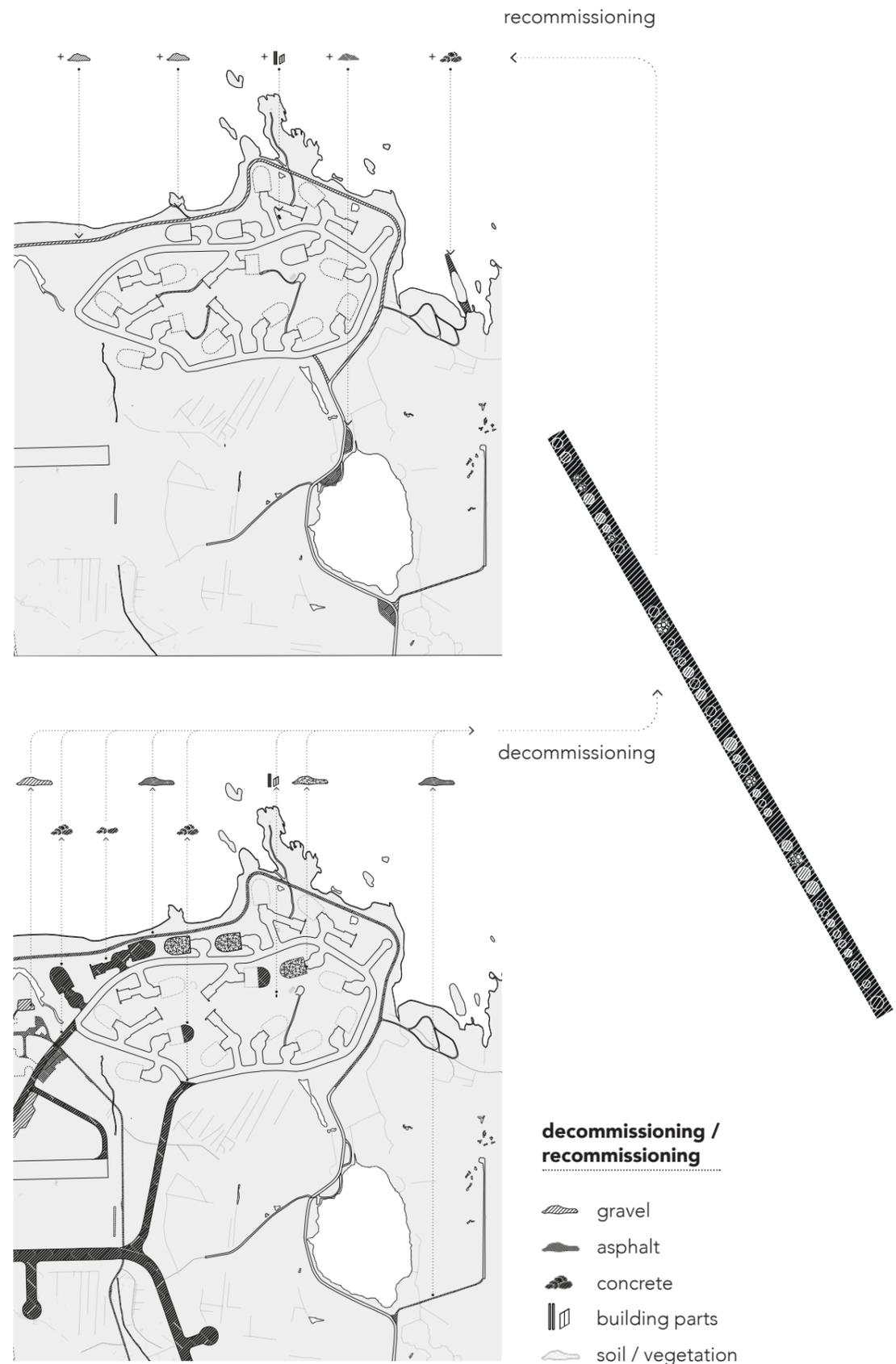
The cultural heritage related to the Cold War is experienced through the use of repurposed infrastructures. Some plane hangars are transformed in multi-use shelters, while others are stripped of their vegetation cover to become playful hills from where one can get a rare heightened point of view towards the surroundings. The former taxiways are left to weather and slowly become overgrown, while a former asphalt road is transformed in a pedestrian and cycling route.

The cultural heritage related to Haugnes is experienced through the reintroduction of historical uses of the landscape. For instance, occasional grazing is reintroduced to manage the growth of the tall grasses in certain areas, while the surfaces of plane hangars are left to be overgrown by shrubs and trees. Access to the water is also reestablished in the historical natural harbor through the construction of a pier made out of pieces of a dismantled runway.

