A CITY WITHIN A CITY

From urbanization stress to the relief realm

WRITTEN BY
Omar Ahmed Shazly Mahdy (961906)

SUPERVISOR
Prof. Michele Roda

April, 2023

POLITECNICO DI MILANO
School of Architecture Urban Planning Construction Engineering
Master of Science in Sustainable Architecture and Landscape Design

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ACKNOWLEDGMENT

I would like to thank my thesis supervisor, Professor Michele Roda, for his guidance, support, and patience throughout my research journey. His expertise and encouragement have been crucial in shaping my ideas and refining my work.

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ABSTRACT

The city of Berlin has always been a source of inspiration for architects and urban planners around the world, with its rich history, diverse cultural scene, and unique urban fabric. One of the most interesting and relevant theories about Berlin's urban form is the "City within a city; Berlin as green archipelago" hypothesis proposed by Rem Koolhaas and Oswald Mathias Ungers. This hypothesis suggests that Berlin is a city made up of a series of isolated islands or "archipelagos", each with its own distinct character, history, and landscape. Based on that, the thesis proposes the design of a "city within a city" project located on the border of Berlin and the Brandenburg countryside. This project aims to address some of the most pressing urbanization challenges facing the city today, including the housing crisis, the need to find a balance between individualism and collectivism, and the loss of identity within the urban fabric.

In line with the "City within a city; Berlin as green archipelago" hypothesis, the project seeks to create a series of interconnected islands or "archipelagos" within the larger building complex. Each island has its own distinct character, function, and identity, and is connected to the others through a network of pathways and public spaces. The project consists of three large horizontal building complex “archipelagos” with mixed-use functions, including residential, commercial, educational, and cultural facilities. Each island is organized around a central courtyard, which serves as a gathering space and green oasis within the building. The courtyard is surrounded by dense green areas, which enhance the social and spiritual aspects of the project and provide a connection to the surrounding landscape.

In short, the “City within a City” seeks to offer a new model for urban development that reconciles the often-competing necessities of individualism and collectivism, sustainability and growth, contemporary and modernity, density and open space, and local identity and global connectivity. By building on the rich legacy of Berlin's urban history and culture, while also looking forward to the challenges and opportunities of the 21st century, this project represents a bold and visionary approach to urban design and planning.

HISTORICAL BACKGROUND

Figure 01: An overview of central Berlin shot from an American plane shortly after the Allied victory in Europe, RadioFreeEurope

TRAGIC PAST

Berlin is forever condemned to becoming and never being, declared the art critic Karl Scheffler in his book Berlin: the fate of a city, published in 1910. Berlin's painful past is characterized by constant destruction and reconstruction, in which political and economic forces are deeply intertwined and reflected in physical changes. Berlin has always had to deal with a rebirth in its identity, from the Thirty Years' War in the XVII century to the so-called Year Zero following WWII. One may use Berlin as an illustration of a city with several layers. However, it appears that distinct transformation processes and strata are more of a juxtaposition of multiple urban imaginations. All imaginaries and layers indicate the shifting political or economic means.

The city suffered greatly; vast areas of the city were covered in rubble. The majority of the population had lived in enormous, multi-story apartment buildings. Of the 4.3 billion individuals who had once lived in the city, just 2.8 million still left. Hunger, illness, a lack of affordable housing, unemployment, and extreme poverty are now a way of life. As the first post-War winter drew along, the situation grew worse. Families were able to live in damaged homes over the summer, but it was a different story for those who had homes with wall holes and no coal.

West Berlin witnessed an urban catastrophe during the 1970s. It was split into two cities after the Second World War; East Berlin serving as the capital of the Democratic Republic of Germany and West Berlin serving as the eleventh state of West Germany. As a result, West Berlin had become an island, a city-state enclosed by a perimeter wall and a hostile territory. West Berlin's postwar dilemma had not been resolved as a result of this captivity. In the 1970s, the city's population was dropping and there were still large areas of vacant land where houses appeared to be isolated islands.

Figure 02: Berlin in ruins after World War II (Potsdamer Platz, 1945), La fabrique dela Cité

Figure 03: A car drives down a gutted Berlin street, La fabrique dela Cité

Figure 04: East German workers near the Brandenburg Gate reinforce the Berlin Wall in 1961. Photograph: CSU Archives/Everett Collection

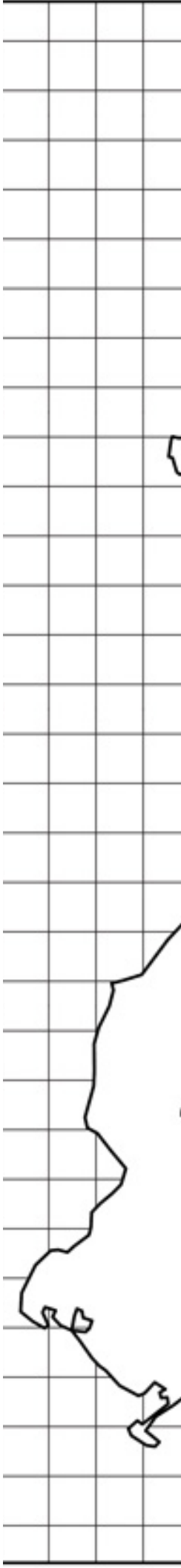
THE UNIFICATION

Figure 05 & 06: East and West German people celebrate the end of cold war on top of the Berlin Wall, 10 November 1989. Photograph: Peter Horvath/REX/Shutterstock

The fall of the Berlin Wall during the night from 9 to 10 November 1989 symbolized the end of an era for the whole world. For the Germans, the very long post-war period had come to an end. Families and friends were reunited at last, after twenty-eight years of forced separation. Much of the damage remained visible for decades to come, particularly along the route of the Berlin Wall that divided the city between East and West. But there has been substantial redevelopment since German reunification in 1990, and today many parts of the city are utterly unrecognizable.

DAVID 89

THE MANIFESTO



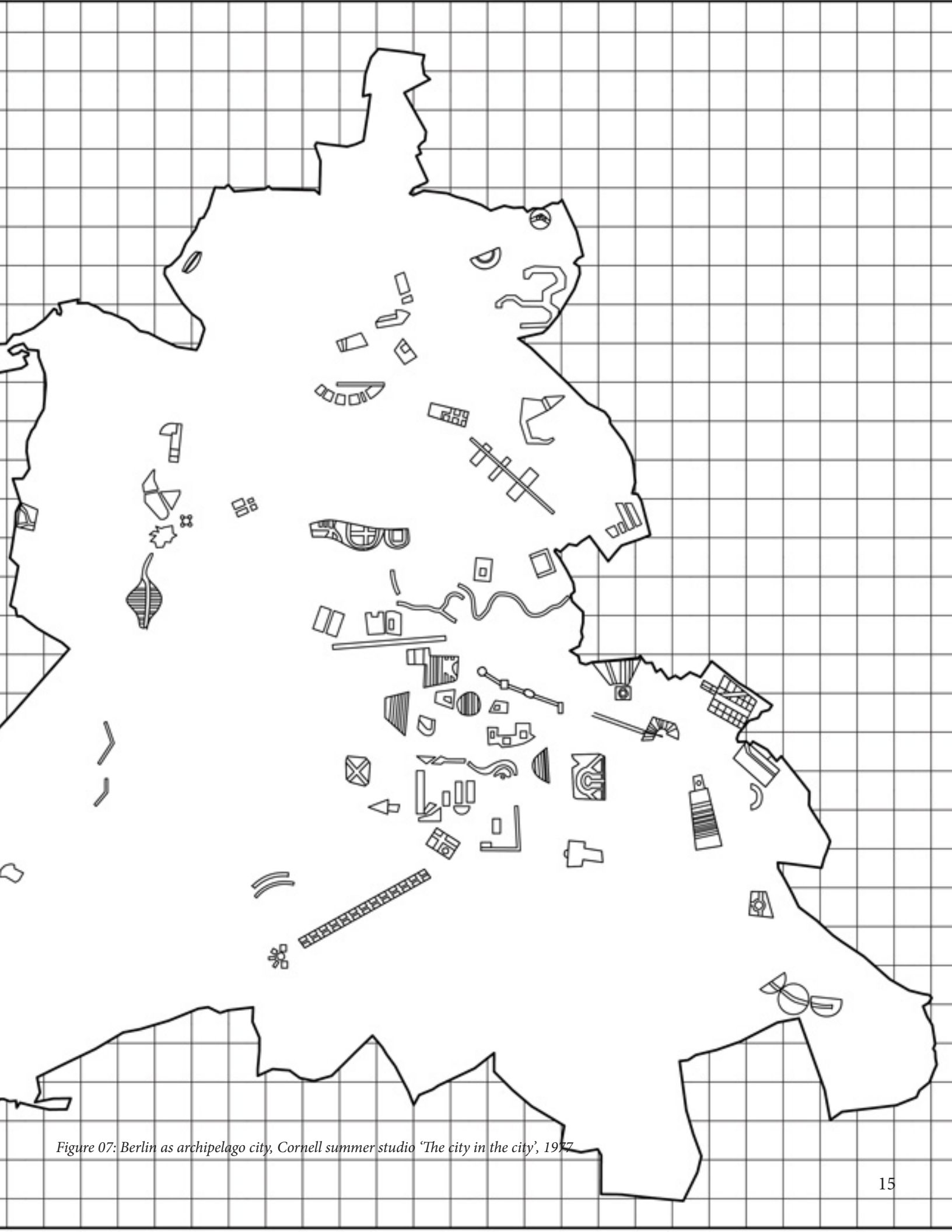


Figure 07: Berlin as archipelago city, Cornell summer studio 'The city in the city', 1977

THE RESCUE PROJECT

In 1977, a group of architects led by Oswald Mathias Ungers, suggested a rescue project called 'Berlin as a Green Archipelago.' The group included Rem Koolhaas, Peter Riemann, Hans Kollhoff, and Arthur Ovaska. To them, the tragedies of postwar West Berlin provided a powerful model of "cities within the city," or in Ungers' term, a "city made by islands."

A small German publication with the title "Die Stadt in der Stadt - Berlin das grüne Stadtarchipel" first appeared in September 1977. It was organized on a general basis during the Sommer Akademie of Berlin by Cornell University. Oswald Mathias Ungers conceived and presented an "urban design proposal for the future development of Berlin," according to the title page. The 48-page, square-format booklet was printed in the United States by the Arnold Printing Corporation, a small company based in Ithaca, New York, home to Cornell University, where Liselotte Ungers was a professor of architecture at the time.

This summer studio that was taught simultaneously with another studio on the Urban Villa, revealed a growing interest in the urban state and how architecture relates to it. 32 It continues the custom that Ungers established of using Berlin as a testing ground for urban concepts. The City within the City looks to be a perfect fit for Berlin's environment. Here, the methodology—which involves looking at the current for enduring cultural traits that end up being represented in urban artifacts—is crucial. In nutshell, the systematic approach to diversity and the aim to promote collectivity in the diffused metropolis are the most significant aspects of the City within the City. The analysis of the current city (in this case, Berlin) to determine "urban rules" serves as a bridge to the projection of crucial urban characteristics for the future.

During one of the most challenging times in German history, Ungers was developing as an architect. After the Second World War, Germans had to rebuild not just their war-devastated nation but also the troubled political, cultural, and moral restoration of a country that had fallen victim to Nazism for a period of twelve years. Germany was the heart of Cold War politics, making reconstruction challenging.

Figure 08: From left: Werner Seligmann, Unknown, Fred Koetter, O.M. Ungers, Jerry Wells. Image courtesy of Arthur Ovaska and the Cornell AAP Archives

Figure 09: O.M. Ungers and R. Koolhaas at Charlottesville conference, 1982. Photo by Dan Grogan

The works of Ungers and Koolhaas, in particular, shed light on a timeless topic that is still important today: the function of the architect and how architecture affects different realms of (urban) life. Both of them examine the autonomous characteristics of the architectural discipline in relation to its social context, which is predominantly located in cities and serves as the foundation for architecture.

Koolhaas and Ungers approach to architecture intended as a critique of the late modernist praxis of designing the city through the generic application of given building standards, which reduced the role of the architect to the design of envelopes. In opposition to the traditional mandate given to urban projects, the main principle guiding these proposals was the conception of new housing complexes not as a generic extension of the city but as clearly formalized city parts, as finite artifacts that, in their internal formal composition, were evocative of an idea of the city. They both observe a conflict in modern cities caused by their failure to reconcile the strong need for individuation present in modern culture with a conventional kind of public space that offers coherence and a sense of community.

In light of current concerns, we can read this early work as expressing an implicit and yet fundamental concern for the concept of "collectivity" — something that sits somewhere between the traditional notions of the public and the private, acknowledging the pluralism of an individualized society without renunciation the possibility of a more comprehensive cohesive framework. Their research focuses on how architecture may affect urban life and, more broadly, how it might help people establish communities. Can it provide a meaningful middle ground between a fragmented and diverse public space and a fully individualistic private space? Can it establish a common area that lies halfway between the two? Can this communal space aid in resolving the conflicts that the modern metropolis seems destined to produce? What are the positions of architecture and urban design in relation to one another? Is the urban only configured by urban design, with architecture acting as mere infill, or can architecture play a crucial role as a timely intervention within the larger urban field, or can it truly redefine a collective?

Ungers and OMA's intellectual interchange was one of the most intriguing areas of inquiry into the city in the 1970s; though it was not fully developed. This discussion was founded on both Koolhaas and Ungers' work together on significant projects as well as their shared goal in creating a "third method" to approach the project of the city.

The relationships between Koolhaas and Ungers trace back at least to 1972 when Koolhaas departed for Cornell University on a fellowship to study under Ungers. Ungers had been writing about the state of the post-war metropolis and the function of architecture in it for a while at that point. He had completed numerous (mostly modest) projects, taken part in a number of competitions, and started to develop a clear vision for how architecture will affect the city. Through his books and his lectures at several universities (particularly Cornell and TU Berlin), his ideas on architecture and the city had a significant impact.

His role as professor at Cornell was clearly stated, while Koolhaas' work with Ungers was given significant credit on his resume. In correspondence and publications up to 1976, when the Roosevelt Island housing competition submissions were revealed, his role as a sort of associate was occasionally apparent. 13 OMA listed Ungers' entry and Koolhaas and Zenghelis' entry as two separate contributions to this competition. In interviews and conversations, Koolhaas rarely seems to miss a chance to mention Ungers' merits.

"I think that what is almost impossible for somebody who has not experienced it to understand is really what the essence of Ungers was. It was not a way of thinking or any kind of method, but an unbelievably exhilarating presentation of his own way of thinking. It was almost an ecstasy on his part, and in this ecstasy you would be made constantly aware of how a small beginning could be manipulated through an endless series of variations, transformations, or new ideas projected onto it. It was really about being in the presence of a virtuoso of thinking—or even a virtuoso of intuition—perhaps intuition is a better word than thinking in his case."
-Interview with Rem Koolhaas on O.M. Ungers

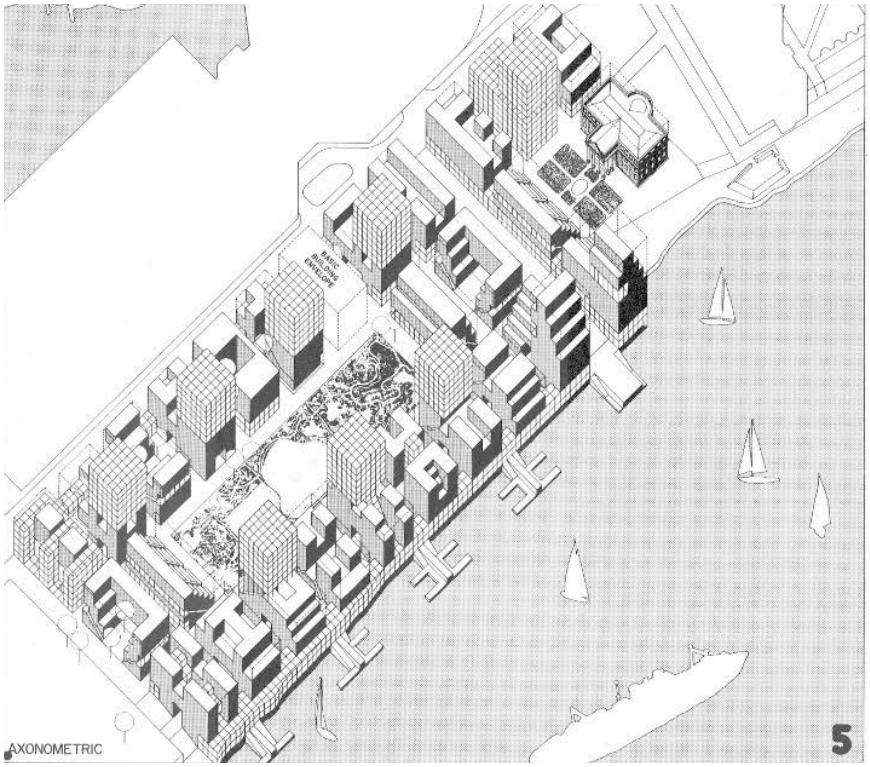


Fig. 10: OMA, Roosevelt Island housing competition, 1975, entry by O.M. Ungers, Lotus International 11 (1976)

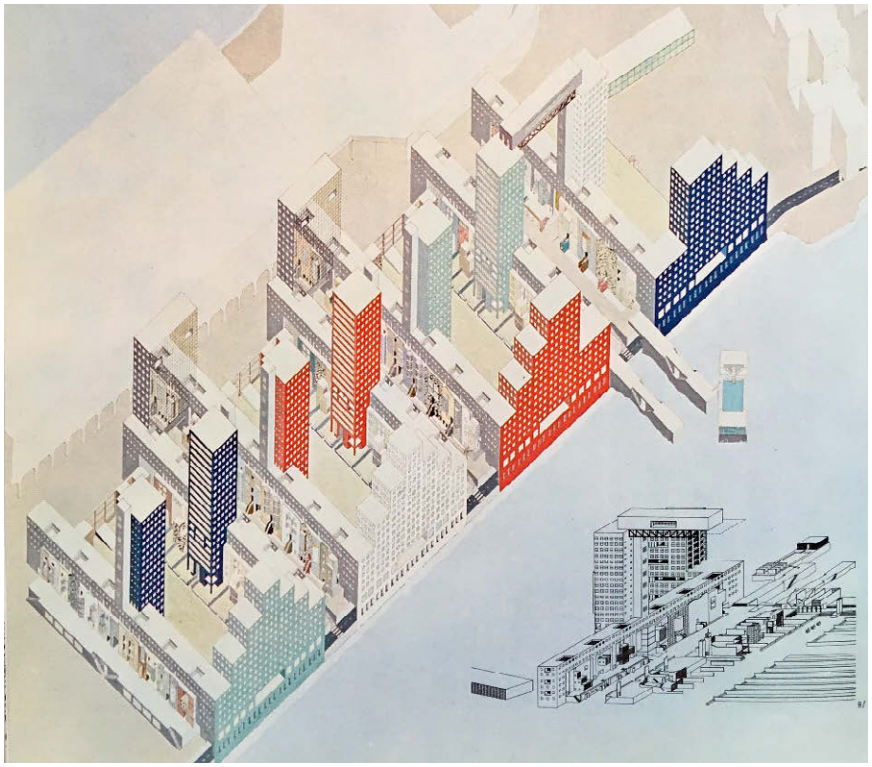


Fig. 11: OMA, Roosevelt Island housing competition, 1975, entry by R. Koolhaas, E. and Z. Zenghelis, Lotus International 11 (1976)

THE IDEA OF CITIES WITHIN A CITY

The design proposal for Berlin deliberately accepts the fragmentation of urban forms, the anonymous architecture and the instability of the program. Koolhaas' interpretation on archipelago is defined as a grid system. Sea is the grid itself and plots are the island that defines an archipelago. The plots that discussed in the system is not only buildings but are cities in miniature or, as Koolhaas calls them, quoting Oswald Mathias Ungers, "cities within cities."

The identity of the urban islands will reflect their history, social character, and physical surroundings. The city will be made up of a federation of all of these distinct settlements, each with distinctive structures that were purposefully constructed in opposition to one another.

Fig. 12: Berlin as archipelago city, Cornell summer studio 'The city in the city', 1977

The City Within the City: Berlin as Green Archipelago examines post-war Berlin with the shrinking population and many of the remaining uninhabited neighborhoods were rethought through a reorganization of a large green area.

The notion "accommodates the present structure of society, which has evolved ever more toward an individualized society with varied needs, interests, and views." The idea also takes into account the individualization of the city and, as a result, a distaste for convention and for unification. In contrast to the alienation experienced in an anonymous metropolis, individualizing the city creates the opportunity for residents to identify with something particular.

Ungers was inspired by Karl Friedrich Schinkel, who was the city architect of Berlin during the first half of the nineteenth century. Schinkel had perceived the city as a fabric punctuated by singular architectural interventions, rather than as a city planned along harmonious spatial design. For Ungers, this approach could overcome the fragmentation of postwar Berlin by turning the crisis itself (the inability of structuring the city) into the fundamental aim designing the city. Later on, Ungers created his notion of the city as an archipelago by condensing the metropolis to areas of urban density, as a way to respond to the dramatic drop in West Berlin's population.

Berlin as a Green Archipelago put forth a paradigm that transcended modernist and postmodernist analogies, but even now, its radical logic is not entirely comprehended. By following the evolution of Ungers' idea for the city through the various proposals and studies he worked on in the 1960s and 1970s, this logic can be seen. When one takes into account Ungers' groundbreaking urban design projects, his didactic research on Berlin, and the connection between his work and theories and OMA's early attempt to define a "metropolitan architecture," this series can be seen as one project culminating in Berlin as a Green Archipelago.

Berlin's fragmented reality provided Ungers with a basis for interpreting the city as an entity no longer reliant on large-scale urban planning but rather composed of islands, each of which was conceived as a micro-city. The resulting idea of the City within the City is now the backbone of Berlin's upcoming urban spatial plan. A "pluralistic urban notion" that is "the antithesis of urban design theories up to this point, which is founded on the definition of a unified city" is perceived to be offered by the perception of Berlin as a green archipelago city.

Though it is based on the personalized society of the modern city, the collective perspective is nevertheless considered as important to the urban context. As a result, it upholds a different relationship with the conventional idea of the public and acts as a mediator between the entirety of a location that is universally accessible and the purely private experiences of an individual.

They attempted to address the capacity of architecture to create enclaves of meaning and significance inside the metropolis, and the archipelago concept, in addressing both circumstances, illustrates their efforts. Each district is considered as a micro city, which contains within it the complexity of an entire city. Ungers articulates a new grammar in which past and present confront his idea of modernity, rediscovering the collective dimension, the dialectical nature of the city and its parts and the possible composition of urban forms in contrast with each other.

The identity of the urban islands will reflect their history, social character, and physical surroundings. The city will be made up of a federation of all of these distinct settlements, each with distinctive structures that were purposefully constructed in opposition to one another. In order to achieve this goal, they intended to recognize and highlight Berlin's "urban islands," or locations that have maintained vitality and vibrancy while allow the rest of Berlin to perish and turn into a "natural lagoon."

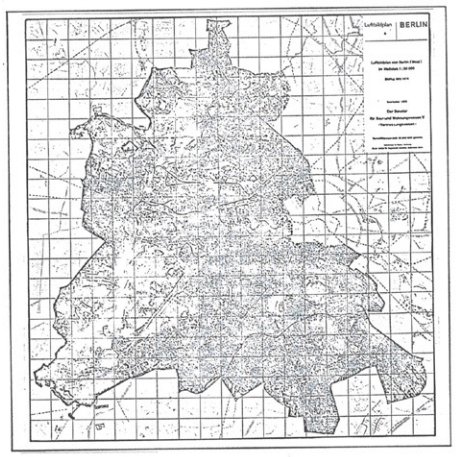
Under Ungers' supervision, Peter Riemann produced a significant amount of drawings, sketches, and maps throughout the Sommer Akademie of Berlin by Cornell University. He also gathered a large number of images corresponding to the transplantations the project suggested as well as the morphological process of identifying and intensifying the urban islands. Many more were included in the pamphlet that was distributed at the exhibition, but only a small number of those illustrations were ultimately kept in the manifesto's final edition. Riemann rehashed a number of them in his Cornell master's thesis, Urban Design Strategies for Berlin, with a Case Study on Berlin/Suedliche Friedrichstadt, published in January 1979. The approach, the tools, and the references have been listed here to help the reader comprehend them better:

1. A collection of analysis maps of West Berlin that highlight the various layers and elements of the city's structure and urban fabric (and how they interact) and identify the "urban islands" within them. This collection is concluded by a full-page reproduction of the colored final map of the archipelago.

