

SPECULATIVE STORY
OF A RIVER TOWN VALGA-VALKA



We would like to thank Vares Space for the opportunity to stay at their house during June 2025, as well as the discussions we had with the other residents and guests who visited Vares. And all the facilities and support that were provided. Also, many thanks are due to Georg Ander Sild for his graphical support for this publication — a special thanks to the former town architect of Valga, Jiří Tintěra, for sharing his knowledge with us.

Zwikr Studio was founded by Kateřina Krupíčková and Martin Zwahlen, an architect and a landscape architect. They collaborate on projects at the interface of architecture, landscape architecture, and urban planning. In addition to the first completed building, they have submitted several proposals for enhancing public space, including temporary installations in public areas. In parallel, Katerina and Martin are teaching assistants. They also write articles for various magazines, particularly for the online blog Architektura Basel.

This publication is intended as a DIY format. If you need it, you can print it on any A4 printer; the binding is up to your creative solution. We aim to document our conversations and insights, and you, as a reader, are invited to reuse them. This publication does not claim scientific accuracy but instead presents itself as a collection of stories and map based analyses.

The performative part of this project seeks to make this invisible boundary visible. It is that line which regulates and restricts the relationship between water and the town. For a moment, this powerful line becomes visible through the collective action of all participants. A shared experience about boundaries, focused on water, the act we call “Water Bodies “. The aim is to perform with lights and clouds a spatial boarder that evaporates after a while.

Our primary sources included the presentation by landscape architect Katrin Koov on the Pepper Stream, the Valga Museum, and a discussion with Jiří Tintěra, the former town architect of Valga. Further, a list of web-sites is provided on the back.



HBH of CONTENTS

Chronicle of the city of Valga
<https://valgalinn.ee/>

Geoportal Estonia
<https://geoportaal.maaamet.ee/eng/>

Estonia geodata download
<https://metadata.geoportaal.ee/geonetwork/>

Republic of Estonia, Land and spatial development boards
<https://xgis.maaamet.ee/xgis2/>

3D Buildings Estonia
<https://3d.maaamet.ee/kaart/>

Open source map baltic countries
<https://balticmaps.eu/>

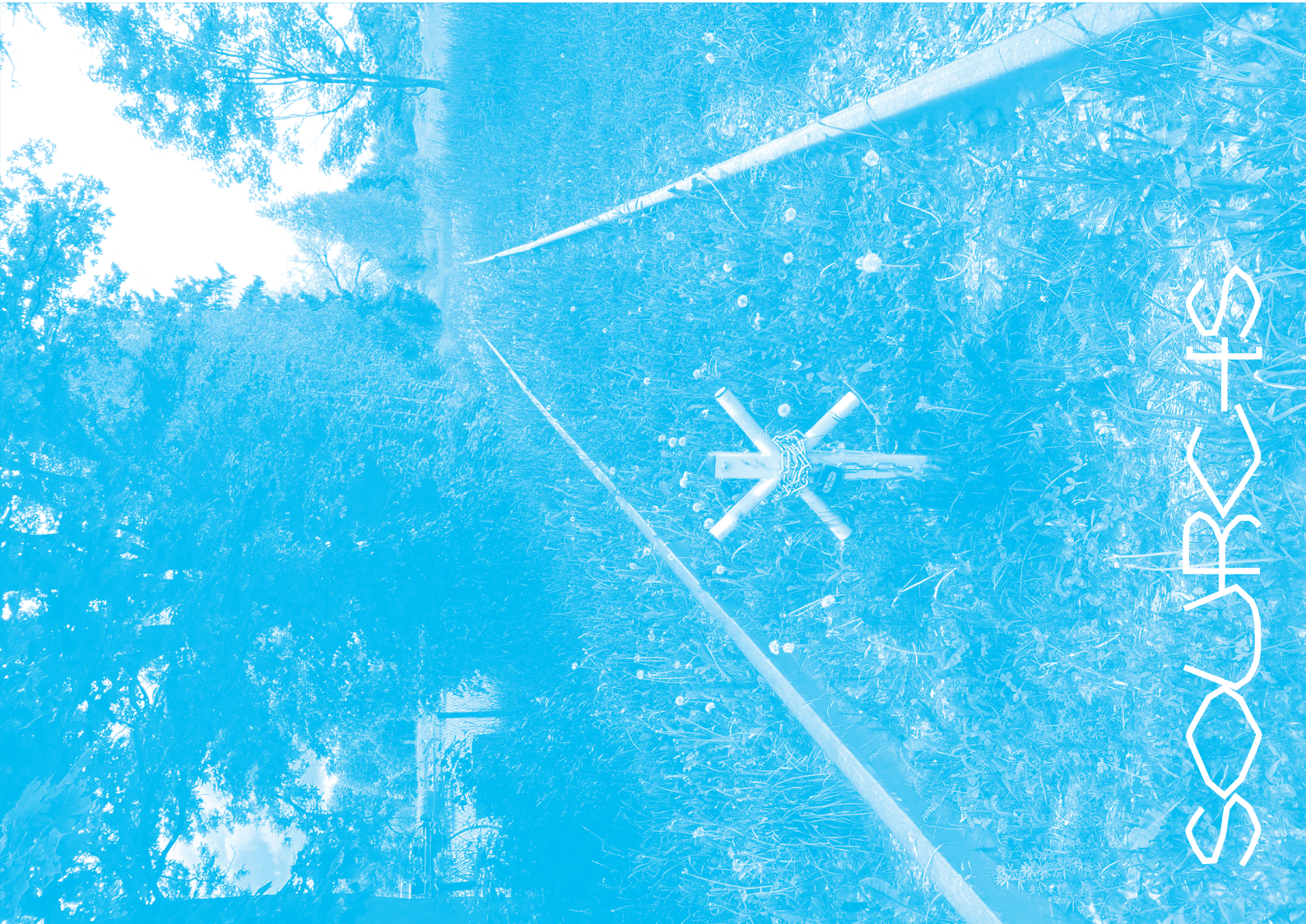
Geoportal Latvia
<https://www.lvmgeo.lv/en/maps>

