



Breaking the Island

Country /City Germany/ Munich

University / School Technical University Munich, TUM School of Engineering and Design

Academic year 2019-2020

Title of the project Breaking the Island

Authors Xiaozhen Li

TECHNICAL DOSSIER

Title of the project Breaking the Island
Authors Xiaozhen Li
Title of the course Master's Thesis in Landscape Architecture
Academic year 2019-2020
Teaching Staff Prof. Dr. sc. ETH Udo Weilacher | Dipl.-Ing. Jonas Bellingrodt
Department / Section / Program of belonging Chair of Landscape Architecture and Transformation
University / School Technical University Munich | TUM School of Engineering and Design



Written statement, short description of the project in English, no more than 250 words

"Breaking the Island" focuses on transforming a former oil harbor in Karlskrona, Sweden. Karlskrona, a city comprising 30 islands, reclaimed land in the early 20th century for economic growth. Among these reclaimed lands is the project site, originally filled to establish an oil harbor between the mainland and the main island. However, subsequent industrial decline rendered it a desolate wasteland. As the primary entrance to the city center, this abandoned land undermines Karlskrona's coastal identity, hampering its social and economic development while posing ecological threats. Applying the Structuralism theory, Xiaozhen Li conceptualizes Karlskrona's landscape into three layers: mountain, city center, and ocean. She argues that the abandoned industrial layer disrupts the site's original relationships with these layers, weakening the city's identity. To address this, the site is divided into three parts, each integrating landscape qualities from the respective layers to restore the original structural relationships. This approach establishes a coherent spatial rhythm, accentuating the site's role as Karlskrona's entrance and reinforcing its identity as a coastal city. Furthermore, the design interventions bolster ecological resilience and enhance the marine environment.

The transformed industrial site is envisioned as a Creative Cultural Park, serving a dual purpose. It supports the burgeoning IT sector, facilitating Karlskrona's strategic transition from an industrial city to a knowledge-based hub. Simultaneously, it functions as a recreational park, fostering social integration between non-native and local communities. This urban conversion revitalizes the economy, fosters innovation, and encourages social cohesion, propelling Karlskrona towards a sustainable future.

12th International Biennial Landscape Barcelona

Barcelona November 2023

SCHOOL PRIZE

For further information

Máster d'Arquitectura del Paisatge - UPC

Contact via email at:
master.paisatge.comunicacio@gmail.com

biennal.paisatge@upc.edu

Máster d'Arquitectura del Paisatge - UPC

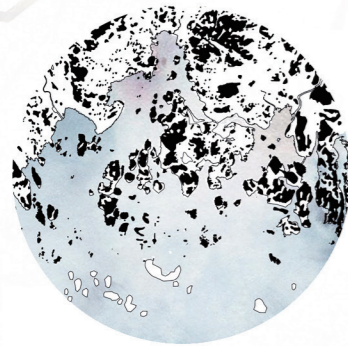
Sede ETSAB - Universitat Politècnica de Catalunya

Calle Jordi Girona, 15. Edificio Omega 1-3
08034 Barcelona - Spain

COAC - Colegi oficial d'Arquitectes de Catalunya

Carrer Arcs, 1-3
08002 Barcelona - Spain

The Historical Development of the city of Karlskrona



The artificially built main island: Trossö



The city spread toward north.



The site gradually became abandoned.

Back to the Quaternary Period

The unique archipelagic landform was formed in this period.



The characteristics of bedrocks along coastlines: bedrocks scattering in the water.



The characteristics of plants along coastlines: the broad-leaved trees grow directly into the water

Naval Power

1670

In order to turn these scattering islands into a naval base, several smaller islands were grouped together, forming the main island Trossö.



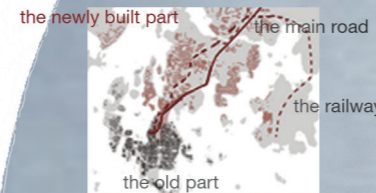
The main island was divided into two parts by an enclosing wall: the southern part for the military use, while the north for normal citizens. Normal citizens were not allowed to enter the military part.

The military history drove the powerful development of Karlskrona. However, it also brought the clear separation of different social classes and a conservative mindset toward the outside.

Heavy Industry

1919

The land morphology was further changed through reclaiming a lot of artificial fillings along the previous shorelines and islets.



Modern infrastructures, such as the main road (Österleden) and the sole railway, were built. The city gradually spread toward the north.