2. A collection of illustrations showing various building plans or "social condensers" (mainly Modernist suggestions that were never realized), which the project sought to successfully introduce into the urban islands of the archipelago.

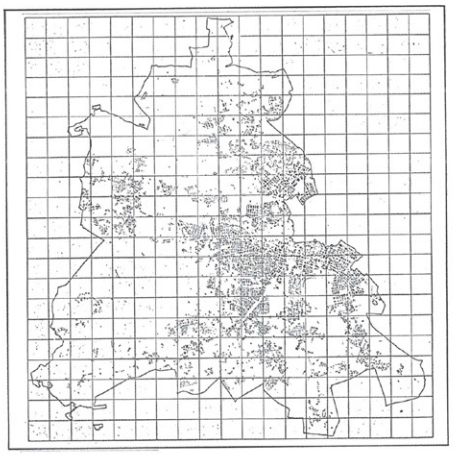
3. And lastly, a series of morphological sequences detailing precisely how the various islands are identified and intensified (and their operative references). The reader will witness the eight most comprehensive morphological sequences—Kreuzberg-Görlitzer Bahnhof, Friedrichstadt, Wedding, Bundesallee, Neukölln I, Neukölln II, Charlottenburg Castle, Friedenau, and Unter den Eichen—here, displayed in parallel rows.

URBAN LAYERS



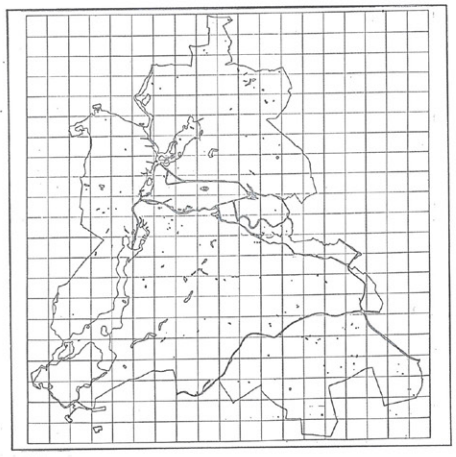
Town map of Berlin

Town map of Berlin



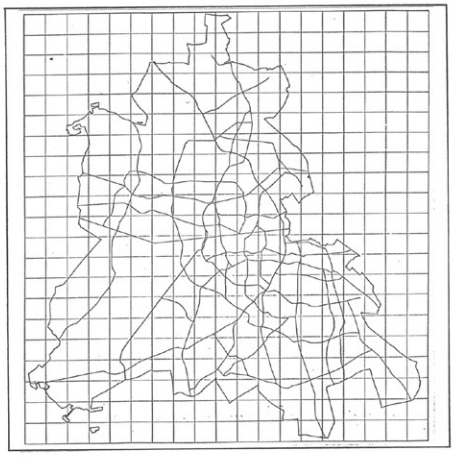
High density areas

High-density areas



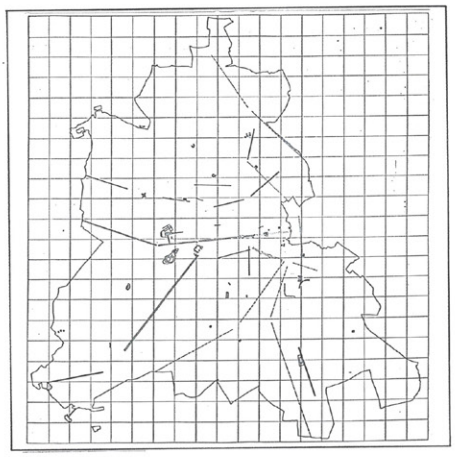
Water

Water



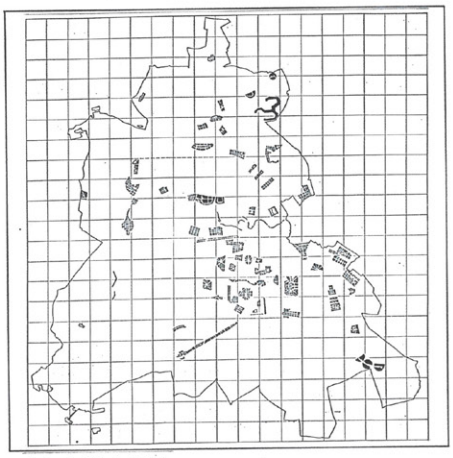
Streets

Streets



Objects and axis

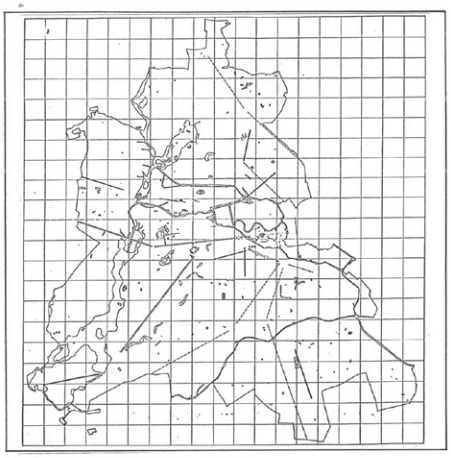
Objects and axis



Islands (Minicities)

Islands (Minicities)

Fig. 13: A series of analytical maps of West Berlin, stressing the different layers and elements of the city's structure and urban fabric (and their interplay), Cornell summer studio 'The city in the city', 1977

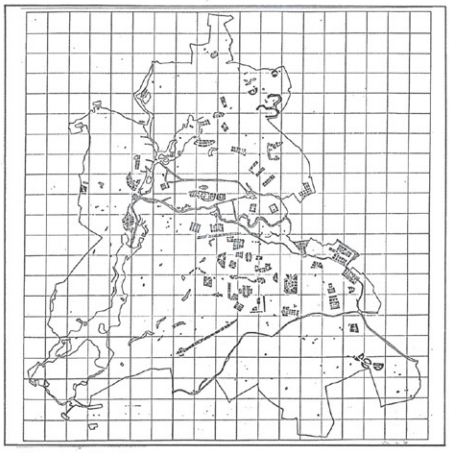


Objects and water

Objects and water

Objects and streets

Objects and streets

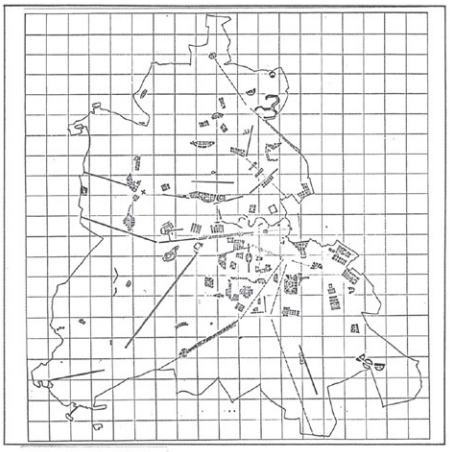


Islands and water

Island and water

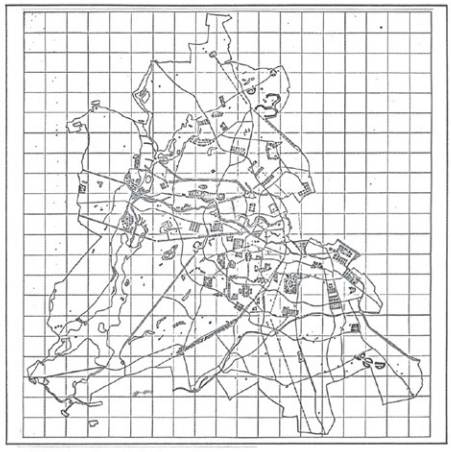
Islands and streets

Islands and streets



Islands and objects

Islands and objects



Islands,water,objects and streets

Islands, water, objects, and streets

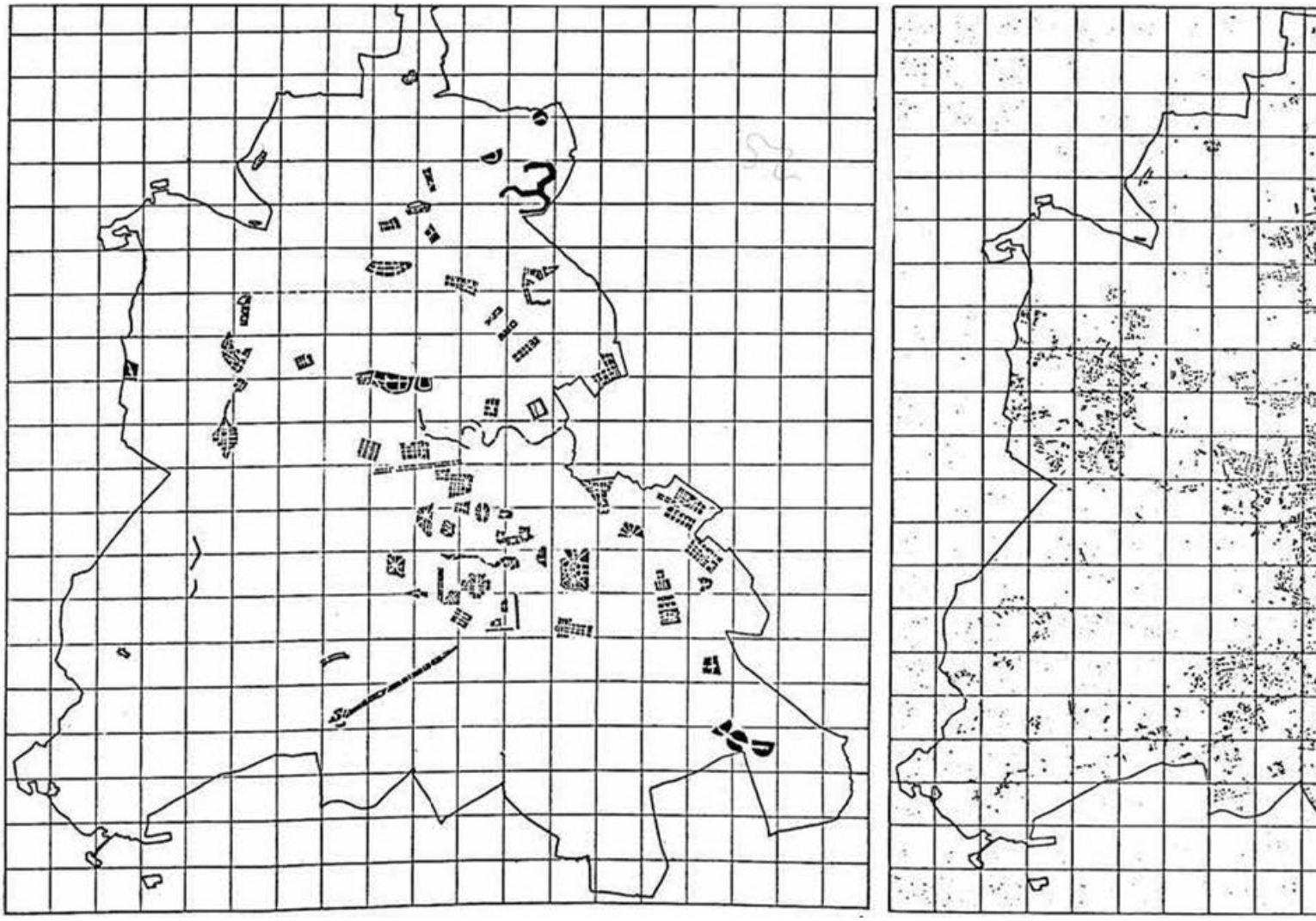
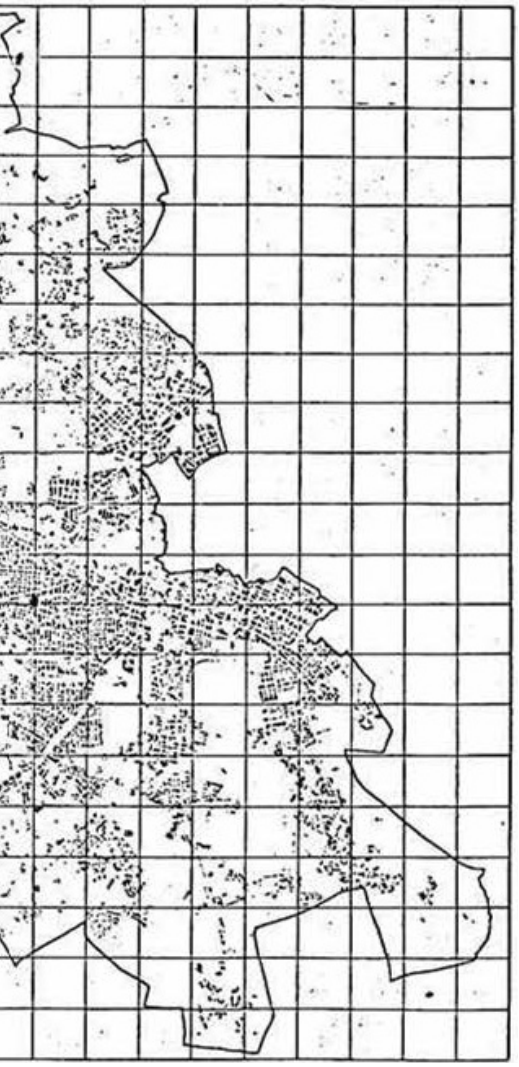
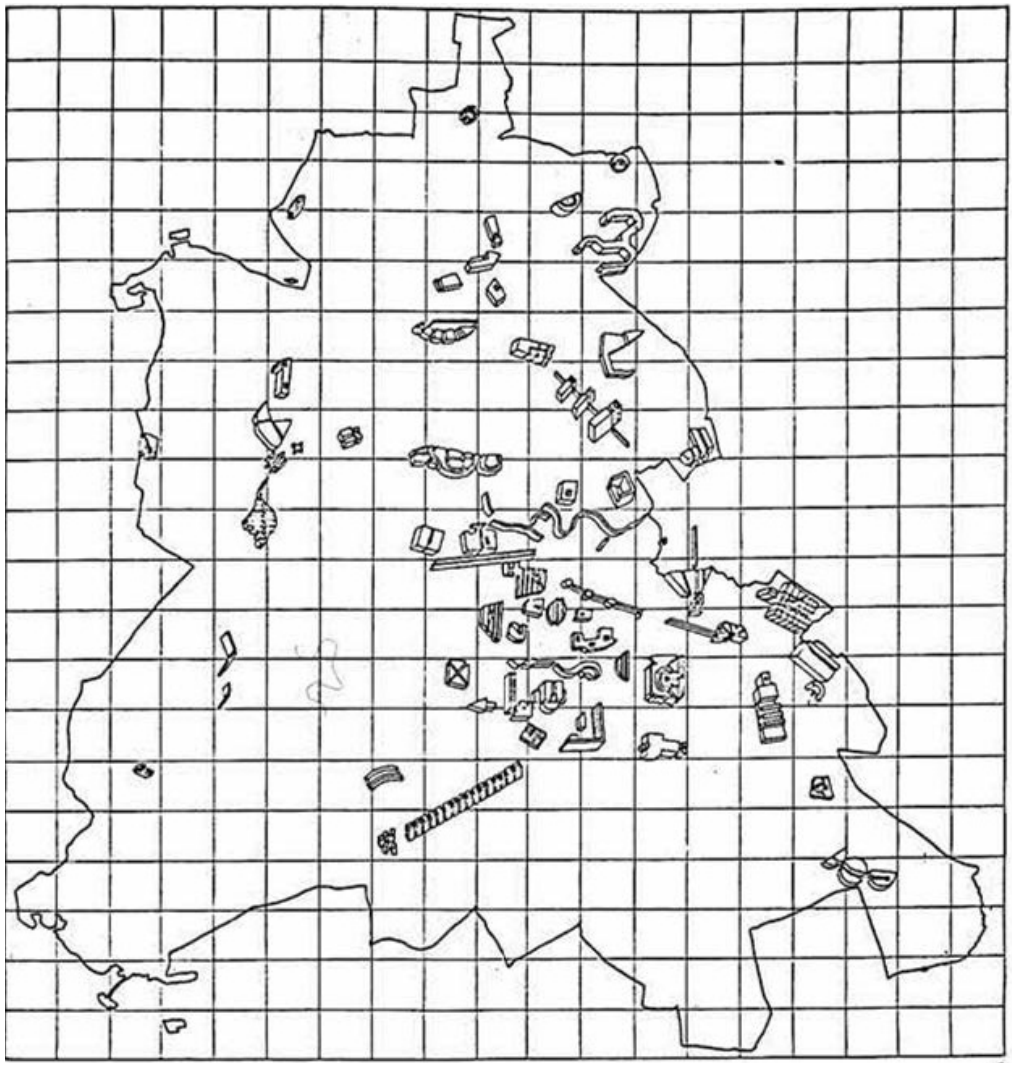


Fig. 14: A series of analytical maps of West Berlin, stressing the different layers and elements of the city's structure and urban fabric (and their interplay), and locating the urban islands within them, Cornell summer studio 'The city in the city', 1977





CITY ISLANDS

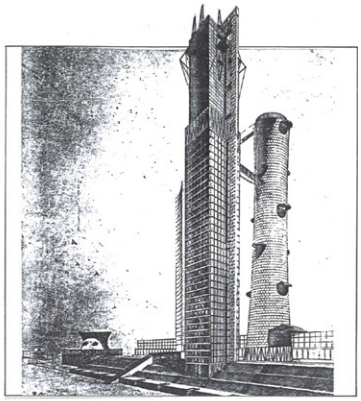
A first analysis of the city reveals a number of areas that immediately catch the eye due to their unique qualities and significance in comparison to the rest. Those are Spandau, Märkische Viertel, Gropiusstadt, Tempelhofer Feld, Hufeisen Siedlung, Onkel Tom's Hutte, as well as the cultural district around Kemperplatz, which is a replica of the historic Museuminsel, are all examples of areas of the city that are notable for their closed structures. The preceding zones are a collection of extremely diverse structures, both in terms of content and form. They include block-shaped buildings as well as single, radial, linear, and reticular forms, closed and open structures, a network of regular but also irregular roads, and various graphic, spatial, functional, and social traits.

The next step in development entails analyzing the locations to determine how to densify them. As part of this analysis, areas that are partially or completely open to construction are chosen, as they would eventually be transformed into big constructed areas containing large amounts of open space.

Fig. 15: 'Urban Islands of the Green Archipelago', Peter Riemann, Cornell summer studio 'The city in the city', 1977

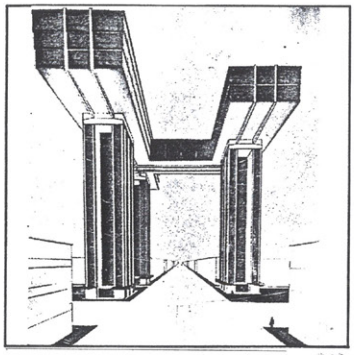
Angular skyscraper

Angular skyscraper



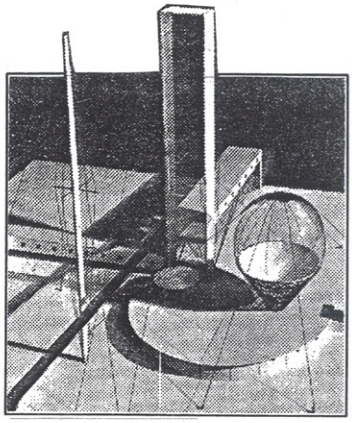
MKPT Project (double tower)

MKPT Project (double tower)



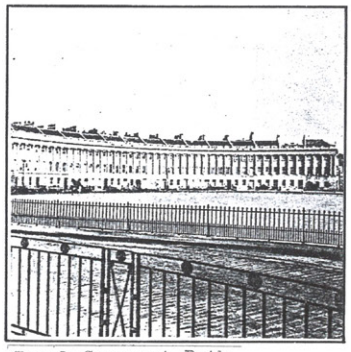
Skyhook on intersection

Skyhook on intersection



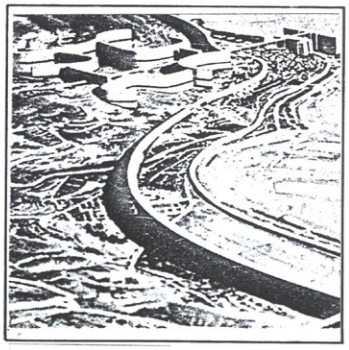
Lenin Institute

Lenin Institute



Royal Crescent, Bath

Royal Crescent, Bath

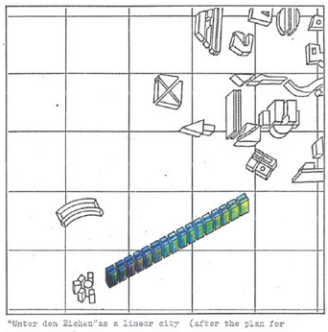


Alger Project

Alger Project

Fig. 16: Series of reference images showing different building designs or "social condensers" (Mostly unbuilt Modernist proposals) that the project intended to effectively transplant into the urban islands of the archipelago, , Cornell summer studio 'The city in the city', 1977

Fig. 17: a series of morphological sequences detailing precisely how the various islands are identified and intensified (and their operative references), Cornell summer studio 'The city in the city', 1977

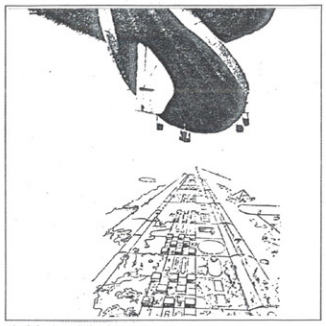


"Unter den Eichen"as a linear city (after the plan for Magnitogorsk)

"Unter den Eichen" as a linear city (after the plan for Magnitogorsk)

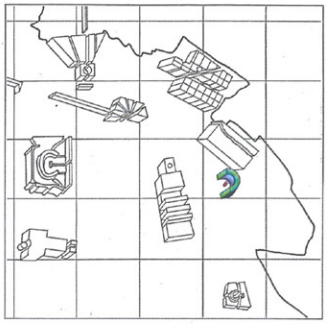
Magnitogorsk linear city

Magnitogorsk linear city



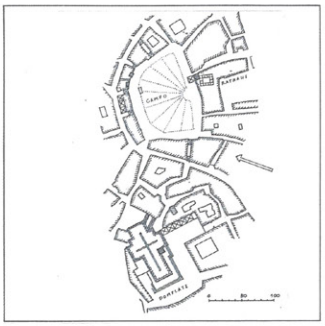
Aerial view of Magnitogorsk

Aerial view of Magnitogorsk



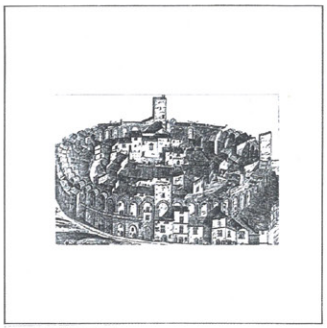
The "Amphitheater City" of Neukölln

The "Amphitheater City" of Neukölln



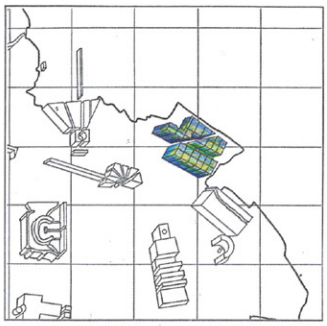
Siena central plaza

Siena central plaza



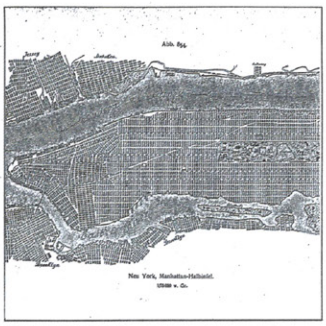
Amphitheater in Arles

Amphitheater in Arles



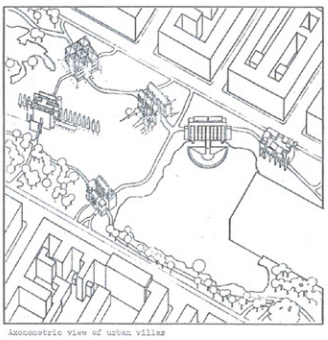
Kreuzberg as Mini - Manhattan

Kreuzberg as Mini-Manhattan



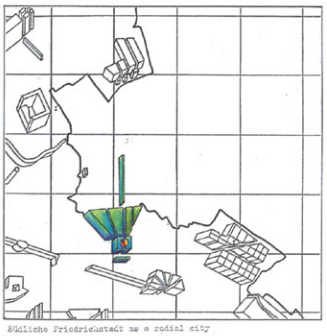
Manhattan, Central Park

Manhattan, Central Park



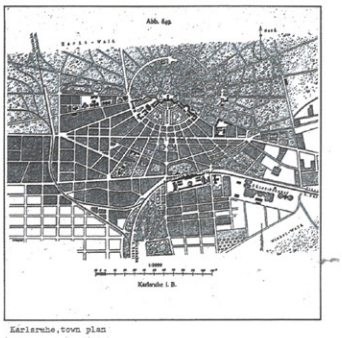
Axonometric view of urban villas

Axonometric view of urban villas



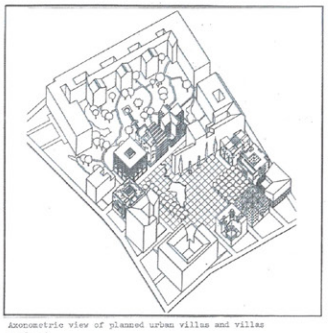
Südliche Friedrichstadt as a radial city