Latvian Geospatial Information Agency
<https://kartes.lgia.gov.lv/karte/>

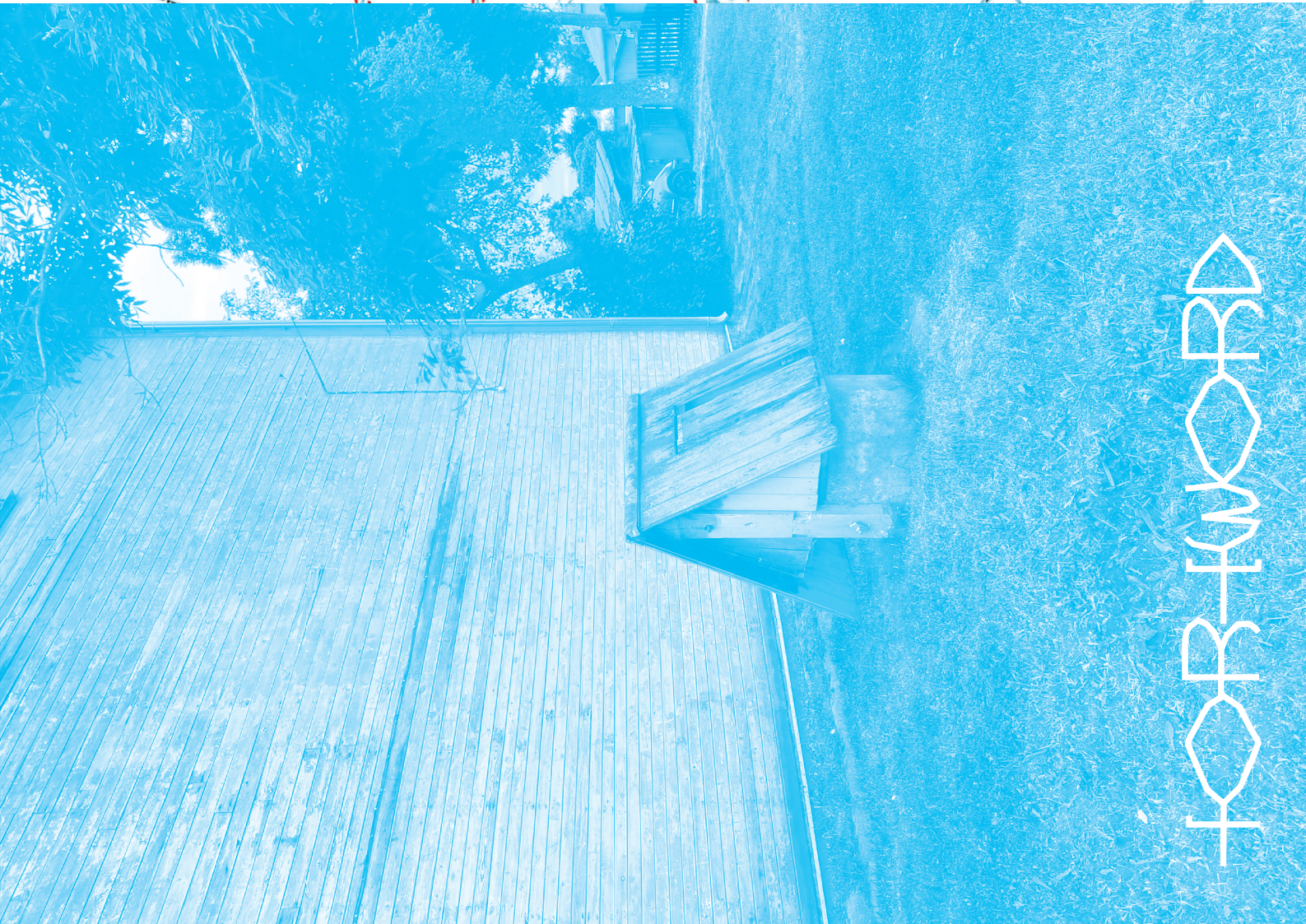
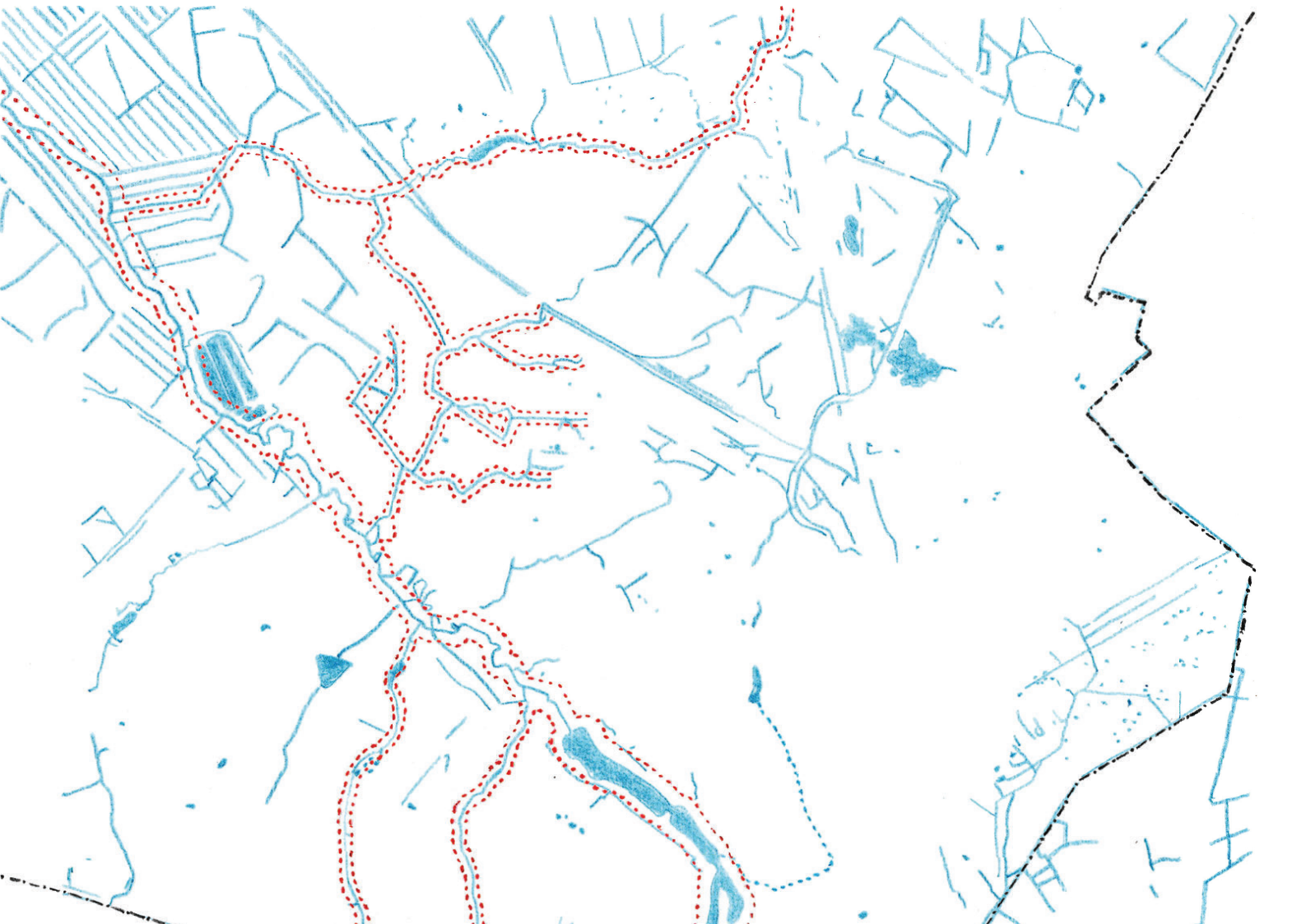
Latvian Cadastre
<https://www.kadastrs.lv/>

Latvian Development plans
<https://geolativija.lv/main>

Archive photos on a open source map
<https://ajapaik.ee/map/>



FOREWORD	7
GENESIS	9
VALLEYS & URBAN DEVELOPMENT	15
WATERBODIES NOWADAYS	21
THE RIVER TOWN	25
THE BLACK WATER	29
RIVER PROTECTION	33
SOURCES	37



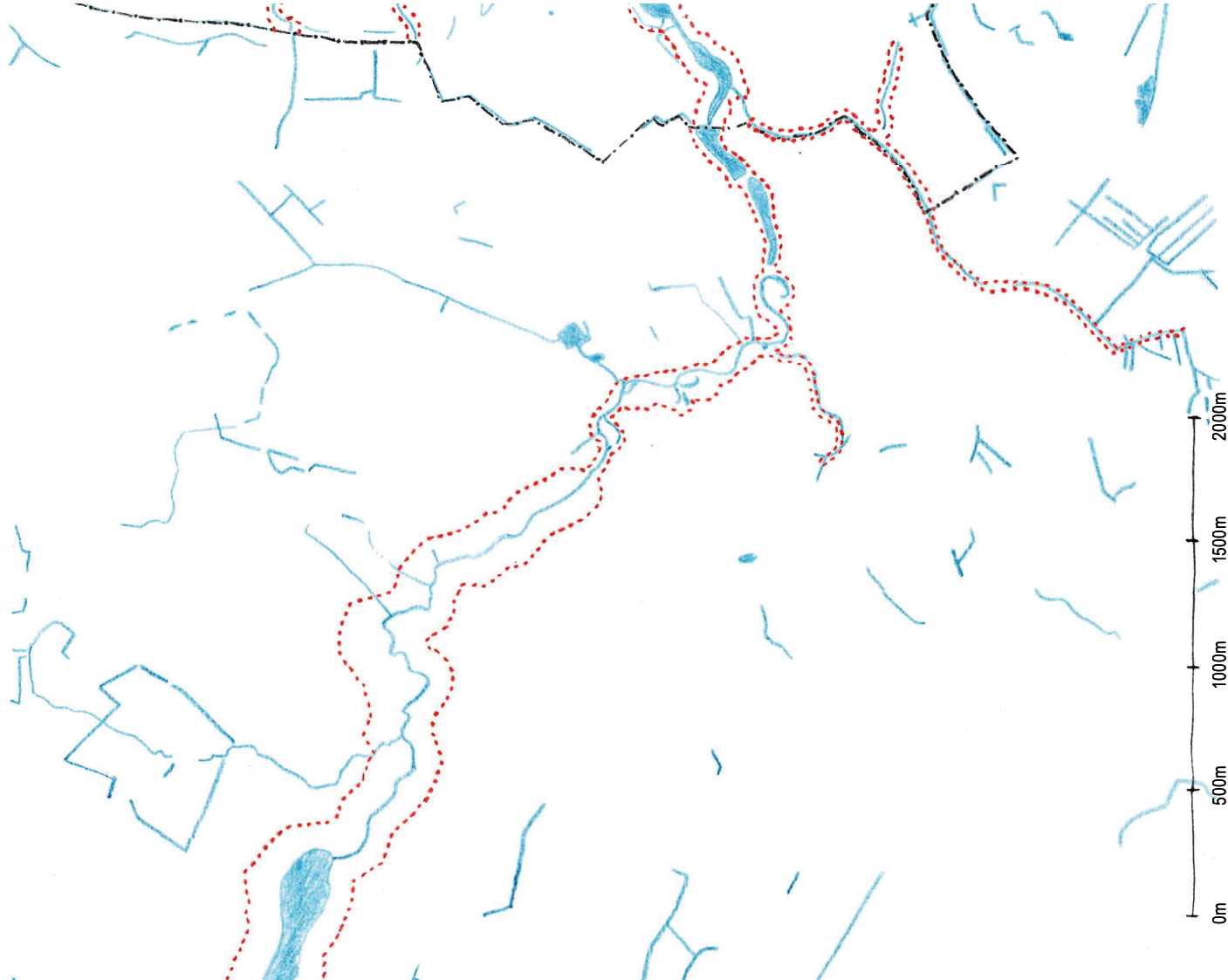
FOR-FORD

We were very excited to have the opportunity to travel to the Baltic region. After our arrival, we went on numerous exploratory tours through the different districts to discover what the twin town on the Latvian-Estonian border is actually like. As we started to get to know the town, we repeatedly came across small clues that pointed us towards the theme of River Town. Our observations revealed the close connection between water, landscape, and settlement.