IT Industry

1991

Tourism

1998

Sustainable Development

2010

Since 1990s, heavy industry declined, while IT industry and tourism developed. On the main island Trossö, the resource of cultural heritage is very rich. There are a lot of heritage buildings distributed around it, while most new technological companies could only be located in the peripheric areas because of the land shortage on the main island.

Since 2010, the rapidly deteriorating ecological environment draws the municipality's attention.

SUSTAINABILITY is, thus, set as the guideline for the further development.

Economic sustainability: keeping IT and Tourism as the core of economic development, and improving the economic diversity to reduce the vulnerability

Ecological sustainability: increasing the ability to respond to the ecological threats, and reducing the impact to the natural environment

Between the Site and its Surroundings



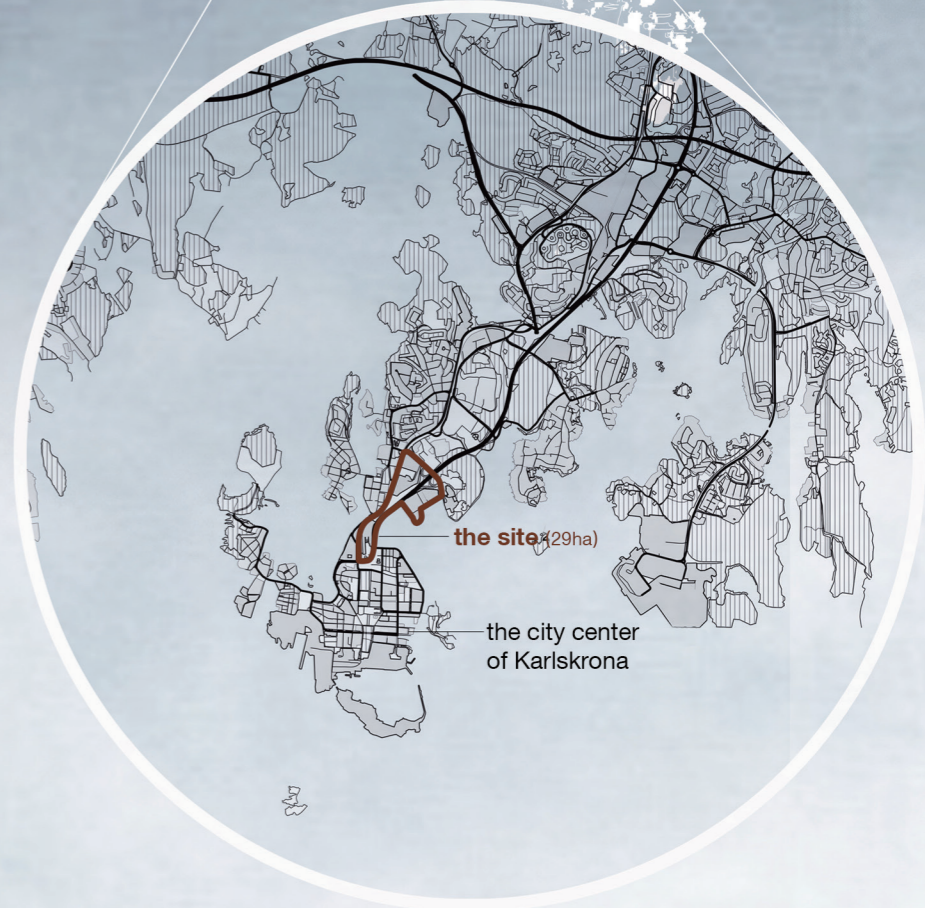
- Railway
- Road
- Buildings
- Hospital
- Train station
- Central bus station
- Parks and forest
- Residential areas
- Industrial areas

Road: Sunnavägen
Road: Blåportsgatan
Road: Österleden
Railway

Being embraced by main trafficlines

Being directly connected to the recreational urban axis

Being adjacent to mountains on the north and the west



Karlskrona is a city located in the southernmost part of Sweden, specifically in the Blekinge archipelago. Situated on the east side of the archipelago, Karlskrona occupies over 30 islands. As an island city, it is primarily connected by ferries, both within the city and to neighboring areas. Karlskrona is well-known for its strategic naval base, which holds significant importance for Sweden. It is also well-connected to the mainland through a major road, Osterleden, and has a railway that extends westward towards Malmö and Copenhagen.



