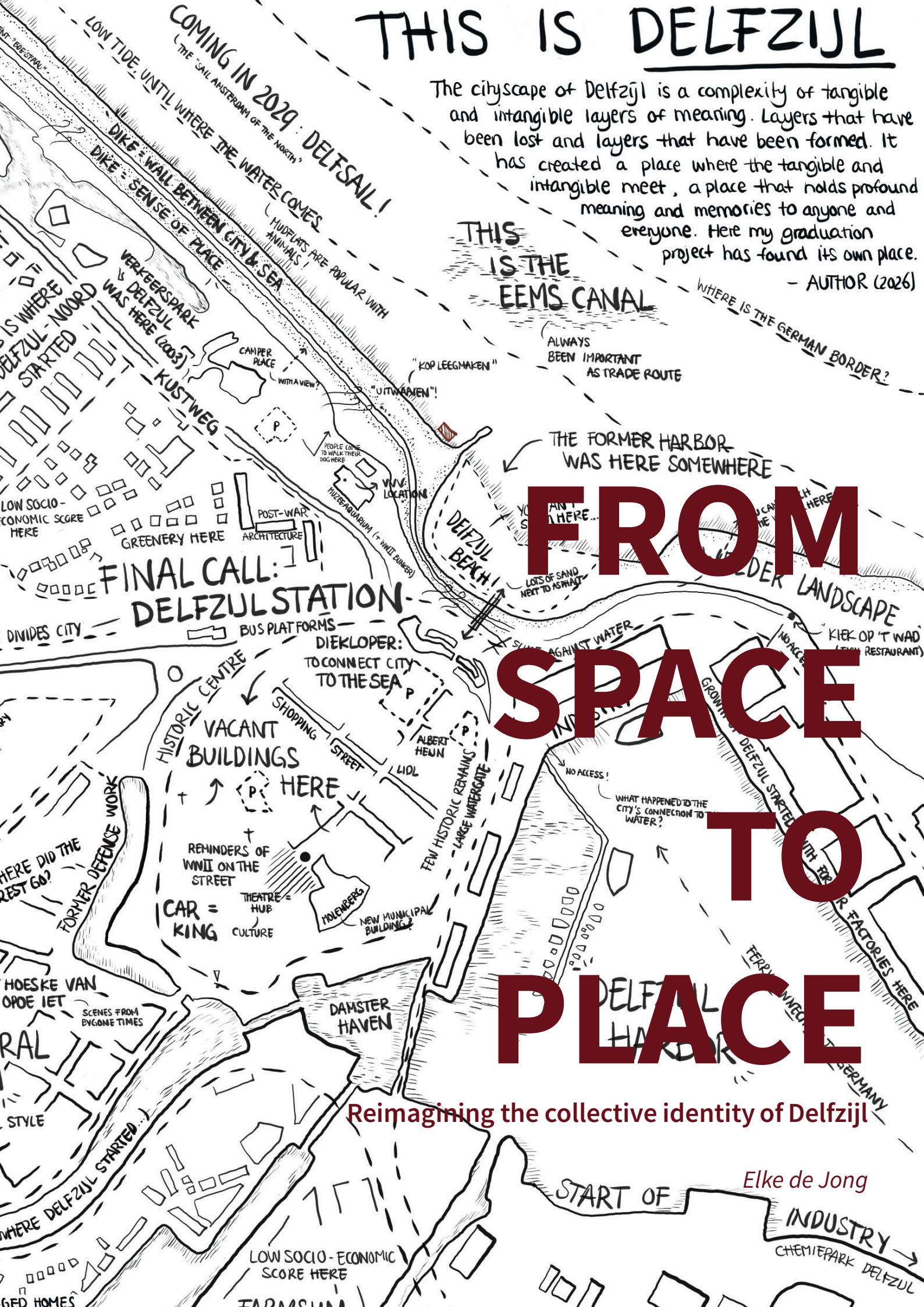


FROM SPACE TO PLACE

Reimagining the collective identity of Delfzijl

Elke de Jong



TU Delft

MSc Graduation Project 2025-2026

Elke de Jong | 5218594

AR4AP120 Public Building Graduation Studio

Responsible Supervisor: Dr. Antonio Cantero
Supervisor: Dr. Sang Lee

Research-by-design mentor: Prof. Nathalie de Vries

Faculty of Architecture and the Built Environment, TU Delft

All images in this document are the original work of the author, unless otherwise stated.
A full list of external image sources is provided in the bibliography (pp. 118).

Acknowledgements

I would like to express my gratitude to my supervisors dr. Antionio Cantero and dr. Sang Lee, whose guidance and expertise have helped me to continuously improve my project over the course of my graduation.

Moreover, I would like to thank the employees of the Province of Groningen and Municipality Eemsdelta with whom I have been able to converse and talk. Thank you for bringing this topic to our Graduation Studio, as it gave me the opportunity to pursue a subject close to my heart and combine it with my architecture studies. As well the people from ‘Mijn Thuis Mijn Verhaal’, who gave me many insights that have helped to understand the impacted psychosocial wellbeing of residents in the province of Groningen and in Delfzijl, which contributed greatly to improving the project context. Your willingness and openness provided me with the opportunity to extensively dive into the topic and work through the different scales of the context.

Thank you to my family for their support and continuous interest in my project, which lead to many insightful conversations during the research process. And lastly to my friends from Bouwkunde, with whom I have had the best time in Delft over the past six years. From long days at the faculty to late nights online, you gave me the motivation I needed and were always willing to help me and give advice, or provide the happy distractions to take my mind of my project when it was needed.

Abstract

The project 'From Space to Place' explores how architecture can respond to the psychosocial impact of Groningen's gas extraction issues on the local population, while supporting the development of the leisure economy in the region. Through a design in Delfzijl, a coastal town in the northeast of Groningen, a fragile socio-economic context is studied in relation to the development of the tourism industry. The project uses the 'third place' theory by Oldenburg (1989) as a framework to explore how architecture can mediate between addressing residents' psychosocial wellbeing and becoming a socio-economic catalyst for the region, which leads to the following research question: *How can a 'third place' in Delfzijl embed a sense of place and foster psychological resilience for residents, while performing as a socio-economic catalyst for the region?*

To answer this question, the project combines literature readings, reference projects and a research-by-design approach to design a spatial intervention that addresses the aforementioned concepts. It concludes that the introduction of a mixed civic programme, split between a pavilion and main building, can serve both residents and visitors without losing its value and identity as a public destination. Using spatial strategies such as framed views, distinguishing materials, layered circulation, and differentiating spatial atmospheres, a sense of place and psychological resilience are fostered and strengthened. The design demonstrates that architecture in Delfzijl can mediate between wellbeing, identity and revitalization in a complex socio-economic context.

Key words: psychosocial wellbeing, architectural design, revitalization, third place, public building

Prologue



I grew up in Norg, a village in Drenthe, in the north of the Netherlands. The village stands on top of an underground gas storage (UGS), one of the largest in Europe. The UGS is not a gas extraction location like those in Groningen, but rather a storage where gas is injected and then extracted again, leading to seismic activity in the ground. Though I have never felt a physical earthquake at home, the cracks have started to show in my parent's home and that of many others in and around the village since years. It has lead to inspections, compensations, repairs, more inspections, and lengthy procedures. All due to the gas.

I have therefore become familiar with the complexity of issues that have arisen for residents due to the gas extractions in Groningen and Noord-Drenthe. And they go further than just cracked walls and some repairs. The physical and mental impact of the long-term gas extractions from the 'Groningen field' have remained an underexposed topic to many people, though it holds a profound significance. It has inspired me to take up this topic for my Master's graduation project.

Content

01 Introduction 12

Problem statement 14
Research questions 18
Objective 19

02 Approach 20

Methodology 22
Theoretical framework 24

03 Precedent analysis 28

A fragmented history 32
Post-extraction reality 34
A destination to visit 38
The third place 42
A third place on the dike 44

04 The design 46

General intervention 48
A journey from space to place 56
Technical elaboration 74

05 Epilogue 82

Appendices 90

The psychosocial wellbeing of residents in Groningen 92
A sense of place 94
Architectural models 98

Bibliography 112

Research 114
Figures 118

01 Introduction

Problem statement

The paradox of Groningen's gas extractions

The discovery of the biggest gasfield in Europe, also known as the 'Groningen field' figure 1.1), by the Nederlandse Aardolie Maatschappij (NAM) in 1959 marked the beginning of a paradox for the provinces of Groningen and Noord-Drenthe. While gas revenues fueled the post-war economy and Dutch welfare state, the physical, economic, cultural, and social landscape of especially Groningen was irrevocably altered.

In 1986, as gas extraction continued to generate revenue and transformed the country's energy network, the first earthquake was registered by the Koninklijk Nederlands Meteorologisch Instituut (KNMI) in the north of the Netherlands. Primarily, neither the NAM nor the KNMI linked the seismic activity to the gas extraction. Only in 1993, the ministry of Economic Affairs officially recognized the connection between the gas extractions and seismic activity registered throughout Groningen and Noord-Drenthe (Financieel Dagblad, n.d.).

After 1993, the number of earthquakes increased drastically. On 12 August 2012, everything changed when an earthquake with a score of 3,6 on the Richter scale was registered in Huizinge and felt throughout the whole province. Thereafter, the NAM received hundreds of damage reports (Braakman & Miskovic, 2022). Since the discovery of the 'Groningen field', more than 1,500 earthquakes have been registered, whereby thousands buildings have been declared unsafe and more than 250,000 damage claims were reported by residents (Financieel Dagblad, n.d.).

The discovery of the gasfield made Groningen in fact one of the richest regions in the Netherlands and Europe. The province was meant to prosper from the extractions, however only a minimal fraction of the more than 400 billion euros in revenues found its way there. Moreover, the final report of the parliamentary enquiry, titled 'Rapport parlementaire enquêtecommissie aardgaswinning Groningen' (2023), stated that economic gains have consistently overshadowed the wellbeing of the local population in regards to the gas extractions that took place after the discovery of the gasfield in 1959. To this day, large parts of Groningen, specifically Noordoost Groningen, remain characterized by a low socio-economic status and population decline (figure 1.2). Unemployment rates are high and education levels are low, next to which many households score low on social security and live off of minimal incomes, relying on government benefits (Eemsdelta in Cijfers, n.d.).

The damage done

After 2012, seismic activity continued to be registered in the provinces, leading not only to structural damage, but also more complex consequences for people's liveability and health as research has shown (Dückers et al., 2023). Residents' psychosocial wellbeing has been affected, with the seismic activity and aftermath taking a toll on their mental health, feelings of safety, financial situation, liveability and social cohesion within communities (Hupkes et. al, 2020).

In Delfzijl, where the graduation project is situated, these issues have also led to societal unrest and strained social relations (Gemeentebestuur Delfzijl, 2019). In combination with a declining economy and shrinking population, the municipality faces a challenging assignment to improve the mean welfare in the area (Eemsdelta in Cijfers, n.d.).

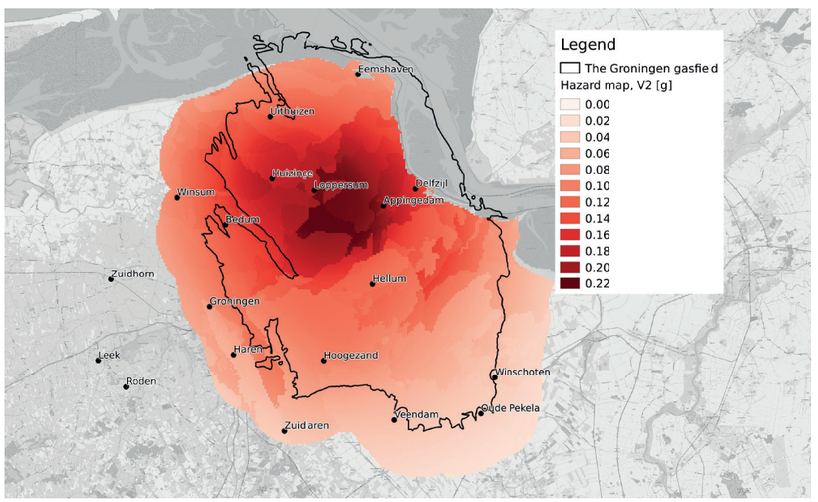


Figure 1.1 *seismic hazard map of Groningen (Adapted by author from KNMI (2016))*

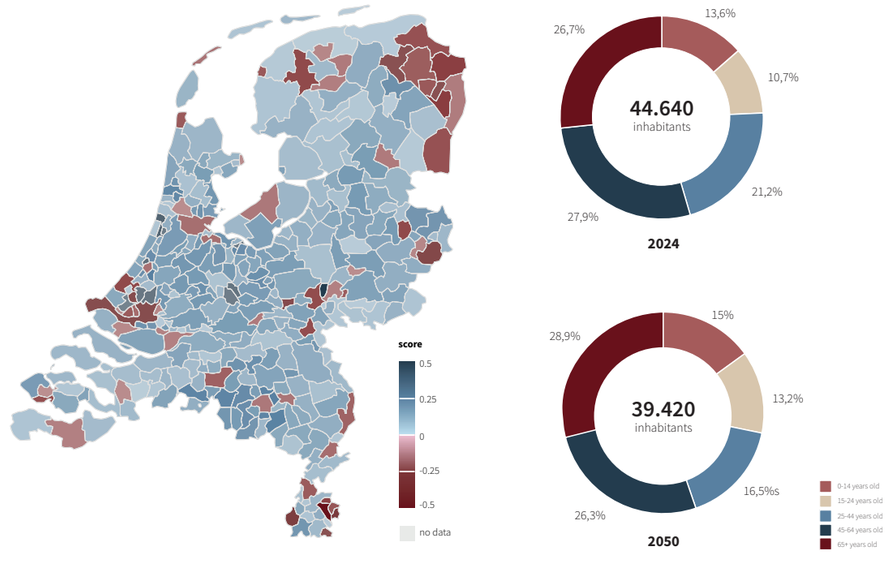


Figure 1.2 *left: social security score in the Netherlands (Adapted by author from RIVM (2023))*
right: population count municipality Eemsdelta (Adapted by author from CBS (2023))

In response to this, psychological resilience may offer a pathway to rebuild social relationships and improve residents' mental health in Delfzijl and its surrounding region. Research by Assem et al. (2023) states that spatial design can contribute to resilience by reducing stress, restoring a sense of agency and fostering social connections among users. Within this context, third place theory (Oldenburg, 1989) can be explored as a spatial, social and economic response to the socio-economic status in the region and the disruptive impact of the gas extraction and its aftermath on the local population.

Nij Begun, new opportunities

The long-term social, economic and psychological consequences of the gas extractions and their aftermath ask for innovative and spatially grounded approaches to revitalize Noordoost Groningen, and specifically Delfzijl. With the suspension of the gas extraction activities from April 2024, a new phase for the province has already started. With the launch of Nij Begun ('New Beginning' in Gronings dialect), the Dutch government introduced a multi-level investment agenda aimed at regenerating Groningen and Noord-Drenthe across different sectors, such as education, employment and the leisure economy (figure 1.3) (Nij Begun, 2025).

For Delfzijl, Nij Begun offers both the mandate and means for socio-economic revitalization and reimagination of its future, in which the leisure industry may play a role. The social and economic measures of Nij Begun can furthermore provide the resources to tackle the complexity of problems that occur in the city and region. However, the Nij Begun agenda remains a policy on a programmatic scale, leaving out how the described ambitions can be translated into spatial interventions in specific contexts such as Delfzijl, where socio-economic decline coincides with weakened social cohesion and impacted psychosocial wellbeing due to the gas extractions and earthquakes.

Architecture can operate here as a mediator, transforming abstract policy goals into spatial conditions to develop (physical) environments that stimulate 'noaberschap'* , therefore strengthening social cohesion, economic activity, inclusivity and accessibility within communities.

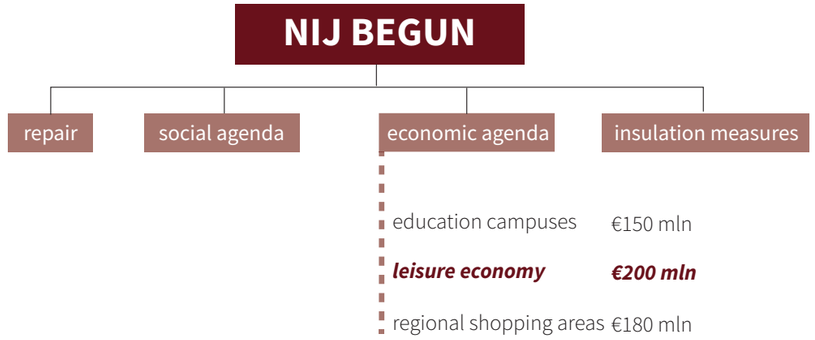


Figure 1.3 *investment agenda of Nij Begun (Adapted by author from Nij Begun (2025))*

* *mutual support and solidarity within communities; a term originating from the East of the Netherlands (Grievink, 2023)*

Research questions

The third place as a socio-spatial framework

To implement this mediating role of architecture, the project engages with the interrelation of the social and economic agenda of Nij Begun: the leisure economy and psychosocial wellbeing of residents. Existing publications by Gronings Perspectief and Ginder (2025) have already studied the psychosocial impact of the gas extractions and earthquakes on residents and the potential of the tourism industry in Groningen. However, instead of treating these themes as separate domains, the project approaches them as intertwined spatial drivers for socio-economic revitalization in Delfzijl, thus bringing together two user groups: residents and visitors.

The project adapts the 'third place' theory by Oldenburg (1989) as a framework to simultaneously address residents' psychosocial wellbeing and the development of the leisure economy in the post-extraction context. The possible relationship between economic and social regeneration within Delfzijl is studied here and how a spatial intervention mediates this. Hence, the following research question is posed:

How can a 'third place' in Delfzijl embed a sense of place and foster psychological resilience for residents, while performing as a socio-economic catalyst for the region?

To be able to answer the main research question, the following subquestions are formulated:

- SRQ1: What is the status of residents' psycho-social wellbeing and what needs should the project respond to?
- SRQ2: How should the project be positioned and connected within the urban and landscape context of Delfzijl so that it can function as a third place for residents while becoming a destination for visitors?
- SRQ3: How can a tourism-related programme and its spatial organisation within the third place contribute to socio-economic activity in the region while supporting its role for residents?
- SRQ4: How can the spatial design of the third place be employed to foster psychological resilience for residents?
- SRQ5: Which architectural tools can be used to create and reinforce a sense of place in the third place?

Scope

The overall goal of the project is to design a public building located on the coast in Delfzijl, where the current Eemshotel is located (figure 1.4) (Syllabus Public Building, 2025). The design will address the psychosocial challenges of the local population due to the aftermath of the gas extractions and earthquakes in the region, while simultaneously exploring how it can serve as a socio-economic catalyst for the region. With the introduction of a mixed civic programme to the site, an accessible, inclusive and engaging building will be created for residents and visitors, where tourism serves as a means rather than an end.

The project does not address policy reforms, but instead builds upon the framework of measures as presented by Nij Begun, focusing on the role of architecture in translating the social and economic agenda into a spatial intervention that contributes to the socio-economic revitalization of Delfzijl and its surrounding region.

Objective

Placed within a highly relevant social and economic context, the aim of the project is to explore how architecture can address the socio-economic challenges of Delfzijl by translating the abstract policy goals of Nij Begun into spatial conditions. With the design of a third place, architecture mediates in bringing together tranquillity, community and tourism. The intervention addresses the psychosocial wellbeing of residents through designing for resilience and improved socio-economic activity. At the same time, the design engages with the physical and cultural landscape of Delfzijl and utilizes the project location's unique characteristics to connect with, therefore embedding the design into the existing context.

Furthermore, the project aims to minimize its environmental footprint by applying passive design strategies and reducing its embodied carbon. By designing spaces for adaptability and hybridity, the project allows for user needs to evolve and change over time. Also, with the exposure to seismic activity, an earthquake-resistant construction is designed to provide a secure and future-proof building that lasts, where a feeling of security and trust is fostered for its users.



Figure 1.4 *location of the project (Adapted by author from Google Earth (2025)); own image*

02 Approach

Methodology

Research strategies

Throughout the project, different research strategies are used to answer the research question: literature readings, reference projects and a research-by-design approach (figure 2.1). With these different research methods, a variation of output follows to inform the design process throughout the project. Below the main research methods are shortly discussed in relation to their output.

Literature readings
Literature is consulted for different purposes. Firstly, to develop an overview of the impacted psychosocial wellbeing of residents in Groningen to establish user parameters for the project, and so to answer SRQ1. Secondly, with different readings, architectural theory on sense of place, designing for resilience, and the concept of 'third place' is established. This results in design guidelines and strategies in the urban, architectural and spatial context for the project. These tools and strategies are used to answer SRQ3, 4 and 5.

Research-by-design approach
Throughout the project, a research-by-design approach is applied, where designing becomes a process of research in theory and practice. Theoretical research informs the project, though the design process in itself also informs the project's research. To answer SRQ2, 3, 4 and 5 as well as the main research question, the design process itself serves as a method of research through its architecture and programme.