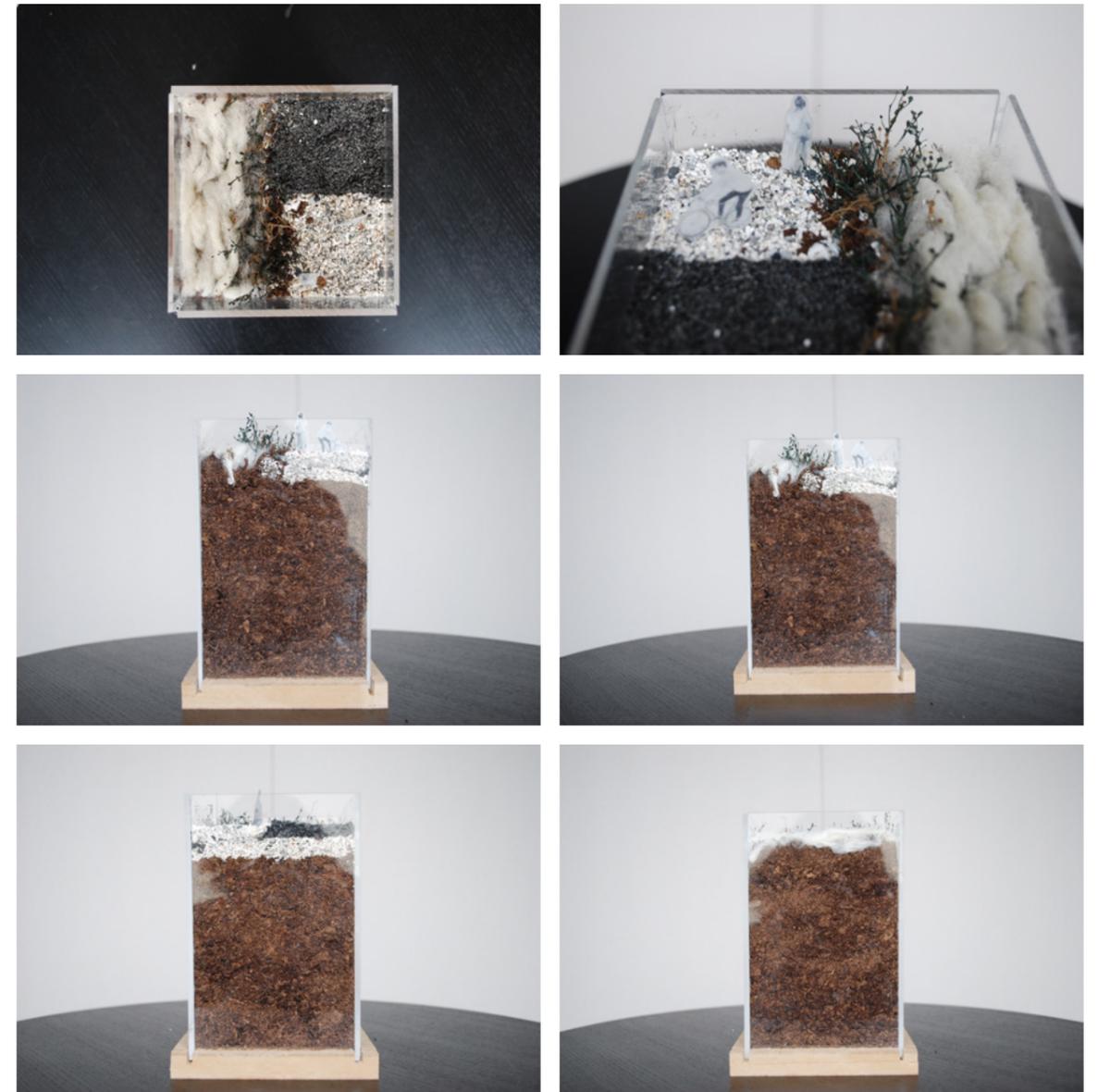
In this site, locals, tourists and former Haugnes residents become aware of the constructed nature of the landscape and the layered memories of the space.