We discovered large puddles that naturally formed after rainfall, resembling small lakes. Drainpipes carried rainwater openly across the pavement, an everyday sight that highlights the visibility of infrastructure. In many places, we encountered buildings made of round natural stone masonry, whose shapes almost resembled snowmen, as if the river could still have flowed here hundreds of thousands of years ago. In the forests surrounding the town, we found pools of water between the trees and narrow ditches along the edges, which diverted excess water. In the allotment gardens, too, another approach to water became apparent: instead of conventional pools, we found sunken pits in which small ponds had formed as a design element.

We were walkers, discoverers, researchers and we were discussing our explorations with people that wanted to share their knowledge and story with us. We chose to describe what we see rather than design permanent landmarks. More interesting was to see the unseen, the ordinary. The question how do citizens, town and designers deal with the water in Valka-Valga and what are the consequences of their actions.

Ultimately, it is the rivers themselves that shape this twin town, not only in terms of landscape but also politically and socially, acting as both a connecting force and a boundary between countries and settlements. That is precisely why we were interested in understanding how this complex system functions and how it can be narrated as a story. After a month, we are now able to share our research into the fascination of rivers in this publication.



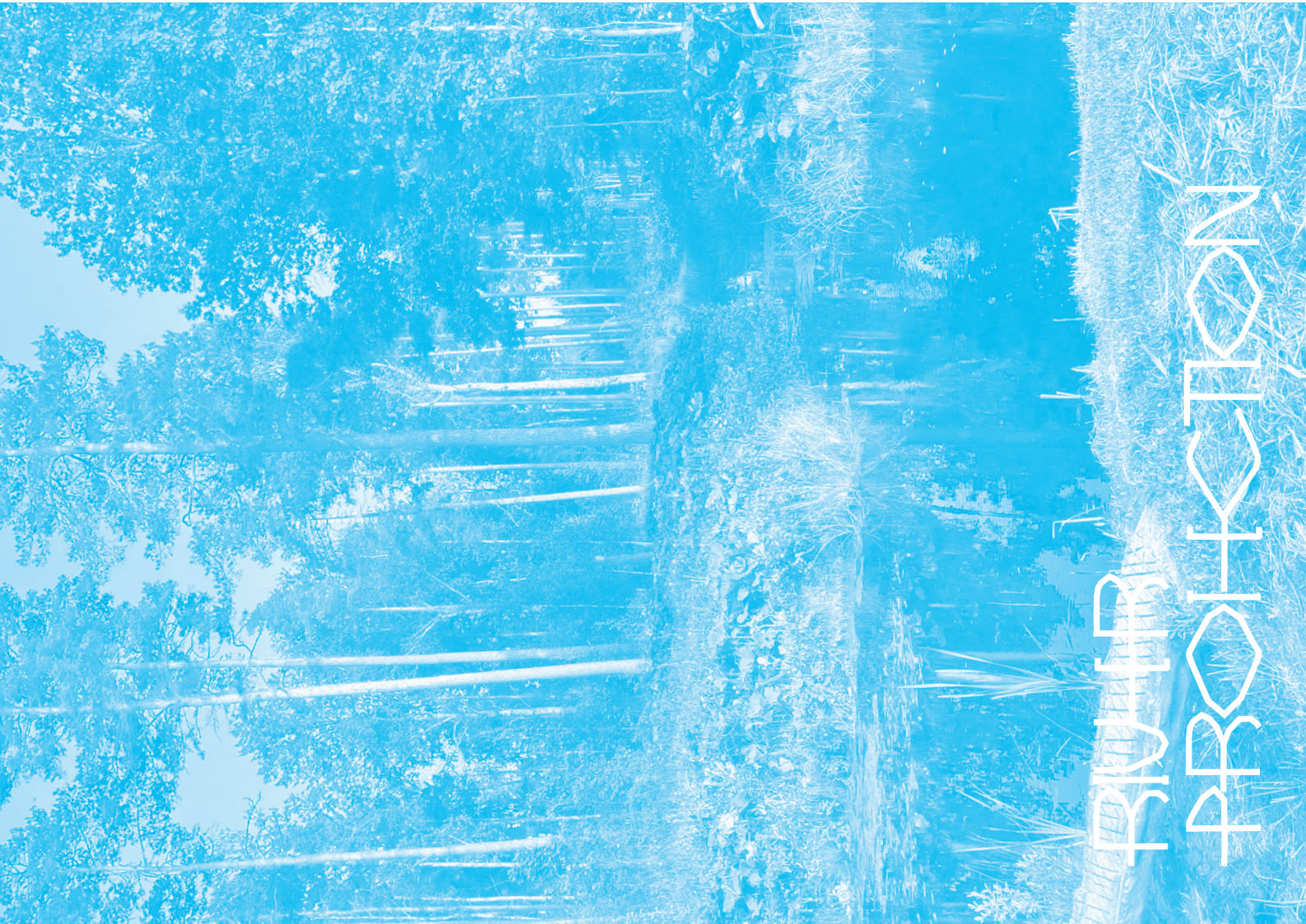


On the map, it becomes clear that river rights are only recognized when the waterbody is visible on the surface. In the case of the Pepper Stream, which flows underground, no protection zones are designated. As a result, only visible waterbodies are granted rights in the form of protection zones.

In Estonia, the Water Act and Building Act regulate the use and protection of watercourses, shaping how towns and their inhabitants interact with water. Over time, these laws have evolved, placing growing emphasis on safeguarding rivers and lakes while ensuring public access to these spaces. Today, large buffer zones along waterbodies must remain free of housing and other large constructions. Additionally, a smaller strip of land immediately adjacent to the water is legally required to stay open to the public as a pedestrian pathway.

These laws allow us, as visitors, to walk freely along the water. They are not only about public access; they also ensure uninterrupted green spaces to support the flora and fauna, helping nature to thrive. However, these regulations also have significant implications for urban development.

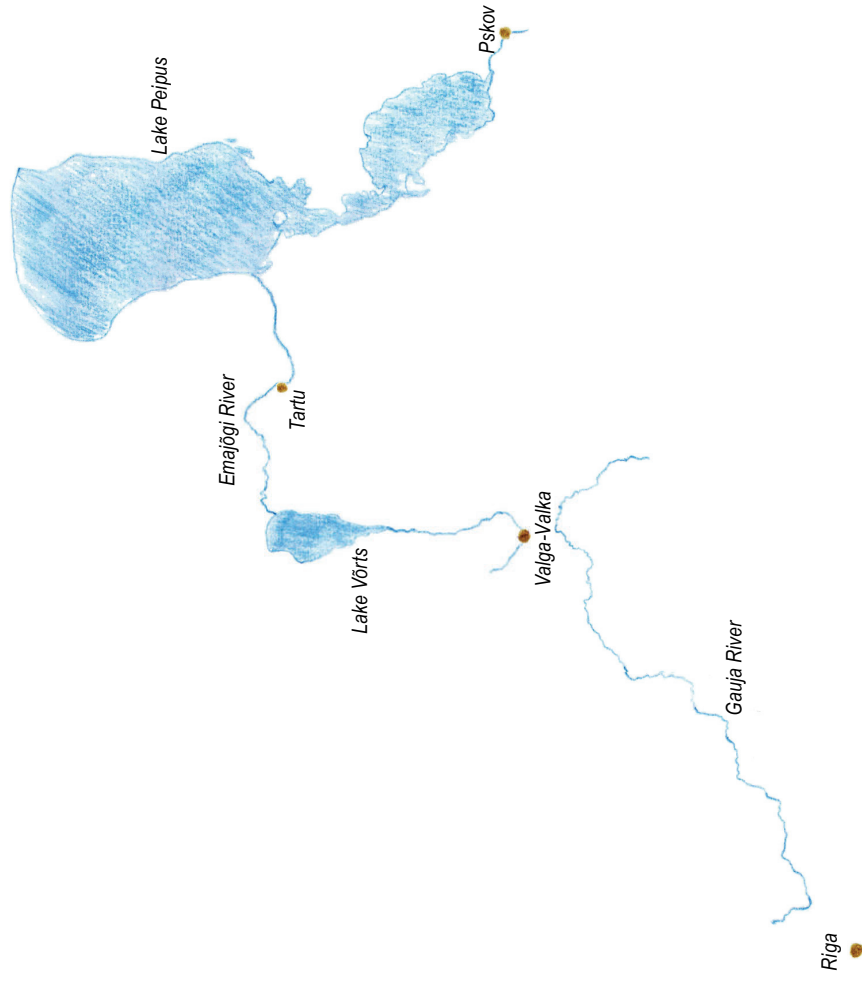
The building restrictions around waterbodies create an “invisible line” that prohibits urban expansion near rivers and lakes, with only exceptions permitted. This boundary interrupts the organic interplay between water and human settlements that historically shaped the town. This invisible boundary differs across the two nations, reflecting their respective approaches to water conservation and urban development. In Estonia, there is a continuous buffer zone of 50 meters on each side of the river. In Latvia, the regulations depend on the context. Within urban areas, the buffer is 20 meters, but in nature protection zones, this area is significantly extended.



