

Reimagining Accessible Architecture

Inclusive Housing Through a Pluriversal Approach



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Master Thesis 2025

Supervisor: Marco Adelfio

Examiner: Liane Thuvander

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Abstract

How can a pluriversal approach to the transformation of existing housing foster accessibility, adaptability, and inclusivity for diverse users?

Contemporary housing often overlooks the varied needs of accessibility, treating it as an afterthought rather than an integral aspect of design. This oversight results in environments that segregate and exclude individuals with disabilities, reinforcing social marginalisation. While investigating accessibility and exclusion in architecture, pluriversal design theory appeared applicable. The theory introduces seven design principles, which in this thesis have been used as the foundation for the process. However, to move from theory to architectural design, it became necessary to develop my own strategies in response to the specific site, context, and people involved.

This thesis investigates how we can create homes that embrace diversity and explores how we can live in a world of multiple worlds, a pluriverse. The author does not believe that architects know best or that they alone should decide what is right for others.

It is the diversity of people that forms a good architectural project. This belief shaped the participatory process at the core of the thesis. Interviews and workshops were conducted with a small group of people with varied needs, backgrounds, and challenges. Their insights informed the design and are represented through five fictional personas. These personas are used to develop narratives that reveal how space is experienced, both before and after transformation.

The speculative design proposal reflects how a pluriversal approach, supported by participation, can shape more inclusive environments. The transformation of an existing housing development in Oslo serves as the test site. The project is not intended to provide universal answers, but to offer a way of working differently, one that values empathy, lived experience, and designing with, not for, others. It also points to the need for further reflection on whether current regulations can support more inclusive and plural ways of designing.

Keywords: Accessible Architecture, Pluriversal Design, Participatory Design, Personas, Narratives

Author Background



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Thesis Motivation

For me, architecture has always been about people. It is never just about form or aesthetics, it is about how space shapes lives. I often find myself observing places and thinking, “How would someone in a chair experience this?” or “This space does not allow them to be here.” These thoughts do not come out of nowhere. Over the years, I have been close to people living with a range of physical and mental challenges, and these encounters have left a strong mark on how I think about the world and about design. Inclusion is not abstract to me. It is personal. I have wanted to invite a friend over for dinner with a physical disability but been unable to because my apartment is not accessible. That feeling of frustration, knowing I see him as an equal but that the built environment does not treat him that way, is part of what has driven this thesis. I live in the building that this thesis investigates and proposes to transform, and experiencing its inaccessibility on a daily basis has only made these thoughts more present. This project is about rethinking how we design, who we design for, and how architecture might do better.

Acknowledgement

- Special thanks to

My supervisor and examiner, for your support, guidance, and valuable feedback throughout the process.

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Chapter 1

Introduction

This chapter presents the thesis scope, including the problem statement, purpose and aim, and the thesis question, objectives, method and delimitations. The chapter introduces the extent and boundaries of the thesis research, defining what has been covered, how I have approached it, and why certain aspects are included or excluded.

Problem Statement

As the title suggests, accessibility in architecture is often lacking, causing a need for architects and designers to make a change, to reimagine what accessible architecture means, who it involves, and how it is practiced. Accessibility is often an afterthought, rather than an integral aspect of design resulting in environments of segregation and exclusion. Inaccessible design may also lead to injuries, stress, and potential mental health challenges (Inclusion London, 2025).

Universal Design (UD) is a design theory that has influenced architecture for decades, and its guidelines have been implemented in regulations in many countries to include disabled people in our built environment. It seeks to create a barrier-free environment for everyone; however, it is unclear who “everyone” is. Furthermore, its focus is often limited to wheelchair users, excluding other disabilities and overall diversity among users. Pluriversal Design (PD) could potentially fill the gaps of UD and be proposed as a post-UD method in architecture and design practice, one that embraces multiple realities and enables their coexistence.

Today, PD remains a theory discussed in academia, lacking real-world examples to test their success. PD introduces seven design principles to be applied in the design process. These should be realised and properly tested in a physical project, giving the theory a concrete example of application in order to evaluate their effectiveness against inclusion and accessibility of future homes.

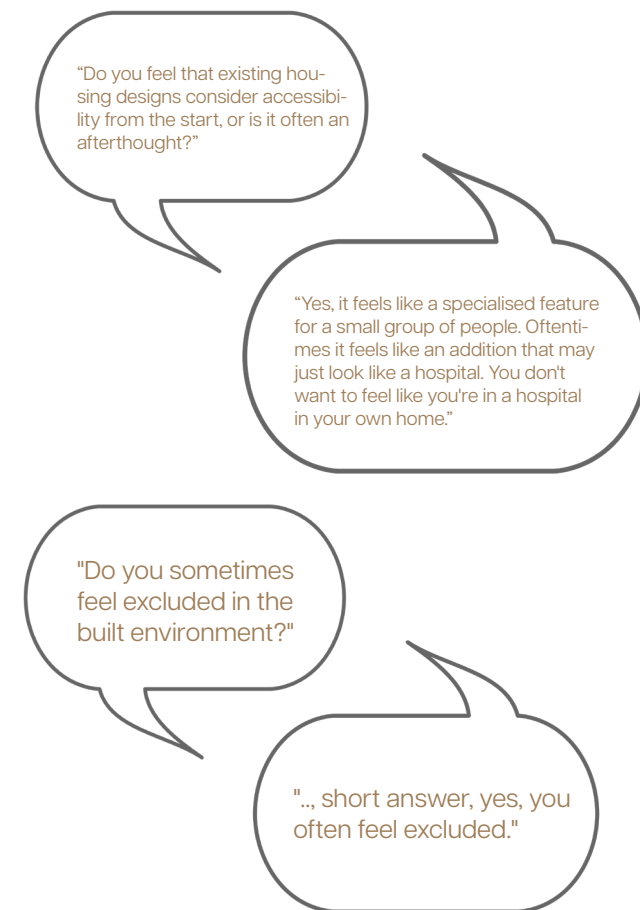


Figure 1. Quotes from interviews.

Purpose

This thesis explores how a pluriversal approach can redefine accessibility in housing design, in the spaces where we spend most of our time (Yau, 2021), moving beyond regulatory standards to embrace diverse needs, experiences, and ways of inhabiting space.

Aim

The thesis aims to bridge theory and practice by applying PD theory to challenge the standardisation of accessibility. Building on the seven principles of PD, it proposes a more inclusive alternative to transformation design, using an existing housing development as a test case. Through participatory design, the thesis explores how accessibility can become a shared value rather than a specialised feature, fostering emotional engagement, adaptability, and a stronger sense of belonging in housing design.

Thesis Question

How can a pluriversal approach to the transformation of existing housing foster accessibility, adaptability, and inclusivity for diverse users?

Objectives

1. Investigate how pluriversal design theory can inform the transformation of existing residential buildings.
2. Engage a diverse group of participants through participatory design methods, including interviews and workshops.
3. Discuss how current accessibility regulations and standards in Norwegian housing may contribute to exclusion and segregation.
4. Develop a speculative design proposal that reflects lived experiences and real-world accessibility needs through a participatory and user-centered design process.
5. Reflect on the role and effectiveness of pluriversal and participatory approaches in both the transformation process and the design outcome, through participant feedback, alignment with identified needs, and narrative evaluations based on personas.

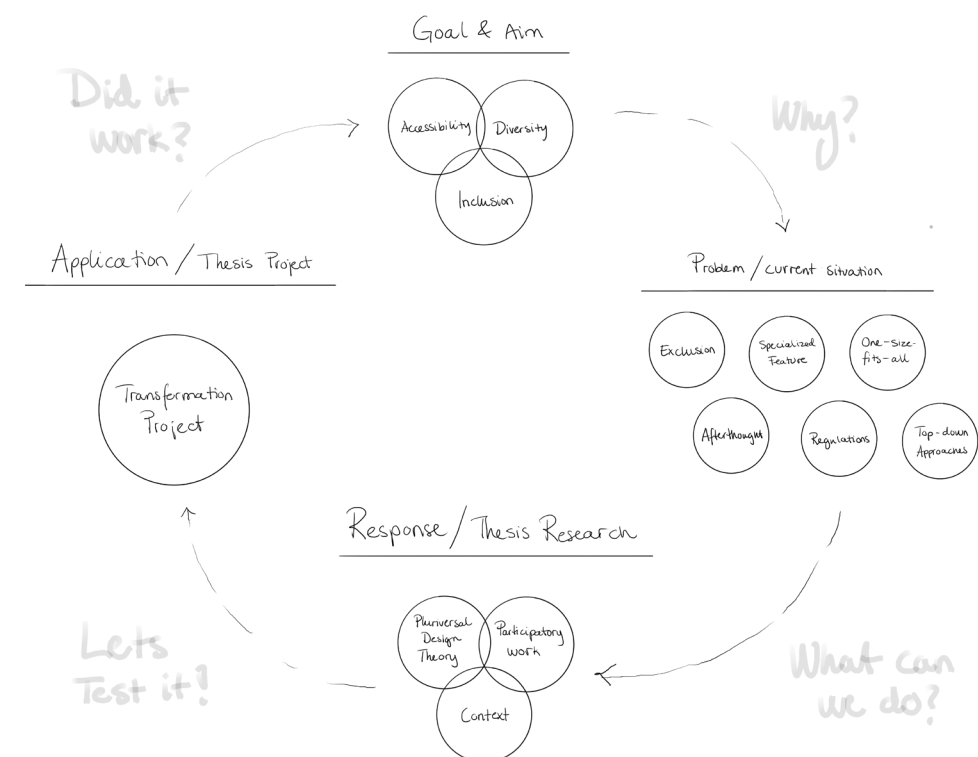


Figure 2. Graphical Manifesto. Produced by author.

Methodology

Several methods are applied in this thesis; however, it is important to note that these methodological phases run in parallel, creating an iterative process in which they continuously influence and contribute to one another. The thesis integrates both 'research for design' and 'research by design,' combining theoretical exploration with practical application. Reviews of existing theories, discussions, and reference projects run parallel to sketching and participatory work. This creates a holistic methodological approach, where each part of the process informs and refines the design and overall thesis development.

Participatory methods and practice have been central to this thesis as part of the PD theory, enabling user-centered design that reflects lived experiences (Van Zeeland, 2024). Throughout the thesis, interviews and workshops have been conducted with a diverse group of people to better understand their everyday experiences and perspectives. The interviews have been carried out through a combination of semi-structured and unstructured interview styles. In this method, the interviewer prepares questions prior to the interview, yet allows the interviewee to talk freely around them (Jamshed, 2014). In other cases, the interviews were more open, with no pre-prepared questions. This form of unstructured non-directive interview is more similar to a “controlled conversation”, and focuses on the interests of the interviewer to gather in-depth information from the interviewee (Jamshed, 2014). Workshops took place as in-person meetings in smaller groups, including informal conversations, sketch sessions, and site visits, along with brainstorming sessions and shared reflections.

This process led to the development of five fictional personas based on real people and their stories, which is a method used to channel their perspectives into the design process (Guffey, 2023).

While fictionalised to protect identities and broaden representation, each persona is based on the insights and experiences of those who participated. The personas are not only used to inform the design, but also to tell the story of how spatial barriers are experienced and navigated in daily life.

To communicate both the spatial and emotional dimensions of the project, narratives have been written from the perspectives of these personas, as if they were living in the building. This speculative approach helps uncover how architectural barriers are experienced on a personal level, revealing challenges that might otherwise be overlooked. Narratives are presented both pre- and post-transformation, illustrating how the personas experience the current state of the building as well as the improved building. In line with pluriversal design thinking, this narrative method serves as a medium for engagement and expression, uncovering hidden narratives challenging the power dynamics of which stories are told, heard, and carry weight (Van Zeeland, 2024). It is important to note that this approach adds subjectivity, which in this thesis is embraced, informing the design with real human experiences. However, there are always stories that remain untold (Ortiz, 2022).

The outcome of this process is a speculative design proposal: the transformation of an existing housing development in Oslo. The design is shaped by the stories, needs, and insights gathered through the participatory work and explored through the fictional personas. While the project is not realised in built form, it serves as a critical tool to question and challenge architectural practice, explore alternative design approaches, and reflect on the insights and value that such a process can offer. While this method cannot represent all perspectives, it acknowledges that meaningful design is rooted in the realities of people's lives, including those whose stories are often unheard.

Delimitations

This thesis considers diverse disabilities in the design process; however, it does not aim to cover all possible accessibility challenges or provide in-depth analysis of specific medical conditions and their specific challenges.

Additionally, while Norwegian accessibility regulations relevant to the site are discussed, the thesis does not extend its analysis to policies or regulations in other countries. The research focuses on the transformation of an existing housing development at Ribbunggata 19, Oslo, and does not analyse other sites. The findings are contextualised within a Nordic climate and may not directly apply to other regions.

Interviews and workshops are conducted within the participatory approach of the thesis; however, it is important to note that this involves a limited number of participants due to thesis scope. The personas presented are based on qualitative insights rather than statistical representation.

The research focuses on spatial organisation, accessibility, adaptability, and user diversity. It does not include structural assessments or technical construction details. The study explores speculative transformation at the building scale and does not examine broader city-scale planning strategies. Rather than proposing a final, buildable project, the thesis presents a speculative design framework that challenges current regulations and illustrates the application of pluriversality in housing.

This thesis focuses on transforming an existing housing development rather than designing a new building. Since most buildings in urban areas are already built, addressing accessibility within the current built environment is essential. Many of these buildings were not designed with diverse bodies and needs in mind, making transformation a necessary step toward more inclusive living environments. Working with an existing structure brings specific constraints, such as spatial limitations and regulatory frameworks, that are often overlooked in idealised design scenarios. At the same time, it presents opportunities to develop inclusive solutions shaped by real conditions. By applying a pluriversal approach to a specific site, the project explores how architecture can respond to lived experiences rather than abstract ideals.

The thesis focuses on the social dimensions of sustainability, with a specific focus on inclusivity, accessibility, and the transformation of an existing building. By reimagining an existing housing development, the project addresses the sustainable potential of adapting the current built environment to meet diverse needs, rather than relying on new construction. While environmental considerations are acknowledged, the study does not include further analysis on energy use or footprint. Instead, it highlights the architect's role in promoting social responsibility and long-term inclusivity through adaptive reuse and transformation.

The thesis does not include an economic or financial analysis of the proposed transformation. Cost assessments, budgeting, and funding has not been explored, as the focus has been on testing design ideas and methods rather than realisation within financial restrictions. The proposal remains speculative and is intended to provoke discussion rather than serve as a ready-to-implement solution.

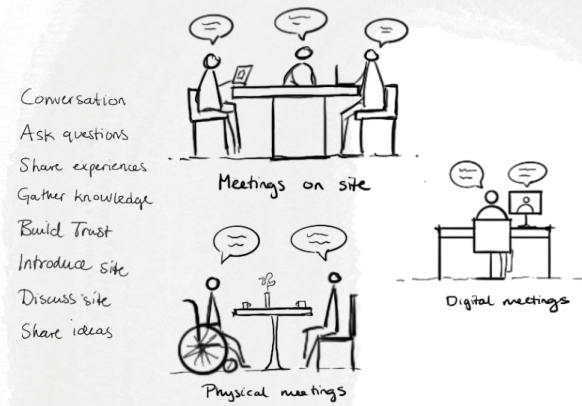
1. Identify who we need



2. Reaching out



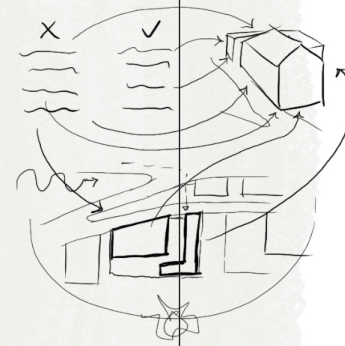
4. Conduct first interviews & workshops



3. Prepare for Interviews/workshops



5. Site & Building Analysis



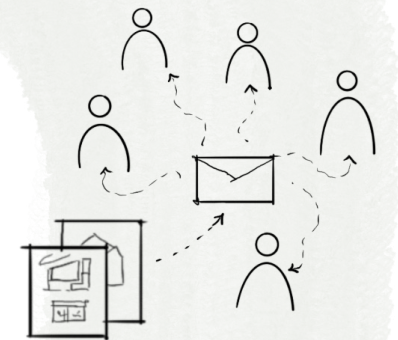
6. First design proposal



8. Second Design Proposal



9. Sending proposal to group for final feedback



7. Second round of meetings



10. Final proposal

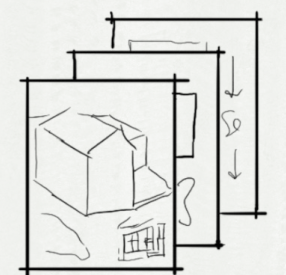


Figure 3. Illustration of the participatory process. Produced by author.

Chapter 2

Framework

This chapter presents the theoretical and practical framework of which the thesis builds upon. It begins with the theoretical framework, including an overview of the current state of accessibility in the built environment, followed by a discussion of UD and PD theory. The chapter ends with key takeaways that inform the direction of the project. The second part introduces the practical framework through selected reference projects, followed by key takeaways from these examples. Together, these frameworks lay the groundwork for the design exploration, process, and proposal.

Current situation of Accessibility in the Built Environment

When asked the question “Do you feel that existing housing designs consider accessibility from the start, or is it often an afterthought?”, all interviewees answered yes. One replied “Yes, it feels like a specialised feature for only a small group of people”. “Oftentimes it feels like an addition that may just look like a hospital. You don’t want to feel like you’re in a hospital in your own home.” (Participant 1, personal communication, February 5, 2025). The needs for change are clearly pressing, and architects and designers have to improve their efforts to make accessibility a shared value rather than a specialised feature. (Smith & Webb, 2010). According to the World Health Organization (WHO), approximately 1.3 billion people have a disability. This accounts for about 16 % and about 1 in 6 of the global population, including both visible and invisible disabilities (World Health Organization, n.d.). The WHO additionally highlights an important reminder; that all of us are only temporarily able-bodied (Guffey, 2023), indicating that our abilities may change throughout our lives. Despite this reality, the built environment still fails to accommodate and include such a large group of the population. Furthermore, it does not take into consideration that a disability is likely to occur in anyone’s life throughout their lifespan.

A new report from Inclusion London (2025), reveals that only 3 % of new housing approved in London is accessible, with less than 1 % designed for wheelchair users (The Guardian, 2025). The report also reveals the effects of deaf and disabled people’s physical and mental health, stating that “it takes away their rights to living independently” (Inclusion London, 2025, p. 23).

