North Sea: Landscapes of Coexistence

Transitional Territories Studio 2018-2019

Research Report

Tidal horizon

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Abstract

The project starts from the attention and research to the dynamic water level change in coastal area in North Sea, and by analysising the potential flooding risks, climate-sensitive mudflat, and the relationship between regional ecosystem and local people, the observation to changing coastal landscape are emphasised, to rethink how to reuse the leftover human space to reflect the changing ecological environment, emphasing people's bioregionalism awareness.

By Redefining the meanings of the fortification heritage, the meanings of the Grain tower, defencing not only the national territory but defence for the territory defined by the whole nature; not only record the history, but measure the changing nature through time.

Key words: Soft edge between sea and land , fortificaton heritage architecture, tidal mudflat, changing horizon, bioregionalism, changing ecological environment

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PART I.

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Identity - Historical Precedents - North Sea

The North Sea is a shallow continental shelf sea located between Great Britain in the west, the northern European mainland and Scandinavia in the east, and the central European mainland in the south. It opens to the Atlantic Ocean through the Norwegian Sea in the north and via the English Channel to the southwest, and it has a connection to the Baltic Sea in the east. The coastline around the North Sea is one of the most densely populated coastlines in the world with a coastal flood plain population of roughly 15 million people, and including all or parts of four large port cities (populations in excess of 1 million): London, greater Amsterdam, greater Rotterdam and Hamburg . The region has a long history of significant coastal flooding. The disastrous storm surge events in 1953 (UK and Dutch coastline) and 1962 (German coastline) in particular, led to the construction of modern coastal protection measures and flood warning systems along major parts of the coastline . Much of the North Sea coastline is now heavily defended and contains major flood defence structures (e.g. the Thames Barrier in London and the Delta works in the Netherlands), which are part of integrated coastal protection systems. Long-term management plans including an allowance for future sea-level rise are being formulated in the region from the scale of critical coastal infrastructure to specific regions to nations.

North Sea has long history in military . It has provided waterway access for conquest. Many areas have access to the North Sea because of its long coastline and the European rivers that empty into it.

North Sea

Risk assessment of flooding

Areas predicted to be in risk of flooding by rivers and the North Sea in case of 5 meter relative sea-level rise.

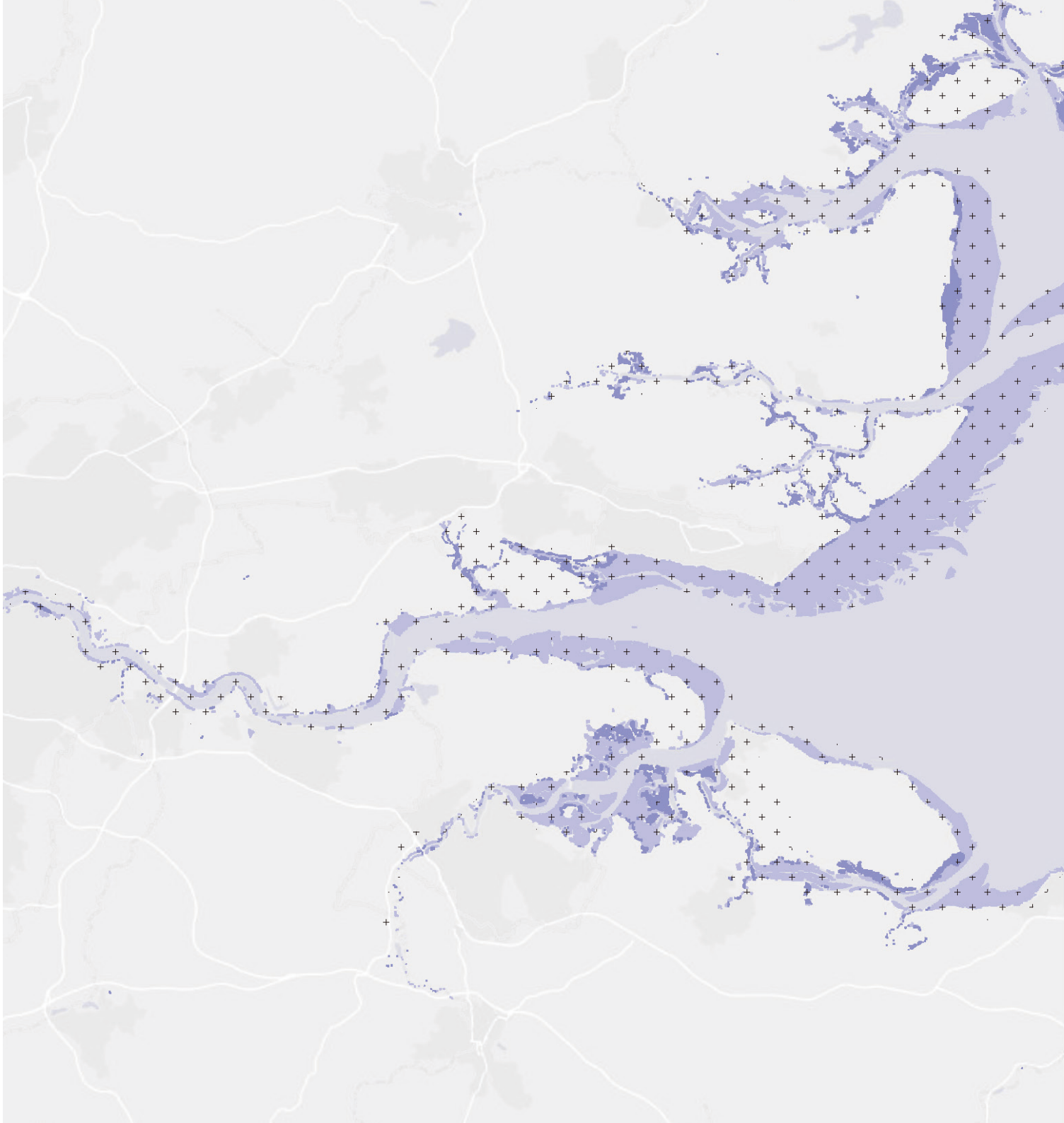
- Urban
- Relative sea-level rise 5m
- Areas prone to flooding by rivers

Territorial Analysis - North Sea

During the process of urbanisation , Thames estuary are facing diverse issues, these includs geomorphological, climatic, and socio-economic drivers of change, their interaction and the societal and governance issues. What I am focusing on is the most sensitive aspects in delta area, the changing saltmarsh and mudflat ecosystems, a coastal ecosystem in the upper coastal intertidal zone between land and open saltwater or brackish water that is regularly flooded by the tides.

The risks to human populations in coastal areas are also changing due to climate and socio-economic changes, and these trends are predicted to accelerate during the twenty-first century.

Thames Estuary



Declining soil

Salt marsh

Mudflat

Saltmarsh and mudflat soil declined

Source:http://mapapps2.bgs.ac.uk/ukso/home.html

Thames Estuary

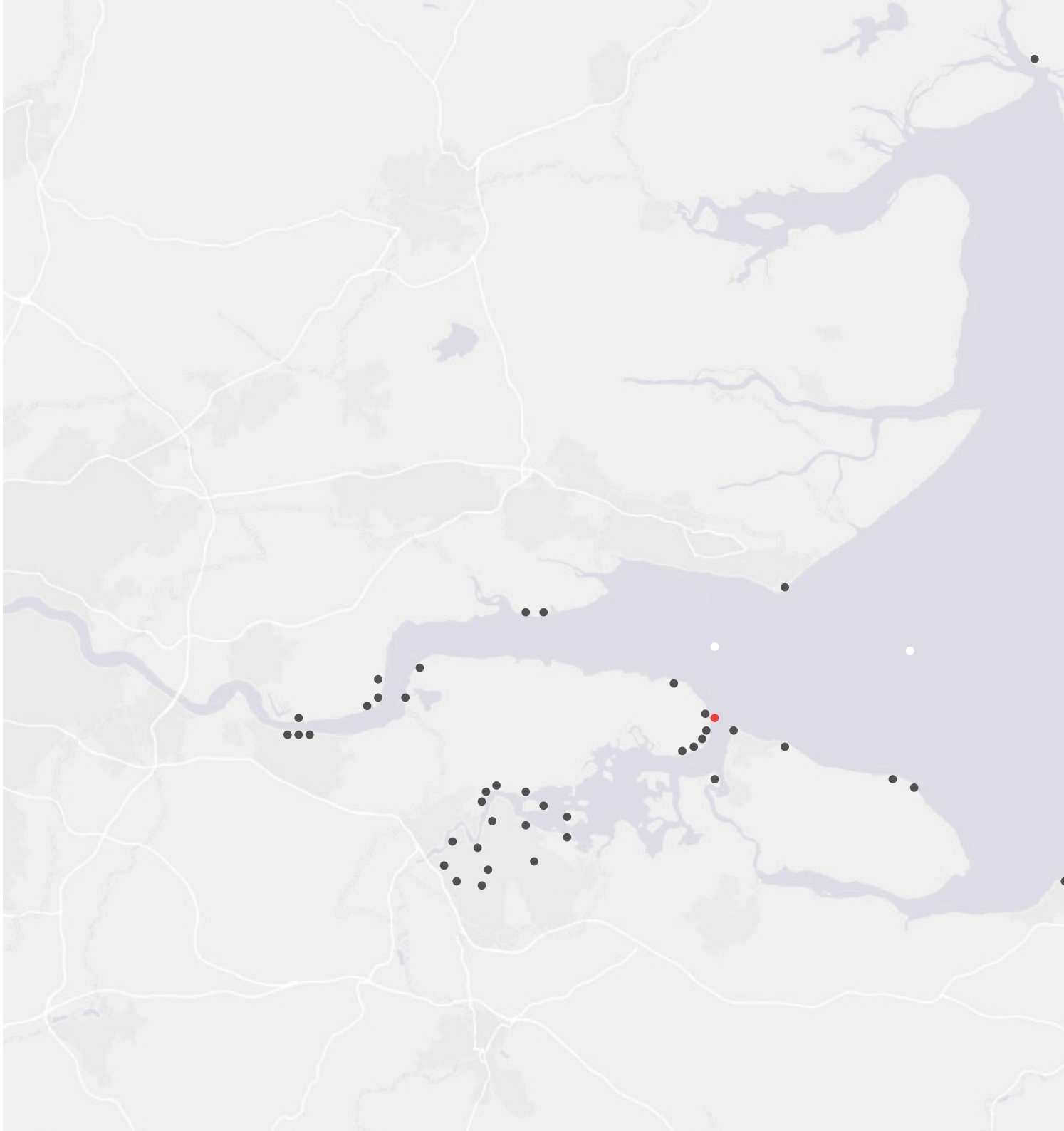
The Greater Thames Estuary is a complex of estuaries and creeks opening into the North Sea. These estuaries include those of the Blackwater and Crouch to the north and the Medway and Swale to the south. At its heart is the Thames Estuary itself, a cultural social and economic artery between England, the continental mainland and the wider world. It is the gateway to the busy shipping and transport routes of the Thames, into London and the Medway. Extensive industry and large container ports along the Thames and Medway at Sheerness, Chatham, Thames port on the Isle of Grain and London Gateway. The Thames Estuary has always provided easy access for settlers, invaders and traders which is reflected in its rich culture and history. The estuary's vulnerability to attack is reflected in its historic fortifications, such as Hadleigh Castle and Tilbury Fort.

Ecological environment

At the same time, Thames estuary is where rising and falling tides and the meeting of freshwater and salty sea create unique and dynamic habitats. The dredged channel along the River Thames is bordered by low lying mudflats including the Southend Flats and Chapman Sands, shallow muddy creeks and broad tracts of tidal salt marsh. Often important nursery areas for fish species as well as providing breeding and feeding sites for wintering waders and waterfowl, these vital refuges are now relatively rare in the UK. The area is of international importance for bird species and large swathes of its semi-natural habitat are designated.Formerly dry land sites along the coastline have now become submerged due to sea-level rises, assisting the preservation of associated organic materials. Up to 10,000 years ago, England was joined to the European continent and the Thames was part of a single estuary system with the Rhine, the Meuse and the Schelde.

Historical heritage

The river with its estuaries holds many cultural and historic associations both as a historic transport route and for its military importance, with distinctive landmarks of coastal military heritage along the coast including forts in the lower Thames marshes. The Thames provides a deep and navigable river through London providing the basis for the development of a trading port and foundations of the capital. It is a major maritime route and centre of many events in British history.



Onshore firtifications

Offshore fortifications

Grain Tower

Heritage Fortifications

Territorial Analysis - Thames Estuary

Flood Risks

The majority of coastline in Thames estuary are facing potential flood risks, while the river medway and Swale are facing high rate flood risks.
The flood risks in Different regions (the rectangular frame) are caused by various different regional reasons.

Salt marsh and tidal mudflat

Salt marsh and tidal musflat, is one of the most productive ecosystems, and Widespread in the delta region, but the decline Coastal squeeze, due to sea level rise, and erosion are primary threats to salt marshes across Europe. They can result in reduced coastal defence value and in an increased risk of flooding. Although sea level rise may pose serious threats to the survival of salt marshes, there is growing evidence that as long as sediment supply is sufficient, the vegetation-sedimentation feedback of marshes enables marshes to accrete vertically at the rate of the rising sea-level .
Many aspects that affect the cyclic dynamics of marshes are still not well understood. It needs to be paid more attention, and further researches are needed to be done.
Long-term processes of coastal squeeze with sea level rise and lateral erosion with increased storminess are considered to be the primary threats to salt- and grazing-marshes across Europe . A single storm can push a marsh over the tipping point, shifting it from laterally expanding towards laterally eroding. If erosion persists, and the marsh cannot re-establish in front of the cliff, in time this will result in reduced coastal defence value and an increased risk of flooding of adjacent terrestrial environment.

Thames Estuary fortification heritage

Situated as it is on the extreme south-eastern corner of England, Thames estuary is the closest point to continental Europe and thus the most vulnerable to invasion.
The thames river has long history being the location of fortifications, but more castles and grand fortified houses sprang up throughout and after the medieval period, some were more for the protection of
the owners from their rebellious serfs than from any foreign invader, but in1345 tensions with France saw the county's defences readied for invasion.
It was around this period that saw the development of gunpowder and
cannon, which made many smaller castles obsolete as their walls were
unable to withstand the slightest bombardment from these powerful new weapons. Of course, artillery was not for the sole use of the attacker and the ramparts of the more militarily significant larger castles began to mount guns as a means of defence.
Most of the fortifications were built during WWI and WWII, and remoddeled for several time for upgrading the weapon and increase its resistance.

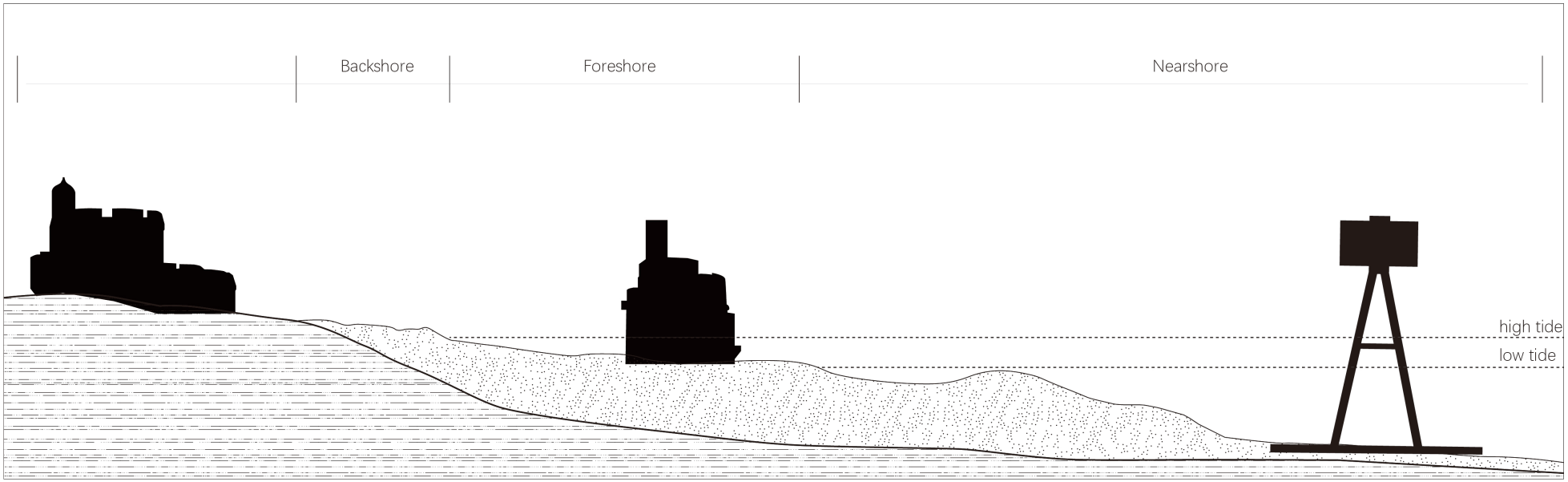
Research questions - Territorial Scale

How to emphasis the dynamic changing landscape features in the coastal area in architectural way, to rebuild the physical and psychological relationships between people and the local nature environment, to raise people's attention and thinking about the potential relationships between regional ecology and human's future life?

Sub-questions

1. How to rebuild the architecture value of coastal fortification heritage in Thames estuary with a new spatial meaning?

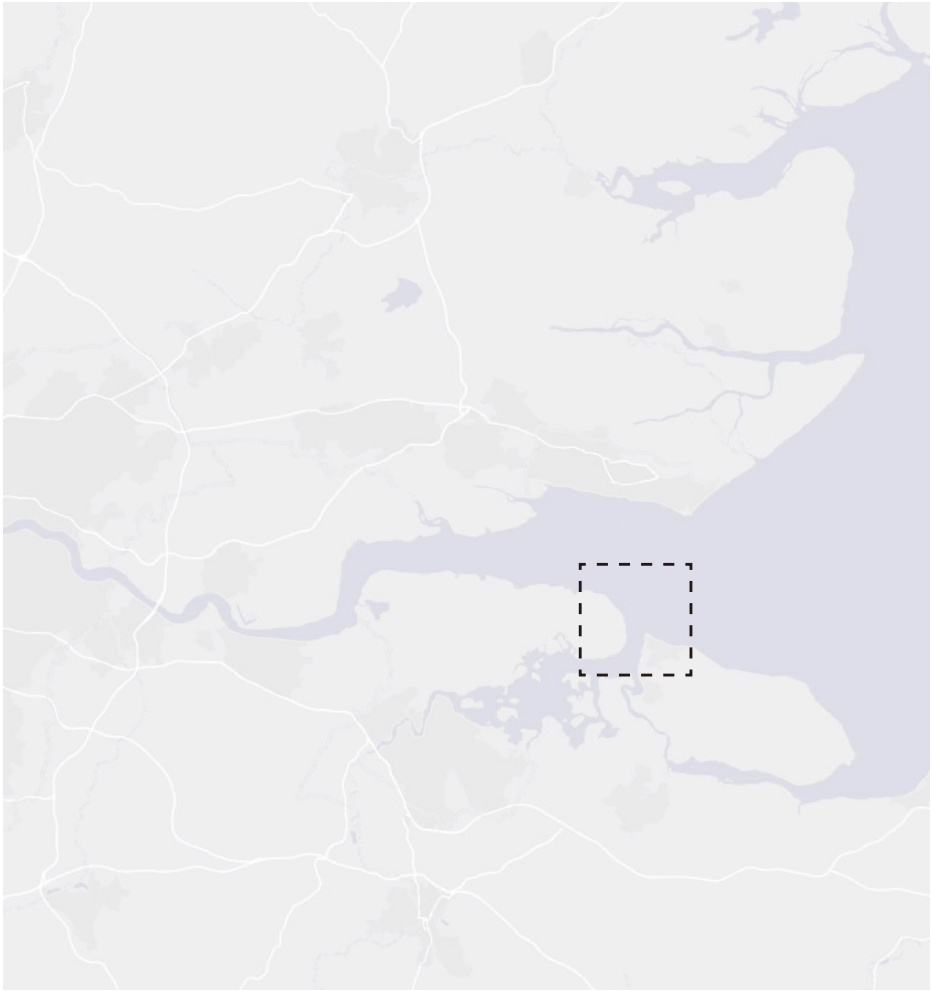
2. Taking advantage of the exhisting regional landscape, how to reuse the architecture value of coastal fortification heritage to rise visitor’s awareness of ecological regionalism ?



As my focus point is to deal with the man-made abandoned architecture on the climate sensitive tidal flat, I found the Grain tower, which is located on the tidal mudflat where Medway river meet the Thames estuary. where the soil movement and seawater effect are strong, it provide a natural chance to build connection with the ecology environment.

The tower located in the climate sensitive mudflat, with the most vulnerable ecosystem, as a bioregional landmark, a changable zone.

Geographic Position



Martello Towers

· Small defensive forts first built in the South East of England during the Napoleonic War （1805-1808）

· Martello towers were inspired by a round fortress at Mortella Point in Corsica （1565).

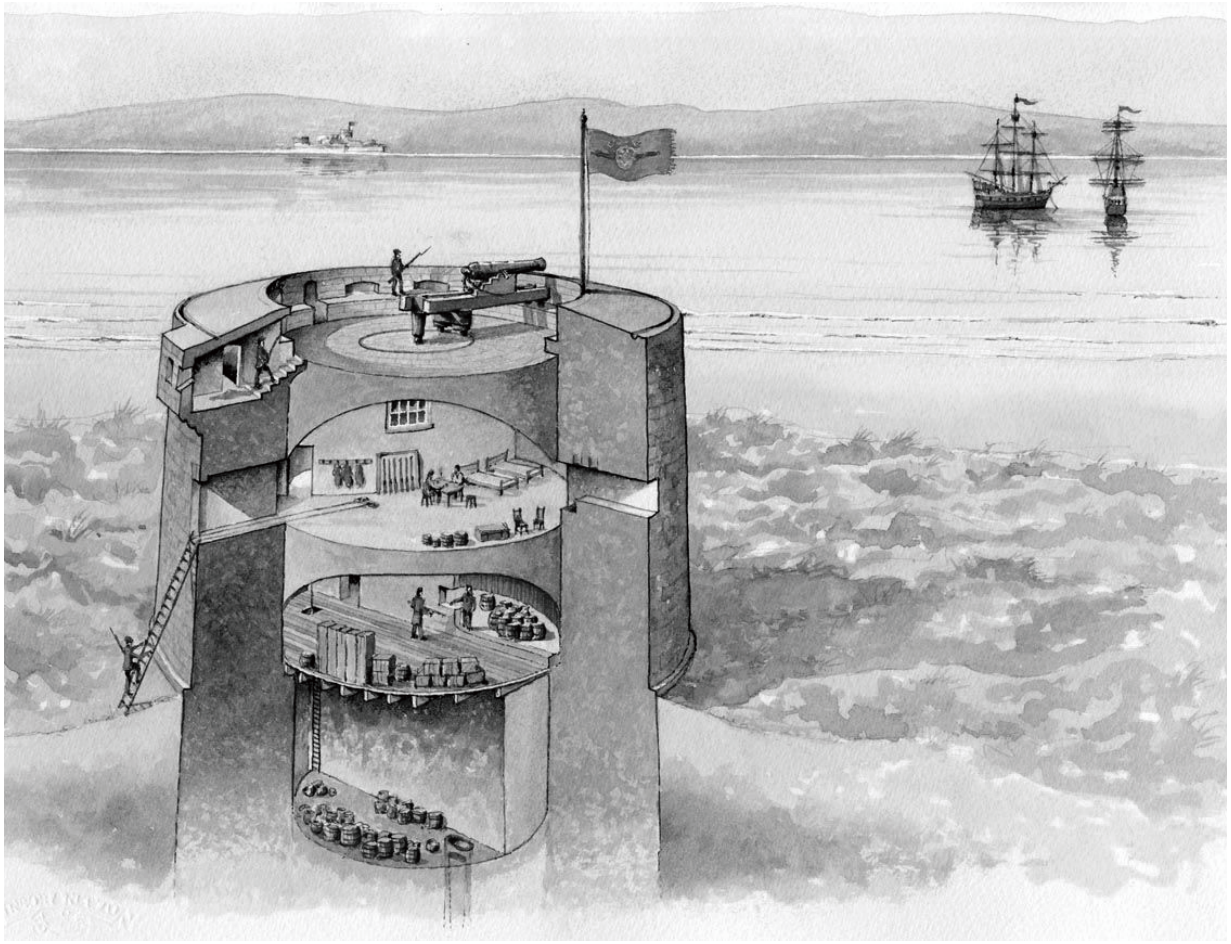
· A typical South East Martello would be about 13.7m in diameter at base and up to 12m tall.

· The masonry walls were built of brick and rendered with lime mortar externally, 2.5m thick.

· Inside there were two main floors, the lower floor housing supplies and a powder store, and the first floor the men's quarters and officer's quarters.

· A single Martello housed between 15 and 25 men; a garrison of up to 24 men and 1 officer.