Reference projects
Within the research-by-design approach, reference projects are consulted to inform the design process, develop iterations and make design decisions. The reference projects therefore also become part of the project's research.

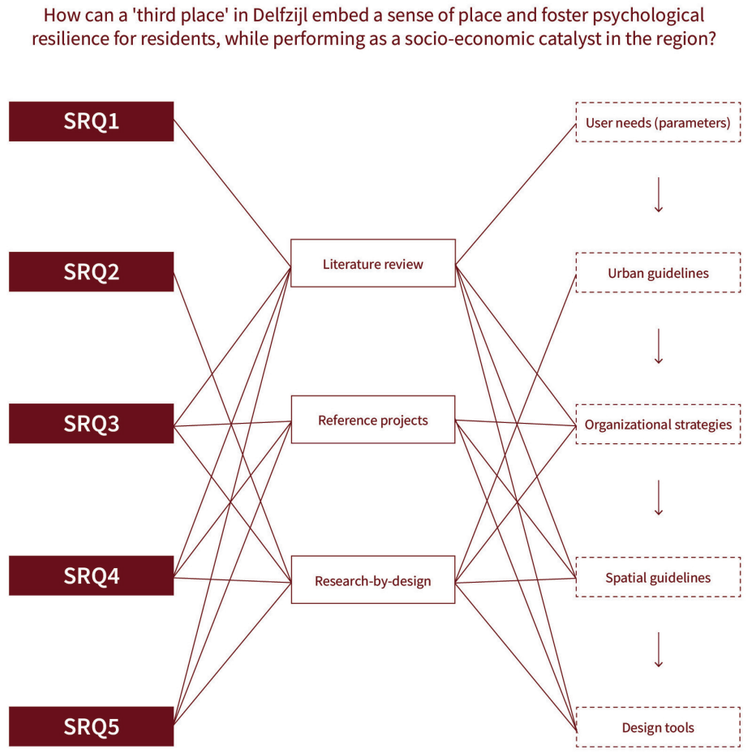


Figure 2.1 *methodology framework of the project*

Theoretical framework

Key concepts

As established, residents' psychosocial wellbeing in Delfzijl is characterized by a deterioration of mental and physical health, changing social relations and feelings of insecurity due to the gas extractions, earthquakes and their aftermath. In combination with other challenges, such as a low socio-economic status and inequality in claim settlements, coping strategies fall short, impairing their social and mental wellbeing (Dückers et al., 2023; Hupkes et al., 2020). This framework theorizes how third place architecture as a spatial intervention can achieve the dual goal posed in the main research question.

Psychosocial wellbeing
The observed challenges in Delfzijl frame psychosocial wellbeing as the capacity for a positive mental health that is sustained in social environments, where "cognitive, emotional and spiritual strengths" (Kumar, 2020, pp. 677) contribute to forming positive social relationships. Friedli (2009) emphasizes the significance of social relationships and support systems in mediating psychosocial wellbeing, which can improve a person's mental health.

This framework proposes the design of a 'third place' as a spatial intervention to address residents' psychosocial wellbeing and strained social relations in Delfzijl as a result of the gas extractions, earthquakes and their aftermath. By offering a neutral, accessible environment where residents can come to rebuild social relationships, the third place serves a restorative function to its users.

Third place
'Space' and 'place' can be viewed as two separate concepts within architecture. Parsaee et al. (2015) notes that a space is limited by elements and characteristics that are established together in architecture, such as floors, ceilings, walls and openings. Yet, place is part of a space, having a certain character and a valued identity which is formed by interior and exterior factors. When a space is inhabited by its users, therefore leading to interactions, experiences, thoughts and activities, the act of 'place-making' transforms a space into place (Östlund, 2017).

Unlike the 'first place' which centers on the private, domestic sphere, and the 'second place', which is governed by productivity, the third place offers an informal, neutral place for gathering where conversation is the main activity, as stated by Oldenburg (1989). As a leveler, the third place prevails social equality and fosters connections and relationships between users.

While Oldenburg emphasizes informality, conversation and a low-profile for third places, this project adapts that concept to play a constitutive role in addressing psychosocial wellbeing, by creating distinctive experiential qualities and promoting psychological resilience for its users. Grounded in a unique historical, ecological and geographical context, the third place reimagines the identity of Delfzijl to become a restorative place of familiarity and agency for residents and a unique destination for visitors. Spatial sequences that invite lingering, low thresholds and a mixed programme elevate the third place from the generic prototypes of the first and second place to become a social environment that promotes a sense of place and resilience. Through overlapping functions in the programme, the third place will not only foster social connections between residents but also allow for interaction with visitors, creating a dynamic environment and therefore becoming a socio-economic catalyst for Delfzijl and the region.

Socio-economic catalyst
Socioeconomics is understood in this project as the intertwined concept of economic activity and social behaviour and how they are related to each other in society (Gorton, 2025). According to Gateira (2022), by linking socioeconomics to tourism, the social and economic power of a society can be developed and transformed. Instead of an extractive economic activity, tourism can serve as a regenerative activity that invests back, becoming a catalyst for the region.

Third places can also function as a socio-economic catalysts, by serving a dual function for residents and visitors. This stems from the 'third place' theory's capacity to generate bridging social capital between locals and visitors. Where first and second places reinforce bonding social capital, namely the relationship between relatives, friends and colleagues, third places have the capacity to bridge social capital, meaning the social, economic and cultural interactions that are facilitated for different types of users (Van Leuven, 2025).

Research by Choi et al. (2024) states the role of third places in supporting entrepreneurial activity and economic impact through job creation and the exchange of goods. In Delfzijl, the mixed programme allows for resident-tourist interaction, converting social interaction into regional economic opportunities, as it will facilitate local business, create job opportunities and allow for exchange of goods. Through this, the third place can become an economic catalyst in the region, while fostering the social interactions and relations between users.

Sense of place
Through social connections and experiences between users, an identity and character of 'place' is formed. Evolving over time through social, historical, cultural and environmental contexts (Parsaee et al., 2015), a 'sense of place' is shaped, which is referred to by Williams and Stewart (1998) as "the collection of meanings, beliefs, symbols, values and feelings that individuals and groups associate with a particular locality" (pp. 19). The relations and experiences that shape places are also formed through personal meanings of users, creating an attachment to it (Chapin & Knapp, 2015).

As the social, cultural and environmental context of Delfzijl is changing due to ongoing seismic activity and its aftermath, the third place mediates in reimagining a (new) sense of place. By framing the viewscape of Delfzijl from the project location, as well as using architectural characteristics and the programme as a means, users create a place for social interaction and relationships within a space, therefore reimagining a new identity of Delfzijl and inducing a sense of place, which may evolve over time.

Psychological resilience
Psychological resilience is understood in this framework as an emergent property of the psychosocial wellbeing and evolving sense of place of residents in Delfzijl, in which the third place plays a mediating role. The spatial intervention and social processes involved serve in how individuals and communities maintain or regain their mental health under ongoing adversity.

Resilience has been conceptualized across different domains, from individual navigation and adaptation to brain-based mechanisms. In this research, psychological resilience is understood as the capacity to maintain or regain mental (or physical) health despite exposure to significant stress and/or adversity (Denckla et al., 2020). Chmitorz et al. (2018) states that resilience is determined or achieved by internal factors, such as personality traits and beliefs, and external factors, like social networks and access to resources and opportunities.

In the context of Delfzijl, stress, health deterioration, emotional volatility and perceived inequality have undermined residents' psychosocial wellbeing and coping capacities (Postmes, 2025). Psychological resilience must therefore be actively supported through social and spatial conditions that lead to a restored sense of control and connection with the environment. This framework presents the 'third place' as a key spatial concept that fosters psychological resilience. By offering a neutral, accessible and common ground, residents can rebuild social connections and co-create new meanings of Delfzijl, strengthening a sense of place and their psychosocial wellbeing.

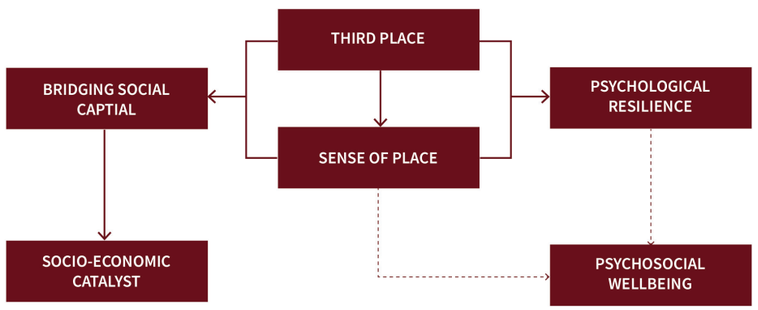


Figure 2.2 *diagram of the theoretical framework for the project*

03 Precedent analysis

THIS IS DELFZIJL

The cityscape of Delfzijl is a complexity of tangible and intangible layers of meaning. Layers that have been lost and layers that have been formed. It has created a place where the tangible and intangible meet, a place that holds profound meaning and memories to anyone and everyone. Here my graduation project has found its own place.

– AUTHOR (2026)

BORNHOLM
ONLY NEIGHBORHOOD IN DELFZIJL TO KEEP EXISTING FOR SOME YEARS...
FORMER PRIMARY SCHOOL
DEMOLISHED!
36% NON-DUTCH INHABITANTS
LANDENBUURT ("DERDE BUURT")
REINFORCEMENT TAKING PLACE HERE...
LIVING ENVIRONMENT IS CHANGING HERE
TO BE DEMOLISHED!
THESE HOMES HAVE EARTHQUAKE DAMAGE
THIS IS STILL ONE OF THE ORIGINAL NEIGHBORHOODS
BUILT WHEN THE POPULATION WAS STILL GROWING (NOT ANYMORE...)
NEW CONSTRUCTION HERE
HOMES HERE DEMOLISHED IN 2000s
EVERYTHING WAS GONE AFTER 2008!
FINSESTRAAT
"BREDE SCHOOL NOORD"
FORMER SCHOOLS FUSED TOO SOON! (3 YEARS IN 1 CLASSROOM)
HOGELANDSTERWEG
SCHRIJVERSBUURT
SMALL HOMES
3 BEDROOMS + LIVING
PROBLEMS WITH CRIME USED TO BE HERE (DRUGS, VIOLENCE, MANY PEOPLE WERE UNEMPLOYED)
USED TO BE PART OF: LANDENBUURT
SHOPPING CENTRE
FORMER NOTORIOUS STREET
SHOPPING CENTRE "KUILSBURG" WAS HERE?
PLACE WITH UNREST IN THE PAST
PLAYGROUND "SPEELEILAND"
SKATEPARK
MODERNISATION TOOK PLACE HERE IN 00's
KWELDERLAND NEIGHBORHOOD
RATHER NEW
TRACES OF HISTORY GONE
DIFFERENT ECOSYSTEMS HERE
SEA + LAND MEET
MONUMENT "BOEISTAU"
LOW TIDE UNTIL WHERE THE WATER COMES
DIKE = WALL BETWEEN CITY & SEA
DIKE = SENSE OF PLACE
COMING IN 2029: DELFSAIL!
("THE SAIL AMSTERDAM OF THE NORTH")
MUDFLATS ARE POPULAR WITH ANIMALS!
THIS IS THE EEMS CANAL
ALWAYS BEEN IMPORTANT AS TRADE ROUTE
WHERE IS THE GERMAN BORDER?
"STERRENBUURT"
THIS USED TO BE
THIS IS WHERE DELFZIJL-NOORD STARTED
VERKEERSPARK
DELFZIJL WAS HERE (2003)
CAMPER PLACE
WITH A VIEW?
"KOP LEEGMAKEN"
"UITWAKEN"!
KUSTWEG
THE FORMER HARBOR WAS HERE SOMEWHERE
PEOPLE COME TO WALK THEIR DOG HERE
VVV-LOCATION
TUITE-AQUARIUM (+ WHITE BUNKER)
POLARISBUURT
LOW SOCIO-ECONOMIC SCORE HERE
GREENERY HERE
POST-WAR ARCHITECTURE
FORMER "MOSKOU"
FINAL CALL: DELFZIJL STATION
BUS PLATFORMS
DELFZIJL BEACH!
YOU CAN'T SWIM HERE...
YOU CAN REACH THE WATER HERE!
LOTS OF SAND NEXT TO ASPHALT
KWELDER LANDSCAPE
KIEK OP 'T WAD (FISH RESTAURANT)
SLUICE AGAINST WATER
NO ACCESS HERE!
DIEKLOPER: TO CONNECT CITY TO THE SEA
RAILWAY BROUGHT WELFARE, RAILWAY DIVIDES CITY
"NOORDERZORG" ELDERY CARE HOME
AND A CEMETARY CLOSE BY...
DAMSTERLAAN
QUEEN WILHELMINA PARK
SOCCER
SOCCER
TENNIS
ATHLETICS
HISTORIC CENTRE
VACANT BUILDINGS HERE
SHOPPING STREET
ALBERT HEIJN
LIDL
REMINDERS OF WWII ON THE STREET
THEATRE = HUB CULTURE
MOLENBERG
NEW MUNICIPAL BUILDING?
CAR = KING
FEW HISTORIC REMAINS - LARGE WATERGATE
INDUSTRY
NO ACCESS!
WHAT HAPPENED TO THE CITY'S CONNECTION TO THE WATER?
GROWTH OF DELFZIJL STARTED WITH FORMER FACTORIES HERE
FERRY CONNECTION TO GERMANY
DELFZIJL HARBOR
DAMSTER HAVEN
WHERE DID THE REST GO?
FORMER DEFENCE WORK
'T HOESKE VAN OPDE IET
SCENES FROM BYGONE TIMES
ARCHITECTURAL HIDDEN GEM
AMSTERDAM SCHOOL STYLE
PATCH OF GREEN
MORE GREEN HERE
SHOPPING CENTRE HERE
SMALL PARK
DAMSTERDIEP (WHERE DELFZIJL STARTED...)
DAMAGED HOMES HERE...
LOW SOCIO-ECONOMIC SCORE HERE
FARMSUM
START OF INDUSTRY →
CHEMIEPARK DELFZIJL
EXPANSION NOORD IN (536 HOUSES)
ZANDPLATENBUURT
46% NON-WESTERN INHABITANTS
STATION DELFZIJL WEST
DIRECTION: GRONINGEN (36 MIN)
FIVELZIGT
CONSTRUCTION
COMING SOON: ZESHUIZEN

A fragmented history

How it all started
Delfzijl thanks its name to the three sluices (‘zijlen’ in Dutch), that were built in the Delf around 1300. Being located between Groningen and the sea, Delfzijl became a small trading hamlet in the mid 14th century and developed into a fortified town during the 17th century. The city walls of the fortified town remained until 1870, after which its need ceased and they were torn down. As the new Eems Canal was dug in 1866 and a railway to Groningen was constructed in 1883, this newfound connectivity transformed the town into an industrial hub. As the industry expanded further in the early 20th century, industrial and residential expansions were realised towards the East (Farmsum) and West (Delfzijl-West). During the Second World war, Delfzijl was a strategic German stronghold between 1940-45, the city was the last to be liberated by the Canadians in early May of 1945. The war left its mark on Delfzijl, as large parts of the historic centre were destroyed (Graduation Studio Delfzijl, 2026).

A metropolis that never came
After the war, Delfzijl was meant to become a true ‘metropolis’ of 140,000 inhabitants, relieving the crowds of the Randstad. New neighbourhoods in Delfzijl-Noord were built to house the industrial employees that were to come. However, this growth never occurred, and the metropolis remained just a dream. As industrialisation came to a halt in 1973 due to the oil crisis, Delfzijl did not recover its economic growth and expected surge in industry employment (Graduation Studio Delfzijl, 2026). From 1981, Delfzijl was already characterized by depopulation and vacancy in residential areas, leaving the city with some 17,000 inhabitants by 1990. From here onward, large-scale demolitions took place in the city and in 2010, the regional hospital Delfzicht was closed. Many traces of former post-war neighbourhoods were wiped away, changing the living environment where residents had been living for years. To this day, large parts of especially Delfzijl-Noord are undergoing major demolition and construction, as the earthquakes due to the gas extractions have also severely damaged housing in the neighbourhood (Cicek, 2026). It suggests the importance for the project to address and reconnect users to their (fragmented) traces of history. The project site provides an anchor point for this, as a panorama of remains of historical layers are visible here, therefore connecting the project to the fragmented history of Delfzijl.

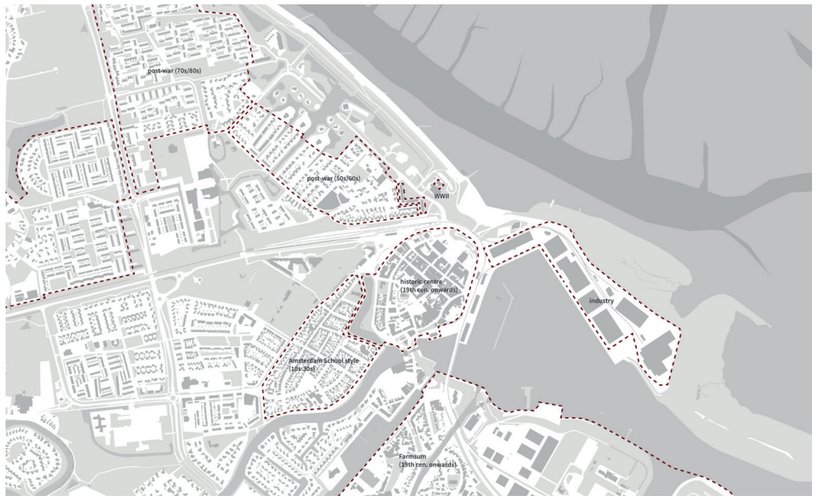


Figure 3.2 *different historical layers of Delfzijl as found in the city today*

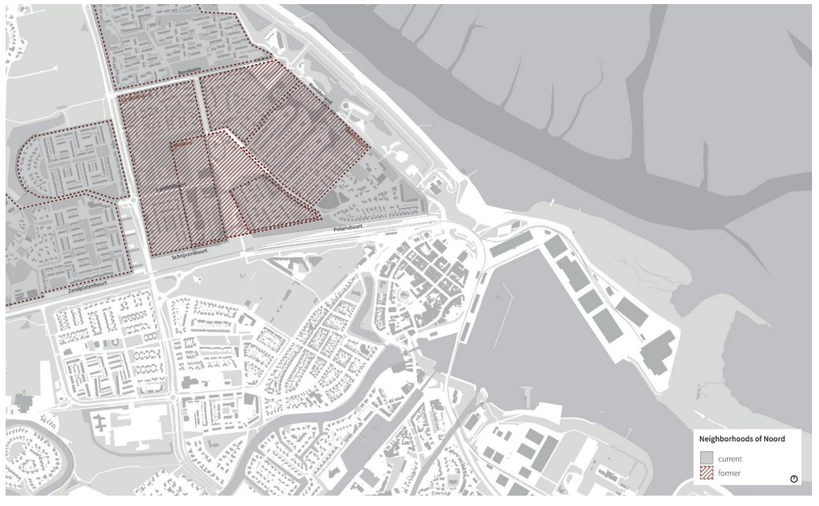


Figure 3.3 *the different (former) neighborhoods in Delfzijl-Noord, of which many traces were erased (Adapted by author from Yunus Cicek (2026))*

The post-extraction reality

Residents' welfare

The stagnation of Delfzijl's economy and industrial growth due to the oil crisis of '73 initiated the start of a socio-economic decline for the city. A shrinking population, economic contraction and vacancy in neighbourhoods became evident in Delfzijl. To this day, Eemsdelta remains a municipality with a low socio-economic score, due to high unemployment levels, low education levels and many households living off a minimal wage. Moreover, resident's liveability especially in Delfzijl-Noord is influenced by youth nuisance, which has also been recently reported by the national Dutch news outlet (NOS Nieuws, 2026).