The people interviewed for the report shared their experiences from living in an inaccessible home, expressing that they can injure themselves, experience long-term stress, and may need to seek medical attention for their mental health (Inclusion London, 2025). The findings from the report imply that current building regulations, as well as the work of architects and designers, are insufficient, highlighting the need to challenge their practices beyond existing regulations.

Further, studies from Norway explored the relationship between the built environment and wellbeing of older adults with disabilities, where the findings indicate that poorly built environment accessibility directly relates to lower well-being, including quality of life, loneliness, and psychological distress (Forster et al., 2023). In another study, Gijsbers, van den Berg, and Kemperman (2024) examined the relationship between built environments and loneliness in young adults. The study showed that approximately 33 % of adults were experiencing feelings of loneliness, where one of the main recommendations provided by the authors related to the accessibility of the built environment. Despite emerging discussions and revised accessibility regulations taking place for several decades, it is clear that architects and designers are still not doing enough to ensure inclusion and human wellbeing. It suggests that minimal efforts are done to identify the actual user, and to understand their aspirations, needs, and challenges.

Universal Design

During the late 1970s a group of disabled and non-disabled people in America introduced UD, fighting for barrier-free architecture and disability rights (Guffey, 2023). North Carolina State University defines UD as “the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design” (Connell et al., 1997, p. 2). While this is a romantic idea, it must be acknowledged that it is impossible to benefit all at all times. UD has been an important initial chapter for accessibility in architecture through bringing attention to disability and the use of space. However, the idea of UD risks enforcing an unrealistic, singular, and dominant worldview, implying that this approach is universally applicable. This perspective overlooks the existence of multiple worlds within our world, each shaped by cultural, contextual, political, and economical differences. UD emerged in North Carolina and has been critiqued for having a western perspective that is often linked to regulations and policies from the Global North (Imrie, 2012), leading to an oversight of cultural diversity. Due to complex differences and diversity worldwide, there is no one-size-fits-all design template that we can follow for architecture and design.

Beyond these global and cultural critiques, UD also faces challenges within the architectural profession itself. Although it has gained visibility in policy and academic discussions, many architects and developers continue to see it as something separate from everyday design (Imrie, 2012). Smith (2010) notes that UD is often viewed

as a specialised concern, not aligned with the priorities of commercial clients. This creates a disconnect between what UD is intended to be and how it is understood in practice. While some see it as a practice for inclusion in architecture, others view it as limiting for creativity or personal expression (Smith & Webb, 2010). From this perspective, UD is often misunderstood as a checklist that gets in the way of designing something unique. This way of thinking treats inclusion as an add-on rather than a starting point. This critique was also reflected across all interviews conducted for this thesis. Several participants described accessibility features as something that was “just added on” or “chucked on there afterwards,” rather than being thoughtfully integrated. One person shared that even new buildings designed according to the current norwegian building regulation (TEK17), a regulation based on UD principles, did not allow them to use the bathroom independently. Another had a negative experience when applying to have their sink lowered after moving in. These experiences suggest that when UD is applied mainly through regulation, it falls short of being truly inclusive. Participants also stated that they often felt overlooked, pointing to how small design details like the height of counters, the placement of thresholds, or the weight of a door could determine whether they could live independently. This reveals the limits of regulation-based design and illustrates how the absence of inclusive thinking affects everyday life and social participation. This highlights the need for more grounded and context-sensitive approaches, shaped by different ways of living and relating to space.

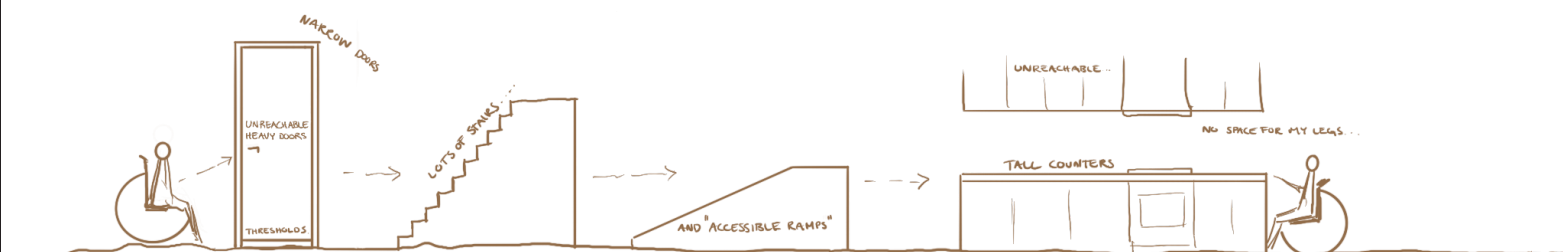


Figure 4. Sketch illustrating challenges impaired people face in architectural design. Produced by author.

Pluriversal Design

PD, a more recent design approach, challenges the universality of UD by embracing multiple ways of knowing and being (van Zeeland, 2024). PD theory integrates decolonial, indigenous, and situated design perspectives challenging Eurocentric perspectives (Smith et al., 2024). The theory suggests a shift in the way of thinking about design, a transition from a transactional practice into a relational one (van Zeeland, 2024). In PD theory, multiple narratives coexist simultaneously, embracing the belief that many worlds exist within our world, each with its own ways of living (van Zeeland, 2024).

Building on the history of accessibility and inclusion, as well as the widely adopted practice of UD, PD could potentially fill the gaps of UD, by proposing as a post-UD method in architecture and design practice that embraces multiple realities and enables their co-existence.

Today, PD remains a theory discussed in academia, lacking real-world examples to test its success. One step toward practical action has been taken by van Zeeland (2024), who introduces seven design principles to provide practical guidance. The next step, the physical application of these principles into the design process of a real project, remains to be taken. A physical project will provide a concrete example and allow for an evaluation of the principles' effectiveness.

Eveline van Zeeland's Design Principles of Pluriversal Design

The seven design principles introduced by van Zeeland (2024) is: 1) cultivating radical empathy, 2) fostering (re)imagination and delinking, 3) encouraging physical encounters, 4) employing narratives, 5) utilising mapping, visual thinking, and bodily expressions, 6) embracing a participatory approach, and 7) harnessing knowledge.

1 | Cultivating radical empathy

Radical empathy is essential for navigating a pluriversal world, encouraging a broader and deeper understanding of complex issues (van Zeeland, 2024). This includes treating diverse perspectives as valid contributions to the future rather than as just curiosities or exoticisms (van Zeeland, 2024). Practicing radical empathy requires dedication to understanding, being emotionally moved by differences, and integrating diverse perspectives into the design process rather than just observing them from a distance. This involves unlearning preconceived notions about each other and about design, and “relearning how to collaboratively navigate the unknown” (van Zeeland, 2024, p. 7). Radical empathy encourages curiosity, self-reflection, and a 'feeling-thinking' approach while embracing pluralism and existential discomfort. This fosters deeper understanding, challenges biases, and enhances sensitivity to different worldviews. To enable this, it is essential to create a safe space and build authentic trust, free from hidden agendas, through mutual recognition, respect, and open discussion (van Zeeland, 2024).

2 | Fostering (re)imagination and delinking

The pluriverse is both shared and different, requiring a shift in perspective to embrace multiple realities (FitzGerald, 2023), where the process of imagination and delinking becomes central (van Zeeland, 2024). PD theory has a future-oriented outlook, making imagination an essential tool for envisioning diverse futures and creating spaces of possibility that offer pluriversal alternatives (van Zeeland, 2024). The process of reimagination enables diverse interpretations of the world while also envisioning possibilities beyond existing realities. It challenges established narratives and assumptions, encourages critical reflection, and opens up new possibilities (Masquelier, 2022; van Zeeland, 2024), all of which are crucial to the process of delinking. Delinking is the process of 'learning how to unlearn'. This involves rethinking and reflecting on one's own established ways of being, thinking, and working in order to redefine and envision alternative ways of engaging with the world (van Zeeland, 2024).

3 | Encouraging physical encounters

PD practice highlights the use of place-based methods to analyse the specifics of a site and its context, ensuring a design that responds to its particular conditions and concerns (van Zeeland, 2024). As part of site-specific work, physical encounters play a major role in PD theory. Van Zeeland (2024) states that such encounters can emerge through the establishment of contact zones or

'safe spaces' that encourage conversations, the exchange of opinions and everyday experiences resulting in site-specific knowledge and co-creation. Physical encounters and a deeper understanding of the site and context can also be achieved through the simple act of walking and observing, which can further lead to "stumbling upon valuable insights without actively seeking them" (van Zeeland, 2024, p. 9). PD theory encourages designers and researchers to “write from places rather than about places” (Porter & Sandercock, 2021, p. 80).

4 | Employing Narratives

Narratives play a central role in PD theory, used to convey diverse stories, enhance engagement and expression in the design process, and serve as a tool for collecting data (van Zeeland, 2024). Employing narratives gains valuable perspective and facilitates the process of unlearning and of moving away from existing patterns to create new ones. While embracing diversity and differences, it is important not to romanticise them or to seek them where they do not exist (van Zeeland, 2024). Instead, this tool seeks to uncover hidden narratives and unheard voices “with a keen awareness of how power dynamics shape which stories are told, heard, and carry weight” (van

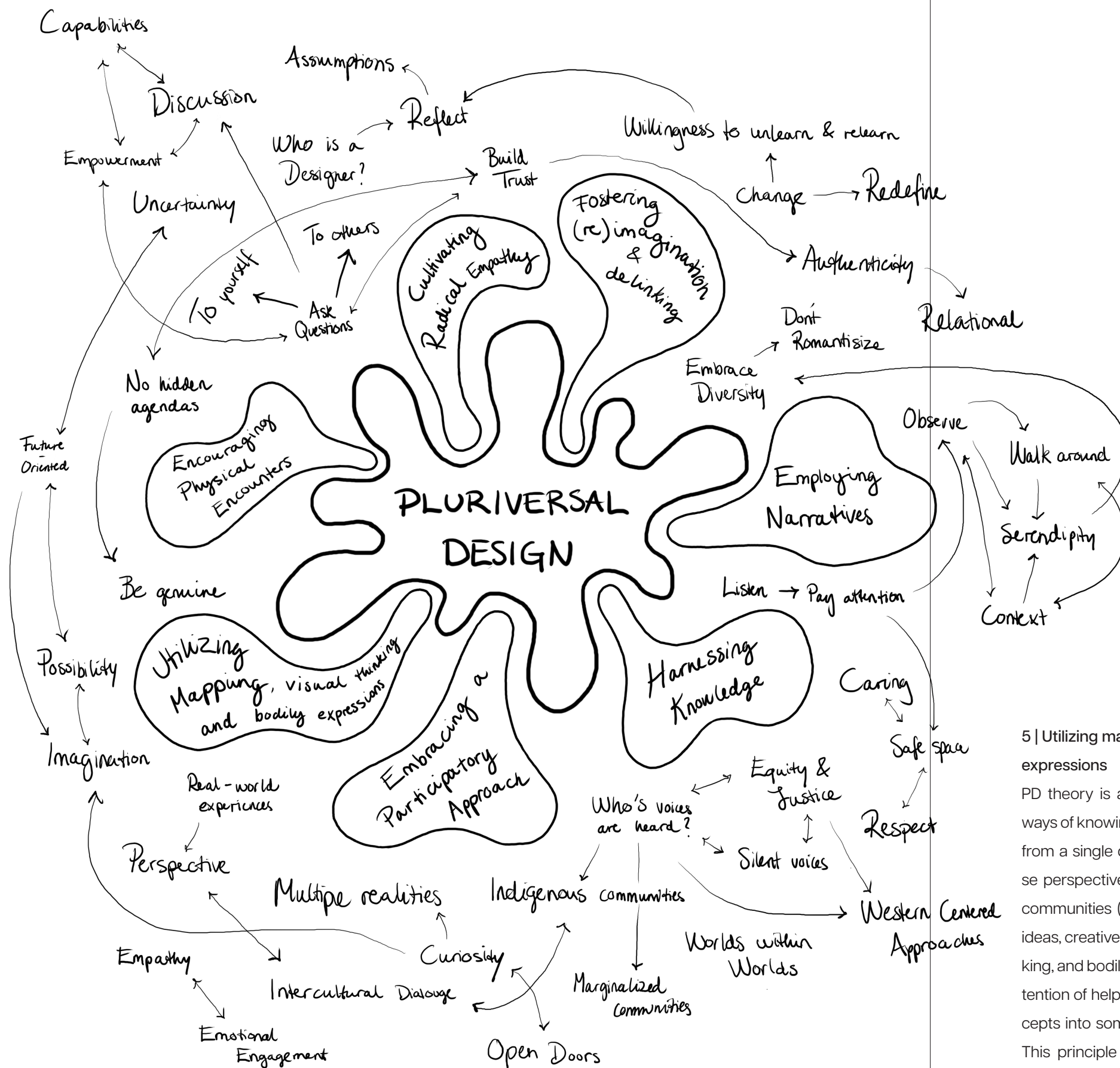


Figure 5. Illustration/sketch of pluriversal design theory based on Eveline Van Zeeland's seven pluriversal design principles. Produced by author.

6 | Embracing a participatory approach

Participatory approaches are often used in PD to incorporate diverse perspectives and worldviews (van Zeeland, 2024) and deepen the understanding of how space is perceived and used. This method involves the participation of marginalised communities as well as nature, recognised as an active entity, engaging in dialogue with both to understand how different worlds exist and interact in order to make appropriate design decisions (van Zeeland, 2024). Adopting a participatory approach brings diverse communities together, encourages collaboration, and results in the co-creation of spaces (Van Zeeland, 2024), where the design is informed by lived experiences. Integrating narratives with a participatory design approach can help translate real lived experiences and emotions from the process into the presentation of the design work.

5 | Utilizing mapping, visual thinking and bodily expressions

PD theory is a way of thinking that values multiple ways of knowing, being, and designing. It moves away from a single dominant worldview, embracing diverse perspectives, especially those from marginalised communities (van Zeeland, 2024). To express these ideas, creative methods such as mapping, visual thinking, and bodily expression are often used with the intention of helping to translate complex, abstract concepts into something understandable (van Zeeland). This principle incorporates a 'thinking-through-making methodology' in order to highlight relationships, making connections and possible conflicts visible for diverse audiences (van Zeeland, 2024).

7 | Harnessing knowledge

The final principle presents the process of uncovering sources of knowledge that may have been overlooked or labeled as unacceptable or inappropriate in today's society and existing research (van Zeeland, 2024). Instead of relying on traditional methods of harnessing knowledge, PD theory embraces alternative approaches that prioritise looking around for diverse perspectives and meaningful insights, acknowledging that people experience and interpret the world differently, which research should reflect (van Zeeland, 2024). It is important to acknowledge that knowledge is shaped by time and place, where no single truth can be applied everywhere and that research must respect local histories and environments (van Zeeland, 2024).

Key Takeaways | Theoretical Framework

This section has explored the current situation of accessibility in architecture, the limitations of UD, and the potential of PD as a more inclusive and responsive approach and framework for design. The interviews, alongside recent reports and academic studies, reveal that accessibility is still often treated as a specialised feature or an afterthought. Inclusive design is rarely considered from the beginning of the design process, and small but crucial spatial decisions continue to exclude people from everyday independence and social participation. These issues show the limits of relying solely on regulation-based approaches and point to the need for more grounded, context-sensitive ways of designing.

UD, while important as a starting point for accessibility, tends to present a single dominant worldview that may not fit the diverse physical, cultural, and contextual needs that shape how people live their everyday lives. It has often been interpreted as a checklist, disconnected from the everyday experiences and needs of real people. In contrast, PD challenges the idea of universality altogether, embracing the co-existence of many ways of living and knowing. The design principles proposed by van Zeeland support a relational and situated design process, encouraging designers to work with empathy, imagination, narratives, physical encounters, and participation.

However, while these principles offer valuable guidance for how we might think and practice architecture differently, they remain difficult to apply directly as design strategies in a real architectural proposal. Their strength lies in shaping the design process and mindset, rather than providing clear tools or spatial solutions. For this reason, this thesis develops its own set of design strategies, rooted in the principles of PD, the insights from the interviews, and the specific context of the present project. These strategies aim to bridge the gap between theory and practice, and to offer specific ways of designing inclusive and pluriversal architecture.

Reference Projects

This section introduces a selection of reference projects that relate to inclusive, participatory design processes, disability and user-centered methods for accessibility, as well as pluriversal approaches, providing insights and strategies that inform the thesis' design approach and development.

1. Quinta Monroy - Elemental

Quinta Monroy is a social housing project located in Iquique, Chile. The project is designed and built on the concept of “half-houses” that residents can expand over time (Rethinking The Future, n.d.). Elemental ensured that the most expensive portions of the building with demanding and skill-required work was covered by them, leaving the simple, safe and less expensive work to the residents (Cuff, 2023). These decisions were made in collaboration with future occupants through a participatory process implemented for the project. They also provided a handbook for how to build the remaining or potential parts of the building (Cuff, 2023). This approach encourages co-creation, potentially fostering a stronger sense of ownership and belonging by allowing residents to personalise their homes. While the participatory design process allowed residents to shape their homes according to their individual needs, it also led to unintended outcomes, such as overbuilding and the extension of homes into shared spaces (Cuff, 2023). These challenges highlight the complexities of flexible design and the need for ongoing engagement and careful planning.



Figure 6. Quinta Monroy housing project in Iquique, Chile (ELEMENTAL, 2008).

2. The Kelsey Ayer Station

The Kelsey Ayer Station is a housing project located in San Jose, California, designed for residents with and without disabilities (The Kelsey, n.d.-b), demonstrating how accessibility can foster a sense of community and equity without stigmatisation. The Kelsey’s implementation of participatory design processes actively involves people with disabilities to shape spaces that reflect their diverse needs and desires (The Kelsey, n.d.-a). The project integrates community spaces to encourage social interaction for diverse people; however, their success depends on initiative and participation from the residents and ongoing maintenance. The project implements accessibility and inclusivity from the start as core values resulting in spaces for diverse users.



Figure 7. Renderings of the Ayer Station. The Kelsey (n.d.).

3. FabLab Nepal

Fab Lab is a shared space for innovation, education and humanitarian efforts, working as a collaborative digital fabrication workshop with a community oriented approach to design (FabLab Nepal, n.d.). FabLab has applied a PD approach at a local spinal injury clinic in Nepal (Smith et al., 2024). In this case, participatory measures were implemented, including local knowledge exchange and skill development in printing technology, ensuring that patients’ needs and desires were heard throughout the design and manufacturing process, valuing Indigenous knowledge, which is central to the pluriversal paradigm (Campoli et al., 2024; Smith et al., 2024). As a result, this experiment led to co-design initiatives for people facing challenging survival conditions, resulting in a feeling of empowerment for participants.