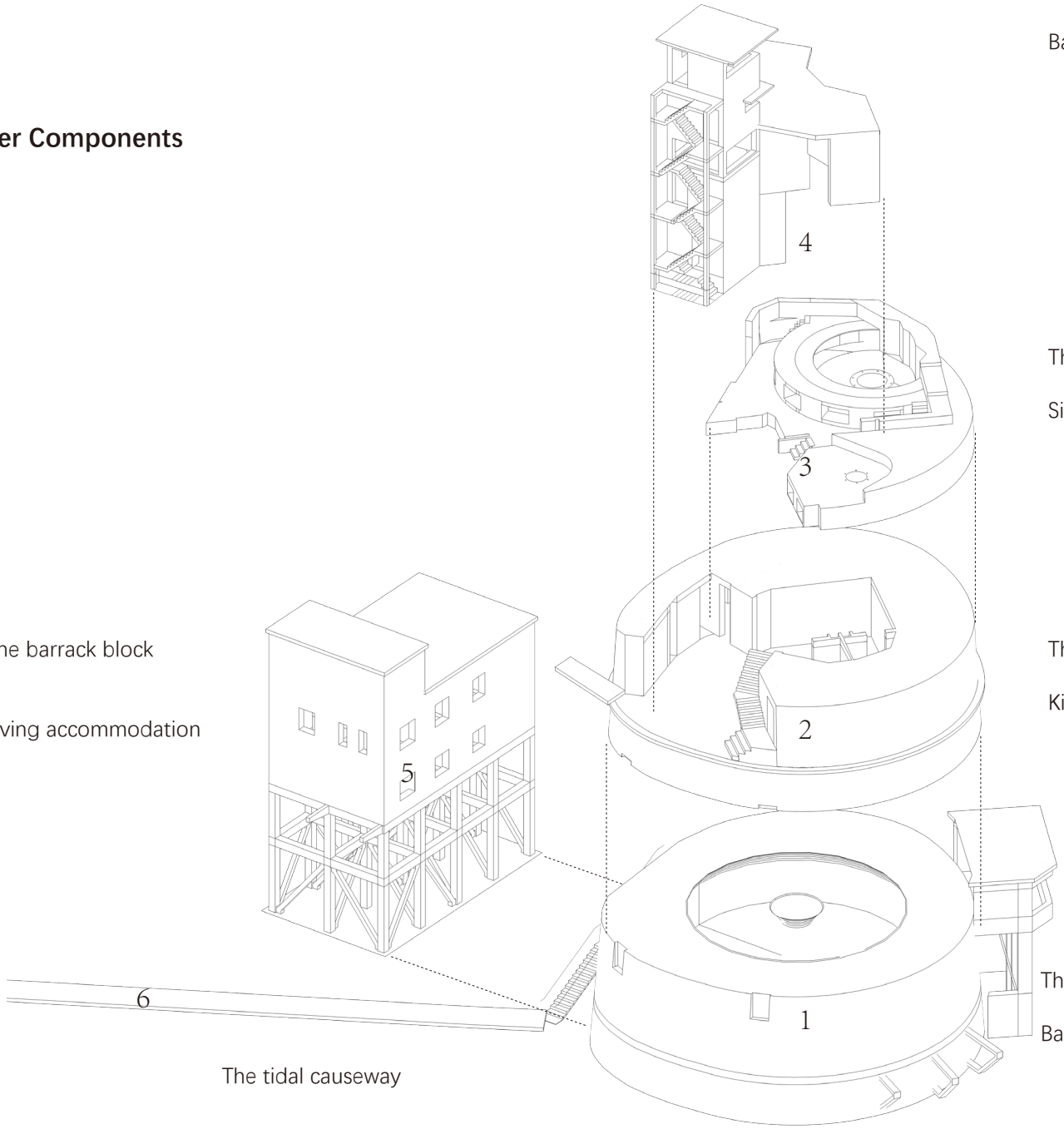
· The internal floor area of both floors was 120 square meters.



Martello Tower Distribution

They were built throughout the British Empire, in 5 different continents, during the first half of the 19th Century. 103 in total were built around Britain. The Grain tower is the ;ast one with several remodelled actions for requirement of defence activities.

Tower Components



Battery observation post

The gun floor level

Sitting shel ter, gun positions

The upper shelter level

Kitchen, shelter, store

The barrack block

Living accommodation

The ground floor and the first floor

Barrack room, shell store, cartridge store

The tidal causeway

Materials

1847: The tower was built in 1847, As it was the last Martello tower, it became outdated since it was built because of the development of new weapons, so the tower was set to be remodeled for usage.

Material: It is a improved Martello tower which reflect on the material, unlike other Martello tower built by bricks completely, the tower has granite ashlar outer skin with the yellow-orange brick inside.

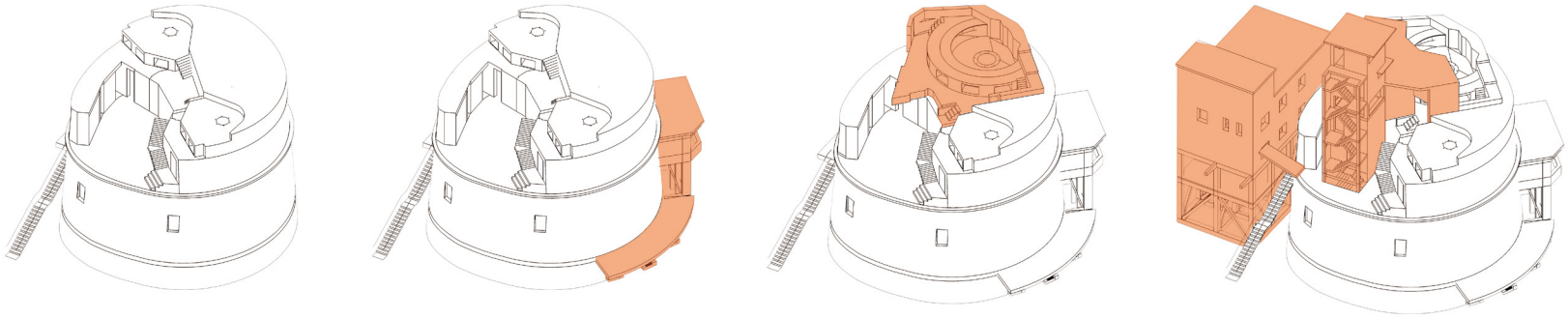
1910-12:
As the boom of Medway estuary, the tower also act as a anchor point so the small jetty was added, and the fake entrance was built to mislead the enemy.

1929 the old gun floor was removed partly and a new twin 6-pounder gun floor was constructed by reinforced-concrete, since then the grain tower came into being a “weapon system “rather than only a gun, with a high rate of fire.

Followed by the development of the weapon, a reinforced-concrete tower was built as directors for the gun and searchlights.

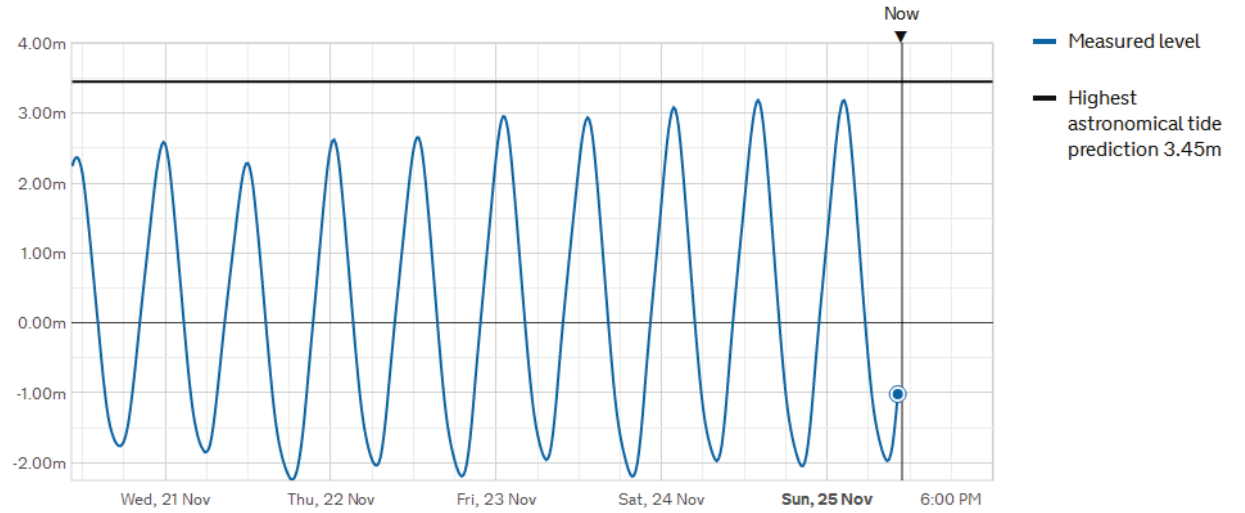
A reinforced- concrete barrack block was built to accommodate the increased complement of the battery for war service, after the update of weapons.

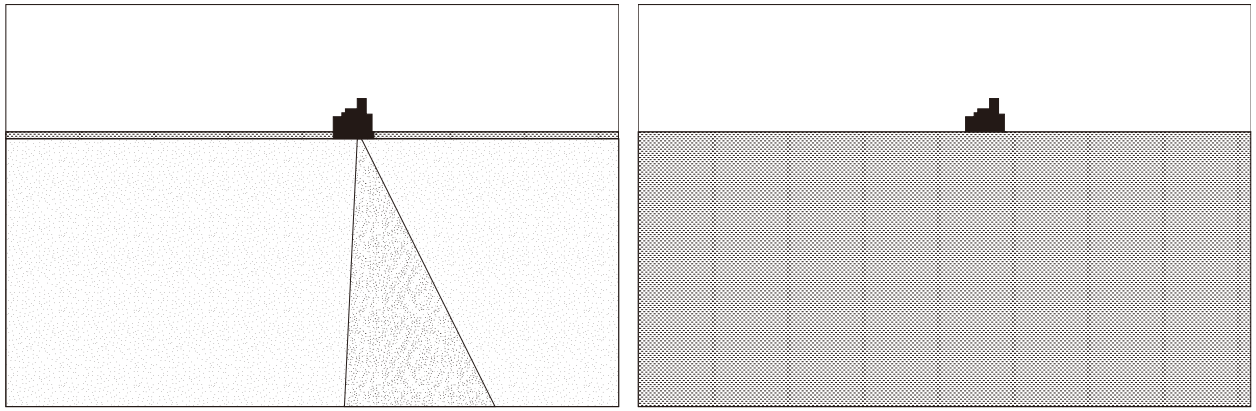
1847 1910-12 1929 1940-1956



Tide Change

There is a causeway built on mudflat from inland to the tower, and result in the specific location of the Tower, the tidal mudflat causes the two conditions of the tower, accessible and inaccessible. The condition will change two times per day.It is a land that can feel the power of nature.





Considering the long tidal causeway connects the tower with the land, but the changing tide creates connect or disconnect conditions which forms a changing spatial experience, I went to the tower to enlarge fascinations, experience and reflections.

The whole journey starts from the inland downtown to the sea, the journey experienced being guided, getting lost, discovering, sudden appearance, waiting, rush in hurry. When running in the mudflat, the remnant of the embankment leading to the turret was interrupted by the sea water, and my footsteps switched between the mud and the broken masonry road. After stumbling to the tower in the mud for a quarter, finally I got there and Scared up a pool of gulls.

Site experience

"After endless mountains and rivers that leave doubt whether there is a path out, suddenly one encounters the shade of a willow, bright flowers and a lovely village."

------ You Lu, *Tour in Shanxi village,* Southern Song Dynasty

Chinese Garden Sequence

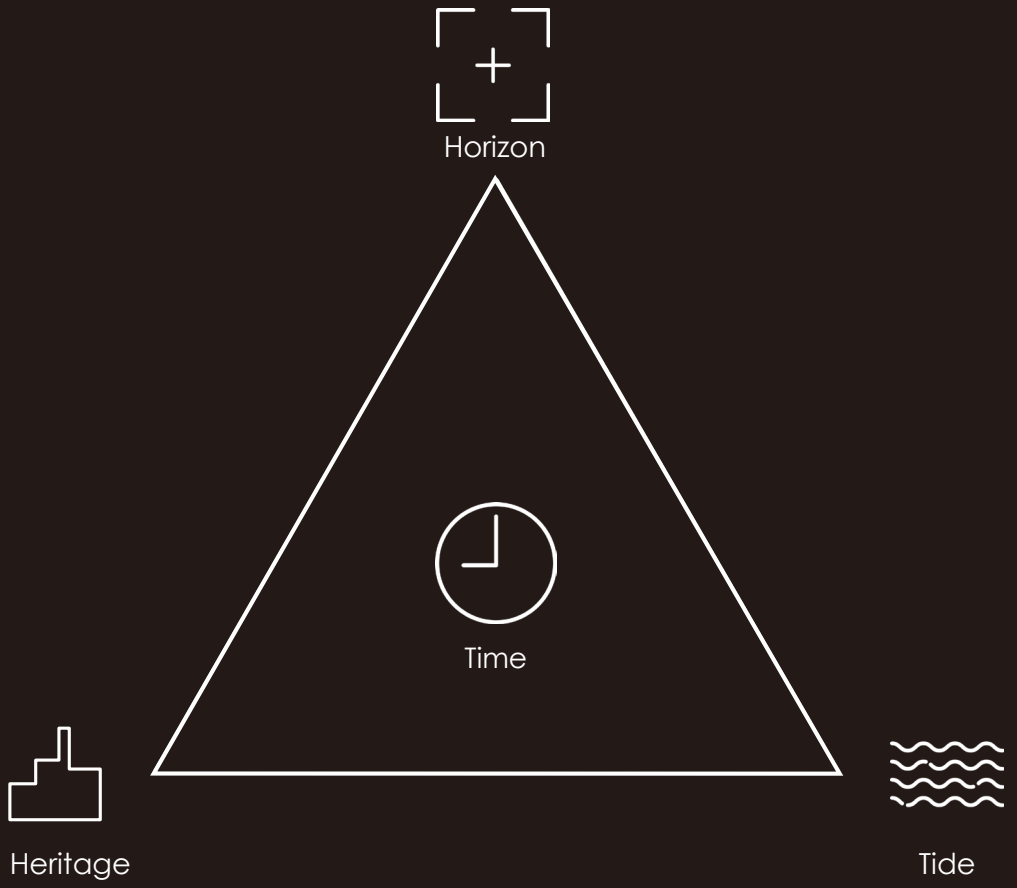
prologue | stage | climax | ending | aftertaste

Research questions(architecture scale):

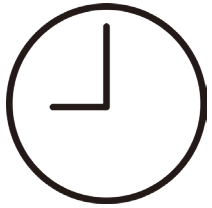
In combination with the dynamic tidal flat environment, how to realize the dynamic switching of narrative scenes by means of architecture, to stimulate visitors' thinking about the relationship between themselves(human) and regional landscape environment (the tidal mudflat and abandoned fortification architecture), to realise emphasis of the meaning of ecological regionalism?

Sub questions:

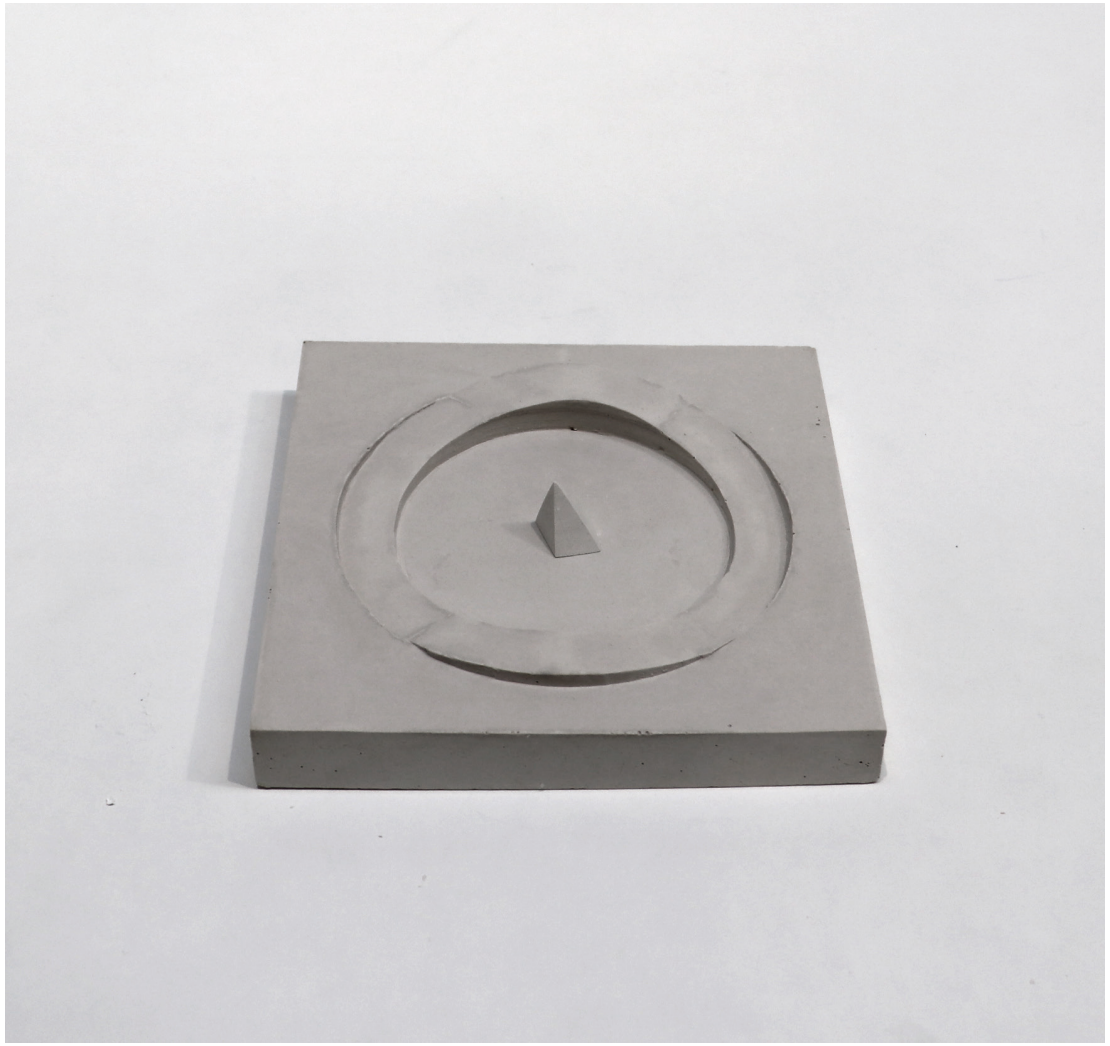
1 How to complete the visiting experience by borrowing the existing local landscape elements, to construct the multi-layered relationship between human and changing landscapes?
2 How to construct narrative scenes in the way of montage, to inspire visitors to imagine the unpresented scene to inspire people to think about the impact and role of individuals on regional landscapes?
3 How to reorganize the spatial experience of the Grain tower and translate the new meaning of Grain tower for human history, ecological environment, and future?


Horizon
Time
Heritage
Tide

Tide

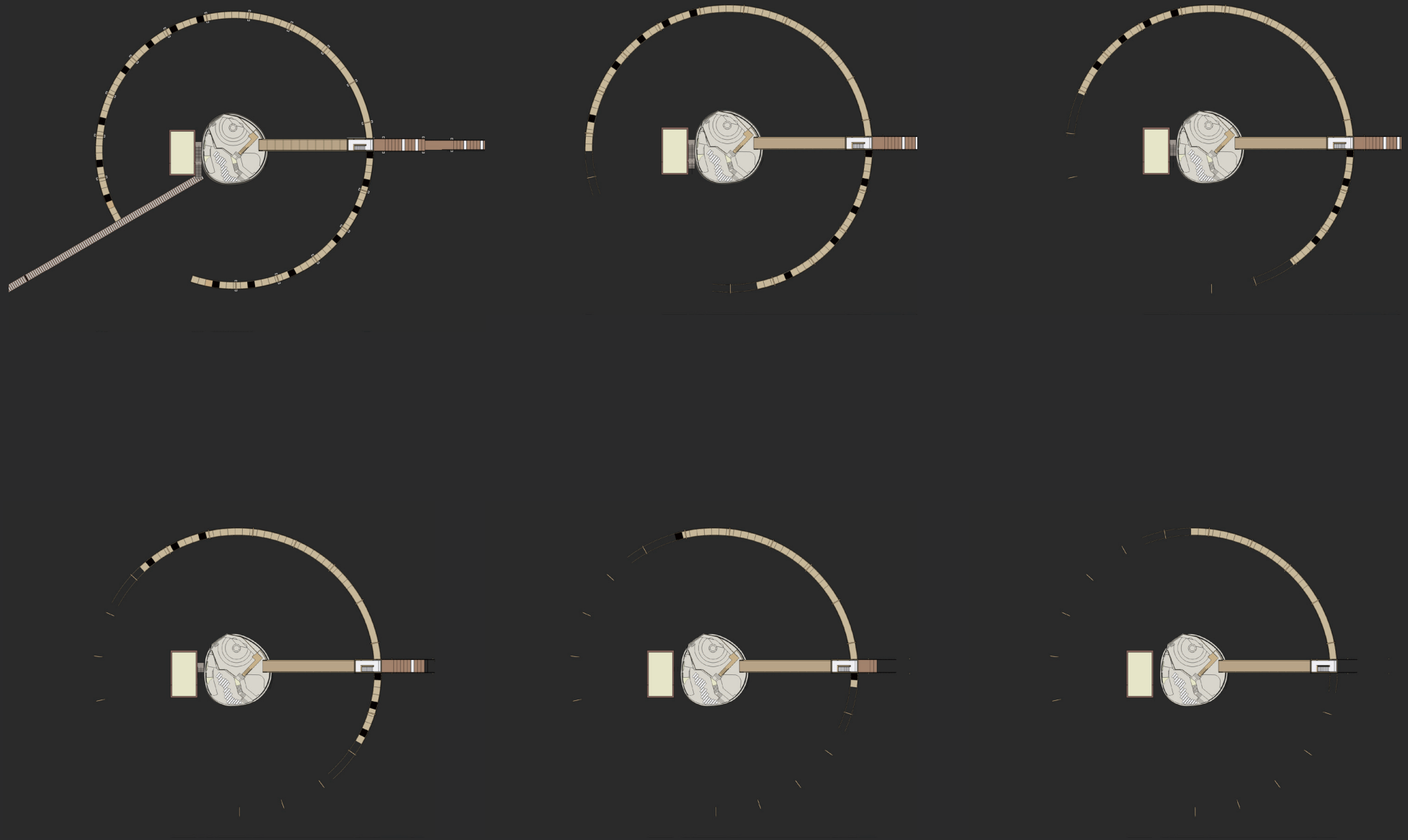


Time

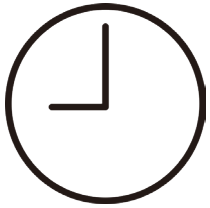


"The Tide Clock"

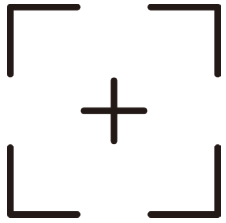
From measure the change, the tide can be perceived more precisely. So the tide will be measured by time, the project means a tide clock machine for visitors, the change will be measured and informed to visitors in an architecture way.



This “clock” will construct people's understanding and attention to the regional ecology by perception of change.



Time



Horizon

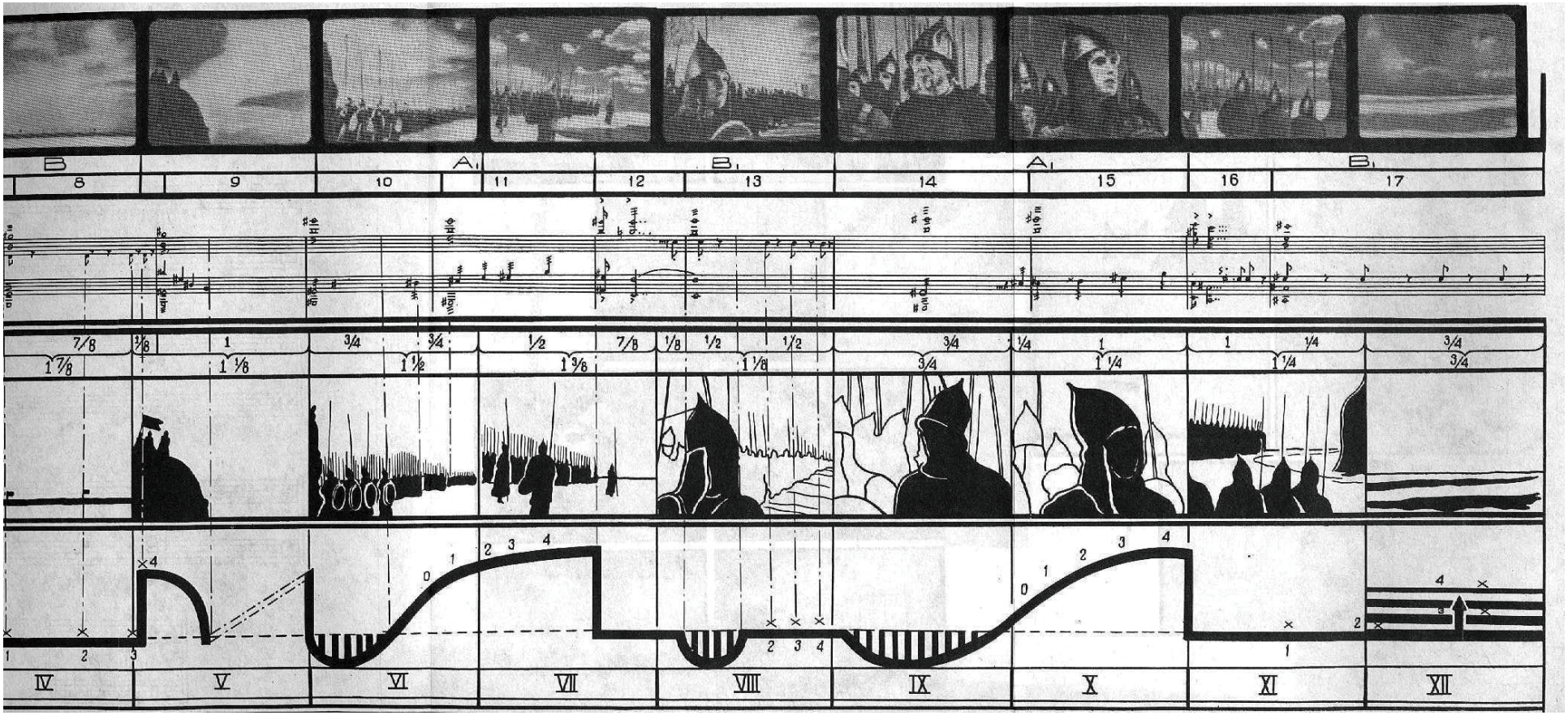
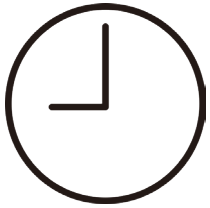


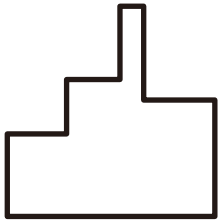
Image from: Sergei Eisenstein, sequences diagrams for Alexander Nevsky and Battleship Potëmkin.