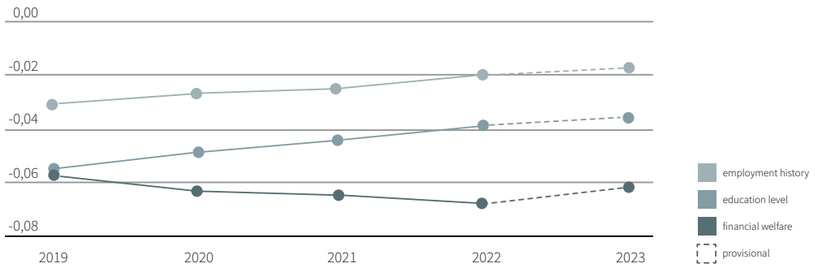


Figure 3.4 *subscores of socio-economic score municipality Eemsdelta (Adapted by author from CBS (2023))*

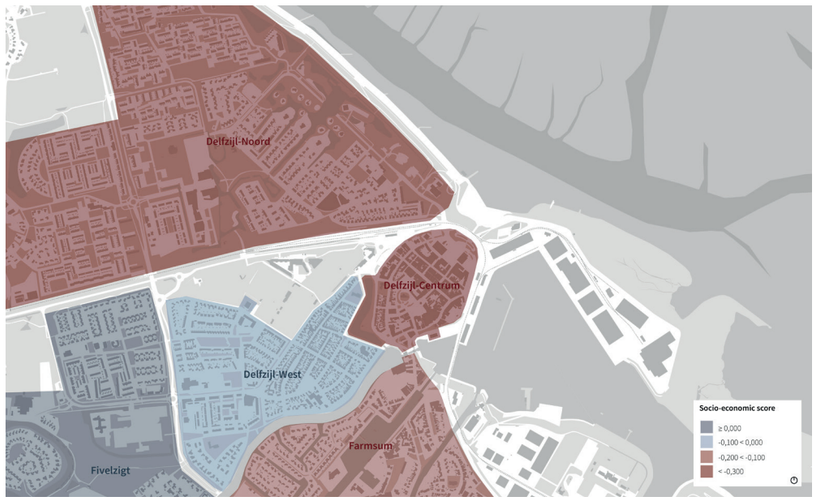


Figure 3.5 *socio-economic score per neighbourhood in Delfzijl (Adapted by author from CBS (2023))*

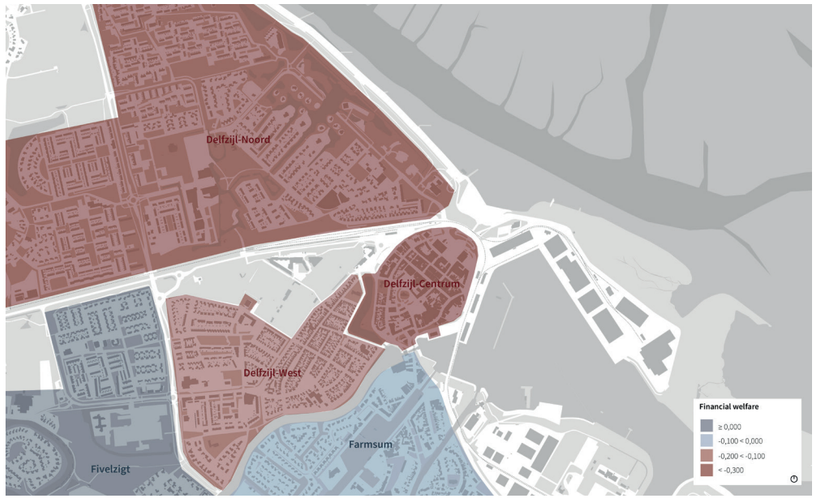


Figure 3.6 *financial welfare per neighbourhood in Delfzijl (Adapted by author from CBS (2023))*

Residents' psychosocial wellbeing

Simultaneously, the impact of the gas extractions, earthquakes and their aftermath leave a post-extraction context that has not only affected the city fabric, but also residents' psychosocial wellbeing. As people's lives are not the easiest already in this socio-economic context, the added burden of the post-extraction impact on their homes further impairs their daily lives.

Different researches have concluded and shown how the post-extraction context has affected residents' psychosocial wellbeing (see appendix I). The main takeaways are:

- People's psychosocial wellbeing is influenced by 1) physical security risks 2) damage, claim settlements and reinforcement procedures and 3) strained social cohesion;
- Structural damage to homes lead to feelings of insecurity and uncertainty;
- The complex trajectories to start a reinforcement operation take a toll, leading to loss of future perspective and stress-related symptoms, such as insomnia, palpitations and concentration problems;
- Compensation treatments can lead to conflict and tension in neighbourhoods, straining the social cohesion;
- Feelings of anger, hopelessness and powerlessness prevail with many residents, increasing the risk of burnout and evasion of social participation;
- Fragile socio-economic contexts can further affect resident's wellbeing in the post-extraction context of Groningen.

Still, many initiatives have been set up in the province and also in Delfzijl to address residents' psychosocial wellbeing. Programmes such as 'Mijn Thuis, Mijn Verhaal' (My Home, My Story) , indicate the need to not only improve social connections but also let residents know this reality is a problem to be lived and experienced collectively. With different projects, 'Mijn Thuis, Mijn Verhaal'* aims to bring new energy in affected communities and to create the space to start a conversation. Research has also concluded the need to address the causes of the disrupted social cohesion in affected areas through recognition and support. They also state the impact regional identity can have in addressing residents' psychosocial wellbeing.

The programme of the project therefore focuses on designing a third place, which provides a place apart from residents' homes (first place) and working environment (second place) to linger and be present in. By creating different spaces for user needs, the project will aid in fostering residents' resilience and addressing their psychosocial wellbeing.

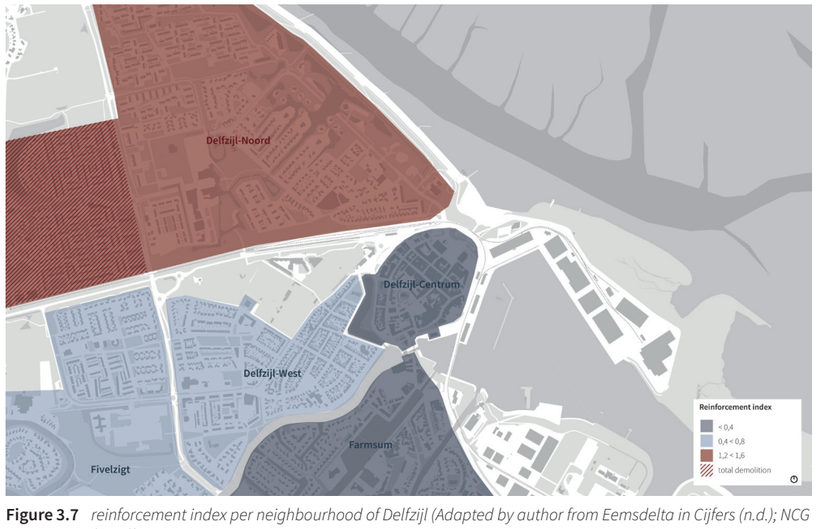


Figure 3.7 *reinforcement index per neighbourhood of Delfzijl (Adapted by author from Eemsdelta in Cijfers (n.d.); NCG (2023))*

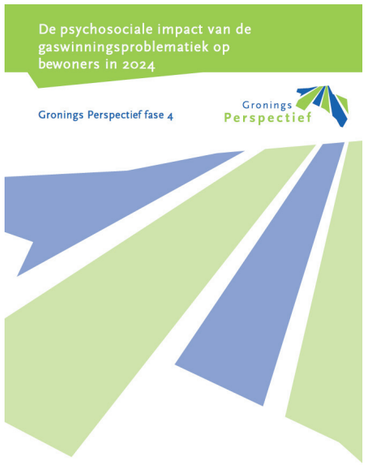




Figure 3.8 *research on psychosocial wellbeing in Groningen (province) (Gronings Perspectief, 2024; Postmes, 2025)*

** 'Mijn Thuis Mijn Verhaal' helps children and young people in the earthquake-affected areas to express their feelings and emotions through art and culture ((Achtergrond Mijn Thuis Mijn Verhaal | Gemeente Eemsdelta, n.d.)*

A destination to visit

The unique environment

Though the post-extraction context has defined the cityscape of Delfzijl throughout the years, its location between land and sea also provides a unique environment of different ecosystems that are inherent to the city and region. As the maritime ecosystem at sea transitions towards the dike into marshlands that regularly flood, the saline conditions characterize the diverse flora found here. With different migration routes of bird and fish species passing the city, a unique combination of fauna are found here. The dike itself forms a barrier between land and sea, as well as a transitional zone towards the inland ecosystems.

The project site sits right at the crossroads of these different ecosystems and therefore provides the unique opportunity to interact with. Moreover, it can become a unique destination for people to visit, as the city is one of the few in the country to be located directly on the dike in a diverse and distinctive landscape next to the Waddensea UNESCO World Heritage. Delfzijl is also the perfect base from which to explore the surrounding region with its medieval churches and villages, as well as the wide landscapes of Noordoost Groningen (Graduation Studio Delfzijl, 2026).



Figure 3.9 *differentiation in ecosystems on the coastline of Delfzijl*



Figure 3.10 *the role of the dike in Delfzijl*

Who will be the visitor?

The unique landscape of the region is already one of the reasons for visitors to come. In Delfzijl, the tourism infrastructure currently knows a rather one-side visitor profile: a 65+ years old couple, coming by car or camper in search of tranquillity, privacy and nature. Next to this, the ferry line to Germany bring an influx of German day-visitors for the Wednesday market in the city. However, this one sided visitor profile has left Delfzijl's tourism infrastructure fragmented and underdeveloped to other age groups and interests. Potential lies for the project to contribute to diversifying the tourism ecosystem of Delfzijl by introducing a programme that accommodates a wider range of visitor lifestyles.

As the project means to accommodate both locals and visitors, the two user groups present a dichotomy in the programme. Where resident needs are focused more on comfort and wellbeing, visitor needs are more experience- and convenience-based. This presents a tension between both, which can be implemented in the project in different models. Still, both programmes can contribute to the socio-economic activity in the area, as they allow for exchange of goods, job opportunities and entrepreneurial activity (Graduation Studio Delfzijl, 2026).

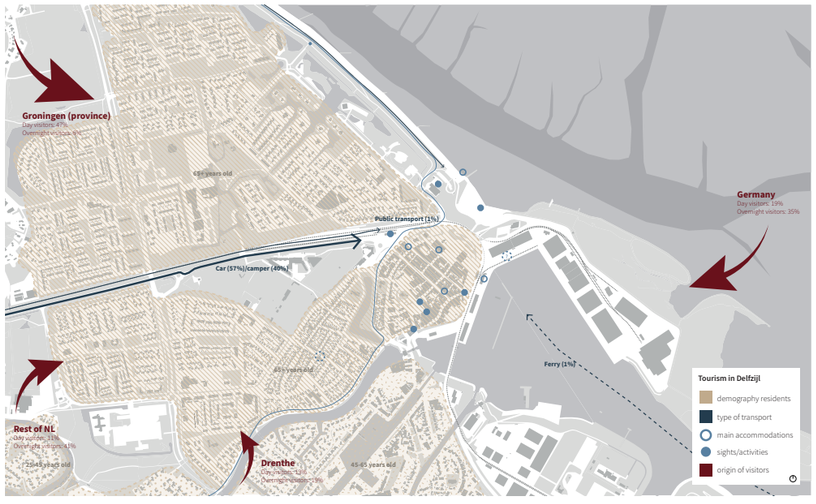


Figure 3.11 *current tourism infrastructure of Delfzijl (Adapted by author from Ginder (2025))*

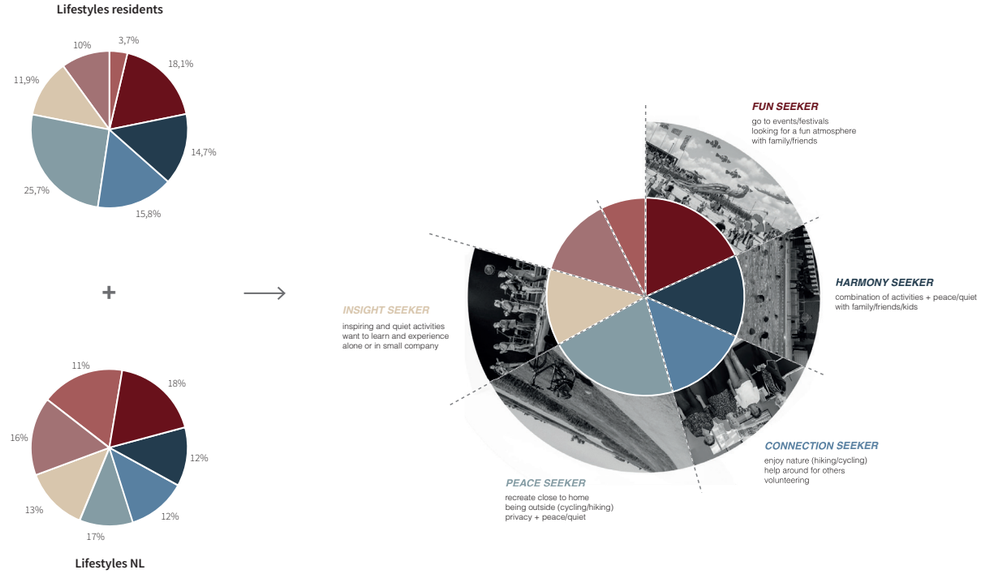


Figure 3.12 *lifestyles of (potential) visitors for Delfzijl*

Residents	Tourists
Wellbeing: familiarity, comfort, tranquility, community	Experience: unique attraction(s), activities, new environments
Public and private atmosphere	Public atmosphere
Everyday functionality: access to services, affordability of facilities	Convenience: amenities, hospitality, wayfinding, information
Long-term attachment	Short-term engagement

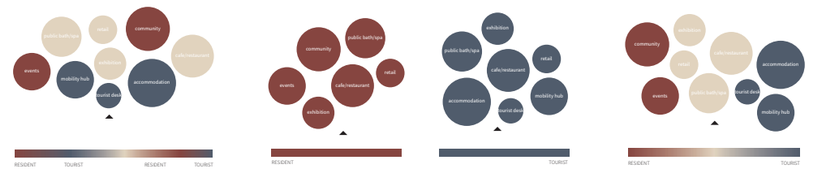


Figure 3.13 *table with differences between user groups, informing programme analysis*

The third place

To design a destination for visitors, while simultaneously becoming a communal ground for local residents, the project should distinguish itself from the ‘first place’ (domestic environment) and ‘second place’ (work environment) to become an attractive destination for visitors, a ‘third place’. By intuitively analysing these places, another architectural language is determined to guide the project.

The ‘first place’ in the province of Groningen and in Delfzijl is characterized by facades with separate windows set only in the X- and Y-axis. In the floorplan, a sequence of separate (closed) spaces is found, frequently divided between different floors, with living downstairs and sleeping, working and sanitary functions upstairs. The height of the space usually exceeds no more than 3m. First places in Delfzijl are materialised mostly using (red) brick, however many social housing complexes also use a combination of brick, synthetic materials, glass and steel.

The ‘second place’ on the other hand sometimes has higher ceilings until 3,5m and is spatially organized in more large-scale (open) spaces or repetitive spaces. In materialisation, it differentiates from the ‘first place’ in its use of sleek finishes such as glass, aluminium, plaster and steel, though brickwork and more small-scale facade openings are common as well.

According to this analysis, the ‘third place’ should differentiate from the first and second place, therefore making use of taller, irregular and open spaces and window openings in the X-, Y- and Z-axis. This aids in setting up sightlines in the floorplan towards the surrounding viewscape, which in turn reinforce a sense of place. Moreover, by choosing distinguishing local materials for the facades, the third place will stand out to its surroundings, becoming an appealing destination to visit.

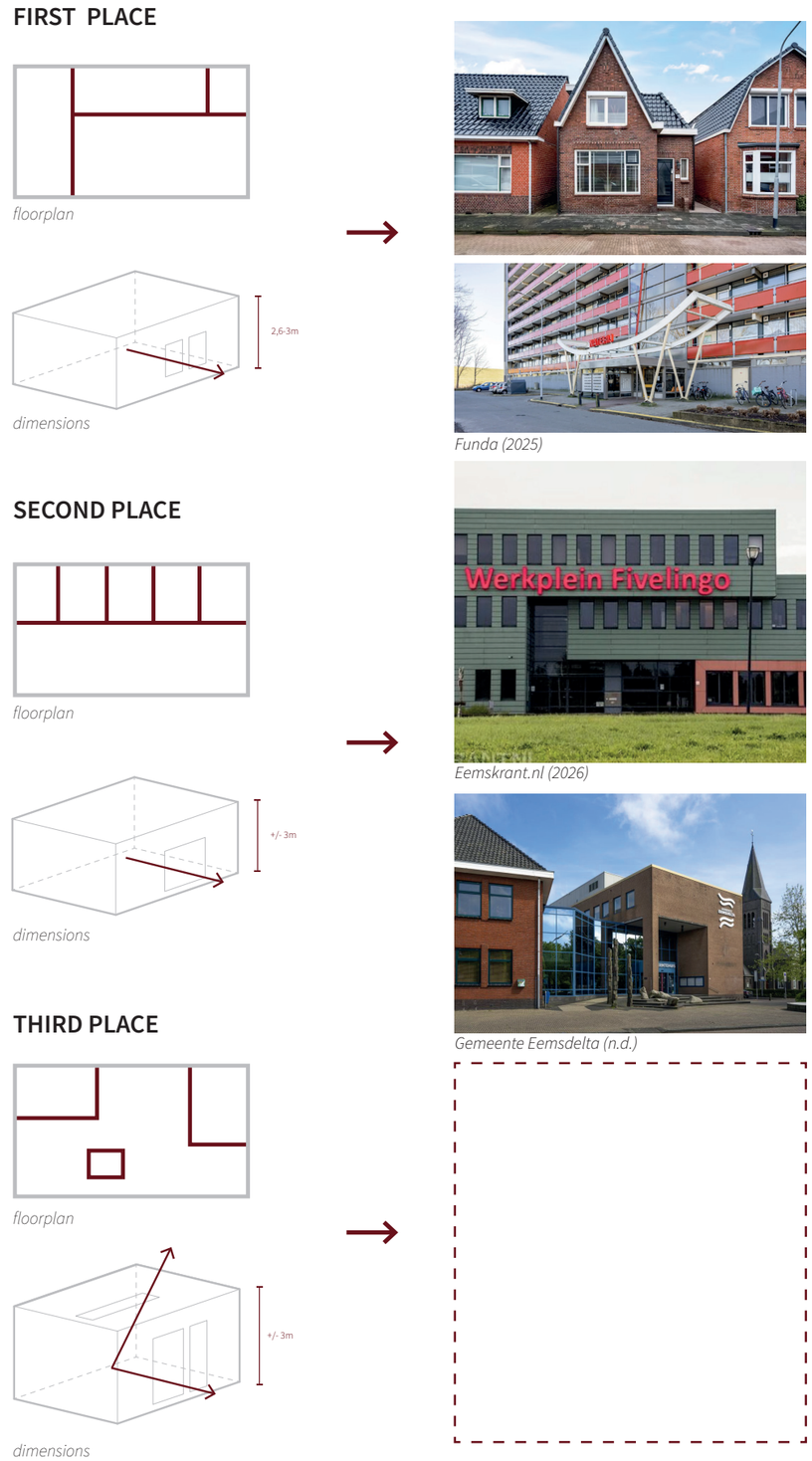


Figure 3.14 *conclusions of analysis of the first, second and third place*

A third place on the dike

Concluding this analysis, the project brings together the fragmented history of Delfzijl, its post-extraction reality, and the unique environment. Here, the dike serves as a spatial mediator rather than a barrier between city and sea, where a ‘third place’ for residents and visitors is developed. However, ‘place’ is more than just the site itself, as literature readings have concluded (see appendix II). It is shaped by its environmental character and users, which mark the essence of place and give it identity. To be exposed to a place’s character means to dwell, in which orientation and identification play an important role. The dike in itself forms an anchor point for the project here, being more than a barrier between land and sea. Being exposed to the natural elements and conditions of the site means to orientate and identify, as the bodily senses are informed of its place. When the sounds of seagulls emerge, the wind sears around and one can hear the water gushing up against the dike. Turning back, the cityscape of Delfzijl becomes evident, with its first industrial sites and historic centre to the left and its post-war neighbourhoods to the right, framed above a former bunker of the Atlantikwall. This journey of transition brings about orientation and identification, therefore embedding a sense of place and belonging in the project. The dike becomes a primary architectural condition that constructs a reimagined sense of place for both residents and visitors, though its meaning may differ to both.

By framing the tangible and intangible layers of Delfzijl through a sense of place, a third place is formed. The project transforms mere space to a place where identity, wellbeing, and experience converge and interact and where the tension between resident and tourist needs is mediated.