Figure 8. Co-design workshop at FabLab Nepal. Campoli et al. (2024).

4. The Kara Solar Project

The Kara Solar Project is a community-led initiative in Ecuador’s Amazon region that provides sustainable river transport while allowing Indigenous communities to shape their own future (Calisto Friant et al., 2023). Instead of applying external solutions, the project uses a PD approach, integrating Indigenous knowledge and values into the process (Calisto Friant et al., 2023). Through co-design, local communities invent the technology, ensuring it aligns with their way of life (Calisto Friant et al., 2023). This participatory method challenges dominant narratives, fosters empowerment, and creates a system that reflects diverse worldviews rather than a one-size-fits-all approach.



Figure 9. Kara Solar-powered canoe. Fundación Kara Solar (n.d.).

Key Takeaways | Practical Framework

The reference projects explored in this section demonstrate how inclusive and participatory approaches can be implemented in practice. While differing in scale, context, and design outcome, each project provides insight into what a more situated, collaborative, and pluriversal approach to architecture might look like.

Quinta Monroy shows how allowing for personalisation can foster a stronger sense of ownership and belonging. When people are able to shape or adapt their space to suit how they live, it becomes more than just housing, it becomes home. This approach supports the idea that architecture should be open to different ways of using and inhabiting space. The Kelsey Ayer Station highlights the importance of integrating accessibility from the beginning, not just in physical terms, but as part of the project’s values. People with disabilities were involved in the design process, helping shape spaces that reflect diverse needs from the start. The project also points to the

role of common spaces in creating social connections. However, this still depends on the residents themselves and whether they choose to engage. FabLab Nepal demonstrates how design can be shaped through collaboration and the sharing of knowledge. It shows how people’s lived experiences and ways of knowing can shape both the process and outcome when they are invited to take place as active participants. The Kara Solar Project reflects a community-led approach where design is rooted in place and shaped by local priorities. It challenges top-down ways of working and strengthens the idea that design should support different worldviews and ways of living.

Together, these projects show that inclusive and pluriversal architecture is less about following a fixed method and more about how we relate to others, listen, and make space for difference. These takeaways are highly relevant to the ongoing work of this thesis and form the foundation of its design approach.

Chapter 3

Site & Context

This chapter introduces the site of an existing housing development at Ribbungata 19 in Oslo, which is the focus of the transformation in the present thesis. It begins with an overview of Norwegian regulations relevant to the topic, followed by a description of the participatory process undertaken. The chapter then introduces the personas that shape the project and provides a site and building analysis, offering insight into the spatial and contextual conditions. It concludes with a narrative illustrating how the personas experience the current state of the building.

Site Introduction

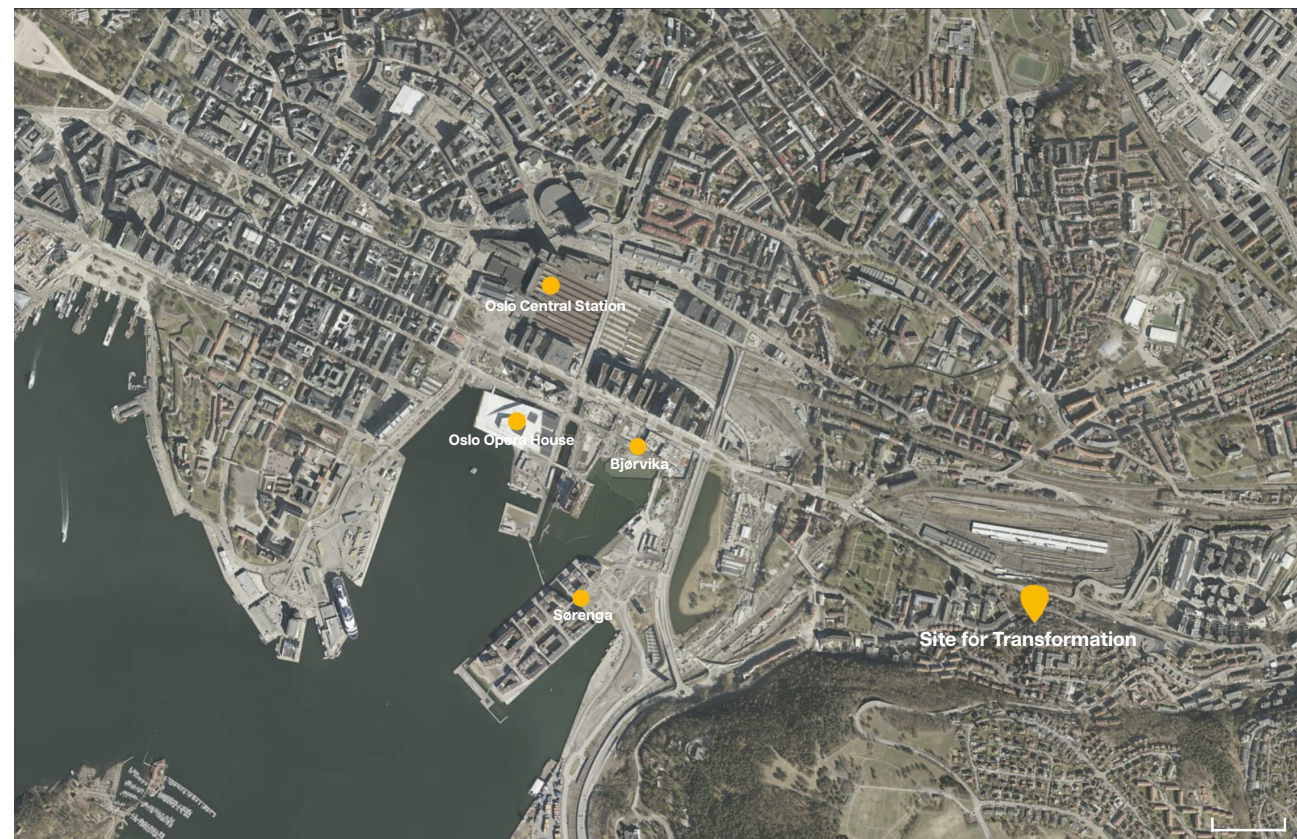


Figure 10. Oslo 1 : 20 000 @ A4, aerial photo underlay. Adapted from Gulesider (2025).

In order to select the site, the following criteria had to be met:

- Located in Oslo, where the author of this thesis is based.
- Exemplify inaccessibility and exclusion in housing.
- Available access for the thesis author to enter the building.
- Available drawing material.

The thesis requires a site that clearly demonstrates a lack of accessibility and does not accommodate diverse ways of living. Oslo's city center is located along the coastline, while the surrounding areas have hilly and steep terrain that rises outward from the center.

The selected site for this research is located at Ekebergskrenten in an urban context, on one of Oslo's many hills, just southeast of the central area, across the Bjørnvika district. Walking from the site to the center takes about 20-25 minutes and 10-15 minutes by bus. The site is situated at Ribbunggata 19 and presents a housing development that clearly exemplifies the inaccessibility and exclusion of many residential buildings in Oslo.

In this thesis, the building is critically examined and reimagined to raise awareness and highlight the need for change and further showcase how this can be done to create accessible and inclusive homes for diverse people and lifestyles.



Figure 11. Situation Plan 1:1000 @ A4, aerial photo underlay. Adapted from Gulesider (2025).

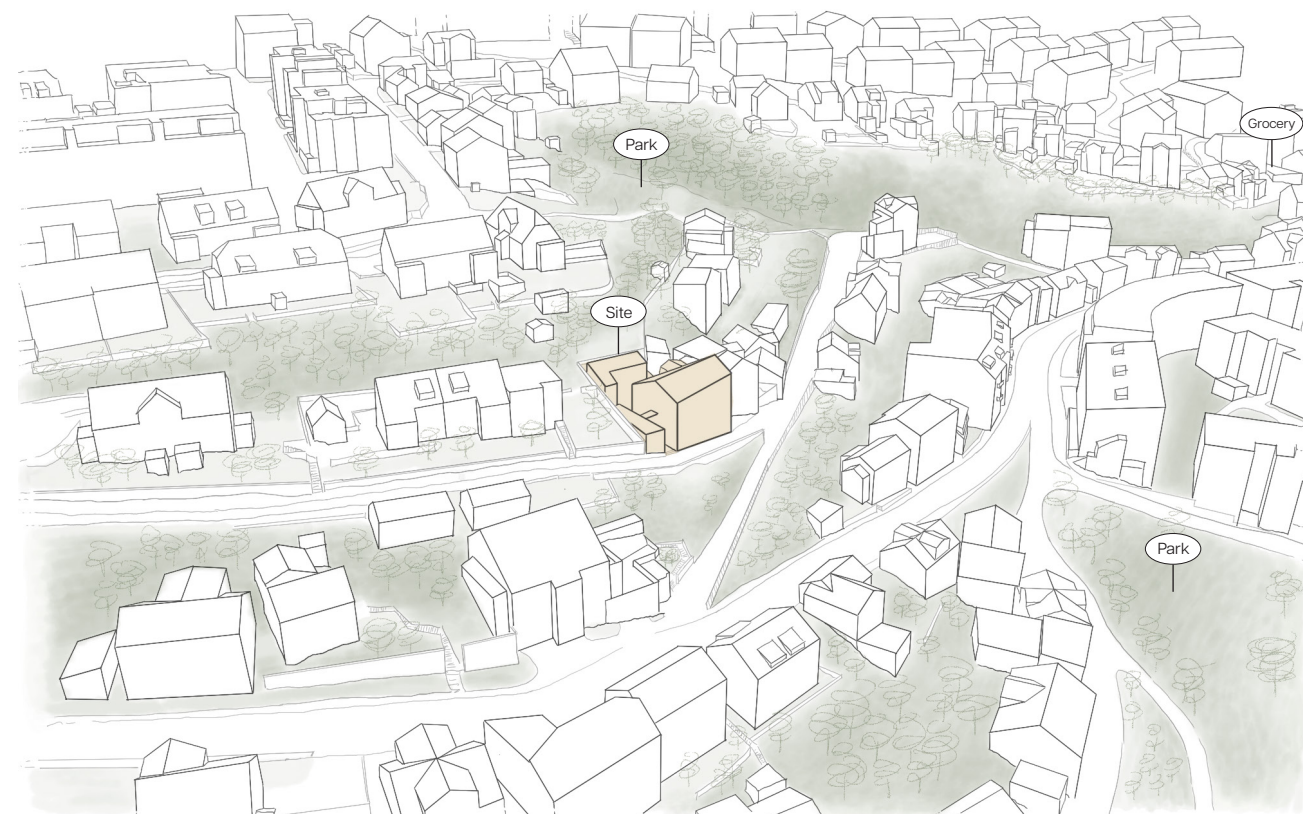


Figure 12. Location and context of transformation project at Ribbunggata 19, Oslo, with surrounding environment. Produced by author.

Demographics

The project site at Ribbunggata 19 is situated in the Gamle Oslo district, a central area of Oslo. As of 2024, Gamle Oslo has a population of 63,712 residents and covers an area of 7.5 km², making it one of the most densely populated districts in Oslo (Oslo Municipality, n.d.-a). The district is known for its cultural diversity, with a significant proportion of residents having immigrant backgrounds (Oslo Municipality, n.d.-c). Economically, Gamle Oslo has historically had lower median incomes compared to other parts of the city. The district has a diverse age range, with a large young adult population alongside a notable number of

children and elderly residents (Oslo Municipality, n.d.-b). The median age in Bydel Gamle Oslo is slightly higher than in neighbouring districts such as Grünerløkka and Sagene (Oslo Municipality, n.d.-b). Ribbunggata 19 lies in the eastern part of Gamle Oslo, close to the district border with Nordstrand. Nordstrand is generally characterised by a more settled population, with a higher proportion of older residents (Oslo Municipality, n.d.-d). This location between two distinct demographic zones reinforces the need for inclusive and adaptable housing solutions that respond to a wide range of needs and stages of life.

Regulations

The building code in Norway (TEK17) incorporates universal design, aiming for new buildings to be accessible to all (DiBK, 2017, §12-7). But who is "all"? It is based on a functionalist understanding of accessibility, making standardised assumptions of who these people are, assuming who the "universal user" is. TEK17 mainly focuses on physical mobility impairments, often people in wheelchairs, whereas people with sensory impairments, neurodiversity, elderly or culturally diverse communities, or other minorities that have different accessibility needs are not well addressed. TEK17 also uses rigid design parameters where the focus is measurable accessibility features, like minimum door widths, while other approaches such as sensory navigation and cultural preferences in spatial organisation may be overlooked (DiBK, 2017, §12-9; Imrie, 2012).

There are exemptions for following the accessibility requirements in TEK17, such as steep terrain (DiBK, 2017, §8-5), leading to the potential exclusion of people with diverse impairments. TEK17 mandates that at least one dwelling unit on the entrance level must be accessible in residential buildings without a lift. In buildings with lifts, at least 50 % of smaller dwelling

units and all larger units must meet accessibility requirements (TEK17, 2017, §12-2, author's translation). TEK17 specifies that certain buildings are exempt from the requirement to install lifts. According to Section 12-2, buildings with more than one storey must have step-free access to all storeys. However, this requirement does not apply to buildings where the main functions are on the entrance level (DiBK, 2017, §12-2). This could be interpreted as if the accessible units are located on the entrance level and a community garden is designed on the rooftop for social interaction, the rooftop terrace may not necessarily be classified as a "main function" of the building, and therefore, certain people would be excluded from this facility.

As previously mentioned, TEK17 is based on UD principles which indicates that one solution fits all. However, PD acknowledges that different groups experience and navigate space differently (Escobar, 2018; Imrie, 2012). Further, the regulations restrict informal, flexible, and evolving design approaches that are key to pluriversal architecture (DiBK, 2017, §12-7). Similar to impaired people, non-impaired people also use space differently from one another.

For example, different cultures organise space differently, e.g., communal vs. private spaces, sensory-rich vs. minimalist environments (Escobar, 2018). Generally, TEK17 is based on Western spatial arrangements and reinforces Nordic functionalist, modernist architecture as the default. As a potential result, non-Western spatial paradigms may be excluded. TEK17 standards support a top-down approach, where no formal requirements are stated for inclusive, participatory design processes which could benefit and lead to more inclusive buildings that engage marginalised groups throughout the design process (DiBK, 2017, §12-1).

According to TEK17 §12-4, a "tilgjengelig boenhet" (accessible dwelling) must be designed to accommodate a wheelchair on the entrance level. The regulation states that both turning areas and operational areas can overlap, as long as they are placed in a way that is "appropriate for use." It also claims that accessibility is achieved as long as the projected solution shows it on paper, and that sufficient space for equipment and furnishings has been allocated. However, this leaves a wide margin for interpretation and minimal accountability in the built result. The regulation focuses on meeting technical requirements on paper, without ensuring that these translate into real, usable accessibility in practice.

This disconnect is clear in several of the interviews conducted for this thesis. One participant explained that they are unable to access their own balcony due to a level change:

"The balcony is a pain. I can't get out there by myself as it drops down outside the door." (Participant 2, 2025)

This participant further described ongoing struggles with thresholds:

"They are a pain. So I put tiny little ramps on them so I can roll over them more smoothly." (Participant 2, 2025)

Doors also emerged as a recurring challenge. A participant who uses a wheelchair shared:

"I can't open the storage unit by myself. The door is too heavy, and the wheelchair is in the way for opening doors." (Participant 1, 2025)

An older participant with decreasing mobility similarly expressed frustration with door usability in their building:

"Some of the doors in my apartment complex are too heavy and difficult to open." (Participant 3, 2025)

While TEK17 outlines requirements for accessibility to entrances, balconies or terraces (§12-8 and §12-11), and even storage units (§12-10), these do not seem to guarantee actual access. The physical implementation often falls short, even when TEK17 standards are technically met. The regulation allows critical areas such as turning zones and operational zones to overlap, which may technically satisfy the requirement but does not account for how different people move or use space in real life. Allowing turning areas and operational areas to overlap may work on a plan, but in reality, this can limit movement and fail to support different users and their spatial needs. These details may seem small, but they are often the difference between being able to live independently or not.

These insights make it clear that current accessibility regulations do not go far enough. They are often too vague, and in practice, they allow for solutions that are difficult or even impossible to use. This highlights the need for more specific and lived-experience-informed guidelines, but also reminds architects and designers of their responsibility to go beyond minimum standards. Accessibility must be understood through real use, not just through compliance. It should not be something that is only drawn. It must be lived, tested, and shaped by the people who use it.

Participatory Process

Participatory methods and practice has been central to this thesis as a part of PD theory, enabling user-centered design reflecting lived-experiences (van Zeeland, 2024). The process involved engaging with individuals who have lived experiences or people with professional insights relevant to accessibility and social inclusion.

The selection process prioritised:

- Experience with navigating (in)accessible built environments
- Professional engagement with inclusive design or community care
- Familiarity with the building’s location and existing social context

Participants were selected based on their relevance to the research themes. This included individuals with varying physical and cognitive accessibility needs, people familiar with the existing building and neighborhood, as well as professionals within social work and care services. The aim was to include a diverse range of perspectives to better understand and develop a design that reflects different lived realities. All participants were anonymised to protect their privacy. Descriptions are limited to general categories to provide context without identifying individuals. Consent was obtained, and participants were made aware of how their contributions would be used within the thesis.

The group included two wheelchair users, a participant with low vision, a care worker at a dementia home with personal experience of mobility impairment, a nurse, a social worker, an older neighborhood resident, and a neurodivergent participant with experience of trauma.

The participatory process was structured in two rounds of individual interviews and two on-site workshops, followed by feedback exchanges via email. Each step was designed to deepen the understanding of participants’ lived experiences and produce relevant design responses.

First round of interviews

Six participants took part in the first round of individual interviews, five in person and one via Zoom. Each meeting began with a relaxed conversation to build trust and comfort, before transitioning into a semi-structured interview format guided by a prepared set of questions. These focused on the participants’ everyday experiences of the built environment, their thoughts on accessibility in architecture, and personal reflections on spatial challenges. The format remained flexible to allow conversations to flow naturally, creating space for participants to share personal stories, reflections, and perspectives that may not have emerged in a more structured setting. One participant had more time available, which allowed for a deeper conversation and the opportunity to present images and floor plans of the building. This created space for early reflections on spatial challenges and initial ideas, an approach that was later repeated and expanded in the second round of interviews.



