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T ENTANGLEMENT BÓÍ THE Æ MORE-THAN-HUM WATERS A **VA**

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can help us understand the intertwining of our environments and identify the places that need care. It takes the site of

this research. It means understanding the entanglements of the built and the unbuilt environment in order to identify the places that need care and that represent critical levers for the more than-human habitability of our territory. As water and society are intimately linked and have shaped each other over time, we use water as a noticing tool to understand and identify these entanglements. Caring about water then allows us to perceive how permeability between elements is managed on a specific site and where are the needs and potentials for interconnectedness, The three other documents constitute a graphical research at three different scales that seeks to determine the places, the agents and the dynamics that need care, maintenance or repair. A first drawing shows us the way water has shaped the territorial scale. A second drawing at the more local scale of the Vallon analyzes the degrees of permeability between the built elements and a more 'natural' environment and locates the drawings that constitute the last part. This last document was built during the walks through the Vallon. It gathers more sensitive observations and sketches that try to decipher the entanglements between nature-water-society at the scale of detail and matter.

TERRITORIAL SCALE

Embankm Valley Forest Rollutedarea Heat Islands Critical Zone Biologic Corridor Flon riverbed

Industries Rivers Floods Climate

EXCHANGES AND ACTIONS

RLACES

Enoncé Théorique de Master en Architecture Janvier 2023, Ecole Polytechnique Fédérale de Lausanne

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AGENTS

Vallon in Lansanne as a place of study. . In a first written part, we try to define what it means to apply the care theory to a territory in the framework of

This Enoneé Théorique is composed of textual and graphical works that explore how does caring about water

Commune of Dausanne Canton of Vaud Lausanne's society Urbanists and engineers Epidemics

Topographic evolution Rising temperatures People displacement Land use change ntespecies communication

Diversion and burial of rivers Pollytion and contamination Hydrological cycle

MATTERS OF CARE

ABOUT THE ENTANGLEMENTS OF WATERS AND MORE-THAN-HUMAN WORLDS IN LE VALLON

LOCAL SCALE OF LE VALLON

Built-unbuilt boundarie Industrial wasteland Forest-City transition Embankment anthroposol Water bodies and infrastructures Landscape and historic markers Neglected soils

Walters Organic and inorganic beings nhabitants and workers of Le Vallon Associations Invasive plants Waterrunoff

> Desasphalting Depolyuting Gardenning _hriguating_ social engagement (caring with)



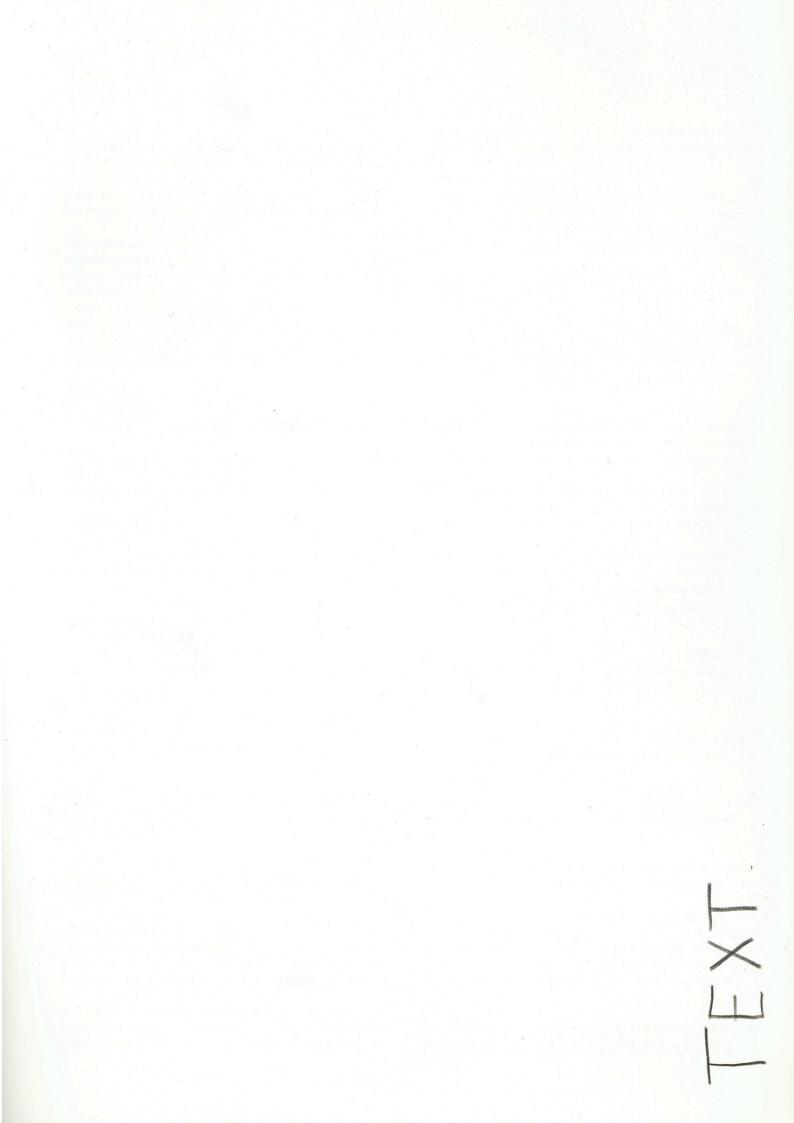
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DETAILAND MATERIAL SCALE

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Built-unbuilt material boundar and entanglements Thresholds - Damp-places -Material porosity and permeabihty) Impermeable surfaces Waters Wethess Non-kuman beings --- Light ---Pollution Wind Eroding Infiltrating Desasphalting Breathing Sensing Touching





There are more and more stories of both human and ecological disasters that remind us of the fragility of our earthly condition. There are many signs that tell us of a sense of impending crisis and permanent emergency. There are countless reports, alerts or warnings about our present planetary situation and our unstable future. And yet, these narratives are sometimes difficult to sense, to grasp or to comprehend.

We know of reactions and responses composed under the often suffocating and saturated flow of alarming information about our troubled current time. But neither the growing individualism, nor the techno-scientific solutions that seek to perpetuate the ever-growing progress of the Human Species as a central and dominant one, can slow down the spiraling ecological devastation and increasing social inequalities.

In a time of acceleration and troubledness, where the split between the urgency for responsiveness and the growing awareness of Man's impact on the planet sometimes leads to immobility or avoidance, we might need to think of new ways of relating to our common world in order to repair and maintain our planet habitability.

Faced with the indecisiveness of how to apprehend this situation, the multispecies feminist theorist Donna Haraway invites us to reconfigure our relations to the earth and all its inhabitants by rediscovering our interconnectedness. It is by becoming aware that "natures, cultures, subjects and objects do not pre-exist their intertwined worldings", that we can find new ways of "making with", of becoming and cooperating together with the human and the nonhuman world, in order to face the challenges inherited by the growth of the modern capitalist system, inherently exploitative and expansionary.¹

"Learning to stay with the trouble of living and dying together on a damaged earth" means "thickening the present", exploring these troubling and troubled times in order to detect the possibilities they hold for building a more livable planet.² It helps us to think of the changes that threaten us not only as fatalities, but also as opportunities to live better together. Instead of rushing into an uncertain and abstract future, we can learn to understand our present time and the ties that bind and affect us. It also means that it is our "response-ability" to identify and maintain, preserve or repair what is already there, what we value, what beings, things or processes, are important for us and our shared life.³

¹ Donna Jeanne Haraway, Staying with the Trouble: Making Kin in the Chthulucene, Experimental Futures: Technological Lives, Scientific Arts, Anthropological Voices (Durham: Duke University Press, 2016), 13. ² Ibid., 312. ³ Ibid., 104.

CARE

The Feminist Theory of Caring, developed in 1990 by Joan C. Tronto and Berenice Fischer, can help us think about this issue. They defined *care* as a crucial praxis for human life: care is "a species of activity that includes everything we do to maintain, contain, and repair our 'world' so that we can live in it as well as possible. That world includes our bodies, ourselves, and our environment, all of which we seek to interweave in a complex, life-sustaining web".⁴

An underlying aspect of care is the notion of repair. "To repair (from the Latin *reparare*) is to make good again that which was made ready (parare) but not necessarily to restore it to the state it was before." This nuance is important in order not to instrumentalize the notion of repair. Indeed, repair and violence are always bound up together, and damage and repair then simply repeat in an endless cycle.5 With this awareness, we use the world repair as a particular retroactive form of Isabelle Stengers' notion of "care of the possible".⁶ "Care narratives are particularly useful because instead of a nostalgia for systems that are damaged and structures that are gone, they recognize that a rebuilding of the system might undo certain damage but will not accommodate those who were already oppressed by that system. Repair, which is often seen as an undoing of damage, will be replaced by maintenance, which is about investing resources toward those who are the most affected by the damage. This will create narratives of a different kind of rebuilding that allows for an inheritance of loss without romanticizing it".7

As architects and built environment actors, thinking about the issue of *care* makes sense since our practices have a direct impact on the world we live in and the beings that inhabit it. In *Critical Care: Architecture and Urbanism for Broken Planet*, Angelika Fitz and Elke Krasny argue that caring is at the very core of architecture itself since it is about shelter — fundamentally, protecting humans from the elements. At its very essence, then, architecture is critical to human life, it is "a most crucial practice of care for earthly survival".⁸ Architecture is part of the care environment through which bodies can live and survive and its absence can be cruel. For instance, we can think of the violence of homelessness which is, according to Krasny, "a form of structural carelessness".⁹

However, architecture is now more and more questioning its own foundations and ongoing practices. If we have been able for a long time to narrate and consider architecture as an essentially cultural practice, which only concerns human beings without taking into account our impact on atmospheric, organic and environmental systems, it is because Modernity has been built on a theoretical separation of nature and society. As the science philosopher Bruno Latour argues, being modern means subscribing to a particular set of ideas that define the relationship between nature and society, where "Nature and Society must remain absolutely distinct".¹⁰ This separation has been very effective in helping to produce objective and scientific knowledge. However, this epistemological perspective becomes problematic when it ceases to be a simple tool for thinking about the world but becomes a hegemonic way to shape it.¹¹ A consequence of this conceptual separation of nature from society is that it has allowed for an unprecedented degree of human involvement and intervention in the world.

Everywhere, we are beginning to recognize the traces that this heritage has left on our planet. There are no landscapes, no sphere of material or life, that human activities have not transformed or reshaped. As architects and therefore built environment agents, we find ourselves more and more confronted with parts of the territory that have been damaged, and therefore require care and sometimes repair. The scarcity of resources and materials also forces us to adapt our practices. This awareness pushes us to question the capitalist logics of progress that "arrange, dissect and extract bodies into systems of inert property, ownership and commodification".¹² Nature can no longer "play the role of a backdrop and a resource, to be controlled and disposed of as desired by Man, for the flourishing of (a particular) human culture".13 These new challenges facing our profession resonate with what the science philosopher Isabelle Stengers describes as "a new style of concern, demanding that the dream of control or mastery be given up, replaced by the need to pay attention to, to care about and to learn from what we are bound to coexist with".14

Thinking with care as an architect could mean being attentive, when doing a project, to the relationships that bind us to our environment — especially the ones that have for a long time been neglected by the Modernity (minotarian and vulnerable communities, organic and inorganic life), - and seeking to contribute to maintaining, preserving or repairing these links. However, it is still a too broad definition to be applied. Indeed, the act of caring cannot be generalized and is always specific and situated. As Tronto and Fischer suggest, "the activity of caring is largely defined culturally, and will vary among different cultures".¹⁵ To be applied to a material territory, the theory of care then requires architects to be attentive to a specific community in a specific context where its human and nonhuman actors are not theoretical and homogenous entities but embodied agents with specific interactions.