Construct the Montage

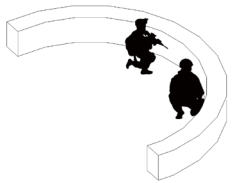
From the site visit experience and the observatory feature of the fortification tower, horizon is another necessary changing element in the story. So the second construction principle is directing the entire program as in a montage way, a movie.
By focusing on the local ecology and emphasizing the enhancement of people's attention to ecological regionalism, the program itself is mainly of educational significance. So the project will be developed according to the switching of scenes, and the express of the meaning will be written in scenes.



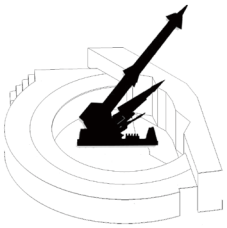
Time



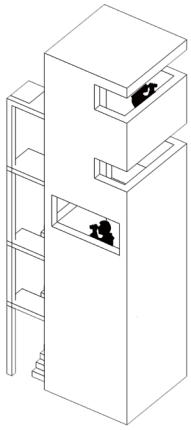
Heritage



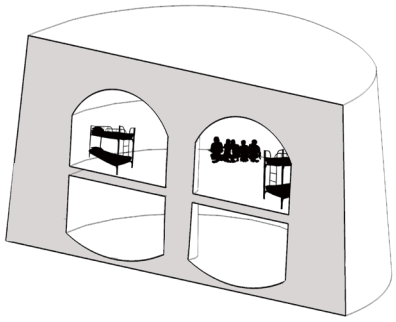
Shelter



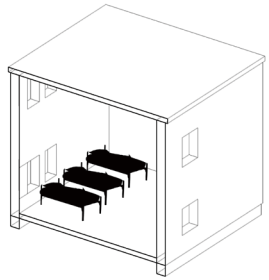
Gun floor



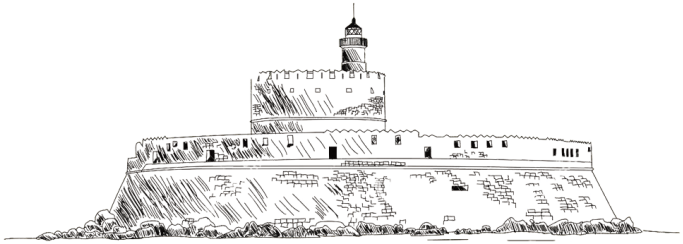
Observatory tower



Barrack&Storage



Barrack



As an abandoned fortification, the meaning of Grain tower is transforming through time, in history, the tower has worked as defence battery for nation's territory, and for today, the new meaning of the tower is translated to defence for the territory defined by the ecosystem, the tidal flat.

PART II.

Design

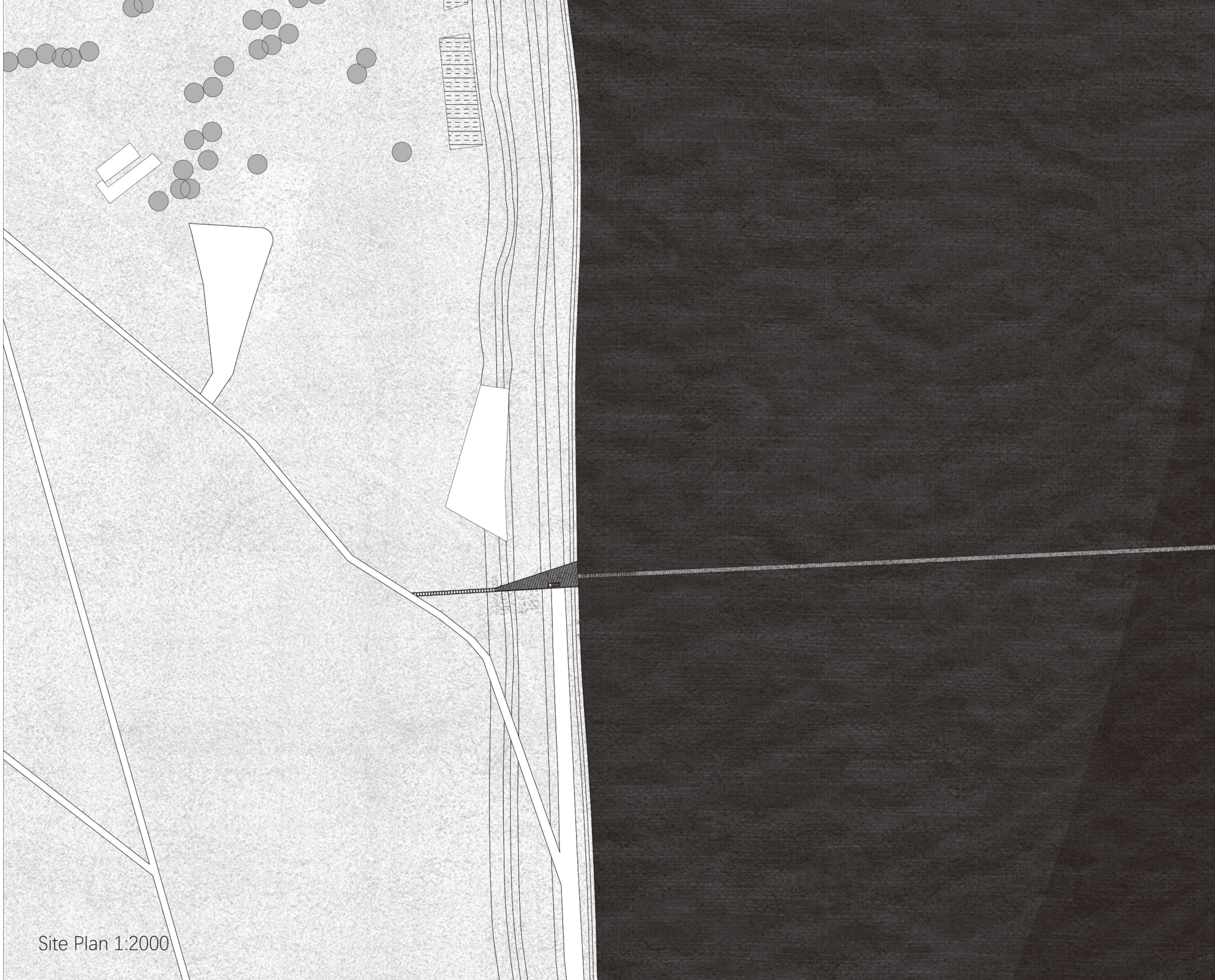
- Site Plan 1:2000
- Prologue(Perspectives, Plan 1/200, Section 1/200)
- Main body(Perspectives, Plans, Section)

Perspectives

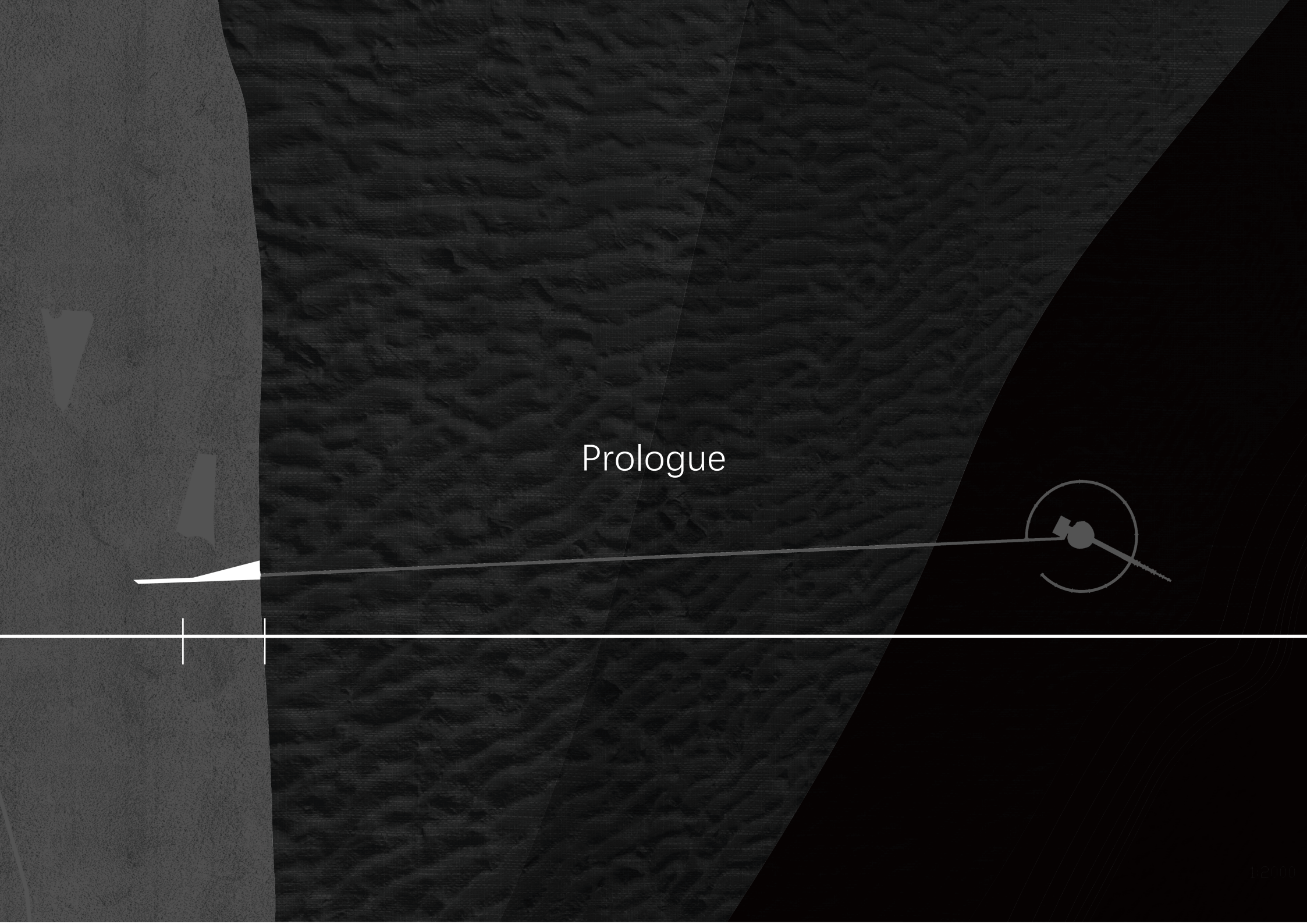
Stage (Mudflat Causeway: 3 images: Vision, medium shot, close shot)
Climax (Tower)
Ending (Bridge, Observatory Tower)
Aftertaste (Ring Tide Clock, Pier, Barrack Building)