First workshop

The first on-site workshop included two participants. After being introduced to the building and its context, they were invited into one of the apartments to reflect on the existing conditions. Subsequently, a brainstorming session was held, discussing spatial challenges and sharing initial impressions of how the space supported or limited accessibility and comfort.

Second workshop

In the second workshop, three participants joined on site. The session followed a similar structure to the first, beginning with an introduction to the location and existing building. The workshop then moved into one of the apartments, where the floor plans were reviewed and discussed with the participants. The participants were encouraged to reflect on the layout, sketch ideas, and share their thoughts on spatial challenges, potential improvements, and adaptive strategies.

Email feedback

Following these sessions, some of the interviewees and workshop participants were contacted via email with a draft version of the first design proposal. This allowed them to provide written feedback and comments that informed the next iteration of the project.

Second round of interviews

To further refine the proposal, a second round of interviews was conducted with two new participants. These followed the same approach as the first round but were slightly shorter, leaving more time to explore concrete ideas for the building. Participants were shown images and existing floor plans and asked to reflect on potential challenges or ideas based on their own experiences. After this initial discussion, the current design proposal was presented for feedback and critique, allowing participants to engage with the design, opening up a dialogue that informed the next steps. These interactions shaped the project’s narratives, personas, and design interventions by highlighting personal challenges, desires, and spatial practices that might otherwise be overlooked in conventional design processes.



Personas

The persona method is a useful tool for designers to incorporate diverse users and better understand their needs, behaviours, and motivations (Alaab, 2023). The method engages potential users through meetings to gather insights into their diverse perspectives and experiences, which are then used to create fictional personas representing different user types (Alaab, 2023). In this thesis, five personas have been created based on the people that participated in the process that was elaborated upon in the previous section. Interviews and workshops conducted at various stages of the thesis research and design development enabled the

gathering of insights, reflection, and integration of their perspectives into the design. The fictional persona method is used to protect identities while also allowing for the merging of two collaboration partners and their experiences into a single persona, ensuring a broader representation of the group that was worked with. The persona method was specifically applied to translate the participatory design process into the thesis content, highlighting its contributions and the lived experiences. The personas are introduced with a sketch, name, and age, as well as further information about their background, needs, and challenges.

Persona 1 | Profile



Anna, 74, Retired Teacher

Background: Anna has lived in Oslo her entire life. She worked as a teacher for over 40 years, primarily teaching Norwegian and literature at a secondary school. She retired 8 years ago and has been living alone since her partner passed away. Anna enjoys reading, listening to music and cooking. She has two adult children who live in different parts of Norway and visit occasionally. While she has some old friends in the city, many have either moved away or face similar mobility challenges, making it difficult to socialise.

Needs: A more accessible home that accommodates her decreasing mobility (e.g., fewer stairs, wider passageways, better lighting, grab bars). Opportunities for social interaction to reduce loneliness and isolation. She would also like to have access to outdoor spaces where she can enjoy fresh air and interact with her neighbours.

Challenges: Decreasing mobility, loneliness, and isolation, fear of losing independence.

Persona 2 | Profile



Omar, 35, Electrician

Background: Omar works full-time as an electrician while raising his daughter, Amira. He has lived in Oslo for several years and prioritises providing a stable, inclusive environment for her. Over the past year, Omar has experienced periods of low vision due to ongoing eye surgeries, which have affected his ability to drive and manage daily routines. Balancing work, health challenges, and parenting leaves little time for socialising and self-care, but he remains dedicated to creating a good life for them both.

Needs: Accessible, affordable, and family-friendly housing that welcomes diverse cultures, with shared spaces and safe play areas for Amira. The home should also support varying levels of mobility and visual ability.

Challenges: Limited social life, lack of play, and social opportunities for Amira, managing physical and visual barriers, and a sense of not fully belonging.

Persona 3 | Profile



Elma, 22, Student & Freelance Artist

Background: Elma is a student in Oslo, studying visual arts while working as a freelance artist. She specialises in digital and traditional art and sells her work online to earn extra income and build her presence in the art world. She is passionate about creativity and self-expression. Elma has ADHD and a history of trauma, which makes her sensitive to disorganised, dark, or narrow spaces, especially environments that limit her ability to maintain oversight and personal safety.

Needs: Affordable housing that supports her lifestyle, with access to natural lighting, storage for her art equipment, outdoor space, and the ability to express herself in her living surroundings, such as by painting something in one of the shared spaces for everyone to enjoy. Good lighting, logical layout, clear sightlines, and clear spatial arrangements are important for her sense of security and wellbeing.

Challenges: Unstable income, limited space for studying and art projects, no outdoor space for inspiration or to invite friends, restrictions on creative expression, and difficulty maintaining focus and emotional safety in environments that feel chaotic, dark, cramped, or poorly designed.

Persona 4 | Profile



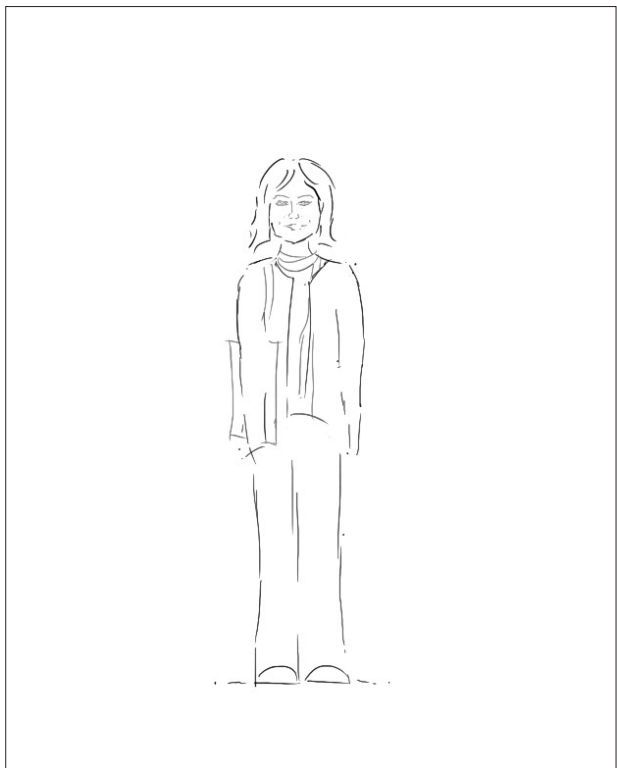
Leo, 30, Journalist

Background: Leo is a journalist who moved to Norway one year ago and has used a wheelchair for twelve years due to an injury. While he has a sharp, positive mindset and feels capable, he is highly dependent on caregivers and his partner for daily tasks. He wants to be more independent, but physical barriers make it difficult to manage everyday tasks and activities on his own. He lives with his partner, Emma (32), who works as a researcher, and they both value an inclusive, accessible living environment.

Needs: Fully accessible housing design that allows him to be more independent (step-free entries, wide doorways, and adaptable kitchen and bathroom solutions, barrier-free access to outdoor and common spaces). Social engagement and a sense of belonging. A comfortable home office setup.

Challenges: Physical barriers, lack of access to inclusive social spaces leading to occasional isolation, frustration with unnecessary hindrances, and the challenge of navigating complex administrative processes to make necessary housing modifications.

Persona 5 | Profile



Tina, 28, Architect

Background: Tina is an architect living in the building with her partner (34), who runs his own innovation company. Both are creative souls with an entrepreneurial mindset and a shared interest for art and music. Tina enjoys cooking and spending time outdoors, while her partner focuses more on his work and creative projects. They also have a dog. While they plan to have children in the future, the current living situation is not suitable due to steep access, stairs, and a lack of safe or pleasant spaces for kids to play.

Needs: A well-designed home that optimises space efficiency by addressing narrow passageways and poor layout issues. Access to functional and inviting outdoor common spaces. A safe and family-friendly environment with improved accessibility to accommodate future children.

Challenges: Poorly designed layout. Uninviting outdoor areas and lack of private balconies limit personal and social use. Steep access, stairs, and the lack of soft materials make the building unsuitable for future children, offering no safe or pleasant play environment.



Site Analysis

This site analysis is shaped by PD thinking and participatory insights. Instead of using a conventional site analysis based on technical data, it is focused on insights gathered through interviews, workshops, and the five developed personas. The analysis considers how different users might navigate and experience the site based on their physical, sensory, and emotional perspectives, including how the terrain, climate, and spatial layout either support or exclude their needs.

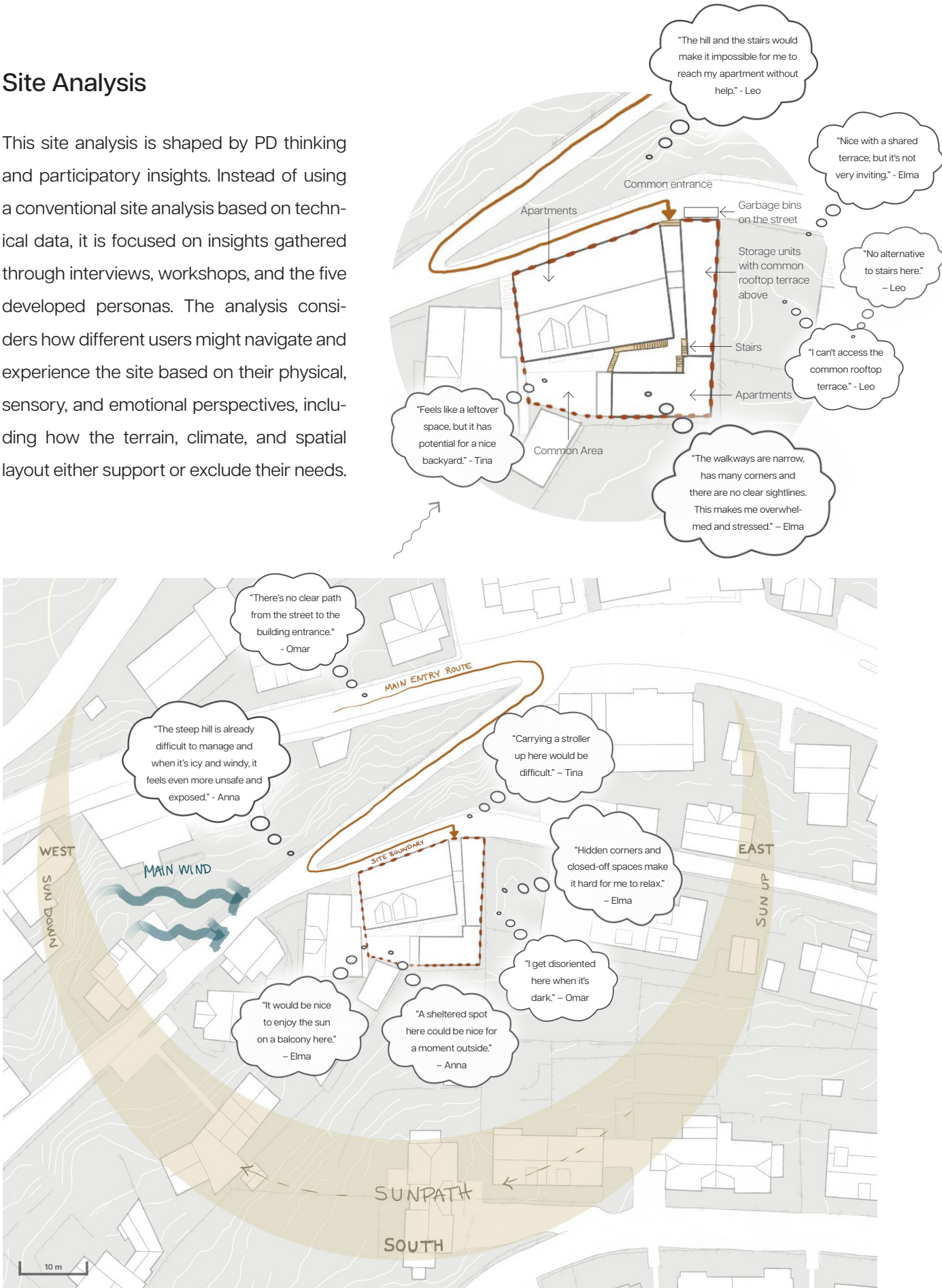


Figure 13. Site analysis overlay on situation plan (1:750 @ A4). Produced by author.

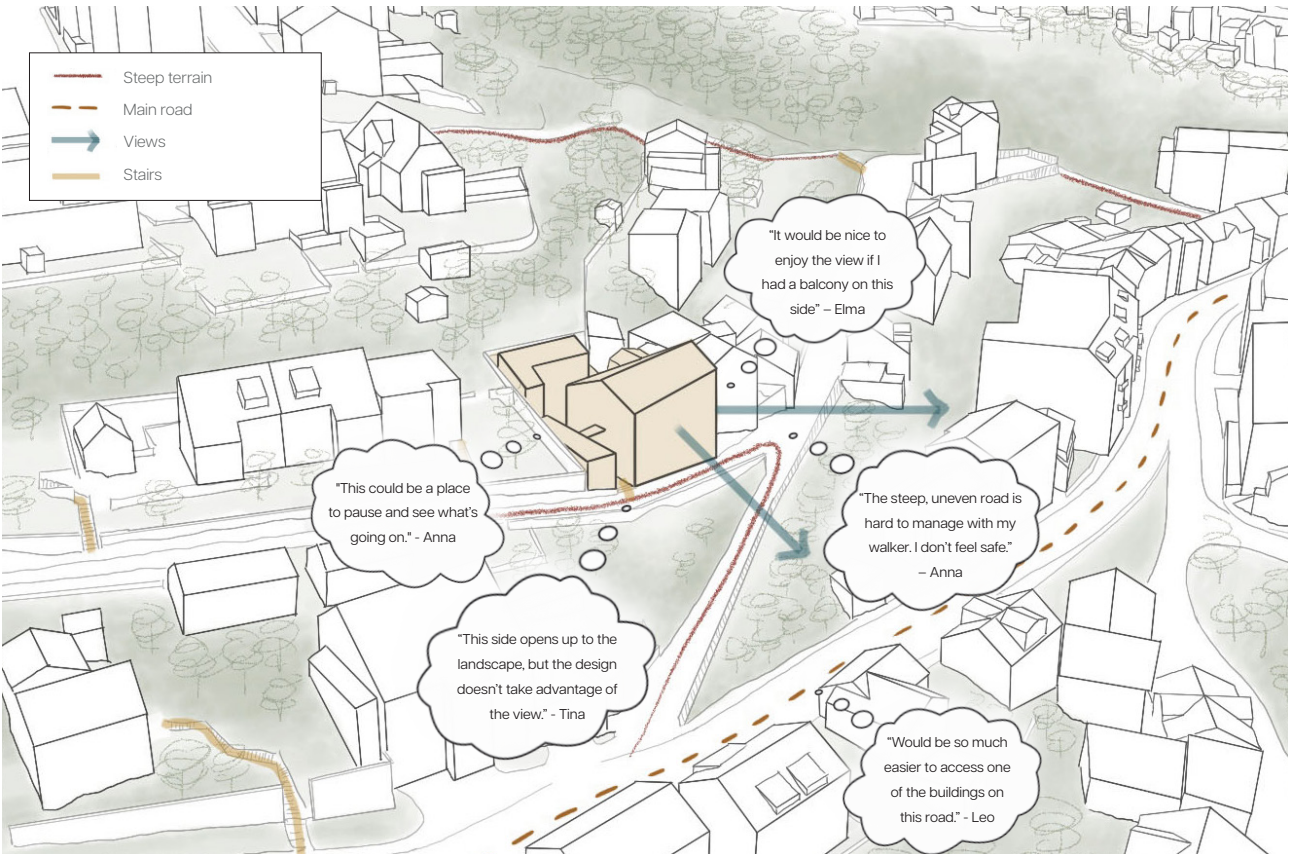


Figure 14. Site Context with analysis overlay. Produced by author.

This site analysis does not aim to present a neutral or universal reading of the space, but rather to uncover how the site is experienced differently depending on who moves through it. By combining environmental conditions with insights from participatory work and persona-based reflections, the analysis reveals challenges and forms of exclusion that are often overlooked. These issues particularly affect those with limited mobility, visual impairments, or small children. These perspectives deserve to be heard and considered, and they offer a clear direction for reimagining the site as a more inclusive, adaptable, and caring environment. A place where diverse people can feel at home and supported in their everyday lives.

Existing Building Condition



Figure 15. Images of critical areas with the existing building condition. Taken by author.



Figure 16. Existing plans with zoning overlay. Drawing underlay from Hal Arkitekt (2000).



Figure 17. Images of critical areas with analysis overlay. Produced by author.