Tronto and Fischer identified four essential aspects of care (caring about, caring for, care giving, care receiving), to which Tronto added one more later (caring with). "Caring *about* means being attentive to the needs that needs to be addressed. Caring for is the phase of care that concerns the acceptance and allocation of responsibility. Care giving requires attention to the actual acts of care giving. Care receiving involves the response of the thing, person, or group that received care giving. Caring with [speaks about the consequences] of the recurring nature of care, [when care] become reliable over time and therefore becomes a way to foster solidarity and trust among people".¹⁶ Of this definition, the particular aspect "caring about" is of interest to us: "Before any caring process can begin, someone has to recognize the need for care".¹⁷ This means that, as architects, in order to think of a caring architecture, infrastructure or intervention, - which seeks to maintain or repair the ties that bind us together, — we must be able to understand and therefore first notice and identify these specific needs and the places where they are located.

⁴ Joan C. Tronto and Berenice Fisher, 'Toward A Feminist Theory of Caring', in *Circles of Care: Work and Identity in Women's Lives*, ed. Emily K. Abel and Margaret K. Nelson (Albany, N.Y: State University of New York Press, 1990), 40.

⁵Lisa Baraitser, 'The Work of Repair', in Where Is the Planetary? A Gathering In Collaboration with Koki Tanaka, ed. Katrin Klingan (Berlin: Haus der Kulturen der Welt (HKW), 2022), 21.

⁶ Isabelle Stengers, 'The Care of the Possible: Isabelle Stengers Interviewed by Erik Borde-Ieau', in *The Care of the Possible*, 1st edition (Copenhagen, Denmark: Lotte Løvholm, 2019), 30.

⁷ Nishant Shah, 'Care as a Reparative Practice', in Where Is the Planetary? A Gathering In Collaboration with Koki Tanaka, ed. Katrin Klingan (Berlin: Haus der Kulturen der Welt (HKW), 2022), 24.

⁸ Elke Krasny, 'Architecture and Care', in Critical Care: Architecture and Urbanism for a Broken Planet, ed. Angelika Fitz, Elke Krasny, and Architektur Zentrum Wien (Vienna [Austria]: Cambridge, MA: Architekturzentrum Wien; MIT Press, 2019), 33.

⁹ Elke Krasny, 'Realities of Care: On Interdependence in Architecture' (21 October 2021). ¹⁰ Bruno Latour, We Have Never Been Modern (Cambridge, Mass: Harvard University Press, 1993), 32.

¹¹ E. Swyngedouw, Social Power and the Urbanization of Water: Flows of Power, (Oxford; New York: Oxford University Press, 2004), 14.

¹² Peg Rawes, 'Donna J Haraway (1944-)', *Architectural Review*, 4 February 2022.

¹³ Saurabh Arora, Defying Control: Aspects of Caring Engagement between Divergent Knowledge Practices (Brighton: STEPS Centre: STEPS Working Paper 90, 2017), 8. ¹⁴ Isabelle Stengers, 'Accepting the Reality of Gaia: A Fundamental Shift?', in *The Anthropocene and the Global Environmental Crisis*, ed. Clive Hamilton, Christophe Bonneuil, and François Gemenne (London; New York: Routledge, 2015), 137.

¹⁵ Joan C. Tronto, Moral Boundaries: A Political Argument for an Ethic of Care (New York: Routledge, 1993), 103.

¹⁶ Joan C. Tronto, 'Caring Architecture', in Critical Care: Architecture and Urbanism for a Broken Planet, ed. Angelika Fitz, Elke Krasny, and Architektur Zentrum Wien (Vienna [Austria]: Cambridge, MA: Architekturzentrum Wien; MIT Press, 2019), 30–31.

CARING ABOUT

"Reading a landscape is increasingly becoming a matter of deciphering the intertwining of natural and anthropic sedimentary processes that characterizes it".¹⁸ We can use this definition extracted from Critical Zones. The Science and Politics of Landing on Earth, to determine that defining the exchanges and boundaries that have and are taking place between the anthropic and the natural processes in the critical zone, can help us understand the specifics of a site. The term Critical Zone "is taken from the geo-sciences and describes the biochemical, fragile layer of the earth, its surface on which life is created".¹⁹ This concept is interesting because it allows us to think that all the interactions that concern us take place in this very thin zone (a few kilometers) of the earth and the atmosphere. The current research conducted around the critical zone also reminds us that, contrary to what we see at first sight, the human impact on the planet has also been very vertical, not only horizontal.²⁰ Our focus is then a question of recognizing the traces and limits of the interweaving of natural and anthropic materials that have shaped a particular location. The evolution of this limit also speaks of the memory of the landscape.

Determining where and how this interlocking takes place also allows us to identify the human and non-human agents present in a specific context, as well as the actions and interactions on which they rely. This means trying to decentralize our human-centered vision. "Care implies a reaching out to something other than the self".²¹ It is an attempt to look beyond our own interests alone and beyond the modern vision of nature as only productive or picturesque. One then becomes able to understand the

connections and exchanges that have been broken and damaged and that need care.

Finally, deciphering the relationships between the built and the unbuilt environment highlights the different impacts that we have had on it. It is not a question of saying that any human intervention on the territory is henceforth to be prescribed, but on the contrary to remind us that we are part of this environment and that we co-evolve. "Here is where a feminist-inspired, relational, critical care approach begins to change our perspective entirely. Rather than thinking of buildings as 'things', thinking of them in relationships - with ongoing environments, people, flora and fauna — that exist through time as well as in space, changes the approach fundamentally".²² Our world is indeed being built continuously by both human and non-human agents. Our buildings and infrastructures have become part of this shared environment. The analysis of anthropogenic/natural boundaries is then interesting to determine when and where coexistence actually works and when it does not, and thus requires care, repair, another type of interaction, or no interaction.

This questions the notion of separation and proximity. As we have seen, our territorial and urban models are often based on the modern dualism of separation of nature and society. The techniques and technologies developed in the modern era are themselves supported by this thinking: it allowed us to avoid the consideration of their harmful impacts on our environment and develop always more extractive and pollutive ones. Today, the multiplication of cases of degradation of ecosystems, soil, water, etc., comes back to haunt us in various unexpected ways. "Our modes of noticing are themselves often coming from Man's conquest. Much of what we know about ecological connection comes from tracking the movement of pollutants. Contamination often acts as a 'tracer', a way to see relations. We notice connections in part through their ruination".²³ This observation of the anthropologist Anna Tsing in Arts of Living on a Damaged Planet, leads us to consider that we must try to mediate interconnections while taking into account the models that we have inherited and the principles on which they are built and currently function. Indeed, to care also involves recognizing when proximity is needed, and when it is not, and how proximity should be established.

From the territory, to the building and its immediate environment, to the material itself, we can use many scales to think about the notion of proximity between the built and the unbuilt environment. In our case, the material scale introduces the notions of porosity and permeability which are properties directly related to the ability to communicate and interconnect within and between environments. It is

a matter of understanding how permeable our soils are, how the boundaries and transitions between infrastructures and their environment are managed at different scales, and whether it is necessary to recover a certain form of permeability long avoided in our urban environments.

In order to identify these relations, we need noticing tools. Permeability and porosity quickly bring up the topic of water. Water is indeed one of the 'tracer' evoked previously. It is for instance partly through water that pollution spreads and that we understand the way our natural and anthropic environment intersect.

How does caring about water can help us understand the intertwining of our environments and identify the places that need care ?

¹⁸ Matthieu Duperrex, 'Landscape and Hybrid Sedimentology', in *Critical Zones: Observatories for Earthly Politics*, ed. Bruno Latour and Peter Weibel (Cambridge: The MIT

Press, 2020), 110.

 ¹⁹ 'Critical Zones | ZKM', accessed 19 January
2023, https://zkm.de/en/exhibition/2020/05/ critical-zones

²⁰ Frédérique Aït-Touati, 'Comment Saisir Les Nouveaux Visages de La Terre ? Conférence Fondation Culture Du Bâti Suisse' (EPFL Architecture, 23 November 2022).

²¹ Joan C. Tronto. Moral Boundaries: A Political Argument for an Ethic of Care (New York: Routledge, 1993), 103. ²² Joan C. Tronto, 'Caring Architecture', in

Critical Care: Architecture and Urbanish for a Broken Planet ed Angelika Fitz Elke Krasny, and Architektur Zentrum Wien (Vienna: Cambridge MA: Architekturzentrur Wien ; MIT Press, 2019), 28.

²³ Anna Lowenhaupt Tsing, ed., Arts of Living on a Damaged Planet (Minneapolis: University of Minnesota Press, 2017), 8.

WATER

Because "water lies at the intersection of landscape and infrastructure, crossing between visible and invisible domains of urban space", geographer and urbanist Matthew Gandy uses water "as a lens through which to observe both the ambiguities and the limit of nature as conventionally understood".²⁴ As he demonstrates it, the articulation of water with human society is particularly significant in urban settings, where "the history of the cities can be read as a history of water".²⁵ Through the deciphering of its flows, water becomes then a tool helping us notice landscapes of entanglement, bodies with other bodies, time with other times.

In What is Water? The History of a Modern Abstraction, geographer Jamie Linton traces how modern man has gradually distanced himself from water, as he has done with most so-called 'natural' elements through their conceptual abstractions. "In essence, modern water is the presumption that any and all waters can be and should be considered apart from their social and ecological relations and reduced to an abstract quantity".²⁶ This abstraction has facilitated the separation and the control of all types of water through the construction of drainage, canalization and storage infrastructures. Our landscapes have been progressively transformed by projects of dams, water reservoirs, river channelization, bank hardening, wetland drainage, etc., all of which reflect man's aversion to heterogeneous and uncontrolled waters such as wetness, mud, or swamps. The rapid urbanization and industrialization of society in the 19th century went hand in hand with the growing desire to evacuate water from our cities and homes as quickly as possible. In urban areas, in order to keep it clean and

separate, water was conducted underground through sterile pipes leaving no room for any living organism. Since then, the surfaces of our cities and buildings have become increasingly impermeable. Today, for the majority of the population, contact with water is mainly occurring through tap water served by invisible pipes in subterranean urban distribution systems. This gradual physical disconnection of water and society helps us understand a latent insensitivity towards water issues and the long-standing denial of the impact of modern man on water-related processes.