Plans 1/200

Sections 1/200



Site Plan 1:2000

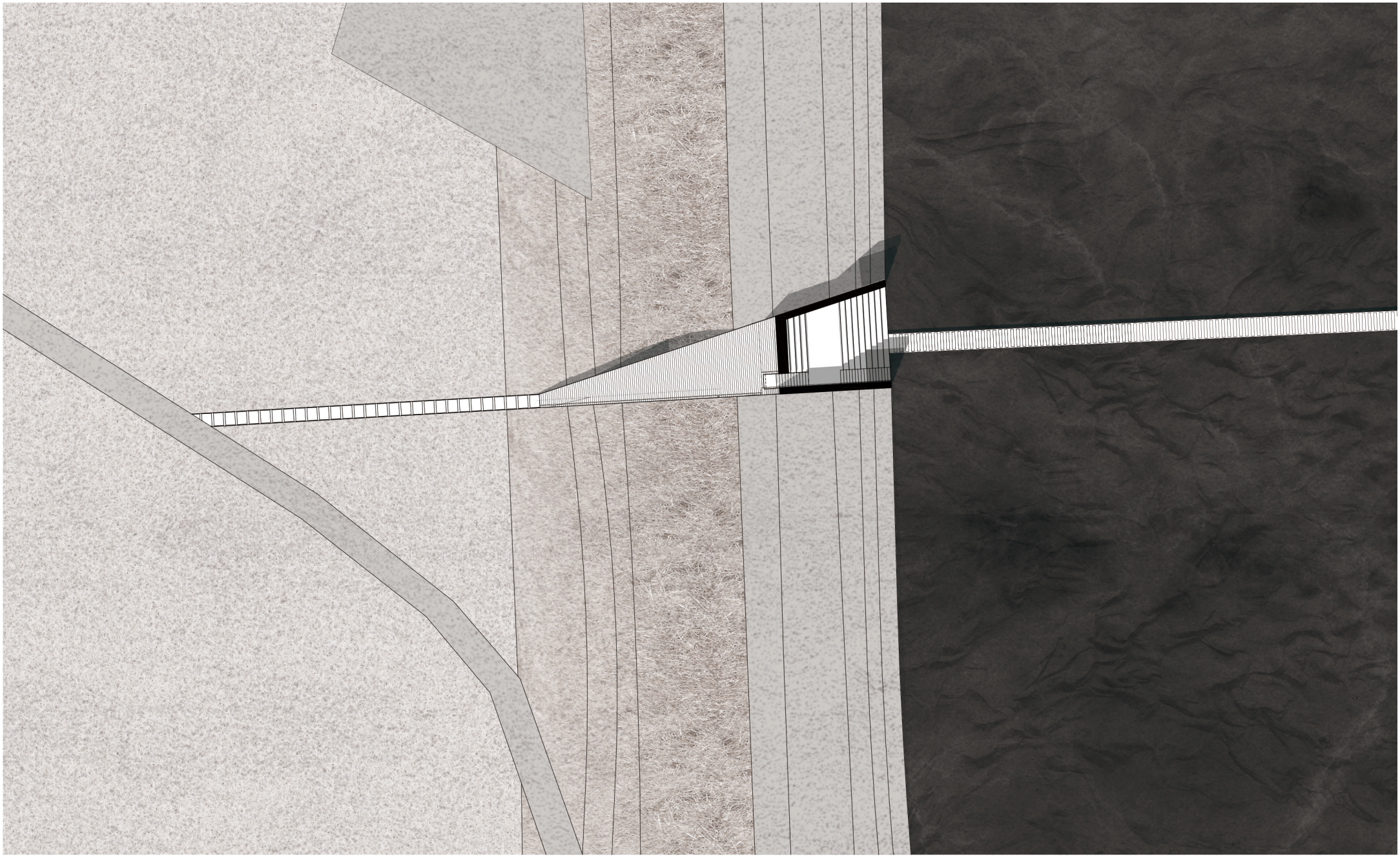

Prologue

Entrance

Slope on the grass

Entrance to Waiting Stage

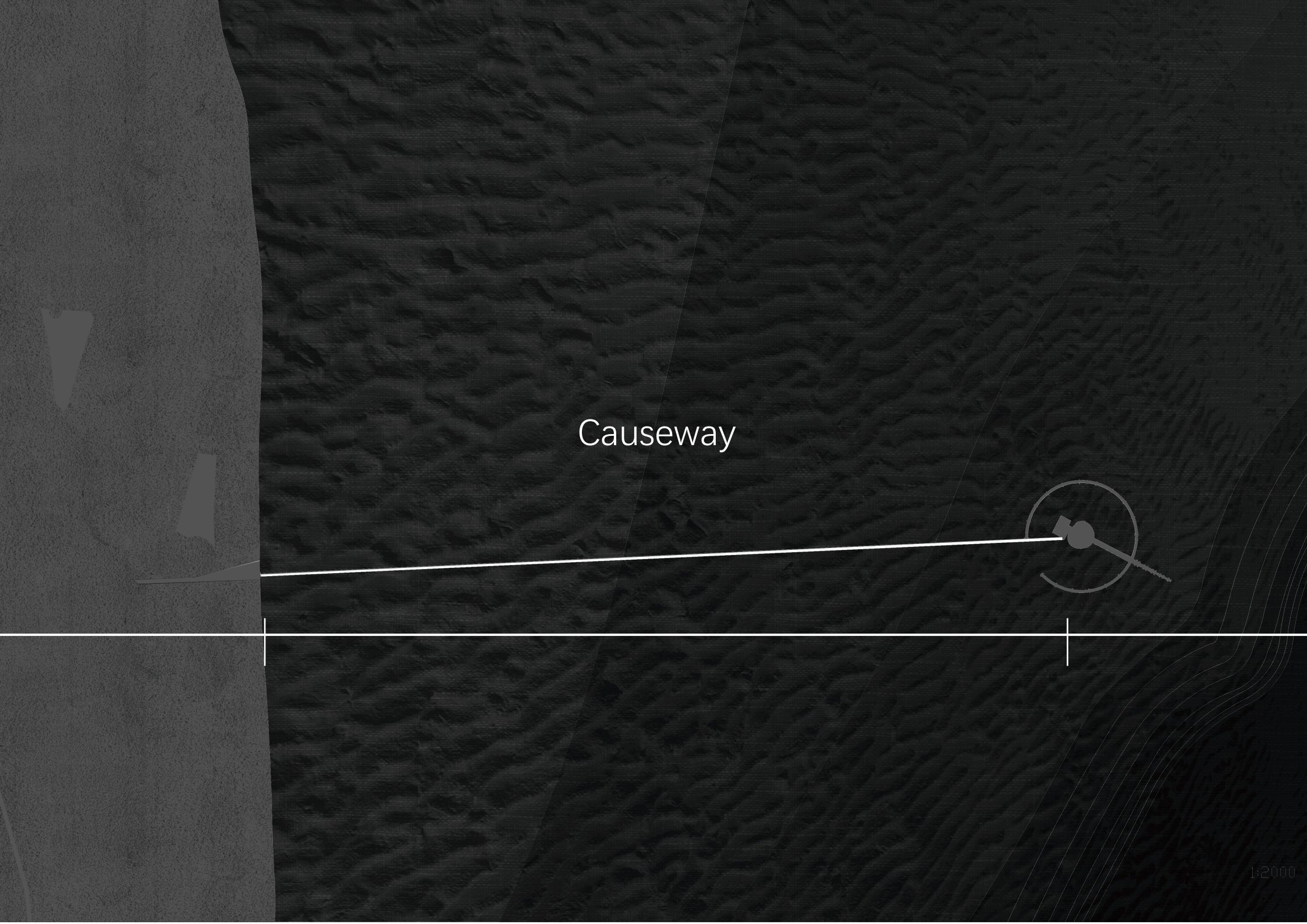
Waiting Stage



Prologue chapter plan 1:500

Prologue chapter section 1:500


Ending ------ Starting

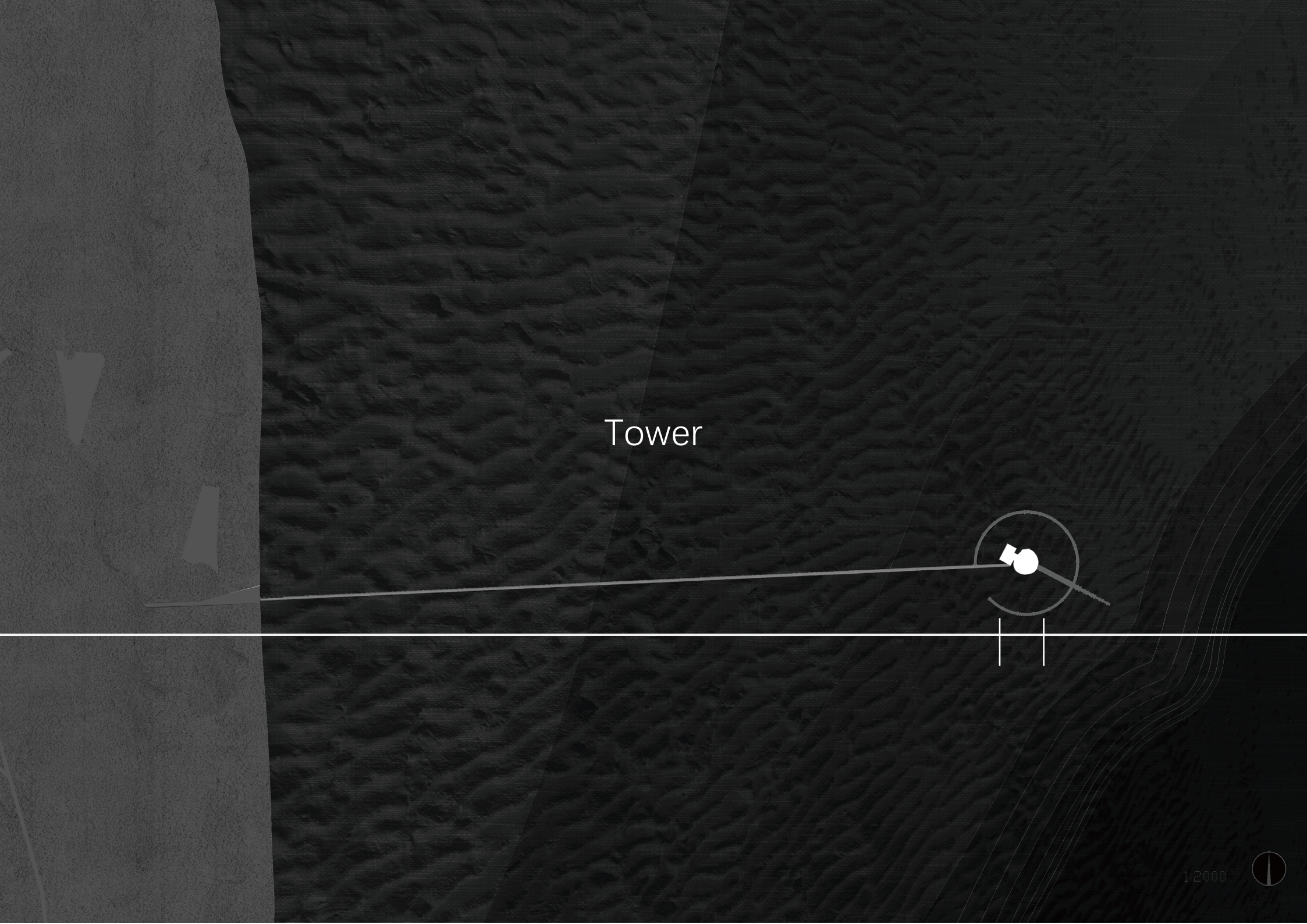

Causeway
1:2000

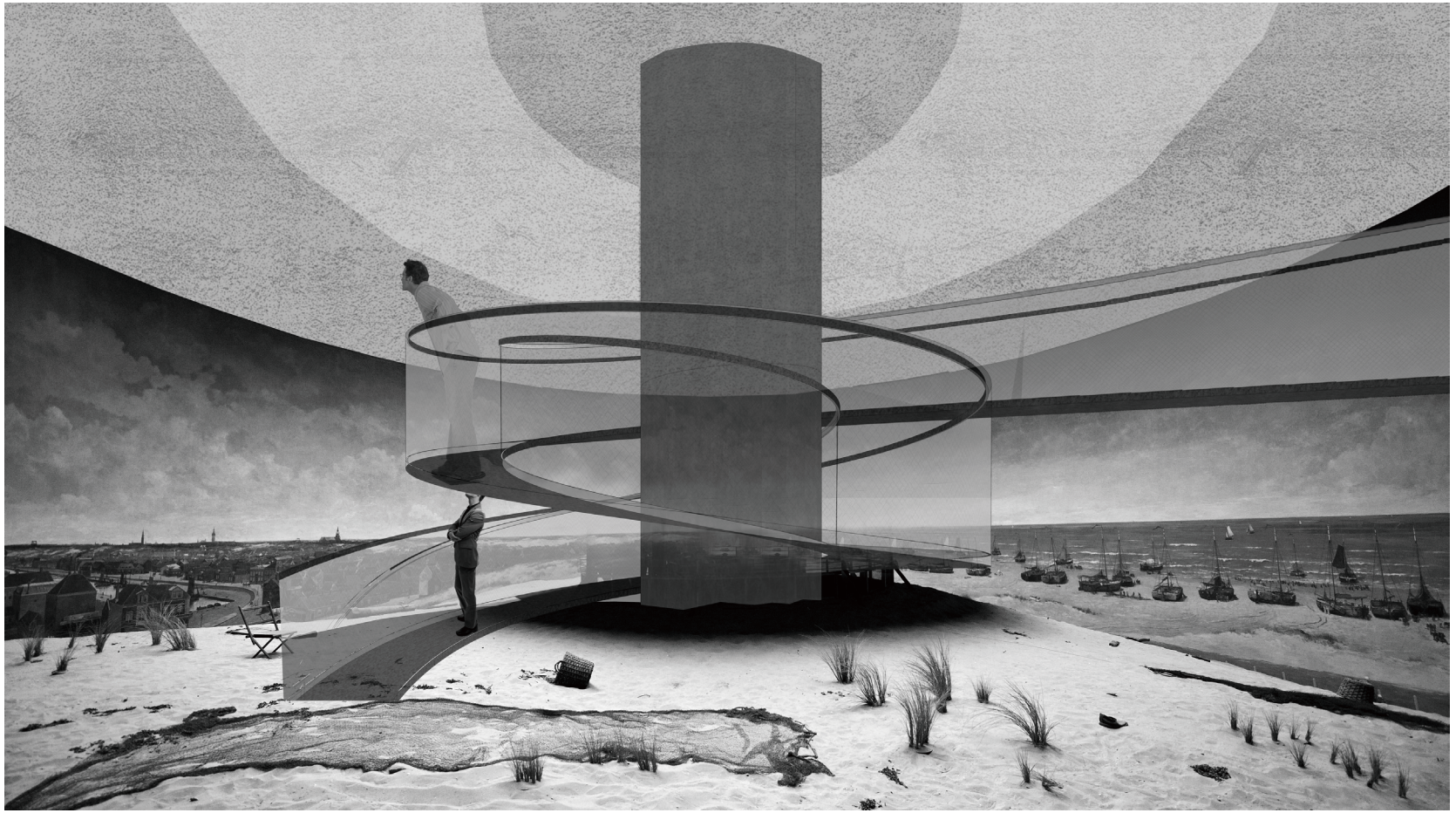
Vision

Medium Shot

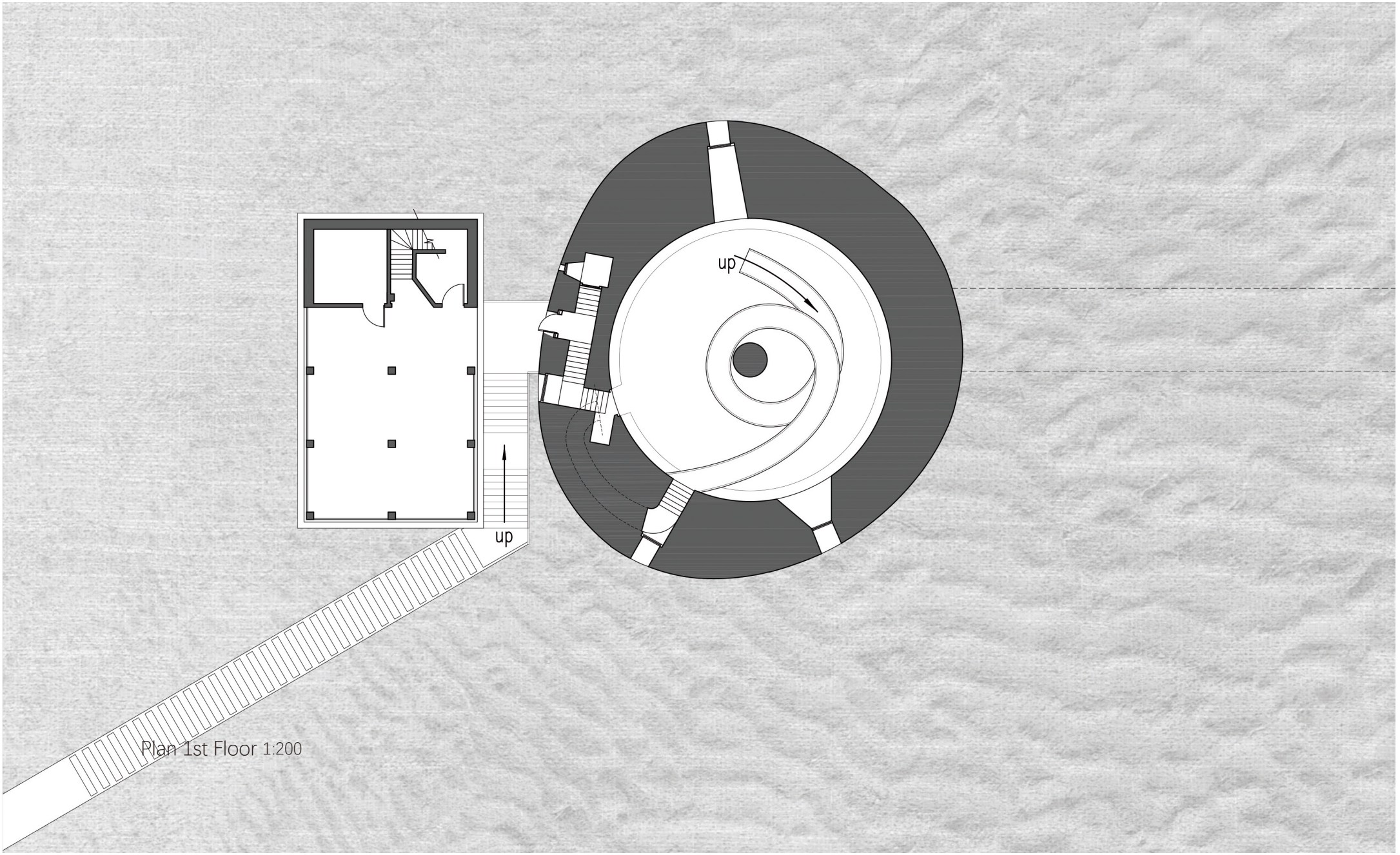
Close Shot

Entrance

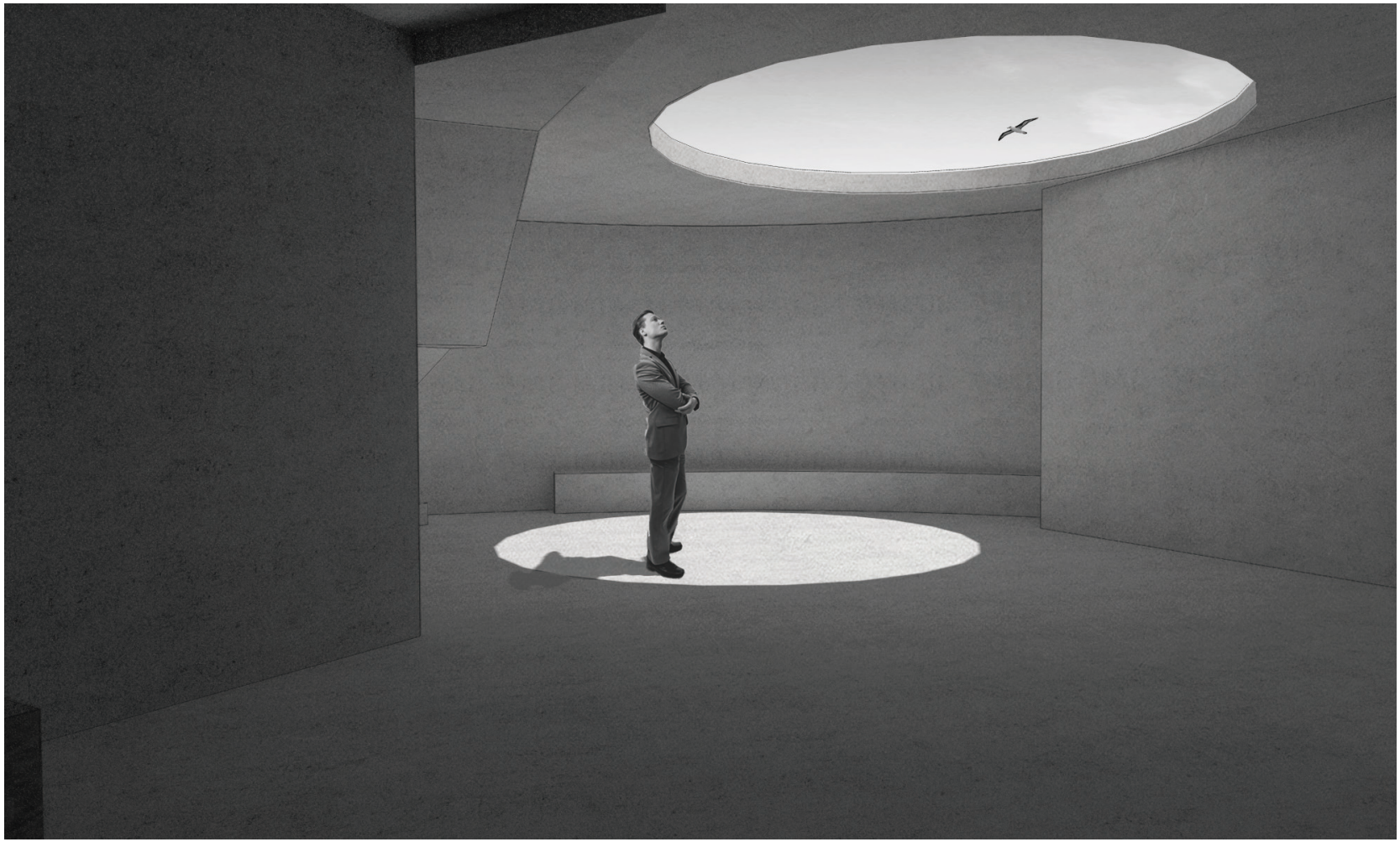

Tower
1:2000



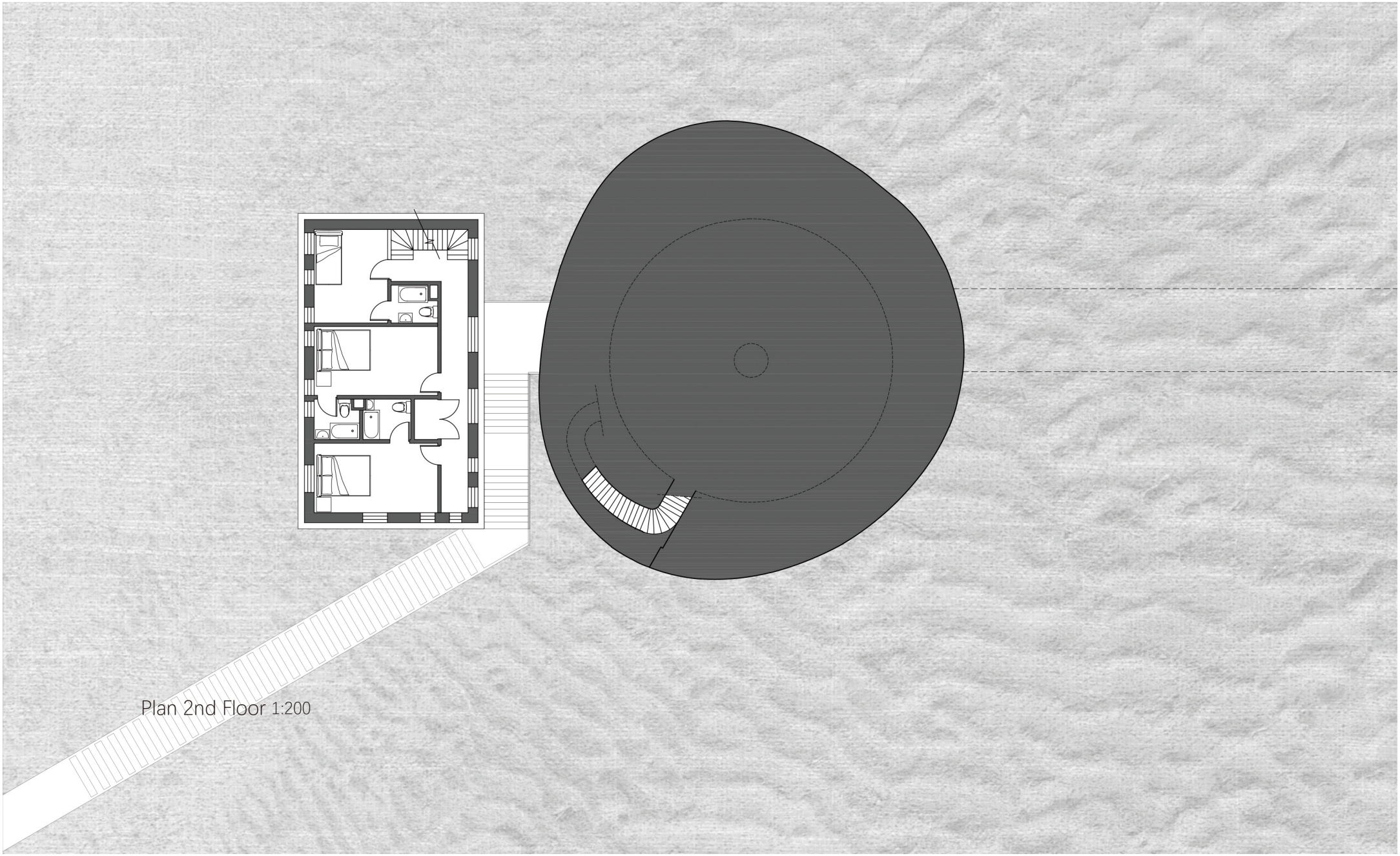
Panorama knowledge storage space



Plan 1st Floor 1:200

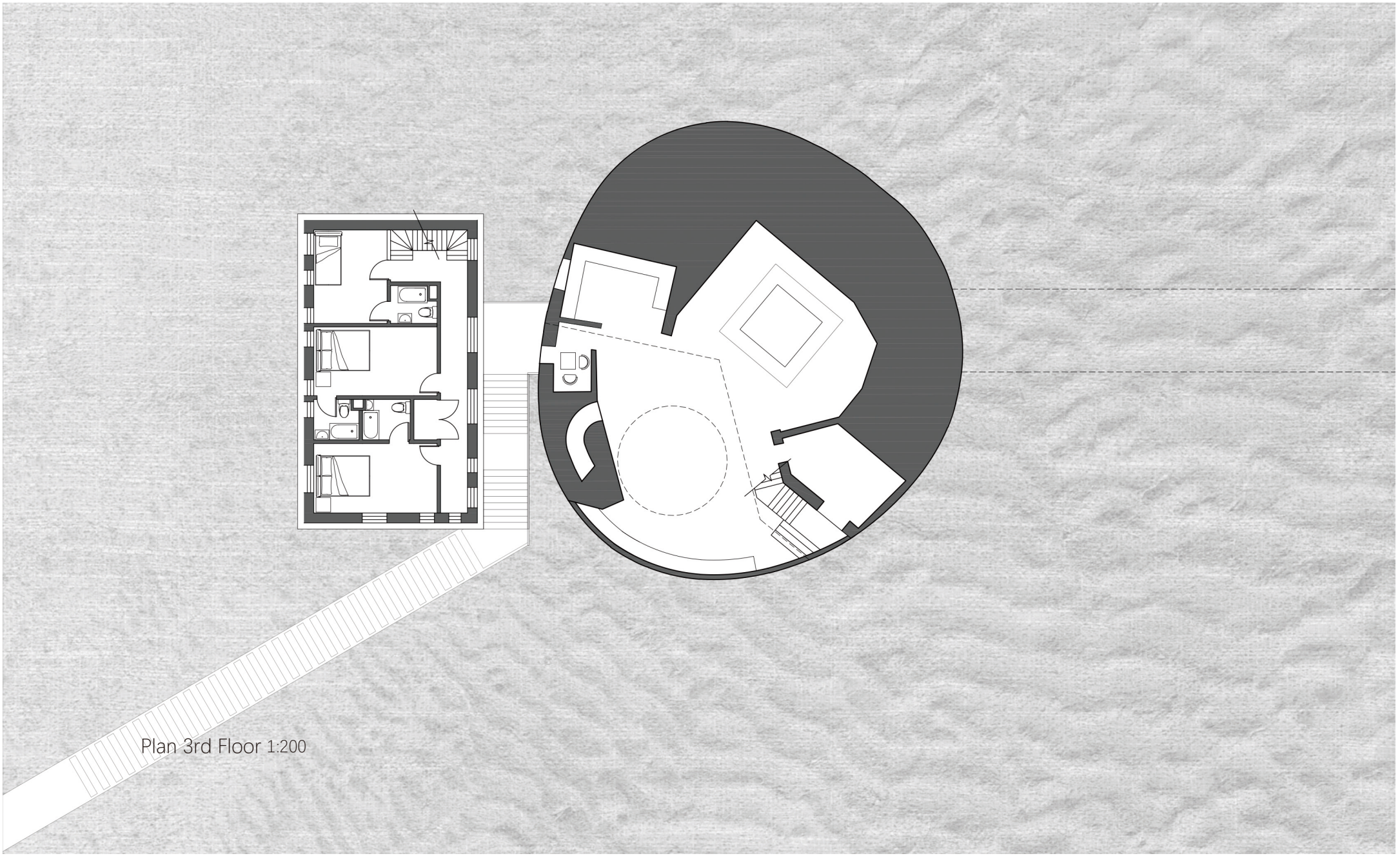


Meditation room



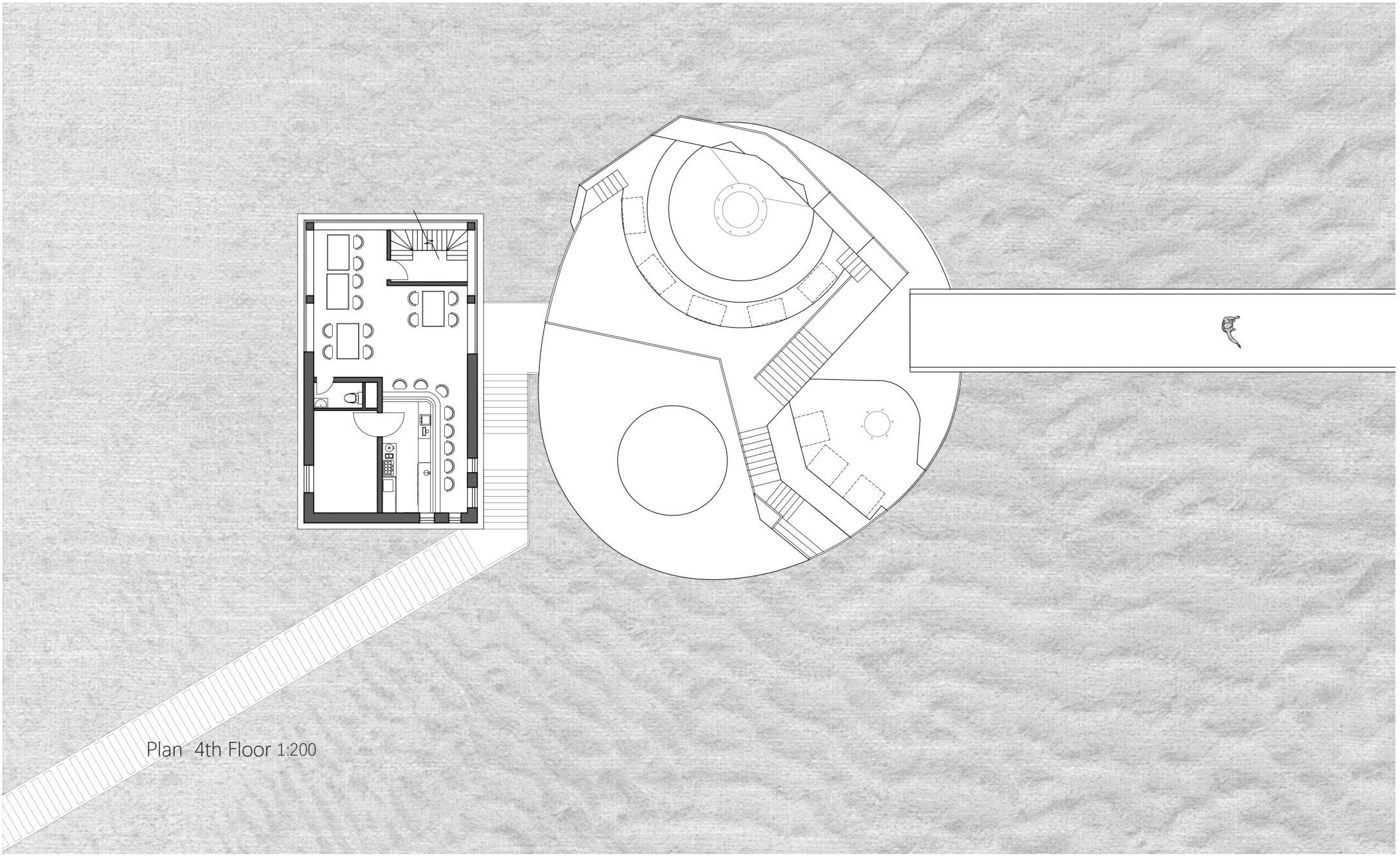
Plan 2nd Floor 1:200

Meditation room



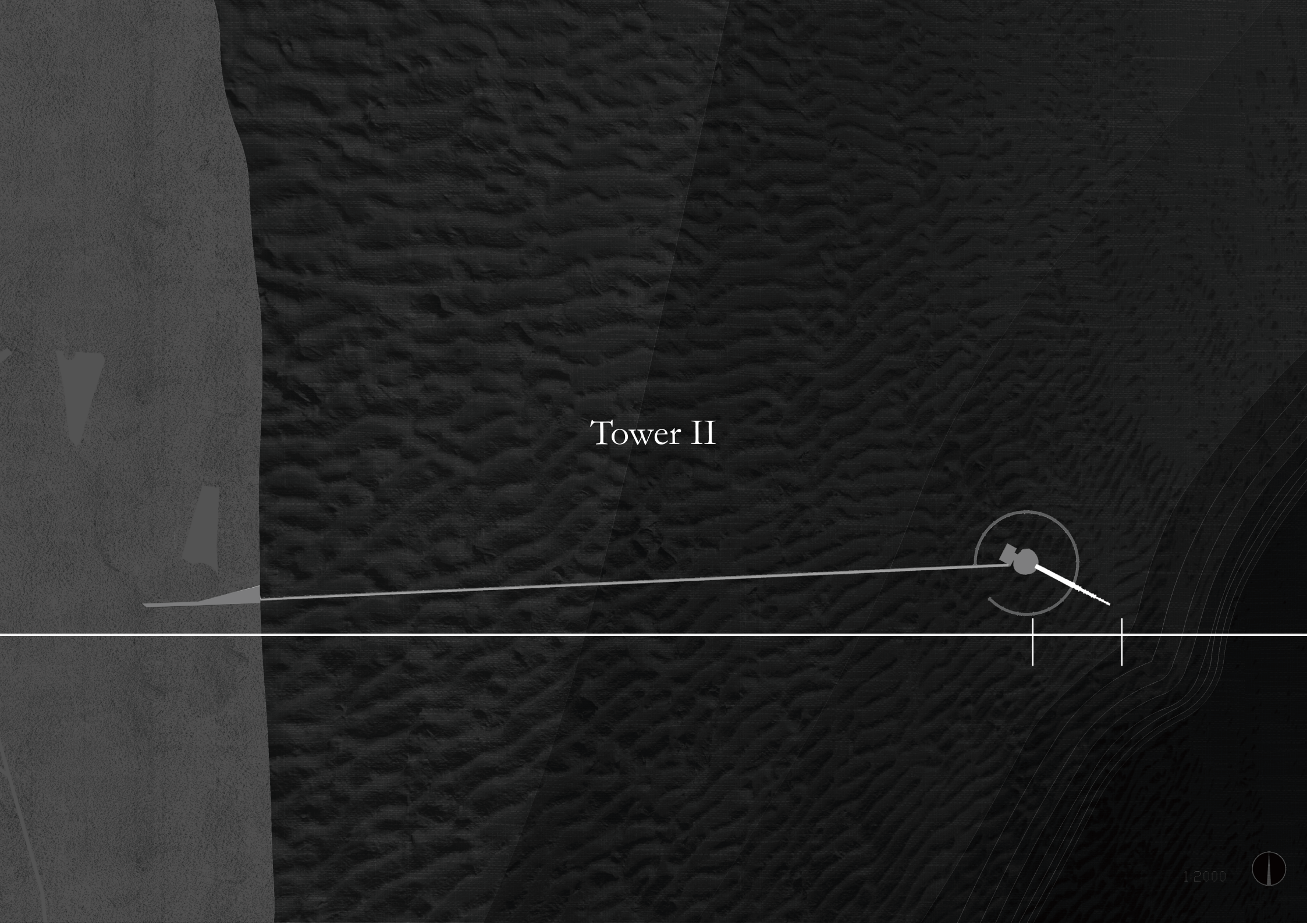
Plan 3rd Floor 1:200

Recoonnect with the outside world