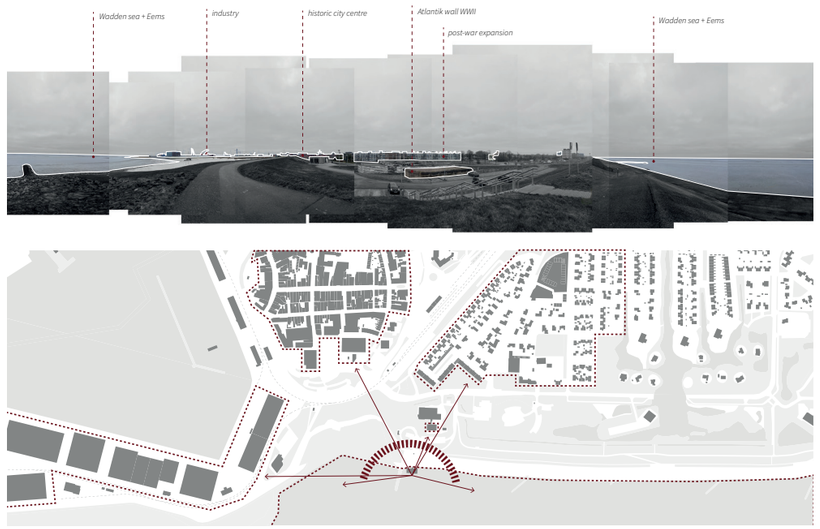


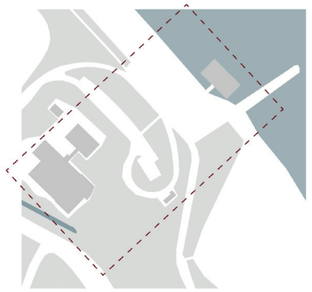
Figure 3.15 *viewscape of Delfzijl as seen from the project location*

04 The design

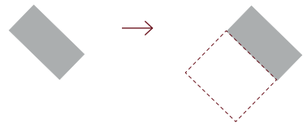
General intervention

Design principles

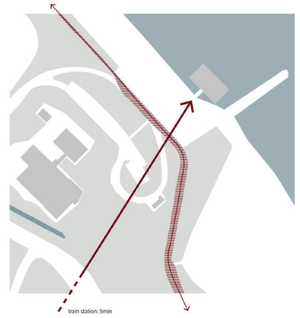
The design of the third place is embedded in its location by connecting with the existing urban and landscape context in different steps. (1) A new connection between city and sea is proposed with the introduction of a new path onto the dike from the existing road (Kustweg). This new route intersects the existing traffic flow on the dike that is already used at large by locals and visitors on a daily basis. (2) The programme is then separated into two buildings: a pavilion, housing convenience-based functions and a main building on the site of the Eemshotel, which focuses on experience and wellbeing. The pavilion and main building are connected through an outdoor public plaza, which is further activated by the intersection of the traffic flows on the dike. (3) By opening up the pavilion and main building towards the cityscape of Delfzijl, the project responds to its surroundings, where a new landscape of ramps, stairs, and interior and exterior spaces is formed on and over the dike, becoming one extended public space. This invites residents and visitors to explore and interact with the environment and each other. The project's footprint and design distinguishes from the architecture of the surroundings, therefore becoming a 'third place' and simultaneously an attractive destination to visit.



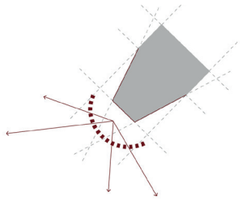
1. The project site



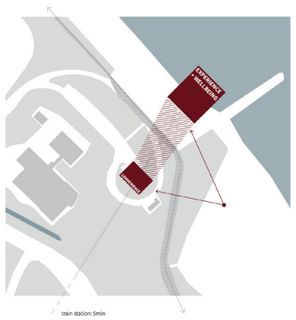
1. Increase surface area for programme



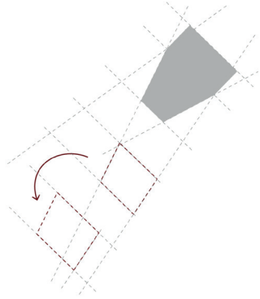
2. A new route on the dike



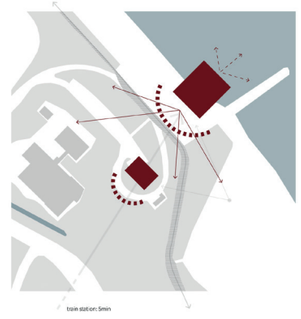
2. Shape towards cityscape



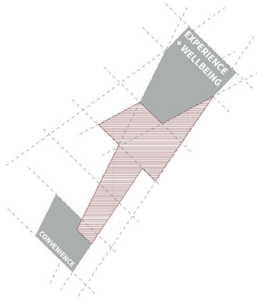
3. Programme separation



3. Programme separation



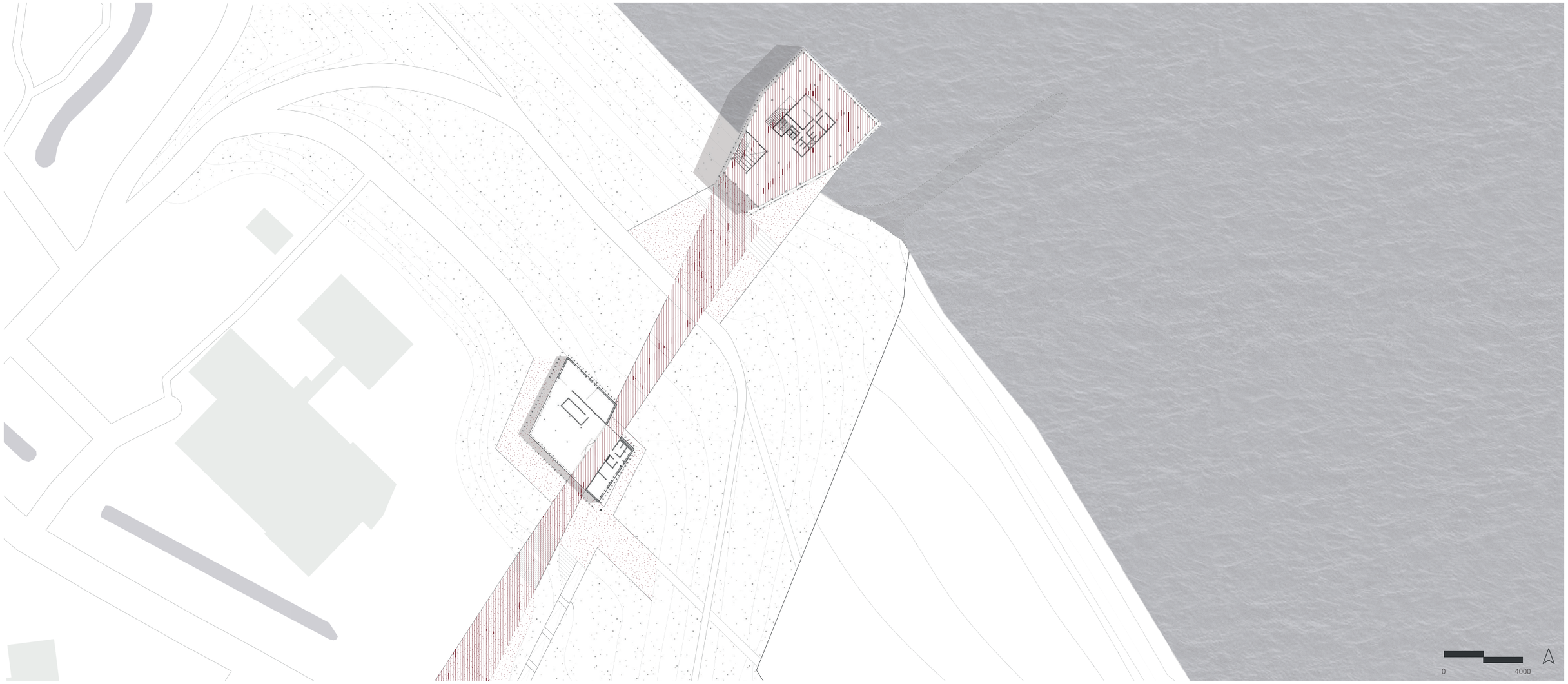
4. Open up to the city- and seascape

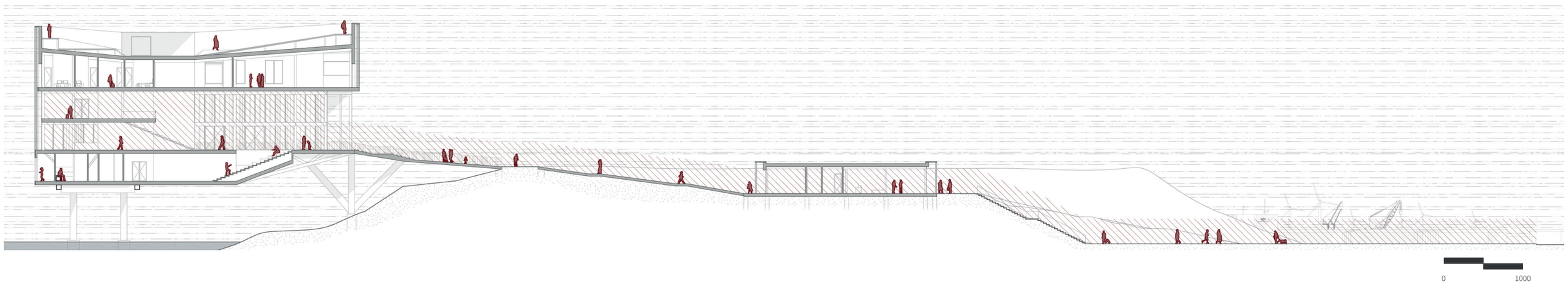


4. A connecting public plaza

General intervention

Embedding the project in the urban context





General intervention

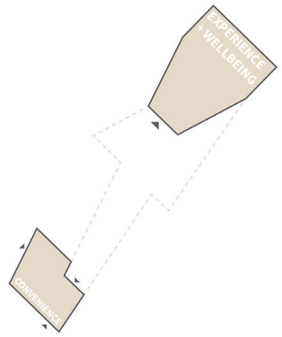
Design strategies

Programme
By separating the programme into two buildings, the project ensures space for both residents and visitors, thus maintaining its identity as a ‘third place’ that is also a tourist destination. The pavilion houses convenience-based functions, focused mostly on visitors, and the main building is directed at both visitors and residents as experience- and wellbeing-based functions are located here. The programme is organised in such a way here that the exterior public plaza seamlessly transitions into the public ground floors of both buildings and extends towards the public rooftop.

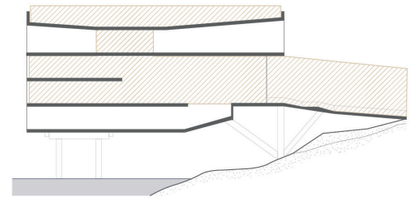
Circulation/movement
Research (see appendix II) shows that movement within the buildings plays an important role in encouraging a sense of place for users. To move around means to feel a certain freedom and spaciousness within the architecture according to Tuan (1977), where every ‘pause’, or participation in a building’s programme, may become a ‘place’ for users. Therefore the project is designed in such a way to stimulate movement between both buildings and within them. To accommodate this, a clear route is developed onto the dike, towards a compact core in the main building. Around this core, the vertical circulation takes place. The core also acts as a landmark, dividing the large-scale public ground floor of the main building into more intimate spaces, inviting the user to explore and interact.

Sightlines and visual cues
Literature readings (see appendix II) point out the importance of ‘orientation’ and ‘identification’ within architecture to develop a sense of place. To orientate means to know where you are, but a sense of place is truly instilled when one can identify themselves with the place (Norberg-Schulz, 1981). Therefore, the user journey plays a key role in the project, becoming a curated sequence of framed sightlines to the surroundings, constantly connecting the user to their environment, enabling them to orientate in and identify their surroundings. The journey ends in a panorama of the city- and seascape on the public rooftop.

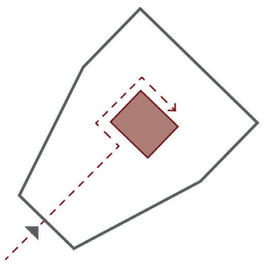
Spatial design
Abbas et. al (2024) indicates there are three layers of skin that affect the individual. First a human’s actual skin, over which clothing is layered as a second skin. Architecture serves as a ‘third skin’, and therefore architectural design (psychologically) impacts the user. By designing different spatial atmospheres within the building envelope, resilience can be fostered and strengthened for users by positively impacting the brain on an emotional and cognitive level (Medhat Assem et. al, 2023). Furthermore, using multi-sensory design elements, architectural experiences are shaped for the user, contributing to a sense of place (see Appendix II). This is done in the project through 1) the programme, that focuses on both interaction as well as space for the individual, 2) varying spatial atmospheres, developed using different materials and spatial qualities, 3) circulation routes, allowing users to linger in and around the building(s) and 4) connections with the surroundings through framed sightlines.



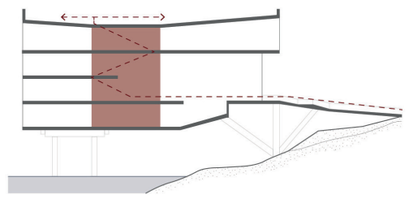
programme split for user groups



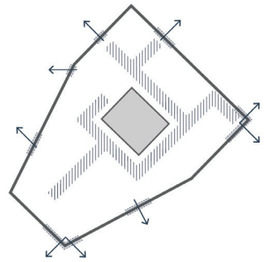
public GF vs. user-specific functions



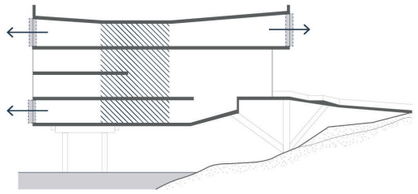
central core to circulate around



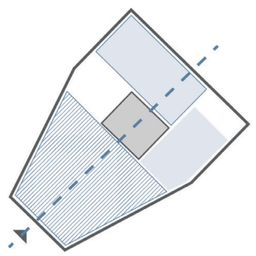
core connects different functions



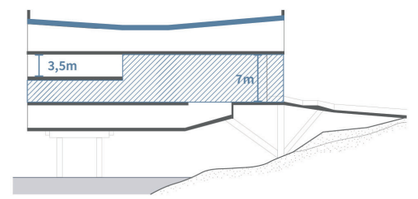
sightlines upon entry



sequence of sightlines



symmetrical building envelope



spatial design characterizes third place

General intervention

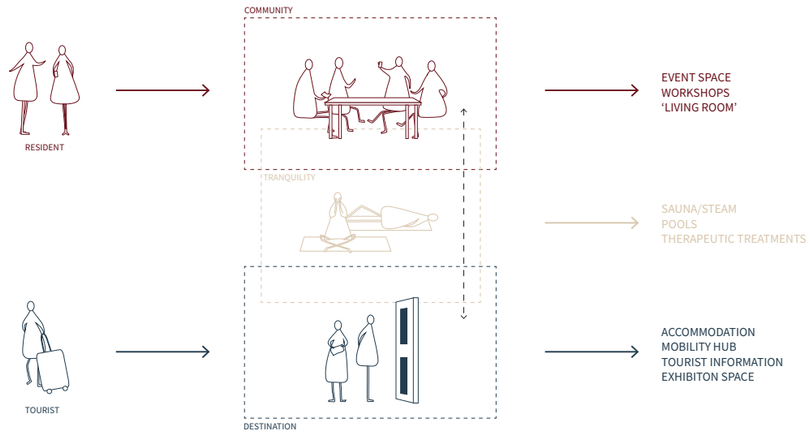
Programme division

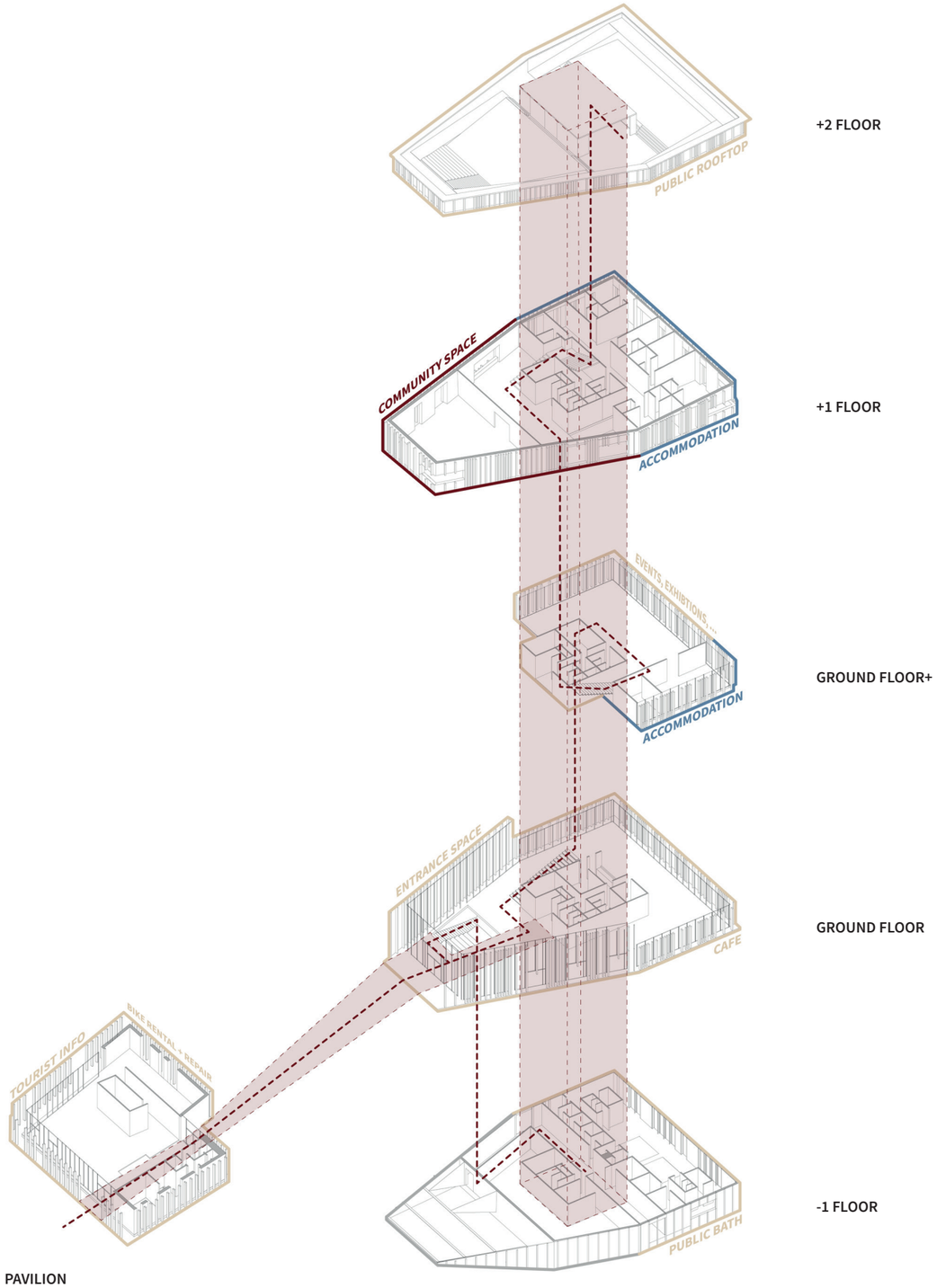
As mentioned, the programme is divided into two buildings, meaning the project hosts not only shared spaces for both user groups, but also separate spaces, thereby guaranteeing a sense of ‘ownership’ for users. This prevents the design from becoming purely a community hub or tourist destination.

In the pavilion, a tourist information point (VVV), retail space, and a bike rental and repair shop are located in a large central public space. The programme of the main building however is divided in relation to the public/private principles of them. From design analyses, it is concluded that the connecting factors of the programme for both user groups are the entrance and cafe, therefore these are placed on the public ground floor. The large-scale entry space connected to the café serves multiple functions and can also be used for exhibitions, events, meetings and other activities. This way, the ground floor remains a public area during the day and at night, making sure the building does not close up after working hours, but remains an activated space throughout.

The first floor is separated more clearly towards the sea for visitors (accommodation) and towards the city for residents (community space). The circulation space serves as a transition between the two and moves towards the public rooftop that gives a panorama over city and sea. The floor below ground level functions as a bathing area and spa for residents and visitors, and is connected through a large staircase to the public ground floor.

The introduction of this programme and its organisation also contribute to the socio-economic activity in the region. They allow for job opportunities, exchange of goods and entrepreneurial activity for the region, while also supporting the ‘third place’ in its role for residents.





A journey from space to place

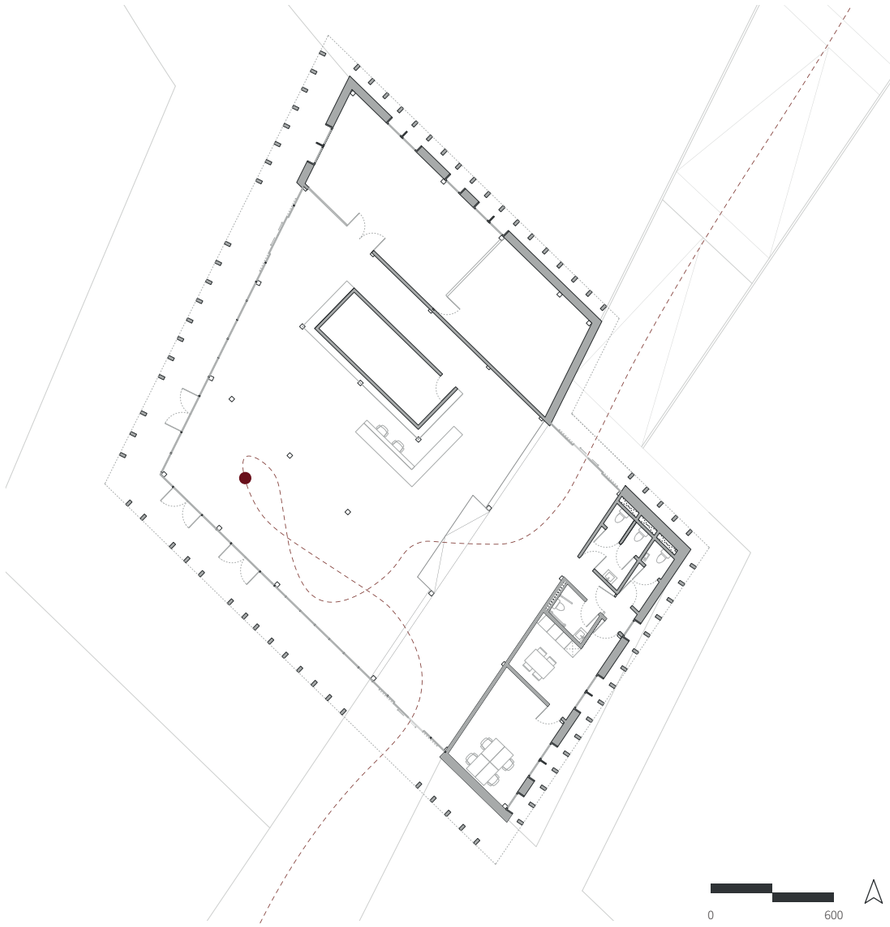
Entrance

Taking off from the Kustweg, a new paved route leads up towards the dike. As you move away from the traffic noise, the open and inviting façade of the pavilion leads you up the stairs towards the entrance. The main building already arises behind the dike, standing tall as a destination on this route. Its materialisation is both local and unique, as the hempcrete and wood façade form an architectural language of their own, setting it apart from its surroundings.