Südliche Friedrichstadt as a radial city



Karlsruhe, town plan

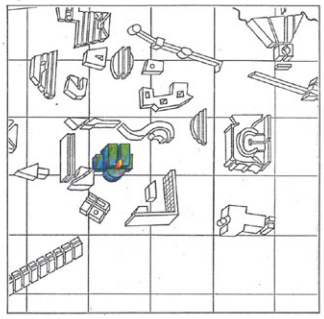
Karlsruhe, town plan



Axonometric view of planned urban villas and villas as found

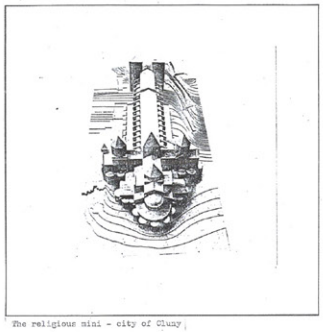
Axonometric view of planned urban villas and villas as found

Fig. 18: a series of morphological sequences detailing precisely how the various islands are identified and intensified (and their operative references), Cornell summer studio 'The city in the city', 1977



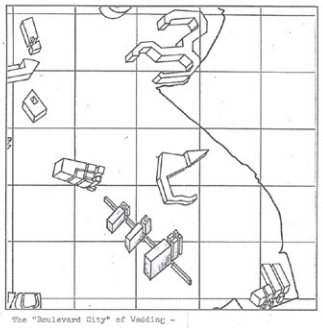
The "Cathedral City" of Friedenau

The "Cathedral City" of Friedenau



The religious mini - city of Cluny

The religious mini-city of Cluny

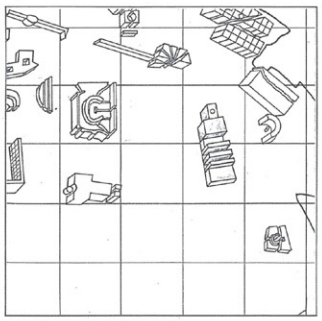


The "Boulevard City" of Wedding - a sequence of gateways to the East

The "Boulevard City" of Wedding– a sequence of gateways to the East

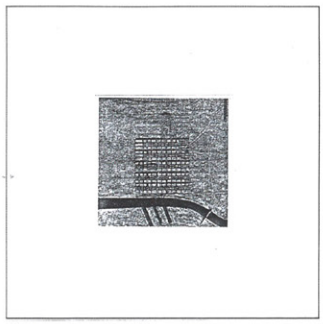
The urban boulevard (Unter den Linden)

The urban boulevard (Unter den Linden)



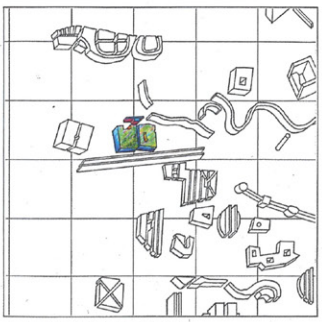
The modified grid city of Neukölln

The modified grid city of Neukölln



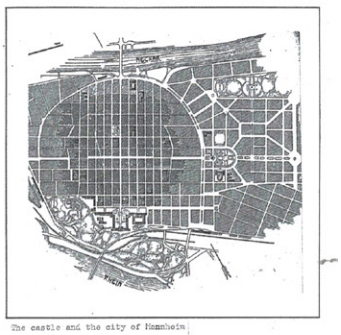
Savannah,urban structure (modified grid)

Savannah, urban structure (modified grid)



The "Castle City" of Charlottenburg

The "Castle City" of Charlottenburg



The castle and the city of Mannheim

The castle and the city of Mannheim

THE ARCHIPELAGO

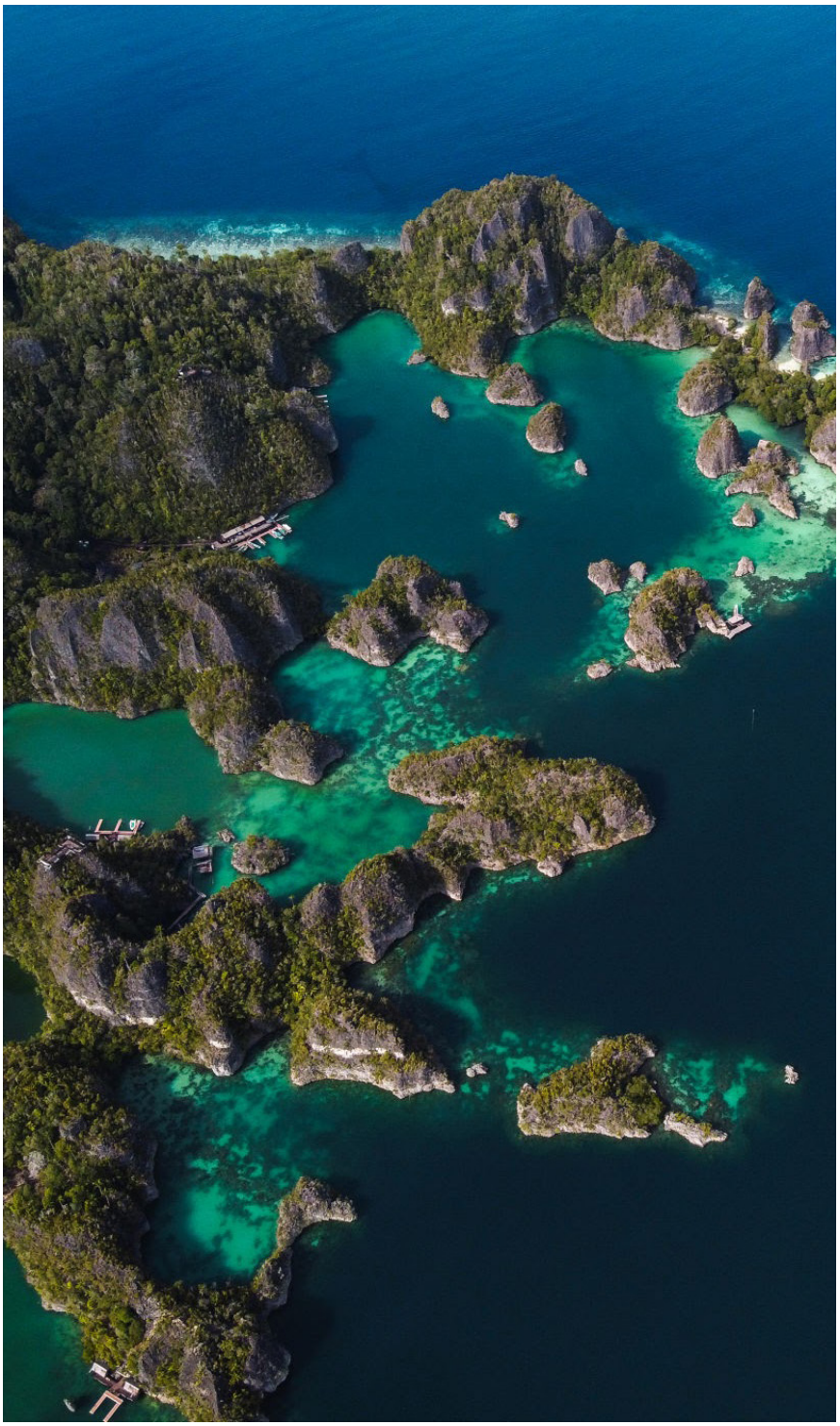


Fig. 19: Aerial view of Indonesian island archipelago, Istockphoto

An archipelago, sometimes called an island group or island chain, is a chain, cluster, or collection of islands, or sometimes a sea containing a small number of scattered islands. -*Cambridge Dictionary*

It describes a condition where parts are separated but at the same time, still united by the common ground of their juxtaposition. This concept is based on creating different well defined zones of the city. These zones are surrounded by other urban context, but keep their character preserved.

Each island contributes to the overall composition and functions as a unit. However, there is no center, not even in the complete separation of the islands. The center-less is a force that simultaneously draws the islands together and keeps them apart. As a result, it inhibits the formation of a single mass and strengthens the bonds between the islands.

The green archipelago was intended by Ungers and Koolhaas to fundamentally shatter any belief in the concept of the "master plan," but instead, it reflects Koolhaas's later realization that "The sort of coherence that the city may reach is not of a homogeneous, planned composition." It may only be a collection of fragments at most. 46 Berlin as Green Archipelago demonstrates the system's inherent fragility, which is constantly hovering on the edge of disorder, by "liberating" specific zones from the totalizing metropolitan system

In the form of the archipelago, architecture has been treated as a tool for simultaneous exploration of urban conditions confronting the existing situation. Reality and conceptual model face each other in a constantly changing scenario, where history and the forms of a programmatic order collaborate to produce an urban form organized according to the needs of its inhabitants. Through morphological analysis, interpretation and transformation. Ungers was able to read the city as he found it and managed to transform it through the inclusion of simple model architecture projects, architecture acquires a fundamental role in the construction of a planning strategy.

THE CITY NOW

Fig. 20: Great Tier Garten. Photo by A.Savin, WikiCommons

THE CITY DEVELOPMENT

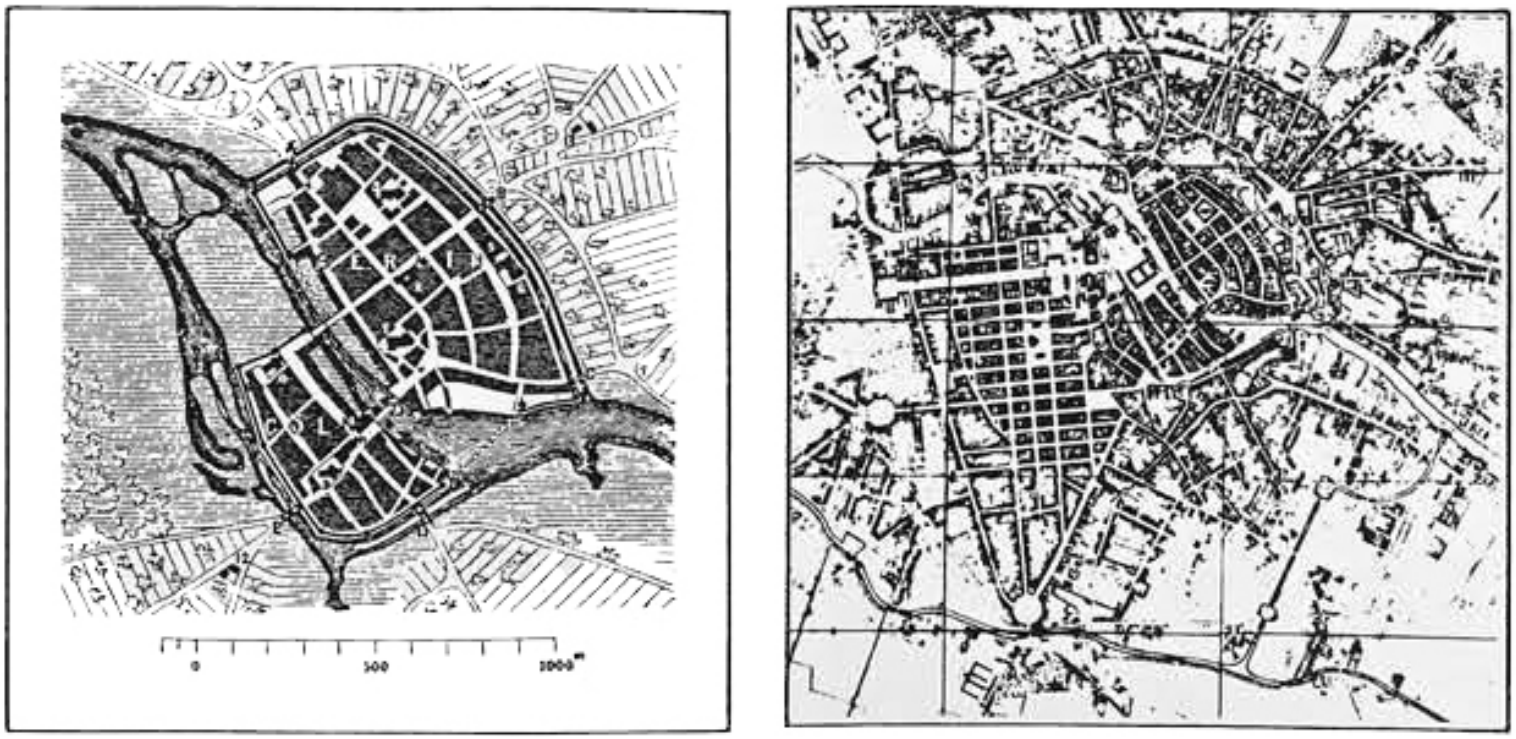
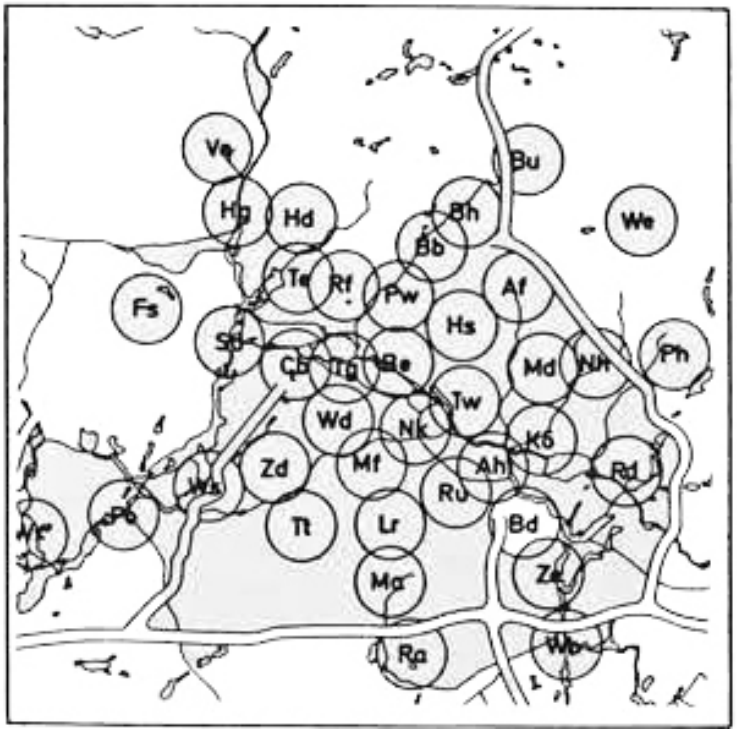


Fig. 20: Development of Berlin throughout the history. Maps from left to right: The double city of Berlin - Köln; a collage of the city in the early 19th Century; a regional networks of the cities in the industrial era, and the divided city, The City in the City. Berlin: A Green Archipelago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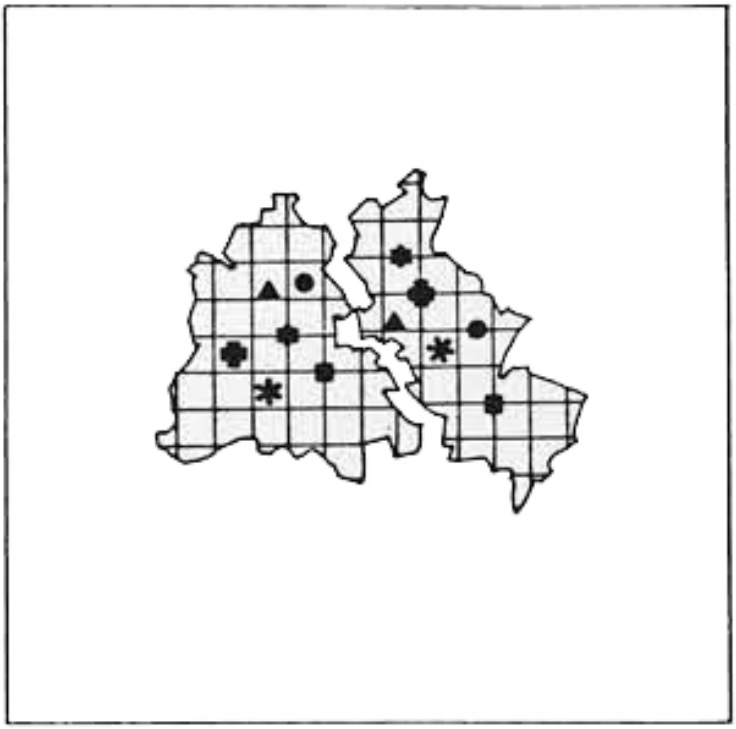

THE POLYCENTRIC CITY

Berlin's history has left the city with a poly-centric structure and an incredibly varied collection of architecture. The city's prominent role in German history during the 20th century has largely determined the way it looks today. The Kingdom of Prussia, the 2nd German Empire of 1871, the Weimar Republic, Nazi Germany, East Germany, as well as the reunified Germany, all had national governments based in Berlin. Each of these governments launched ambitious reconstruction projects, adding its own distinct architectural style to the city.

Berlin is the narrative of how one kind of city evolved into another. Over the course of seven hundred years, Berlin has seen numerous urban transformations. Berlin and Köln, two separate cities at first, one for fisherman and one for traders. It quickly developed into a market city, followed by a residential one, a capital, and an industrial one in the nineteenth century. It eventually developed into a metropolis before returning to being a double city. Berlin was already comprised of six distinct cities by the eighteenth century: Berlin, Kölln, Friedrichwerder, Dorotheenstadt, Friedrichstadt, and the eastern outskirts. The several quarters each had its own administration, various planning frameworks, and separate operations. They united to create a sort of federation of municipalities. Greater Berlin at the turn of the twentieth century was a vast network of small and medium-sized municipalities.

As a result of population migration caused by the motor vehicle, railroad, and industrial development, there are now more dwellings and businesses on the outskirts of the historic district. These were, in part, completions built alongside already populated areas, and to some extent, they were very new communities. Districts with distinctly varied configurations, such Spandau, Friedenhan, Lichterfelde, Siemensstadt, and Charlottenburg, serve as the obvious justification for the "city in the city" scheme.

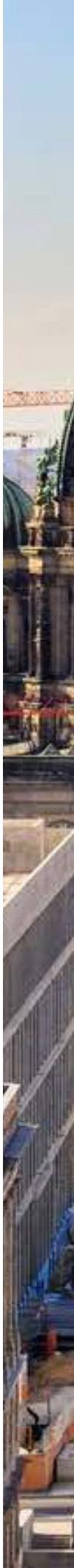

Fig. 21: Aerial view of Berlin. Photo by Francesco Iacobelli. Image courtesy of Getty.

According to recent estimates, Berlin's population will grow by between 100 000 and 300 000 people by 2030, or between 5 and 10 percent. Berlin's future planning must therefore address the issue of a city that is expanding and consequently requires new housing facilities. These plans must be devised to allow for an increase in the population density without affecting the overall quality of the urban environment, because Berlin's growth is focused on the inner city and frequently results in privatizing public soil. The Berlin Senate has prioritized internal growth since the 1990s. Many vacant lots that were once there have been developed.

The actual outside development still gets too little attention compared to the troubled inner development. Despite numerous attempts since the 2010s to refocus attention on the growth of the Berlin-Brandenburg metropolitan region, whose terrain extends far beyond the state of Berlin's borders into Brandenburg, such as the competitions "Berlin- Brandenburg 2070" (2019) and "Stadtbaupuzzle" (2020), or the ARCH+ Issue "Stadtland" (2017), these considerations do not appear to have yet made it onto Berlin's planning agenda.

Fig. 22: Ber

lin Downtown cityscape, Westend61 / Artur Bogacki

Fig. 23: Map of Germany with Neighbouring Countries I Vemaps

Germany's capital and biggest city, both in terms of land and population, is Berlin. It was split by its infamous wall between 1961 and 1989. Since German reunification in 1990, Berlin has emerged as a global center of culture, education, media, tourism, politics and science. [1] According to population inside city borders, it has 3,570,750 million residents, making it the most populated city in the European Union. [2] Berlin, one of the sixteen states that make up Germany, is bordered by the State of Brandenburg and is next to Potsdam, the capital of that state.

According to current projections, Germany Population (as of 9/15/2022)is 83,365,255, and the most dense city is Berlin with more than 3.5 millions inhabitants.

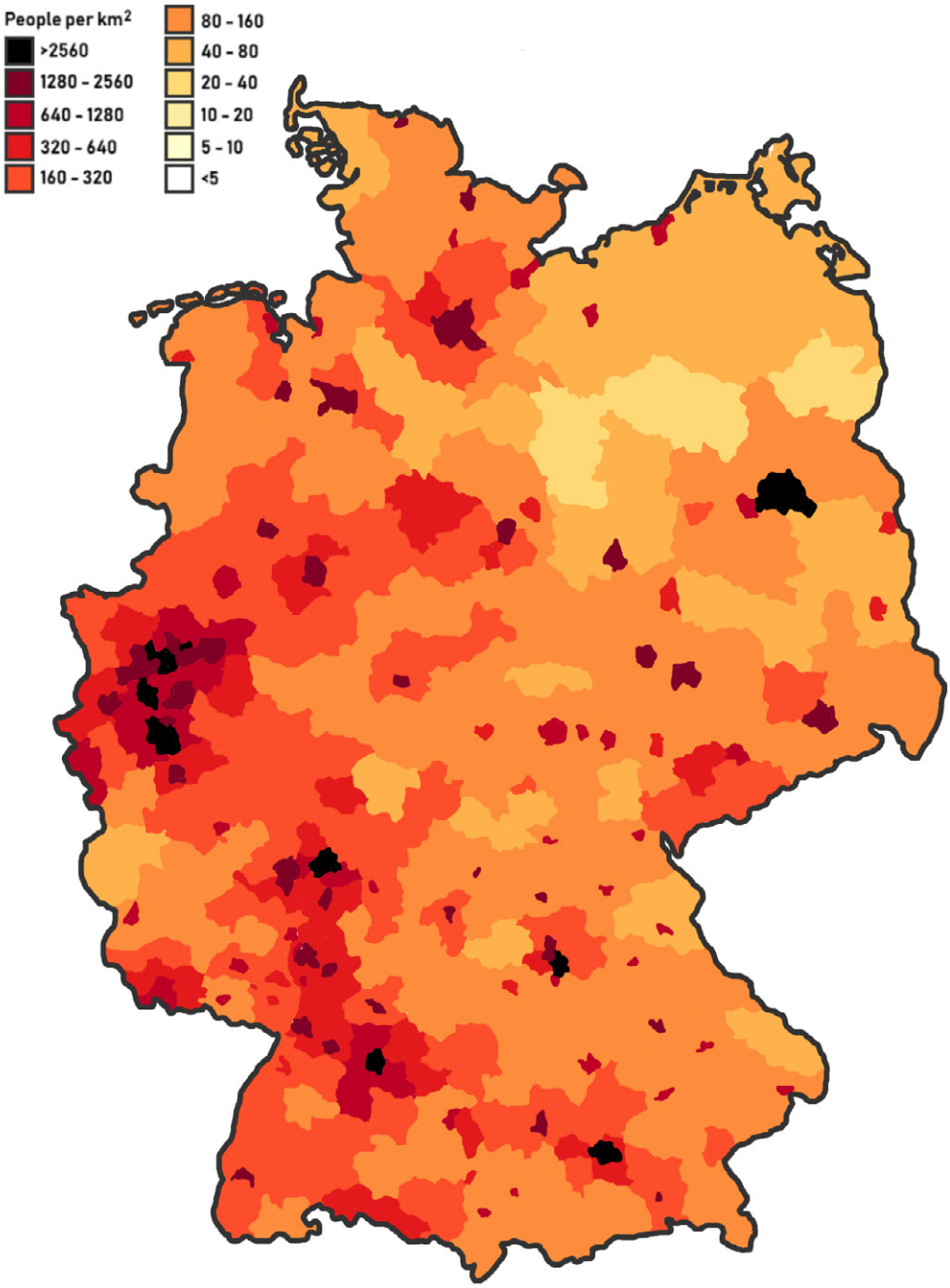

Fig. 24: Population density in Germany, Statistisches Bundesamt Deutschland, 2019

The Berlin/Brandenburg metropolitan region is one of eleven metropolitan regions of Germany, consisting of the entire territories of the state of Berlin and the surrounding state of Brandenburg. The region covers an area of 30,545 square kilometers (11,793 sq mi) with a total population of about 6.2 million.

