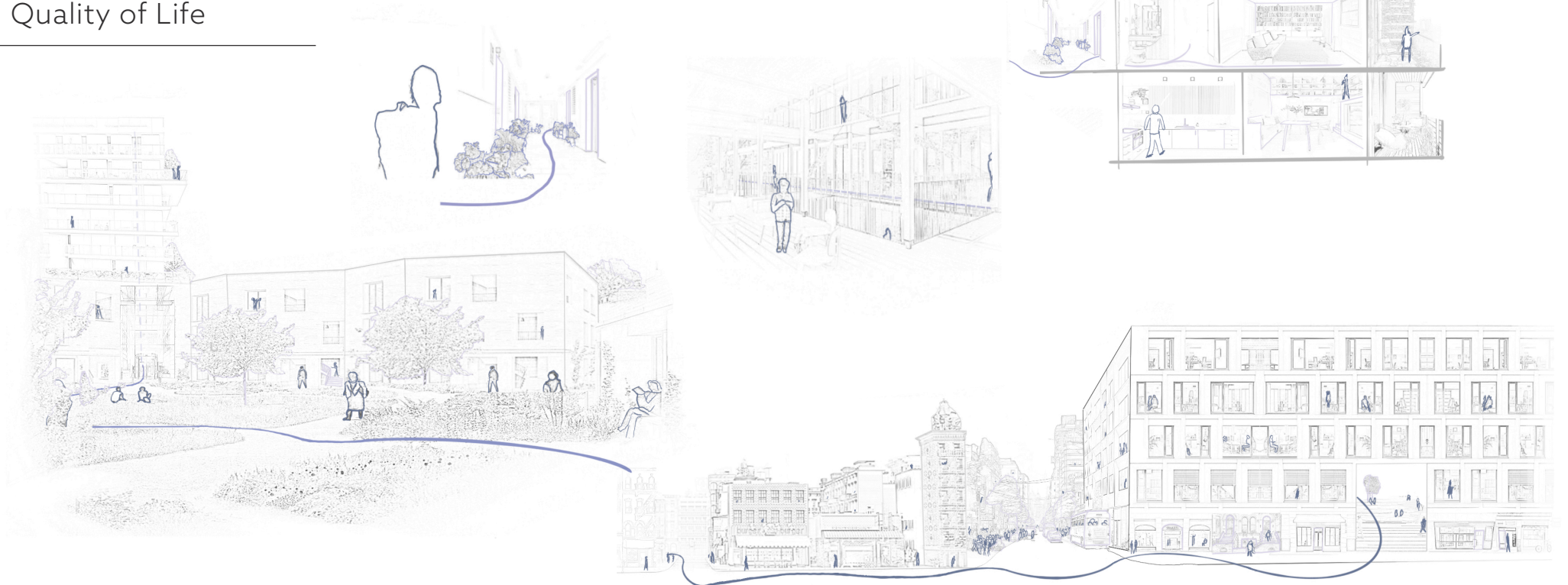


ADVANCED HOUSING

VERTICALIZATION OF DENSITY

Exploring the Impact
of Density on Social
Quality of Life



RYAN DAUN - 5709164

Advanced Housing Design -
Densifying Amsterdam -
AR3AD100

Amsterdam, Baaibuurt
2025

BAAIBUURT

This project explores the social potential of high-density architecture by placing emphasis on interaction, ownership, and participation. Set within the evolving context of Amsterdam's Sluisbuurt and Baaibuurt, the proposal responds to the municipality's ambition for a more connected, livable, and future-proof urban fabric. Here, the transition between public and private spaces is not just a functional necessity but a carefully curated opportunity for engagement.

At the heart of the proposal are three key themes: routing, clustering, and recognition. These principles are translated into design strategies that facilitate spontaneous encounters, support diverse user needs, and help residents take ownership of their environment. The routing is not merely about circulation but becomes a facilitator of social interaction. Semi-public pathways wind through the building, connecting collective spaces and dwellings while offering varied levels of intimacy and privacy. The use of daylight, materiality, and color reinforces wayfinding and creates a strong sense of identity throughout the interior.

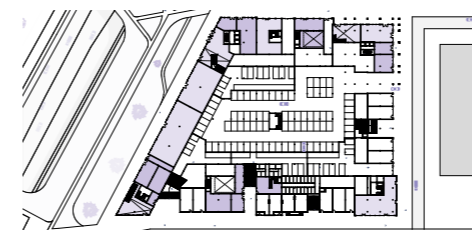
Clustering of dwellings around communal functions encourages smaller communities to emerge within the larger collective. These flexible spaces, strategi-

cally placed along the routing, allow for shared dinners, workshops, gardening, or quiet study moments, depending on resident input. Participation is embedded in the architecture, not added to it.