However, with the multiplication of cases of water contamination, of heat islands linked to the sealing of our urban soils, of droughts and torrential floods caused by the increase in climatic amplitudes, we have started noticing the limits of 'modern water'. Indeed, these massive and aseptic water control structures have affected soil moisture, water biotope, biological connections, sediment movements, water quality, etc. Despite the modern intent to separate water from society, water continues to flow through our urban soils, carrying automotive fluids, household solvents, pesticides, and other toxins from human homes and industries into gutters to streams, rivers, lakes, oceans, aquifers, or other water bodies. As a consequence, aquatic species are disappearing faster than terrestrial and aerial ones.²⁷ Today, caring about water has therefore become necessary and inevitable in order to maintain, preserve and repair the world we live in.

More than being a thing or process that needs care, water constitutes also a noticing tool. Because it is present in most bodies - not only human bodies, but also other animal,

vegetal, geophysical, meteorological, and technological ones —, as in the transition areas between bodies, observing water flows can help us decipher the intricacy and entanglement of our environments.²⁸ For geographer Erik Swyngedouw, water is a 'hybrid entity', as it refers to a "network of interwoven processes that are both human and natural, real and fictional, mechanical and organic".²⁹

If I were to capture some urban water in a glass, retrace the networks that brought it there and follow Ariadne's thread through the water, "I would pass with continuity from the local to the global, from the human to the nonhuman".³⁰ These flows would narrate many interrelated tales: of social and political actors and the powerful socio-ecological processes that produce urban and regional spaces; of participation and exclusion; of rats and bankers; of water-borne disease and speculation in water industry related futures and options; of chemical, physical, and biological reactions and transformations; of the global hydrological cycle and global warming; of uneven geographical development; of the political lobbying and investment strategies of dam builders; of urban land developers; of the knowledge of engineers; of the passage from river to urban reservoir. In sum, my glass of water embodies multiple tales of the 'city as a hybrid'.31

Because water and people are internally related, water shapes and is shaped by society and reciprocally. Tracing the circulation of water and observing water-related structures shows us how water has affected human habitats and how human interventions have affected the water cycle. Because water erodes, it transforms our territory and sometimes reveals historical traces that tell us about the memory of our landscapes and societies. As Astrida Neimanis says in Hydrofeminism: Or, On Becoming a Body of Water: "Even while in constant motion, water is a planetary archive of meaning and matter".32 Because water transports all kinds of materials and waste, it allows us to follow the path of pollutants and thus determine the areas in great need of care. Because water has been driven out of our urban environment, paying attention to where water cannot cross or flow can help us understand where the boundaries are between the built and the unbuilt environment and how transitions are managed. This means looking at where the impermeability is highest and the porosity is lowest, from the facades of our buildings to the soils of our cities.

Caring about water as an architect also involves caring about its modes of representation. We are used to maps where rivers appear as continuous lines and water bodies as homogeneous surfaces. And yet, these representations are not enough to encompass all that water affects and

is affected by. As Tim Ingold points out, "the properties of materials, regarded as constituents of an environment, cannot be identified as fixed, essential attributes of things, but are rather processual and relational. [...] To describe the properties of materials is to tell the stories of what happens to them as they flow, mix and mutate".³³ Modern maps consider water flows as constant, invariable, and timeless bodies, without change in their flux, in their width and depth, in their state of matter or in their composition. A river is reduced to a line from a source to a destination, without taking into account its impact on its surroundings. And yet, in reality the flow of a river is not always continuous, it can go from a liquid form above the surface to mud or to an invisible infiltration in the soil. As architects, it seems then important to bring a particular care to the representation of these heterogenous waters long neglected, forgotten, or avoided by modernity. This means caring about the representation of not only liquid water, but also wetness, water in porous materials, water that animates living bodies such as plants, etc.; all kinds of water both within and between bodies, both visible and invisible, both above and below the surface of the ground.

These considerations on the relationship between care, water, society and territory are in direct resonance with the study site chosen for this work: the Vallon of Sauvabelin in Lausanne, Switzerland.

24 Matthew Gandy, The Fabric of Space. Water, Modernity, and the Urban Imagination (Cambridge, Mass.: MIT Press, 2014), 368. 25 Matthew Gandy, Concrete and Clay: Reworking Nature in New York City, Urban and Industrial Environments (Cambridge, Mass: MIT Press, 2002), 22.

 ²⁶ Jamie Linton, What Is Water? The History of a Modern Abstraction, Nature/History/Society (Vancouver: UBC Press, 2010), 14. 7 Christina Nunez, 'Ocean Species Are Disappearing Faster than Those on Land' Environment, 24 April 2019, https://www. nationalgeographic.com/environment/article/ ocean-species-disappear-faster-climatechange-impacts-cold-blooded-animals-harder. 28 Astrida Neimanis, 'Hydrofeminism: Or, On Becoming a Body of Water' in Undutiful Daughters: New Directions in Feminist Thought and Practice, ed. Henriette Gunkel. Chrysanthi Nigianni, and Fanny Söderbäck,

Breaking Feminist Waves (New York: Palgrave Macmillan, 2012), 96.

E. Swyngedouw, Social Power and the Urbanization of Water: Flows of Power. (Oxford ; New York: Oxford University Press 2004), 28. ³⁰ Bruno Latour, *We Have Never Been Modern*

(Cambridge, Mass: Harvard University Press, 1993), 121,

Swyngedouw, 2004, 28.

³² Astrida Neimanis, 'Hydrofeminism: Or, On Becoming a Body of Water', in *Undutiful* Daughters: New Directions in Feminist Thought and Practice, ed. Henriette Gunkel, Chrysanthi Nigianni, and Fanny Söderbäck, Breaking Feminist Waves (New York: Palgrave Macmillan, 2012), 87.

³³ Tim Ingold, 'Materials against Materiality'. Archaeological Dialogues 14, no. 1 (June 2007): 14, https://doi.org/10.1017/ \$1380203807002127

SITE LE VALLON, LAUSANNE

The particular topography of this valley implicitly shows that it is a territory deeply marked by water. If water is not always visible at first sight, the successive morphological transformations that the valley has undergone are directly linked to the passage of the river Flon.

Lausanne was first built between the two rivers Flon and Louve which marked the limits of the medieval city. Although close to the lake and the rivers, Lausanne's society has not always developed a direct relationship with these waters. In the 18th century, when the Flon still flowed freely at the bottom of the valley, the Vallon attracted part of Lausanne's high society, not for the water of the river, --then considered dirty and dangerous, - but for the thermal springs that emerged then in several places under the Hermitage and near the current Vallon district. At that time, the thermal baths were recommended by doctors for their ferruginous properties. The Vallon then developed around this activity, a 'water pavilion' was built and a 'water walk' planted with chestnut trees accompanied the noble visitors. At the end of the 19th century, while this face of the Vallon disappeared with the burial of the river Flon, a new waterpeople relationship developed at the top of its slopes. Again, not with river water, but with a more controlled water. In 1888, the lake of Sauvabelin was artificially created with water from natural springs located in the forest. Ordred by the city of Lausanne, this new lake was intended to offer the population a place of relaxation and aquatic activities such as canoeing or ice skating. At that time, the Lausanne-Signal funicular allowed to reach the lake from the Valley. Dismantled in 1948, traces of this installation can still be found today.34

At the bottom of the valley, another relationship with water, less romantic and more brutal, is at play. With the erosion, the passage of water makes accessible layers of rock important for the construction of the city. Between the 12th and 13th centuries, in search of a high quality stone for the construction of the cathedral of Notre-Dame de Lausanne, a vein of blue molasse was extracted from the Vallon cliff. Numerous manufacturing activities — like mills, foundries, tanneries, breweries, chocolate factories, etc. -, are progressively established in the bottom of the valley taking advantage of the passage of the water.³⁵ The Flon, which then flows in the open air, acts as a sewer and crosses the city, taking in the liquid and solid waste of craftsmen and inhabitants before flowing into Lake Léman. Over time, more industries are established at the bottom of the Vallon, increasing the unhealthy image of the river which becomes a vector of insalubrity, pollution and disease. At the same time, the floods that pour into the valley threaten the city and its inhabitants. These conditions led the authorities to undertake the vaulting of the Flon from 1836 onwards, which continued beyond the 1960s in the upper part of the valley and radically transformed the image of the Vallon and the lives of its inhabitants, both human and nonhuman.36

With the vaulting of the Flon, the relationship to water in the Vallon changed radically. The river is all the less visible, as the burial works were accompanied by the installation of a mass of embankments that takes advantage of the unfavorable and steep topography of the Vallon to accumulate the rubble, waste and excavated earth from the many construction sites in the region. The Flon river was gradually transformed from an open sewer to an underground sewer. The wastewater of the city of Lausanne was transported by the Flon underground canal and flows into Lake Léman until 1964, when the Vidy STEP (wastewater treatment plants) was built. In 1996, a diversion structure was built upstream of the Vallon, in order to divert part of the clear water from the Flon towards the Vuachère river to the lake so as not to overload the STEP.³⁷ The natural cascades formed by the river over time have now disappeared in favor of a new anthropic soil that presents flat surfaces in the width direction and is structured in terraces, platforms and slopes in the length direction. Close to the city center, the embankment allows the city to expand further. The commune of Lausanne takes advantage of these new surfaces to install new industries and storage spaces. These new activities — incineration plant (dismantled in 1998), waste collection center, Ateliers et Magasins de la Ville, Roads and Mobility Services, Unité de Travaux warehouse, TRIDEL household waste incineration plant — are now less directly linked to water than to much larger scale logics. After the dismantling of the incineration plant located at the bottom of the Vallon, people realized that the soil around it contained very high levels of pollution. The soil surveys ordered by the Canton also showed that the materials and waste that have been stored in the thickness of the embankment were partly polluted and made the Vallon a site classified as "polluted requiring monitoring".38

The successive transformations that the Vallon underwent have profoundly changed over time the nature of the place and the relationship that the inhabitants and the city of Lausanne have with this part of the territory. The relationship of Lausanne society to the river gradually transformed the Vallon into an unhealthy place where only the less well-off bangs of the population settled. In the 19th century, low-rent barracks were built to house a maximum number of households in a minimum amount of space: workers, artisans and peasants who had recently arrived from the countryside, gathered in the Vallon. It is also the place where itinerant travelers settled, such as seasonal workers or caravans of fairground entertainers.³⁹ Negative of the Hill of the city where important institutions such as the cathedral of Lausanne or the castle Saint-Marie (seat of the government of Vaud) are located, the Vallon is still today a particular place where several programs are gathered (industrial buildings, workers' housing, structures of reception for populations in precarious situation) that the urban logics wish to invisibilize. In 2018, the author of the Manifeste du Tiers Paysage, Gilles Clément, visited the Vallon. This visit testifies to the particular characteristics and potential of this part of the territory: "An undecided fragment of the planetary garden, the Third Landscape is made up of all the places neglected by human beings. These margins bring together a biological diversity that has not yet been classified as richness".⁴⁰ As a witness to the richness of what is happening there today, several associations in the Vallon are organizing themselves with the inhabitants to take care, maintain and repair this space. Several interventions such as the beginning of desasphalting of the grounds, the construction of common vegetable gardens, etc. are being experimented.⁴¹ These initiatives show that agents and dynamics of care are already at work. It is a matter of caring for social ties, but also of caring for nonhuman beings and the ties that bind us to our environments.