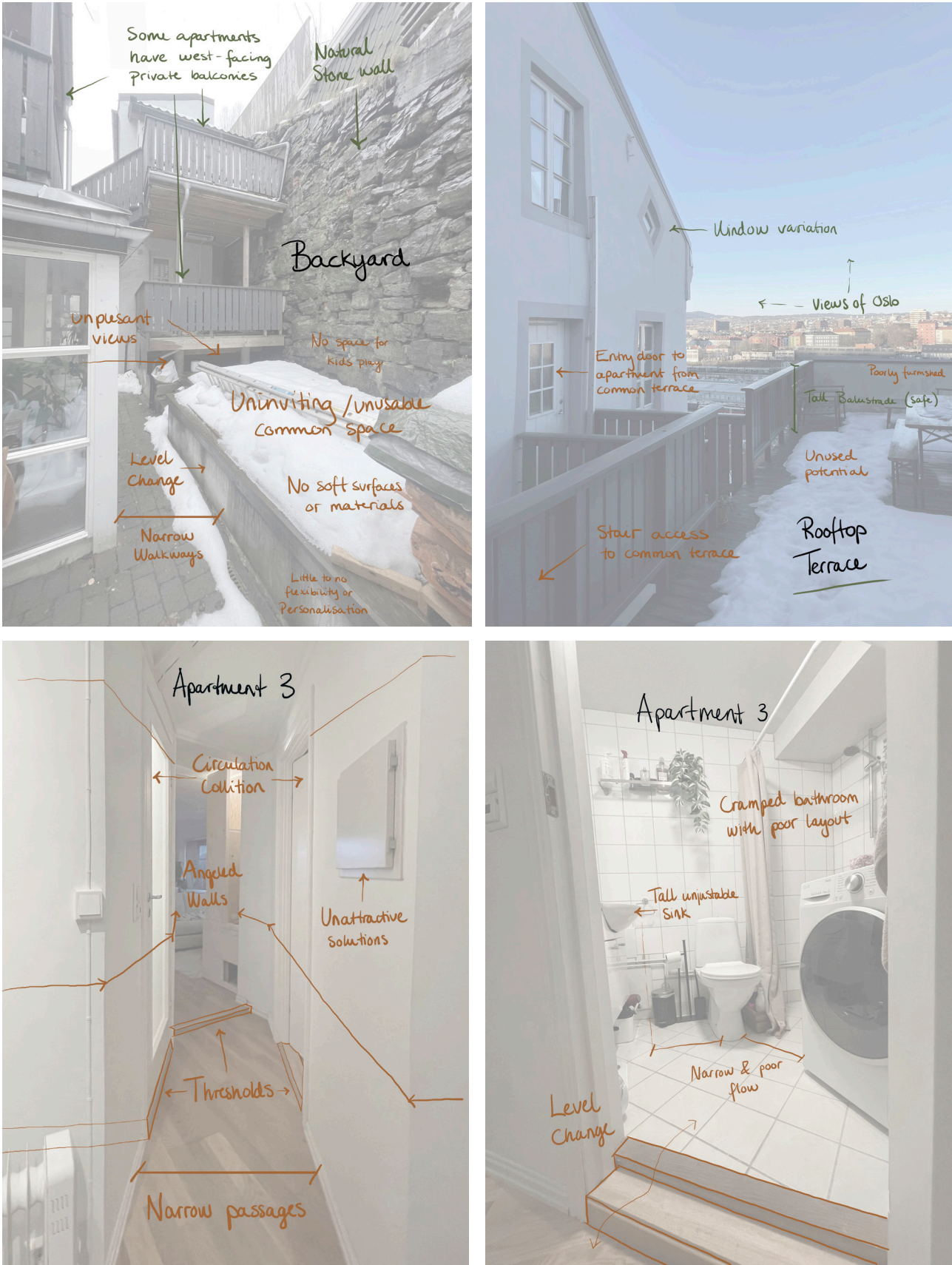
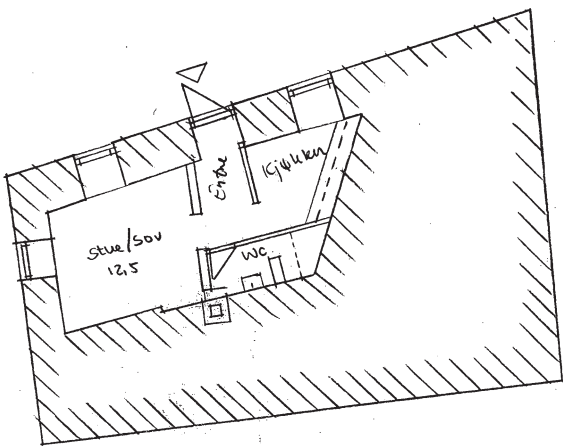
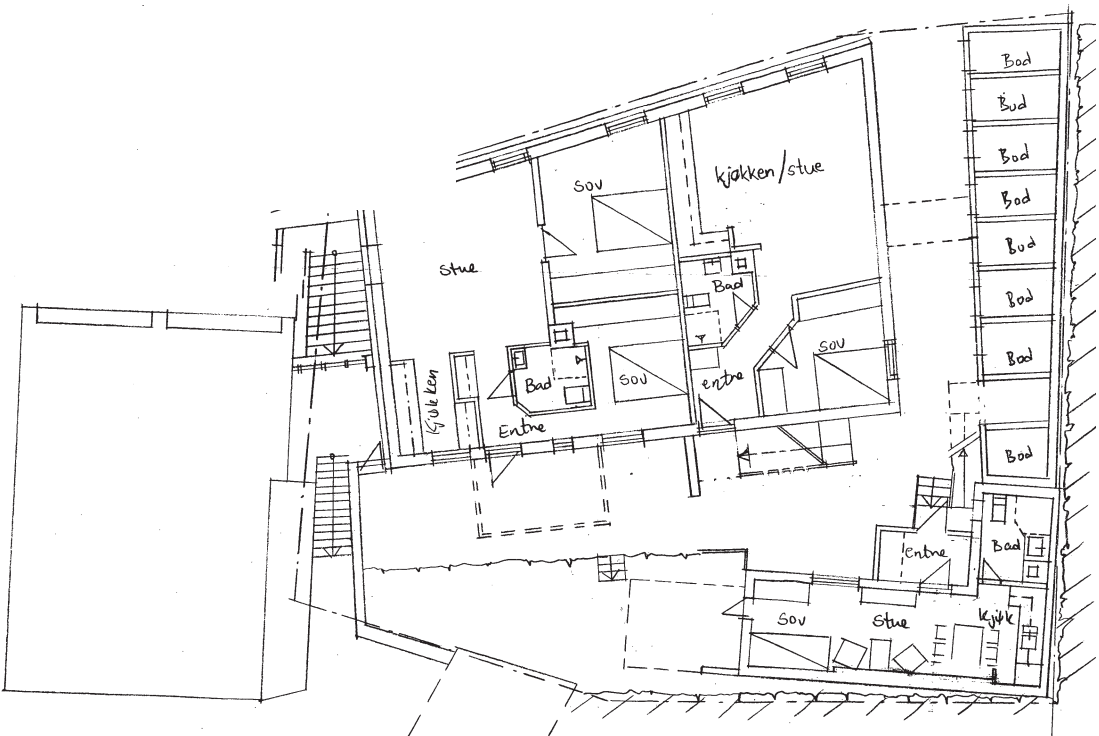


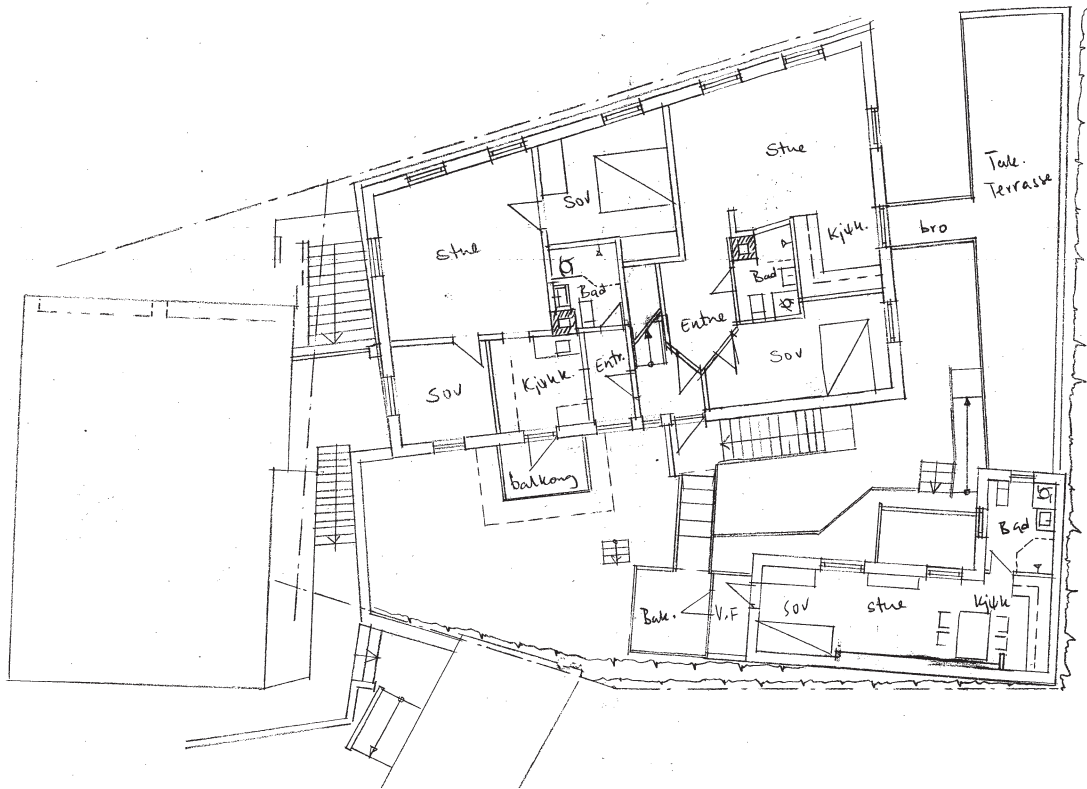
Figure 18. Images of critical areas with analysis overlay. Produced by author.



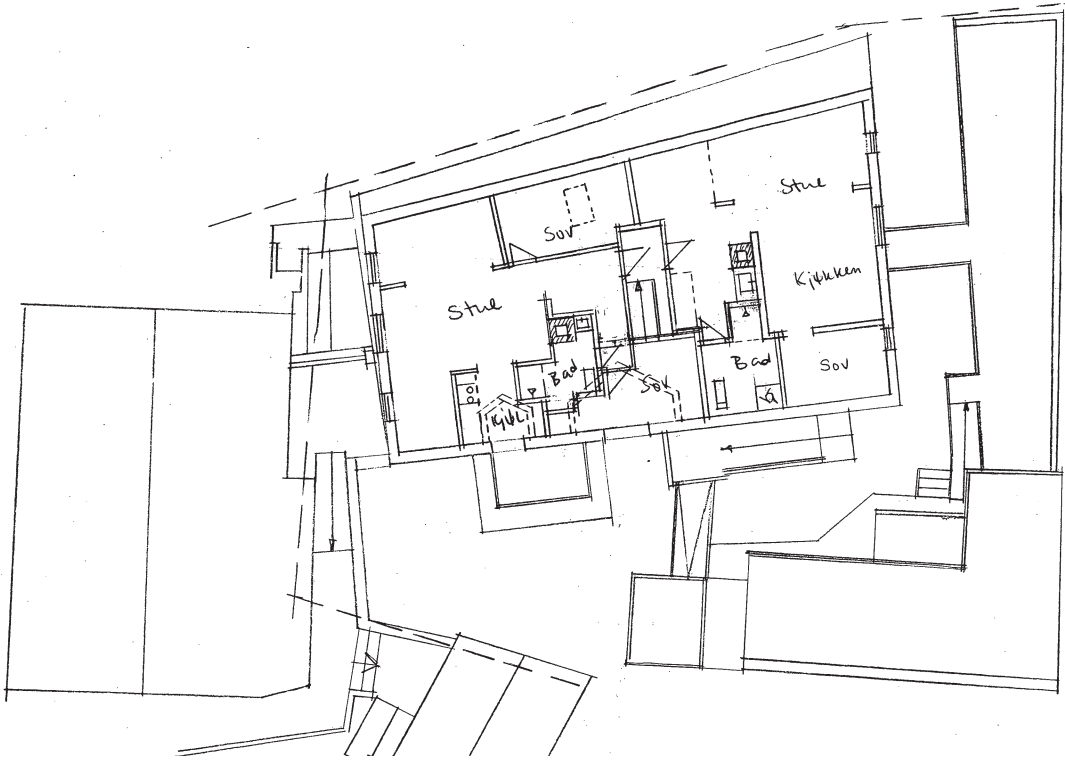
Basement Floor Plan 1:200. (Hal Arkitekt, 2000).



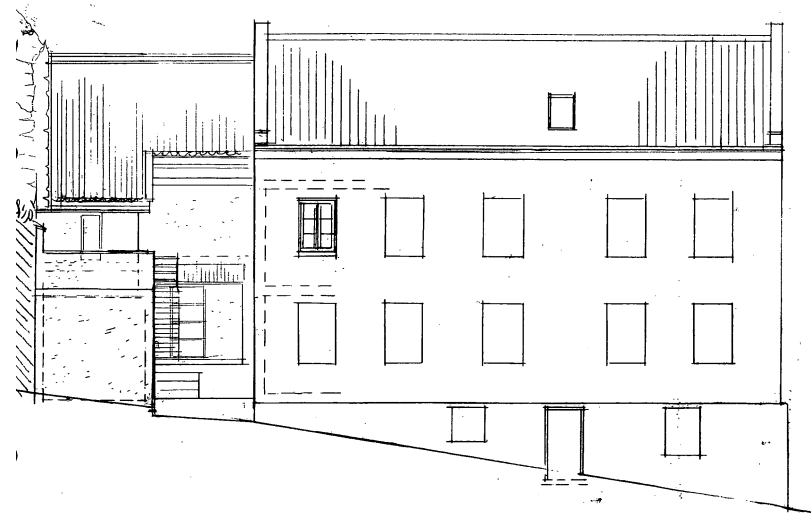
Ground Floor Plan 1:200. (Hal Arkitekt, 2000).



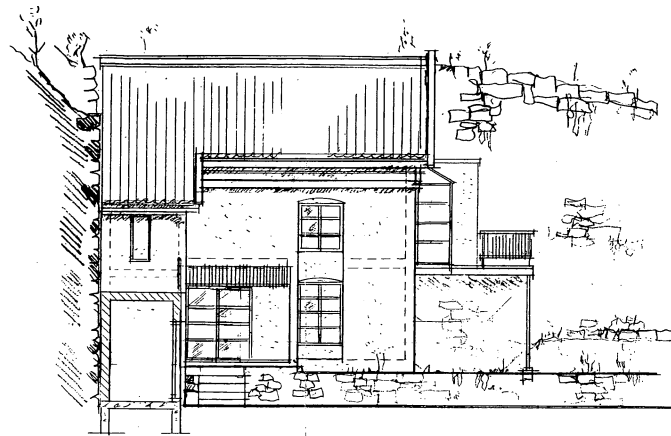
First Floor Plan 1:200 (Hal Arkitekt, 2000).



Second Floor/Loft Plan 1:200 (Hal Arkitekt, 2000).



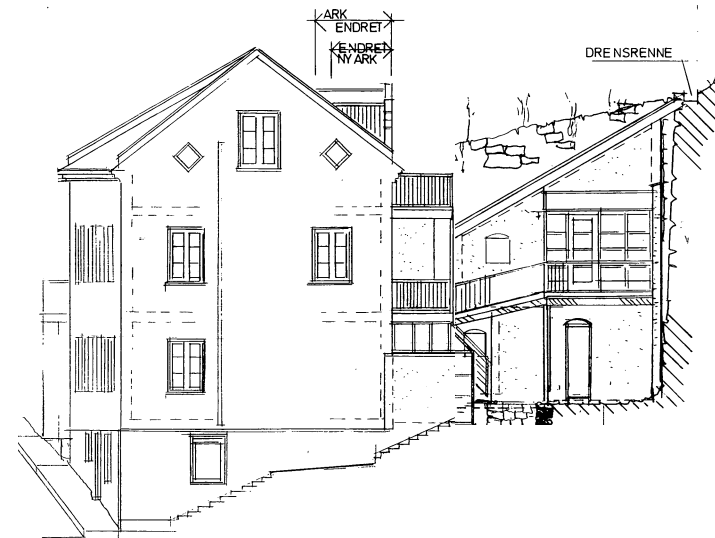
North Facade. 1:200 (Hal Arkitekt, 2000).



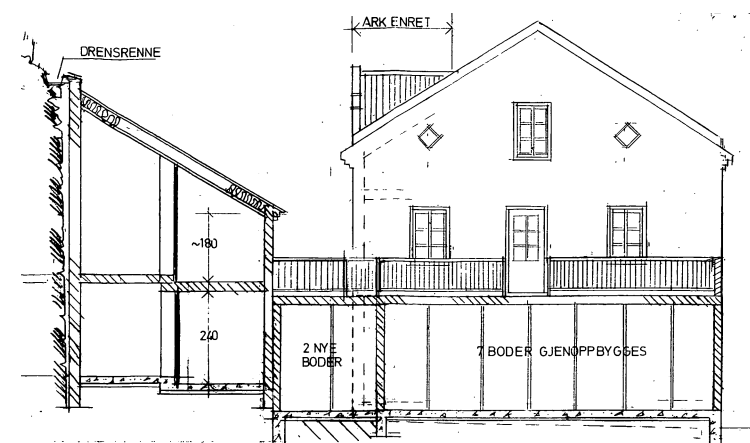
North Facade - Back Building. 1:200 (Hal Arkitekt, 2000).



South Facade - Main Building toward backyard. 1:200 (Hal Arkitekt, 2000).



West Facade. 1:200 (Hal Arkitekt, 2000).



East Facade & Section Back Building. 1:200 (Hal Arkitekt, 2000).

Narrative Current Building Condition

The current condition of the building at Ribbungga-ta 19 presents a number of everyday challenges for its residents. Although it functions as a place to live, the experience of moving through and living in the building reveals a lack of accessibility, comfort, and sense of inclusion. This becomes especially apparent when seen through the eyes of the residents.

For Anna, the steep hill leading up to the building is exhausting and unsafe, especially in the winter months. The cracked asphalt and uneven ground surfaces create a risk of falling, which makes it difficult for her to feel safe leaving her home on her own. Arriving at the entrance, she struggles with the heavy, non-automated apartment door, and the narrow passageways feel tight and disorienting. The lack of inviting, accessible outdoor spaces adds to her sense of isolation, and uncomfortable stairs between levels make it difficult for her to engage with her neighbours.

Omar finds the daily routine with his daughter, Amira, increasingly difficult. Navigating uneven terrain with a five-year-old while dealing with periods of low vision turns even simple tasks like taking out the garbage or getting to the storage room into stressful experiences. He often stumbles over thresholds and finds level changes challenging, especially when his vision is reduced. Messy layouts with many corners and a lack of clear sightlines can make him feel stressed and disoriented, making it harder to navigate and find his way. In the evenings, poor lighting in the outdoor circulation areas adds to the difficulty and makes him feel unsafe when navigating in the dark. The lack of safe play areas means Amira is often kept indoors, and there are few opportunities to connect with other families. Omar also misses having a private balcony where he and Amira could enjoy fresh air together or a quiet moment to himself.

For Elma, the space limits not just how she lives, but how she expresses herself. Her small apartment has poorly placed walls, many corners, and narrow circulation paths, offering no room for a proper workspace and little opportunity for organisation or overview. The poor layout and lack of clear sightlines make it difficult for her to relax or focus, and everyday movement through the space often feels overwhelming. The building's cold black and white atmosphere and lack of shared spaces that allow for creativity or personalisation make it difficult for her to feel at home. Common areas are cluttered and confusing and without access to open and inviting outdoor areas to gather with friends or find inspiration, she often feels disconnected, overstimulated, and uninspired. Poor lighting outside, especially in the evenings, makes her feel uncomfortable and unsafe. For someone who relies on spatial clarity to feel safe, the current environment feels overwhelming and unpredictable.



Leo faces constant physical barriers. Every part of the building, from the steep hill and entry stairs to the heavy doors and lack of automated access, challenges his autonomy. He relies on his partner and caretaker for many basic tasks that an inclusive environment should support. Navigating narrow passages, tight corners and uneven terrain to reach the garbage or storage adds daily frustration, and the inaccessibility of shared areas exclude him from participating in social life. Even his own balcony, meant to offer a private outdoor escape and a breath of fresh air, is unusable due to a level drop and high threshold just outside the door that he cannot cross independently. Inside the apartment, the kitchen is another reminder of what he cannot access. The counters are too high, making it difficult to prepare food without tiring his arms, and there is no open space beneath them to allow his wheelchair to roll underneath. The space reminds him, constantly, of what he cannot do.