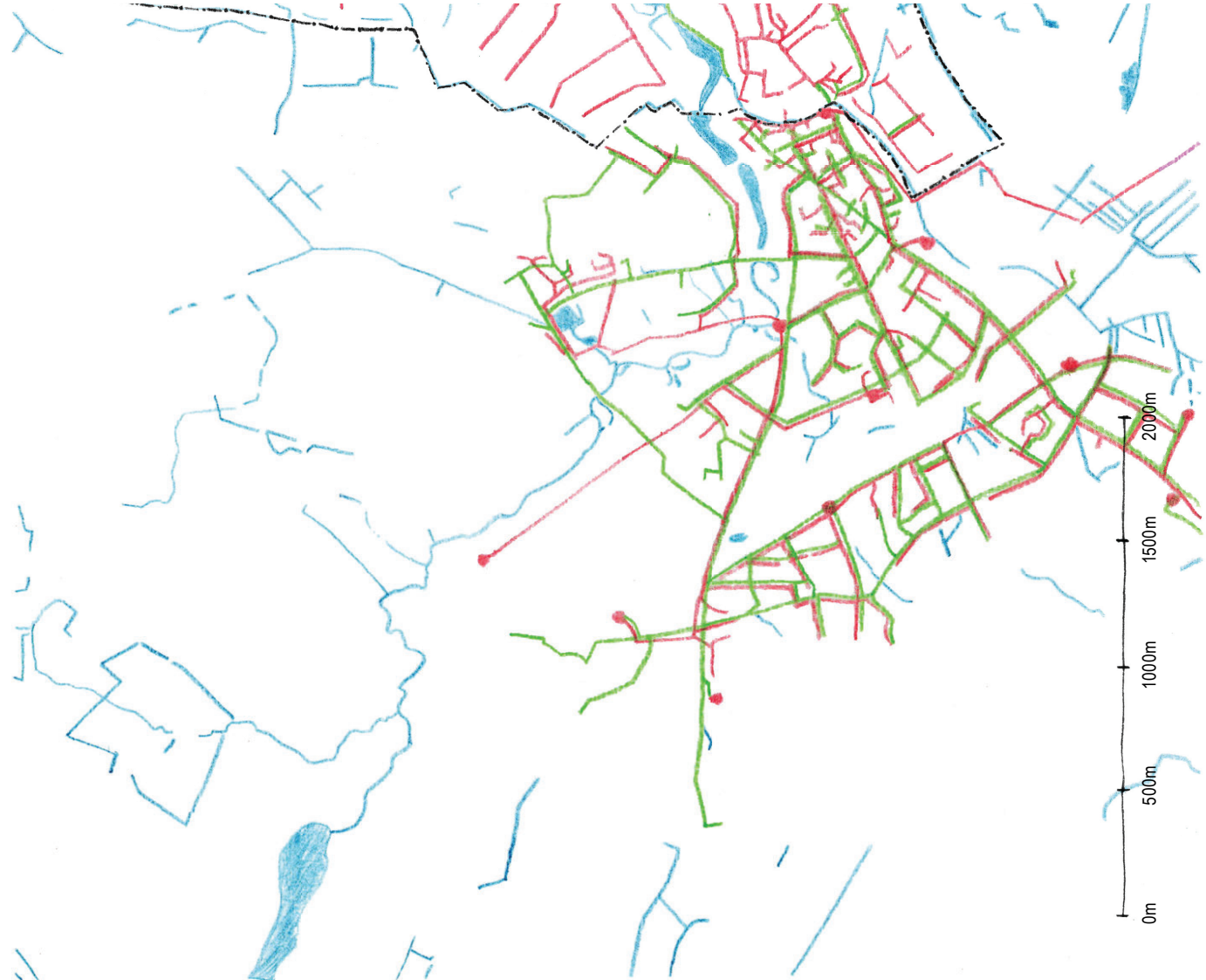
One story tells that a town emerged at the narrow strip between the rivers Emajõgi and Gauja because it was the shortest route for transporting goods between the two rivers. For a long time, rivers were the main transport routes for heavy and large goods until railways largely replaced them.

The town functioned like an intersection of three roads forming a triangle: the route south led to Riga; the one north to Võrtsjärv (Lake Võrts) and Tartu; and eastward to Pskov. By way of Lake Peipus, it was possible to reach the Baltic Sea. Because the town served as a crossroads in the country's interior, troops frequently passed through it. Walk (Valga) was destroyed multiple times. For this reason, the oldest surviving elements of the town are the street layouts themselves. These have remained essentially unchanged over the centuries and have been repeatedly repaired. The earliest documented street layouts appear in the Schmidt Map by Hofrat J. H. Schmidt (Estonia, 1884) and the C. G. Rücker Map of Livonia (1839). From these maps, we know that there was always an important bridge in the centre of Walk, next to which stood a mill. This bridge was one of the only crossing points of the Pedele river and was constructed out of the round stones found in the fields.

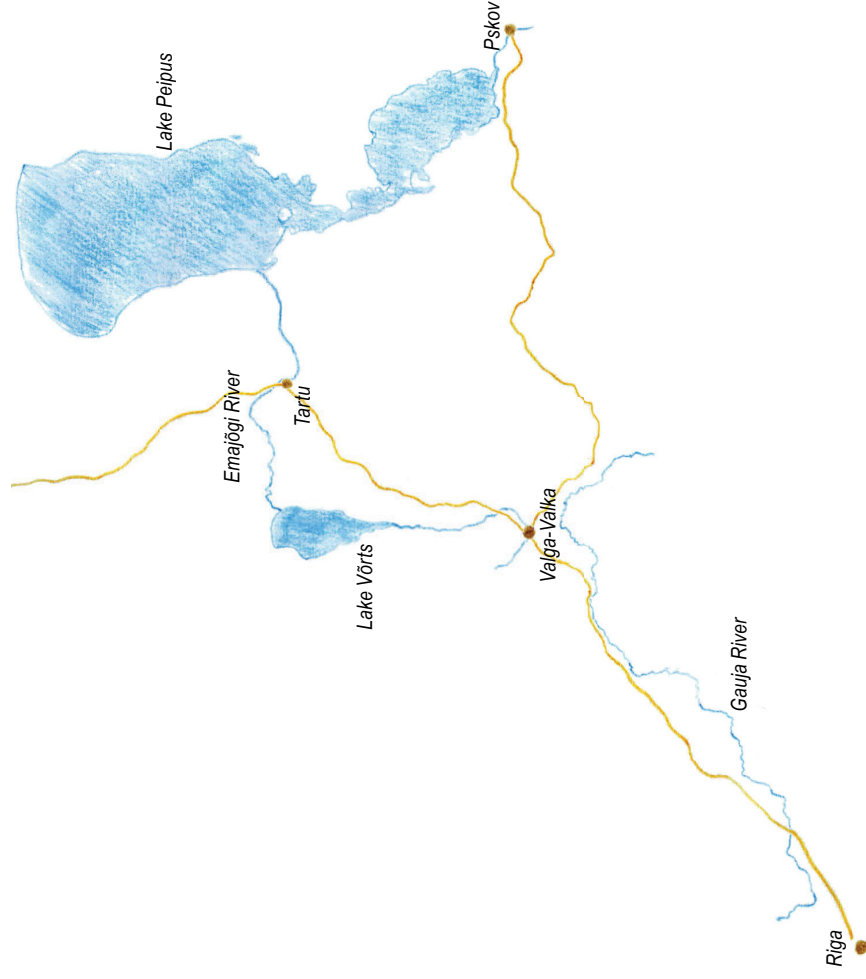
In 1886, the railway construction started, following the triangular road network again. The marshland in the direction of Pskov was partially drained to allow for a straight railway line. Just one year later, in 1887, the Riga–Valga–Tartu railway line was opened.



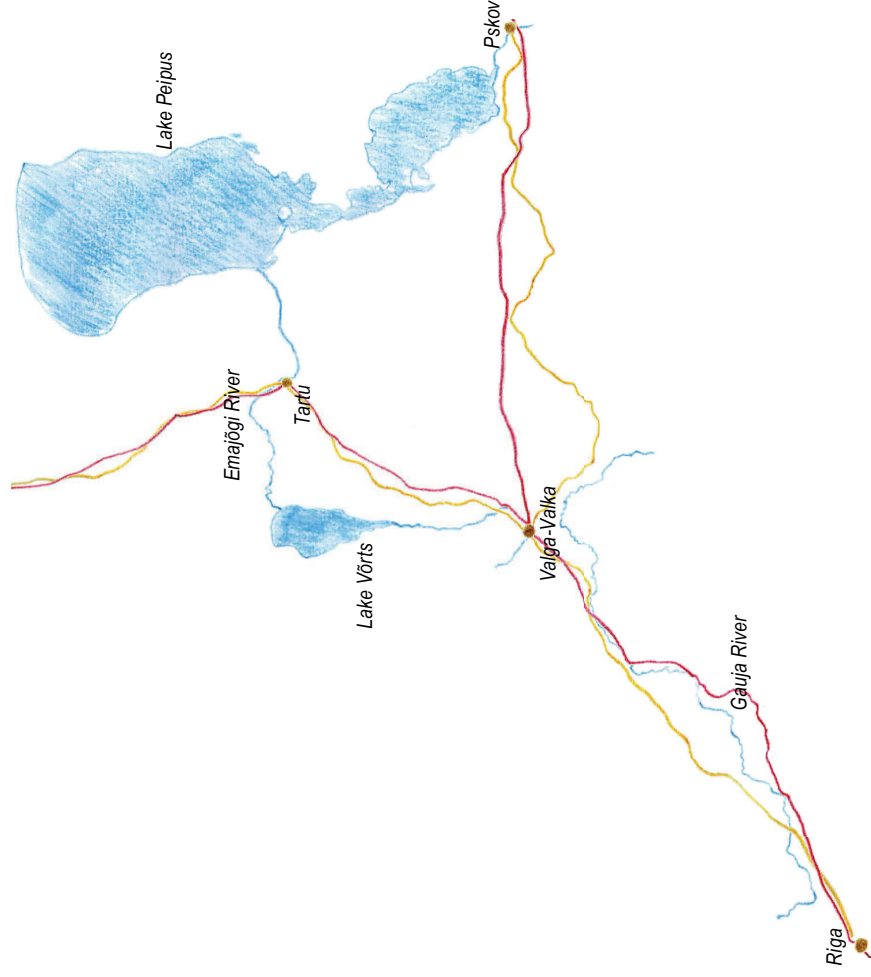
Stormwater Sewage Sewage pumping station Wastewater treatment



First road connections based on the Schmidt Map from Hofrath J. H. Schmidt of Ehtstland 1884, C. G. Rücker Map of Livland 1839.