The Vallon represents today a critical place for the implementation of necessary care dynamics at the local scale as well as at the scale of the city and the territory. Although human interventions such as the burial of the Flon River, the construction of the embankment, the installation of polluting industries and large asphalt surfaces have deeply damaged it, the Vallon still belongs to an important biological network for the region. It is part of a biological corridor that follows the course of the river that rises in the Jorat woods on the Vaudois plateau. The forest corridor begins to fragment from the Vallon, both transversally with the buildings and roads that separate the Hermitage Park and the Sauvabelin Forest from the slopes of the CHUV district, and longitudinally with the city to the south, which seems completely impermeable. The presence of invasive species, especially those that cover the wasteland of the former incineration plant are also a factor that both testifies to the poor quality of the soil and threatens a damaged and fragile biological balance. We also note the need to repair a corridor of aquatic species deeply impacted by the Flon canalization, as evidenced by the presence of some biological ponds created to repair certain links. The humidity present in the Vallon testifies also to the potential that this place has in the face of the challenges of global warming. It is one of the few spaces in the city that has a soil that is not completely waterproofed and has a capacity to absorb water. These first elements on the Vallon testify that it is a territory deeply marked by water. They also show both the need for care, but also the potentials that the situation reveals.

³⁴ 'La Place Du Vallon', accessed 19 January 2023, https://igd.unil.ch/geoguidelsne/#stop6. ³⁵ Antoinette Pitteloud, ed., *Lausanne: un lieu, un bourg, une ville*, 1. éd (Lausanne: Presses Polytechniques et Universitaires Romandes, 2001).

³⁶ Jeanne Schmid, 'Balades Dans Le Vallon, Villes Sensibles', 2015, https://issuu.com/jys4. docs/balades_dans_le_vallon.

³⁷ Sylvie Bazzanella, 'Voûtage et canalisation des rivières Flon et Louve', 11 October 2013, https://notrehistoire.ch/entries/ RL28LRVPYKA.

³⁸ Karakas & Français, Rapport de synthèse du Diagnostic de pollution des matériaux d'excavation, Décembre 2009.

³⁹ Jeanne Schmid, 'Balades Dans Le Vallon, Villes Sensibles', 2015, https://issuu.com/jys4/ docs/balades_dans_le_vallon.

⁴⁰ Gilles Clément and Alexis Pernet, *Manifeste du Tiers paysage*, Nouvelle éd., Culture des précédents (Rennes: Éditions du commun, 2020), 2.

⁴¹ Association Ô Vallon, 'Ô Vallon', accessed 19 January 2023, http://www.ovallon.com/.

Through this first written part, we have tried to define what it means to apply the care theory to a territory in the framework of this research. It means understanding the entanglements of the built and the unbuilt environment in order to identify the places that need care and that represent critical levers for the more-than-human habitability of our territory. As water and society are intimately linked and have shaped each other over time, we use water as a noticing tool to understand and identify these entanglements. Caring about water then allows us to perceive how permeability between elements is managed on a specific site and where are the needs and potentials for interconnectedness.

This *Enoncé Théorique* takes the site of Vallon in Lausanne as a place of study. Yet almost invisible today, it is a territory deeply marked by water. The following documents constitute a graphical research at three different scales that seeks to determine the places, the agents and the dynamics that need care, maintenance or repair. A first drawing shows us the way water has shaped the territorial scale. A second drawing at the more local scale of the Vallon analyzes the degrees of permeability between the built elements and a more 'natural' environment and locates the drawings that constitute the last part. This last document was built during the walks through the Vallon. It gathers more sensitive observations and sketches that try to decipher the entanglements between nature-water-society at the scale of detail and matter.

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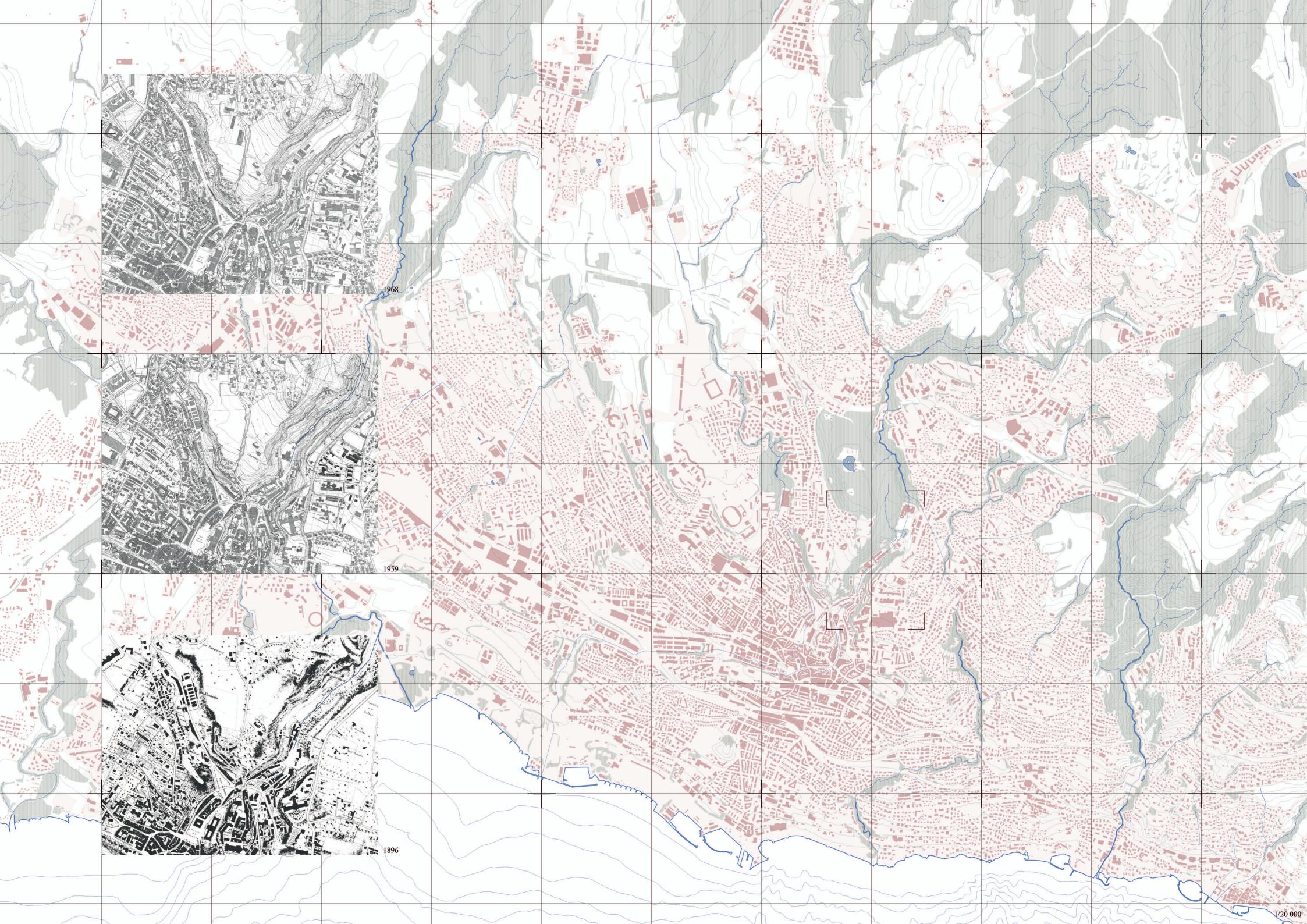
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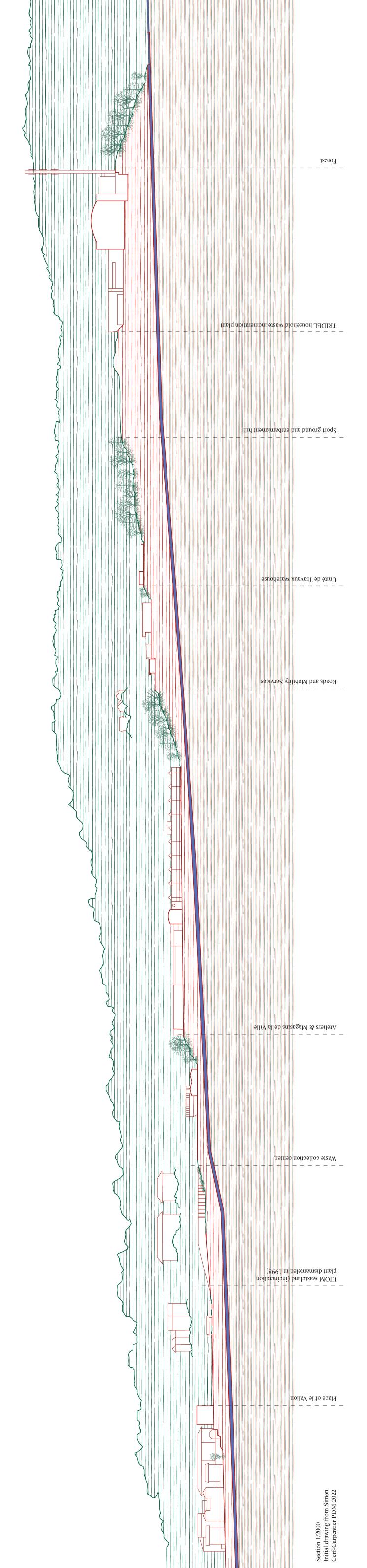
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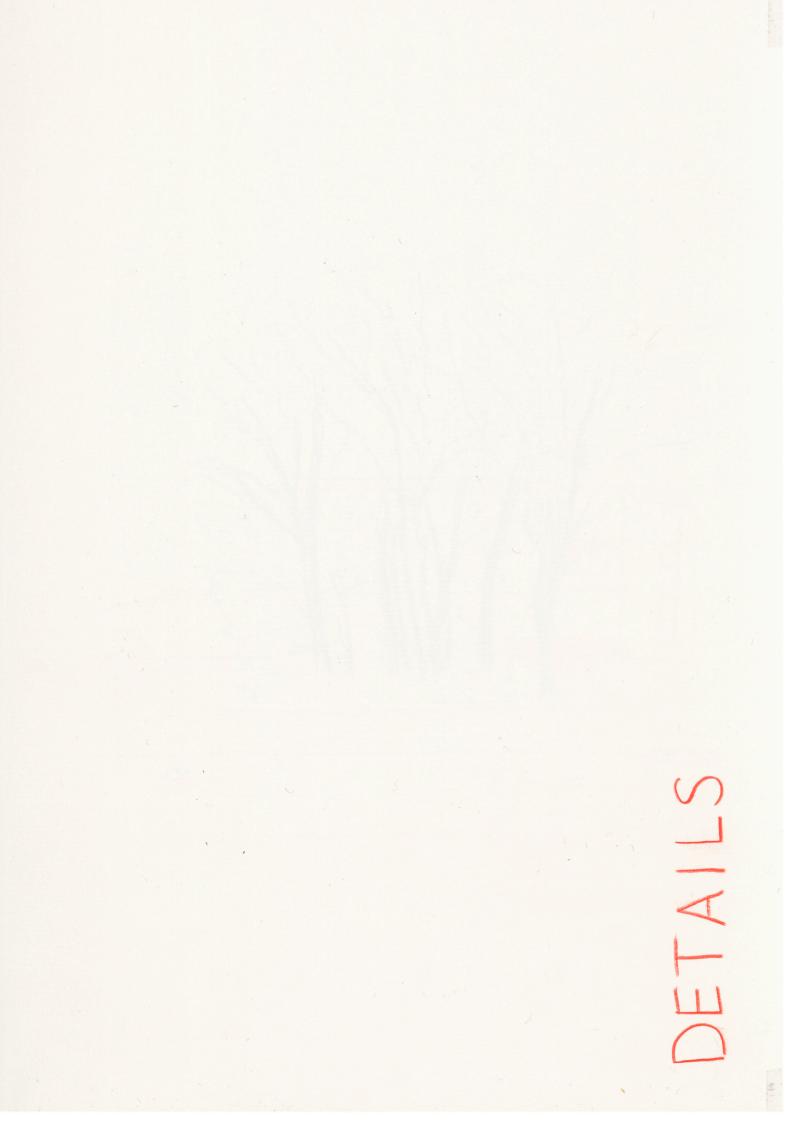
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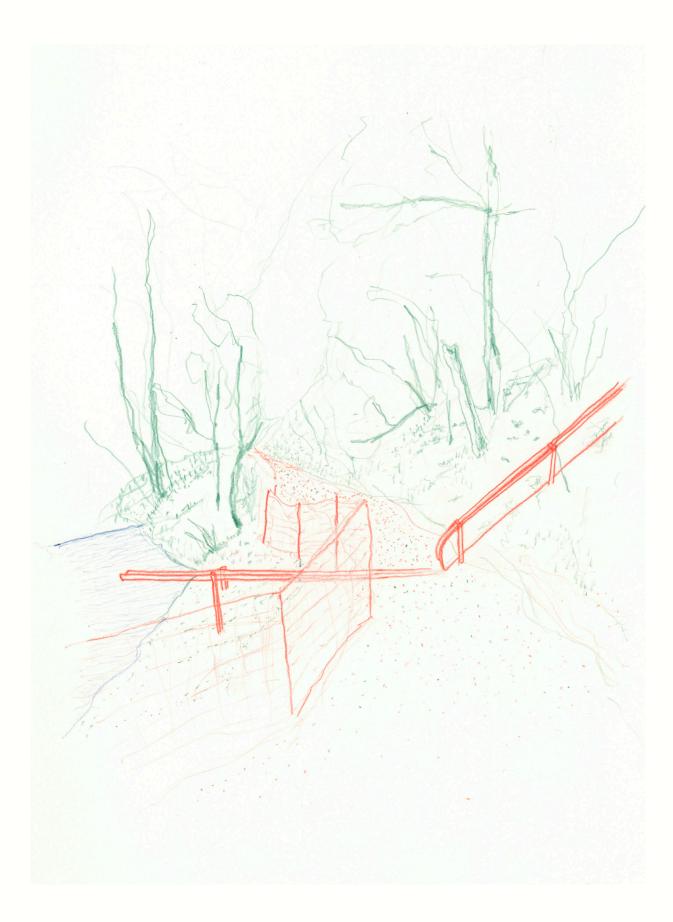