As for Tina, the resident architect, living in the building has only made her more aware of its architectural limitations. She realises how deeply inaccessible the environment is for neighbours like Anna and Leo, who face daily challenges just moving through the space. While she and her partner live relatively comfortably now, Tina knows that if they decide to have children, the building would present several difficulties, such as carrying a stroller up the steep hill and stairs, as well as the lack of safe or soft outdoor environments for play. Even now, their balcony faces an uninviting common backyard, and the poor internal layout makes the space feel inefficient.

Each of these residents, with their different needs and life situations, shares a common experience: the current condition of the building does not support the way they want to live. It does not support everyday routines and offers little to encourage a sense of belonging or community. These lived experiences form the foundation for reimagining more inclusive, adaptable homes that enhance wellbeing and support different ways of living and being.

Chapter 4 | Design Strategies

This chapter presents the design strategies that have been formed by the framework, specific site, and people involved. As such, it represents the core ideas and aims of the thesis. These strategies serve as guidelines for transforming a housing development, with the aim of providing a practical example of PD and accessibility.

Design Strategies

This thesis argues that accessibility in architecture must go beyond meeting minimum requirements. It must be plural, participatory, and deeply human. Drawing from van Zeeland’s seven pluriversal design principles, this thesis introduces five physical design strategies that respond not only to theory, but real lives, real voices, and a real site.

These strategies are rooted in the participatory work conducted with people of diverse abilities, needs, and backgrounds. They are shaped by narratives gathered through interviews and workshops, and they are directly applied in the speculative transformation of an existing housing development at Ribbungata 19 in Oslo.

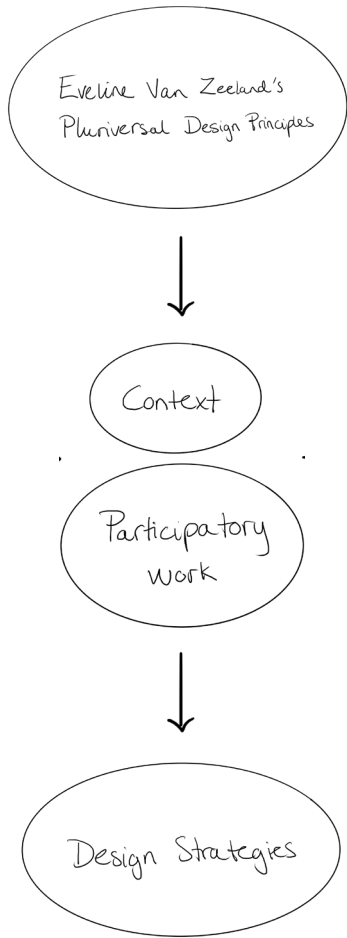
Each strategy offers a specific way to approach design, including how to observe, respond, and intervene. Together, they create a PD framework that:

- Prioritises accessibility as a shared value
- Supports both community and autonomy
- Adapts to different bodies, lives, and temporalities
- Embraces the complexities of site, context, and everyday experience

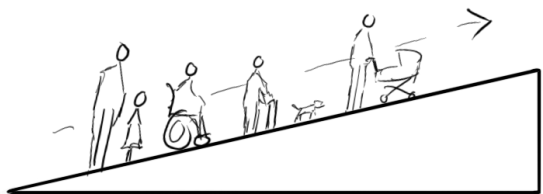
These pages present five design strategies where each one includes:

1. Purpose - the spatial intention
2. Why - the human insight behind it
3. Connection to pluriversal principles - the pluriversal principle it draws from and contributes to

In this way, theory and practice meet, informing and shaping one another throughout the design process.



1. Radical Access

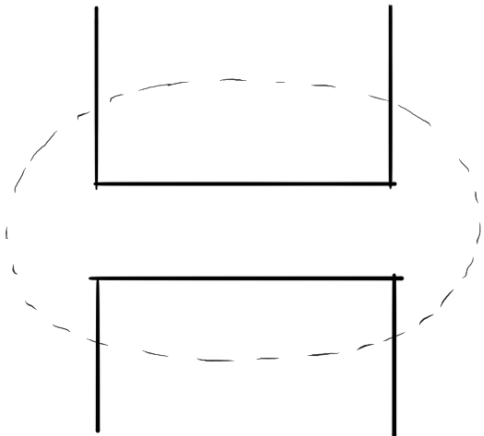


Purpose:
Redefine access as a fundamental spatial value and architectural principle, not an afterthought or add-on.

Why:
The challenges Leo and Anna experience, such as steep terrain, staircases, and reliance on others, highlight that access is fundamentally about spatial justice, not just fulfilling regulatory requirements.

Connection to Pluriversal Principles:
This approach reflects radical empathy and a delinking from dominant standards, treating access as essential to inclusive and plural living, and as a foundation for coexistence rather than a secondary concern.

2. Spaces Between

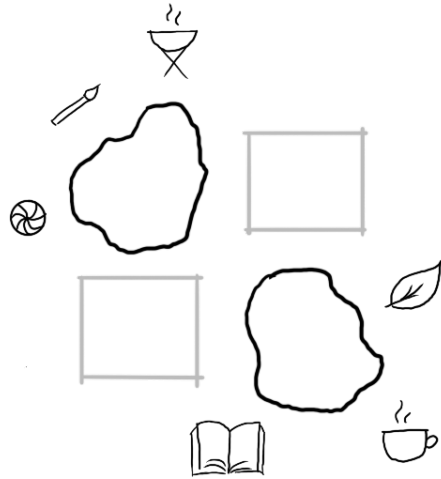


Purpose:
Create transitional semi-private zones that support informal social interaction without demanding participation.

Why:
Omar and Tina want moments of social contact, but also privacy. Sometimes shared hallways can be too anonymous, and full commons too public. There’s a need for buffer zones that are subtle in-between spaces where social encounters can happen naturally, without pressure.

Connection to Pluriversal Principles:
Rooted in physical encounters and an understanding of diverse narratives, these spaces between respond to varying social practices and cultural differences, supporting everyday coexistence and diverse ways of living together.

3. Plural Commons



Purpose:

Reimagine shared common areas as flexible spaces that embrace difference and connection. They allow for multiple forms of use and belonging, while offering the freedom to engage or withdraw on one's own terms.

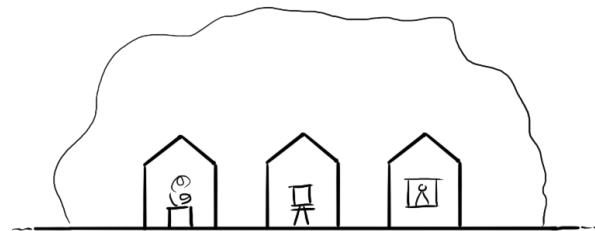
Why:

Residents expressed desires for gathering, play, relaxation, and expression, though not all in the same way or at the same time. The commons must therefore be plural: inviting yet optional, flexible yet intentional.

Connection to Pluriversal Principles:

Reflects participatory practice and reimagination. These shared spaces don't force interaction, instead, they provide varied opportunities for connection, accommodating diverse worldviews, lifestyles and emotional needs.

4. Personal Territories



Purpose:

Enable residents to influence their surroundings, adapting and personalising spaces to meet their needs, both indoors and outdoors.

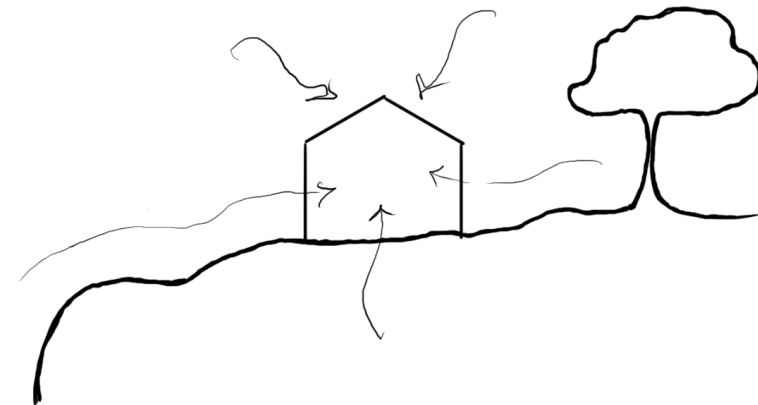
Why:

Not everyone desires social interaction all the time. Elma may need space to express her creativity, while Omar needs moments with his daughter. Leo or Tina might enjoy engaging with neighbors but also want solitude to recharge. Residents should have the opportunity to retreat to private spaces, like balconies, for quiet moments with a book or a coffee, while also having the freedom to join communal areas when they feel like it.

Connection to Pluriversal Principles:

Reflects radical empathy and narrative inclusion by acknowledging that privacy and personalisation are fundamental to human dignity. It recognises that spaces should not only serve functional needs but also support self-expression, allowing individuals to shape their environment in ways that reflect their unique identities and experiences.

5. Site-Responsive Design



Purpose:

Work with the site, the building, and the people, adapting the design to the specific context, lived experiences, and changing needs.

Why:

The steep hill, stairs, dark basement apartment, and overall layout of the existing building present common challenges found in many buildings. However, by viewing these challenges as opportunities, responsive and meaningful design interventions can be created. This approach shows how existing buildings can be transformed, working with the site's constraints and adapting spaces to the specific context.

Connection to Pluriversal Principles:

This strategy focuses on harnessing knowledge and delinking from standard frameworks, instead offering responsive design informed by its context and users.

Chapter 5 | Design Proposal

This chapter presents the final speculative design proposal, developed through a participatory design approach to reimagine the transformation of the existing housing development at Ribbungata 19 in Oslo. The chapter starts with two exploded iso perspectives illustrating the building's volumetric transformation by showing what has been removed and what has been added. This is followed by an overview of how and where the design strategies from the previous chapter have been applied. The proposal is communicated through drawings, visualisations, and text, and concludes with a narrative illustrating how the personas experience the improved building post-transformation.

Transformed Spaces | Removed Parts

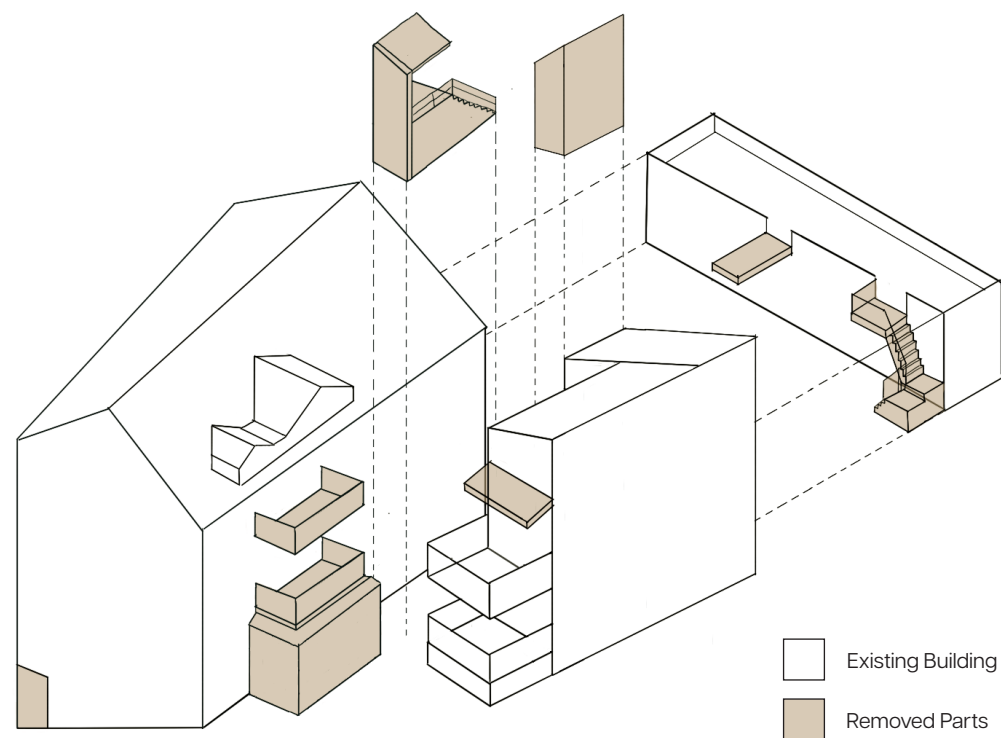


Figure 19. Exploded Iso Perspective showing removed building volumes. Produced by author.

These exploded iso perspective drawings illustrate the volumetric transformation of the existing building. The drawing on this page highlights the elements that have been removed to enable improved accessibility, spatial clarity, diversity, and opportunities for shared spaces. The drawing on the next page shows the additions and extensions that have been made

as a response to the design strategies developed in the previous chapter. Together, they present a clear overview of the key architectural interventions that reimagine the building as a more inclusive, adaptable, and pluriversal living environment. The following pages present a closer look at how each design strategy has been applied to the project.

Transformed spaces | Added Parts

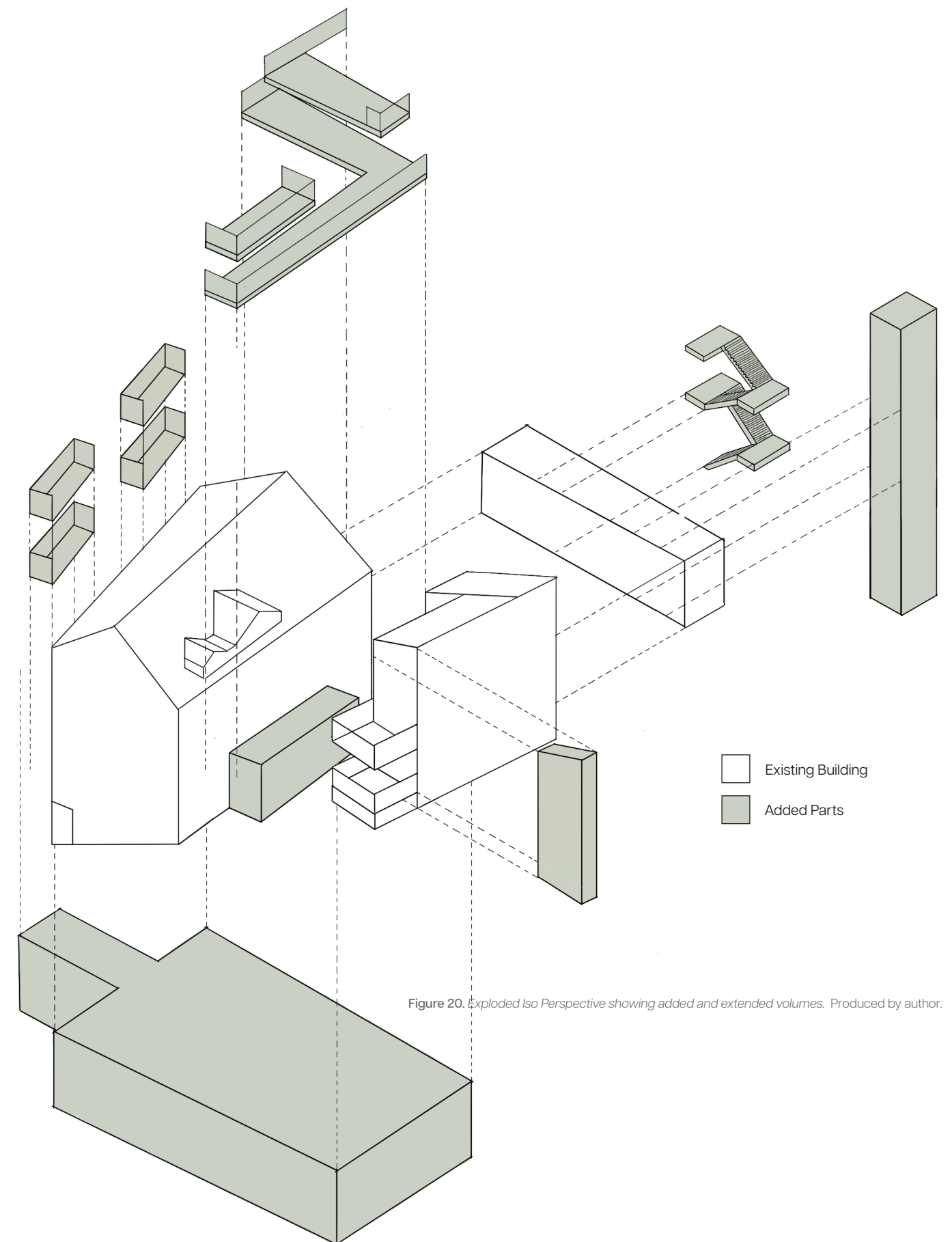


Figure 20. Exploded Iso Perspective showing added and extended volumes. Produced by author.

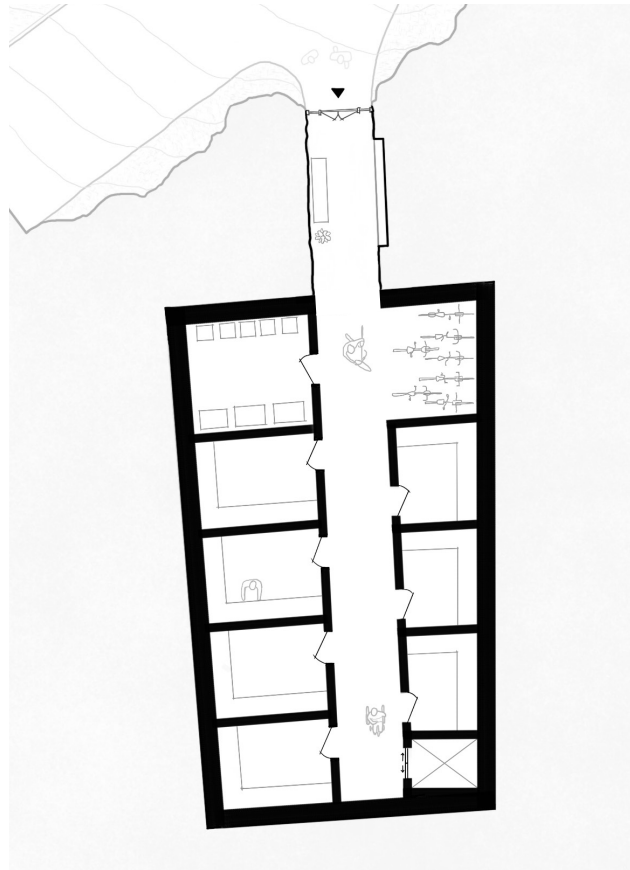


Figure 21. Entrance Floor Plan 1:250. Produced by author.