The metropolitan region should be distinguished from Berlin's immediate agglomeration, dubbed Berliner Umland (English: Berlin's surrounding countryside or Berlin's countryside) which comprises the city and the nearby Brandenburg municipalities. Berliner Umland is significantly smaller and much more densely populated than the metropolitan region, accounting for the vast majority of the region's population over a fraction of its total land area. Despite their continued separation, the two states nevertheless work together on a number of issues.

Fig. 25: The Berlin/Brandenburg metropolitan region, Statistisches Bundesamt Deutschland, 2019, citypopulation.de

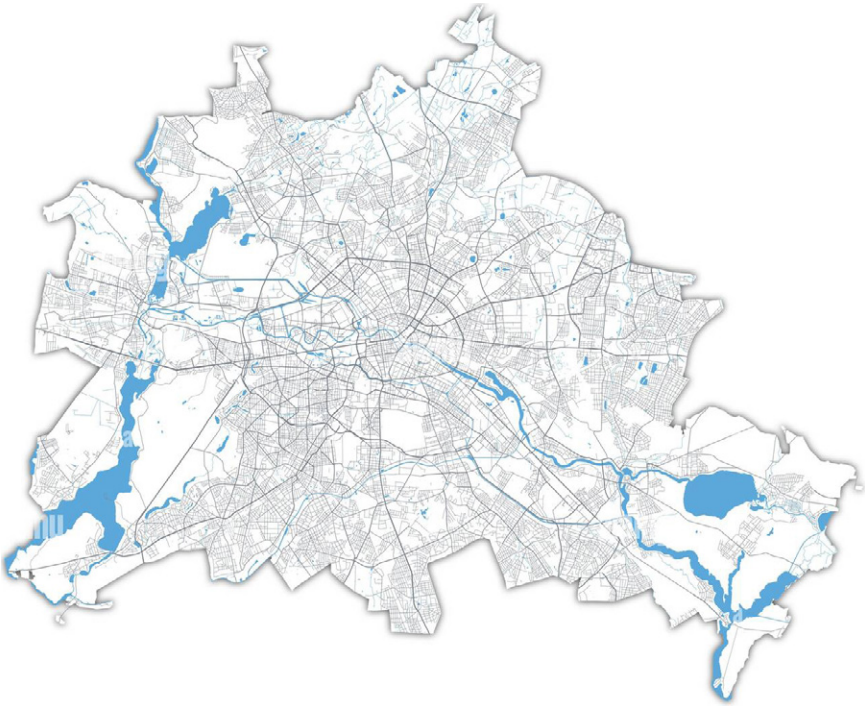

Fig. 26: Berlin's vector map of the city's administrative area map, dreamstime

Fig. 27: Berlin districts neighborhoods map, berlinmap360

Fig. 28: Berlin at night, 2016. Earth Science and Remote Sensing Unit, NASA Johnson Space Center

NEW CHALLENGES, SAME PARADIGM

Fig. 29: Graffiti in Berlin's Neukölln district reads: 'Rent increase, modernisation … what to do? 1. Don't sign anything 2. Talk with your neighbours 3. Seek renter counselling.' Photograph: Sean Gallup/Getty Images

HOUSING CRISIS

In the past ten years or more, Berlin's housing situation has deteriorated to the point of disaster, mostly due to population growth. A developing city that was once known for its affordable cost of living has experienced a major increase in popularity, and housing demand is now far surpassing supply, driving prices through the roof. As is common, low-income social groups are disproportionately affected by this desperate situation, with a significant percentage of them being the more than 30 universities and other higher education institutions in Berlin.

Berlin has been experiencing intense development pressure for a number of years due to a constant rise in population. The city's population has risen to its greatest level since the end of World War II, sitting around 3,750,000 as of 2021. Berlin's housing construction has been unable to keep up with this development. There are typically 80,000 vacant residences each year. Development policy was and still is one of the causes. The Berlin Senate has prioritized internal development since the 1990s. Many vacant lots that were once there have been developed.

Furthermore, it is the investor approach which is prevailing today, meaning that the housing units being built at the moment are luxury homes intended for sale and not rentals, despite the fact that more than 80% of Berliners are tenants.

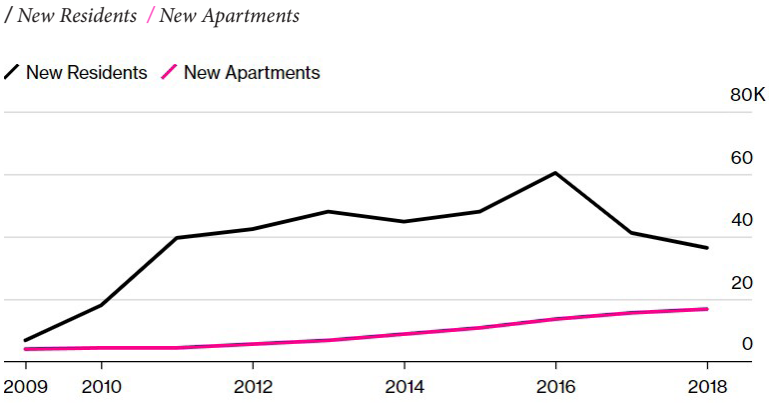

Fig. 30: Berlin's apartment construction in-relation to the population growth
Source: Berlin Statistics Office, German Construction Industry Association

SOCIAL INEQUALITY

In the past ten years or more, Berlin's housing situation has deteriorated to the point of disaster, mostly due to population growth. A developing city that was once known for its affordable cost of living has experienced a major increase in popularity, and housing demand is now far surpassing supply, driving prices through the roof. As is common, low-income social groups are disproportionately affected by this desperate situation, with a significant percentage of them being the more than 30 universities and other higher education institutions in Berlin.

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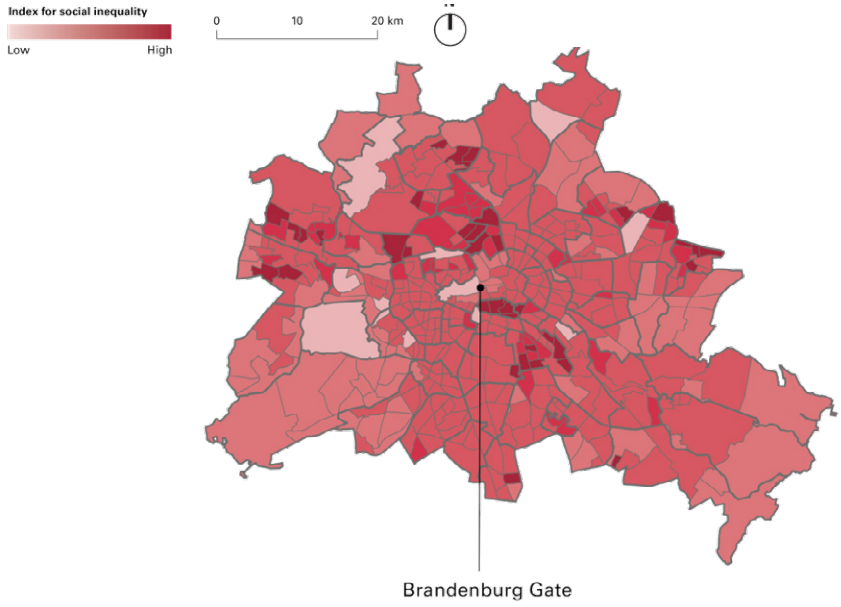

Fig. 31: Spatial inequality, Berlin. Urban age, 2019

COLLECTIVISM VS. INDIVIDUALISM

Up until now, there have only been two main types of residential construction: the detached home and the apartment block. The latter is increasingly perceived as a rejection of the detached home. According to numerous studies, approximately 70% of people prefer detached homes to those in blocks. The trend toward detached homes, however, has risen in recent years along with the development in wealth, although it may be necessary to tolerate significant difficulties; greater expenses, longer streets, and worse services as a result. But at the same time, detached homes occupy valuable recreational spaces, especially those on the outskirts of the city, prohibiting the neighborhood from using that land for recreational purposes.

The true driving force behind this desire to own a home is not so much the result of economic considerations as it is the need for independence and the freedom to express one's self, or, to put it another way, a higher demand for individualization and an improvement in the quality of life. The apartment building is unable to grant this demand because it limits residents' living space and puts certain requirements on them. It is therefore no accident that the construction of apartment buildings is steadily decreasing in favor of detached dwellings.

The issue is whether there is a middle ground between these two extreme forms of housing that gives the benefits of a detached home while avoiding the drawbacks of an apartment complex; something on the one hand can fulfill the need for individuality, and on the other, can manifest the advantages of the apartment block.

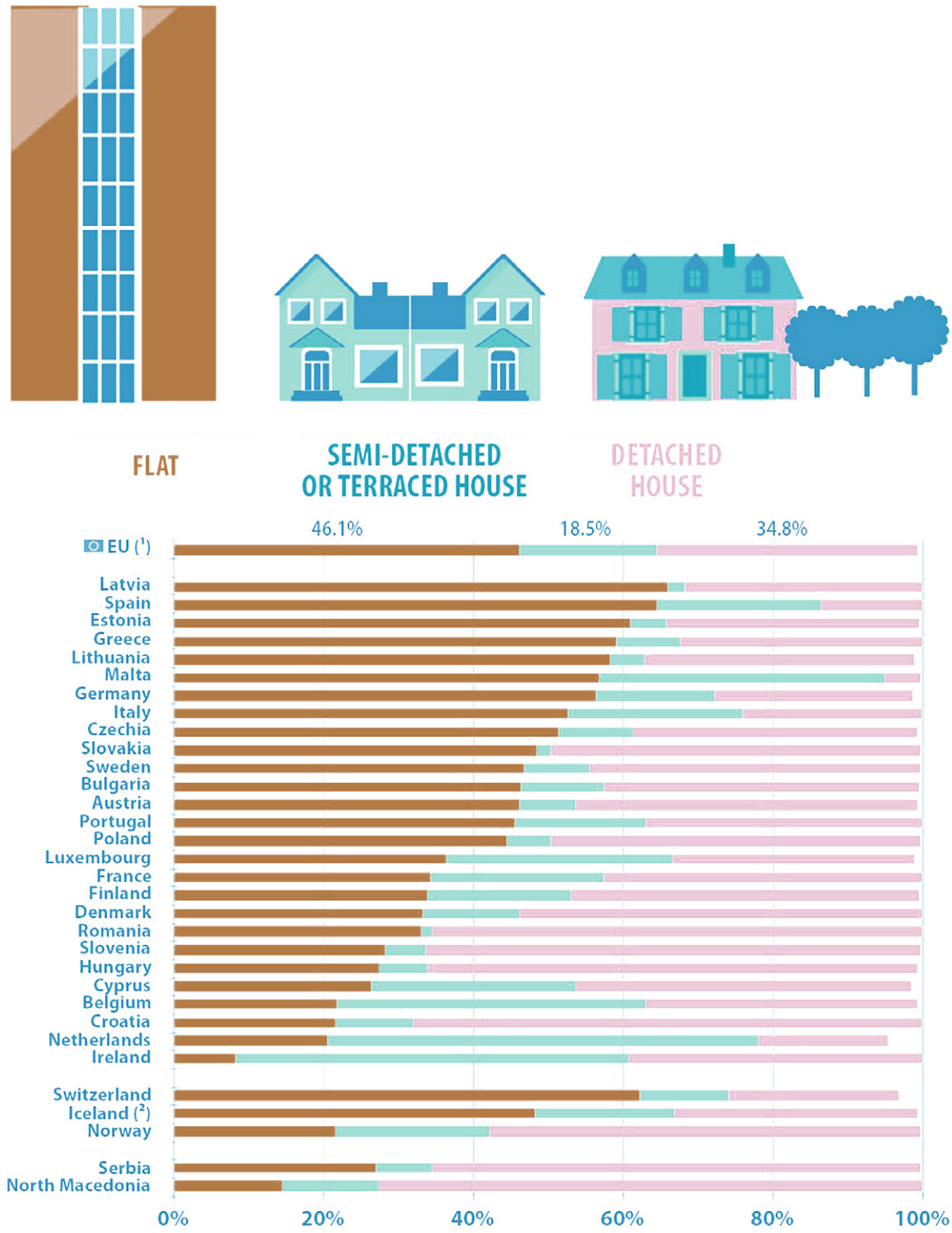

Fig. 32: Data shows the divide between people living in flats and houses in the European Union. Image: Eurostat

Fig. 33: Plattenbau housing estate, Marzahn, Ost-Berlin, Schoening / Alamy Stock Photo

Fig. 34: Aerial view of residential urban sprawl, southern part of Berlin, Photo by Sean Gallup/Getty Images

THESIS MAIN THEMES

Implied topics that will need to be discussed within the framework of the proposal stated as follows:

1. Addressing housing crisis
Berlin, and many cities around the world are currently facing a housing crisis, with growing populations and limited availability of affordable housing. The project can help address this challenge by providing new and affordable housing options. Additionally, incorporating green spaces and sustainable design elements can make the housing more livable and appealing to a wider range of residents.

2. Finding the balance between collectivism and individualism
In many urban settings, there is a tension between the need for individual expression and the desire for a sense of community. The project will try to address this challenge by creating a sense of shared identity among residents, while also allowing for individual expression and autonomy. This can be accomplished through community-building activities, shared spaces for socializing and interaction, and an emphasis on sustainable and Eco-friendly design elements.

3. Regaining one's identity in the urban fabric
In large cities like Berlin, it can be difficult for individuals to maintain a sense of identity and connection to their community. The project can help handle this challenge by incorporating elements that reflect the local culture and history, such as public art installations, community gardens, and cultural events. Additionally, creating spaces for community engagement and civic participation can help residents feel more connected to their neighborhood and the city as a whole.

4. Addressing social inequality
Many cities struggle with issues of social inequality, including disparities in access to healthcare, education, and other essential services. The project can cope with these challenges by creating affordable housing options, providing access to healthcare and other services on-site, and promoting economic opportunities through local business incubators and workforce training programs. Additionally, creating spaces for community engagement and civic participation can help promote a more inclusive and equitable urban environment

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6. Fostering social and economic development
Creating spaces and activities that promote community engagement and support local businesses.

7. Addressing isolation and aging population
Finding ways to provide social and support services for elderly populations to prevent isolation and improve quality of life.

THE PROJECT

01. Exterior Collage

THE SITE

Fig. 35: The Cherry Tree Avenue, Site area

SITE LOCATION

The Neulichterfelde development area is located in southern Lichterfelde, Berlin's peripheries. The 96-hectare area is a former military training area with partly lush vegetation. The southern edge of the site forms the border between Berlin and Brandenburg, andthe border is directly reflected in the shape of the site. The site is directly connected to the center of Berlin and the train and underground networks via the Lichterfelde Süd train station (S25/S26). A second exit is planned to the south of the station.

To the north is the Thermometersiedlung, a large, prefabricated housing estate from the 1970s; to the east and west, the area is characterized by row houses and single-family homes. The site's location is unique; though it is in the peripheries, it has a strong connection to the city through public transportation.

The site's location between the city and the countryside provides a unique opportunity to connect urban and rural environments. The project can benefit from the proximity to the city, allowing for easy access to jobs, education, and cultural amenities. At the same time, the site's location adjacent to the countryside provides access to green spaces and natural landscapes, which can be used for recreation and promote a healthier lifestyle. By incorporating green spaces and agricultural practices, the project can create a self-sustaining community that engages with its natural surroundings. This blend of urban and rural environments can create a dynamic community that is resilient and adaptable to change.

Fig. 36: Site location, Google maps

I will try to adapt this polemic paradigm to the outskirts of Berlin, but on the premise that the city is expanding and pushing into the surrounding area. By suggesting a gentle, deliberate reduction of the current landscape and vegetation as opposed to a land-intensive expansion of built-up areas. Due to the fact that the landscape is already "there," the issue of an architecture that is minimally invasive in terms of land usage emerges. Here, the concept of "critical mass" serves as the driving principle, aiming for structures that are both enormous and compact, with hybrid functions and a small footprint.

The city within a city manifesto will be replicated as a model for minimally invasive reinterpretation of the existing landscapes in urban planning. The concept for the urban islands of this archipelago is "the city within a city"—equally big and compact buildings with a hybrid use and a minimal footprint. The formulation of the program is followed by, not only by designing the greenery, but using them as a design element to be integrated into the buildings, or, into the islands.

Fig. 37: Aerial view of the site, Google maps

SITE ANALYSIS
Site photos documentation

Key Site map

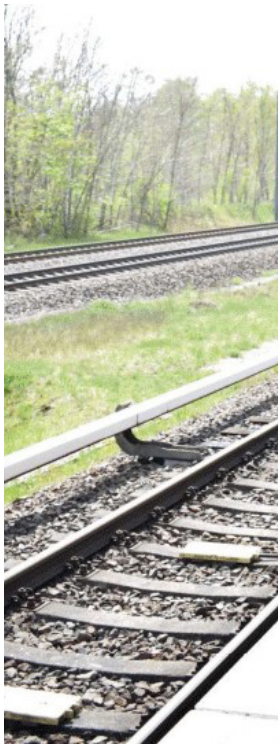


Fig. 38-41: Photos show Ne

eu Lichterfelde Sud Train station which is located on the Northern left part of the Site

SITE ANALYSIS
Site photos documentation

Key Site map

Fig. 42-45: Photos show th

e Bus stop on the Northern part and the surrounding streets

SITE ANALYSIS
Site photos documentation

Key Site map

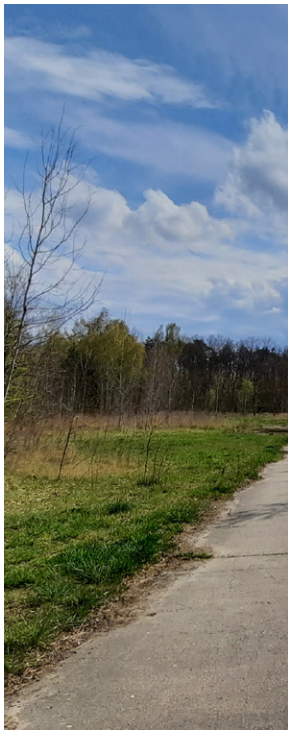


Fig. 46-49: Photos show th
and you can access the site

e existing path to the site. You can enter by walking or cycling, as there is no access for cars at the moment,
from the top left northern part or from the southern side of the site.

SITE ANALYSIS
Site photos documentation

Fig. 50-55: Photos show different layers of the exisitng greeneries. In the inner part of the site, a large variety of trees and p species of vegetation are planned to be moved and they are marked with separations in the ground. There range between h often surrounded by paths.

plants can be noticed. Some areas containing particular high and low-rise vegetation; enclosed tree areas and are

SITE ANALYSIS
Site photos documentation

Key Site map

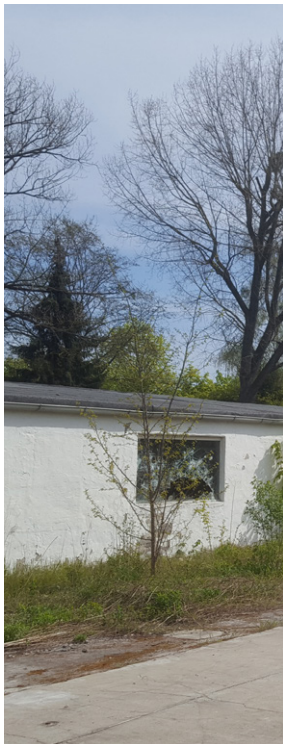
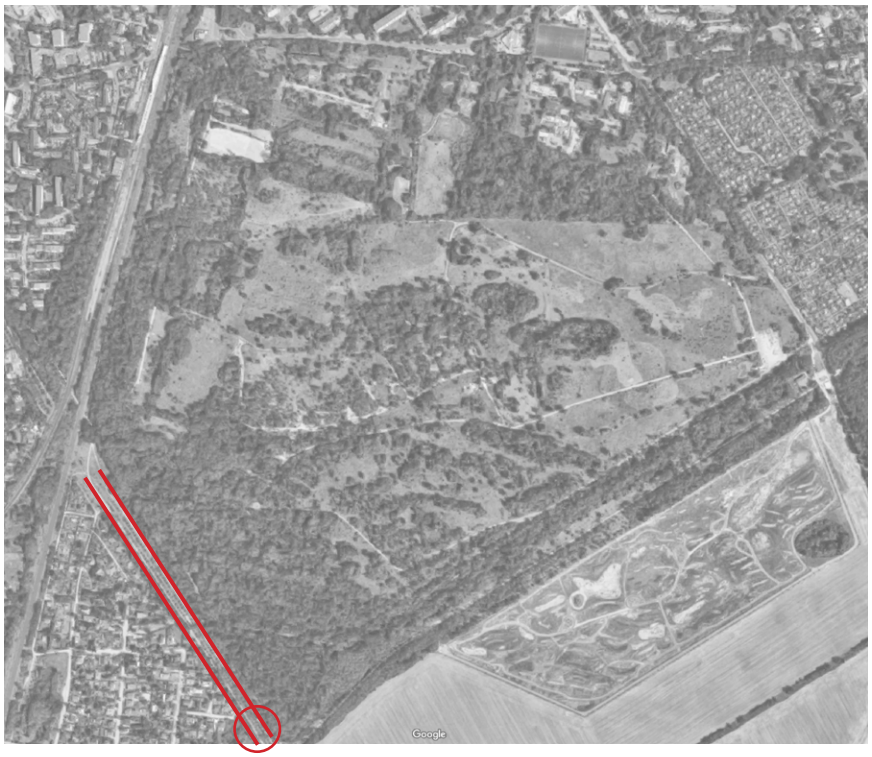


Fig. 56-59: Photos show Th

e Grey area which is more advisable to build on it which is located in the top-northern part of the site.

SITE ANALYSIS
Site photos documentation



Key Site map

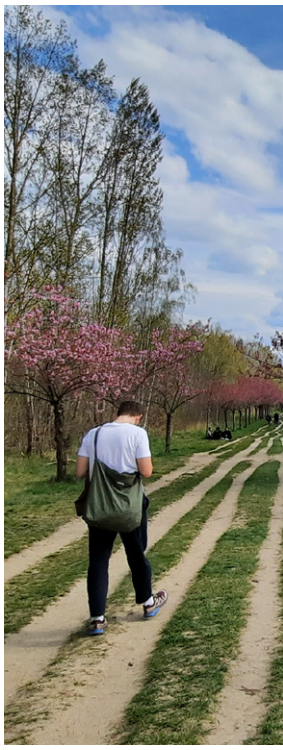


Fig. 60-63: Parallel to the s
on sunny days to sit and w

outheastern side, we have "kirschbaumallee", which translates in English to "The cherry tree avenue" where the people go alk. At the end of this path, we have this spacious scenery of the agricultural fields.

SITE ANALYSIS
Site photos documentation

Key Site map

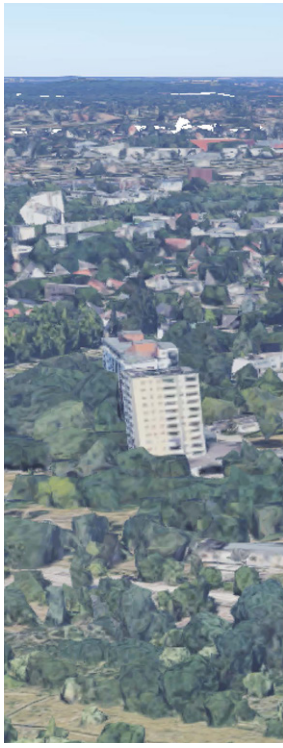


Fig. 64-66: Photos of some
The site is mainly surround
of the site the open fields of

building types of the large residential development "Thermometersiedlung" lies in the north. Many - but not all - of the buildings there are high rises.
led by residential architecture in low density: Single-family homes and row houses are predominant in the east and west. While on the southern border
Brandenburg are beginning.