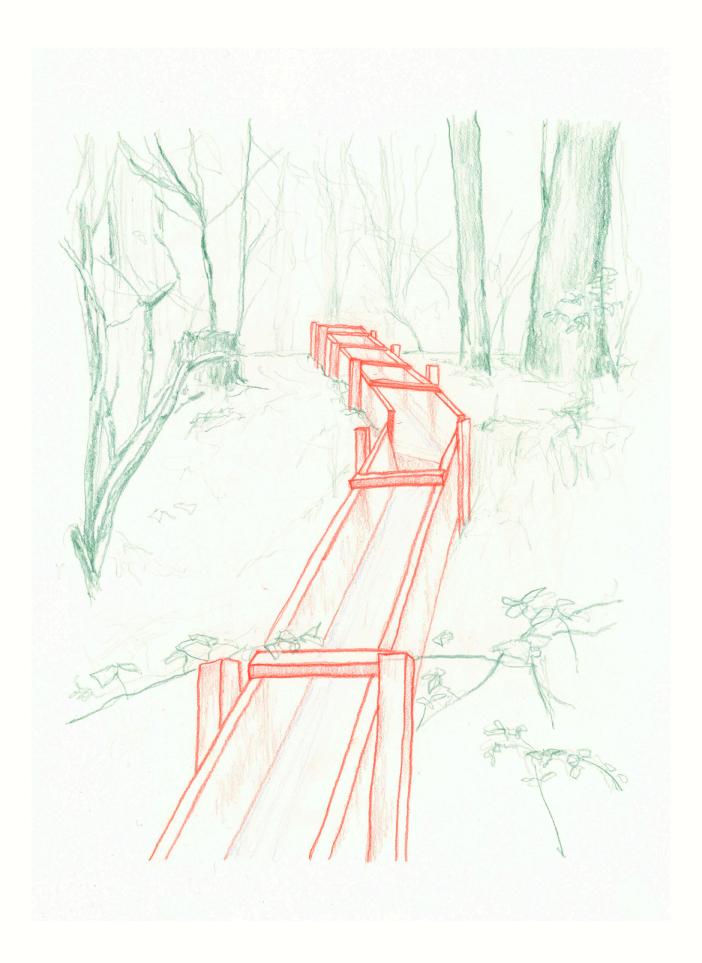




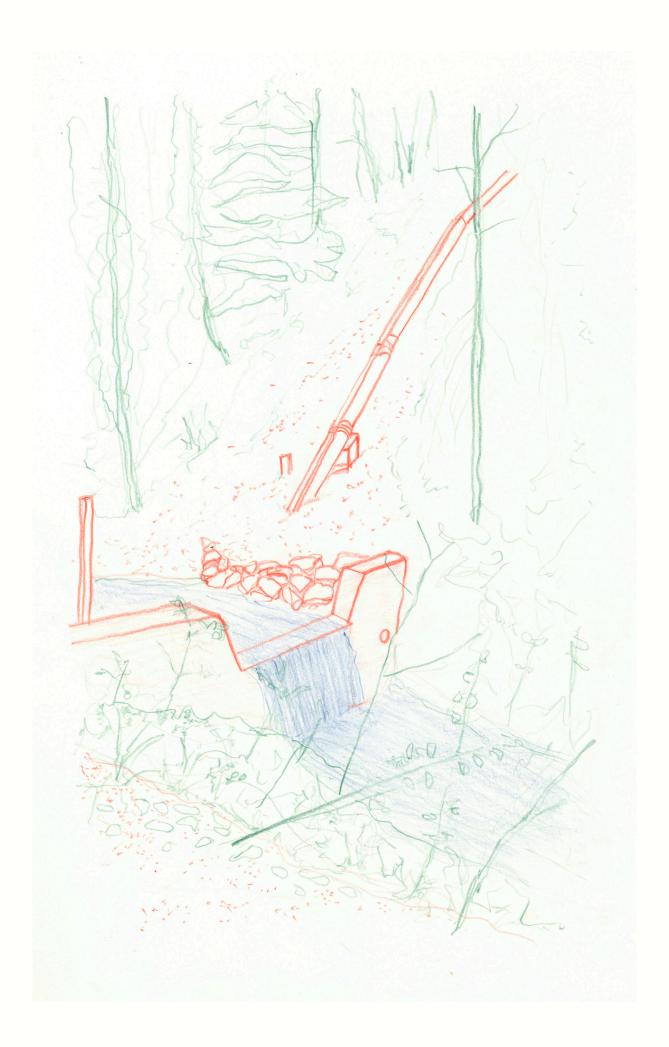






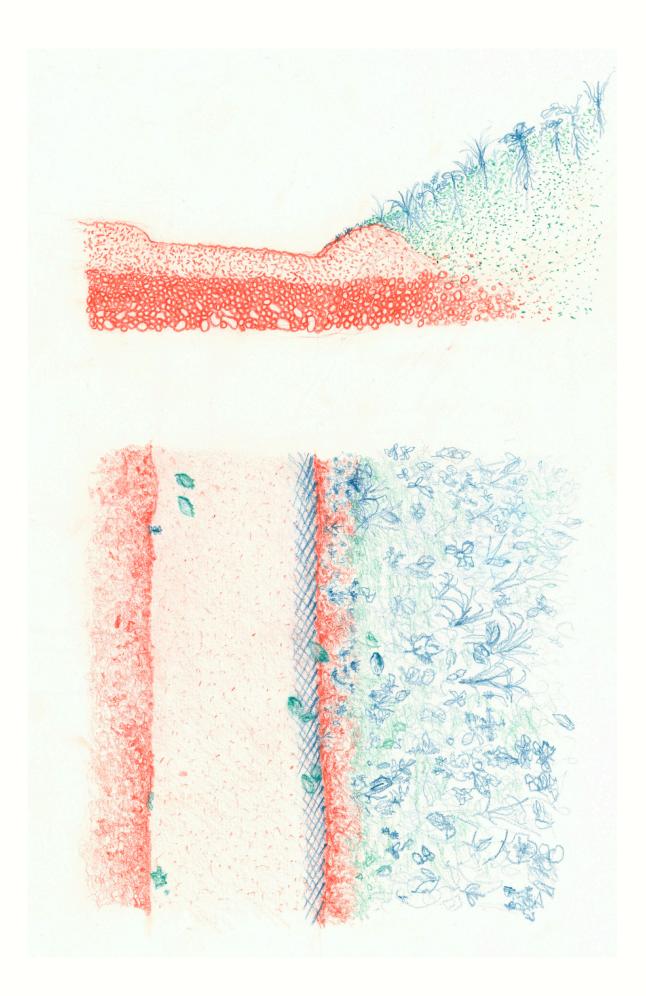


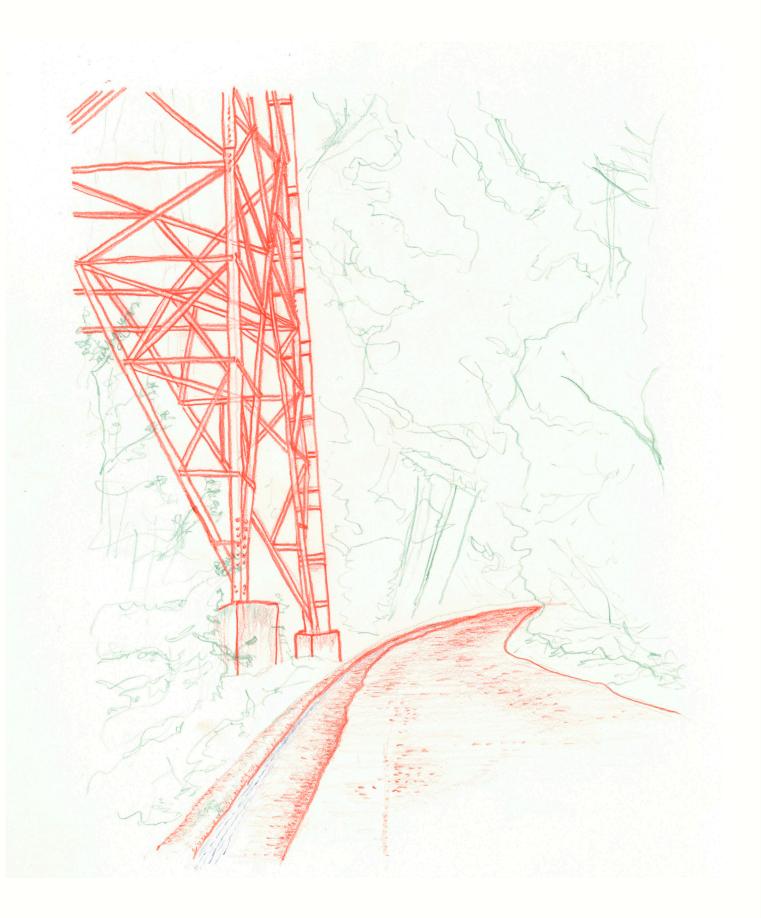


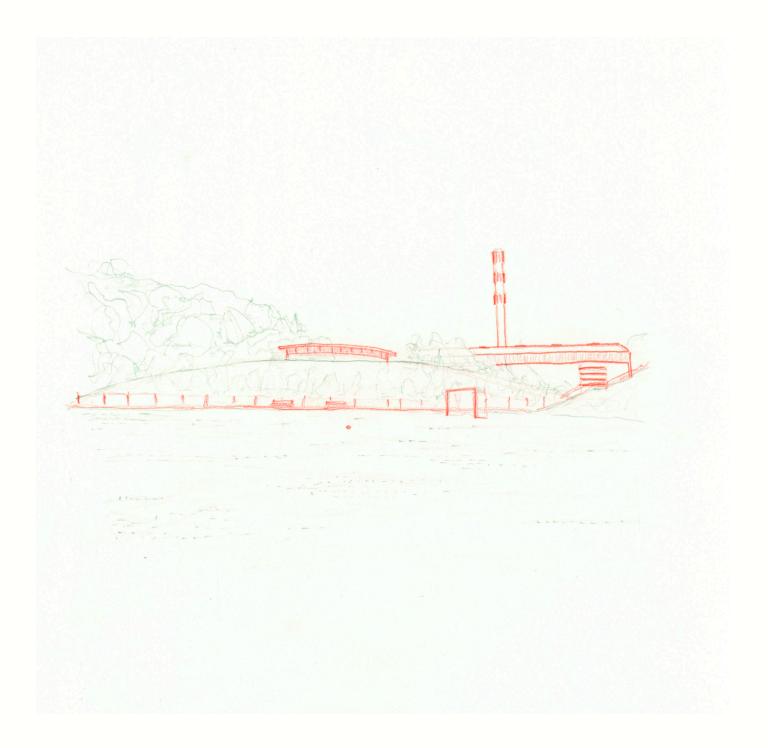






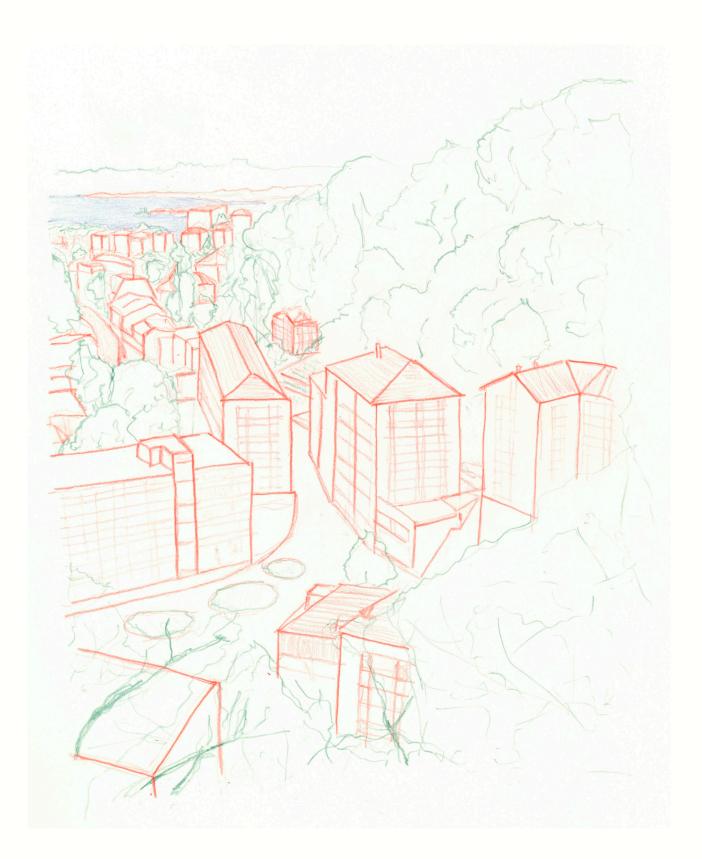








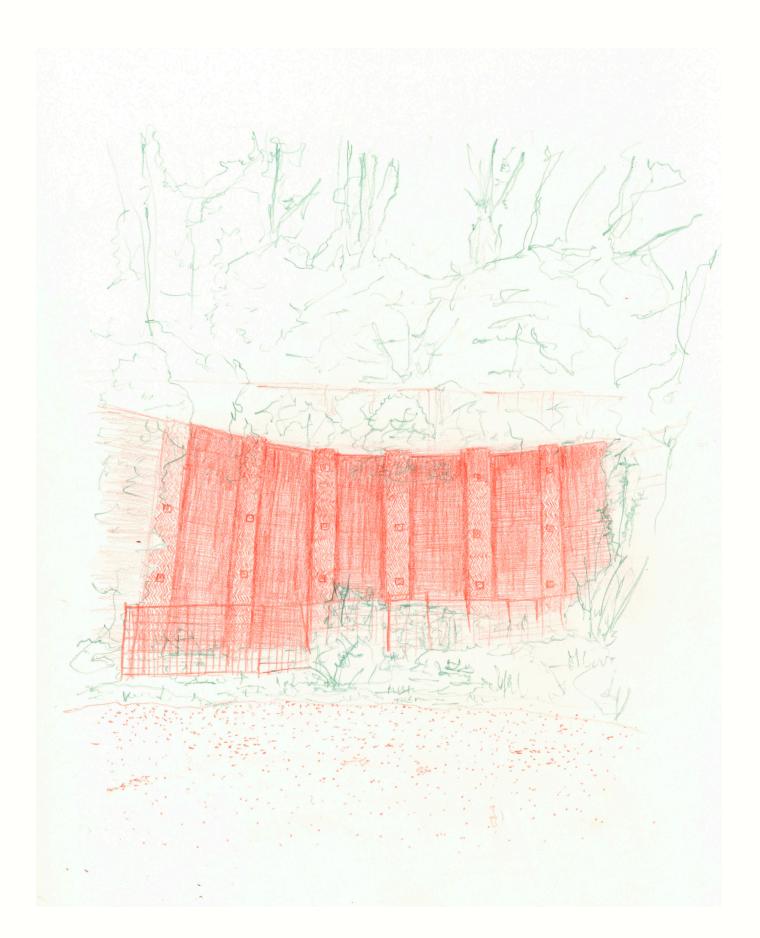


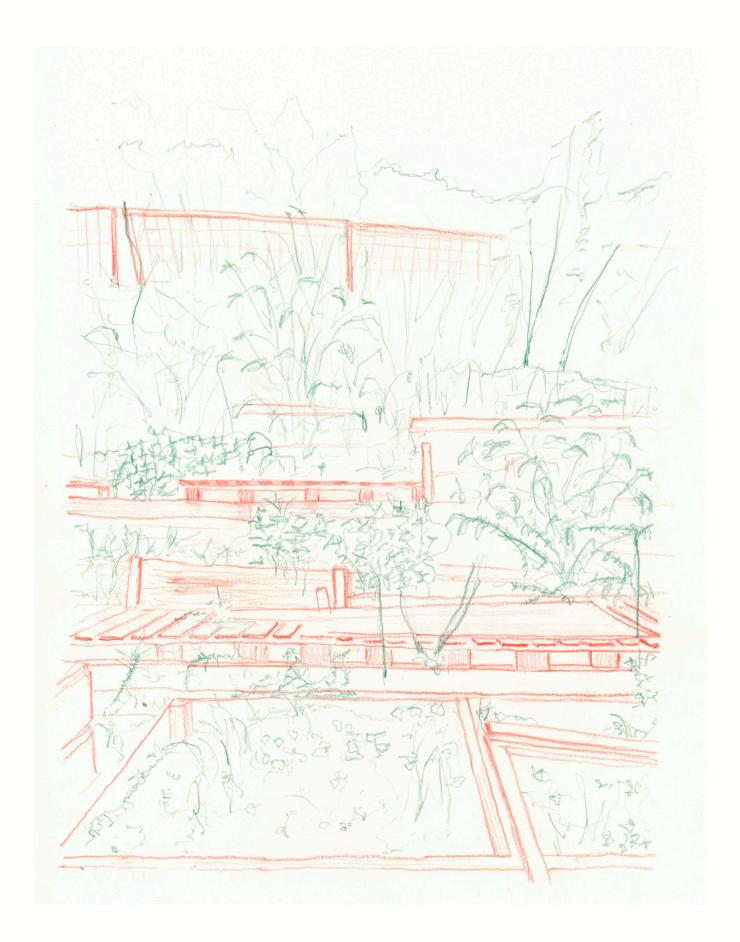


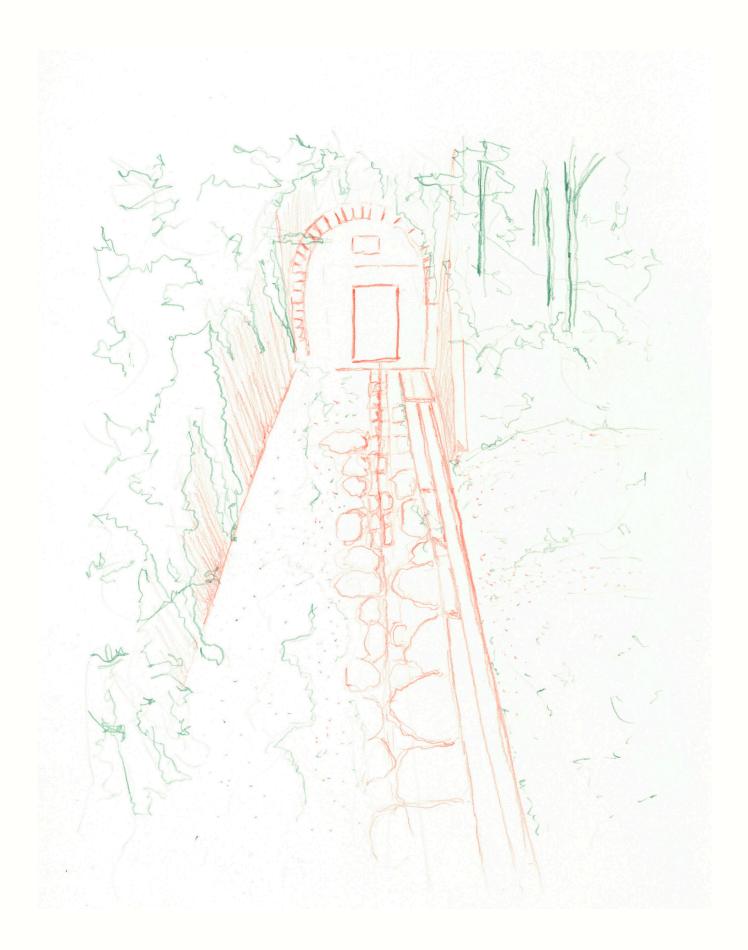




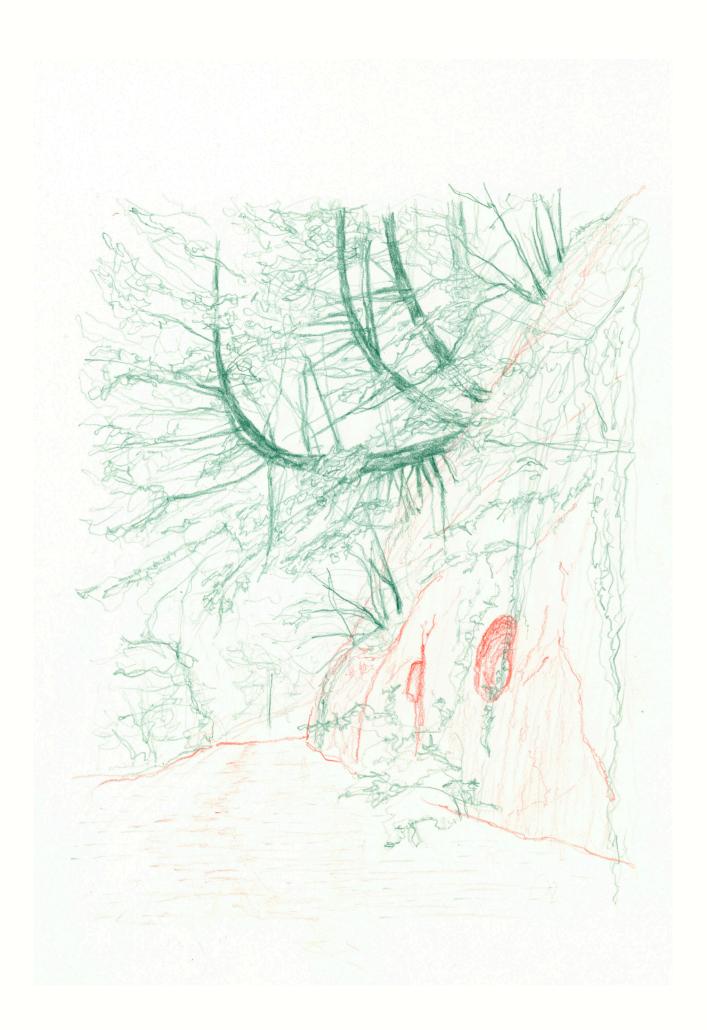