Pavilion

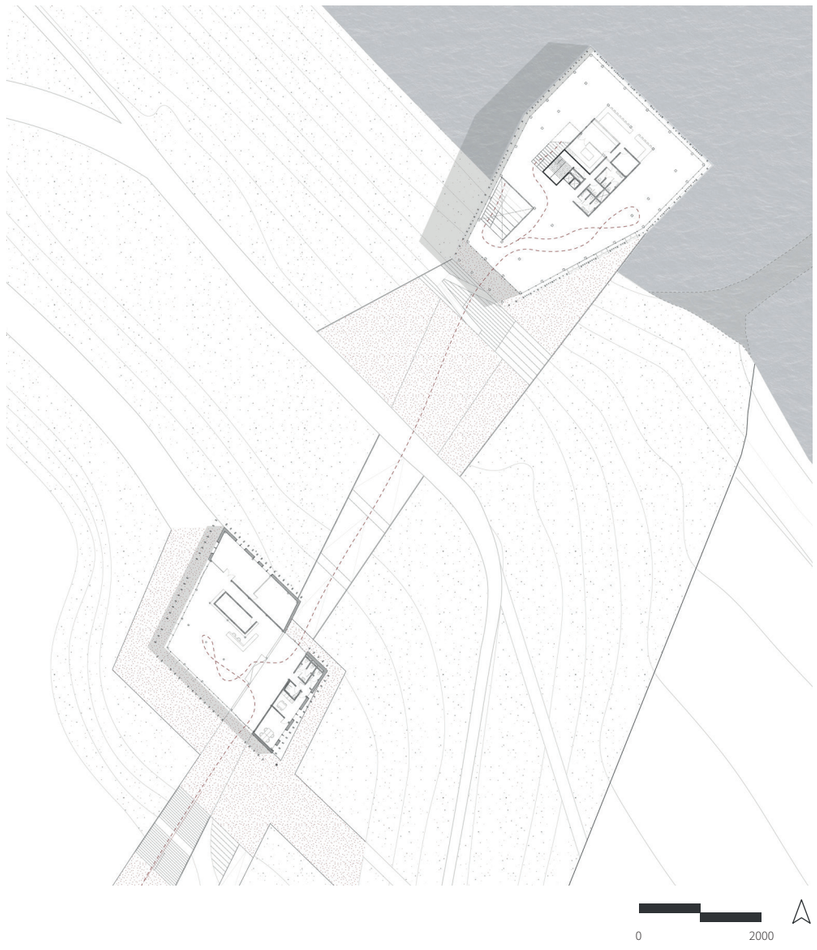
As you enter the pavilion, daylight floods the space as though outside is drawn in. Though open, the space frames views of the surroundings, as the windmill, WWII bunker and neighbourhood of Noord come into sight, reconnecting you with the cityscape of Delfzijl. A coming and going of people brings a lively and informal atmosphere, allowing the pavilion to be a low-threshold meeting place where different users come to ask for directions at the tourist information, buy local products from the shop or come to pick up their bike.



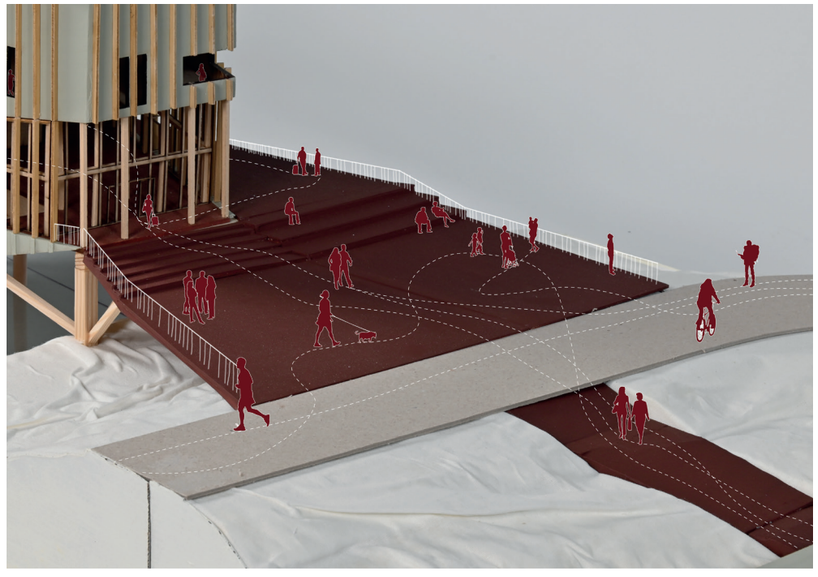


Public plaza

Leaving the pavilion, you continue upward onto the dike with a ramp that leads to the outdoor public plaza. As the wind starts to pick up and the seagulls circle overhead, your bodily senses become increasingly aware of place, where land and sea meet. As the city feels further away, the main building rises ahead, standing tall on massive piles at sea like the Eemshotel once did: a reminder of the uniqueness of the location. The plaza looks out over city and sea, allowing to pause, linger and observe. With the city as a backdrop, You see people passing by, each with their own reason for being here, resident and visitor alike.



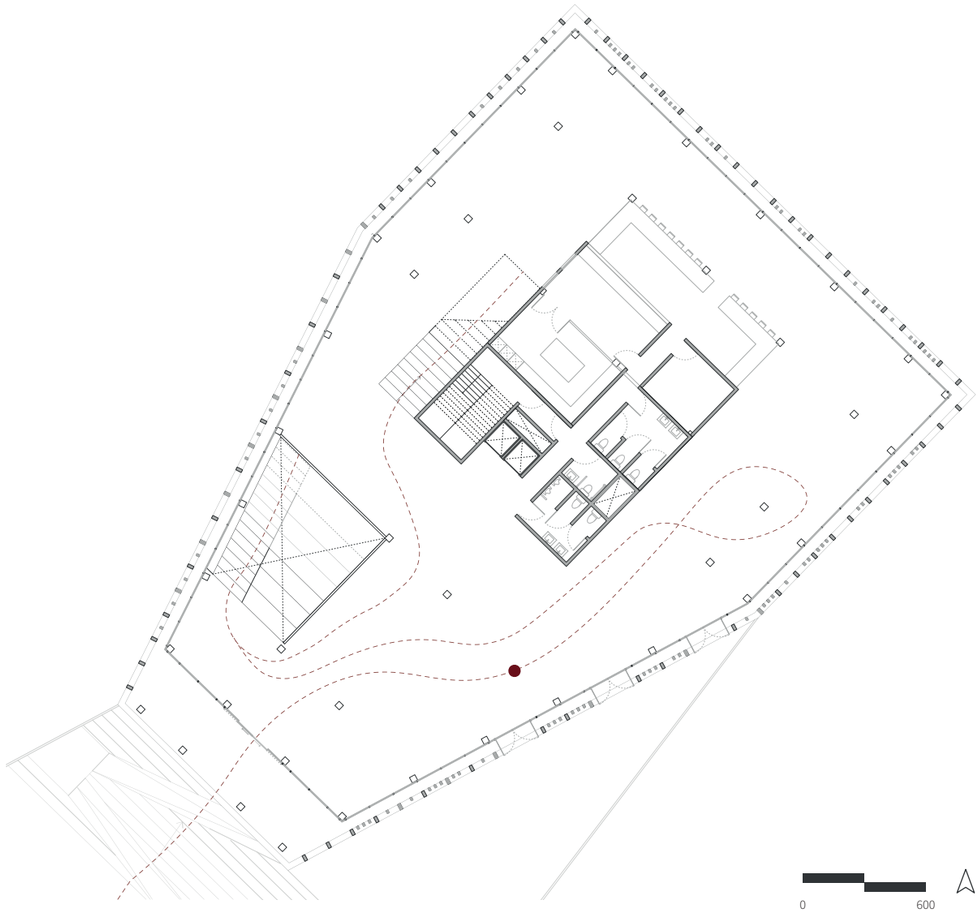




Ground floor (0)

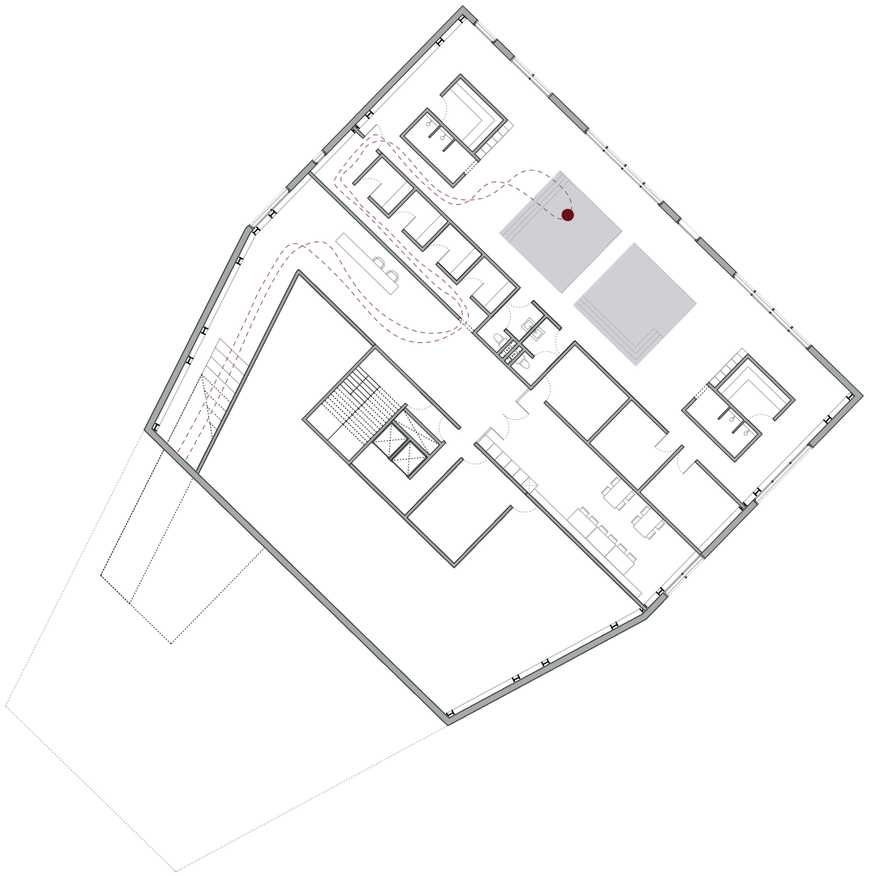
Approaching the main building, the transparent façade clearly marks the entrance and guides you inside, where you are welcomed in a large public space. The central core interrupts your line of sight towards the sea and divides the ground floor into more intimate spaces while allowing people to move freely around. As sunlight filters through the facade, a play of light and shadows is formed, when your eye is drawn to outside again, where Delfzijl's industry is framed against the sea.

The café looks like a lively meeting place for young and old, and a stopover for visitors on their way. As you are continuously connected to your surroundings through the transparent façade, its rhythm interrupts your views here and there, constantly changing your visual relationship with the environment.



Public bath (-1)

The large staircase down takes you closer to the sea, where a public bath is found. Within the space, every once in a while you reconnect with your surroundings through different windows and views, making you aware of where you are. Though in the city, a frame of the sea and sky create a sense of distance and tranquillity, while offering a place for retreat and restoration through bodily comfort.

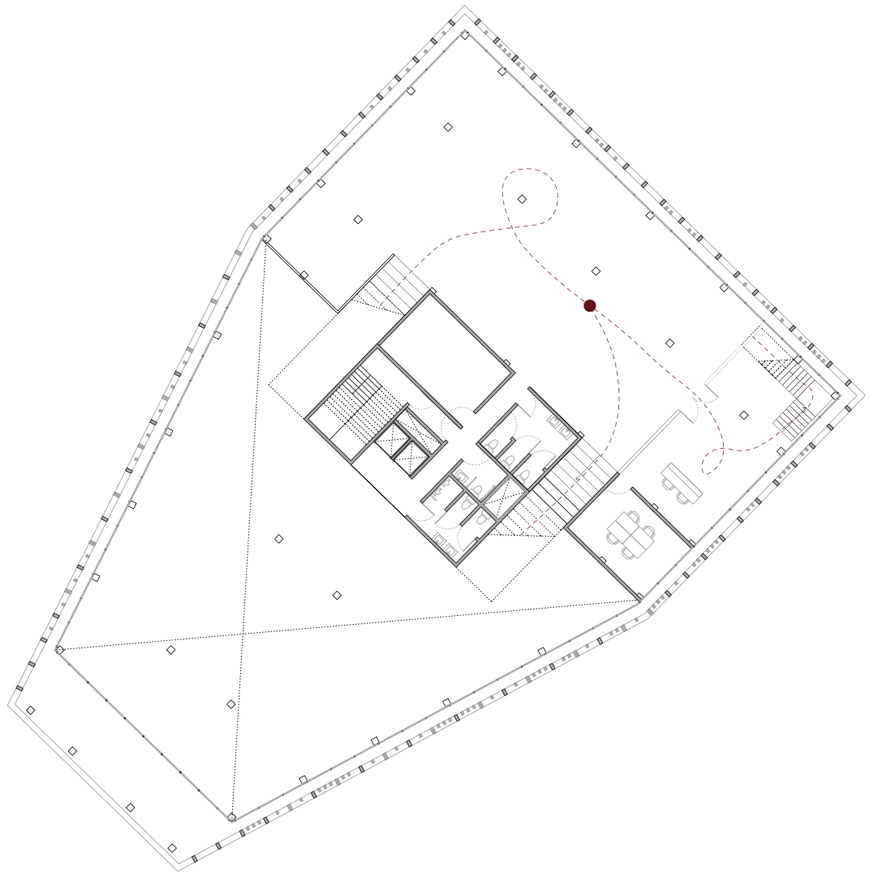


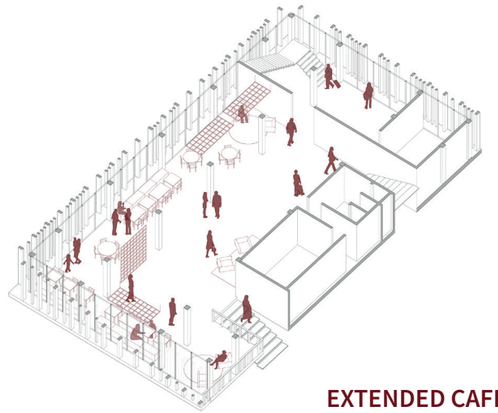
0 600



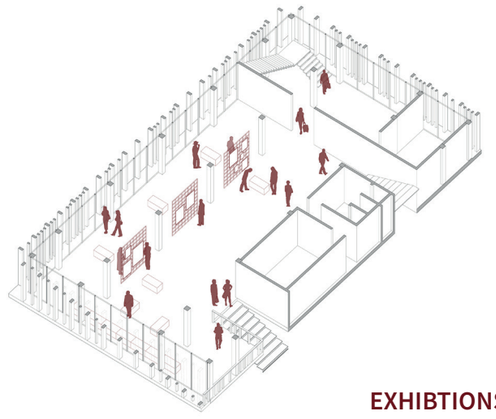
Mezzanine (0+)

Taking the stairs back up again into the entrance space, the light draws you up to the next floor. The openness of the plan extends the atmosphere of the entrance space and allows for different uses throughout the weeks and months, ranging from events and exhibitions to an extended café space. As the needs of users may change over time, the space will adapt. At the same time another layer of use becomes visible, as guests arrive and depart with their suitcases in hand, checking into their accommodation for the night.

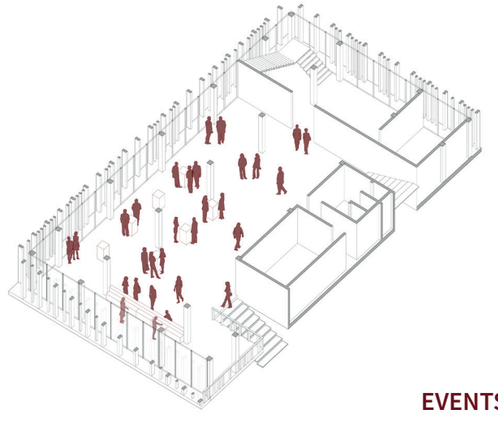




EXTENDED CAFE



EXHIBTIONS



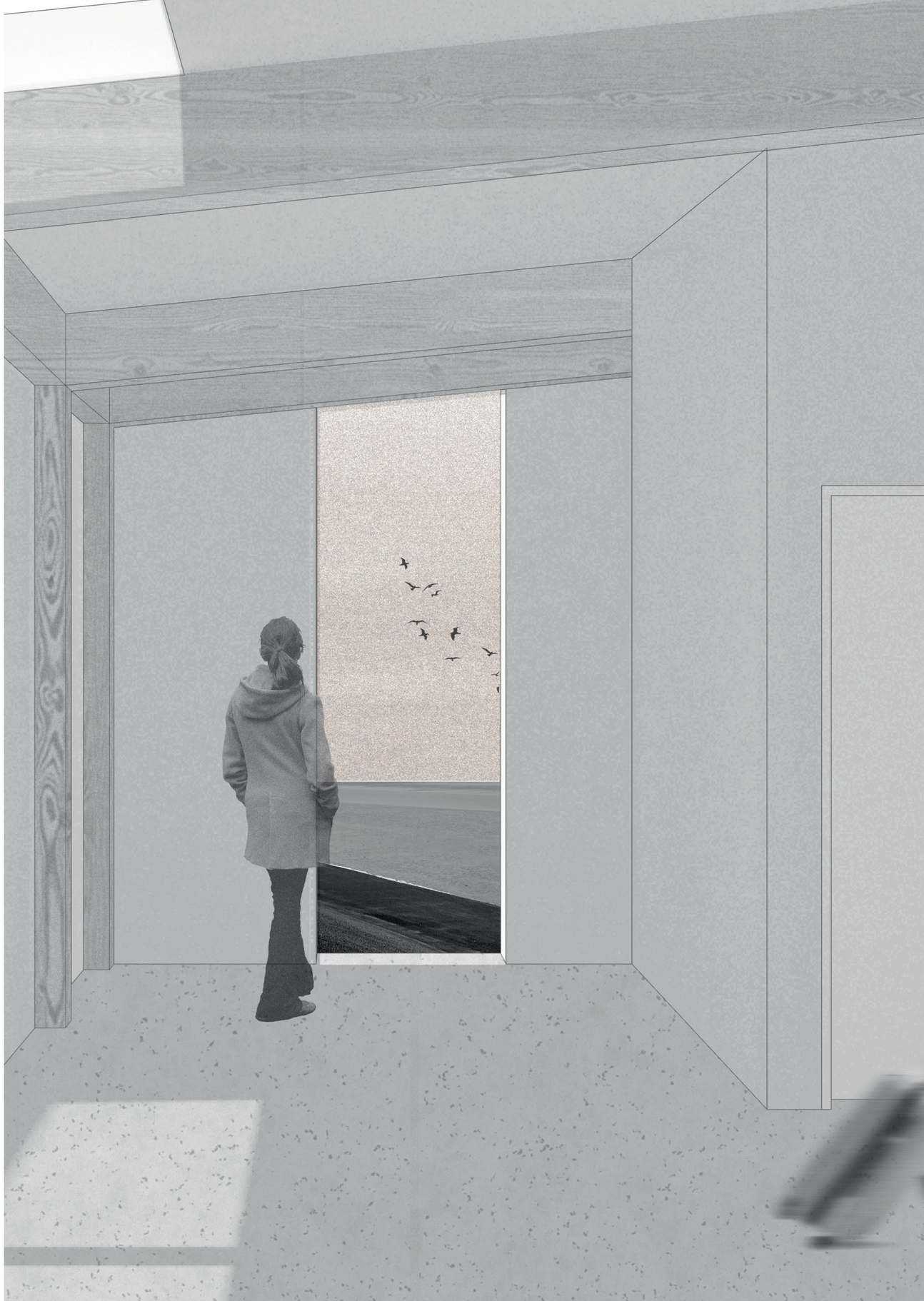
EVENTS

Accomodation (+1)

Going up the stairs to the first floor, the atmosphere becomes more calm and private, moving away from the noise downstairs. The hallway of the hotel is spacious and wide, with daylight entering from the facades and above, with vast ceilings and a large bay window framing the dike between city and sea. The natural materials soften the space, creating a tactile and warm atmosphere.