SITE ANALYSIS
Figure-ground floor map

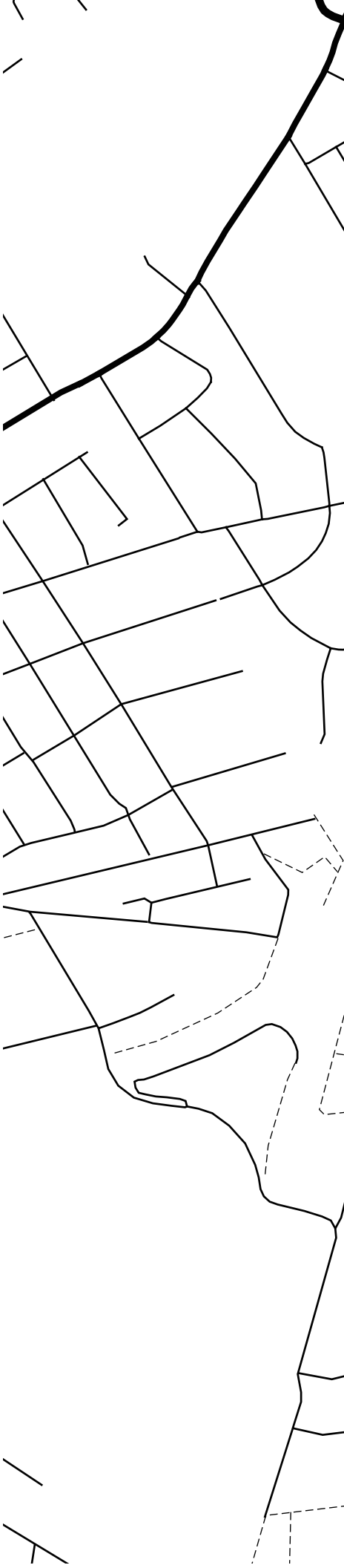
The site is bordered by a rather heterogeneous fabric. To the north, we observe large collective housing complexes. To the west, semi-collectives dwellings and finally everywhere else, individual residences.

Buildings
Site border

02. Figure Ground floor map: 1:10.000

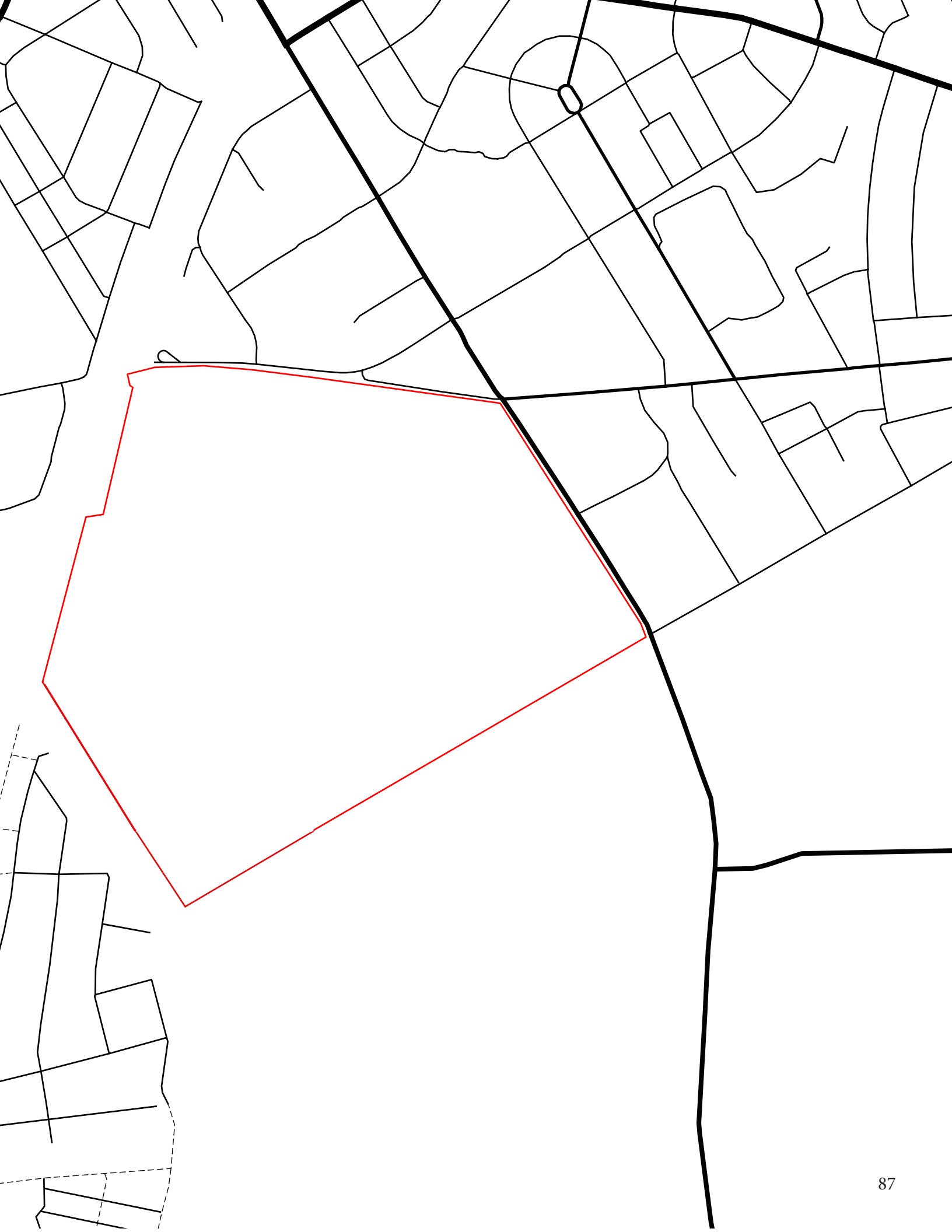
SITE ANALYSIS
Streets map

The map shows the connection of the area with the street network. The isolated location of the site is obvious here. So far, it can only be accessed via Landweg, which merges into Remaurstraße and ends with a loop in front of the Lichterfelde Süd S-Bahn station. There is only one street in the north, no streets either to the west or to the south. Osdorferstrasse, which borders the site to the east, serves as the only access street into Landweg. The thickness of the lines also indicates that Osdorferstaße, is the only major multi-lane street in the surrounding area.



Public streets
Private streets
Site border

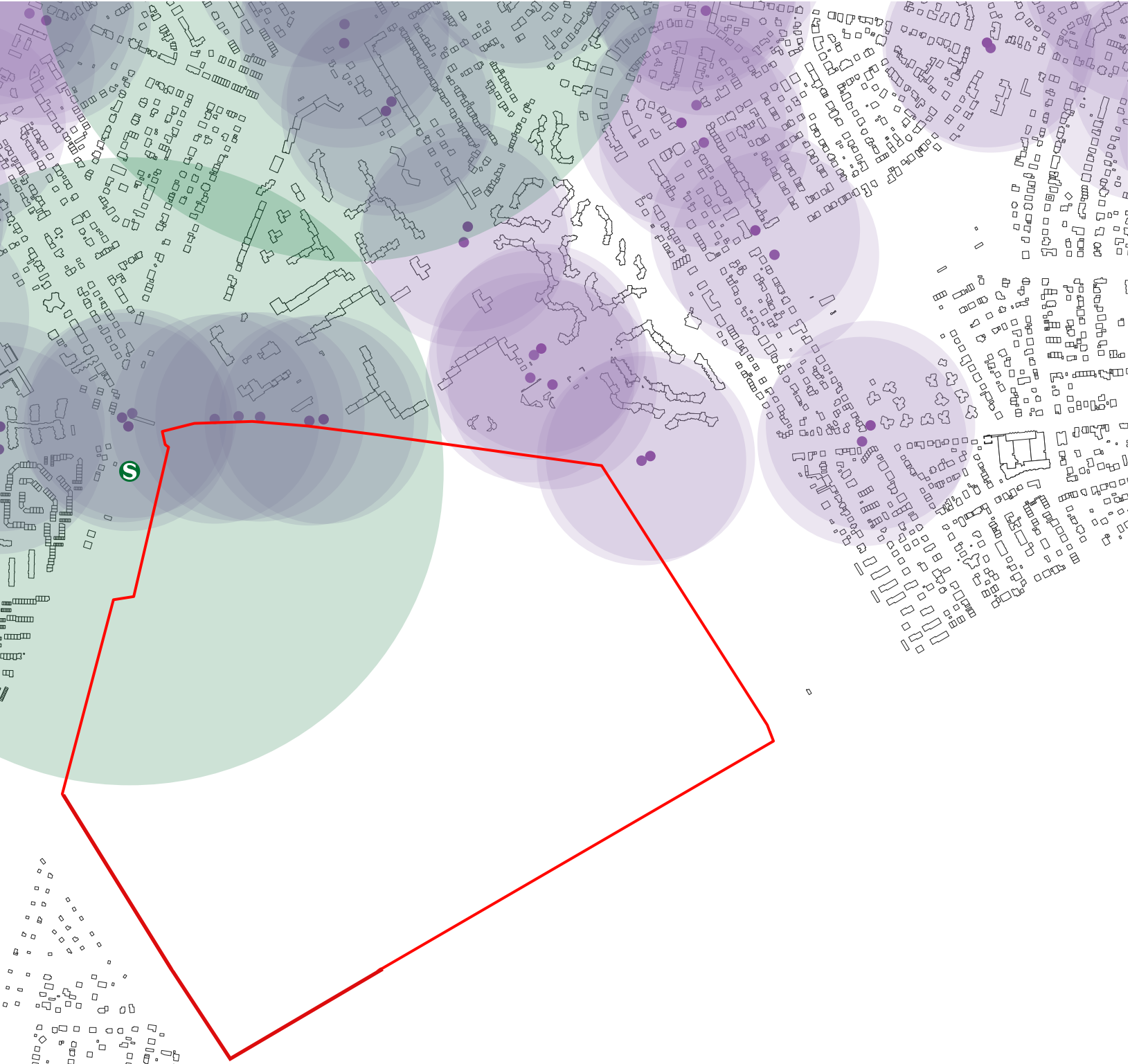
03. Street map: 1:10.000



SITE ANALYSIS
Public transportation radius map

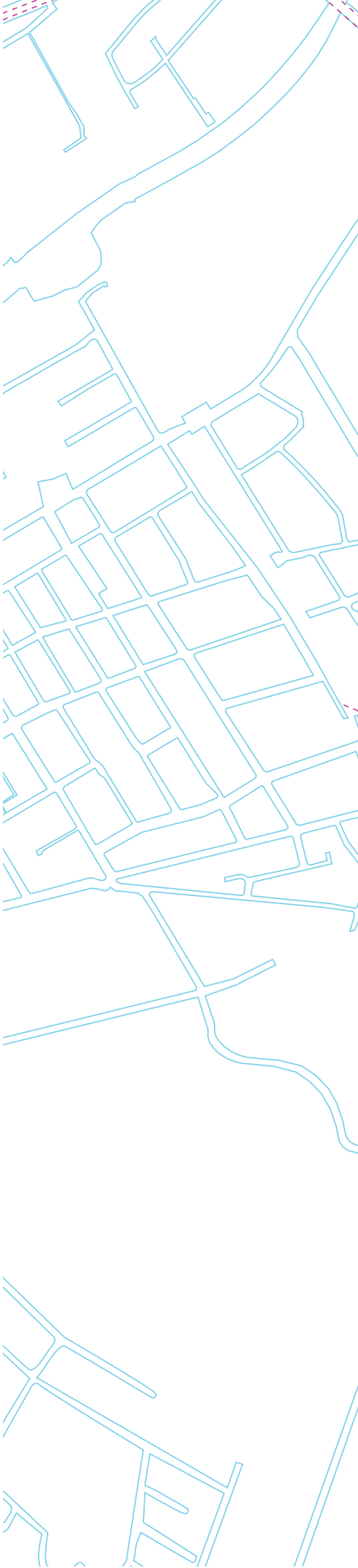
The map shows the bus and train station positioned in the southern part of the project, which is ideally connected to public transportation that goes to the city center. It takes around 26 minutes to reach the city center by train, and 36 minutes by Bus.

04. Street map: 1:10.000



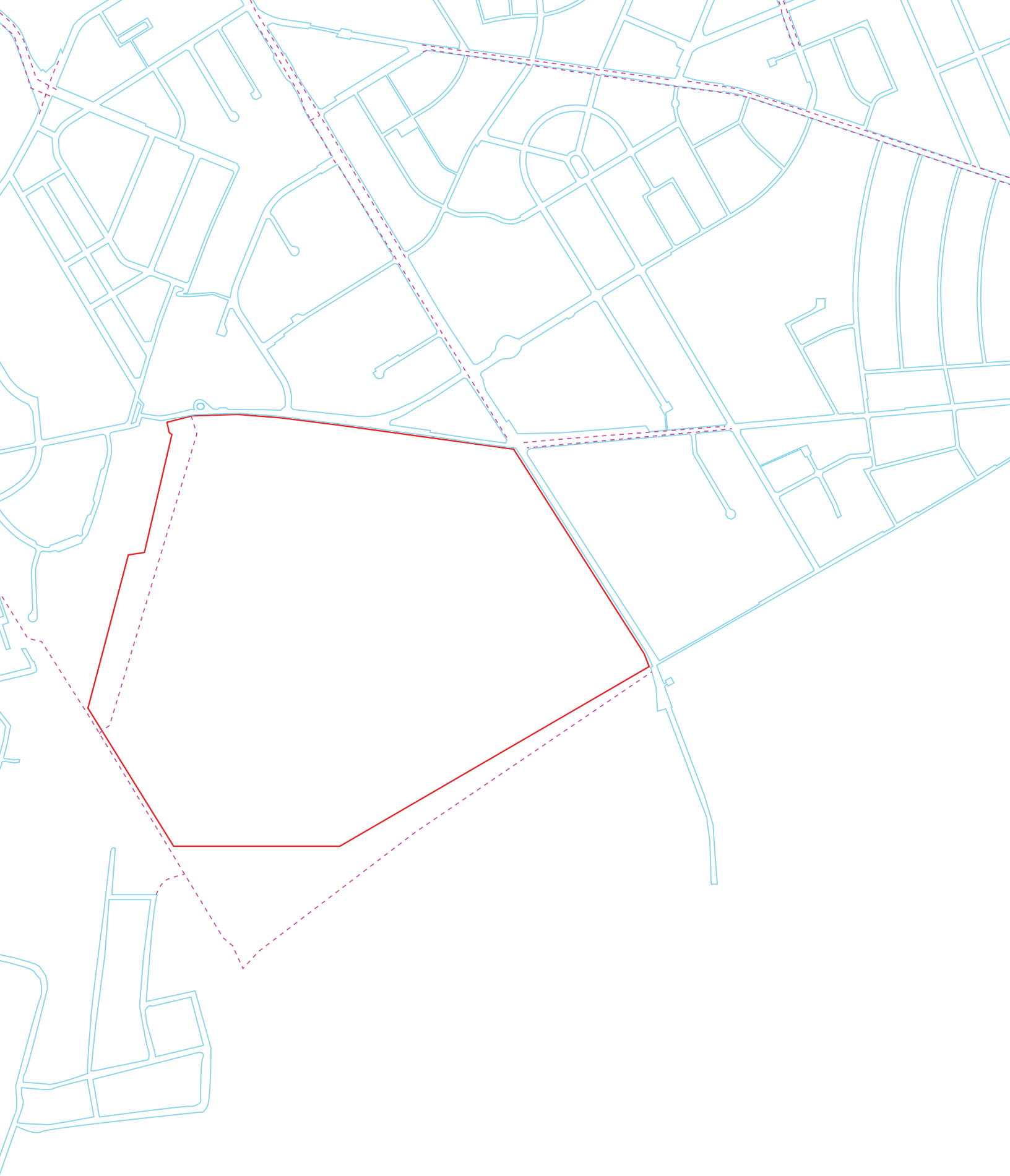
SITE ANALYSIS
Bike lanes map

There are official bike lanes in the district of Berlin, in the main streets as Hildburghauser, Lichterfelder Ring and Osdorfer. However, the light traffics in the inner streets allows bicycles to ride comfortably.



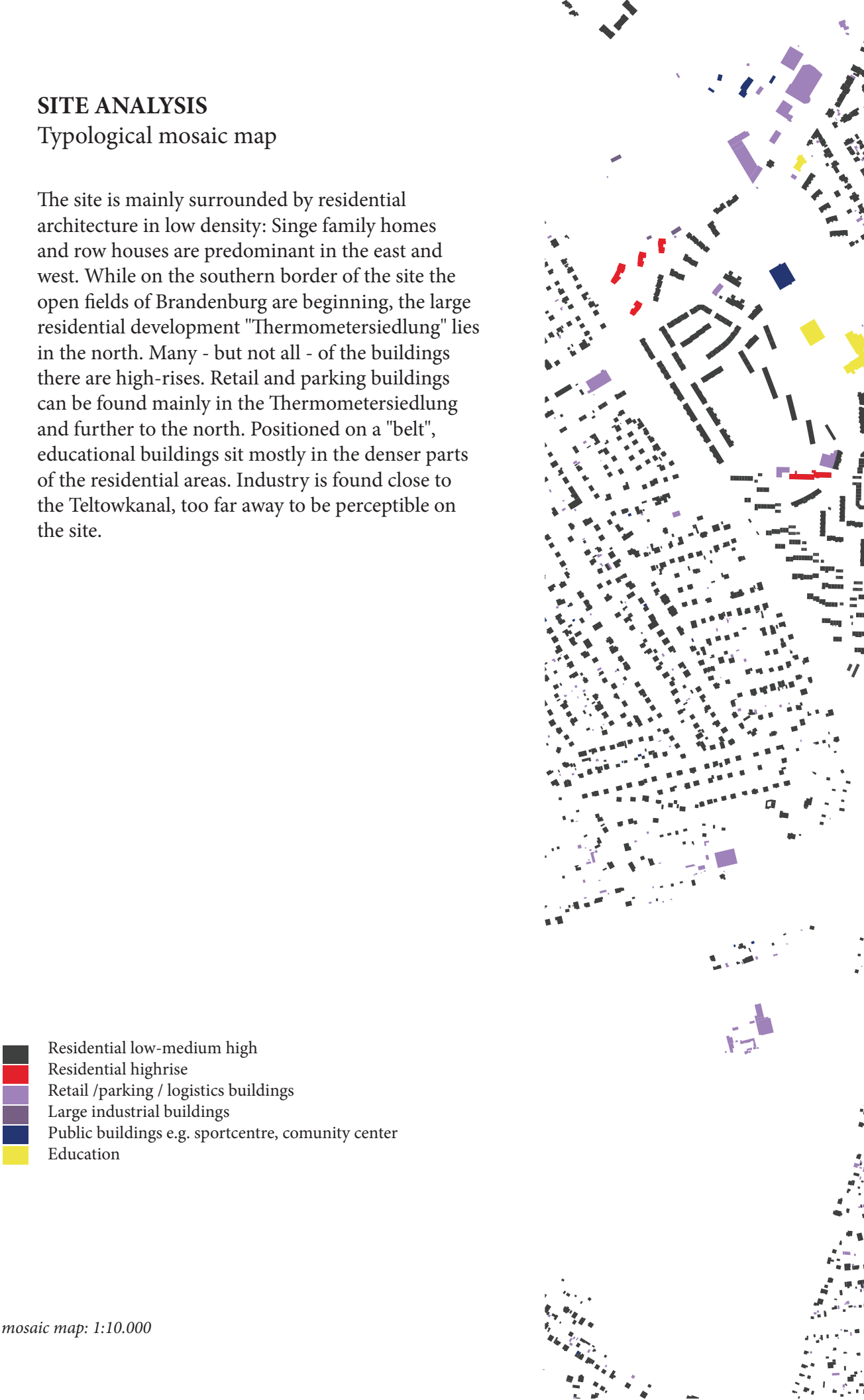
Sidewalk
Bike path

05. Bike lanes map: 1:10.000

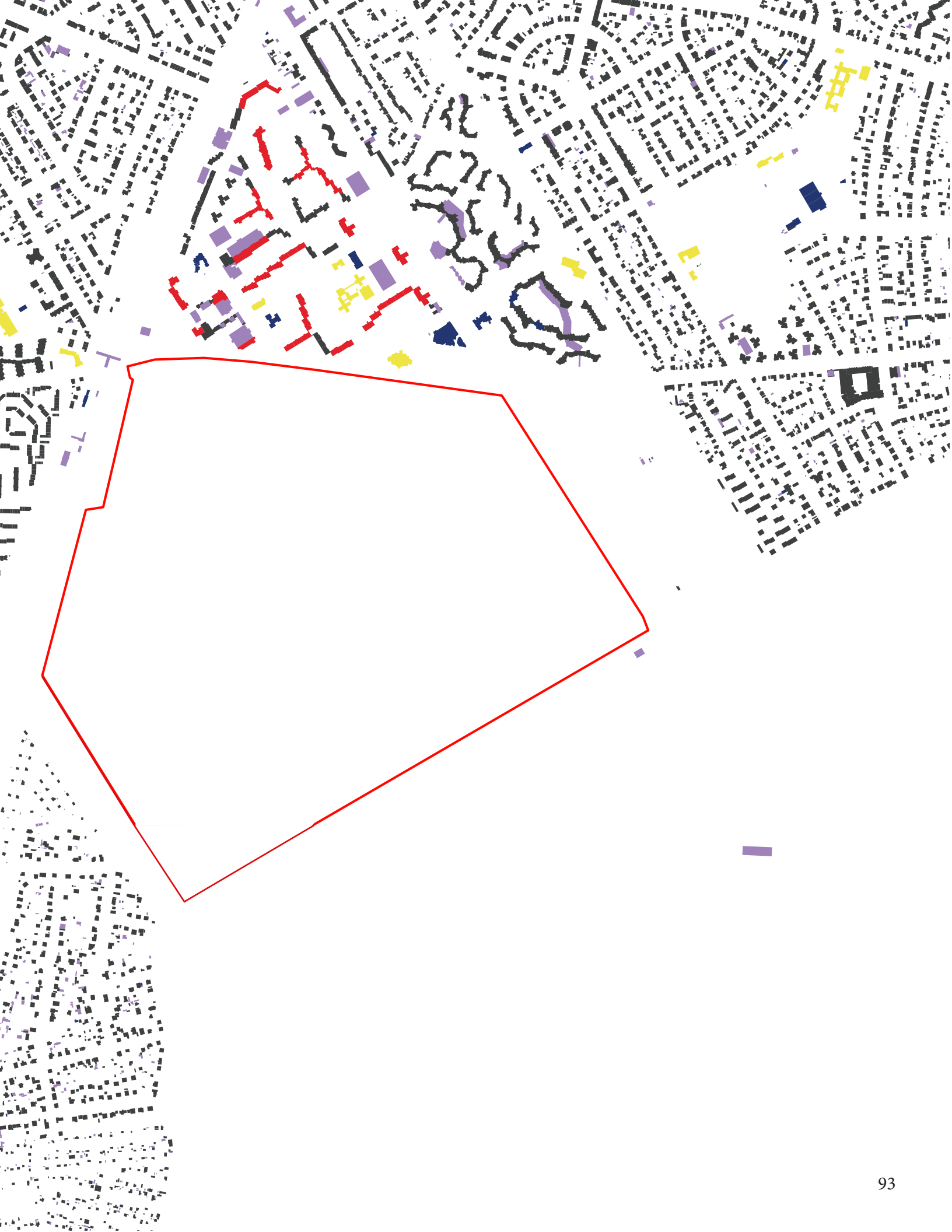


SITE ANALYSIS
Typological mosaic map

The site is mainly surrounded by residential architecture in low density: Singe family homes and row houses are predominant in the east and west. While on the southern border of the site the open fields of Brandenburg are beginning, the large residential development "Thermometersiedlung" lies in the north. Many - but not all - of the buildings there are high-rises. Retail and parking buildings can be found mainly in the Thermometersiedlung and further to the north. Positioned on a "belt", educational buildings sit mostly in the denser parts of the residential areas. Industry is found close to the Teltowkanal, too far away to be perceptible on the site.