The railway connection built in 1886.

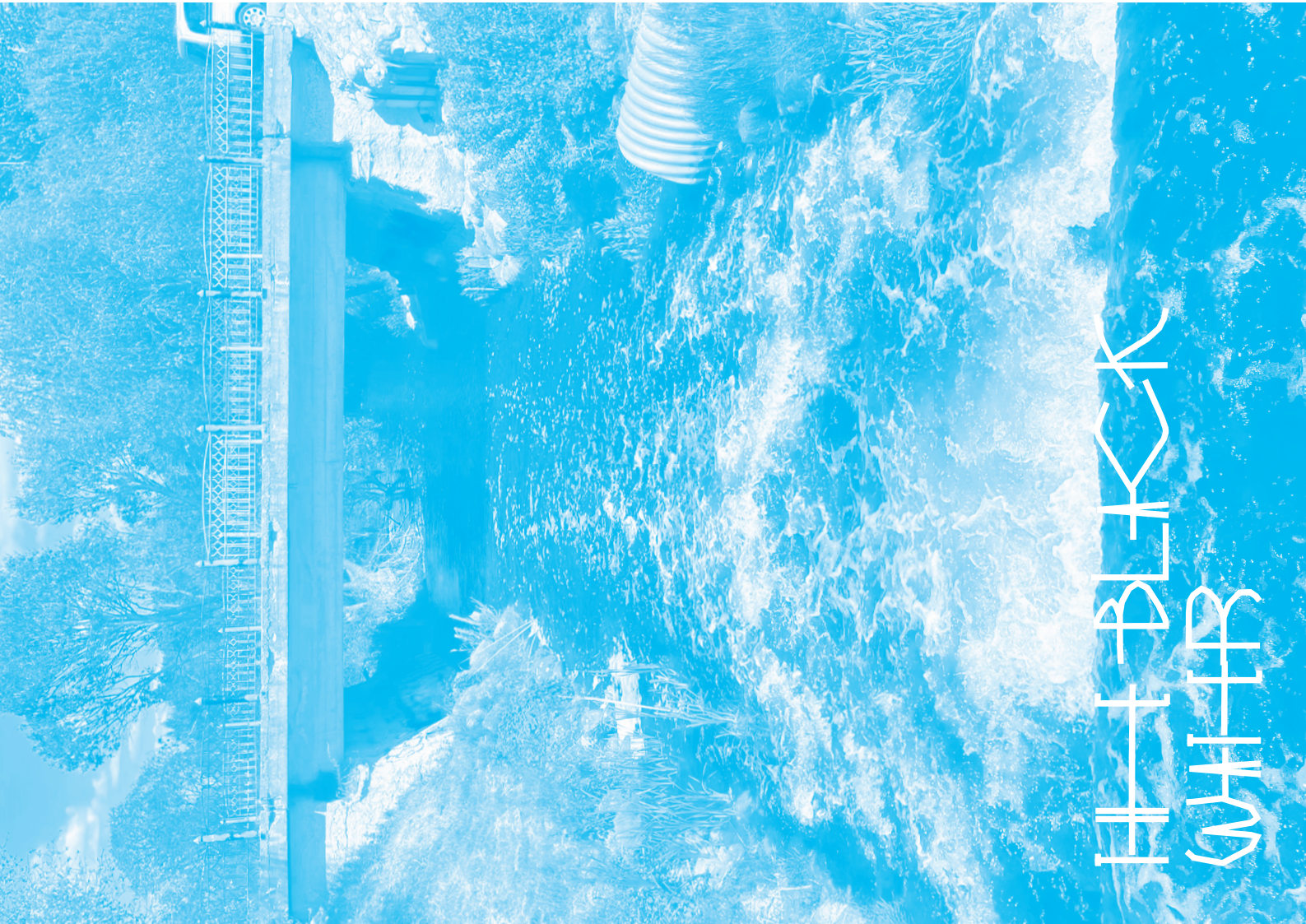


The national board marks a clear differentiation in the treatment of the water between the two towns, Valka and Valga. This can also be seen in the sewage system, as well as in stormwater management.

The peculiarity of the town of Valga lies in the handling of the stormwater. A pipe system for stormwater is nearly non-existent. Most of the water is directly infiltrated into the ground or directed to a nearby watercourse. Only the main streets have a pipe system evacuating the water to the next water body. This system can also be referred to as a sponge town, which enables the sustainable management of these resources.

For the wastewater, a centralised treatment system was built in the north of the town. In this location, all the town's wastewater can be collected through a pipe system and treated in different basins before being returned to the Pedeli River.

The stormwater, as well as the sewage in a parallel system, on the Latvian side is collected in pipes and leads to a decentralised system of pumping stations. These stations are regularly emptied by a truck and maintained to prevent overflow during heavy rains.

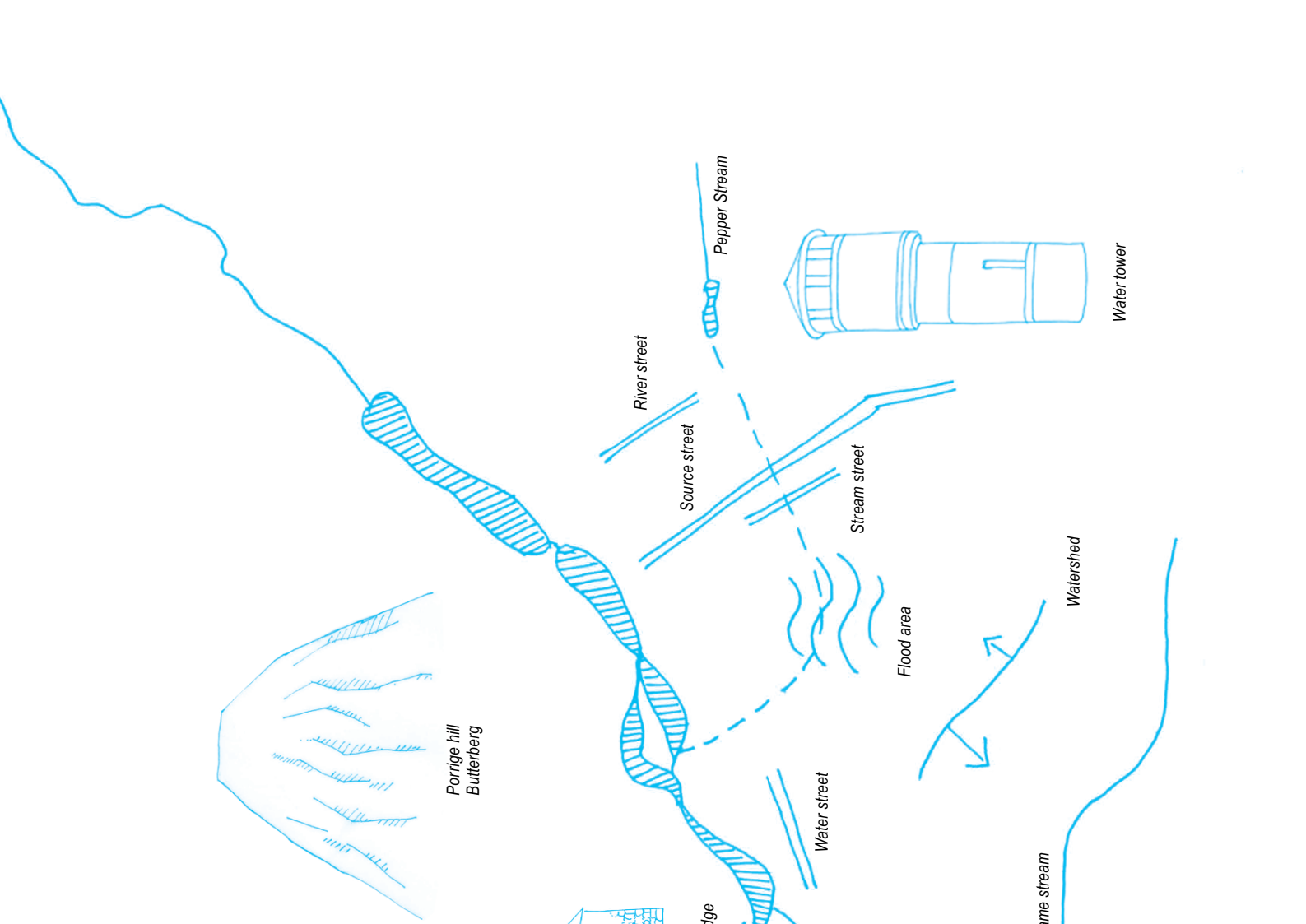


At the beginning of the 19th century, Valga had only 800–900 inhabitants. By 1867, the population had grown to approximately 3,000, and by 1881, it had increased to 4,200. Following the opening of the railway line, the population increased rapidly, rising from 4,200 to 10,922 residents.