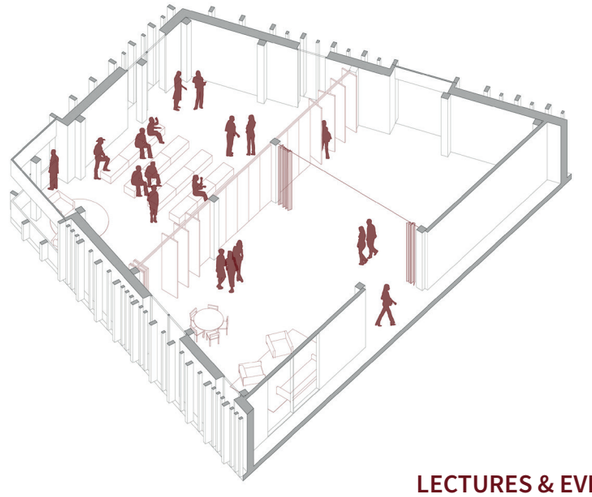
0 600



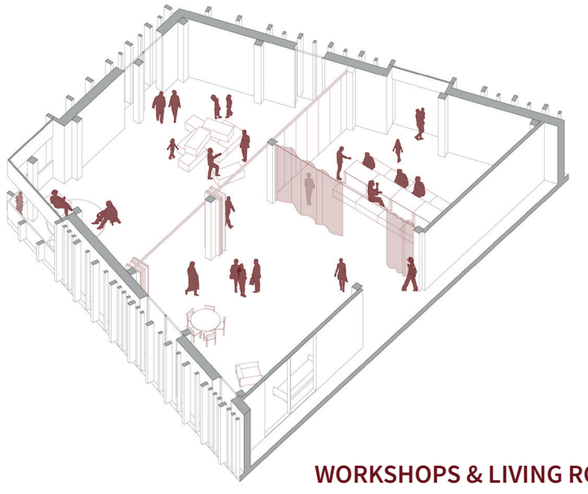
Community space (+1)

As the hotel is positioned towards the privacy of the seascape, the community space on the first floor sits above the entrance and is directed towards the cityscape of Delfzijl. Here, views open towards the historic centre, industrial landscape and neighbourhoods in Noord. Workshops, lectures and gatherings take place in a flexible space that can be rearranged into different settings. The absence of fixed rooms encourages openness, participation and collective use, where residents are welcome to inhabit the space in different ways.





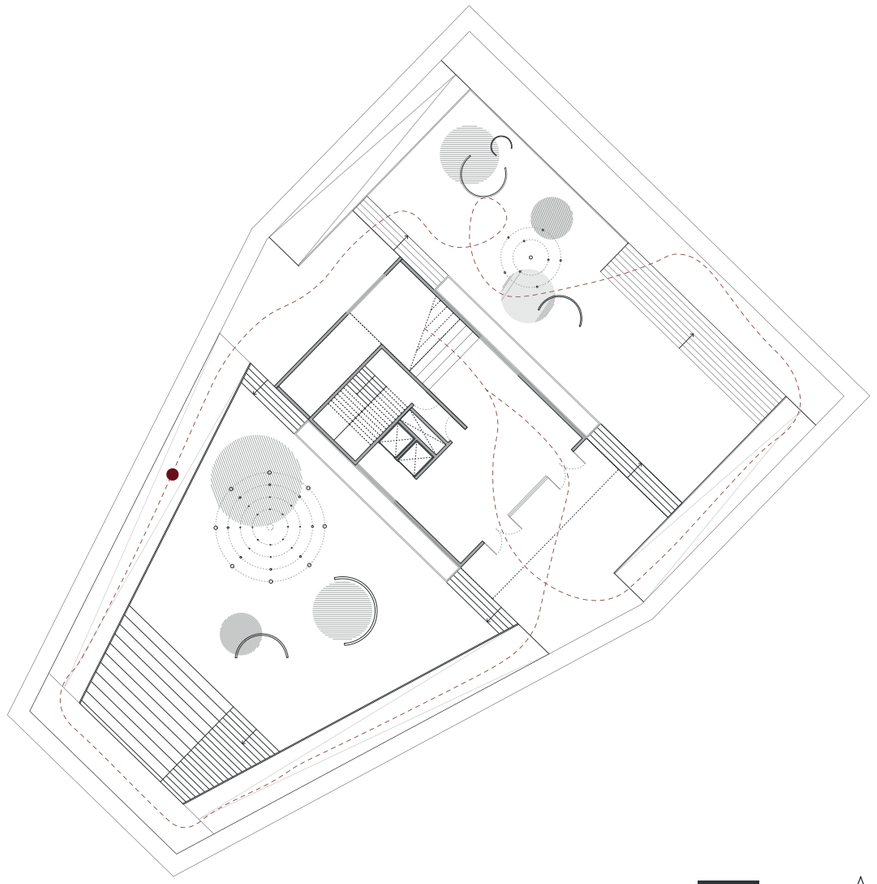
LECTURES & EVENTS



WORKSHOPS & LIVING ROOM

Rooftop (+2)

Finally, the route culminates through a set of stairs to the public rooftop, where fragments of city and sea that have appeared throughout the building come together in a complete view of the landscape. The movement through the building reaches a final pause here, with the laughter of children playing and people lingering about.



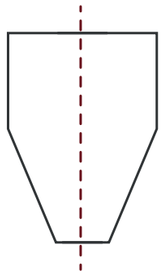


Technical elaboration

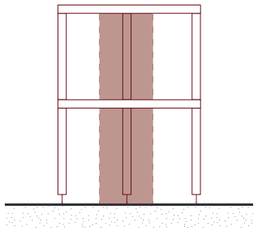
Construction

Continuing on the aforementioned design strategies, the technical design of the project as well contributes to both embedding a sense of place, fostering resilience and the design of the ‘third place’. With a focus on earthquake-resistance and designing with the local conditions, the project is developed to be resilient and allow a sense of security to the user. The materialisation reflects the regional identity as local materials have been used, and therefore contributes to a sense of place. These design choices lead also to minimizing the project’s environmental footprint and a future-proof building that lasts.

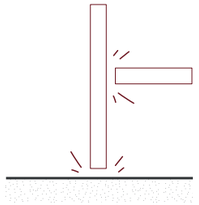
The load-bearing structure of the project consists of a concrete base with a steel truss system on which a lightweight Glulam skeleton construction is built. The pavilion also uses a Glulam skeleton construction with a concrete core that provides stability. The symmetrical envelope of the main building in combination with a concrete core and disconnected foundation contribute to an earthquake-resistant design.



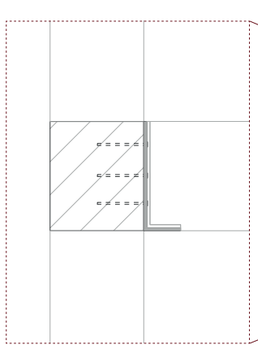
symmetrical building envelope



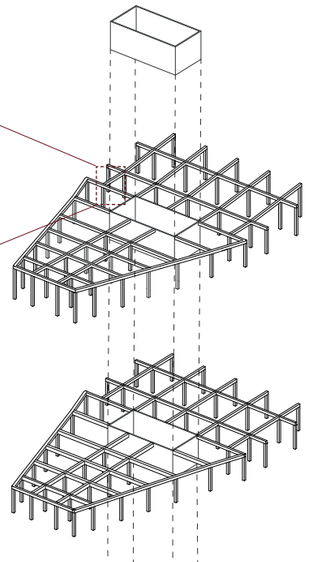
lightweight construction with concrete core



disconnections at foundation & skeleton construction



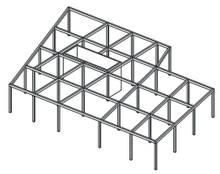
disconnected joints to reduce vibrations between existing + new



+2 FLOOR
concrete core

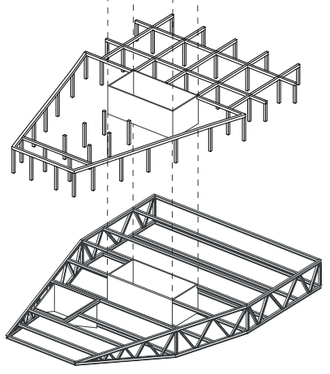
+1 FLOOR
glulam skeleton construction
+ concrete core

GROUND FLOOR+
glulam skeleton construction
+ concrete core



GROUND FLOOR
gluelam skeleton construction
+ concrete core

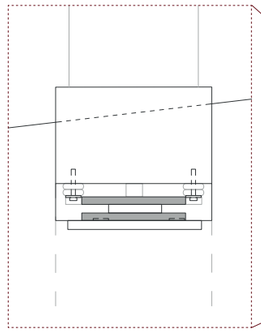
construction principle pavilion



GROUND FLOOR
glulam skeleton construction
+ concrete core

-1 FLOOR
steel truss system
+ concrete core

FOUNDATION
concrete + steel



Base Isolation foundation principle to reduce vibrations

construction principle main building

Technical elaboration

Materialisation interior

The materials used within the design are as much as possible locally grown and/or sourced, such as the flax in partition walls and the hempcrete for the facade. By using hempcrete for the facades, a damp-open construction is designed, which is also beneficial for a healthy and comfortable indoor climate. The wind on site is used to the advantage here, ventilating the facade as necessary. Additionally, the tactility of the chosen materials for exterior and interior form a distinguishing spatial atmosphere and architectural language, which contrasts the architecture in the surroundings, contributing to the design of the 'third place'.

pavilion, ground floor



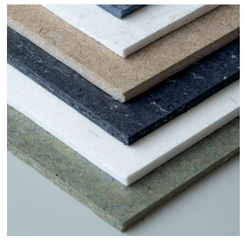
Polished concrete
smooth, glossy texture

- durable



Glulam
warm, tactile

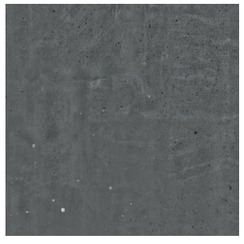
- lightweight & sustainable



Flax fibre panels (REZIGN®)
warm, tactile

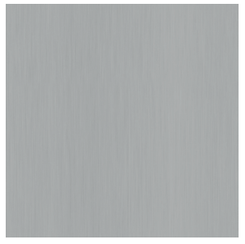
- *acoustics & recycled (sustainable)*

public bath/spa



Basalt
rough, heavy

- durable & well-performing



Steel
smooth, matte

- strong & well-performing



Robinia wood
tactile, warm

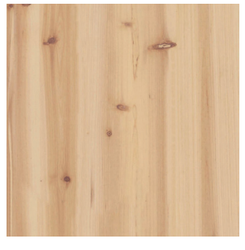
- acoustics & well-performing

accommodation, community space



Limecrete
brushed, tactile

- durable & breathable



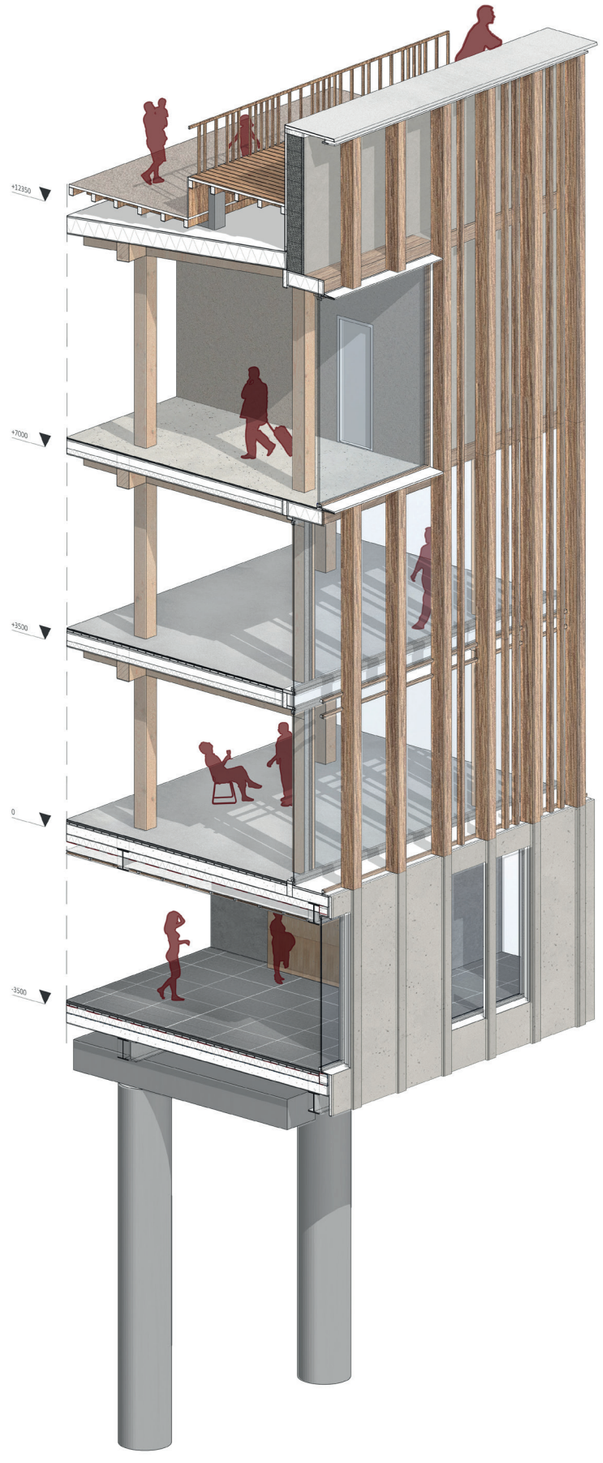
Glulam
warm, tactile

- lightweight, sustainable & breathable



Clay plaster
rough, warm

- sustainable & breathable

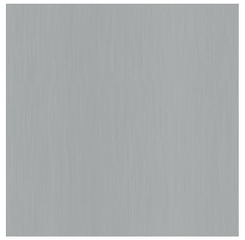


Technical elaboration

Materialisation exterior

facade below ground level

Construction



Steel

- strong & well-performing

Facade



Concrete with puzzolan

- durable

Aluminium

- durable

Windows



Aluminium

- durable & easy to maintain

facade from ground level

Construction



Glulam

- lightweight & sustainable

Facade



Hempcrete + lime render

- local, breathable & sustainable



Robinia wood

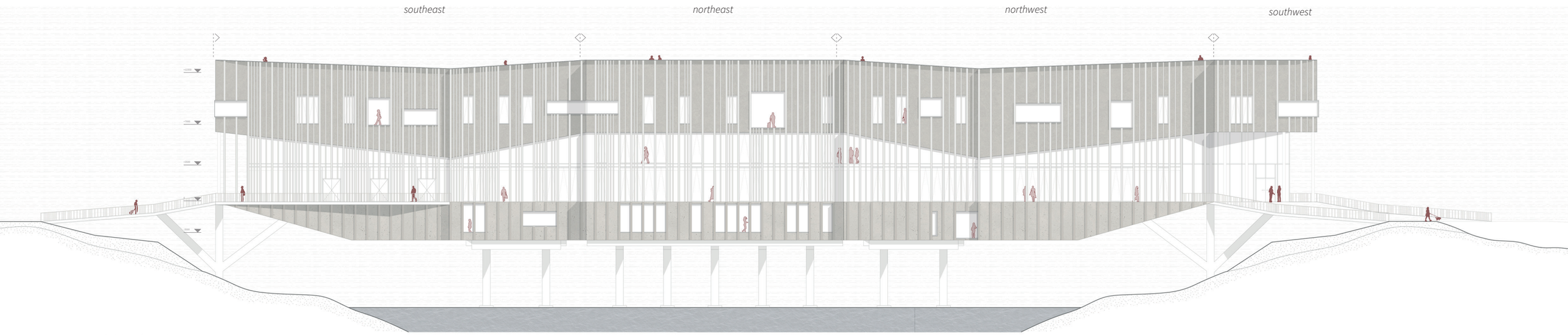
- durable & well-performing

Windows



Accoya wood

- durable & breathable



unfolded facades main building

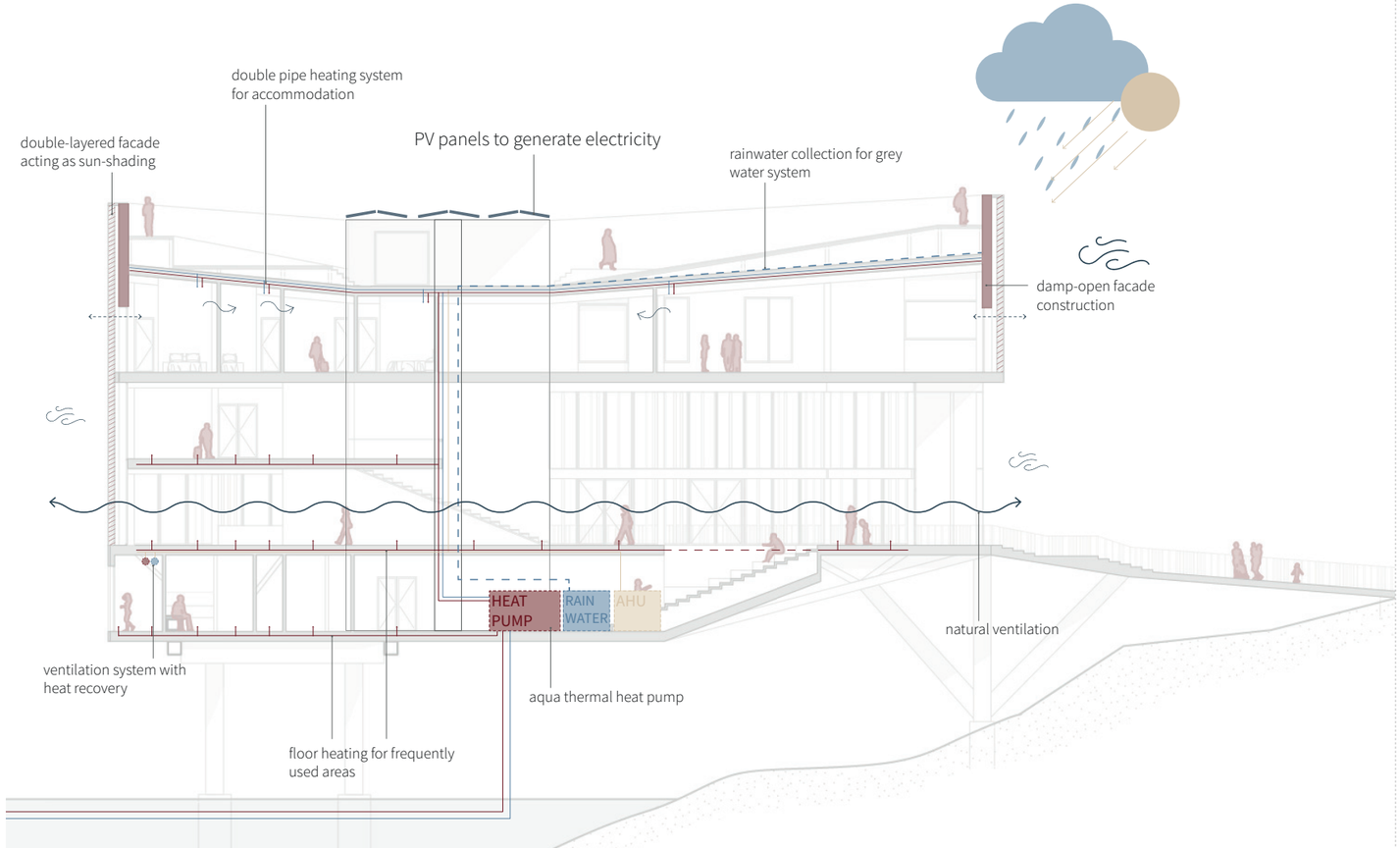


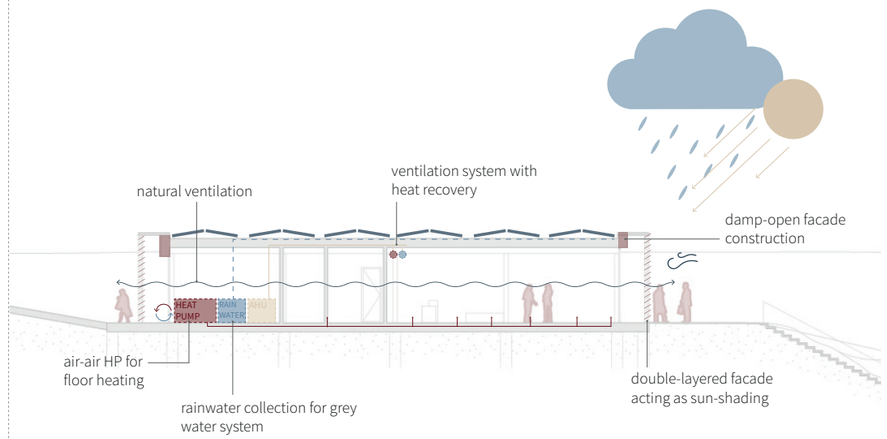
unfolded facades pavilion

Technical elaboration

Climate design

Next to the use of hempcrete, the design of the façade also serves the climate design of the project. A second skin has been placed around the hempcrete, which 1) protects the hempcrete from the natural elements and 2) acts as a sun shading system for the ground floor. The wind is not only used to ventilate the façade as necessary due to the use of hempcrete, but also allows natural ventilation for the ground floor, with a cross-ventilation principle through the open space. Furthermore, the sea is used for the heating and cooling system of the main building, as an aqua thermal heat pump has been installed, using the rather constant temperature of the water as an advantage. Solar panels on the roofs of both the pavilion and main building generate the needed electricity, contributing as well to minimizing the project's environmental footprint.