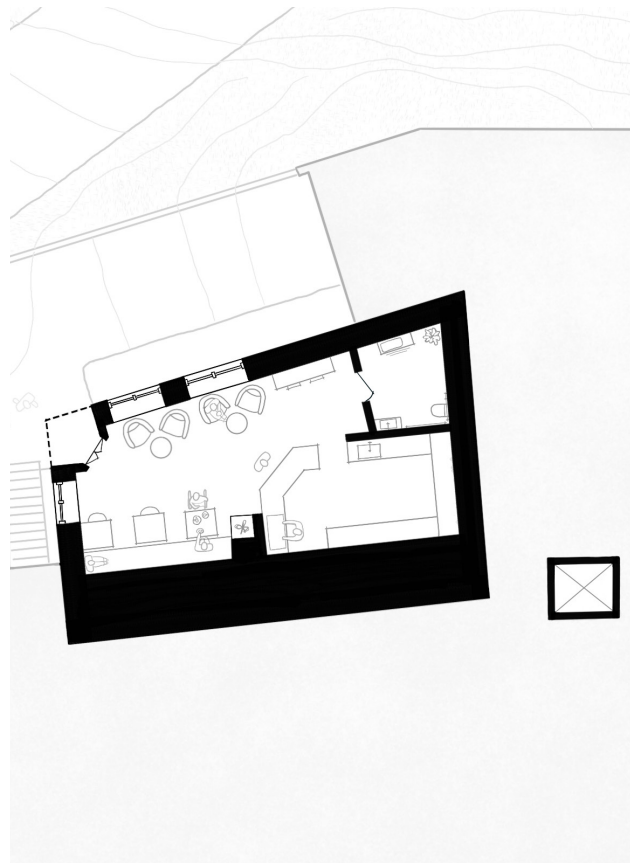


Figure 22. Basement Floor Plan 1:250. Produced by author.

1. Radical Access

- New accessible entrance built into the rock face from the street below. This street is larger and replaces the need to walk up the steeper, uneven roads.
- Lift access to all floors from the new entry level.
- Entrance level includes bicycle parking, garbage room, mailboxes, storage units, and a resting spot.

2. Spaces Between

- Resting spots and pauses along circulation paths for socialising, sitting, and observing.

3. Plural Commons

- Café replaces a formerly dark and disconnected basement apartment, becoming an inviting space for taking a break, casual encounters, and social gatherings at street level. It also serves as a community meeting point in the neighborhood.

5. Site-Responsive Design

- Entrance floor cut into the rock face/hillside, designing with the topography of the site. This design tactic provides access from the larger street below as well as lift access and other functions.
- Café created from a challenging basement unit and reconnected with the outside.
- Warmer materials like wood and natural stone are introduced to soften the cold, white-rendered concrete of the original building. These materials also reflect the local context and neighborhood, integrating the design with its surroundings.

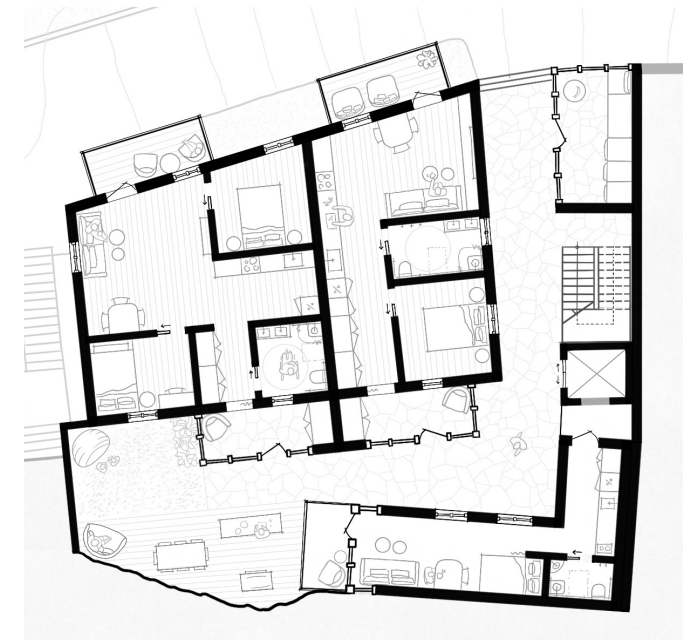


Figure 23. Ground Floor Plan 1:250. Produced by author.

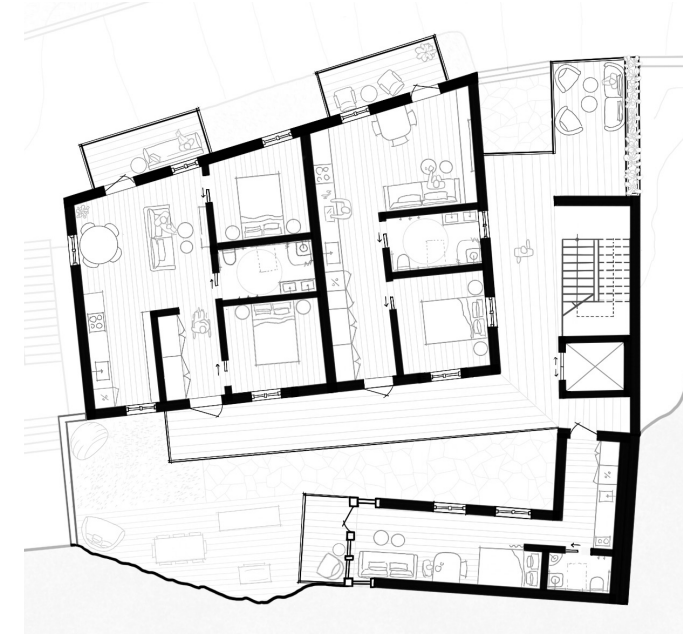


Figure 24. First Floor Plan 1:250. Produced by author.

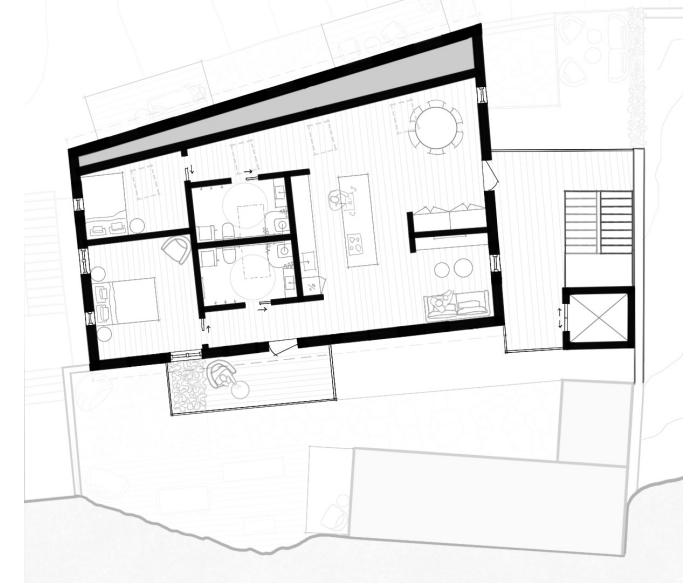


Figure 25. Second Floor Plan 1:250. Produced by author.

1. Radical Access

- Removal of stairs, thresholds, and level changes throughout.
- Parts removed to eliminate narrow passages and confusion.
- Circulation platforms to all apartments from lift and one common staircase.

2. Spaces Between

- Wooden circulation platforms outside between the apartments act as extra porches or shared in-between spaces.
- Spatial layering between public, shared, and private zones.

3. Plural Commons

- Shared rooftop with greenery for community interaction or quiet resting.
- Backyard with:
 - A soft-surface play area (grass) for children or other informal activity.
 - Common outdoor kitchen.
 - Pathways in natural stone between buildings.
 - Existing rock wall preserved as natural feature.
 - Wooden wall surface designed as an open canvas for creative expression. Available for contributions such as a mural by Elma, but intended to remain adaptable for future residents.
- Shared laundry, lift and firestair placed in former storage building.

4. Personal Territories

- Every apartment includes a private balcony (added where missing).
- Apartments have been redesigned and offers varied sizes and layouts to suit diverse lifestyles and change over time.
- Folding, wall-mounted tables to support flexibility in small spaces.
- Two small, inaccessible studios merged into one larger loft-style unit for co-living or families.

Site Plan



Site Plan 1:100. Produced by Author

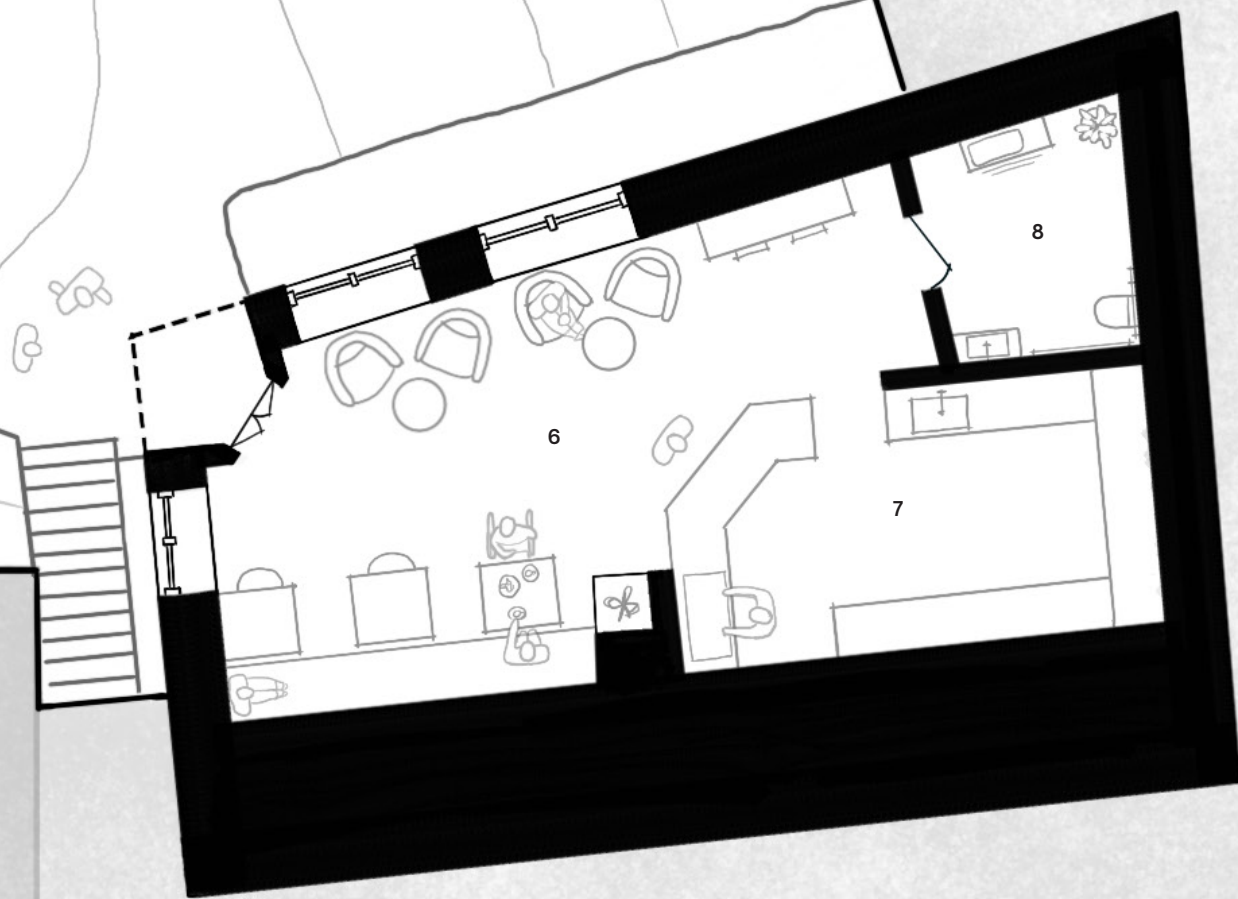
Entrance Floor Plan



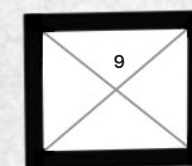
- 1. Entrance Hall
- 2. Garbage Room
- 3. Bicycle Parking
- 4. Storage Units
- 5. Elevator

Entrance Floor Plan 1:100. Produced by Author

Basement Floor Plan



- 6. Café Seating Area
- 7. Café Service Area
- 8. WC
- 9. Elevator



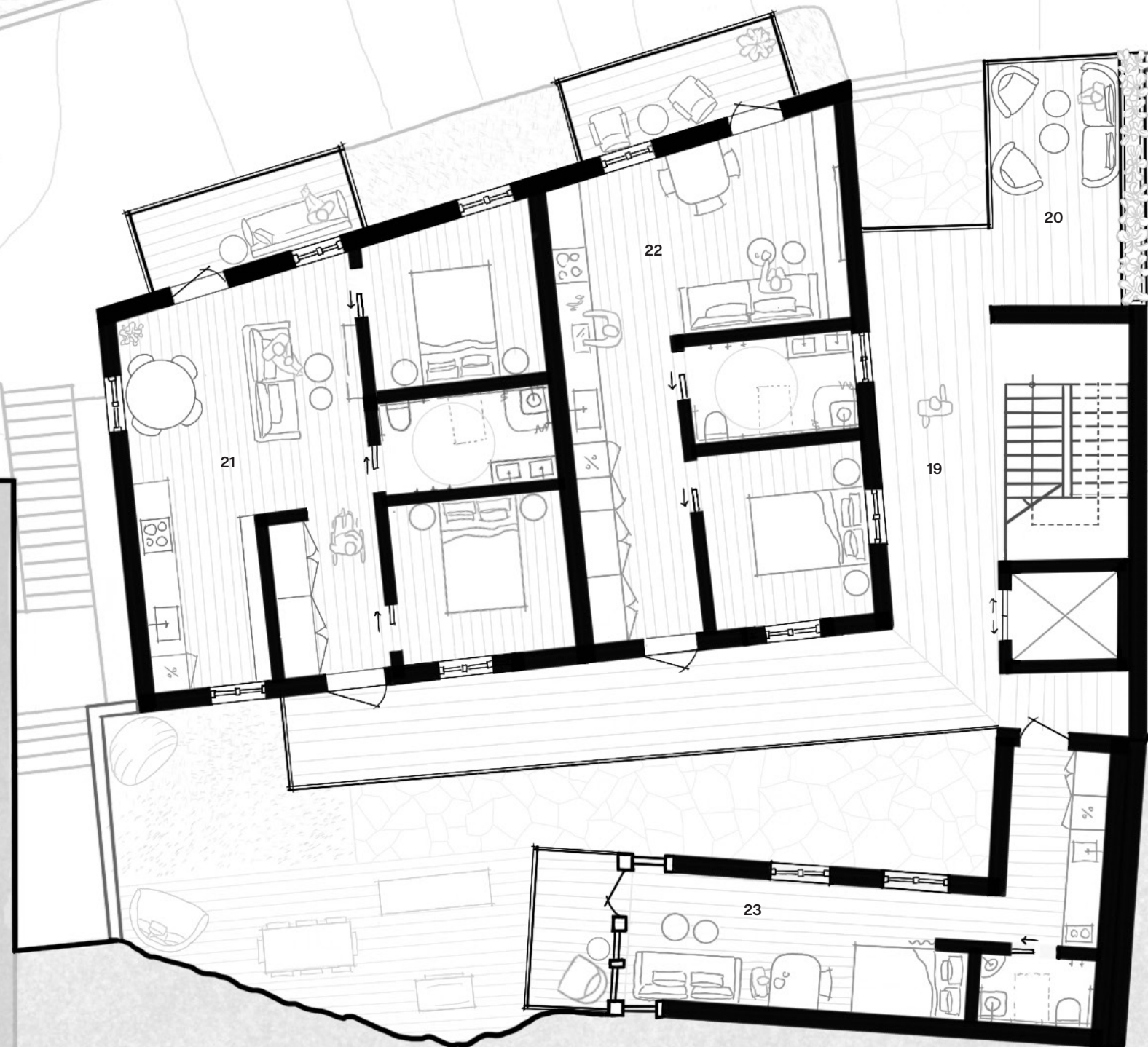
Ground Floor Plan



- 10. Circulation
- 11. Shared Laundry
- 12. Staircase/Firestair
- 13. Elevator
- 14. Apt 01
- 15. Apt 02
- 16. Apt 03
- 17. Backyard Kitchen & Dining
- 18. Backyard Soft Play