HTBLKK WHIR



WILTS & ORBITAL FUNCTION



At first glance, the town of Valka–Valga appeared flat to us. But the more we engaged with it and explored the town, the more we began to recognise the highs and lows in its urban landscape. This subtle topography becomes even more visible during rain, when water channels form on the streets and flow toward the lowest points.

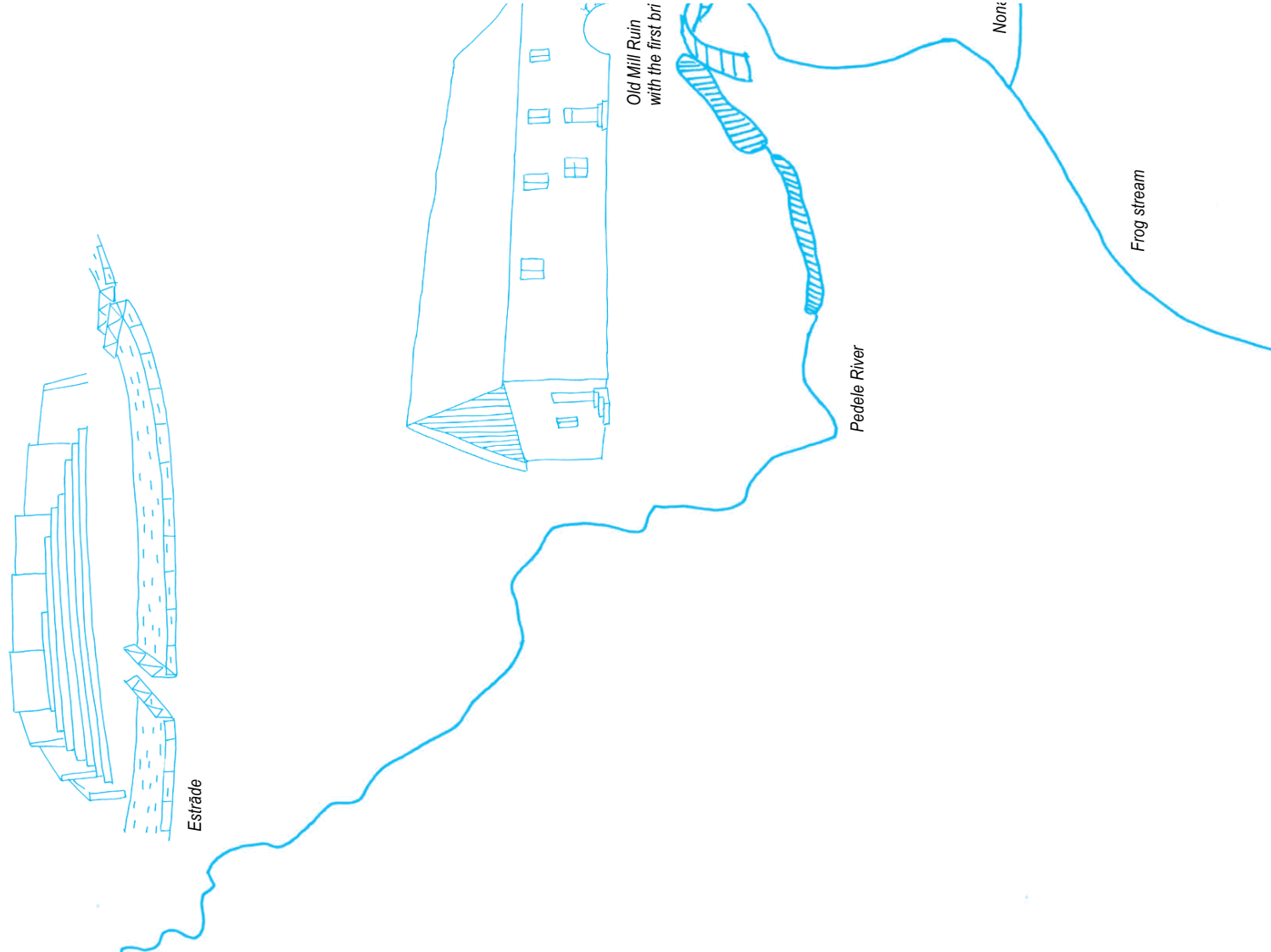
As a result, we created a hillshade map highlighting the lowest points with a network of lines. This topography reveals a natural flow of water, from rainwater to spring water. When water flows consistently, we call it a stream; as it grows larger, we call it a river. However, some depressions only become temporary watercourses during periods of heavy rainfall.

The urban development of Valka–Valga is closely tied to these natural conditions. Residential houses were built at a distance from the watercourses and out of wood. In contrast, buildings with water-related or fire-intensive uses, such as mills, fish farms, or workshops, were located directly along the river. These structures were often built with rounded stone masonry. The stones are erratic blocks found in the earth that remember the geological past of the area.

The town centre (marked in dark on the map), where the city developed from, was encircled by three watercourses. After the construction of the railway line, the town began to expand on both sides of the Pedele Valley. The gaps between the watercourses were filled in, and the town also grew north of the tracks.

During the Soviet era, an additional layer was added: prefabricated housing blocks that gradually moved closer to the watercourses.

Since the 1990s, a new phenomenon has emerged: weekend houses for living or recreational use have been built beyond the town along both sides of the streams (marked yellow on the map).

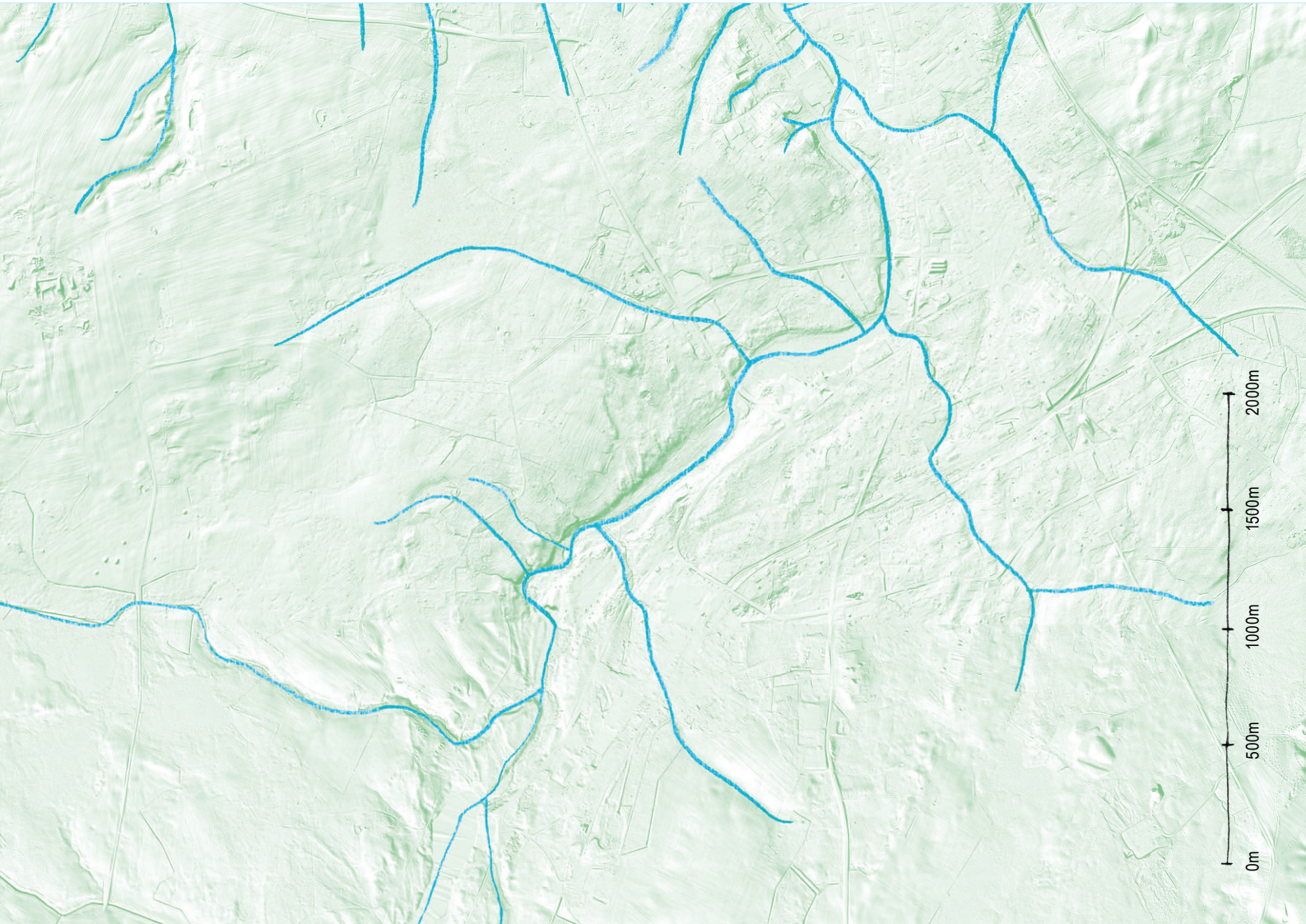


The river town tells the story of past and present elements that have remained in the memories over time. Slight hints, such as street names referring to water infrastructure or objects still found in the town, continue to reflect the subject of our research. Some of them were already mentioned in the previous chapter, and others were added to the map.