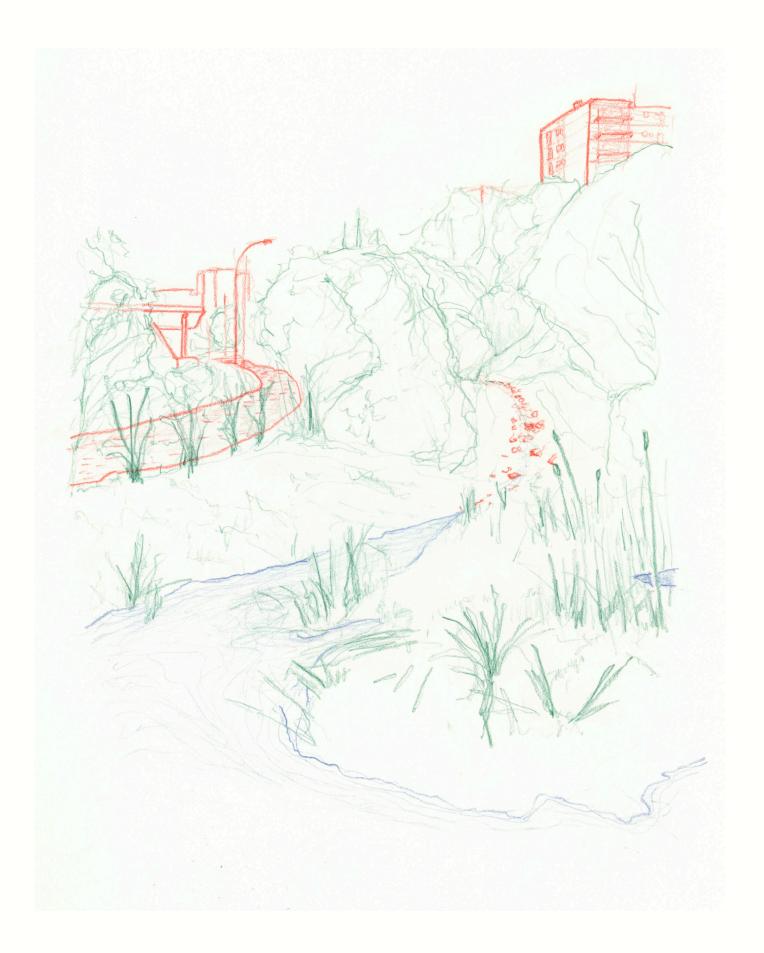


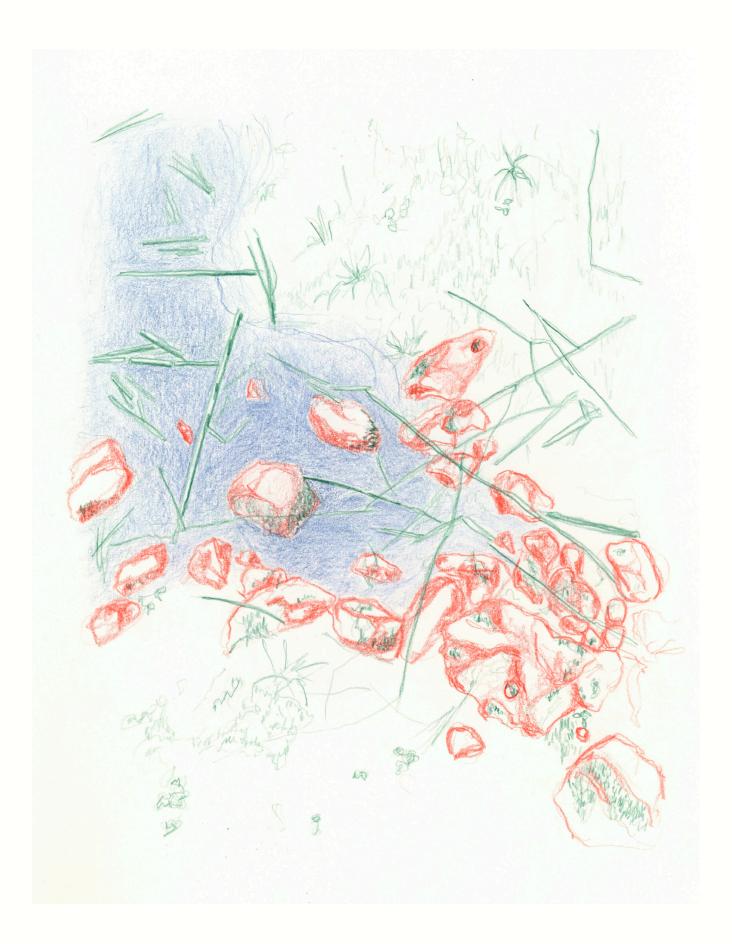


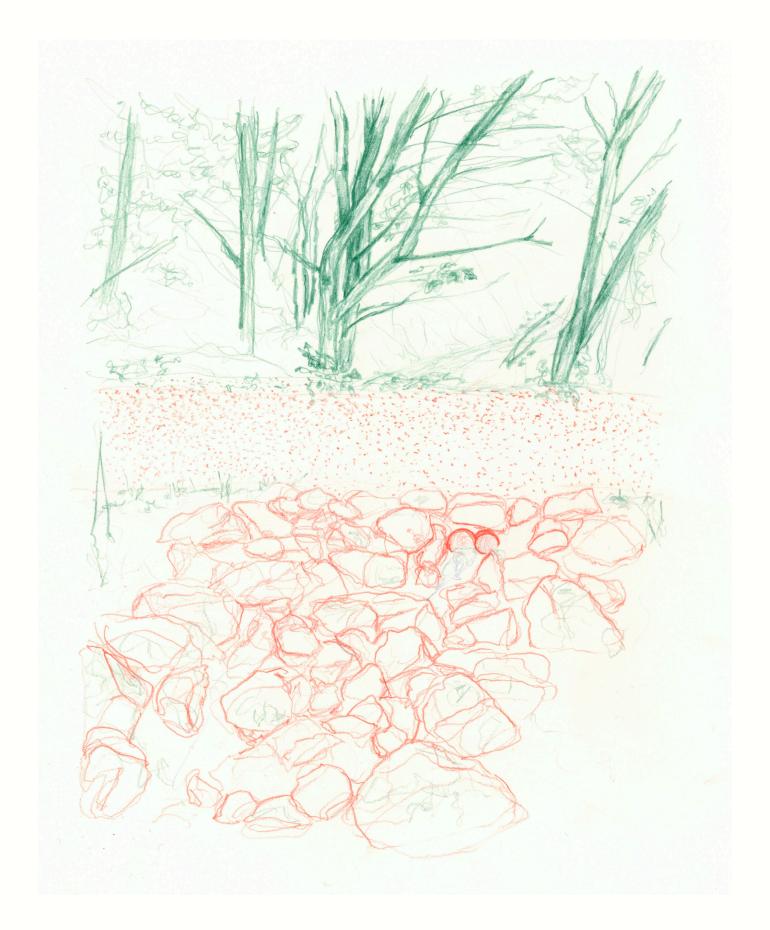






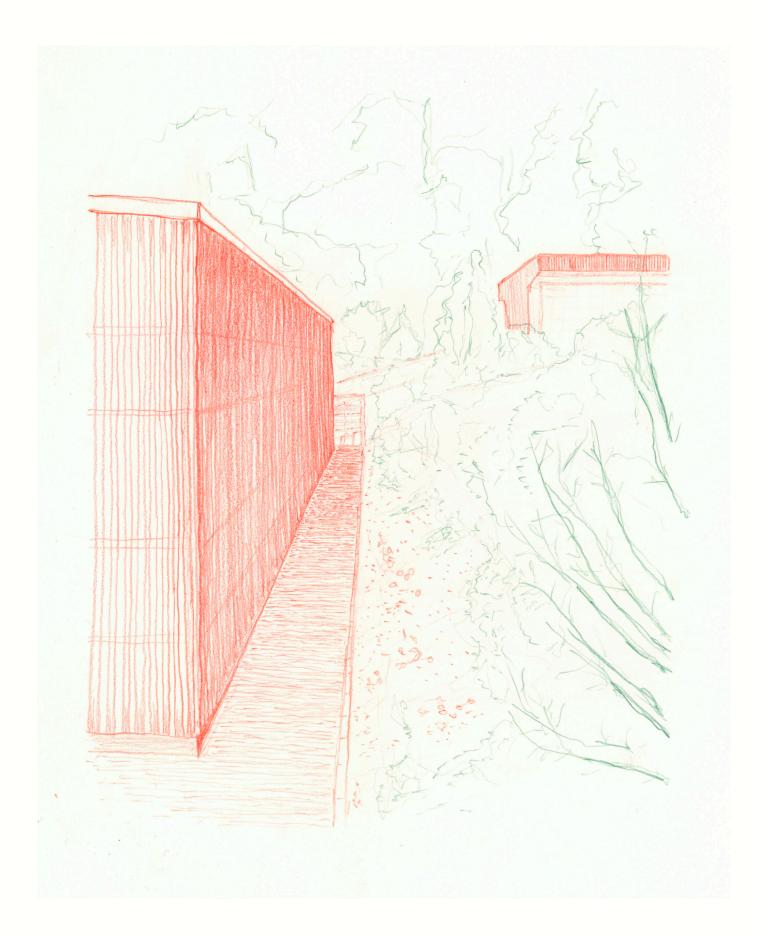








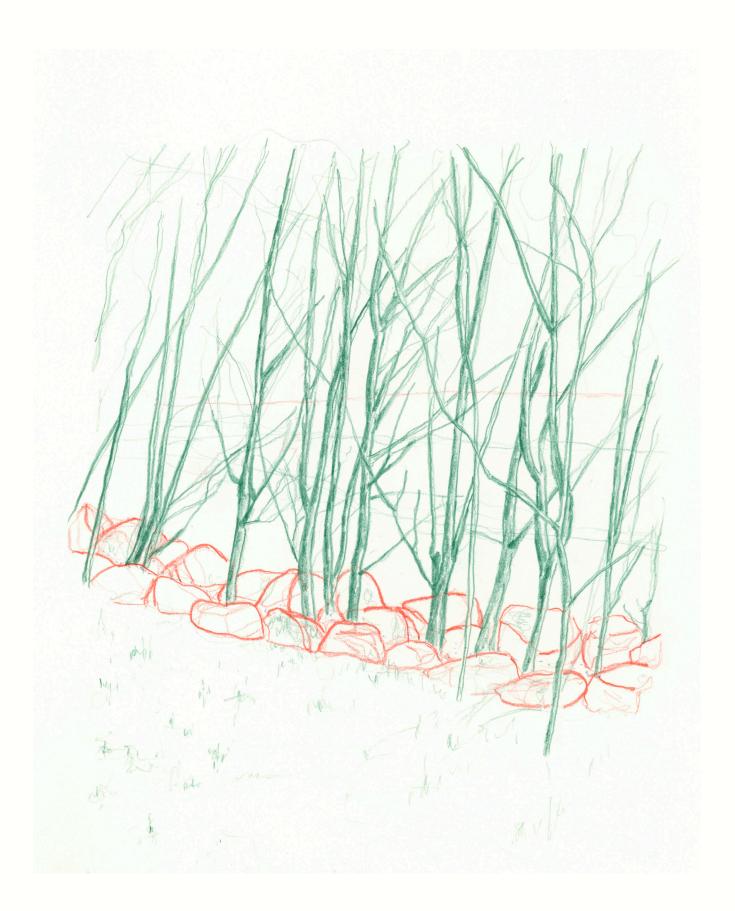


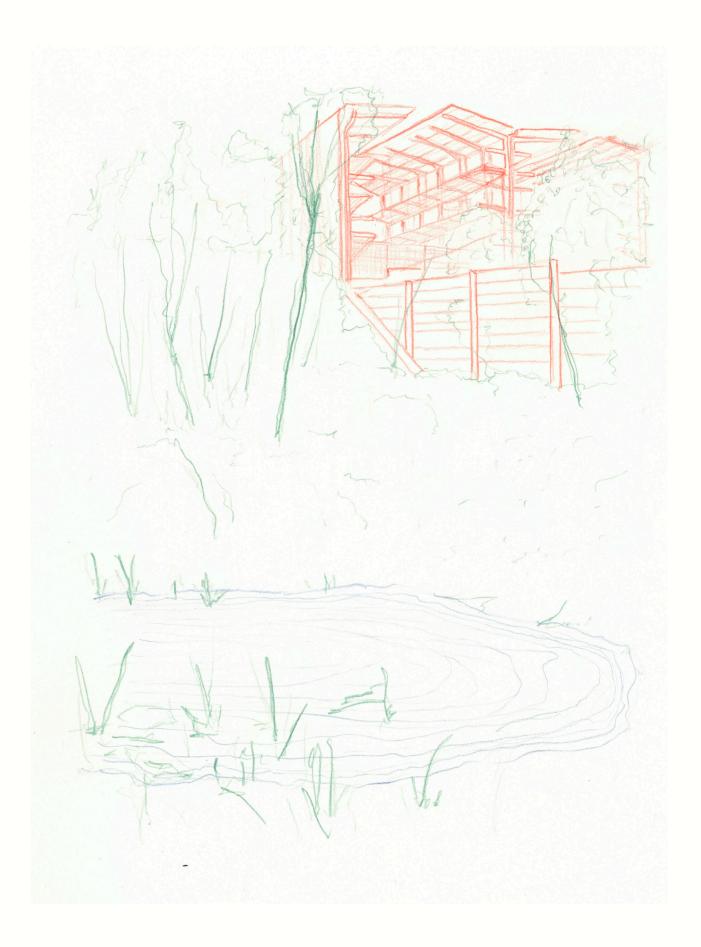






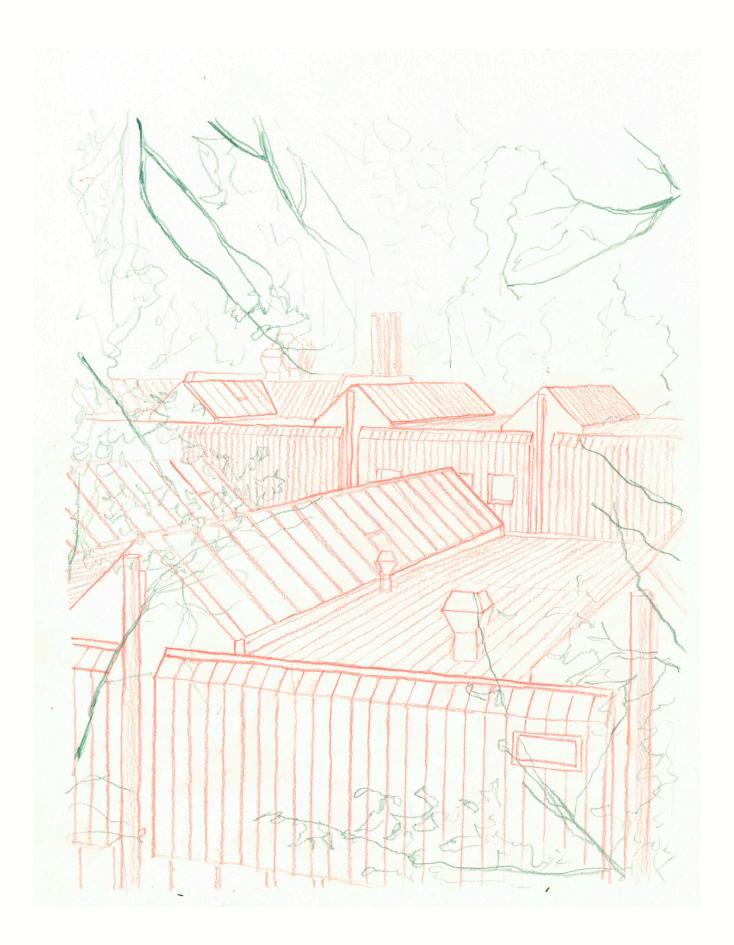


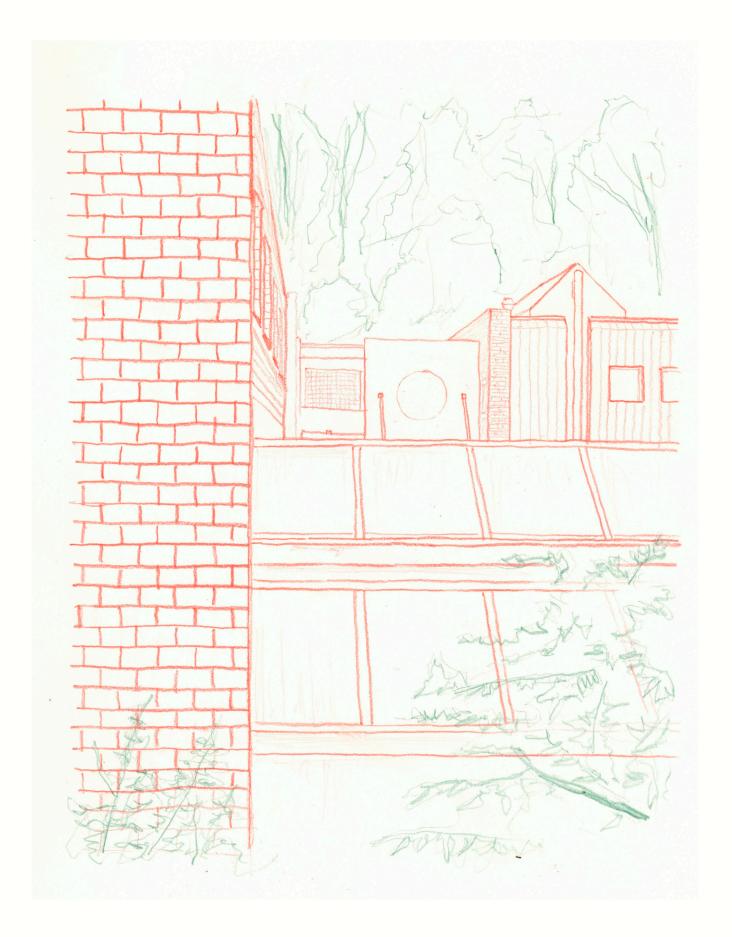




















This Enone Théorique is composed of textual and graphical works that explore how does caring about water can help us understand the intertwining of our environments and identify the places that need care. It takes the site of Vallon in Lansange as a place of study.

In a first written part, we try to define what it means to apply the care theory to a territory in the framework of this research. It means understanding the entanglements of the built and the unbuilt environment in order to identify the places that need care and that represent critical levers for the more-than-human habitability of our territory. As water and society are intimately linked and have shaped each other over time, we use water as a noticing tool to understand and identify these entanglements. Caring about water then allows us to perceive how permeability between elements is managed on a specific site and where are the needs and potentials for interconnectedness.

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