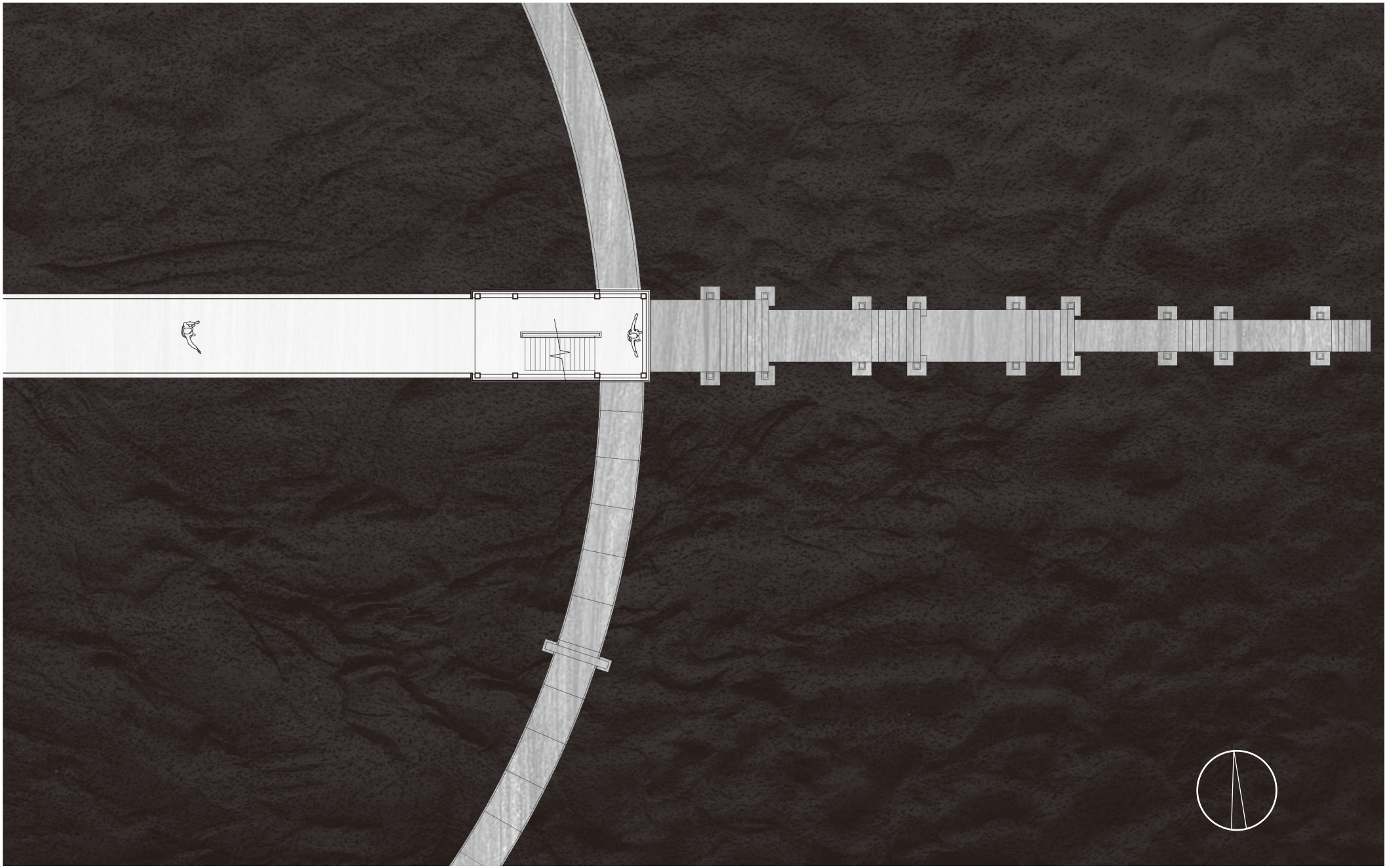


Plan 4th Floor 1:200

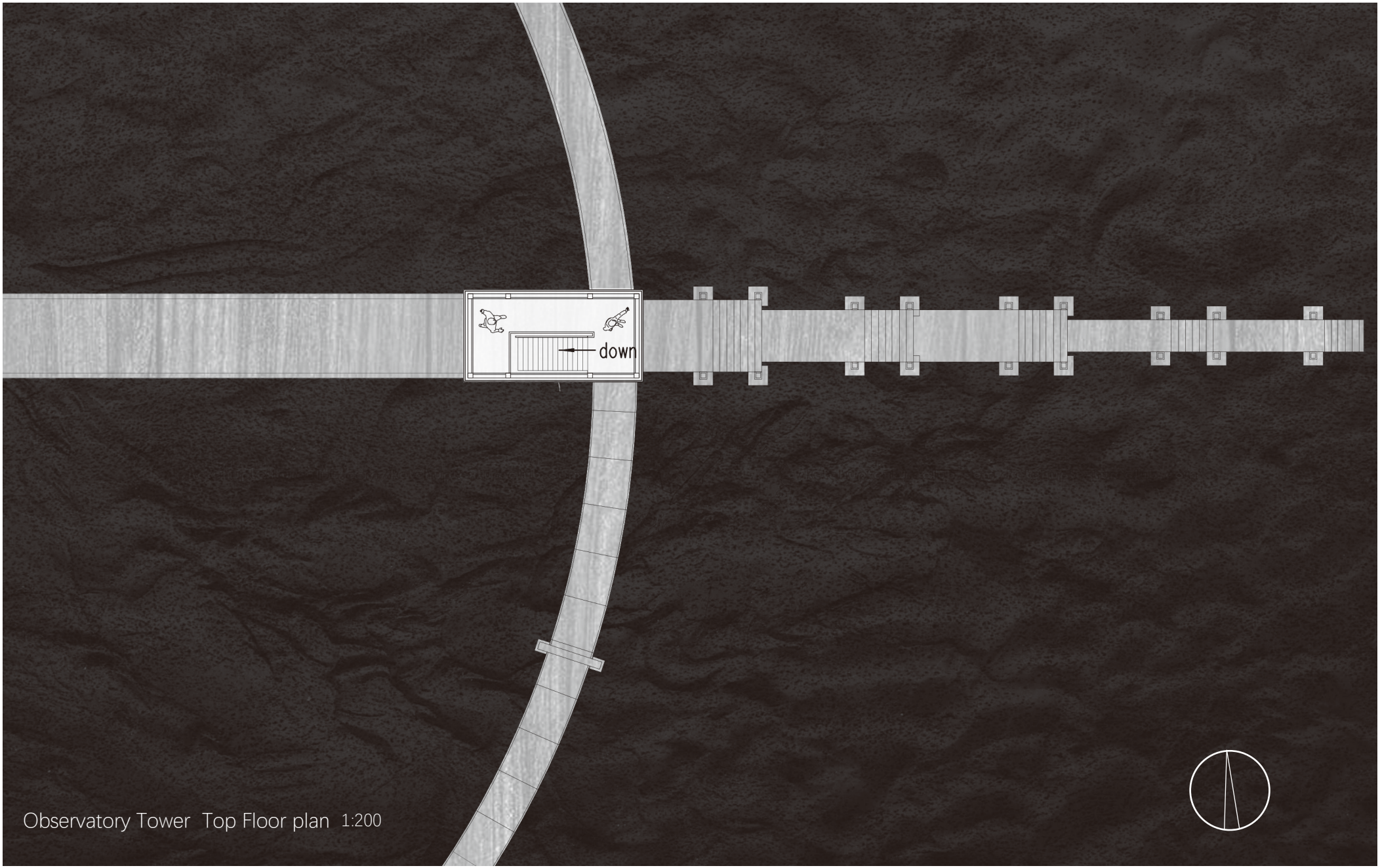
Barrack room


Tower II
1:2000

Bridge to nature

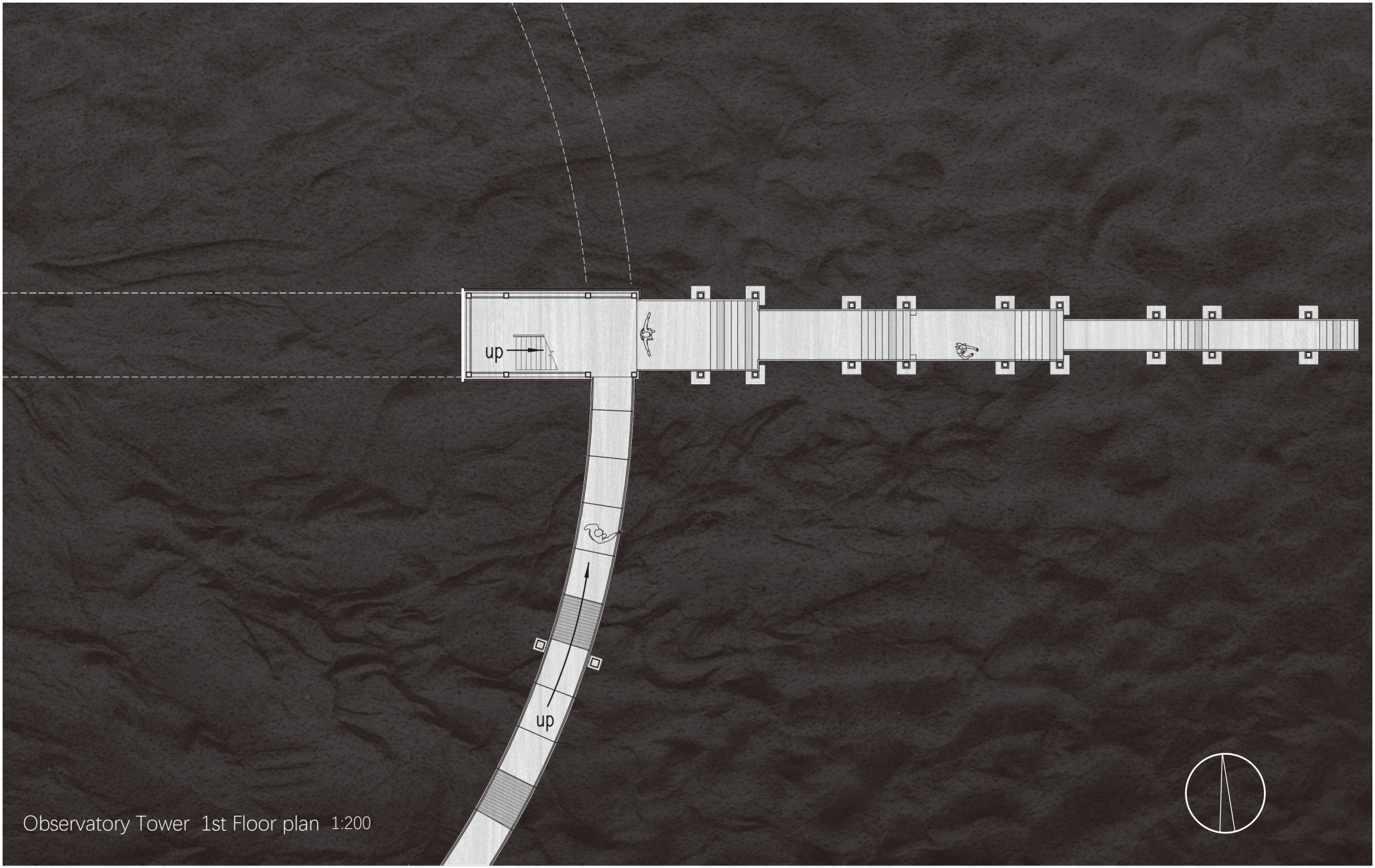


Nature Panorama Platform

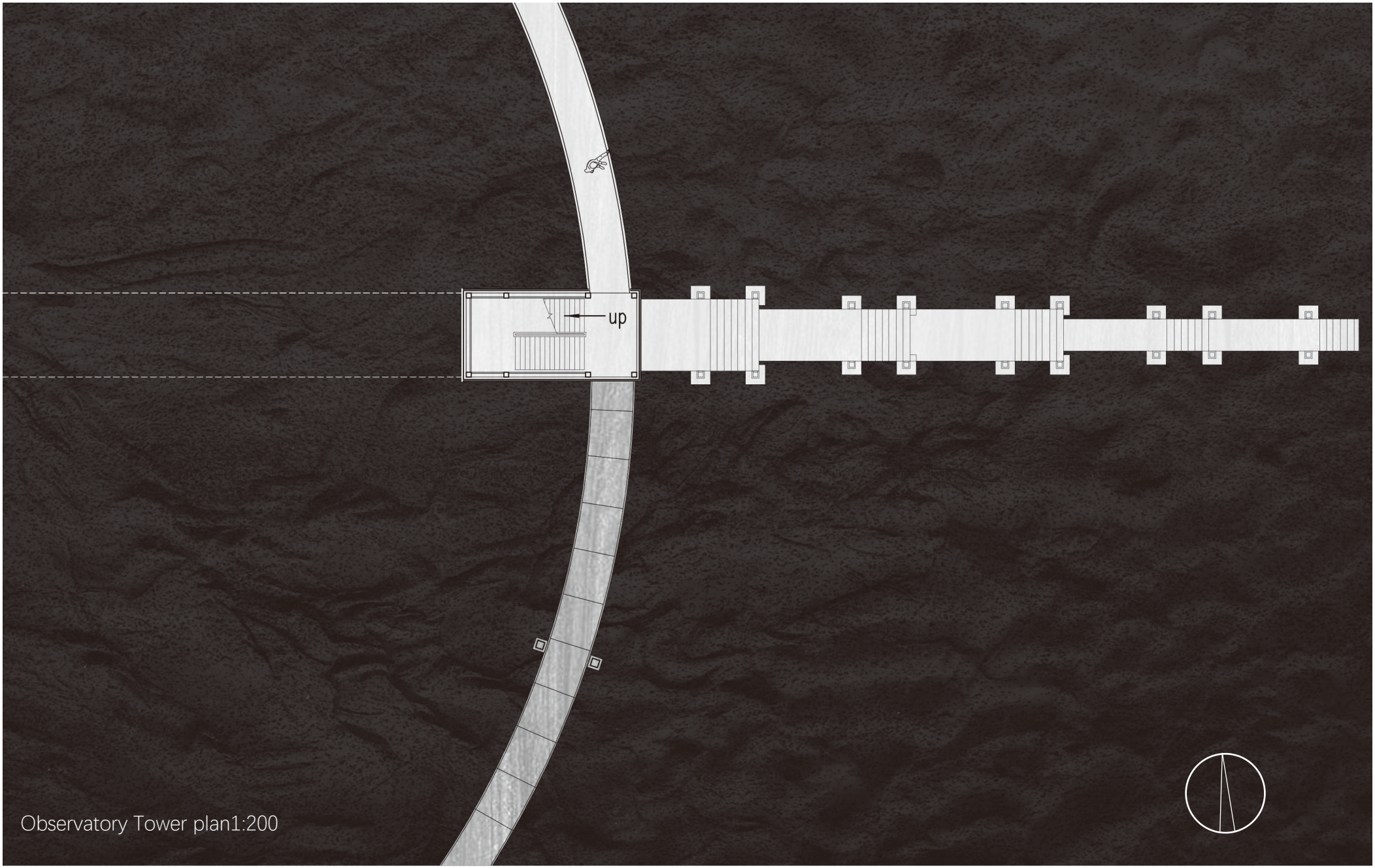


Observatory Tower Top Floor plan 1:200

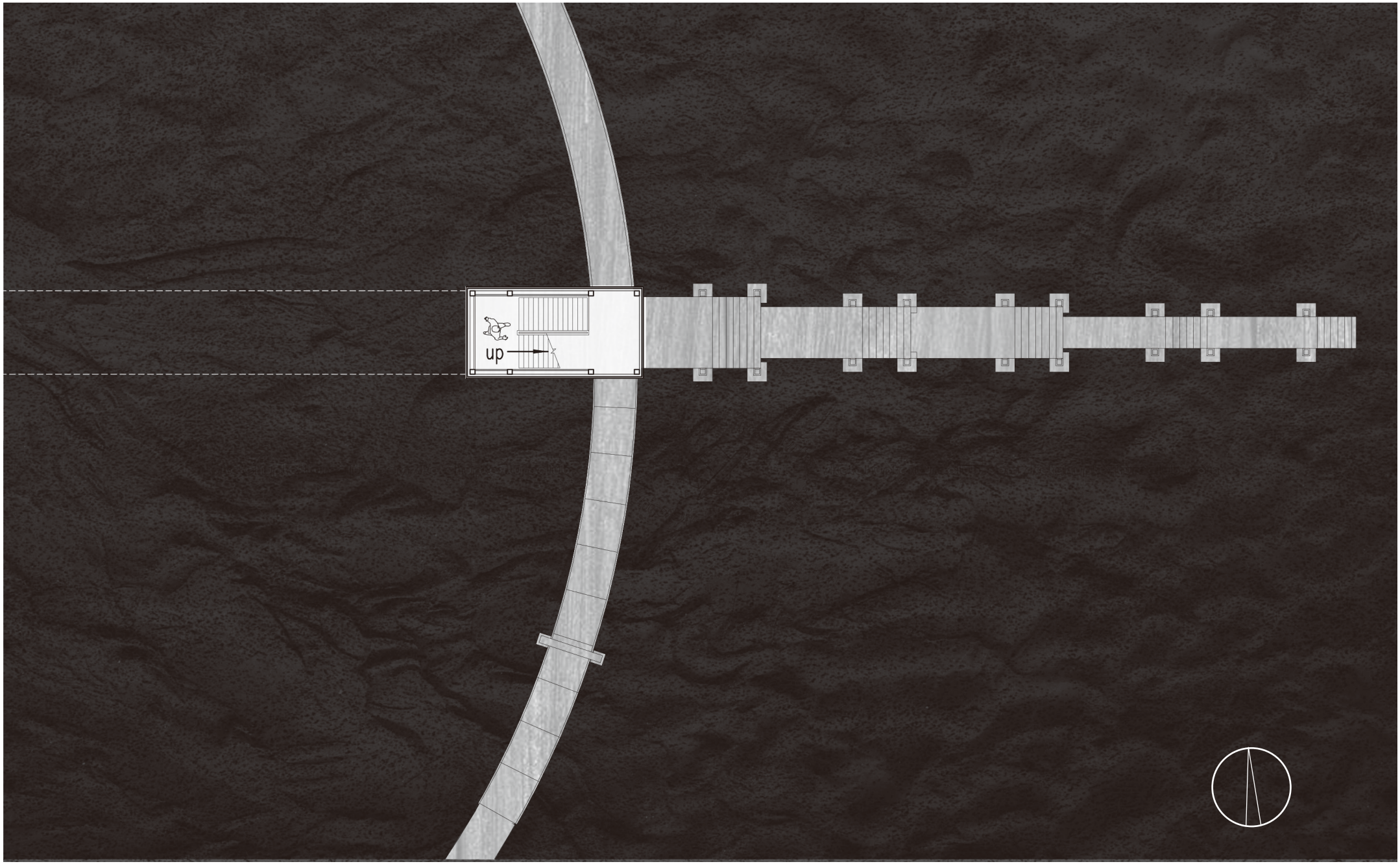
Nature Panorama Platform

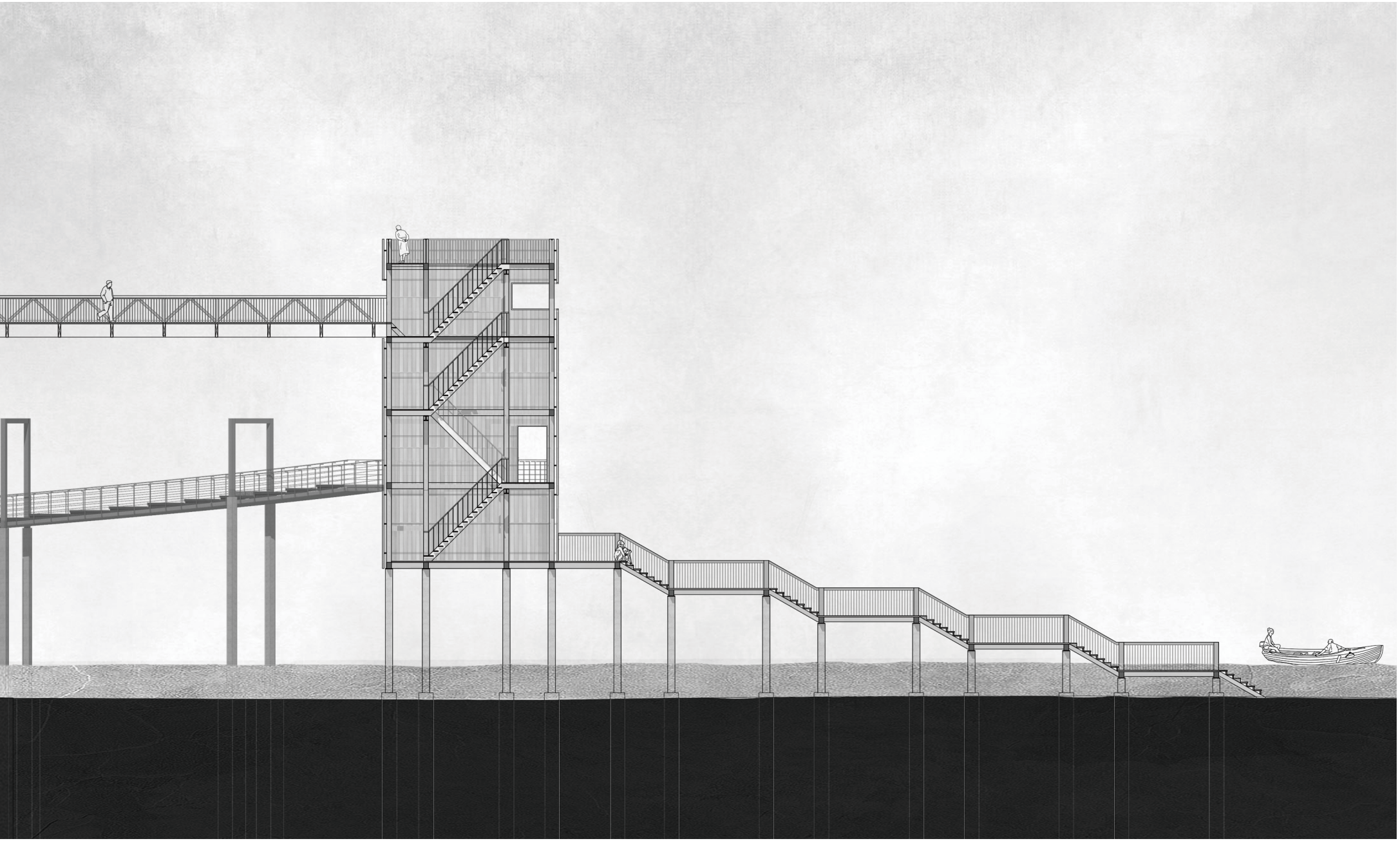


Observatory Tower 1st Floor plan 1:200



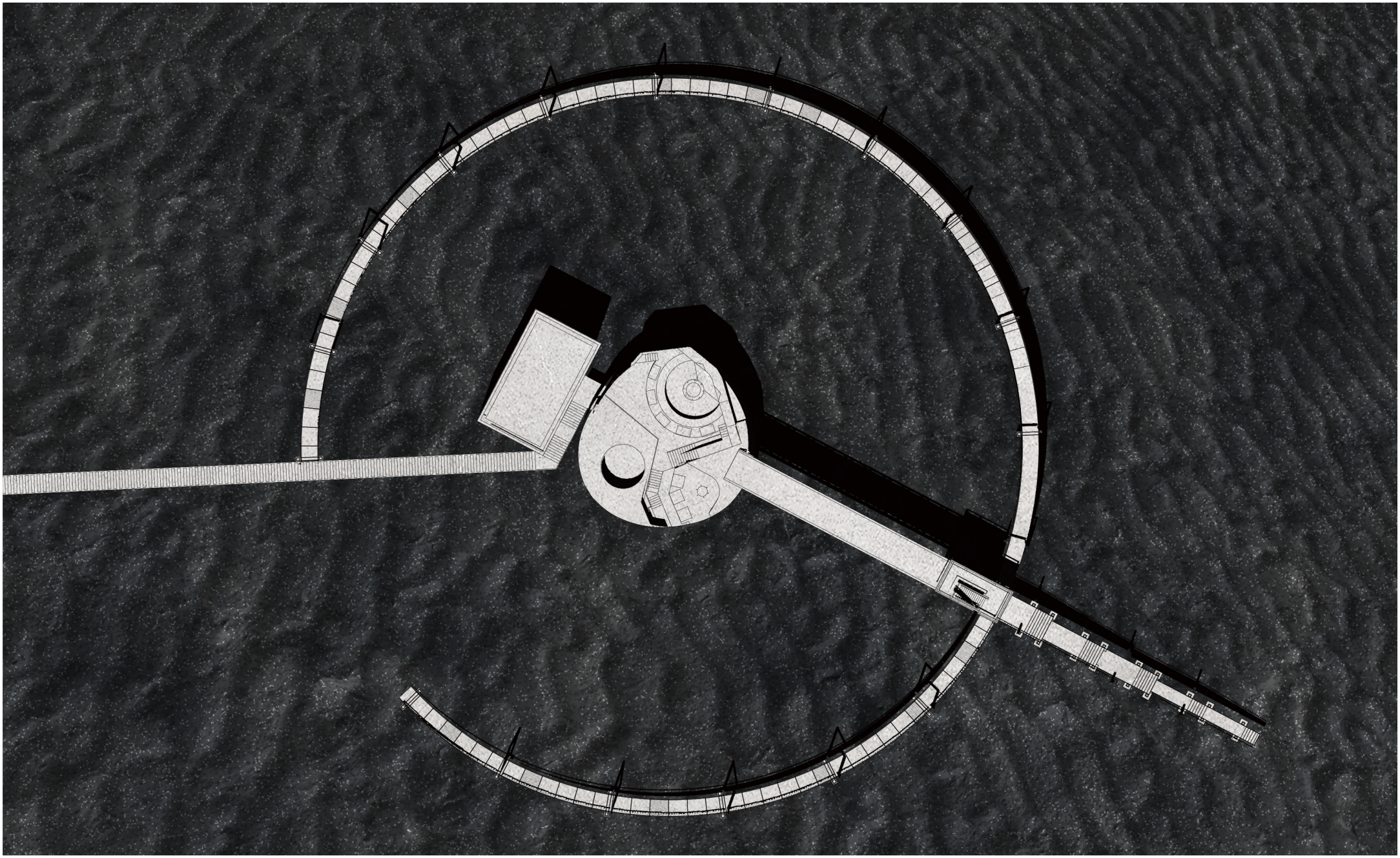
Observatory Tower plan1:200


up

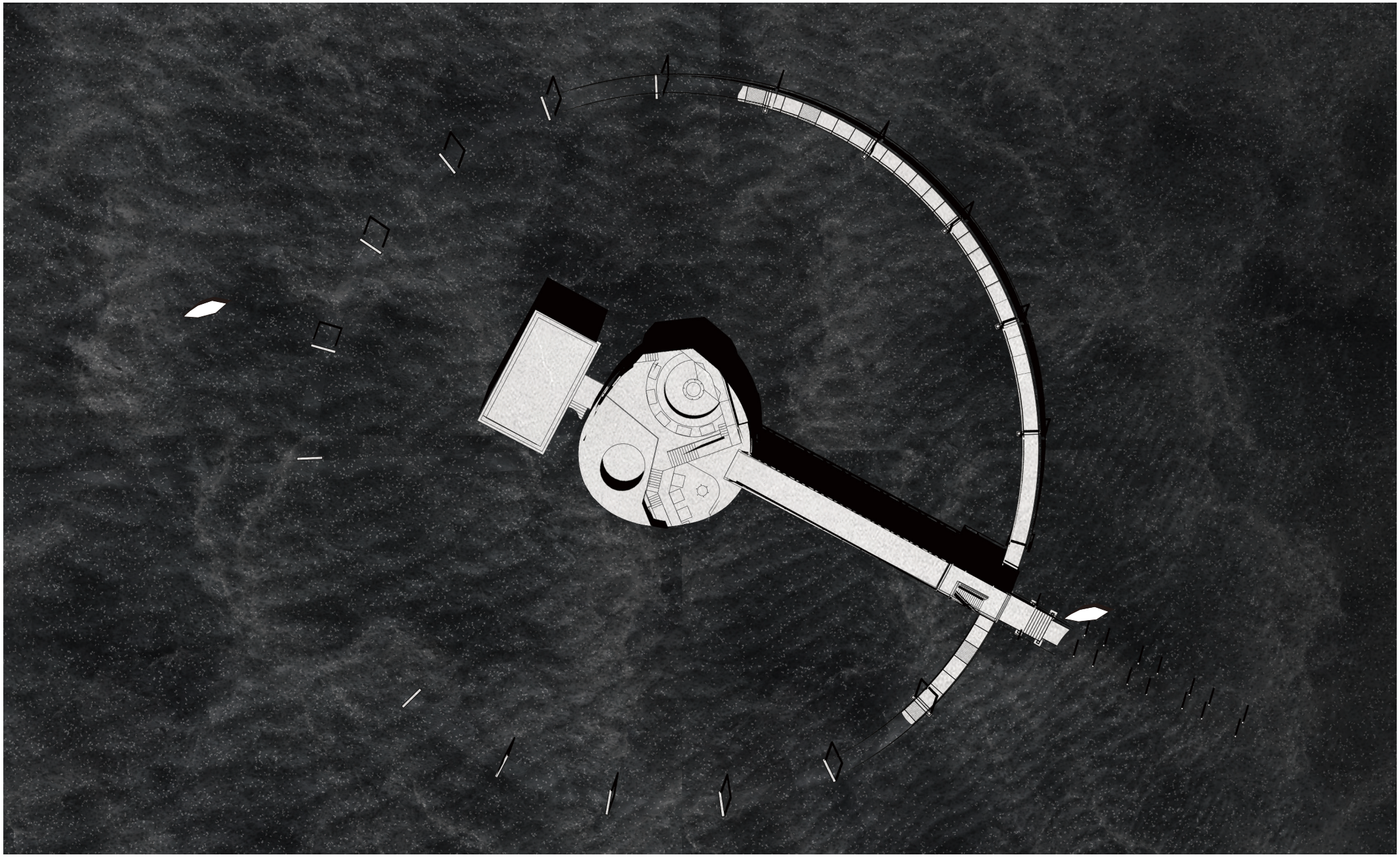


Wander & Return

1:2000



1:500 PLAN LOW TIDE

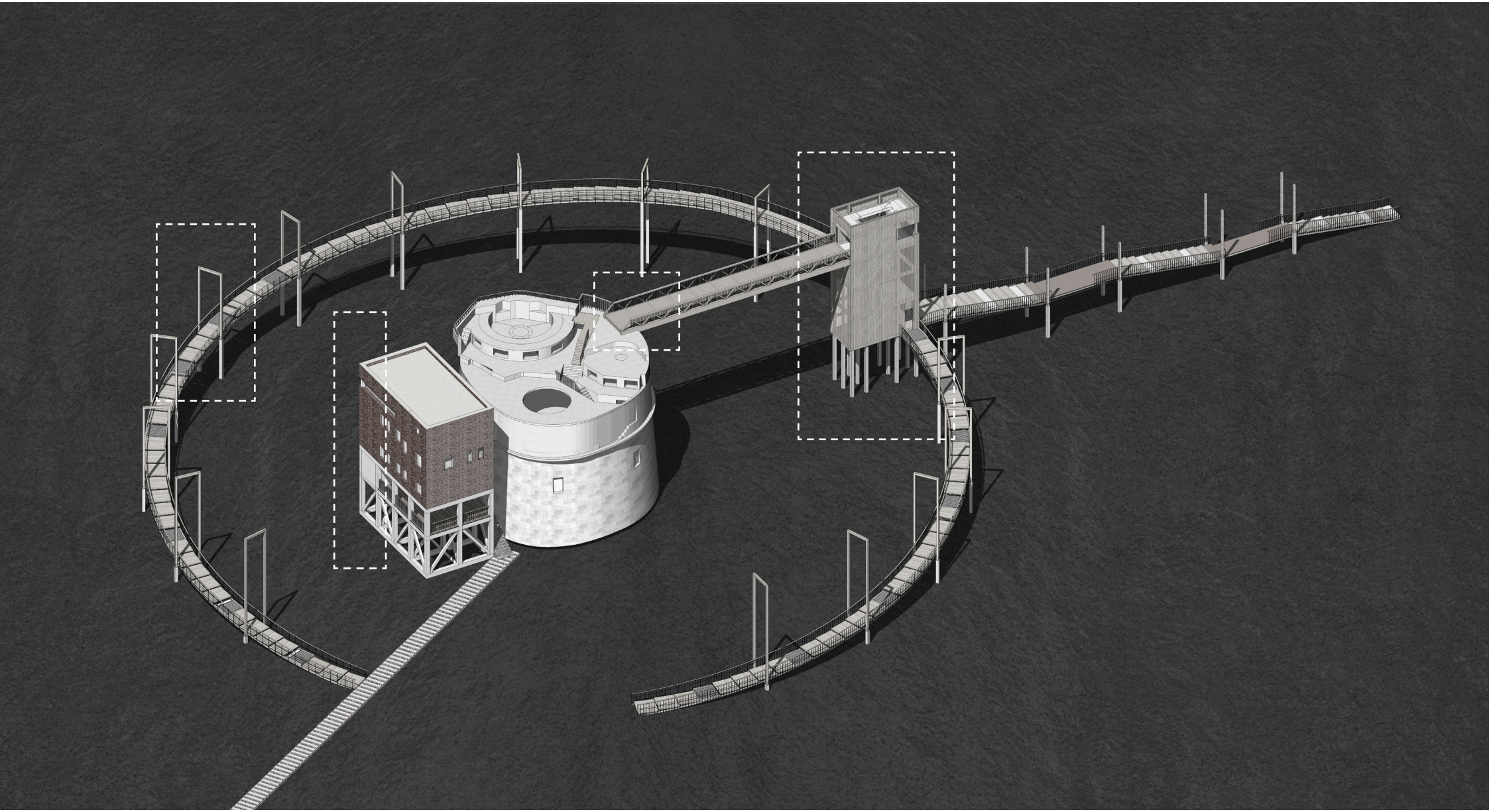


1:500 PLAN HIGH TIDE

PART III.

Building Technology

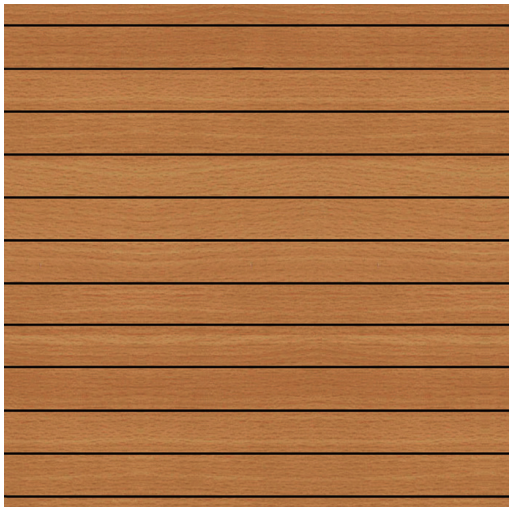
- Axonometric View
- Building Materials Description
- Structure
  Ring Tide Clock Stairs, bridge and pier(Structure AXO Scheme)