**detailed design B** the memento



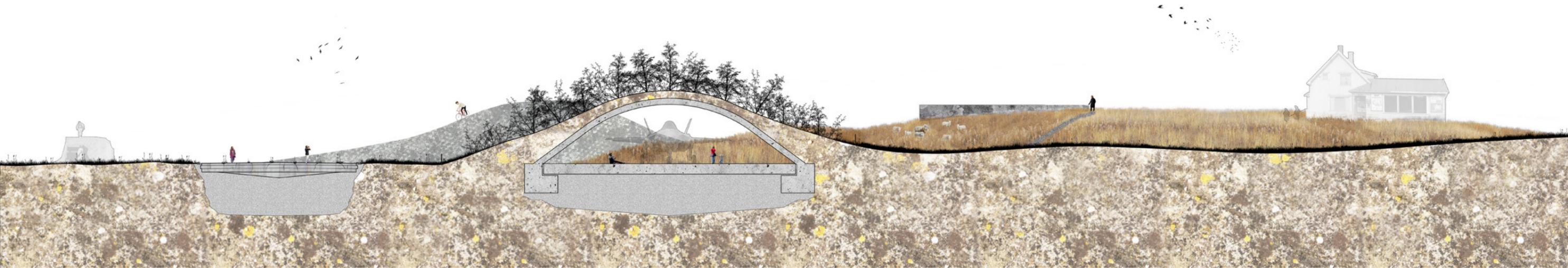
The second core sample is taken through an asphalt road transformed in a gravel path.



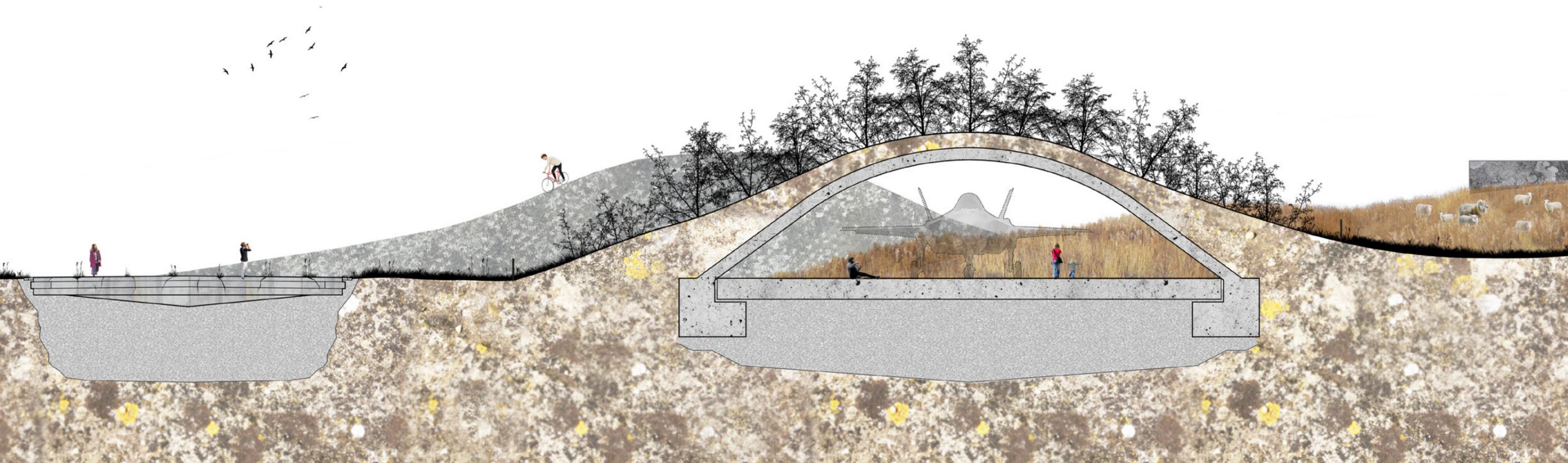
**detailed design B section**

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This section illustrates the repurposing of military infrastructures: A taxiway left to weather over time, a plane hangar that is exposed, and another one that is repurposed as a shelter and left to be overgrown. In the background, sheep are grazing next to the former basement of Haugnes school, one of the two physical remains of the village.



**Section over 180m**



**zoom over 90m**

## **detailed design B illustration**

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This illustration shows the pier made out of pieces of a dismantled runway. The pier and paths leading to it provide a renewed access to the natural harbor where the inhabitants of Haugnes used to build boats and handle fish.



## Sources

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### Mappings

GIS information for Andøya: Kartverket (<https://download.geonorge.no>)

Information for military bases in Norway: Ny langtidsplan for forsvarssektoren: «Kampkraft og bærekraft» issued by Regjeringen.no

Haugnes mappings based on a photograph of a physical model observed at Andøy Museet

historical map used for before& after mappings: Kartverket (<http://www.kartverket.no/kart/historiske-kart/>)

### Historical pictures

Digitalt Museum (<http://digitaltmuseum.no/>)

Forsvaret's media archive (<http://mediarkiv.forsvaret.no/fotoweb/archives/>)  
pictures by Torbjørn Kjosvold, Jonas Christie, Kim H. Bjorheim, Per Thrana

NRK documentary *Glimt av Norge: Bygda som forsvant*, 12.11.2015

Vesterålen Info (<http://www.vesteraalen.info/>)

Images shared on social media by Jan M. Øygård (private collection)

### Statistics

Statistics Norway (<https://www.ssb.no/>)