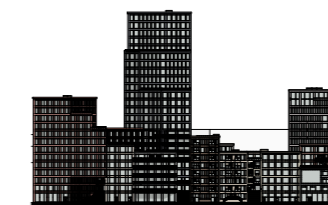
Private and semi-private spaces further support this goal. Setbacks at dwelling entrances offer a place for personal expression, whether with a chair, plant, or bicycle, turning corridors into social streets. Recognition comes not only from the expressive volumes and material choices on the outside but from the familiarity and legibility of the routing and spatial identity within.

Over the course of the project, design decisions were constantly evaluated and refined to strengthen these ambitions. Elements such as detailed facade articulation, adaptable dwelling layouts, and shared courtyards were tested to strike a balance between privacy and collectivity. The result is a housing project that serves as a model for socially sustainable architecture in dense urban settings, where the resident is not just a user, but a co-creator of the lived experience.

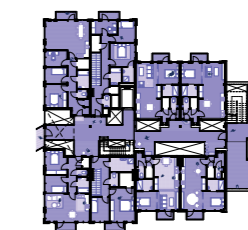
ELEMENTS



Floor Plans



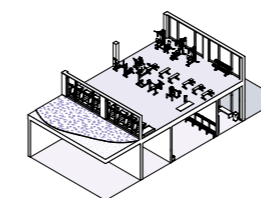
Elevations



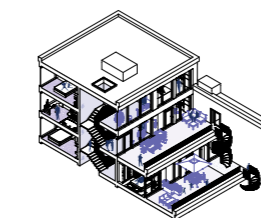