The site's current state

Defining problems in terms of the site

01 The visual significance not matching the functional significance

The site is now faceless and unintelligible. This state of being faceless cannot match its functional significance of being the entrance to the city center.

02 Weakening the city identity

Being a crucial strategic hub for the entire city, the site fails to contribute to the city's overall identity and, in fact, diminishes its distinctiveness as a coastal metropolis. This issue will subsequently exert a negative impact on the economic progress.

03 Sea-level rising; Stormwater log; Marine ecological environment

From an ecological standpoint, the site is currently confronted with imminent perils arising from rising sea levels and the accumulation of stormwater. Moreover, as an artificial land reclamation, it exerts adverse effects on the surrounding marine ecological environment.

04 The conflicts between the old and the new social groups

As the influx of foreigners continues to grow in Karlskrona, the need for heightened awareness regarding the divide between this emerging social group and the established conservative local communities becomes increasingly crucial.

Drawing on the theory of Structuralism

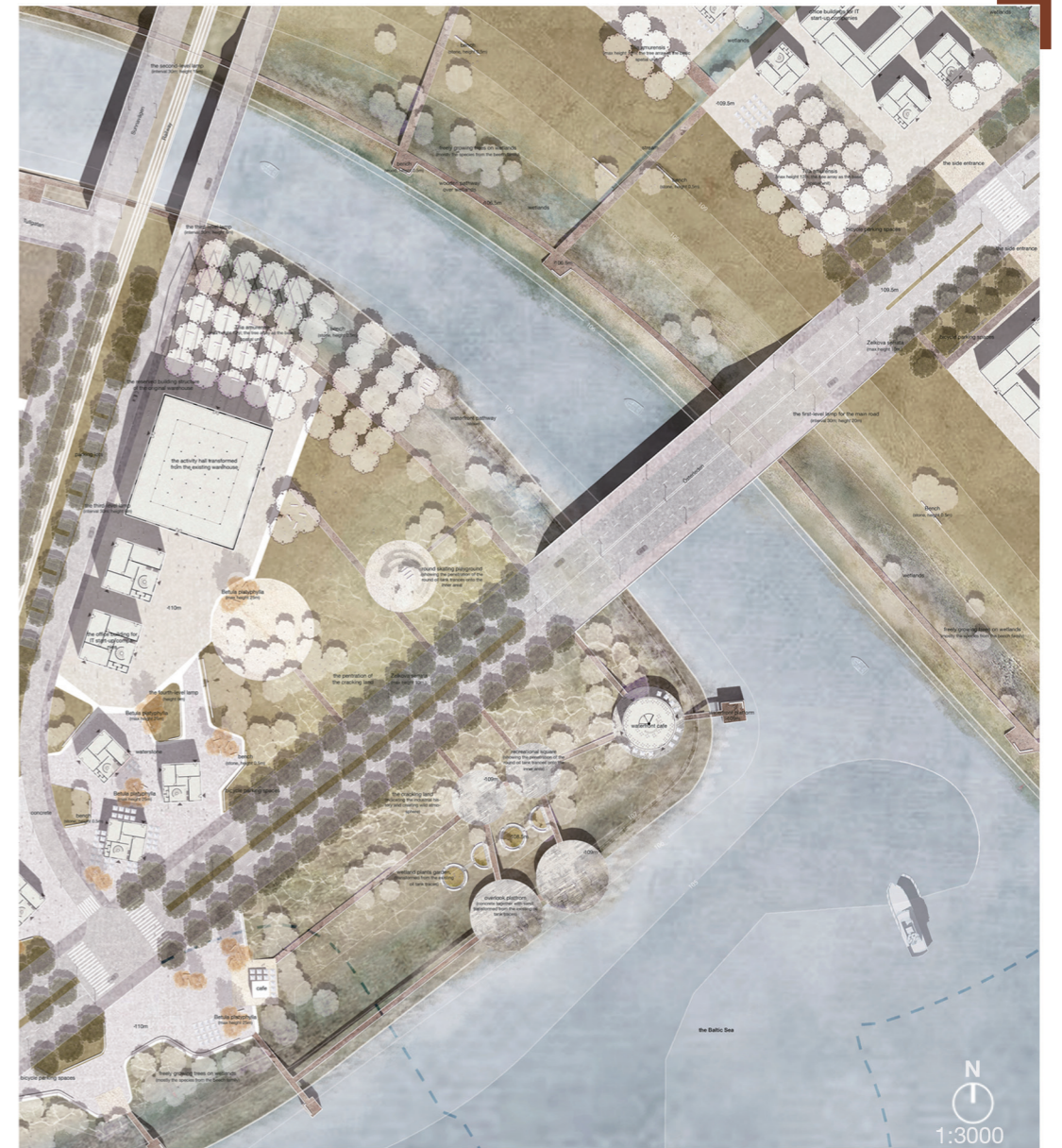
The theory of Structuralism in Landscape understands landscape elements as physical carriers of information, being influenced by the semiotic theory. One of the most critical conceptual approaches of reading a landscape is to abstract it into several information layers, reducing the complexity of reality and gaining the most significant meanings. Information layers cannot be wholly independent and are always somehow connected and influencing each other. The relationships among different layers greatly influenced how landscapes are understood. The design, according to Peter Latz, refers to concrete influencing of the intelligibility of information layers.