05 Epilogue

The project ‘From Space to Place’ studies in an architectural assignment how it can respond to the psychosocial impact of Groningen’s gas extraction issues on the local population and the potential development of the leisure economy within the region. With a focus on Delfzijl, a city characterized by a low socio-economic status and impacted psychosocial wellbeing among residents, the project investigates how architecture can operate as a mediator by translating the abstract socio-economic context of Delfzijl into a spatial environment that encourages social interaction and economic activity. To achieve this, the project applies the ‘third place’ theory by Oldenburg (1989) as a framework to improve both the leisure economy and residents’ psychosocial wellbeing through resilience and socio-economic activity. This leads to the following research question:

How can a ‘third place’ in Delfzijl embed a sense of place and foster psychological resilience for residents, while performing as a socio-economic catalyst for the region?

Building on theory about the ‘third place’, a sense of place, psychological resilience, and socioeconomics, the project tests how these theoretical concepts can be translated into a spatial intervention. The research shows that the aforementioned concepts should not be addressed separately but rather as a unified concept: a meaningful place can support resilience and socio-economics, while resilience and socio-economics can strengthen a place’s identity. Therefore the project posits that architecture should advance beyond space hosting a programme, but rather become an active part of a community by shaping conditions for social interaction and a meaningful environment.

With the use of a research-by-design approach, the project presents the design of a ‘third place’ in Delfzijl as both a research tool and outcome. The introduction of a mixed civic programme to the site hosts both residents and visitors, therefore reinterpreting the existing ‘third place’ theory by Oldenburg (1989). It evolves from a social leveller and place of conversation for local communities to also become a socio-economic impulse for the area through the creation of job opportunities, entrepreneurial activity and exchange of goods. The design thus implicates an important role for the ‘third place’ in socio-economic revitalization of fragile contexts such as Delfzijl.

Both the research and design demonstrate the importance of Delfzijl’s identity in addressing residents’ psychosocial wellbeing and in becoming a destination for visitors. The strong connection to the existing urban fabric and landscape presents the design as a unique destination in itself, for residents to feel hosted at and for visitors to be invited to. The programmatic elements allow for interaction and conversation, fostering social relationships and connections. Different spatial strategies and materiality allow for both openness and intimacy, and varying atmospheres, fostering resilience for its users. Furthermore, they contribute to establishing a varying and distinguishing architectural experience, transforming from space to ‘place’. The project thus embeds a sense of place, where both the architecture as well as the user play an active part in reimagining Delfzijl’s identity. The design shapes a sense of recognition and belonging, (re)connecting residents to their living environment and visitors to the rich identity of the city and surrounding landscape.
And so, the project for Delfzijl presents architecture as a mediator in a post-extraction landscape, moving between wellbeing and economic activity. It helps transform existing spatial conditions into an environment that promotes resilience and socio-economic revitalization.

However, the project also has several limitations. It must be acknowledged that architecture in itself cannot resolve the broader structural problems of the gas extraction issues in Groningen, such as social fragmentation, inequality and policy shortcomings. It can only function as an incentive for critical reflection and dialogue, opening up possibilities for new approaches to shape social and psychological resilience for communities here. Additionally, the research-by-design approach takes precedence in the project, thus constraining the integration of other research methodologies. The project could benefit from more extensive research on the status of residents’ psychosocial wellbeing through for example interviews with locals. This way, the project will fit even better with the existing context, as residents’ needs can be more specifically addressed. Furthermore, the social agenda of Nij Begun has already launched many initiatives aimed at improving residents’ wellbeing in the province Groningen, Delfzijl also. By studying these initiatives and their goals, the design and its programme could be further informed, connecting the project more closely to the current infrastructure of social measures in the region and province.



Reflection

My graduation project provided me with the opportunity to bring together my architecture studies with a subject close to my heart. It has been rewarding to work on an actual challenge in a region of the Netherlands that remains too often overlooked, and opening up the conversation about a topic that is still underexposed to many people.

Working within this real context, it was important to extensively research the context in which the project is situated. This allowed me to carefully read into many aspects of Delfzijl and the topic of psychosocial wellbeing, and helped to understand the context first before starting the design process. Using a research-by-design methodology, the design itself was not simply a final result anymore, but became an active research tool to conduct studies with, draw conclusions from and reiterate design decisions with. As I usually am a slow starter with design projects, with this methodology it did not feel like I starting too slow, but rather that everything was part of a process that informed both research and design. Therefore, some design iterations and options did not feel like a waste of time, but really as a means to improve my project, on both a research- and design-level. Even so, as designing is an intense and lengthy process, it did feel like sometimes I was simply designing, not using a research-by-design method anymore, but just checking mandatory deliverables off a list. It also took away time to further dive into literature, research or studies about certain topics which I would have liked to do. It sometimes led to a feeling of unfulfillment, as if my project remained very superficial.

Still, I am very proud of what I have achieved with my project, as I have really seen how architecture can mean so much more than mere walls, floors and ceilings when it becomes an active research and design tool to address intangible concepts and topics. I have therefore also gained a better understanding of how I would like to bring the experiences from my studies into my future work.

Appendices

Appendix I

The psychosocial wellbeing of residents in Groningen

"Tens of thousands of people in Groningen are suffering from anxiety and depression due to the earthquakes" (Drent, 2026)

This recent news article from NOS (national Dutch news outlet) brings to light an underexposed topic as part of Groningen and Noord-Drenthe's gas extraction issues which both provinces are dealing with. Where many know about the visible, physical damage to people's homes and buildings in the provinces, the invisible impact of it has remained on the background. Therefore, this graduation project places the psychosocial impact of the gas extraction issues at its centre.
To gain a better understanding of the impact of the gas extraction issues on the local population in Groningen and in Delfzijl, available research on the topic is reviewed to answer the following sub research question: What is the status of residents' psycho-social wellbeing and what needs should the project respond to?

By delineating the main findings on this topic, the architectural design of the project can be approached in a systematic way to address the psychosocial impact on the local population in Delfzijl and how architecture may play a role in improving resident's psychosocial wellbeing.

Seismic activity and mental health

A recent publication by researchers from Universitair Medisch Centrum Groningen and Rijksuniversiteit Groningen (Shui et al., 2026) indicates how continued exposure to earthquakes significantly increases depression and anxiety-related symptoms among residents in Groningen. They connected collected data from Lifelines, a research that follows up on the health of residents in Groningen, Friesland and Drenthe since 2006, to the data from the KNMI on the more than 1700 earthquakes in Groningen. This way, a link was found between ZIP-codes with high seismic activity and where relatively many residents are struggling with mental health issues. They estimate around 28.000 Groningers to suffer from feelings of depression, another 37.000 struggle with restlessness and around 55.000 residents show stress-related symptoms.

The psychosocial impact

However, the above described symptoms do not only result from the earthquakes themselves, but just as well due to the aftermath of the earthquakes and the procedural trajectories that residents enter to start damage repairs on their homes after the earthquakes have taken place. Research by Gronings Perspectief, which takes place since 2016, has shown that the earthquakes and their aftermath have affected not only resident's psychosocial wellbeing but also the social cohesion within villages and communities. Postmes (2025) identifies three main topics influencing their wellbeing: the physical security risk (1) the damage, claim settlements and reinforcement procedures (2) and the social risk (3).
The physical damage to houses leads to insecurity and uncertainty about structural safety and the potential consequences. Claim settlements and reinforcement procedures create long-term uncertainty, as they are time consuming and possibly affect residents' financial situation. The complexity of these trajectories lead to a loss of future perspective, which negatively impacts people's physical and mental health, causing stress-related symptoms such as insomnia, palpitations and concentration problems.
Furthermore, the social risk disrupts social relations between people, due to distrust or conflicts. Research presents mixed results on this topic: quantitative analysis has shown no significance decrease of social cohesion within neighbourhoods and communities, whereas qualitative research states that the gas extraction issues and its aftermath lead to conflict and tension between people. Physical disruption plays a role here, with neighbours having to temporarily move and houses being reinforced or completely demolished and rebuild. Relational disruption is caused as residents have less energy and/or time to participate in social activities.

Residents with multiple damages experience more health issues related to their psychosocial wellbeing. Feelings of anger, hopelessness and powerlessness prevail, leading also to a higher risk of burnout, reduced physical abilities and limited social participation. Where research first showed a trend of improvement from 2017 onwards, new studies have shown an increase in these issues again since 2022 (Schreuder et al., 2023).

In the context of Delfzijl

The research by Schreuder et al. (2023) also concludes that wellbeing differs among groups, where fragile socio-economic contexts play a role. Education and financial stability act as buffers, reducing impact on psychosocial wellbeing. Researchers from Gronings Perspectief (2023) note that the complexity of problems arising from the gas extraction and its aftermath can form higher risks for vulnerable populations, such as in Delfzijl, a city characterized by ageing and a low socio-economic status. Furthermore, the municipal council also concluded and confirmed the aforementioned description on resident's psychosocial wellbeing and the impact of the gas extraction. In a letter to the national government from 2019 they stated that the issues have led not only to societal unrest among the population but also strained social relations within the city and different neighborhoods (Gemeentebestuur Delfzijl, 2019).

How to move forward?

Schreuder et al. (2023) recommend to focus on the root causes of the disrupted social cohesion to improve resident's psychosocial wellbeing. By addressing the existential issues, recognition and support for this problem can be built, by which the local population can be aided. Regional identity plays a role as well, being closely related to residents' experiences of the earthquakes and their aftermath within their living environment and how this has changed due to the earthquakes. Conversations with people who work on initiatives such as 'Mijn Thuis Mijn Verhaal'* indicate how the aftermath of the earthquakes has impacted their lives and connection to their environment, with their homes being demolished and their memories there have been erased. By focusing on this regional identity and reestablishing a connection between residents and their living environment, social relations, spatial quality of their living environment and liveability in general may be renewed and improved. Schreuder et al. (2023) furthermore states that architects play an important role in preserving regional identity and maintaining the Groninger landscape.

* *'Mijn Thuis Mijn Verhaal' helps children and young people in the earthquake-affected area to express their feelings and emotions through art and culture (Achtergrond Mijn Thuis Mijn Verhaal | Gemeente Eemsdelta, n.d.)*

Appendix II

A sense of place

In the theoretical framework from Chapter Two, the connection between the third place and a sense of place has been constructed. The social connections and experiences between users, which are formed within the third place, bring about an identity and character of that 'place'. Every individual has their own sense of a 'place' as personal meanings, memories and beliefs shape the attachment one has to that place. Parsaee et al. (2015) states that a sense of place is shaped by the social, historical, cultural and environmental context in which it is located. A sense of place is therefore strongly connected to regional identity, and can therefore aid in reinforcing this regional identity and in turn addressing resident's psychosocial wellbeing in Delfzijl.

To understand and locate the concept of 'sense of place' in the architectural field, different texts have been analysed and compared. This way, the following sub research question can be answered: Which architectural tools can be used to create and reinforce a sense of place in the third place?

Space and place

In his work, Norberg-Schulz (1981) describes the term 'place' to be more than an abstract location, but rather a sum of aspects that form it, such as shape, texture and colour. They are part of the 'environmental character', marking the essence of a place, giving it identity. Places also have a structure, made up of three steps: landscape versus settlement (1), earth-sky (horizontal-vertical) and inside-outside (2) and the given character (3). These together, the structural dimensions of a space and its atmosphere formed by character, form the 'spirit of place' (genius loci).

To dwell means to be in a space and exposed to its character, while two psychological functions are involved: orientation and identification. As Norberg-Schulz describes: "To gain an existential foothold man has to be able to orientate himself; he has to know where he is. But he also has to identify himself with the environment, that is, he has to know how he is a certain place" (pp. 16). Tuan (1977) also confirms that visual cues are important for users to find their in an unfamiliar environment, to be able to orient and move around in this environment.

Orientation and identification do not necessarily have to exist together simultaneously, as you can get by without feeling at home, or you can feel at home without being well acquainted to a place. Yet 'true belonging' is achieved when both aspects are fully embraced.

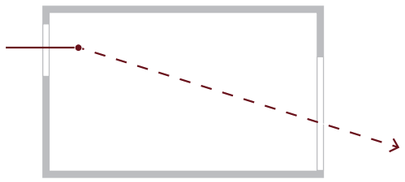
Though even aspects on the smallest scale can be meaningful to a place's character, in modern day society we are mostly focused on the practical function of orientation, leaving out identification. Yet, objects of identification rather enforce our sense of place, forming a relationship to our individual experience(s). Therefore, implementing these aspects of identification into the spaces that are created, architecture can serve in supporting a sense of place for its users.

The architecture of experience and place

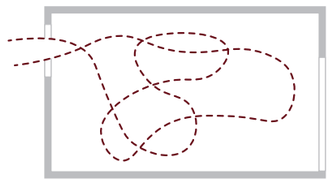
In the book 'Questions of Perception: Phenomenology of Architecture' (Holl et. al, 2006), Juhani Pallasmaa writes in an article that the architecture should designed for the human senses, shaping a bodily experience. This bodily experience "is an inseparable aspect of the experience of architecture […]" (pp.35), where Pallasmaa states that the experience of architecture is not simply a sequence of visual images to the human eye, bur rather an encounter, as architecture is "approached, confronted, related to one's body, moved about, utilized as a condition […]" (pp. 35). According to him, we are in constant dialogue with our surroundings, making it impossible to detach yourself from your spatial and situational environment, implying that architecture is inherently connected to your experiences, memories and how you identify with you environment, which can also understood as 'place'. Pallasmaa elaborates on this, writing: "An embodied memory has an essential role as the basis of remembering a space or place. […] We identify ourselves with this space, this place […] as they become ingredients of our very existence. Architecture is the art of mediation and reconciliation." (pp. 37) He suggests here that space becomes place through the act of experience, shaping memories and meanings, in which different architectural tools play a role: light and shadow, materialisation and texture all contribute to shaping architectural experience, thus shaping place.

The aspects of space and place

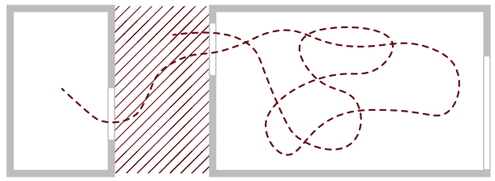
Where Pallasmaa approaches the phenomenon of place from the bodily senses and multi-sensory design elements, Norgberg Schulz remains rather abstract about what architectural tools create space or place. Yet, the work of Yi-Fu Tuan (1977) explains more practical (spatial) aspects of what makes space and place. According to him, movement allows for experiencing a space and its aspects. Spaciousness is associated with freedom, where the space invites users to action. Though being "a symbol of freedom in the Western world" (pp. 54), it also leaves users vulnerable and exposed. That is why humans also need place, an enclosed and humanized space, that is associated with a pause in movement through a space. To move between these two, space and place, means to wander between shelter and venture, attachment and freedom. Tuan further demonstrates how visual cues and landmarks for orientation and identification also aid in dividing a space without constructing walls, which allows for more intuitive movement and wandering in space, gaining finally more sense of place.



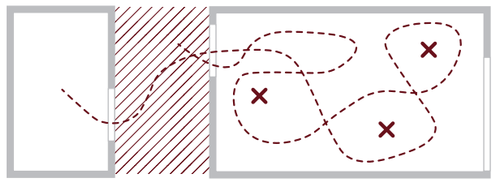
a line of perception upon entering provides orientation and identification



movement strengthens orientation



thresholds introduce soft transitions

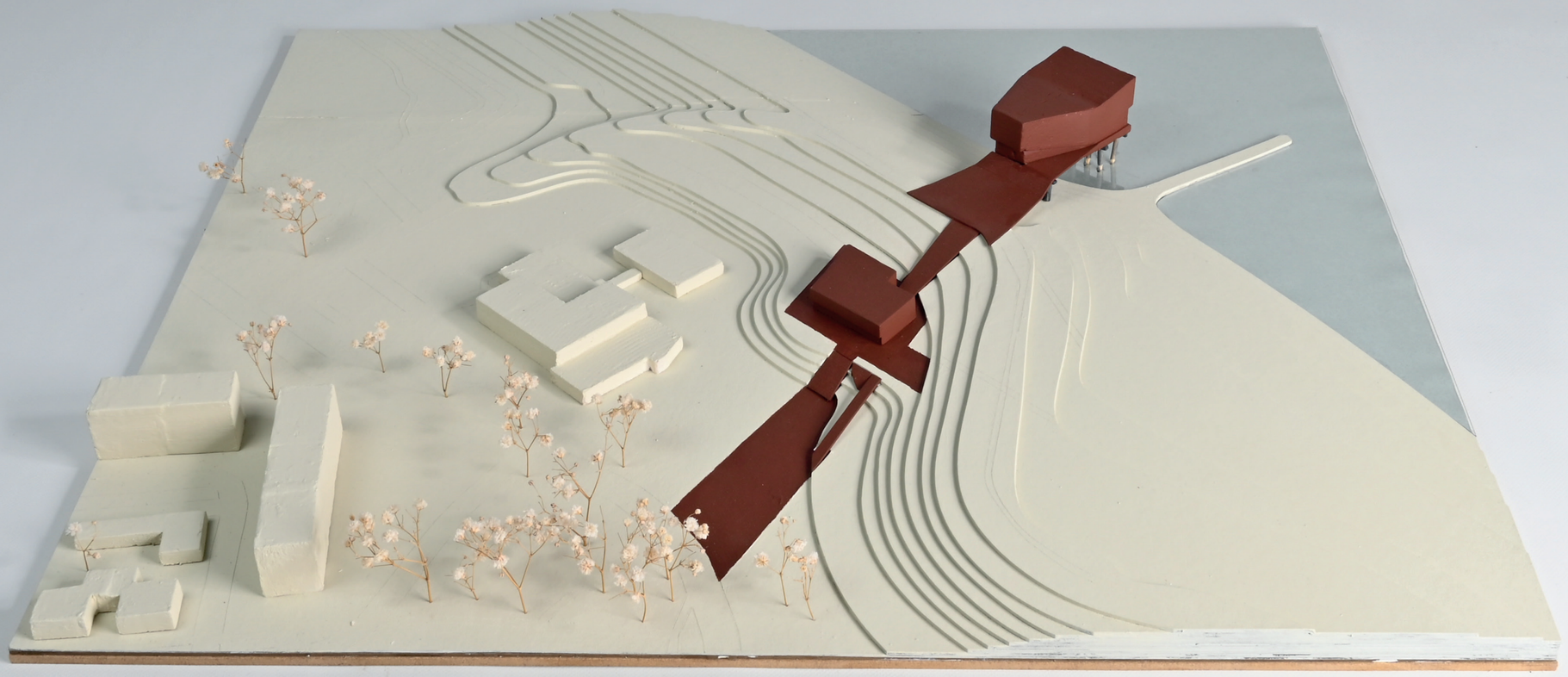


landmarks and visual cues allow for intuitive movement

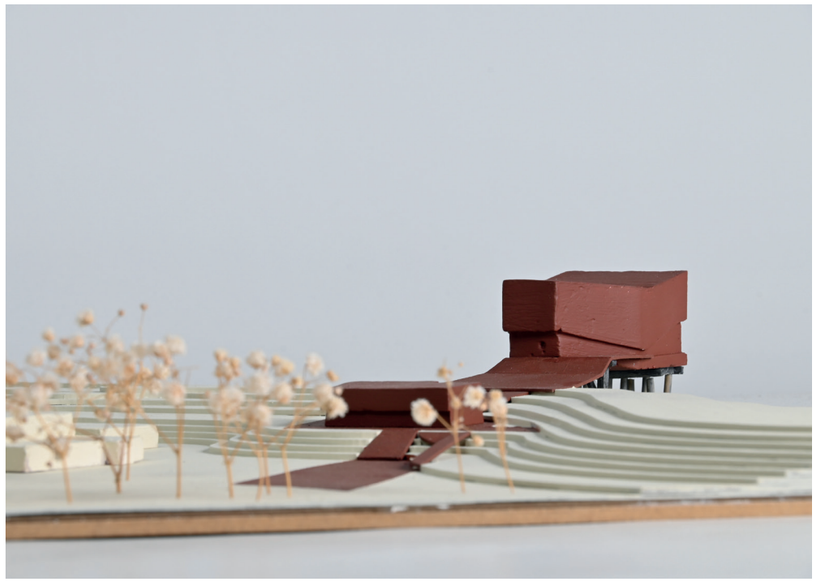
And so it can be concluded that the concept of 'place' is closely connected to our experience of architecture and the meanings, beliefs and memories created through this experience. With the use of multi-sensory design elements, such as materials, and lights and shadows, as well as strong sightlines to identify and orient, architectural experience can be shaped, allowing the user to move and wander through space, therefore becoming a 'place'.