- Climate Strategy
  Barrack Rooms and Panaroma Exhibition Room Climate Strategy
- Facade
  Barrack room(1:20 Facade and 1:5 Details)
  Observatory Tower (1:20 Facede)
- Other Building Strategies



Main Materials

IPE Wood

Long-term contact with seawater Part:
-Ring pier structure and pavement
- Ending chapter pier structure and pavement
-Additional deck in terrace floor in barrack building

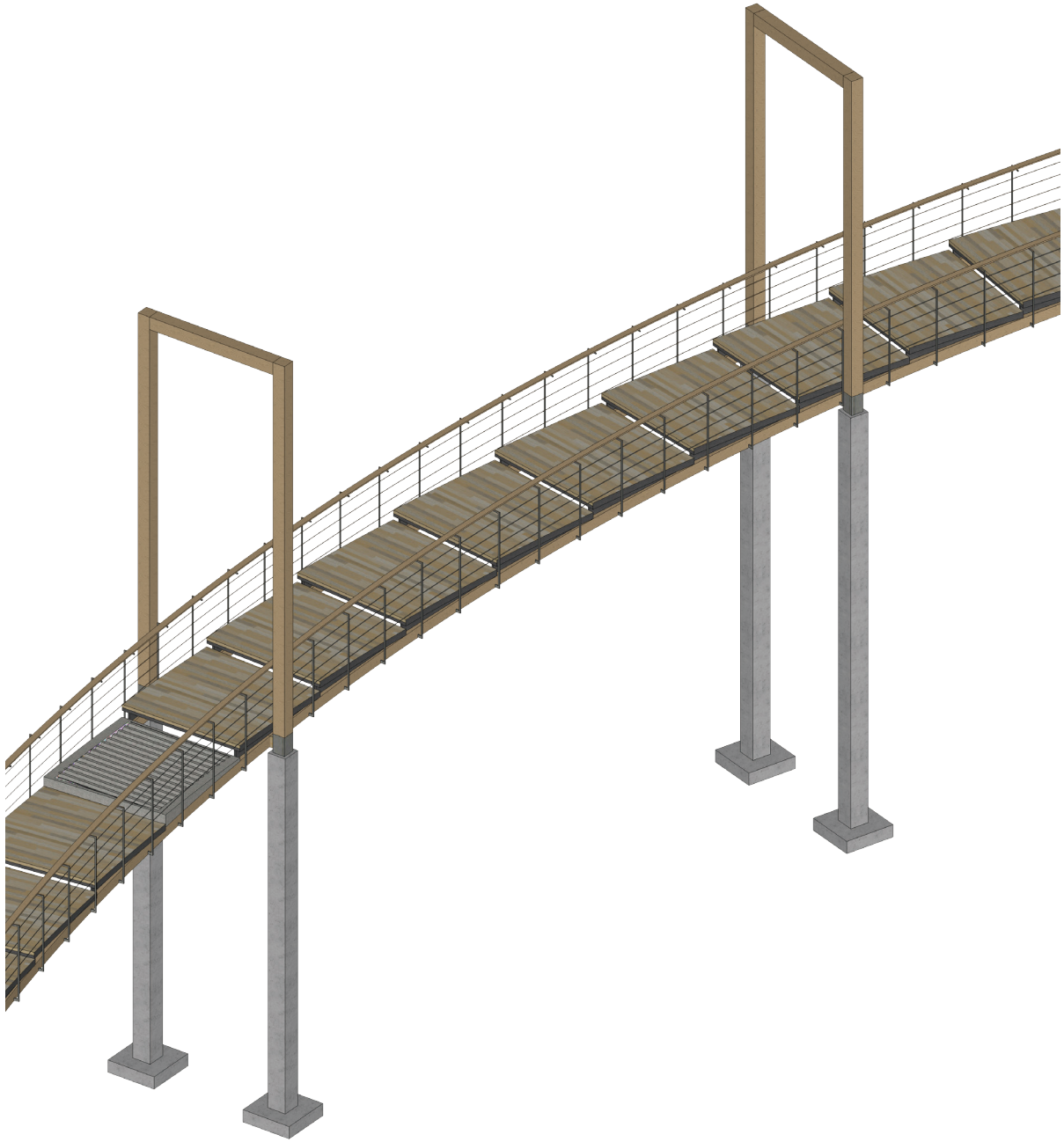


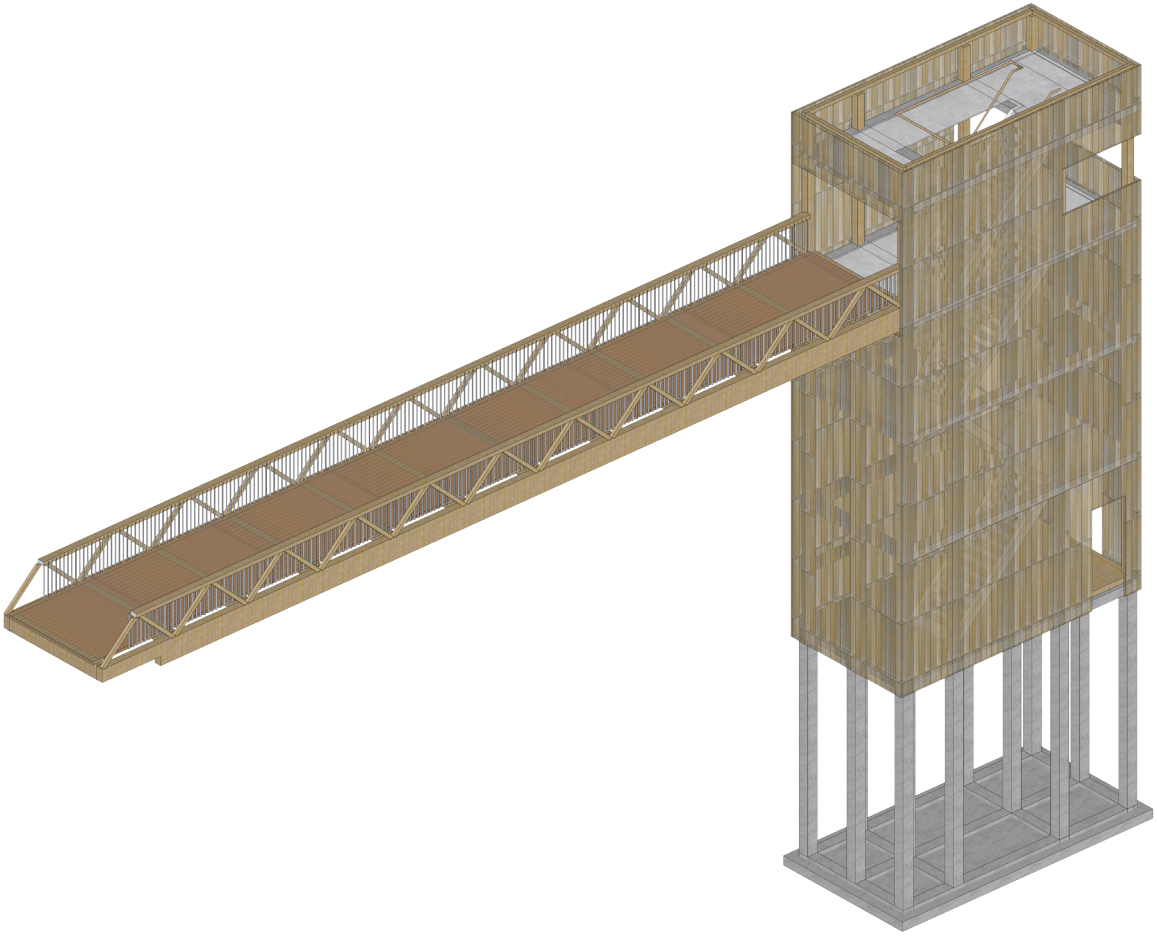
Beech laminate wood

Detached to sea water :
- The observatory tower structure and cladding
- The bridge connect the old tower and additional tower

Concrete

- foundation and part of structure of additional intervention
- inland tide clock room and waiting stage

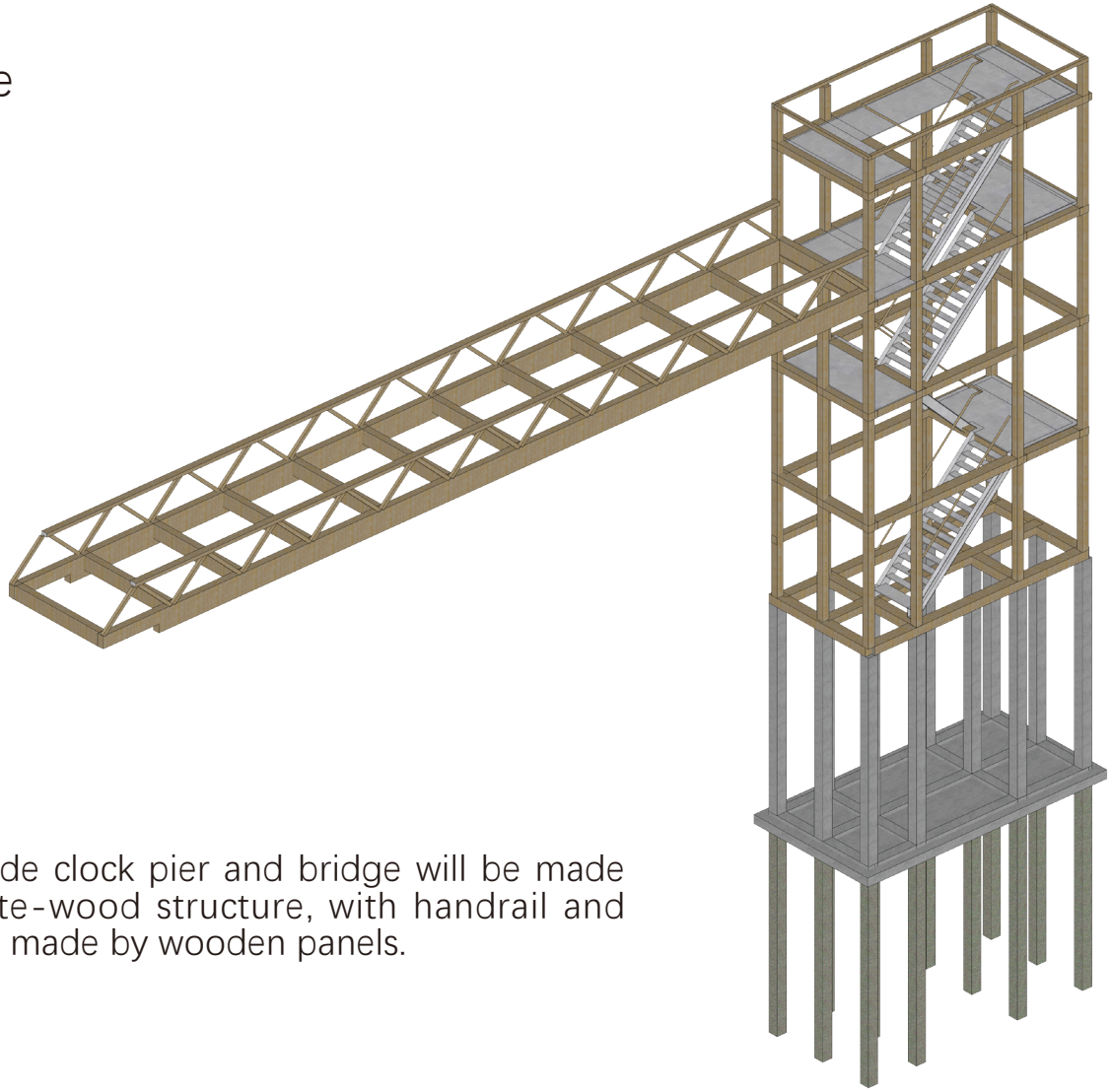




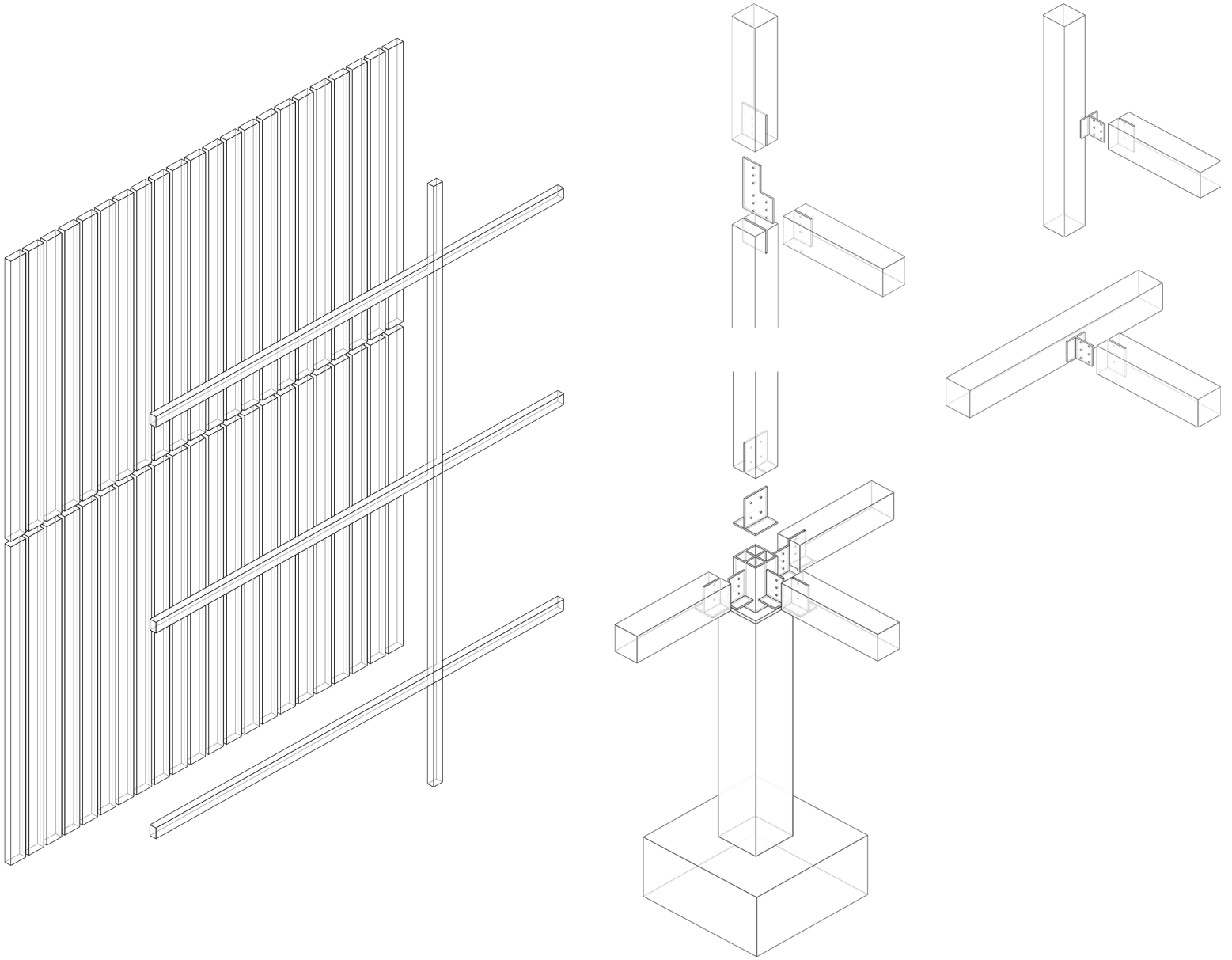
Let the wood age to grey.