Design
"Concrete influencing of the intelligibility of information layers"
-- Peter Latz

Hypothesis

Under this theoretical background, the landscape around Karlskrona is abstracted into three layers, the mountain layer, the ocean layer, and the city center layer.

The industrial layer cuts the site from the three essential layers. This makes the site faceless and unintelligible. The entrance quality is lost; the city's identity is also weakened. The key to solve this problem is to rebuild the original structural relationships between the site and the three layers.

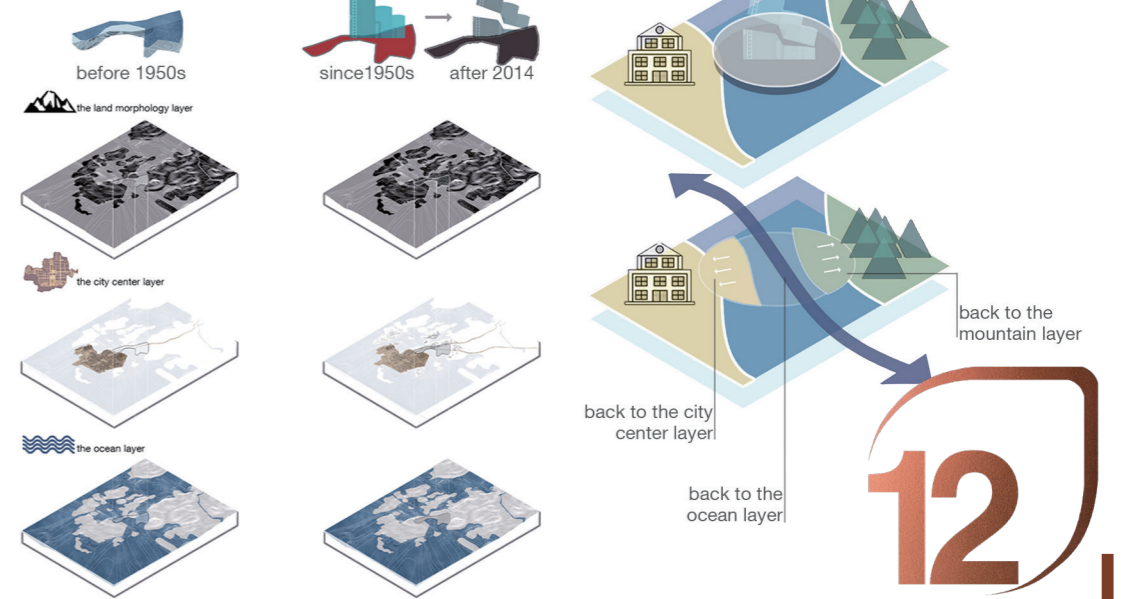


The project site had always been the intersection of the three enduring information layers before the oil harbor was built in the 1950s.

However, the introduction of the industrial layer weakens Karlskrona's identity of being a city in the sea, which further influences the urban economic development.

Concept

Breaking the artificial land spatially, enabling it to reconnect to the three essential layers and thus regain the identity of both the site and the city. Functioning as a creative pioneer park for IT start-up companies, and meanwhile, a recreational park for all citizens.