Ground Floor Plan 1:100. Produced by Author

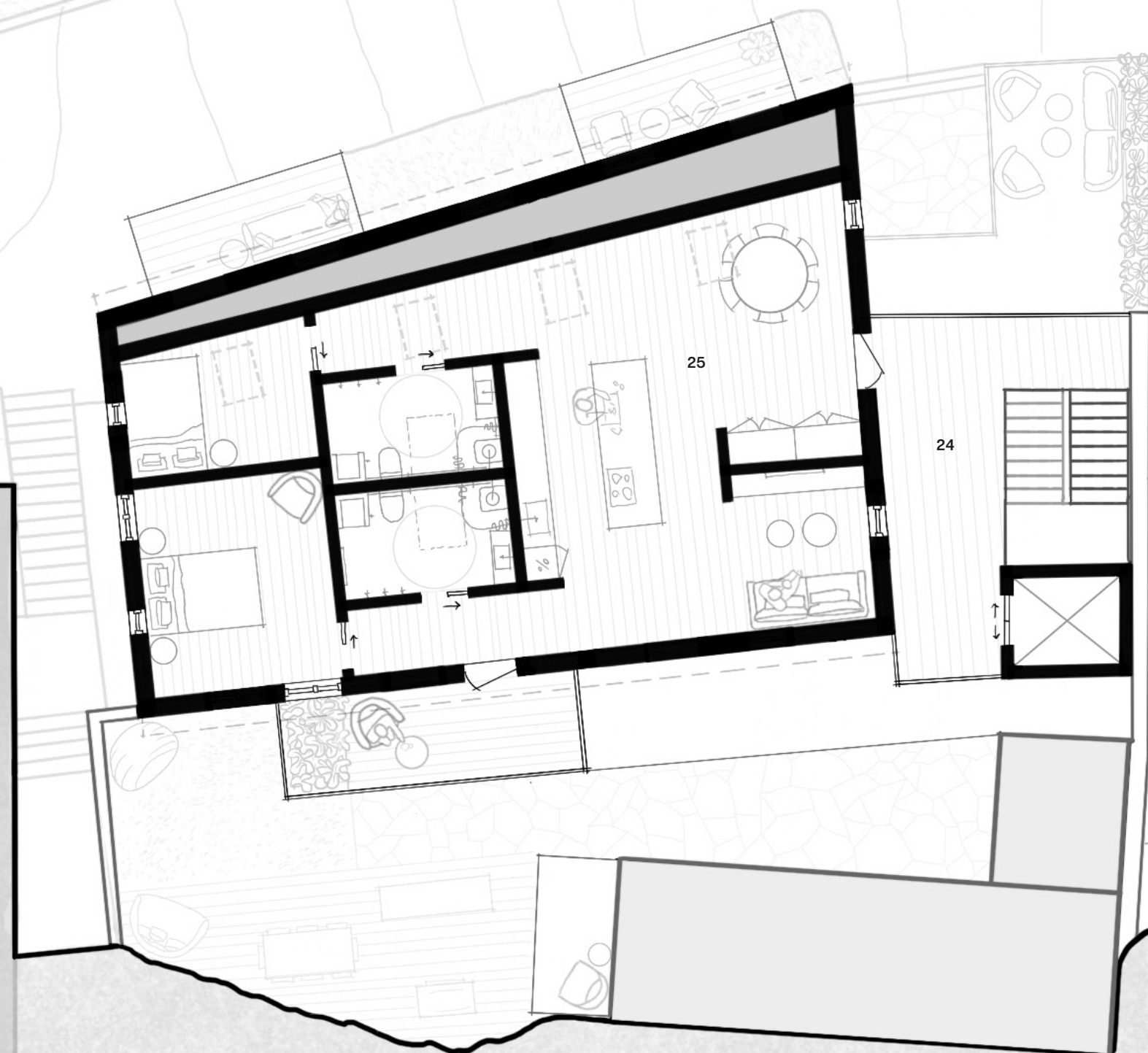
First Floor Plan



- 19. Circulation Platform
- 20. Shared Rooftop
- 21. Apt 04
- 22. Apt 05
- 23. Apt 06

First Floor Plan 1:100. Produced by Author

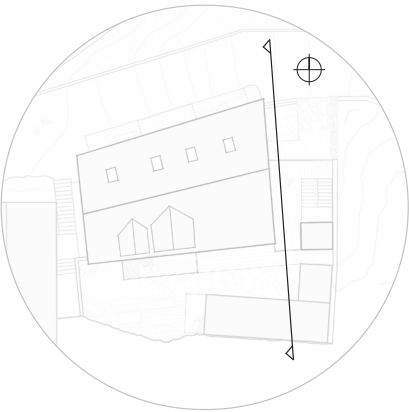
Second Floor Plan



- 24. Circulation Platform
- 25. Apt 07

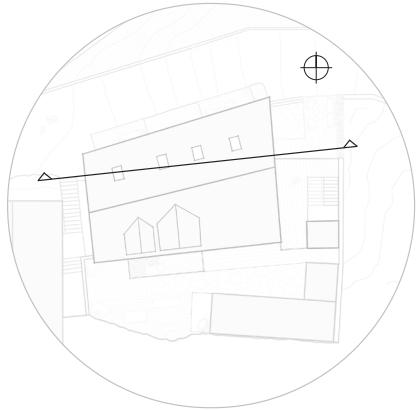
Second Floor Plan 1:100. Produced by Author

Section A-A



- 1. Entrance Hall
- 2. Circulation Platform First Floor
- 3. Circulation Platform Second Floor
- 4. Apt 03
- 5. Apt 06

Section B-B



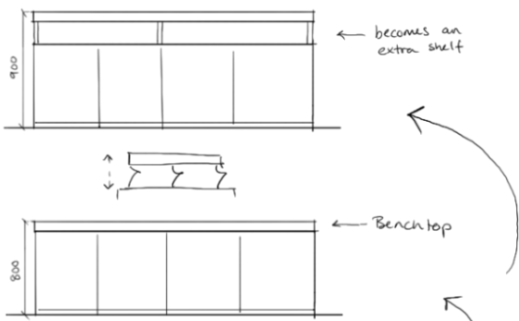
- 1. Entrance Hall
- 2. Storage Units
- 3. Café Seating Area
- 4. Café WC
- 5. Apt 01 Living Room
- 6. Apt 01 Bedroom
- 7. Apt 02 Kitchen & Living
- 8. Circulation Ground Floor
- 9. Shared Laundry
- 10. Apt 04 Living Room
- 11. Apt 04 Bedroom
- 12. Apt 05 Kitchen & Living
- 13. Shared Rooftop
- 14. Apt 07 Bedroom
- 15. Apt 07 Hallway & Dining

Section B-B 1:100. Produced by Author

Design Details from Participatory Work

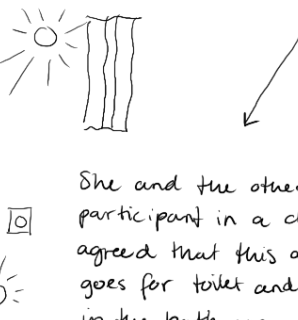
This page presents detailed insights that emerged through the participatory process. While these aspects are central to the thesis focus, their level of detail falls outside the scope of this proposal. However, if the project was to move forward, details like these would be essential, as they directly impact the daily lives of the residents. The sketch is included to acknowledge their value and highlight the depth and specificity of participatory input showcasing lived experiences.

Participant in a chair expressed struggles with creaking on high benchtops. That this is tiring for her arms.



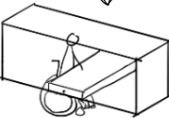
Possible solution with adjustable benchtop to reach the right height depending on the user and/or changes over time

Participant with low vision expressed the need for good lighting, while participant with ADHD and trauma highlighted the importance of being able to control the light, both natural light with curtains as well as the artificial lights with a dimmer function.

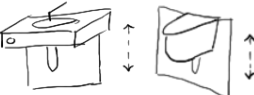


She also expressed the need for space under the counter so the counters need to be able to be taken out.

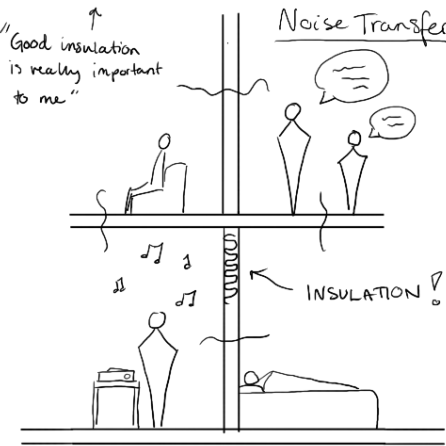
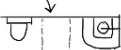
This can also be drawers that you can pull out to get a counter



Participant with ADHD and Trauma described high sensitivity to noise between apartments and to the outside.



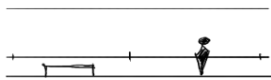
They also expressed the need for chair space next to the toilet and the shower/or between in order to use them independently.



This makes her feel overstimulated, stressed, anxious and at times unsafe.

Participant with low mobility (A) and participant with low vision (B) shared the same need for handles along circulation. For participant A, the need was mostly for support and rest, while for Participant B it would be beneficial for wayfinding.

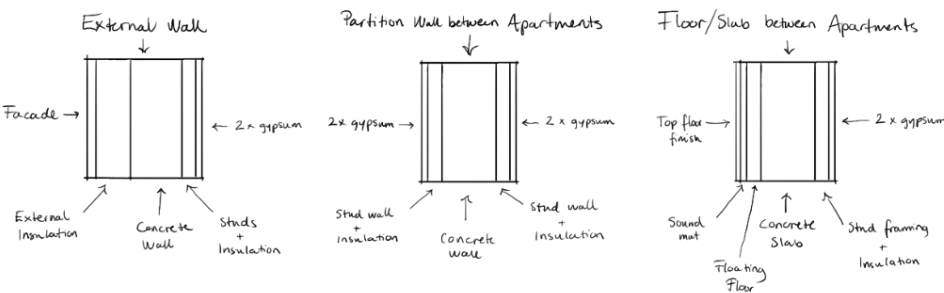
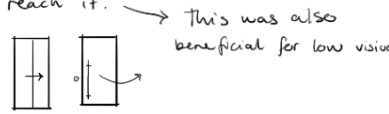
Many in the group also shared the need for handles (for support/wayfinding) throughout. Participants with low mobility expressed the need in the bathroom.



However, they strongly agreed that they didn't want their home to look like a hospital.

Participant in a chair shared frustration over heavy, non-automated doors that was impossible to open.

- Sliding doors work better in smaller spaces - as interior doors.
- Other doors should be automated.
- long handles on doors would also help - so that different people can reach it.



Perspectives







Before



After



Before



After

Narrative Transformed Building

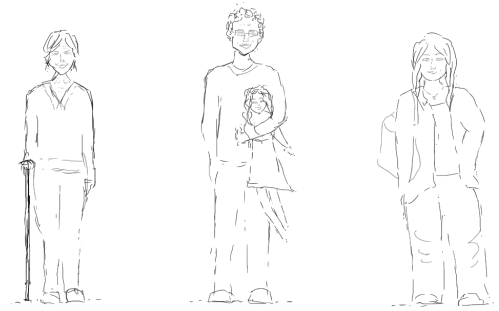
Through the five design strategies developed during the process, the building has been reimagined as a place that seeks to support diverse ways of living and being. The changes aim to improve access, adaptability, and a sense of belonging in ways that go beyond regulations, focusing instead on lived experience. The following narrative is told through the voices of the personas and reflects life in the building after its transformation. While fictional, the stories are informed by participatory feedback on the final design proposal. They illustrate how the design might be experienced by future residents and how it responds to diverse needs and ways of living. Let's see how this comes to life through the eyes of the residents.

For Anna, the new street-level entrance carved into the hillside has made access feel manageable and respectful of her needs. She no longer fears leaving her home. The elevator inside gives her direct, barrier-free access to every floor, and she appreciates the resting area near the entrance where she can pause and take her time. Handles integrated along the circulation routes offer extra support as she walks, making movement through the building feel safer and more stable. The rooftop terrace offers a peaceful place to get fresh air and, occasionally, a friendly chat. With fewer physical obstacles and more places to connect gently with others, Anna feels a renewed sense of independence.

Omar finds daily life with Amira far less stressful. He no longer needs to navigate steep, uneven terrain or worry about taking out the garbage or tripping over thresholds. Good lighting and integrated handles along key routes help him feel more confident when moving through the building, especially during periods of low vision. The layout has

become more logical, with fewer corners and clearer sightlines both inside and outside, making it easier for him to find his way without confusion. The new play area in the backyard gives Amira a safe and soft space to run and explore, while the nearby outdoor kitchen and circulation paths encourage informal contact with neighbours. Omar appreciates the possibility of using the shared kitchen to cook outdoors and connect with others, maybe even share a dish from his own culture. He also values the flexibility inside their apartment. The fold-down table makes space for activities and meals without cluttering the living area, and their private balcony gives them a place to breathe together. For the first time, he feels like the building recognises and supports both his responsibilities and his need for rest.

For Elma, the transformation has turned the building into a softer, more expressive environment with the clarity she needs to feel comfortable. The redesigned layout inside her apartment offers better flow and fewer corners, allowing her to organise her space and focus more easily. She appreciates being able to control the lighting in her apartment with curtains and dimmable lights, helping her adjust the mood depending on her activity or emotion. Wider paths and improved circulation offer her a better overview of her surroundings, which makes her feel safer. The common areas are more organised and welcoming, creating a calm atmosphere that supports



her need for clarity. Outside, she's begun working on a mural on the shared wooden wall in the backyard, an act of self-expression that also adds warmth to the space. With opportunities to retreat, create, and connect on her own terms, Elma now feels more supported and inspired in her surroundings.

Leo can now move freely through the building without needing immediate assistance. The new lift, flat entryways, and circulation platforms make everyday tasks like taking out the garbage or doing laundry something he can manage on his own. For the first time in years, he is able to cook comfortably again. The accessible kitchen layout, with lowered counters and space beneath for his wheelchair, has made it possible to get this routine back. He can now access his private balcony independently, thanks to no level changes at the door. In the bathroom, there is enough space to position his wheelchair next to the toilet and shower, allowing him to use the space without help. The sliding doors throughout the apartment are fitted with long recessed grips that make them easy to open and close at different heights, a small detail that makes a big difference. Leo also appreciates that he can reach both the backyard and rooftop terrace without encountering barriers. Even if he doesn't always join in, he appreciates having the option. These changes have given him back a sense of independence and ease, allowing him to focus on living, rather than constantly being reminded of what he cannot do.

As for Tina, the changes in the building have not only improved her own living conditions but also reflect the kind of architecture she believes in. She sees how neighbours like Leo and Anna are now able to move around more freely and confidently. The formerly disconnected basement apartment has been transformed into a bright and welcoming café, better suited to its position at street level. It has become a space for the neighbourhood to meet, somewhere to enjoy a cup of coffee or a meal alone, with a friend, or with family. The backyard has become an inviting and comfortable place to be. A place where her future child could play safely. With a home that better supports her present and possible realities, Tina sees the building not just as a place to live, but as a space that grows with its people.

Each of these residents now has the ability to engage with their home differently. Not just because barriers have been removed, but because the building has become responsive. Through access, flexibility, care, and shared contribution, Ribbungata 19 has moved closer to becoming a more inclusive environment. It is no longer just a structure to move through, but a place that better supports the diverse lives unfolding within it.

Chapter 6

Discussion

This chapter concludes the thesis with a discussion of the findings in the thesis. The chapter is finalised with a conclusion and reflections on further potential and investigation.

Discussion

This thesis has set out to explore the question: how can a pluriversal approach to the transformation of existing housing foster accessibility, adaptability, and inclusivity for diverse users? Through the integration of pluriversal design theory, participatory methods, and a speculative architectural proposal, the project has aimed to bridge theory and practice while challenging the standardised approaches that currently dominate accessibility discourse.

Applying van Zeeland's pluriversal design principles gave the process a strong foundation. These principles were particularly useful in shaping how participation was approached and how knowledge was gathered, shared, and valued. However, as highlighted in the theoretical framework, the principles alone did not translate directly into applicable architectural design strategies. To move from theory to design, it became necessary to translate these principles into specific design strategies, each responding to the building, the site, and the people involved, reflecting lived experience. This step made it possible to stay close to the specific context while also questioning established ways of thinking and designing.

The participatory process has been one of the most meaningful aspects of the thesis. Interviews and workshops created space for deep, sometimes unexpected conversations that went far beyond surface-level feedback. The discussions touched upon everyday routines, challenges, hopes, and small details that might otherwise have been overlooked. These conversations brought forward many of the most valuable spatial insights and introduced new perspectives into the design process. This also helped make the project feel more situated and specific.

Working with an existing building added another layer to the thesis. The transformation of a built structure introduced both constraints and opportunities. Rather than starting from scratch, the design had to respond to what was already there, including its physical limitations, spatial layout, and social context. This made the participatory insights especially valuable, as many of the challenges participants described were tied to existing conditions such as stairs, narrow passages, and steep terrain. At the same time, the project highlights how transformation can become a meaningful site for reimagining inclusion. By engaging with what already exists, the design responded more closely to the realities of the place and the people connected to it.

The use of personas and narratives added a layer of emotional depth, allowing the architectural implications of exclusion to be felt and understood rather than simply described. These fictional characters, grounded in real participant insights, became tools for exploring how space is experienced and how design might respond to different needs. Rather than designing for a generic user, the process was shaped by stories, routines, and moments drawn from real life. The speculative design proposal offers one possible outcome of this process. It is not intended as a finished or perfect answer, but as a way of exploring what a more inclusive and caring housing environment might look and feel like. It illustrates how these methods can inform a housing transformation design. While the project is not realised in built form, it offers a way of thinking that challenges assumptions and opens up space for imagining alternative futures. It moves beyond regulatory compliance to consider how architecture might support diverse ways of living and being. In this way, the proposal contributes to ongoing conversations about inclusion, spatial justice, and the role of architecture in social sustainability.

One of the most successful aspects of the thesis was how the pluriversal approach and the participatory process worked together. Applying pluriversal thinking with a specific focus on participation helped shape the process through lived experience while creating space to challenge dominant design values. The speculative narratives based on the personas made it possible to test how well the design strategies responded to people's actual needs, not just the theoretical ones.

The impact of the pluriversal and participatory approach is especially visible in the narrative following the transformation proposal. Though fictional, it is grounded in participant feedback on the final design and reflects how the strategies respond to lived experience. The narrative communicates not only spatial changes but also the emotional and social aspects of the design. It highlights how shared insights and plural perspectives have shaped the project and the imagined everyday lives of its future residents.

Conclusion

This thesis contributes to the architectural conversation by offering a tested example of how PD can be applied in practice, addressing a gap in real-world cases. It also shows how participatory, persona, and narrative-based methods can meaningfully shape both the design process and the outcome. In doing so, the work challenges existing accessibility frameworks by demonstrating that spatial justice cannot be reduced to regulatory compliance alone, but must respond to the lived realities of diverse users. Future work could build on this by testing the proposal further with residents, exploring how it might be adapted to other contexts, or working with policy-makers to consider how regulations could better support pluriversal approaches. It could also involve a closer look at the financial dimension of such projects. How can participatory

Still, some challenges remain. While the approach helped uncover critical insights, it also had limitations. The number of participants was small due to the scope and timeline of the thesis, and their perspectives does not represent the full diversity of experiences that exist. As discussed in the delimitations, this project does not aim to be universal or definitive. It acknowledges that inclusion is always partial, and that it is impossible to design for everyone. Instead, it offers a way of designing differently, one that embraces diversity and prioritises empathy, context, and the value of lived experience.

It is also important to acknowledge that participatory work is complex and nonlinear. It does not always lead to clear answers or ready-made solutions. There were moments of uncertainty, and some ideas changed along the way. However, these shifts are not weaknesses. They reflect the nature of designing with others rather than for them.

and PD approaches be integrated into real-world budgets? What would it take to make this kind of inclusive transformation economically feasible within existing funding structures? These are important questions for future exploration, especially if such methods are to be adopted more widely.

This thesis has not provided a universal model, nor was it meant to. What it has offered is a situated, iterative, and speculative response to a real problem, shaped through listening, observing, and imagining together. While it cannot speak for all, it invites practitioners to rethink how architecture might respond to difference, not as a problem to be solved but as a starting point for design. If we want to create more inclusive homes and communities, we must begin not with the ideal user but with real people, real constraints, and real conversations. That is where architecture begins to change.

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