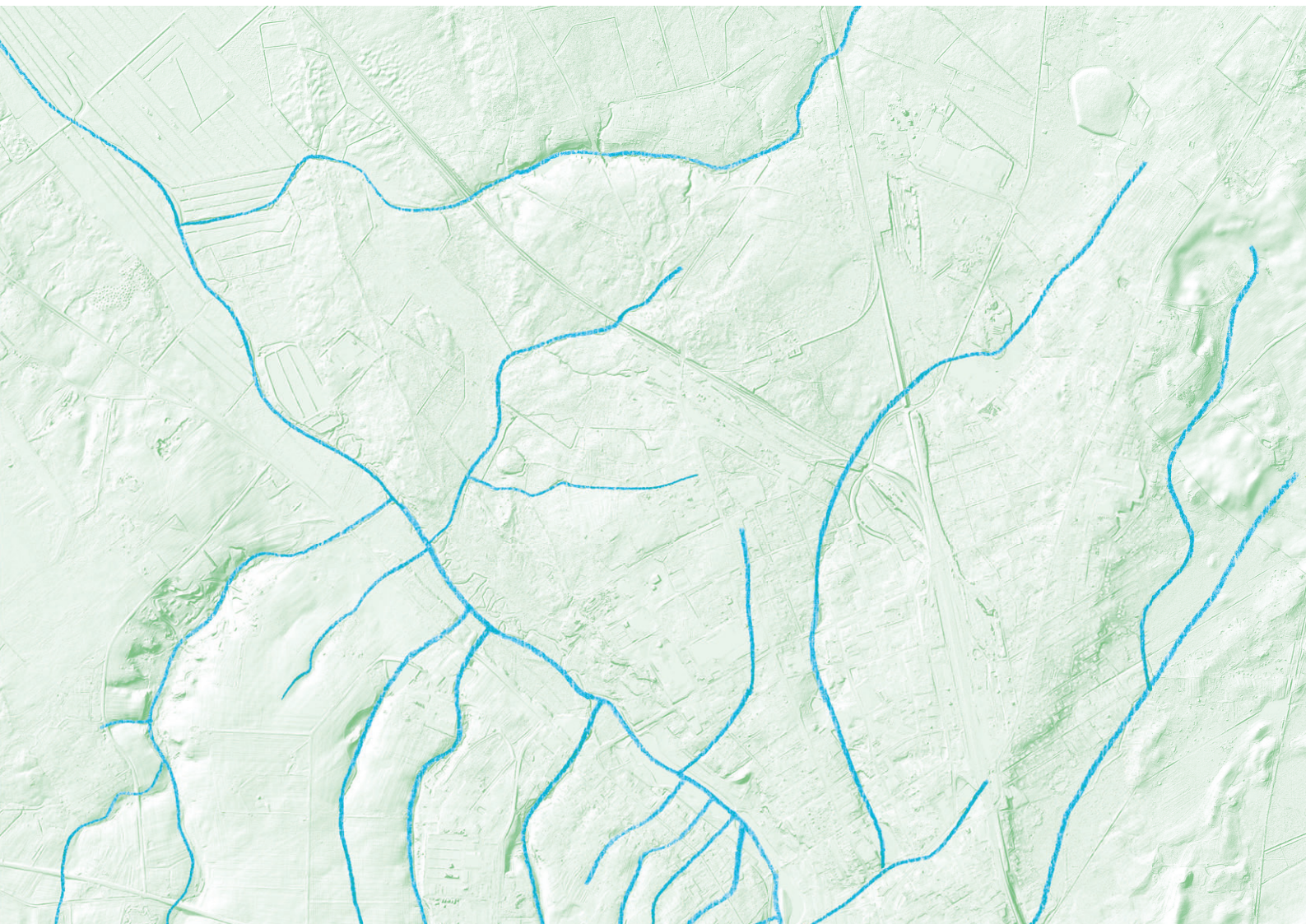
The story of the “Source Street” goes back to the construction of the railway junction. The railway freshwater pump station was located on the bank of the Pedeli River, at the end of Source Street. From there, water was transported through a pipeline system to the water tower at the station. The tower served to supply steam locomotives with water.

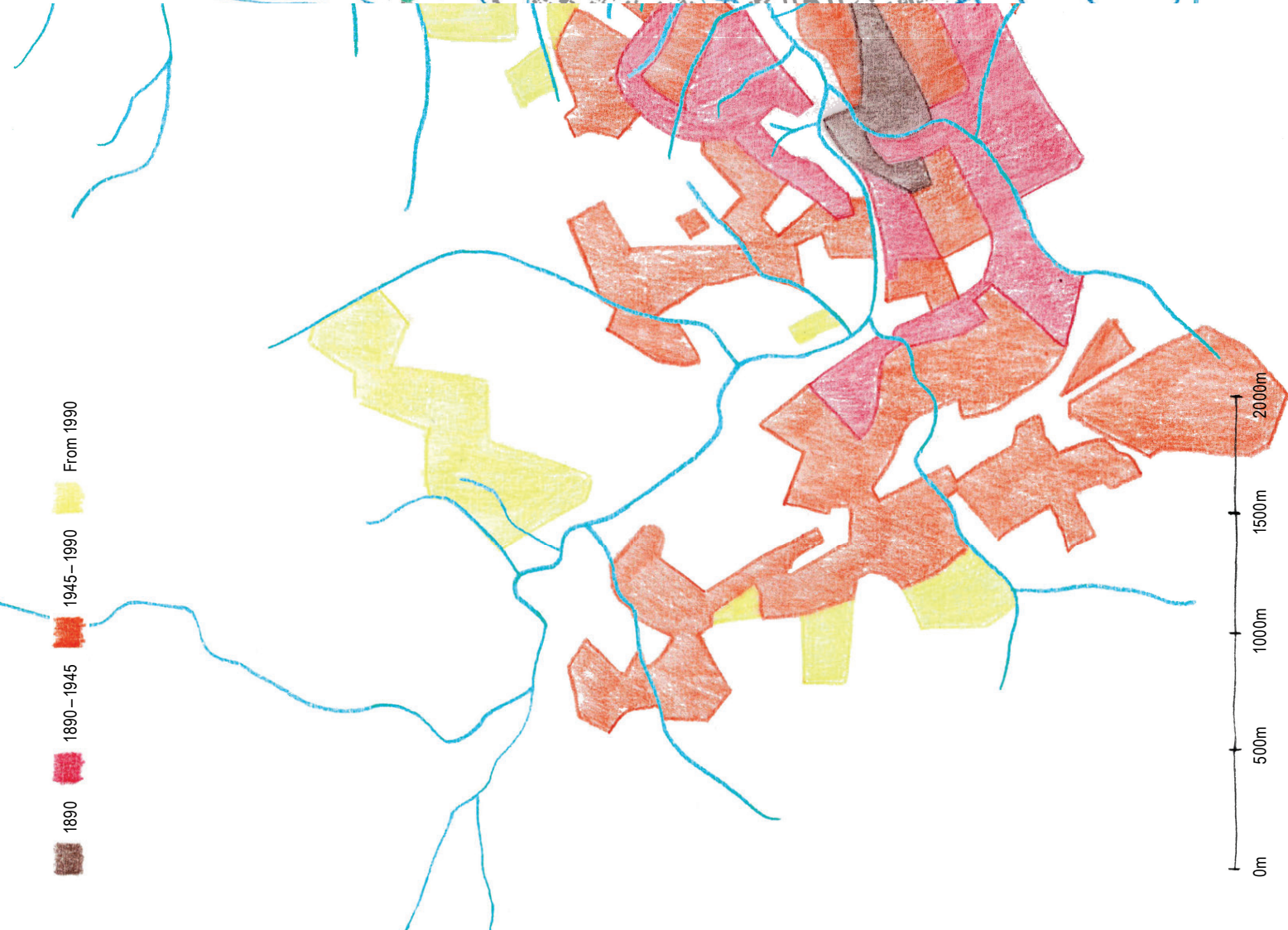
According to local information, the name “Porridge Hill” in German, known as “Buttersberg”. The name may be linked to the presence of springs, which, according to legend, turn the peak into a muddy area each spring or during the rainy season. Small streams carry this water down into the Pedele River. Additionally, the village that developed on its top was formerly known as Porridge Village. Today, it has merged with the city of Valka.

Estrāde, a typical town typology in the Baltic countries for singing festivals, is an open-air theater where the stage is nearly the same size as the audience area. In Valkas estrāde, located in the northeastern part of town, the Pedeli River is integrated into the design. The river serves as a natural division between the seating area and the stage, with two bridges connecting the two sides. The estrāde was built in 1970 for public singing festivals by Latvian architects Karīna Daujāte and Rita Zandberga. Several such estrādes exist throughout the region, but more information about the designs are lacking.