Building Technology

Structure

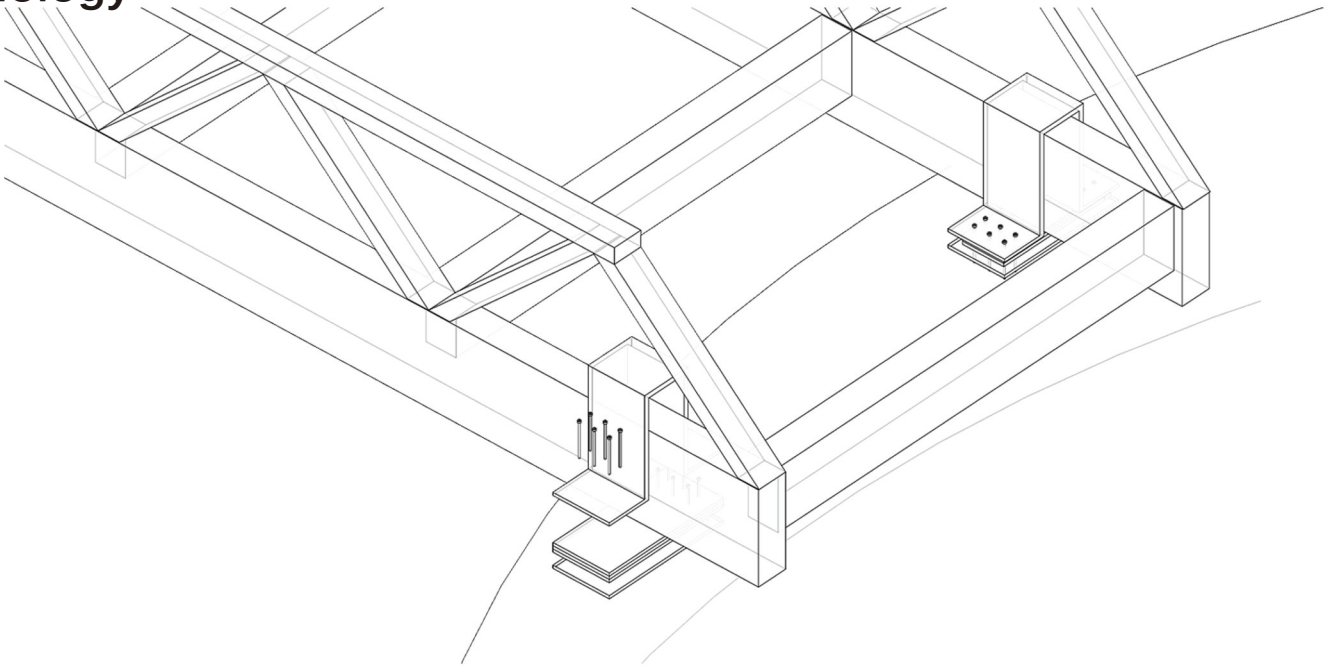


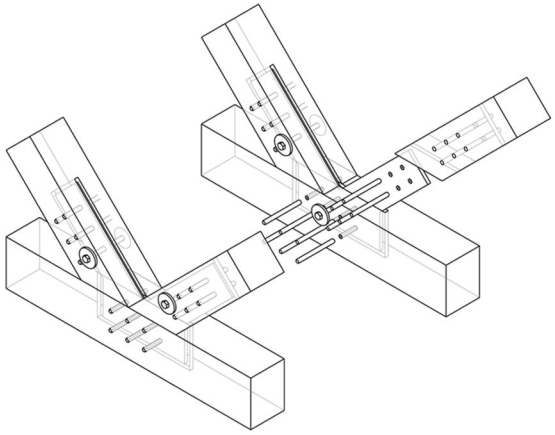
The ring tide clock pier and bridge will be made by concrete-wood structure, with handrail and stair board made by wooden panels.

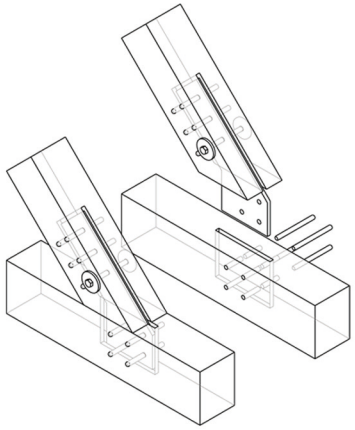


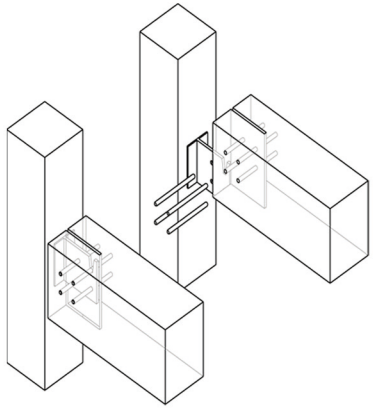
Building Technology

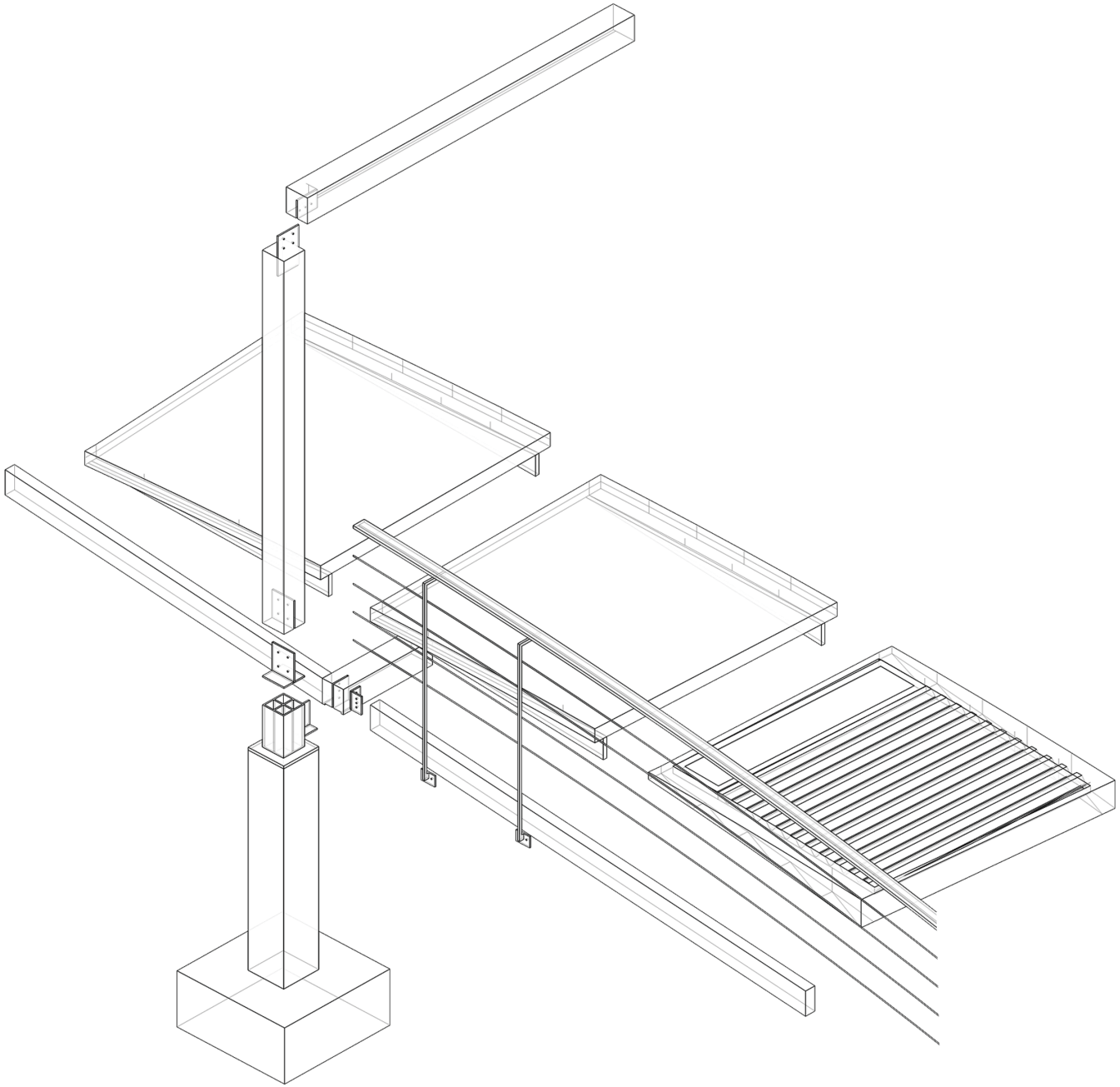
Joints





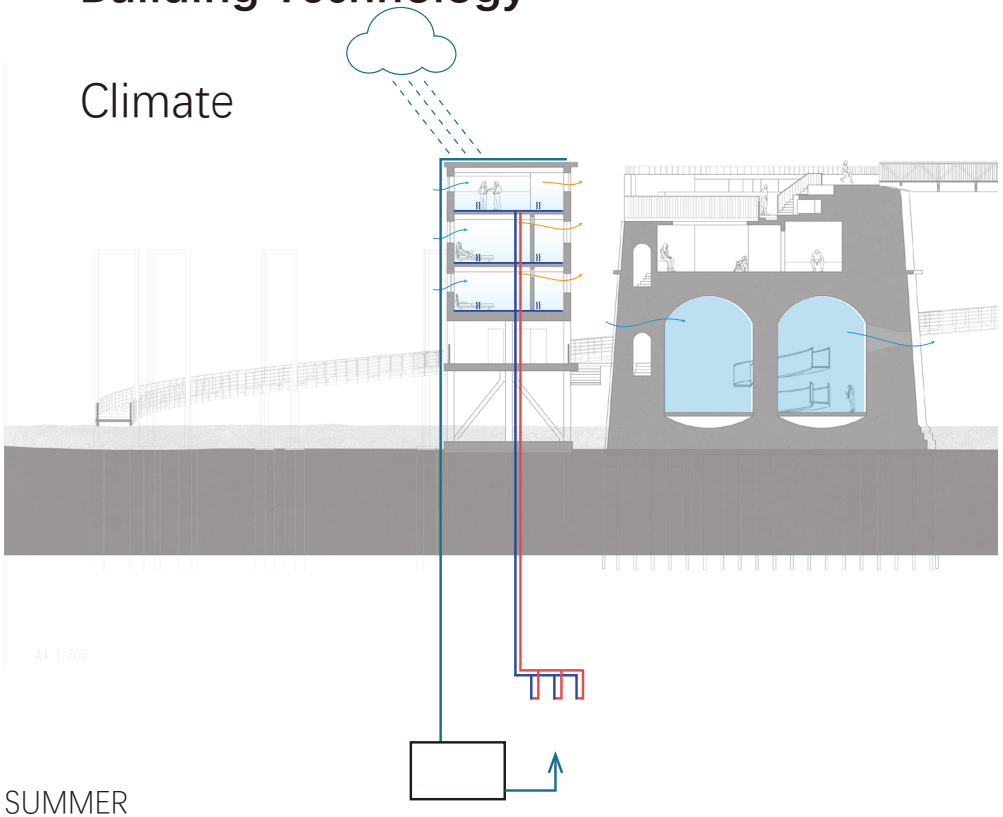




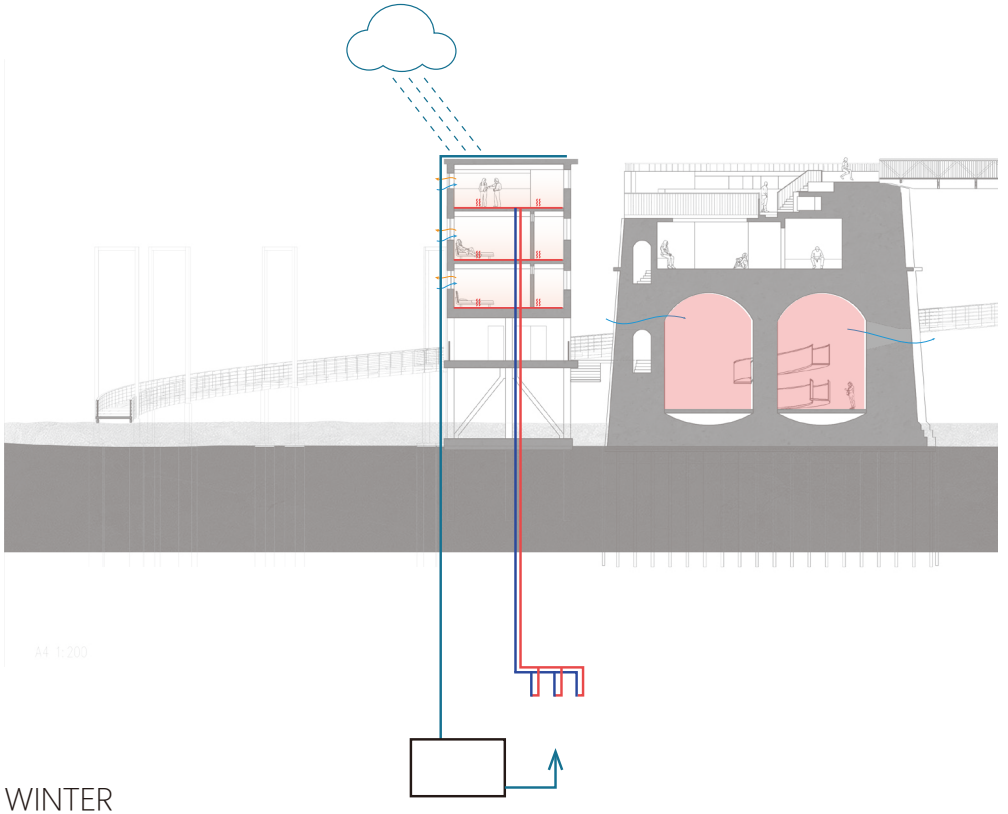


Building Technology

Climate



SUMMER



WINTER

Climate strategies :

1 GSHP system provides heating source to Radiant heating floor system in barrack building
2 Nature Ventilation is provided by the existing openings in Barrack building and Panorama room
3 High thermal mass provided by solid thick wall in the battery tower keep daily average temperature in the panaroma room
4 Automatic sensor window system installed in openings of panaroma room ensures the needed ventilation to avoid condensation effect
5 Rainwater recycling will be used for toilet system.

Building Technology

Renovating strategies for barrack building

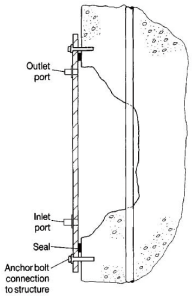
The major structure of the existing barrack building is reinforced concrete. The two enclosed floors have brick cavity walls between the concrete posts. The 9-inch(0.2286meter) inner leaf is of Fletton brickwork while the 4.5-inch(0.1143meter) outer leaf if of rusticated Flettons.

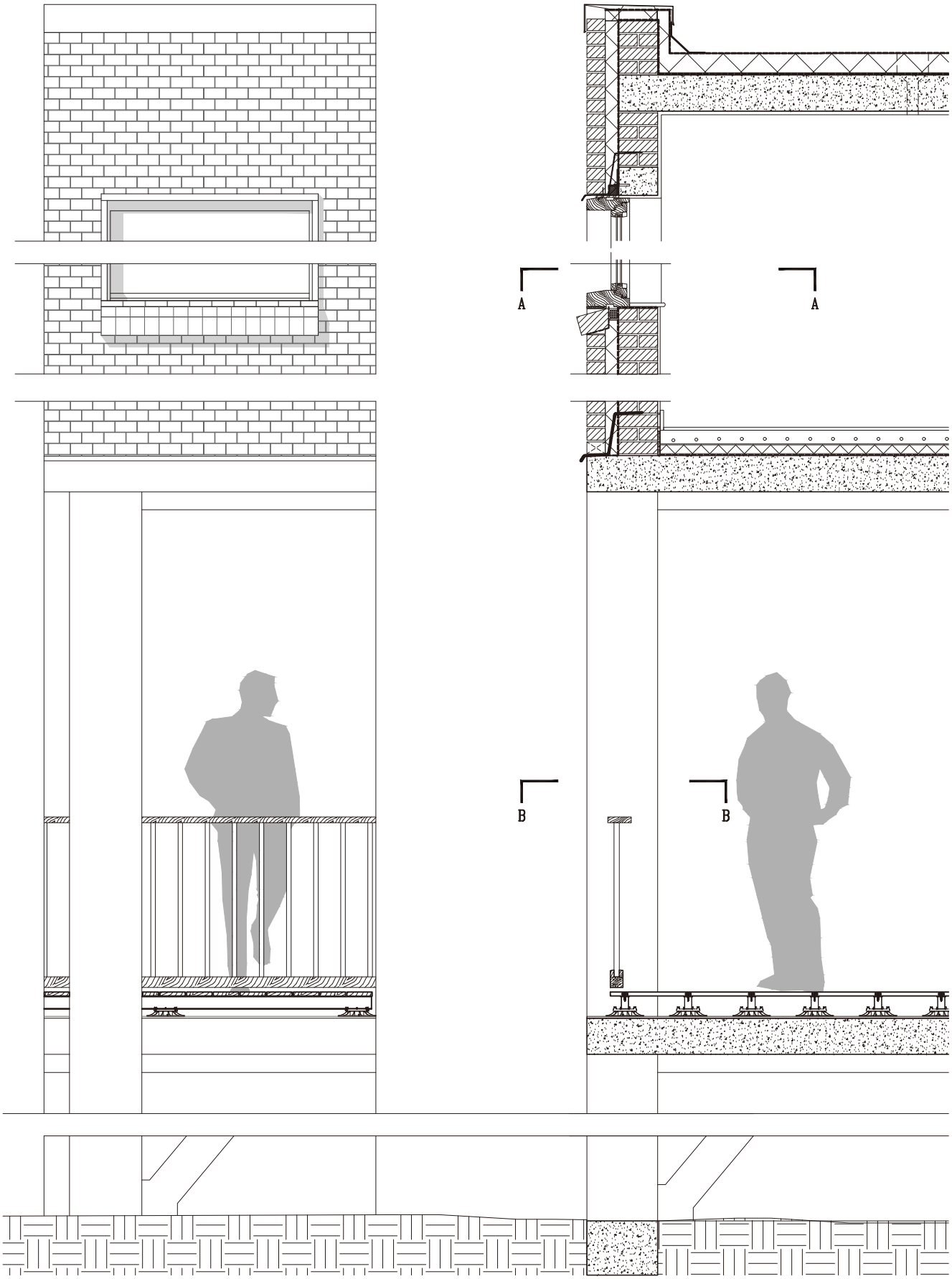
Renovation strategies:
1 Fill the insulation material(polyurethane foam) between the two leaves in the wall. Drill holes in the outside walls, inject insulation through the holes and then seal them with cement.
2 Add radiant heating system in the floor, and use the temperierung system in the barrack building to prevent themal bridge.
3 Replacing window system (shown on 1:5 drawings)
4 Repair the existing concrete structure of the barrack building:

Procedure of Surface Spalling Repair of Underwater Concrete

The basic procedures of surface spalling repair technique might include:

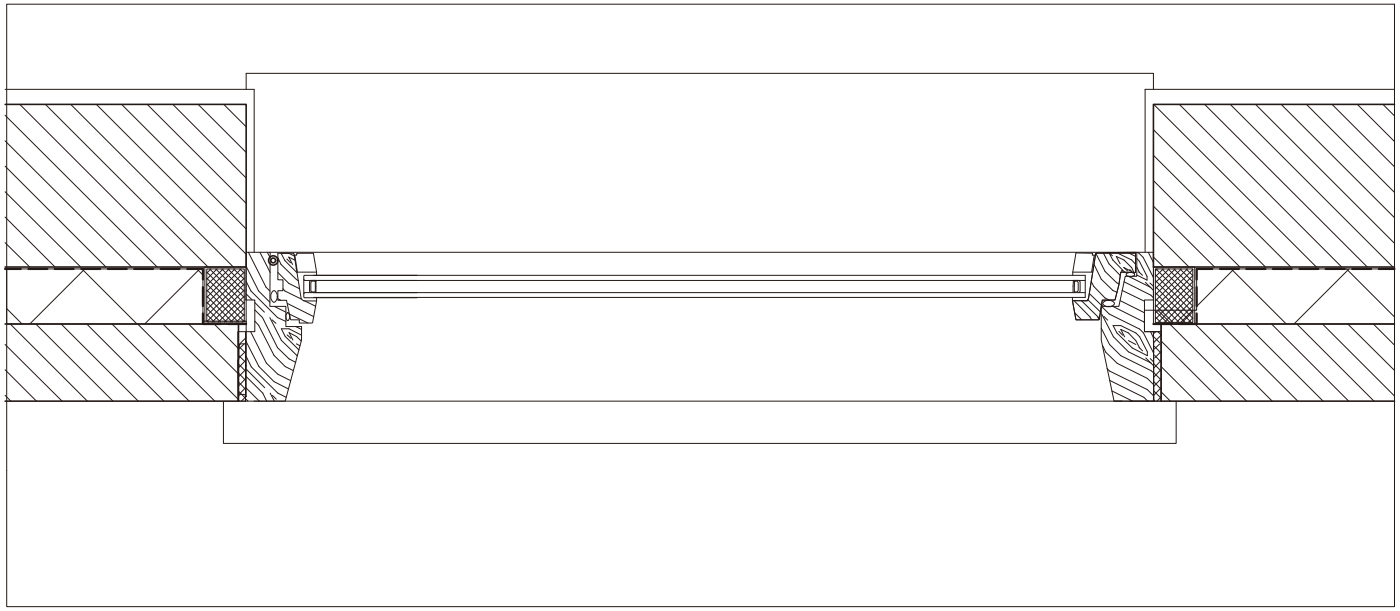
Flush damaged region with fresh water completely.
Apply a bonding coat.
Apply the repair mortar before the coat is set.
Apply a curing membrane to the applied repair mortar.
Protect the repaired area against wave action until it hardened adequately.