Appendix III

Architectural models



1:500 model, project overview



approaching the dike



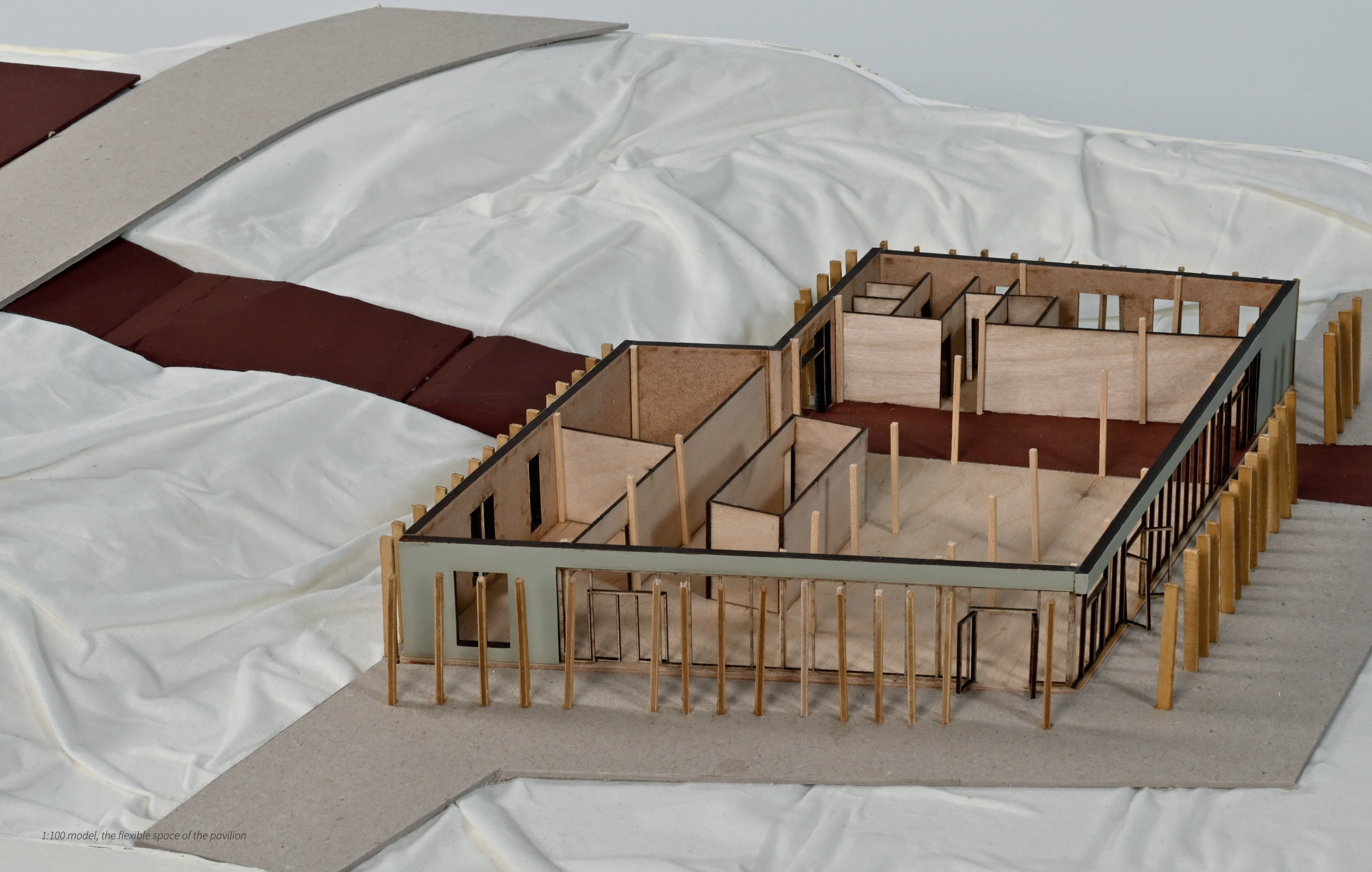
from the seaside



1:100 model, project overview



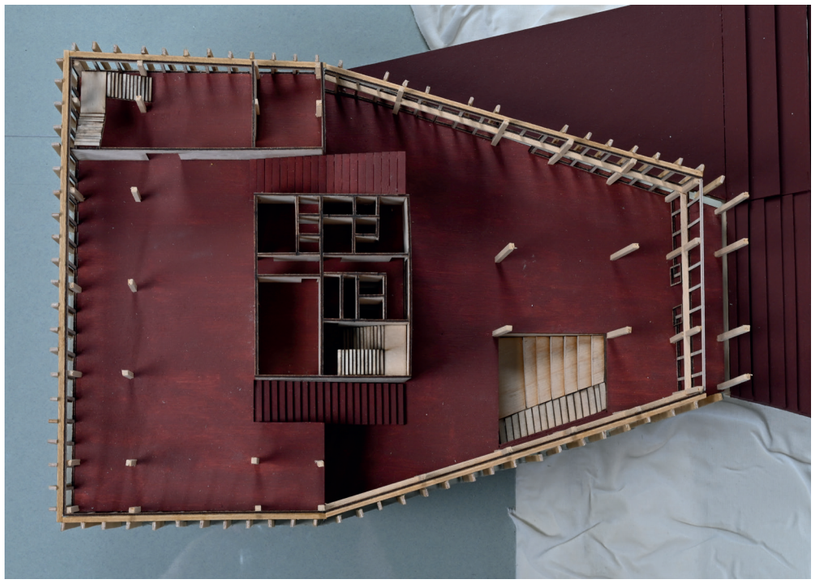
1:100 model, the main building



1:100 model, the flexible space of the pavilion



entrance of the main building



public ground floor of the main building



Bibliography

Abbas, S., Okdeh, N., Roufayel, R., Kovacic, H., Sabatier, J.-M., Fajloun, Z., & Abi Khattar, Z. (2024). *Neuroarchitecture: How the Perception of Our Surroundings Impacts the Brain*. Biology, 13(4), 220. https://doi.org/10.3390/biology13040220

Achtergrond Mijn thuis mijn verhaal | Gemeente Eemsdelta. (n.d.). Gemeente Eemsdelta. Consulted on 28-5-2026, via: https://www.eemsdelta.nl/achtergrond-mijn-thuis-mijn-verhaal

Akbar, P. N. G., & Edelenbos, J. (2021). *Positioning place-making as a social process: A systematic literature review*. Cogent Social Sciences, 7(1). https://doi.org/10.1080/23311886.2021.1905920

Assem, H. M., Khodeir, L. M., & Fathy, F. (2023). *Designing for human wellbeing: The integration of neuroarchitecture in design – A systematic review*. Ain Shams Engineering Journal, 14(6), 102102. https://doi.org/10.1016/j.asej.2022.102102

Braakman, T., & Miskovic, M. (2022, 26 juni). *Zestig jaar gaswinning: hoe een miljardenschat een gevaar werd voor de veiligheid*. RTV Noord. Consulted on 10-1-2026, via https://www.rtvnoord.nl/nieuws/934659/zestig-jaar-gaswinning-hoe-een-miljardenschat-een-gevaar-werd-voor-de-veiligheid

Chapin III, F. S., & Knapp, C. N. (2015). *Sense of place: A process for identifying and negotiating potentially contested visions of sustainability*. Environmental Science & Policy, 53, 38-46.

Chmitorz, A., Kunzler, A., Helmreich, I., Tüscher, O., Kalisch, R., Kubiak, T., Wessa, M., & Lieb, K. (2018). *Intervention studies to foster resilience – A systematic review and proposal for a resilience framework in future intervention studies*. Clinical Psychology Review, 59, 78-100. https://doi.org/10.1016/j.cpr.2017.11.002

Choi, J., Guzman, J., Small, M.L. (2024) *Third Places and Neighborhood Entrepreneurship: Evidence from Starbucks Cafés.* NBER Working Paper 32604, https://doi-org.tudelft.idm.oclc.org/10.3386/w32604.

Denckla, C. A., Cicchetti, D., Kubzansky, L. D., Seedat, S., Teicher, M. H., Williams, D. R., & Koenen, K. C. (2020). *Psychological resilience: an update on definitions, a critical appraisal, and research recommendations*. European Journal of Psychotraumatology, 11(1). https://doi.org/10.1080/20008198.2020.1822064

Drent, M. (2026, March 31). T*ienduizenden Groningers kampen met angst en depressie door aardbevingen*. NOS. Consulted on 13-04-2026, via: https://nos.nl/artikel/2608518-tienduizenden-groningers-kampen-met-angst-en-depressie-door-aardbevingen

Dückers, M., Kanis, B., van der Molen, J., Gerbecks, J., Boendermaker, M., Berends, S., & Stroebe, K. (2023). *De psychosociale impact van de gaswinningsproblematiek op bewoners in 2021 en 2022: Eindrapport Gronings Perspectief fase 3*. Gronings Perspectief.

EemsDelta in cijfers - eemsdelta. (n.d.). Consulted on 17-12-2025, via https://eemsdelta.incijfers.nl/dashboard

Gateira, B. (September, 2022). *Tourism: How social economy can make it more sustainable*. Diesis Article Serie. Diesis Network. Consulted on 20-01-2025, via https://www.diesis.coop/wp-content/uploads/2022/09/Tourism-how-social-economy-can-make-it-more-sustainable-1.pdf

Gemeentebestuur Delfzijl. (2019). *Advies aan de minister van EZK ten behoeve van het vaststellingsbesluit Groningenveld voor het gasjaar 2019/2020*. Available at https://www.rvo.nl/files/file/2019/05/Delfzijl_Advies%20met%20betrekking%20tot%20Voorgestelde%20Operationele%20Strategieen%20Groningenveld%20gasjaar%202019-2020_v2_anm.pdf

Ginder (2025). *Onderzoek Vrijetijdseconomie Provincie Groningen*. Available at https://wijzijnginder.nl/kennisbank/0325-ginder-onderzoekt-vrijetijdssector-in-provincie-groningen

Gorton, D. (2025, 21 April). *What Is Social Economics, and How Does It Impact Society?* Investopedia. Available via https://www.investopedia.com/terms/s/social-economics.asp#toc-what-is-social-economics

Graduation Studio Delfzijl (2026). *Research Atlas.* [Unpublished student work containing an extensive analysis of Delfzijl in mobility, ecology, history and tourism infrastructure]. Faculty of Architecture and the Built Environment, TU Delft.

Grievink, J. (2023, 20 September). *Naoberschap: wat is de definitie en wat betekent het écht?*. Naober Magazine. Consulted on 29-4-2026, via https://www.naober.nl/streekgenoten/naoberschap/naoberschap-wat-is-de-definitie-en-wat-betekent-het-echt/

Het Financieel Dagblad. (n.d.). *Groninger Gasmiljarden | het Financieele Dagblad*. Consulted on 17-12-2025, via https://specials.fd.nl/groningen

Hupkes, S., Adams, W., Busscher, N., & Postmes, T. (2020). *Inzicht in impact: De gevolgen van de gaswinning voor de bewoners van Groningen - Kennisoverzicht juli 2019 - juli 2020*. Kennisplatform Leefbaar en Kansrijk Groningen.

Kumar, C. (2020). *Psychosocial Well-Being of Individuals*. In: Leal Filho, W., Azul, A.M., Brandli, L., Özuyar, P.G., Wall, T. (eds) Quality Education. Encyclopedia of the UN Sustainable Development Goals (pp. 676-684). Springer, Cham. https://doi-org.tudelft.idm.oclc.org/10.1007/978-3-319-95870-5_45

Leuven, A. van (2025). *The Importance of Third Places in Rural Communities.* Consulted on 16-1-2026, via https://www.choicesmagazine.org/choices-magazine/submitted-articles/the-importance-of-third-places-in-rural-communities

Medhat Assem, H., Mohamed Khodeir, L., & Fathy, F. (2023). *Designing for human wellbeing: The integration of neuroarchitecture in design – A systematic review*. Ain Shams Engineering Journal, 14(6), 102102. https://doi.org/10.1016/j.asej.2022.102102

Nij Begun. (2025, 8 oktober). *Ons nij begun maken we samen - Nij Begun*. Consulted on 17-12-2025, via https://www.nijbegun.nl/

Norberg-Schulz, C. (1980). *Genius loci. Towards a Phenomenology of Architecture*. Rizzoli, New York.

NOS Nieuws. (2026, April 27). *Bewoners Delfzijl zijn jongerenoverlast zat, roep om gewapend ingrijpen.* NOS. https://nos.nl/artikel/2611440-bewoners-delfzijl-zijn-jongerenoverlast-zat-roep-om-gewapend-ingrijpen

Oldenburg, R. (1989). *The Great Good Place*. Berkshire Publishing Group. https://doi.org/10.2307/jj.9561417

Östlund, S. L. (2017). *Regenerative Place-Making. Making places for collective life and a common future.* (Master's thesis). Chalmers University of Technology (Gothenburg, Sweden)

Parsaee, M., Parva, M., & Karimi, B. (2015). *Space and place concepts analysis based on semiology approach in residential architecture*. HBRC Journal, 11(3), 368-383. https://doi.org/10.1016/j.hbrcj.2014.07.001

Postmes, T. (2025). *De omvang van de psychosociale gaswinningsproblematiek: Een benadering op basis van de GGD gezondheidsmonitor.* Kennisplatform Leefbaar en Kansrijk Groningen & Rijksuniversiteit Groningen. Available via https://www.kennisplatformleefbaar.nl/_files/ugd/baf6e8_47bd7fa6bd9b41dcad091038a1516af1.pdf

Rapport parlementaire enquêtecommissie aardgaswinning Groningen. (2025, 4 december). Tweede Kamer Der Staten-Generaal. Consulted on 5-1-2026, via https://www.tweedekamer.nl/Groningen/rapport

Research Atlas Delfzijl (2025-26). Public Building Graduation Studio. Groupwork by 12 students

Schreuder, W., Busscher, N., & Postmes, T. (2023). I*nzicht in impact: De maatschappelijke gevolgen van de gaswinning en denkrichtingen voor de toekomst. Kennisplatform Leefbaar en Kansrijk Groningen*. https://www.kennisplatformleefbaar.nl/

Shui, A., van den Berg, G. J., Mierau, J. O., & Viluma, L. (2026). *The impact of mining-induced earthquakes on mental health: Evidence from the Dutch Lifelines Cohort Study and Biobank.* Journal of Health Economics, 106, 103118. https://doi.org/10.1016/j.jhealeco.2026.103118

Syllabus Public Building Graduation Studio (2025). *Restart the North: Leisure and revitalization of post-gas Groningen*. Available via Brightspace, TU Delft

Williams, D. R., & Stewart, S. I. (1998). S*ense of Place: An Elusive Concept That is Finding a Home in Ecosystem Management*. Journal of Forestry, 96(5), 18-23. https://doi.org/10.1093/jof/96.5.18

Figures

01 Introduction

1.1 *Seismische hazardkaart Groningen* (2016). KNMI. Available via: https://www.knmi.nl/over-het-knmi/nieuws/nieuwe-seismische-hazardkaart-groningen
1.2 *Sociaaleconomische score per gemeente* (2019). RIVM. Available via: https://www.regiobeeld.nl/sociale-omgeving
1.3 Nij Begun (2026)
1.4 Google Earth (2026)

03 Precedent analysis

3.1 Yunus Cicek, T. (2026). *De stad zonder een lot: de Bijlmer van het noorden*. [Unpublished work].
3.3 Yunus Cicek, T. (2026). *De stad zonder een lot: de Bijlmer van het noorden*. [Unpublished work].
3.4 *Sociaaleconomische status per deelscores* (2023). CBS, from Eemsdelta in Cijfers. Available via: https://eemsdelta.incijfers.nl/Dashboard
3.5 *Sociaal economische status per wijk* (2023). CBS, from Eemsdelta in Cijfers. Available via: https://eemsdelta.incijfers.nl/Dashboard
3.6 *Financiële welvaart per wijk* (2023). CBS, from Eemsdelta in Cijfers. Available via: https://eemsdelta.incijfers.nl/Dashboard
3.7 Versterkingsoperaties per wijk (2023). CBS, from Eemsdelta in Cijfers. Available via: https://eemsdelta.databank.nl/mosaic/gebiedskompas/fysieke-leefomgeving---aardbevingen?regionlevel=wijk_eemsdelta&regioncode=197901
3.8 Dückers, M., Kanis, B., van der Molen, J., Gerbecks, J., Boendermaker, M., Berends, S., & Stroebe, K. (2023). *De psychosociale impact van de gaswinningsproblematiek op bewoners in 2021 en 2022: Eindrapport Gronings Perspectief fase 3*. Gronings Perspectief
Hupkes, S., Adams, W., Busscher, N., & Postmes, T. (2020). *Inzicht in impact: De gevolgen van de gaswinning voor de bewoners van Groningen - Kennisoverzicht juli 2019 - juli 2020*. Kennisplatform Leefbaar en Kansrijk Groningen.
3.11 Ginder (2025). *Onderzoek Vrijetijdseconomie Provincie Groningen.* Available via: https://wijzijnginder.nl/kennisbank/0325-ginder-onderzoekt-vrijetijdssector-in-provincie-groningen
Ginder (2025). *Onderzoek Vrijetijdseconomie Provincie Groningen.* Available via: https://wijzijnginder.nl/kennisbank/0325-ginder-onderzoekt-vrijetijdssector-in-provincie-groningen
3.12 LeefstijlvinderTM by MarketResponse. (n.d.). *Leefstijlvinder.* Available via: https://leefstijlvinder.nl/
3.14 Funda (2025)
Gemeente Eemsdelta (n.d.) Available via: https://www.eemsdelta.nl/
Eemskrant.nl (2026) Available via: https://www.eemskrant.nl/




BORNHOLM
ONLY NEIGHBORHOOD IN DELFZIJL TO KEEP EXISTING FOR SOME YEARS...
FORMER PRIMARY SCHOOL
DEMOLISHED!
36% NON-DUTCH INHABITANTS
LANDENBUURT ("DERDE BUURT")
REINFORCEMENT TAKING PLACE HERE...
KWELDERLAND
RATHER NEW NEIGHBORHOOD
TRACES OF HISTORY GONE
LIVING ENVIRONMENT IS CHANGING HERE
TO BE DEMOLISHED!
THESE HOMES HAVE EARTHQUAKE DAMAGE
THIS IS STILL ONE OF THE ORIGINAL NEIGHBORHOODS
NEW CONSTRUCTION HERE
HOMES HERE DEMOLISHED IN 2000s
EVERYTHING WAS GONE AFTER 2008
"BREDE SCHOOL NOORD"
FORMER SCHOOLS FUSED TOO SOON! (3 YEARS IN 1 CLASSROOM)
FINSESTRAAT
HOGELANDSTERWEG
SHOPPING CENTRE "KUILSBURG" WAS HERE?
PLACE WITH UNREST IN THE PAST
FORMER "MOSKOU"
POLAR
THIS USED TO BE
SCHRIJVERSBUURT
SMALL HOMES
3 BEDROOMS + LIVING
PROBLEMS WITH CRIME USED TO BE HERE (DRUGS, VIOLENCE, MANY PEOPLE WERE UNEMPLOYED)
USED TO BE PART OF: LANDENBUURT
SHOPPING CENTRE
FORMER NOTORIOUS STREET
PLAYGROUND "SPEELEILAND"
SKATEPARK
MODERNISATION TOOK PLA HERE IN 00'S
BUILT WHEN THE POPULATION WAS STILL GROWING (NOT ANYMORE...)
EXPANSION NOORD IV (50s/60s):
ZANDPLATENBUURT
46% NON-WESTERN INHABITANTS
STATION DELFZIJL WEST
RAILWAY BROUGHT WELFAR
"NOORDERZORG" ELDERY CARE HOME
DAMSTERLAAN
"QUEEN WILHELMINA" PARK
SOCCER
SOCCER
TENN
ATHLETICS
CONSTRUCTION
DIRECTION: GRONINGEN (36 MIN)
FIVELZIGT
HOGELANDSTERWEG
PATCH OF GREEN
MORE GREEN HERE
ARCH
HIDDE
AMSTER
SHOPPING CENTRE HERE
DAMS
COMING SOON:
ZESHUIZEN