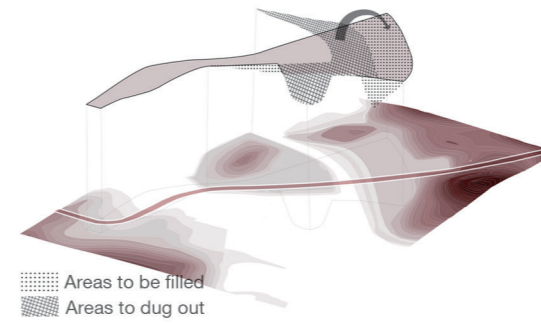


12



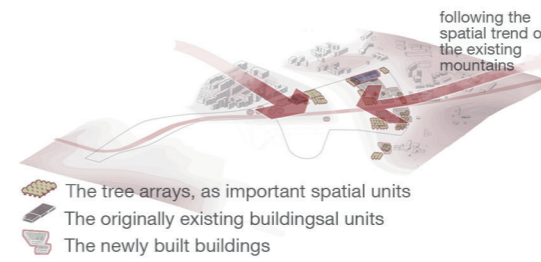
Design Principles

The topographic change strategy

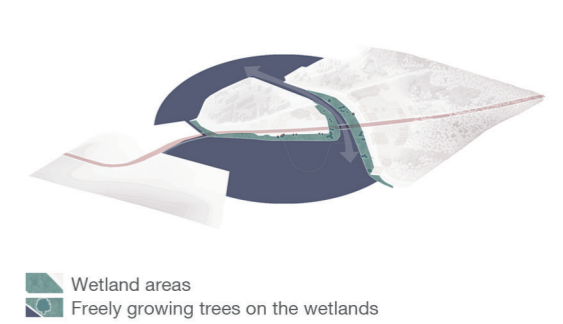


Being a part of the mountain layer

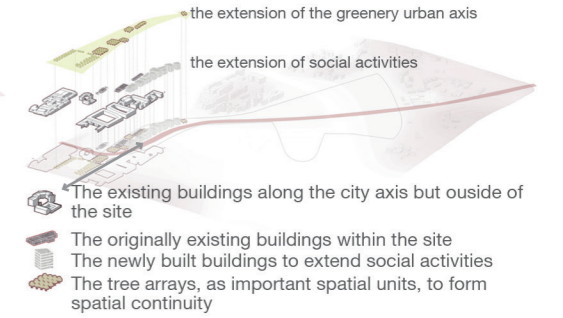
The extension of the spatial trend



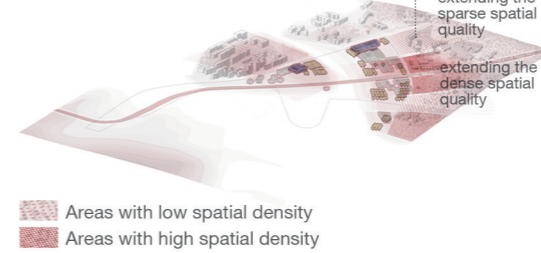
Being a part of the ocean layer



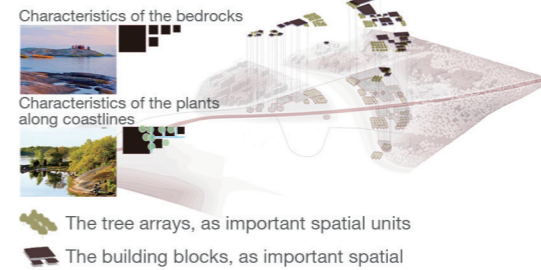
Being a part of the city center layer



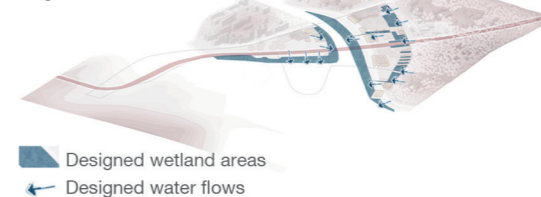
The extension of the mountainous spatial density



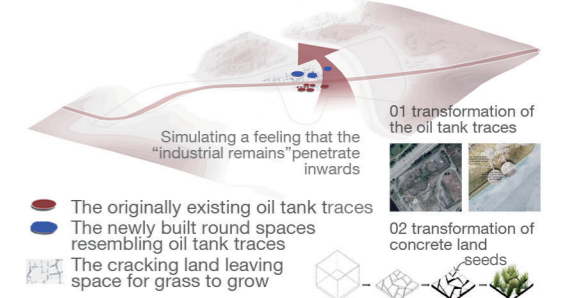
The extension of the spatial formal characteristics



The visualisation and the extension of the water regime



The industrial remaining as the fourth layer



The main road as the backbone