06. Typological mosaic map: 1:10.000



SITE ANALYSIS
Site landscape-layers map

This map displays the different groups of vegetation that are present in the study area. Meadow extends throughout most of the central surface, while the forest is located predominantly in the south-west and north-east areas.

Temporary small bodies of water and ponds
- Temporary ponds

Anthropogenic raw soil sites and ruderal corridors
- Raw soil locations
- Ruderal corridors

Grassland and turf
- Fresh pastures and ruderal meadow
- Dry grassland

Bushes, multi-layered stands of trees, rows of trees
- Groups of trees, single trees

Woods and forests
- Pioneer forests

Green and open spaces
- Fallow land
- Riding arenas

Built-up areas
- Commercial and community use areas
- Traffic areas

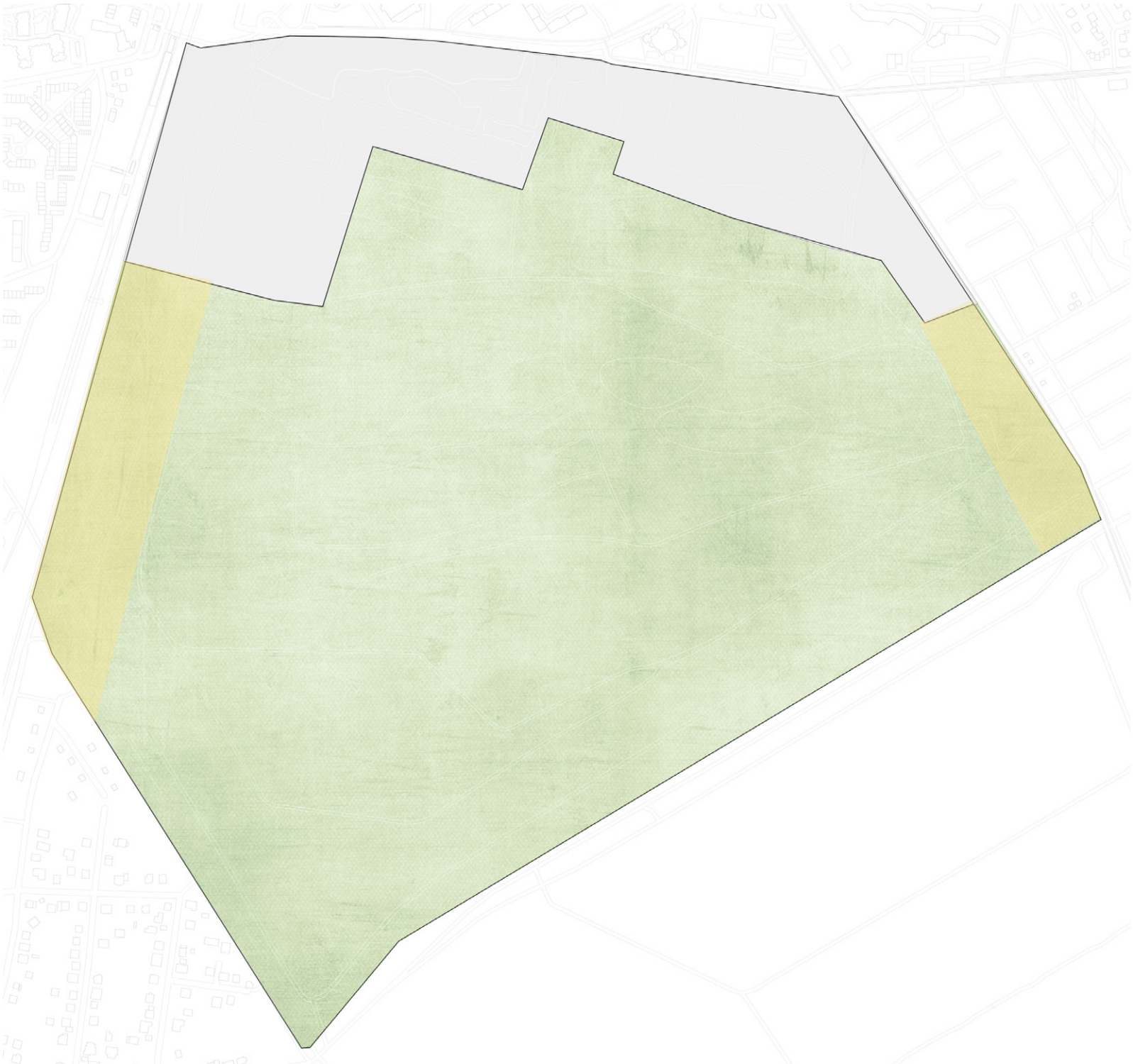
07. Typological mosaic map: 1:10.000

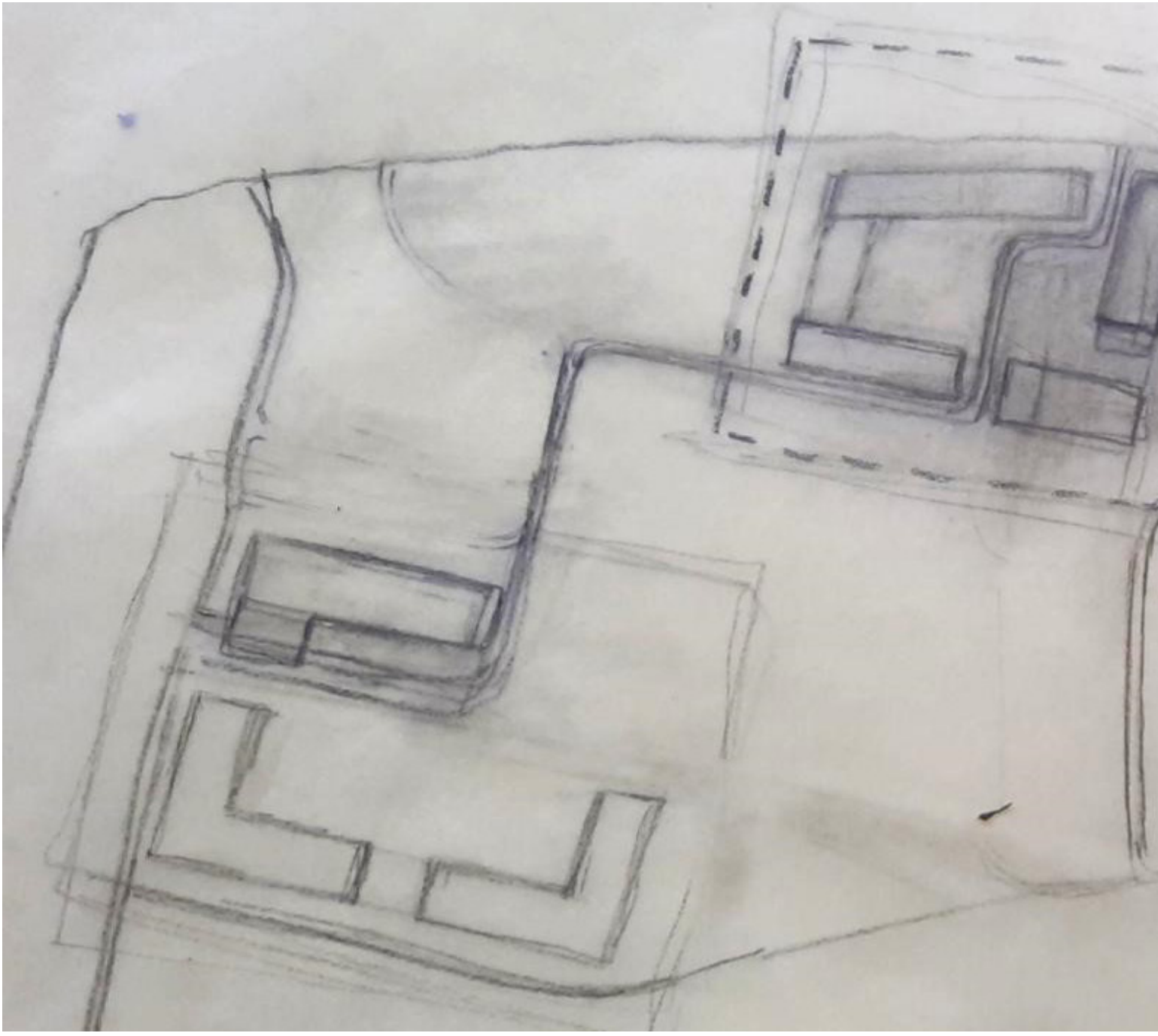
SITE ANALYSIS
Typological mosaic map

After different studies on animal and plant populations in the area, the Landschaftsgutachten (a landscape office in Berlin who did an intensive study for the site are before) concluded the following: In order to preserve the natural landscape qualities, a large-scale protected core area must exist (the green zone). The area that can be built on is shown in gray. The two light yellow areas, are sites where it can be built on conditionally. They have a high density of animals and plants, but are not necessary to maintain the quality of the core area according to current knowledge.

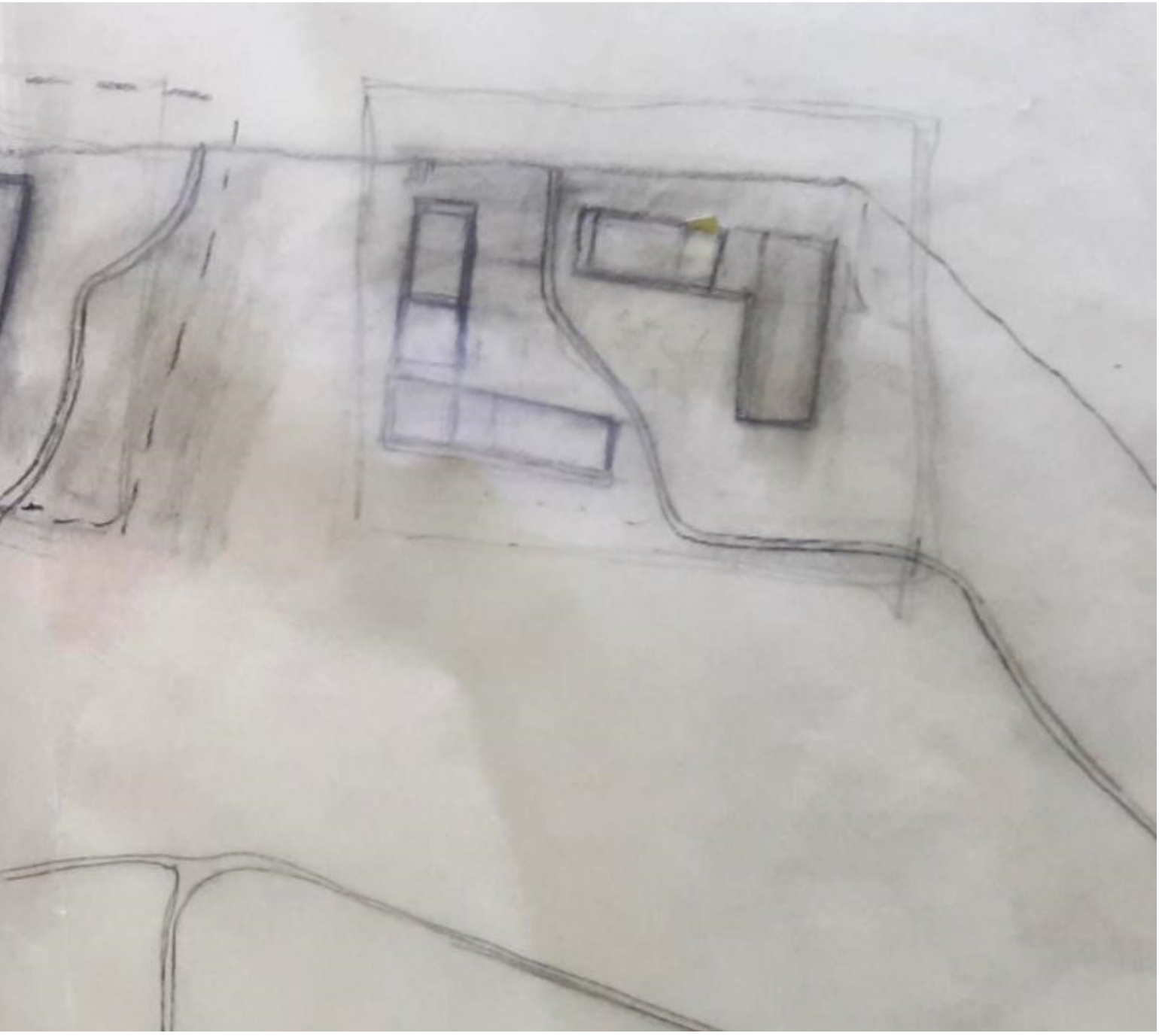
Protected area
Area can be built on
Area can be built on conditionally

08. Typological mosaic map: 1:10.000





09. Initial sketch for the Site Plan showing the three Islands



THE PROJECT
Concept development schemes for the Master Plan

1. Existing situation

2. Archipelagos (the islands) zones

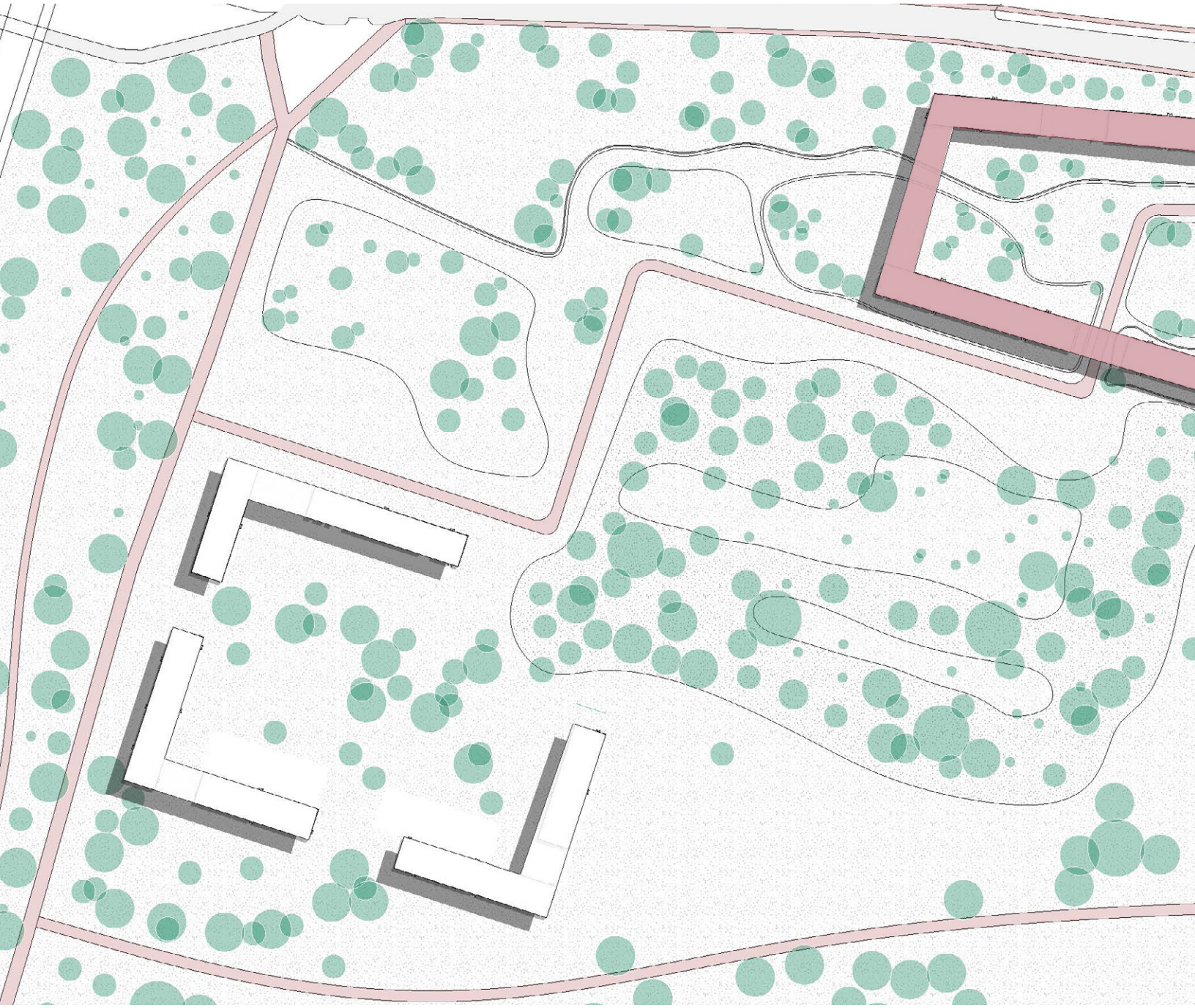
3. Identifying Islands (city blocks) initial footprint while respecting the existing greeneries

4. Islands landing on the site

5. Linking the islands with city streets

6. Grouping city blocks from the top floor and creating friendly indoor sanctuaries

THE PROJECT
Site Plan



11. The Site Plan showing the three Islands and the thesis project in the middle highlighted in red, 1:2500

12. The Master Ground floor Plan, 1:2500

THE PROJECT
City Islands (first and second)

Ground Floor Plan

1. Environmental Learning Center
2. Cafe
3. Market
4. Healthcare
5. Childcare
6. Co-Working
7. Workshop
8. Market

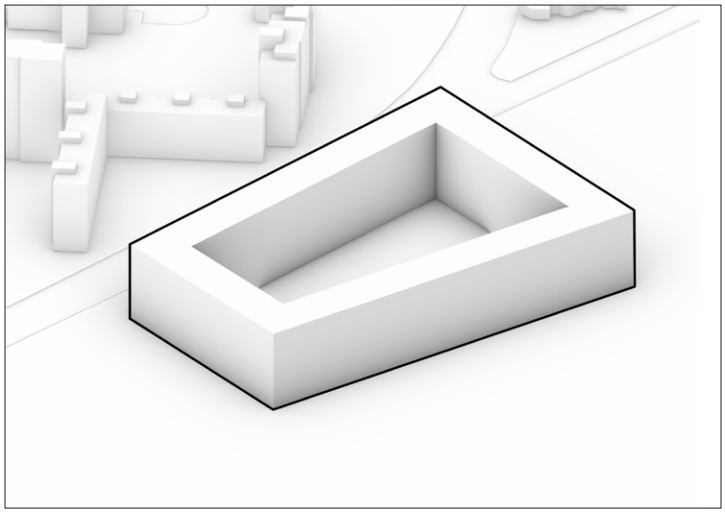
13. Ground floor Plan of the Western Island, 1/2500

Ground Floor Plan

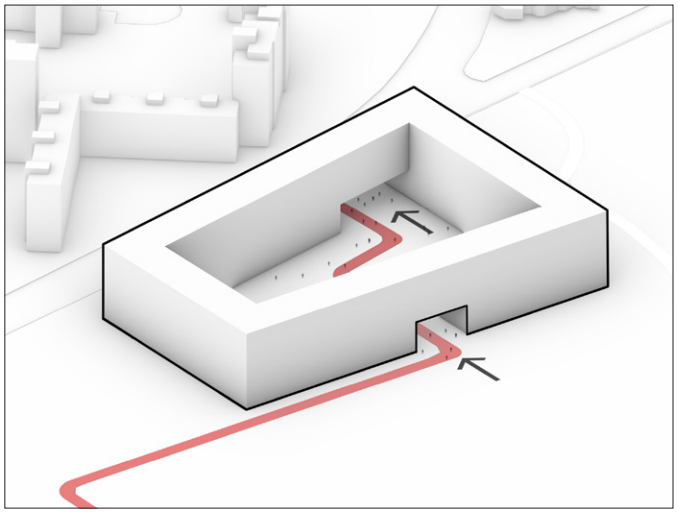
1. Co-Working Space
2. Community Events Room
3. Multi functional Room
4. Cafe
5.Art Gallery
6. Retail
7. Local Restaurant
8. Childcare
9. Bike shed
10. Gym

14. Ground floor Plan of the Eastern Island, 2500

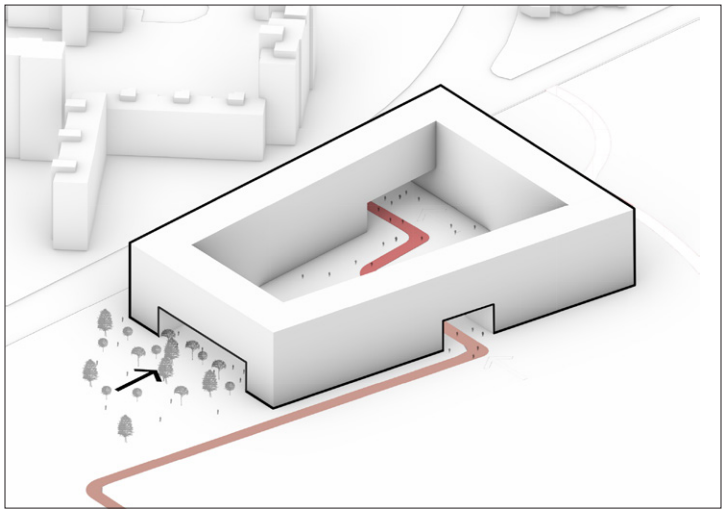
THE PROJECT
Concept development



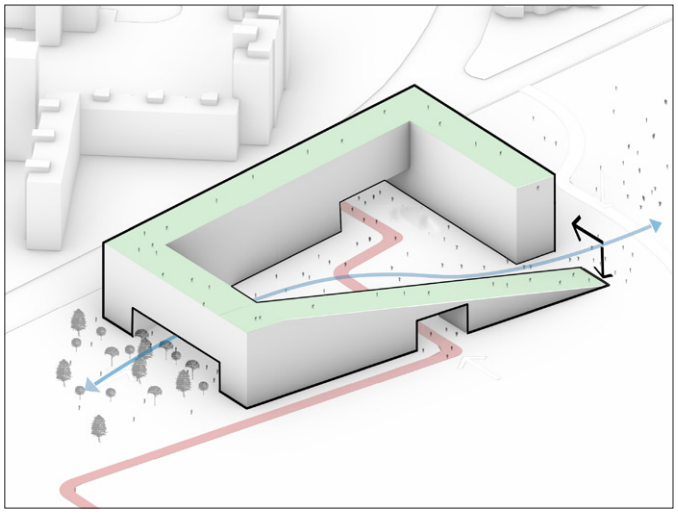
1. Courtyard: Creating a sanctuary for the residents in the heart of the block