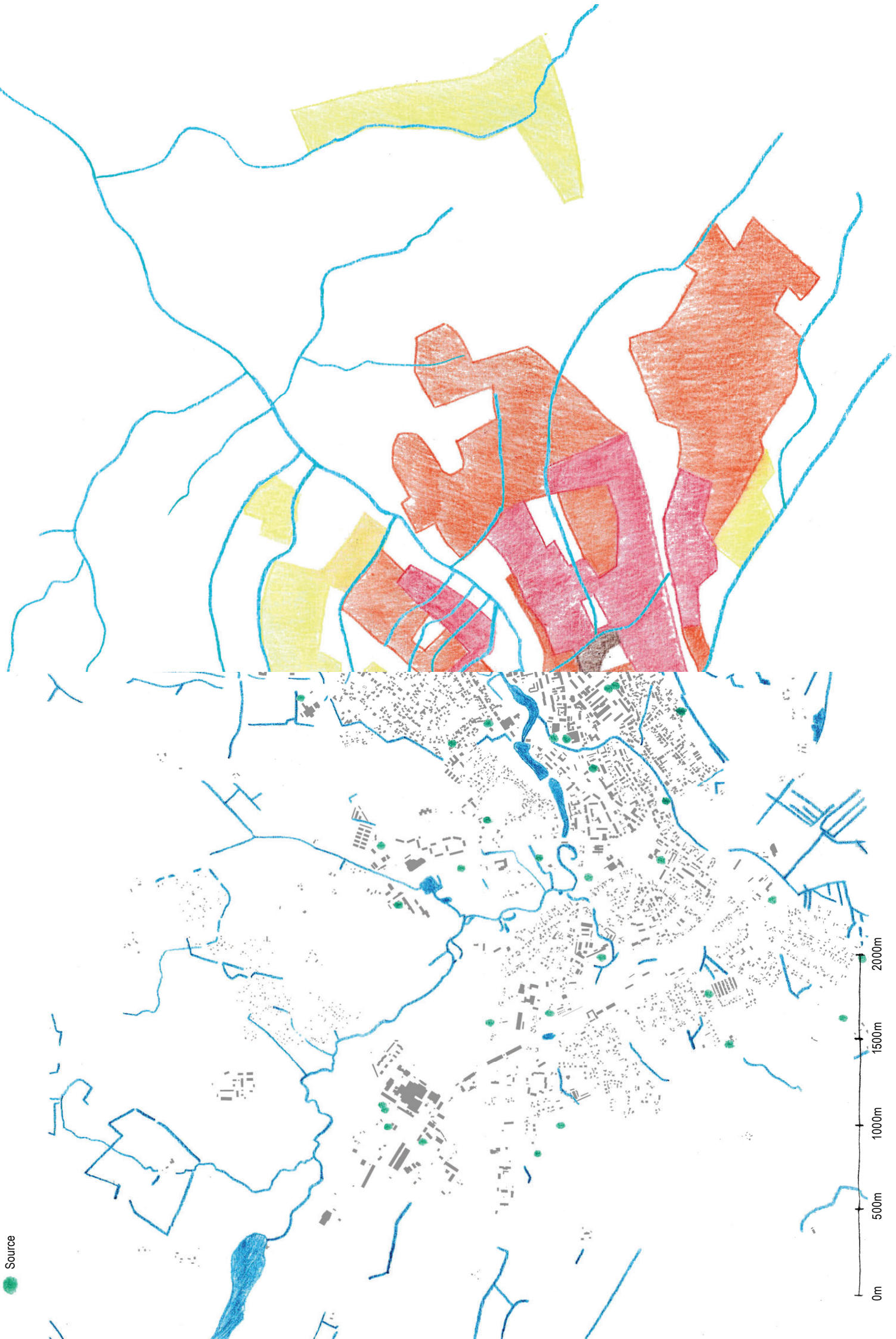


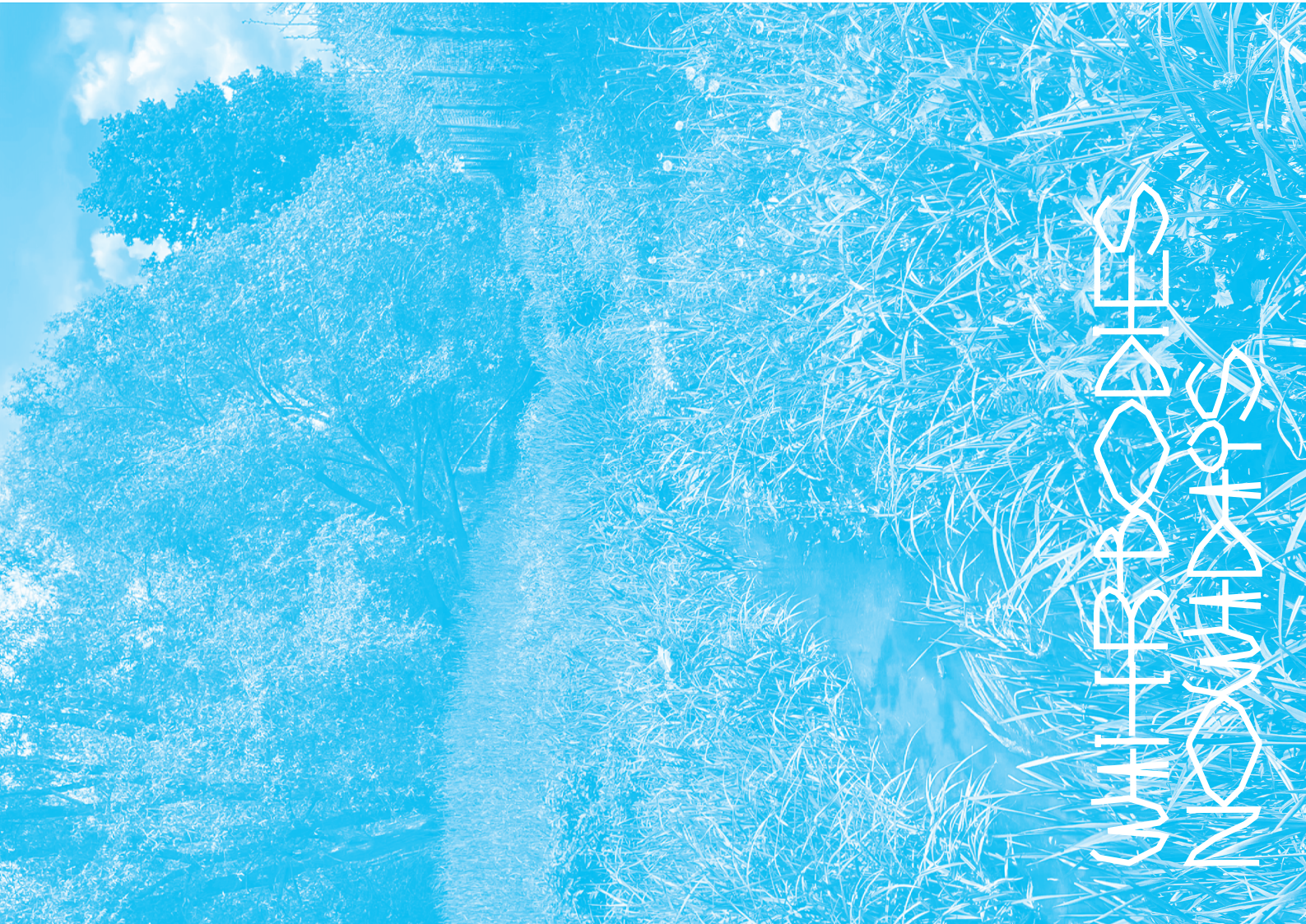
THE RIVER TOWN





Source





The map illustrates the changes in waterbodies in the area over time. The Pedeli stream has been transformed into a recreational lake system. There was a deliberate effort to stop the natural meandering of the river and instead create lakes with pedestrian walkways and various leisure activities.

What remains of the Pepper Stream includes a small lake, a flood-plain, and a partially uncovered river section. On the outskirts, in agricultural areas, an irrigation system has been installed. Around the town, drainage systems are visible, which have helped transform former marshlands into fertile land. These changes have been made possible by technological advancements. Today, technology enables us to channel rivers through underground pipe systems, stabilise riverbanks, and guide the water on a large scale.

On the Estonian side, a water treatment system with sedimentation basins has been constructed behind the town. In the allotment gardens, it is sometimes hard to tell whether a small dot on the map represents a building or a tiny pond. Despite all these changes, the rivers still define the edges of the town, and their courses remain visible in the landscape.

Another traditional water element that still exists in the town is the well. Once essential for survival, wells have now mostly been replaced by modern centralised pumping stations and a plumbing system distribution, marked with dots on the map. Some of the wells remain in public spaces as leftover elements. Still in operation and displaying the proximity to the groundwater level. Others have been filled in with soil and now appear as circular grassy patches.

The site gives the water an intense, darker colour. This is due to the geological formation in this area, the colour range goes from dark red to brown to almost black. Also, the earth and the sand found on the site have an intense red colour.