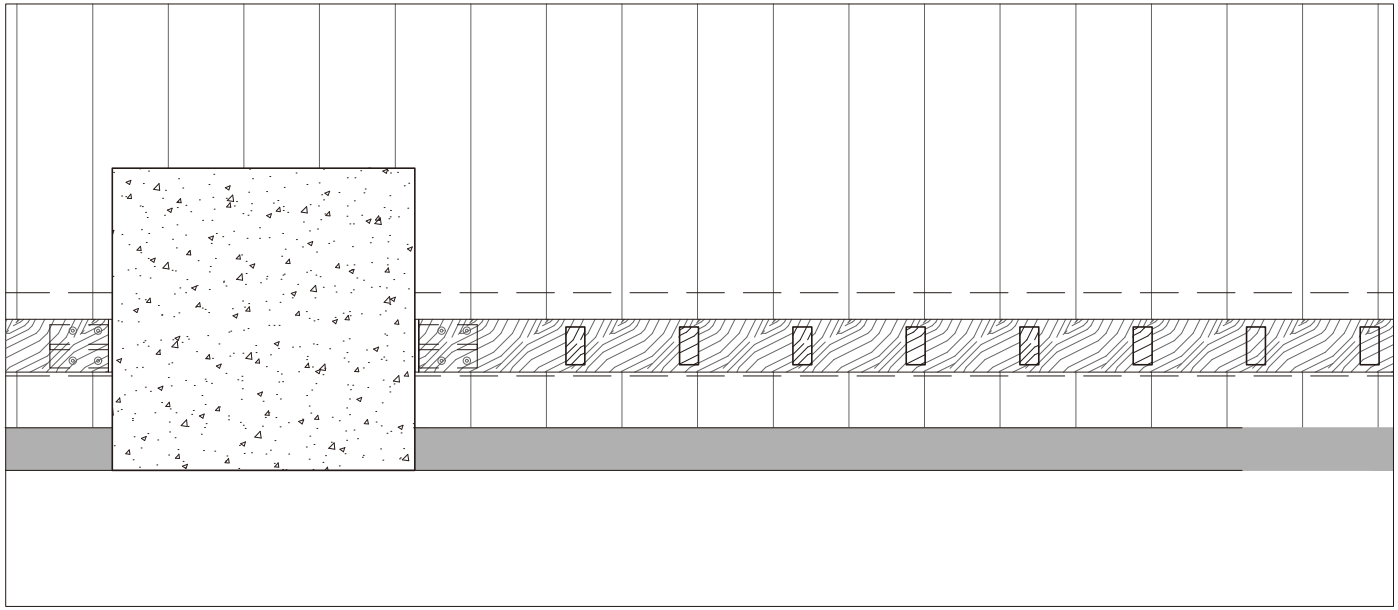


Barrack building facade section and elevation detail 1:30

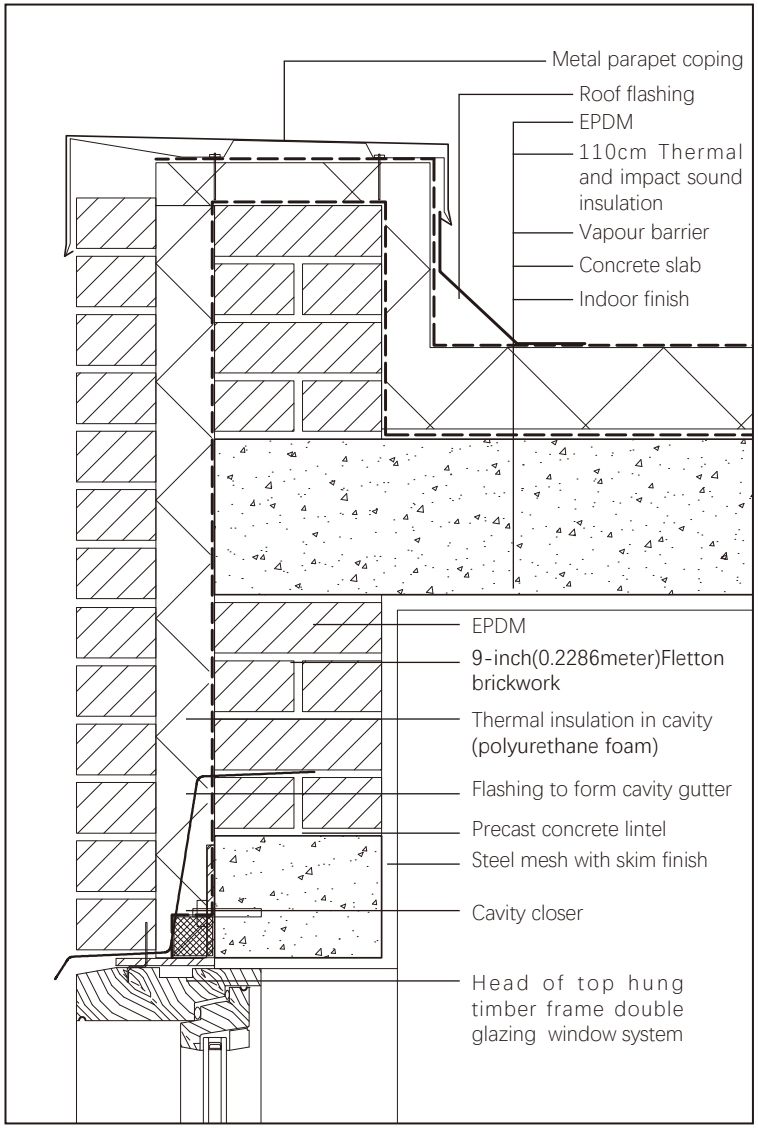
A – A

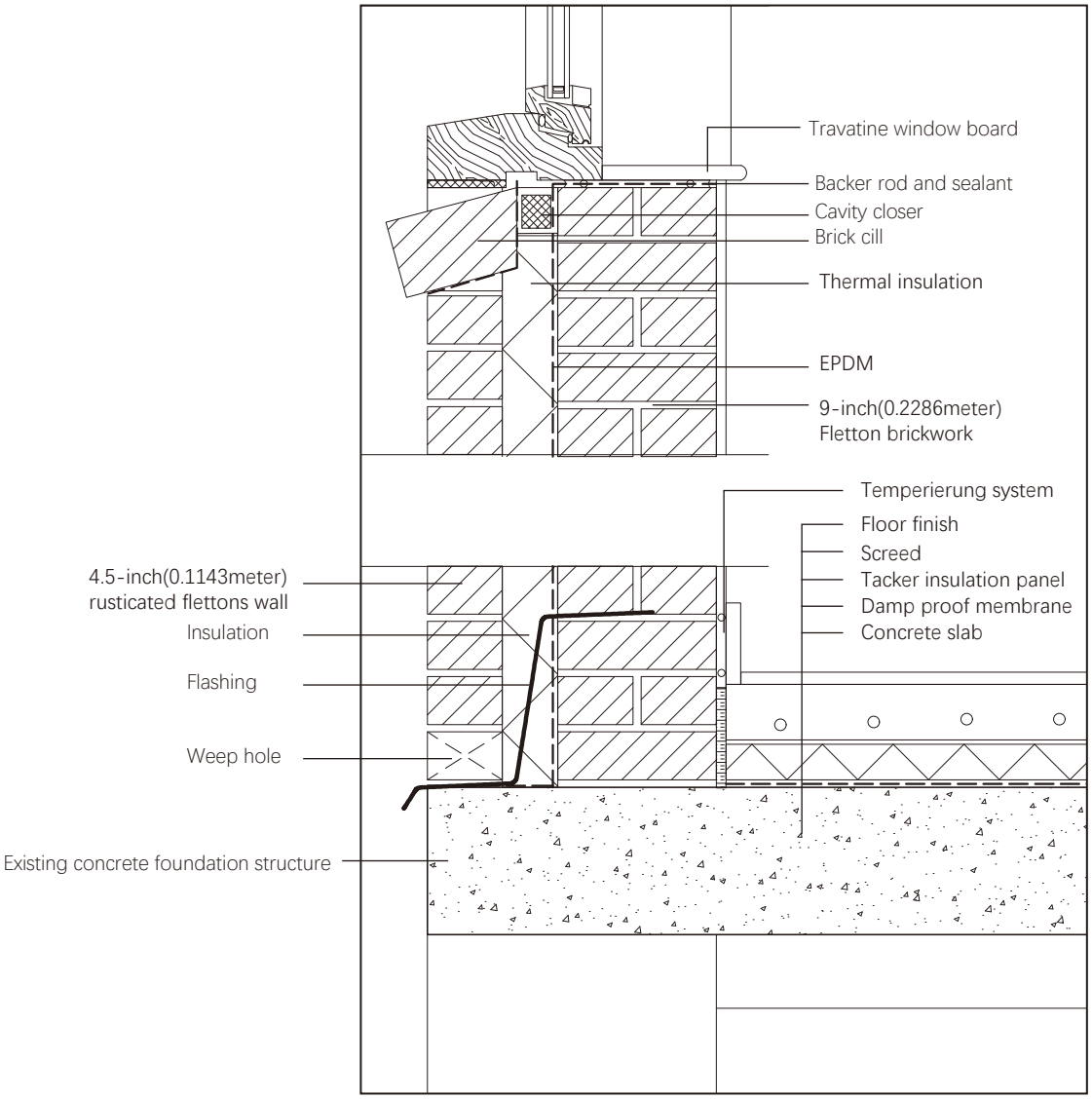


B – B

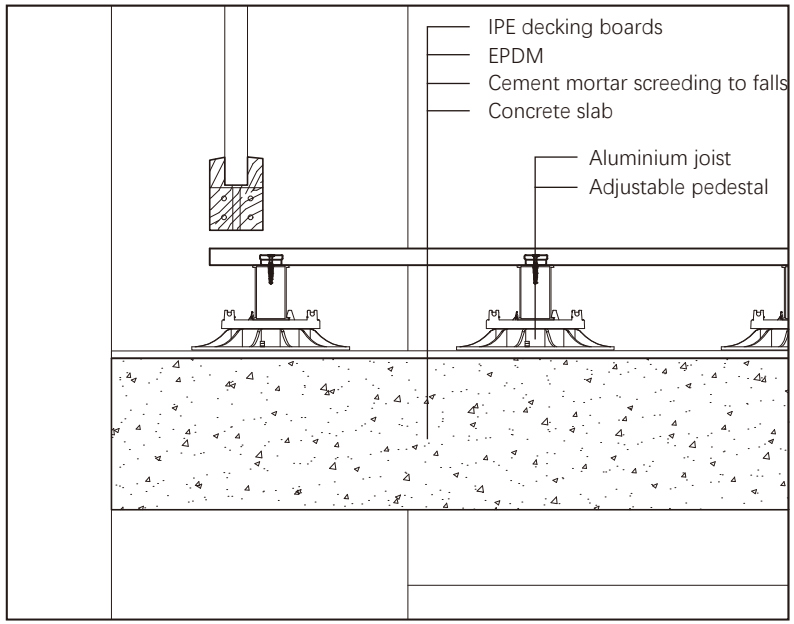


Barrack building facade horizontal section detail 1:10

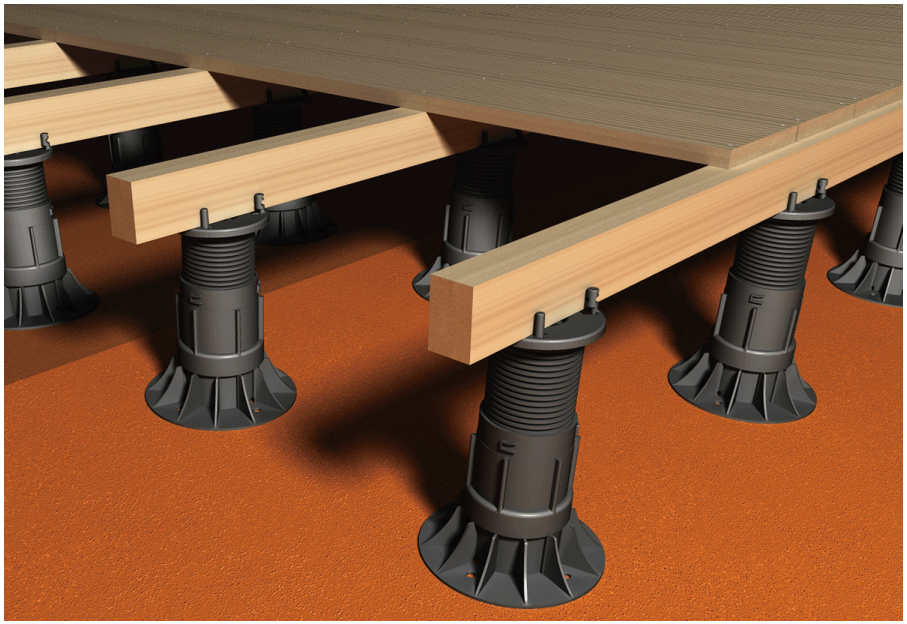




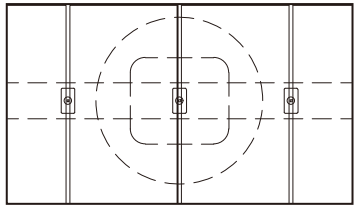
Barrack building facade detail 1:10



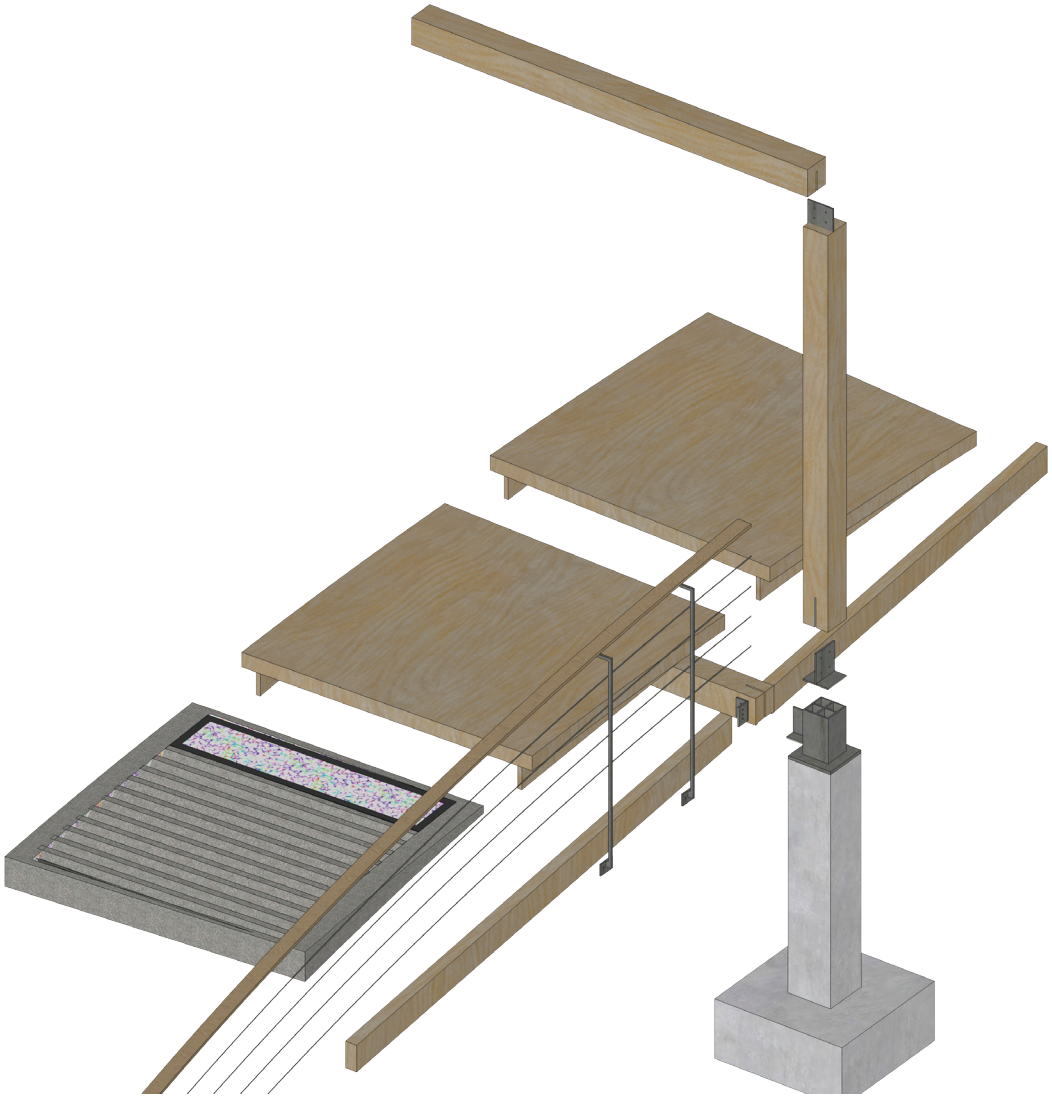
Terrace deck detail 1:10

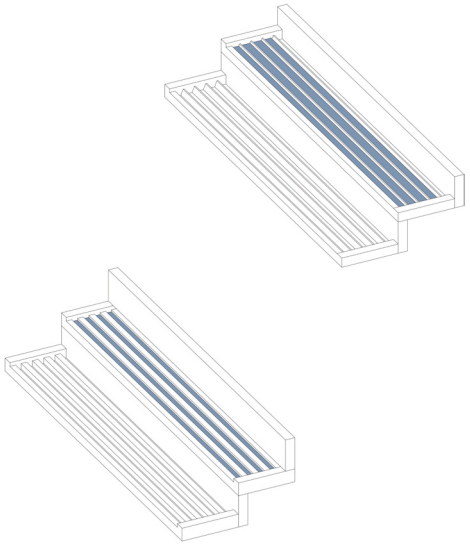


Scheme of the Self-levelling decking joint head



Adjustable Pedestal plan 1:10





The step plate that work as the Tide Clock pointer are made by concrete with bumps, which will change the reflection of light when the steps are filled with water. So people can see the colour of the pointer to know the tide is going up or down.

Solar Powered Light Brick installed on the concrete plate

PART IV.

Reflection

Tidal horizon

Final Reflection

Siyuan Liu
Transitional Territories Studio 2018-2019

1 Relationship between Research and Design

The research started from the coastal erosion and the Grain tower fortification on the mudflat in Thames estuary. The research built a base for understanding of the project, about the fascination of the changing landscape in delicate tidal mudflat in Thames estuary, and the human war structure standing on the mudflat.

As one main focus of the studio is trying to research by design, the understanding towards this method became one of the fundamental questions in my graduation project. As the development of the work, the understand are also changing. As an architect, design progress is always developed with research actions, and research itself is kept as a way to collecting and understand of the background knowledge for specific design. But when researching by design, the design became a method, a tool for knowing more. In my project, the objective is no longer coming up with interventions, instead, interventions became experiments, the strategies I came up with are the source to be reflected more. When designing, doing is the first step, and the answer are also questions. As a result, the project is an experiment, the interventions are set up for more questions.

2 Relationship between my graduation project topic and the studio topic

The studio provide chance and resources to research in territory scale (the North sea) issues caused by dynamically developing systems, and the territorial possibilities and crisis, the focus is not restricted by the topics, and for us architect the reflection will not restricted only in the site scale, which will help us building a macro, holistic thought process. Through the research and groupwork period, the studio gives me plenty of room to use my imagination and creativity to find the point of interest critically, which result in the fascination of my design project.

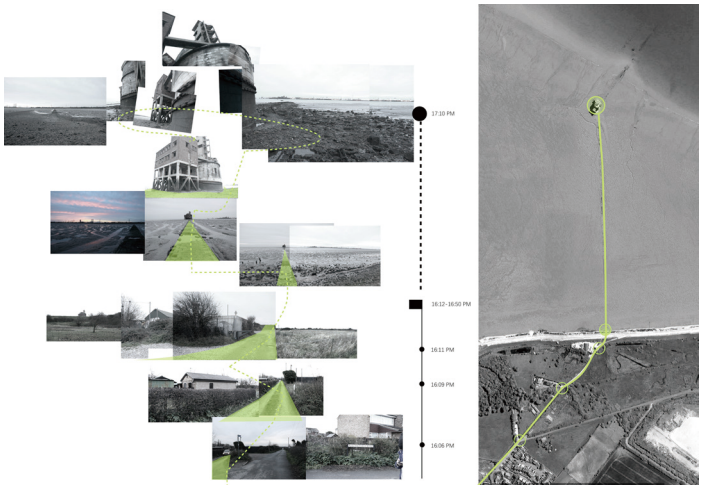
As the studio's theme is focusing on the dynamic change and uncertainty through the interaction in different aspects in North Sea, when narrow down to an architectural scale, these focus aspects inspired my reflection to the changing situation and it's relationship with human architecture.

My graduation topic starts from the focus to the dynamic changes happened in landscape in Medway spit, Thames estuary. Initially, human's behaviors is limited by the nature power. The limitation created by artificial intervention and the limitation created by nature power and the possibilities they are able to interact, is the starting point. The changing landscape around the fortification in Thames estuary, the man-made structure lost their original function and surrounded by dynamic change of tidal mudflat landscape environment. The power of nature involves the expedition experience of man-made structures. This specific feature provide possibility to reflect on the interaction of human and nature in an architectural way.

The tide brings limitation, but also create chances. The way the architecture developed is a exploration to the possible relationship between people and environment happens in uncertainty, unknow and change. This intention is created by focusing on the dynamic changing situation in North sea, and the development of the design is accompanied by define, create, and explore the undefine elements.

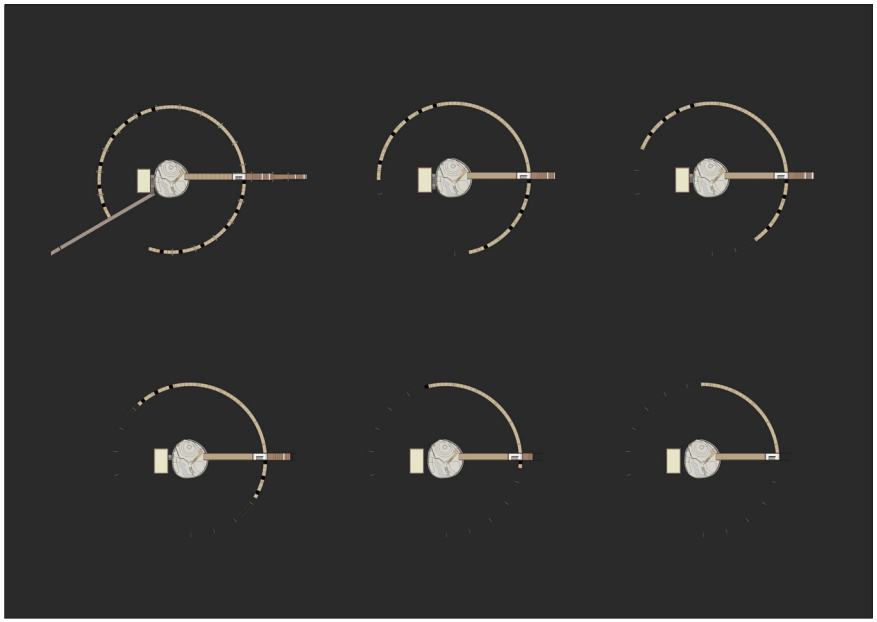
3 Methods

The project starts from the research on the North Sea and various dynamics it consists of. Collecting scientific data in political, ecological, economical, and spatial aspects helps me to created a base to state which problem is the most interesting to investigate further. The research is presented by mapping and scenarios constructions, which present a complete and logical background story. As for the choose of individual positions, the literature reading and enquiry of relevant information helps build the theoretical background and fascinations.
Through data collection, browsing, collation, and integration of the filtered information on the history and current status of the grain tower and the Thames estuary fortifications are aggregated into a targeted information framework.



As the Thames estuary is a complex of estuaries with delicate landscape situation as well as enormous culture background, the analysis to separate aspects are essential for project development. As a result, a site visit is essential.
The project construction focus on enlarge and enrich visitor's perception experience depending on the concept of the intention.

"Time" is the base of the project, while the heritage, tide and horizon are the elements that gives the "time" multi-layered meaning in the project. The fascination starts from the relationship between time and tide, when the time change, the tide causes different environment around the Grain tower. How to grasp this phenomenon, and abstract the meaning of the phenomenon and translate it to an architectural form is my initial idea. So I thought about how to measure the changing landscape first, with formed my first idea, the tide clock.



With deeper thinking and communication with mentor, attention to a broad "changes" has become a development. The meaning of the Grain tower is also changing: Initially, as an abandoned fortification, the background monumental meaning and history record is the strongest feature it had. But with the particularity of the environment and the interaction between man-made structure and nature force inspired the evolution and transformation of Grain tower, which formed another reflection.
In order to understand the tower more, and collect fascinations, site visiting plays a great role in inspirations. Through visiting experiences the multi-dimension perception are built automatically,

while the starting point appeared with coherence. When actual investigating the site, the phenomenological method is used to record the research process, helping to establish the actual experience and emotional connection of the site, and verify and supplement the content of the previous analysis.

Site visiting strengthen the concept: the visiting experience of the tower creates the third "change": the horizon. As a result, the changing horizon are another main feature of the story. Through the visiting process to the Grain tower, the Psychological reaction is changing. It formed the strongest fascination. From now, the concept made one step forward by clarifying the main concept.

4 Relationship between the graduation project and the wider social, professional and scientific framework

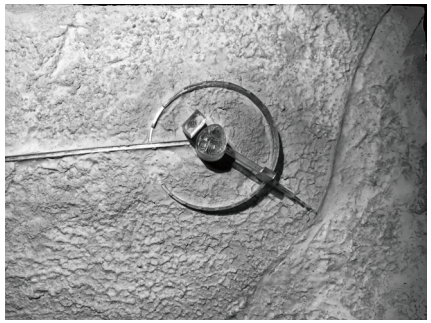
As for the meaning of the project for wider social, the project itself is through building of the tension between human and architecture, human and nature, as well as nature and architecture, the intervention established for inspiring more reflections: the visiting experience of the project are combined with different ways to interact with the artificial limitation and unlimited environment, building of the experience is to create more possibilities, in order to inspire more unlimited thinking by this limited architecture.

This experimental designing method is an example for creation of more experimental methods: the answer are changing, and the goal is to try more possibilities according to the existing elements in the site, the answer is unlimited, and questions are the result of the visiting experience of the project. This experiment is a efficient way for architects to clarify their fascinations in different projects, also, by emphasizing exploring treasures from the existing environment, it facilitate the focus to the identity of regional landscape.

5 Dilemma

Regarding dilemmas, the switch from the design methods I utilized before to "research by design" is the strongest.

In my mind, the design is always a reflecting process to face an issue, so at the beginning, finding a question is my first intention. Therefore, before P2, I struggled for a long time regarding finding my interest, as the intervention my want to dig more is for solving one specific problem. However, after talking with tutors, I found that finding an issue does not means finding a problem you want to solve, instead, it is only an aspect you want to reflect more, and, the project is not limited for solving a problem, but for framing the questions field. I really appreciate my tutors, who helped me to try to enjoy reflecting more in a positive way, instead of struggling in the problems in reactions. As a result, in my graduation project, the visiting experience is not only the base line of the story, but also the test of the possible relationships between body and architecture, architecture and landscape, limit and limitless.



In addition, find and lost the rules is another dilemma. As the method to develop my project is an experiment, I kept finding the rules of designing, but basicaly exploring different ways is the way. The step of the design is not linear and ordered, I need to try and change all the time. Sometimes it is struggle, but when there is a new find, it strengthen my concept is an unique way. Finally, there is some methods I finalized, according to this specific project, so in general, the way is, find a specific testing strategy according to the feature of the context, which will be changed through development. It is also an echo to the " Research by Design".