2. Permeability: Respecting the existing route and enhancing the accessibility between outside and inside

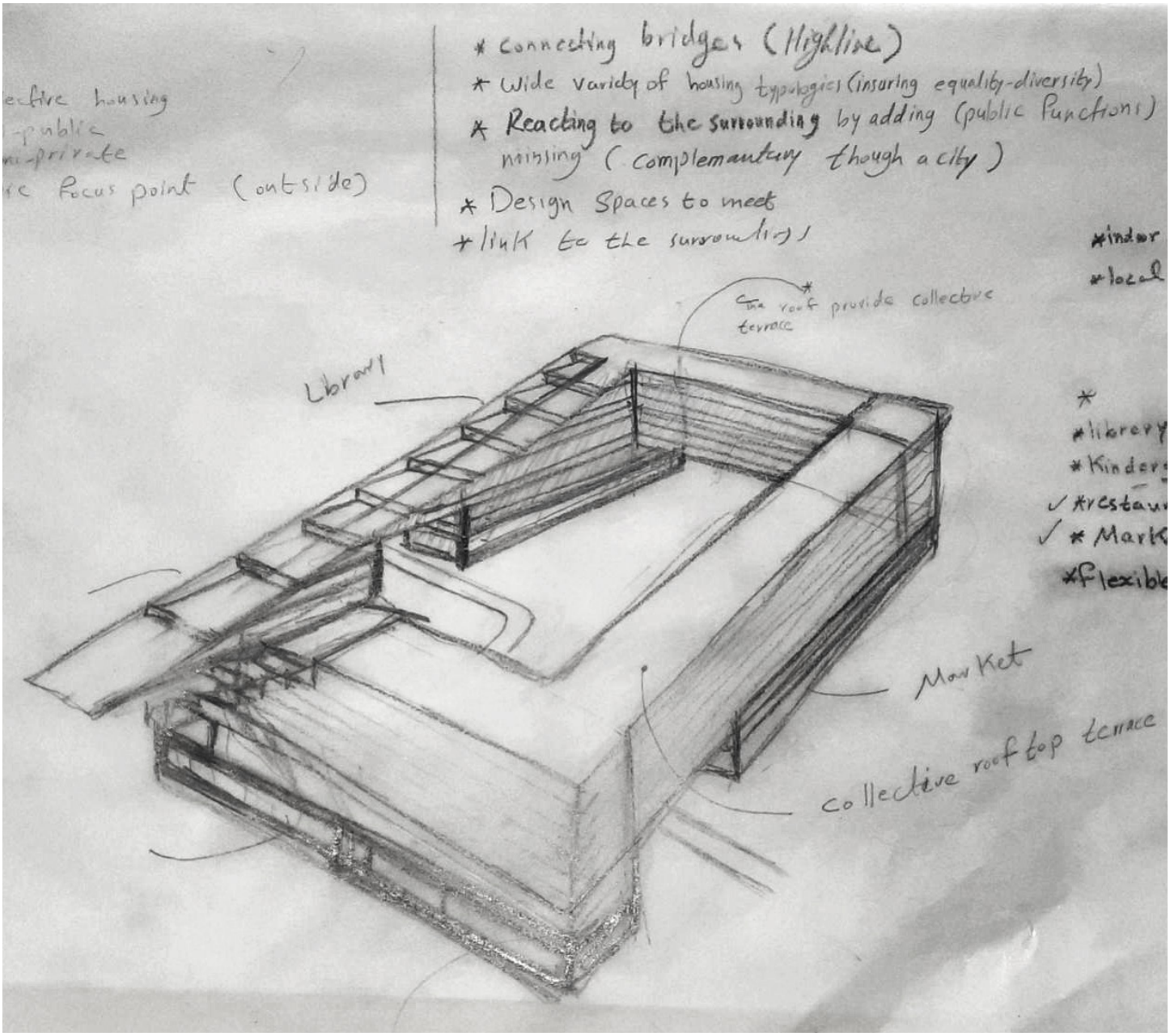


3. Acting with: Respecting the existing vegetation by flipping-up the western facade



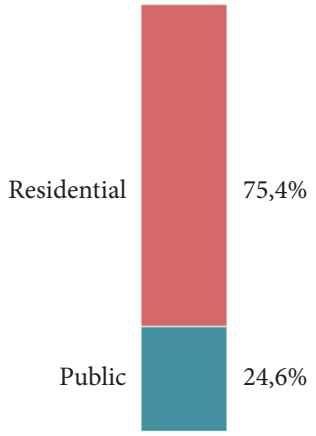
4. Open-to-all: Making the building accessible from the ground to the green roof top which acts as a social layer in the project, and Make the courtyard fully accessible from 4 sides and thus foster the relationship between the building and the outer greeneries

15. Island Concept Development

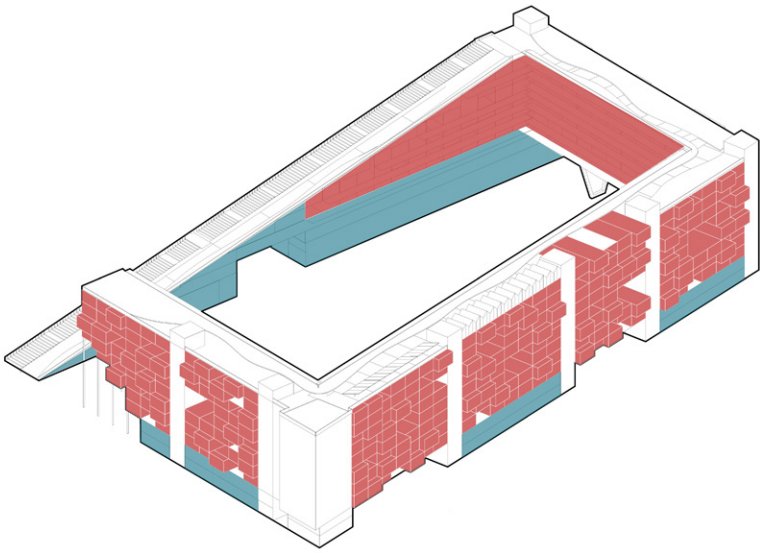


16. Initial hand drawing sketch for the project

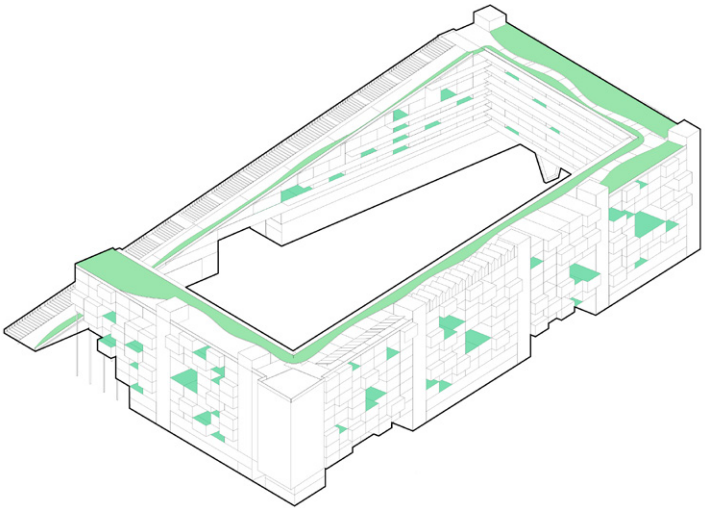
THE PROJECT
Functional Schematic diagrams



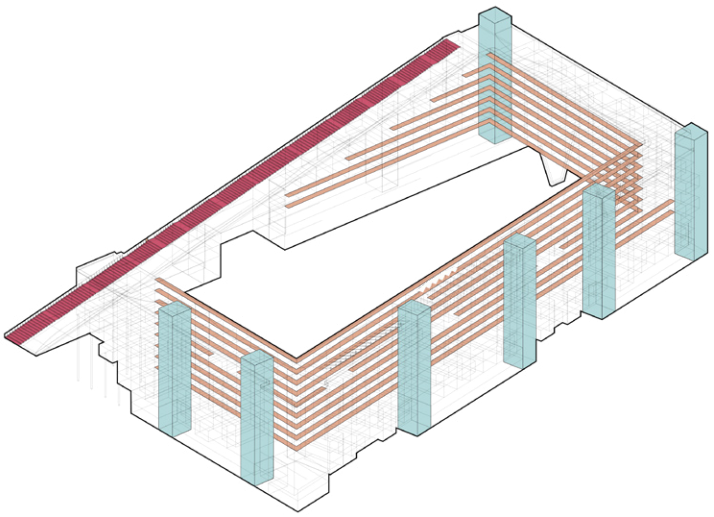
Total Functional Area = 28,834 m^2
Total Gross Area = 34,662 m^2
Ground Floor Footprint = 3,223 m^2



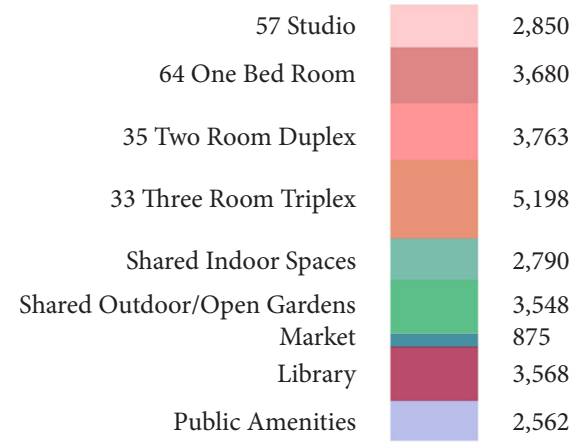
17. Functional Program Diagram

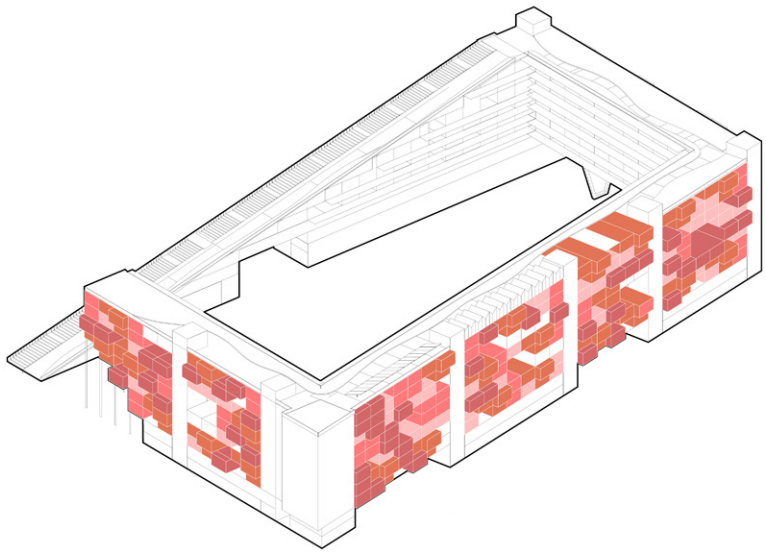


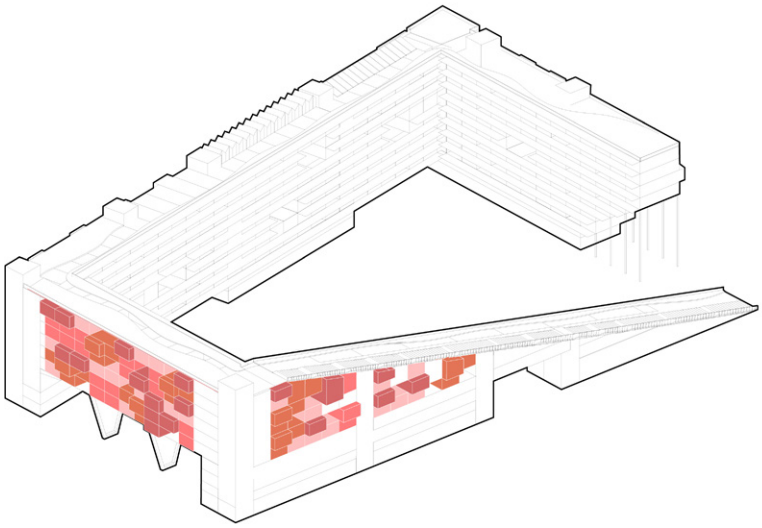
18. Green Spaces Diagram



19. Circulation Diagram

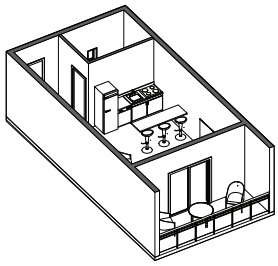


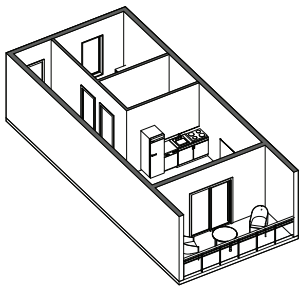


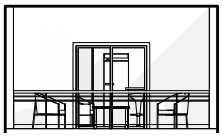


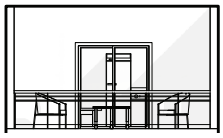
20. Housing Program Diagram with detailed program bar for the whole functions

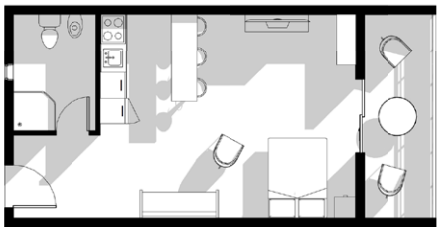
THE PROJECT
Housing Typologies



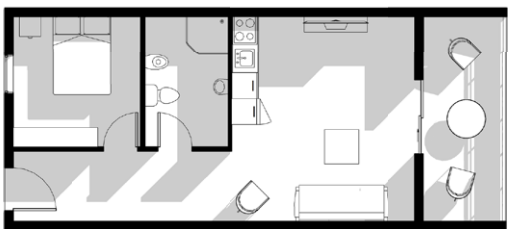






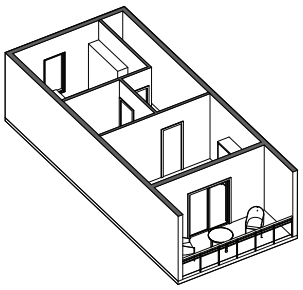


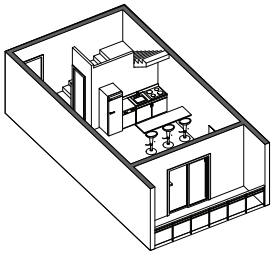
Studio Unit

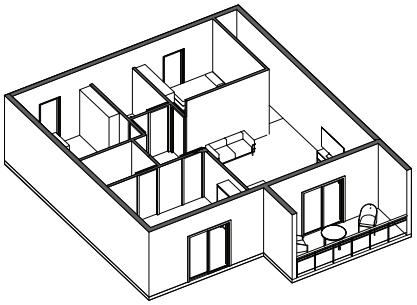


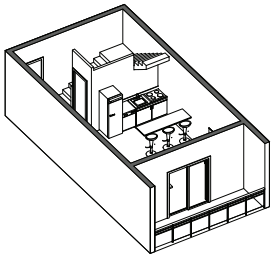
1 Bed Room

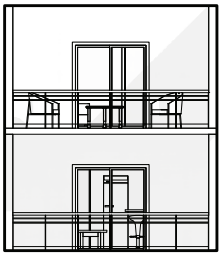
21. Housing Typologies 1/250

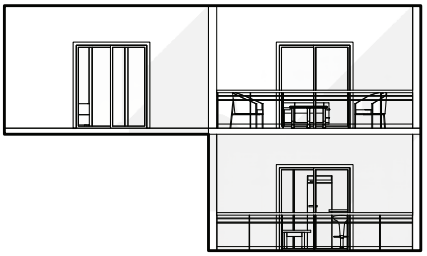


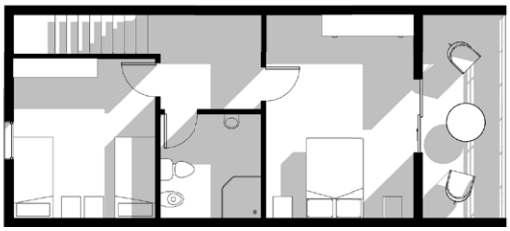


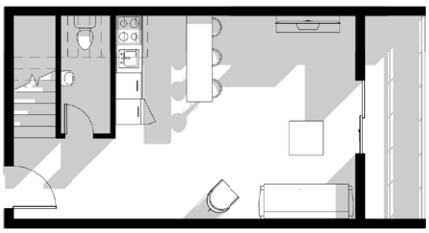


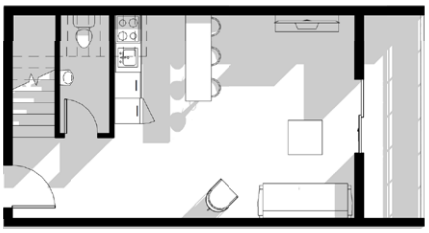






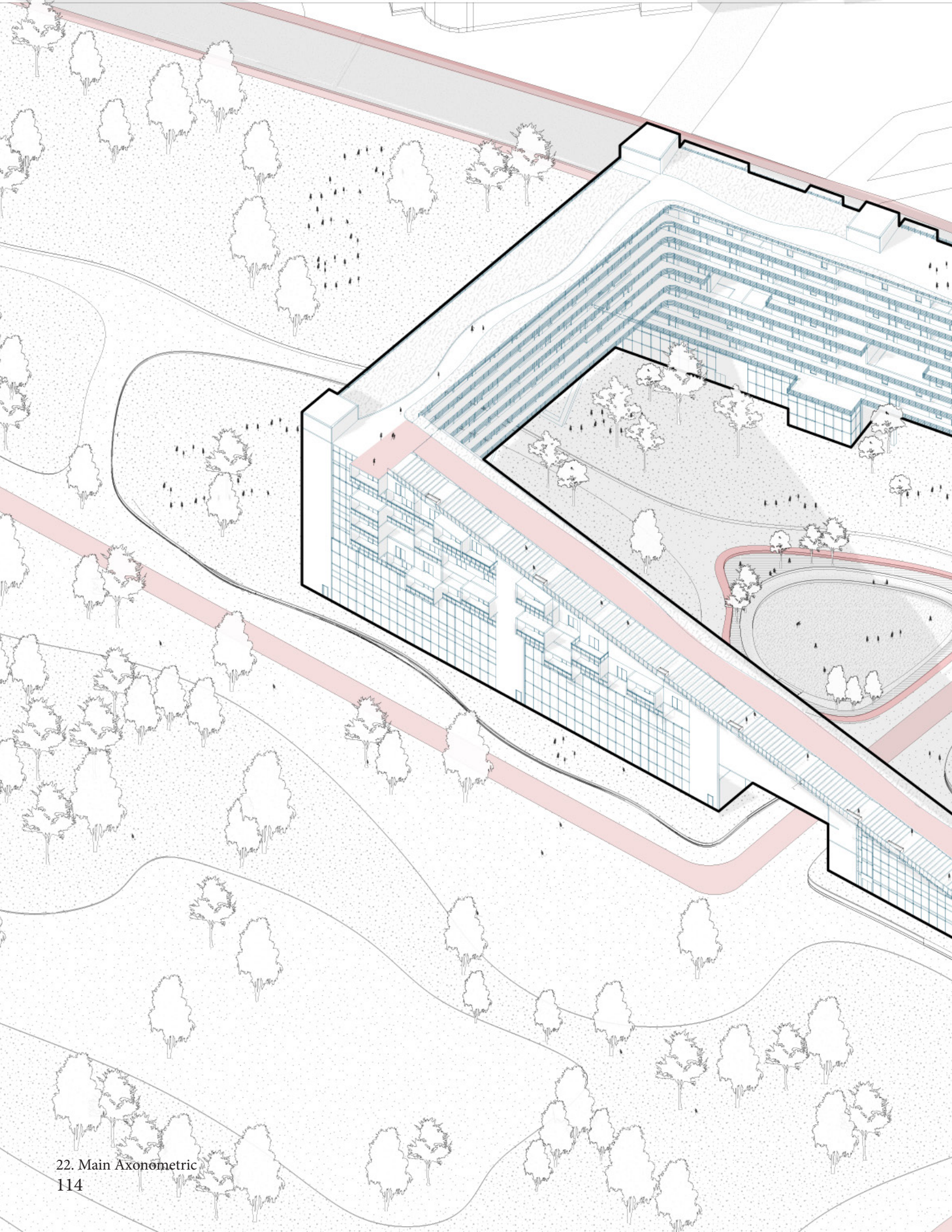




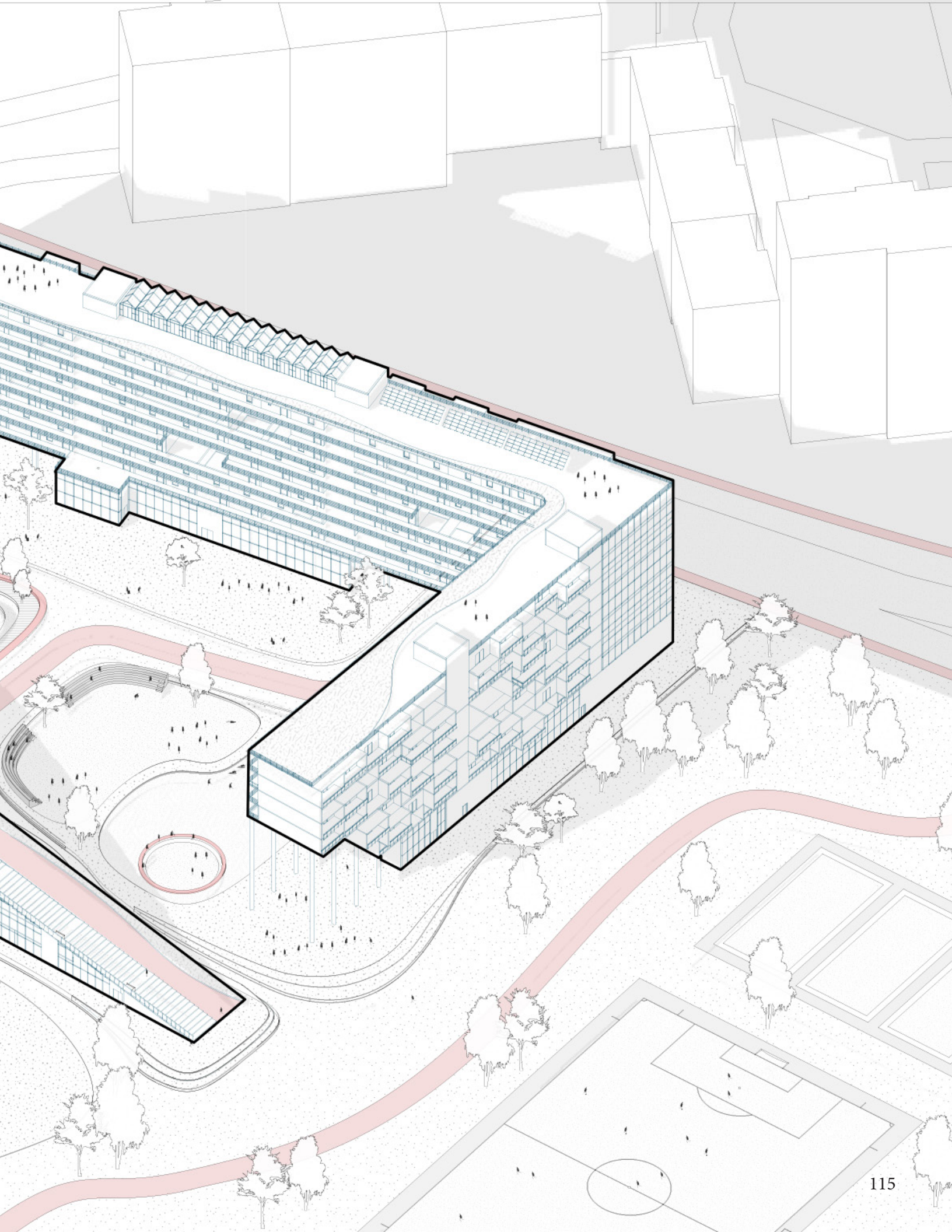


2 Bed Room duplex

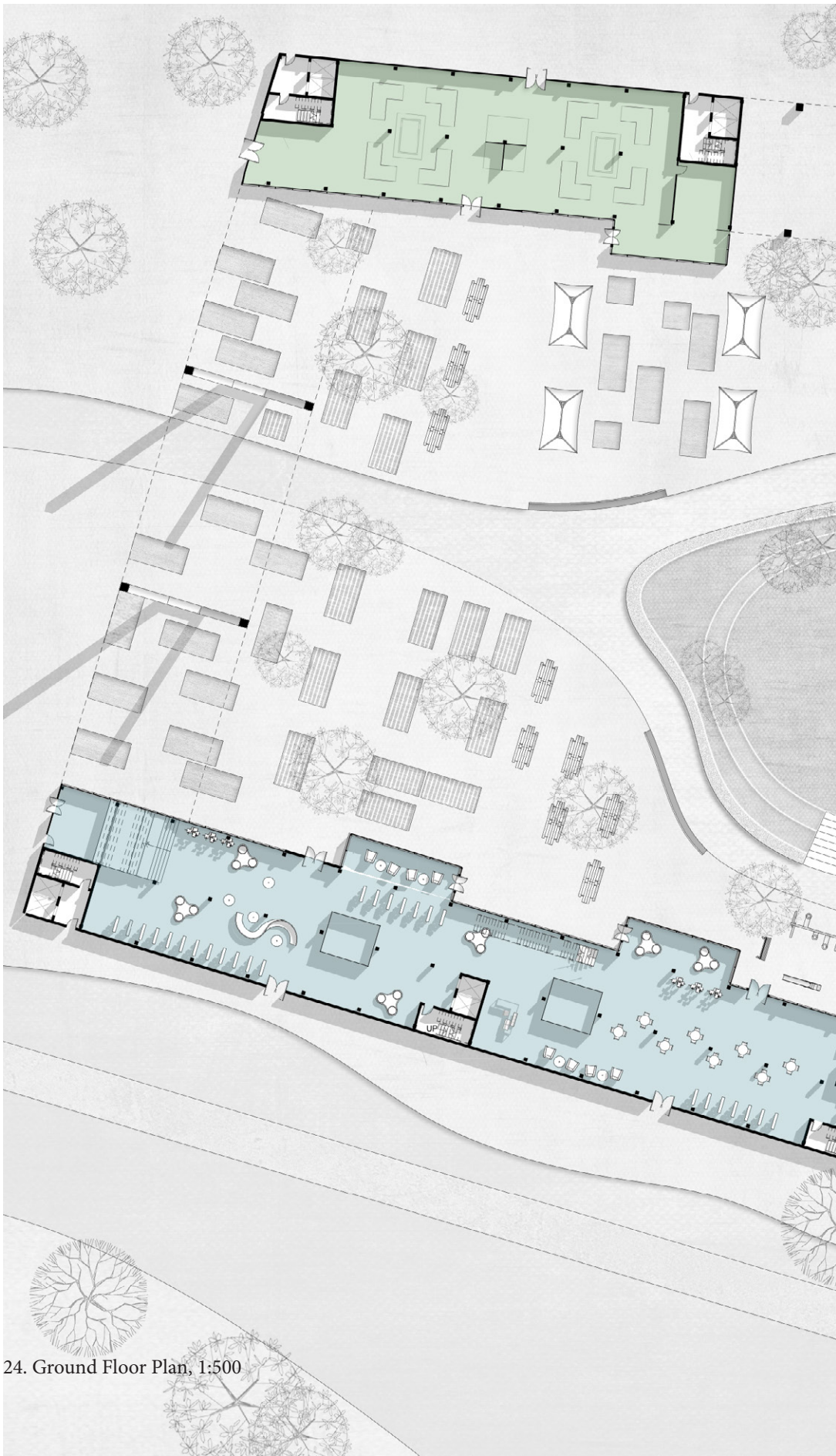
3 Bed Room Triplex



22. Main Axonometric



23. Outdoor Perspective



GROUND FLOOR PLAN

Indoor Program

- Market
- Library
- Cafe
- Co-Working Space
- Local Restaurant
- Workshop
- Storage
- Community Events

24. Ground Floor Plan, 1:500

25. Ground Floor Plan, 1:500

GROUND FLOOR PLAN

Outdoor Program

1. Edible Gardens & Orchards
2. Outdoor flexible market
3. Urban Farming
4. Nature Sanctuary
5. Outdoor Amphitheater
6. Playground
7. Outdoor Gym
8. Outdoor Art Gallery Classes
9. Outdoor Reading Space
10. Outdoor children area
11. Out door sitting & dinning
12. Outdoor cafe sitting
13. Outdoor Working space

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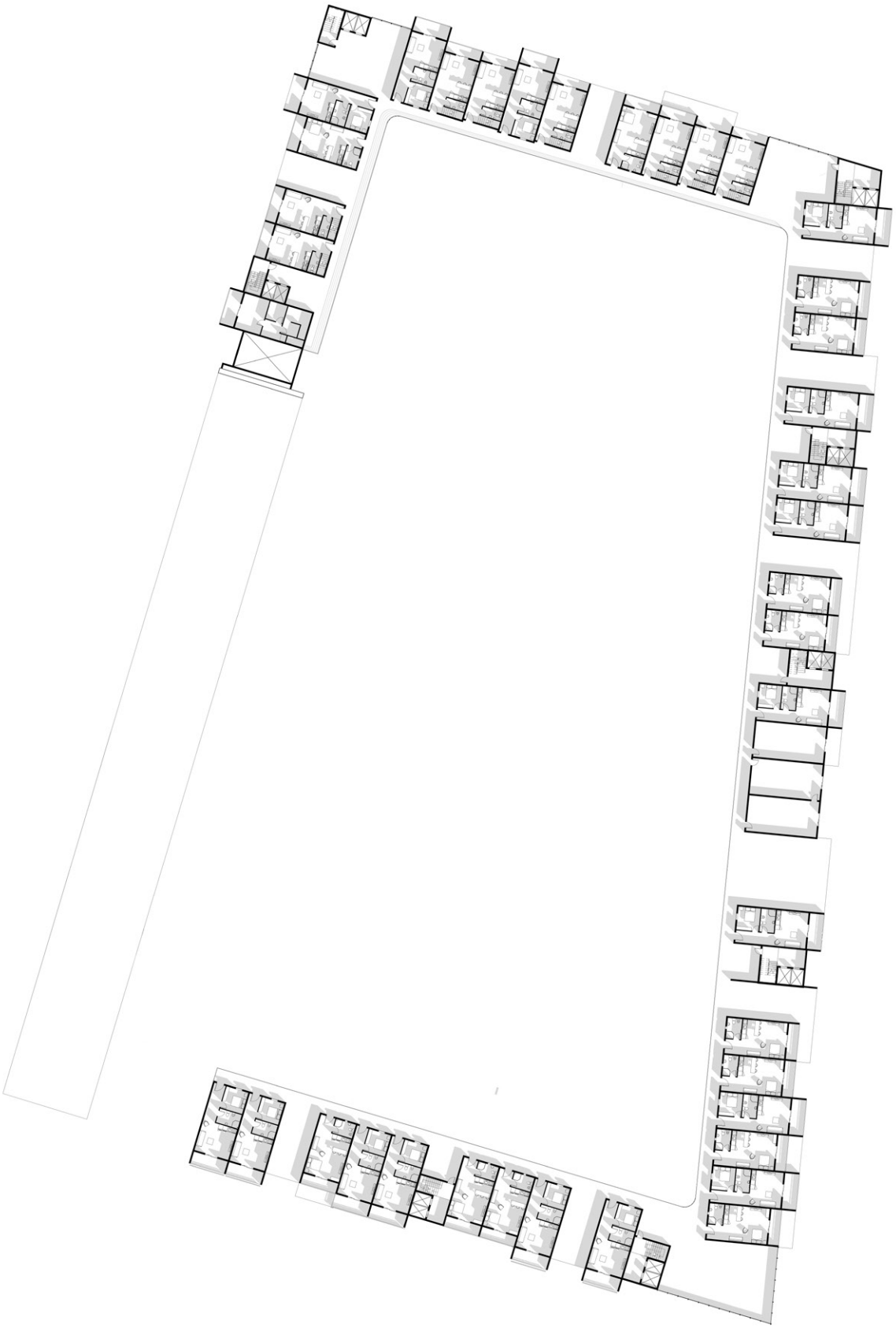
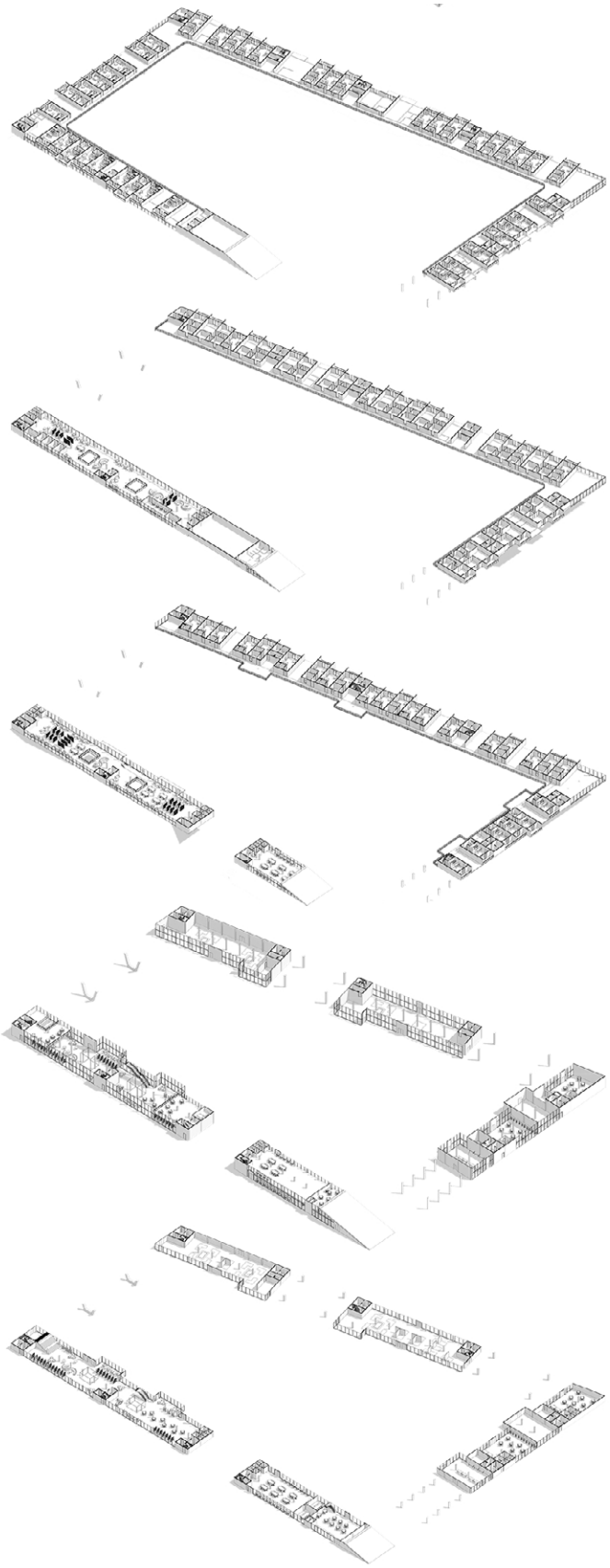
THE PROJECT
Floor Plans

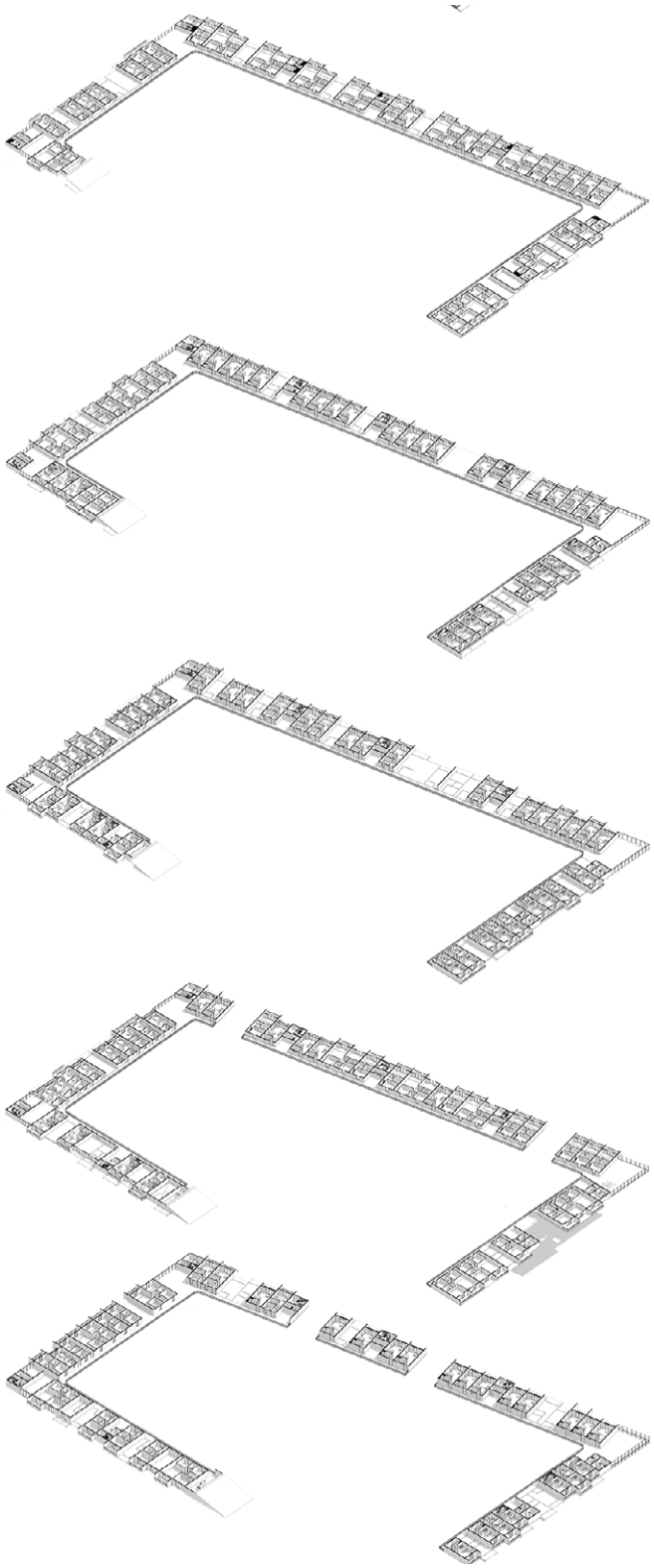
26. Second Floor Plan, 1:800



27. Sixth Floor Plan, 1:800

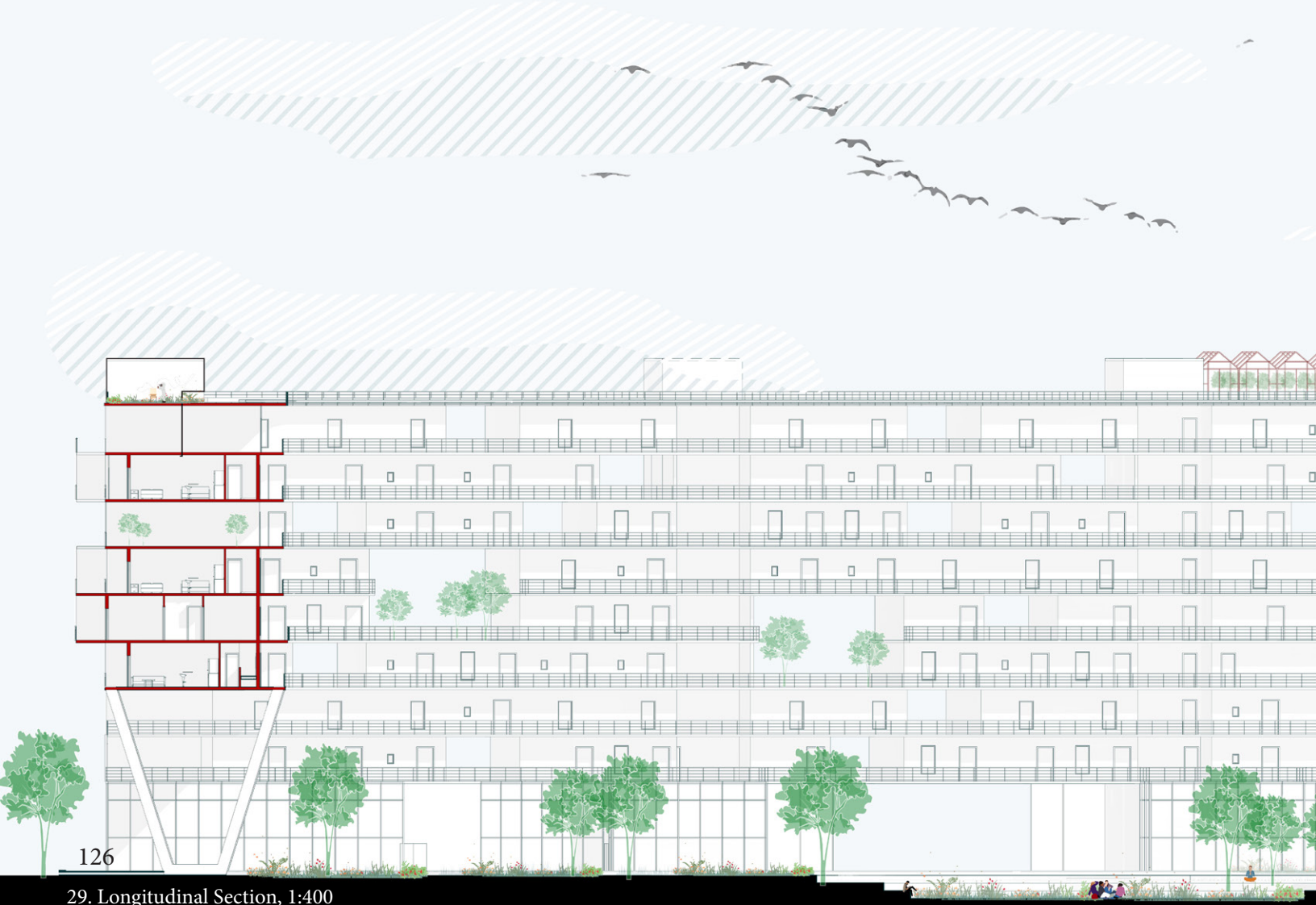


27. 3D Exploded View for the First Five Plans

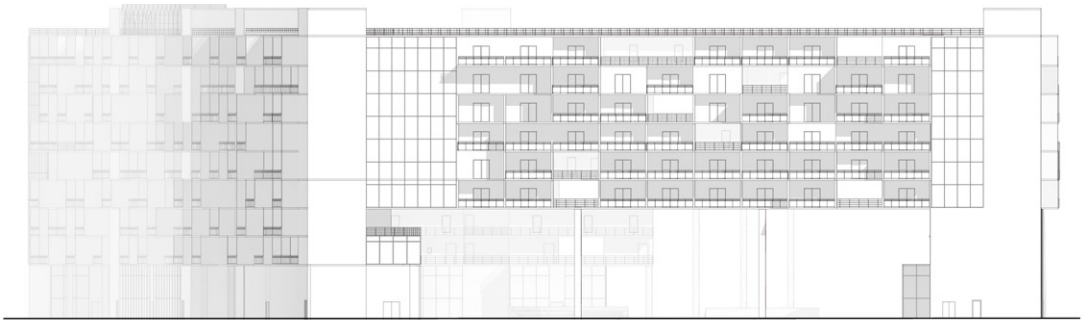


28. 3D Exploded View for the Upper Five Floor Plans

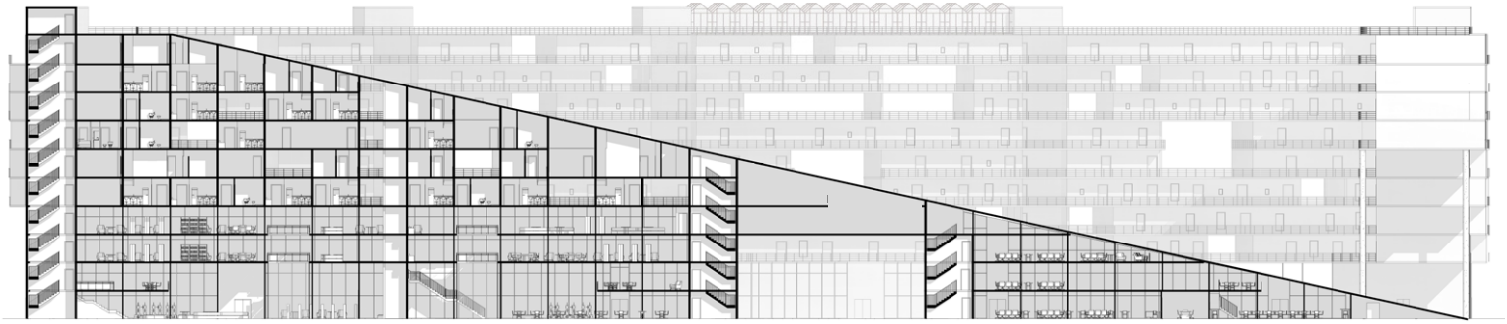
THE PROJECT
Sections & Elevations



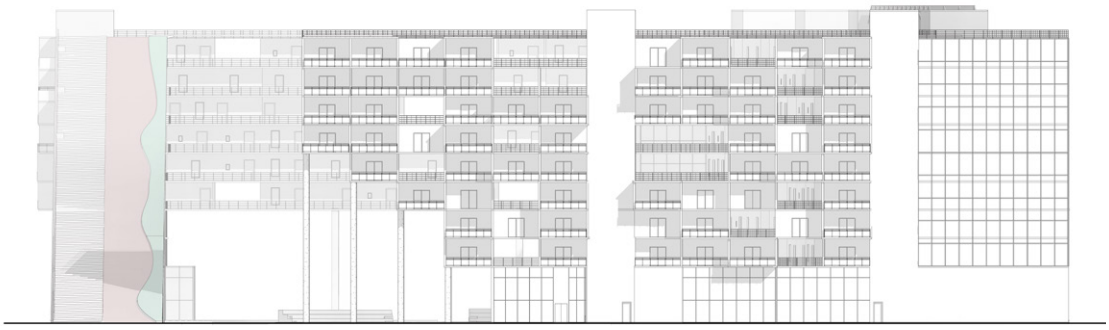
29. Longitudinal Section, 1:400



31. Western Elevation



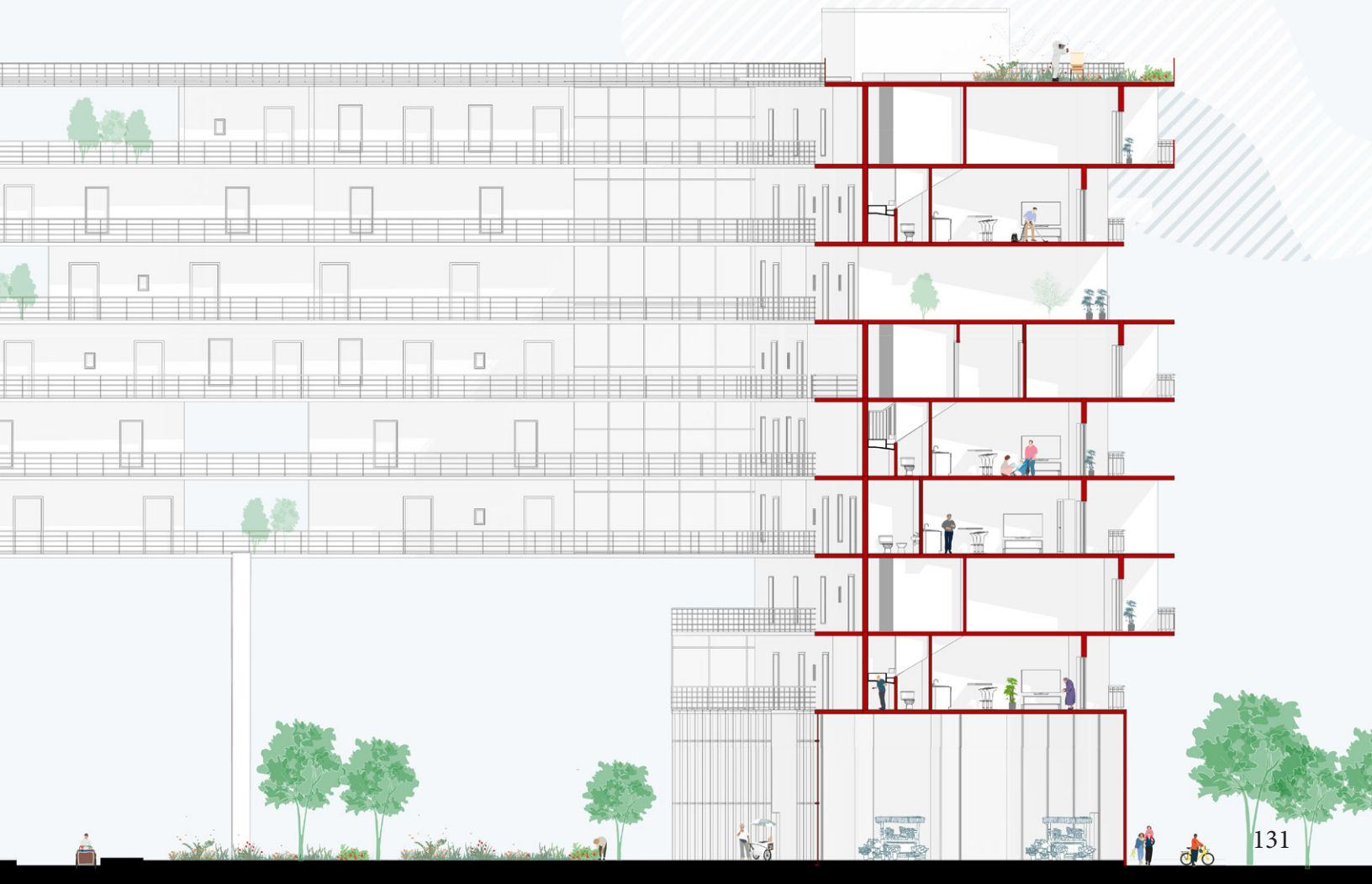
33. Longitudinal Section 2



32. Eastern Elevation

34. Southern Elevation

35. Cross Section, 1:250



36. Urban Farming and Outdoor Market

37. Edible Garden

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