Typicals



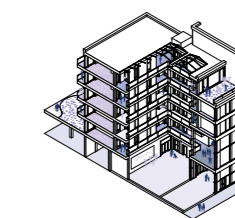
Dwellings



Public Functions



Inbetween Spaces



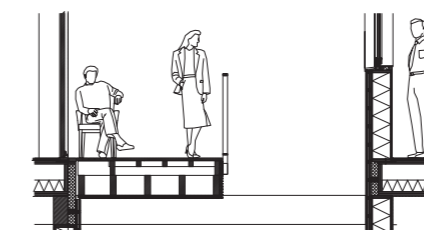
Collective Spaces



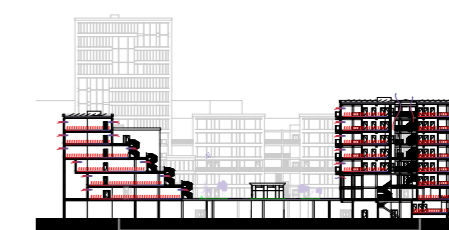
Routing



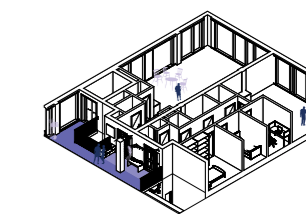
Materials



Details



Climate Concept

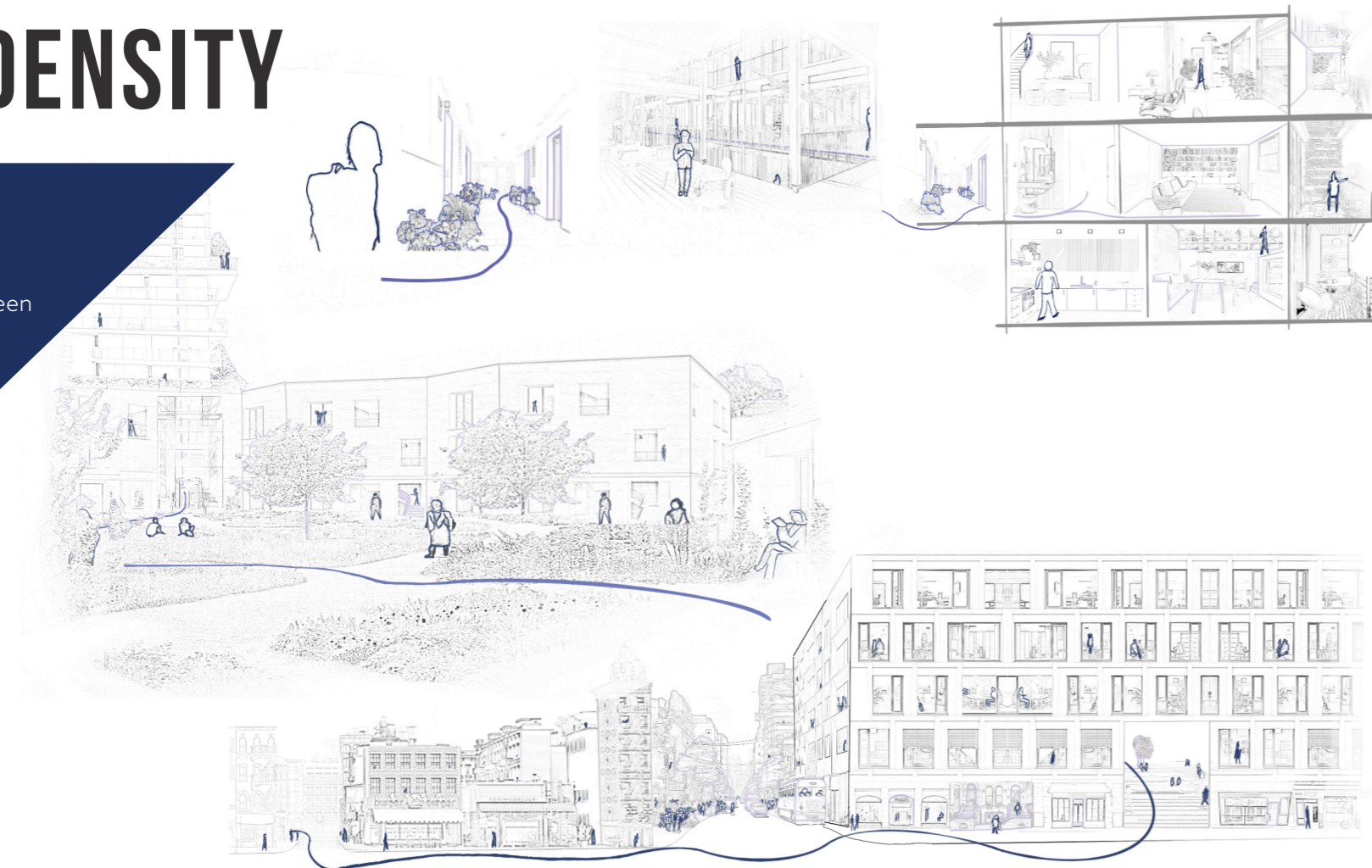


Design Strategies

VERTICALIZATION OF DENSITY

DESIGN VISION

Establishing a link between a building and its surroundings is essential. The spaces gradually shift from public to more private.



city scale

neighbourhood scale

collective scale

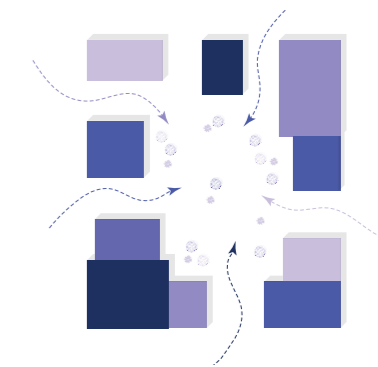
individual scale



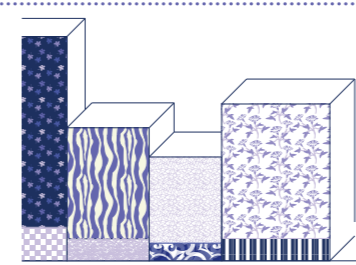
Dual Access



Keystone



Porous Boundaries



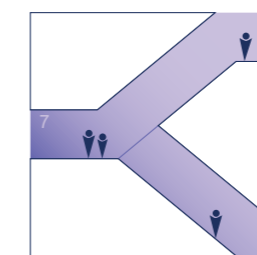
Expressive Volumes



Nested Communities



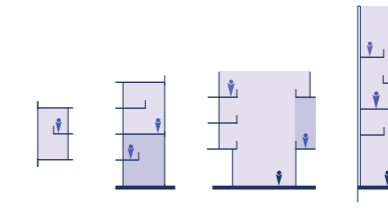
Communal Spine



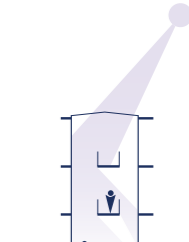
Expressive Routes



Integrated Clusters



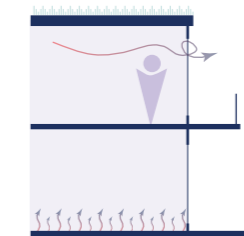
Layered Interaction



Daylit Spaces



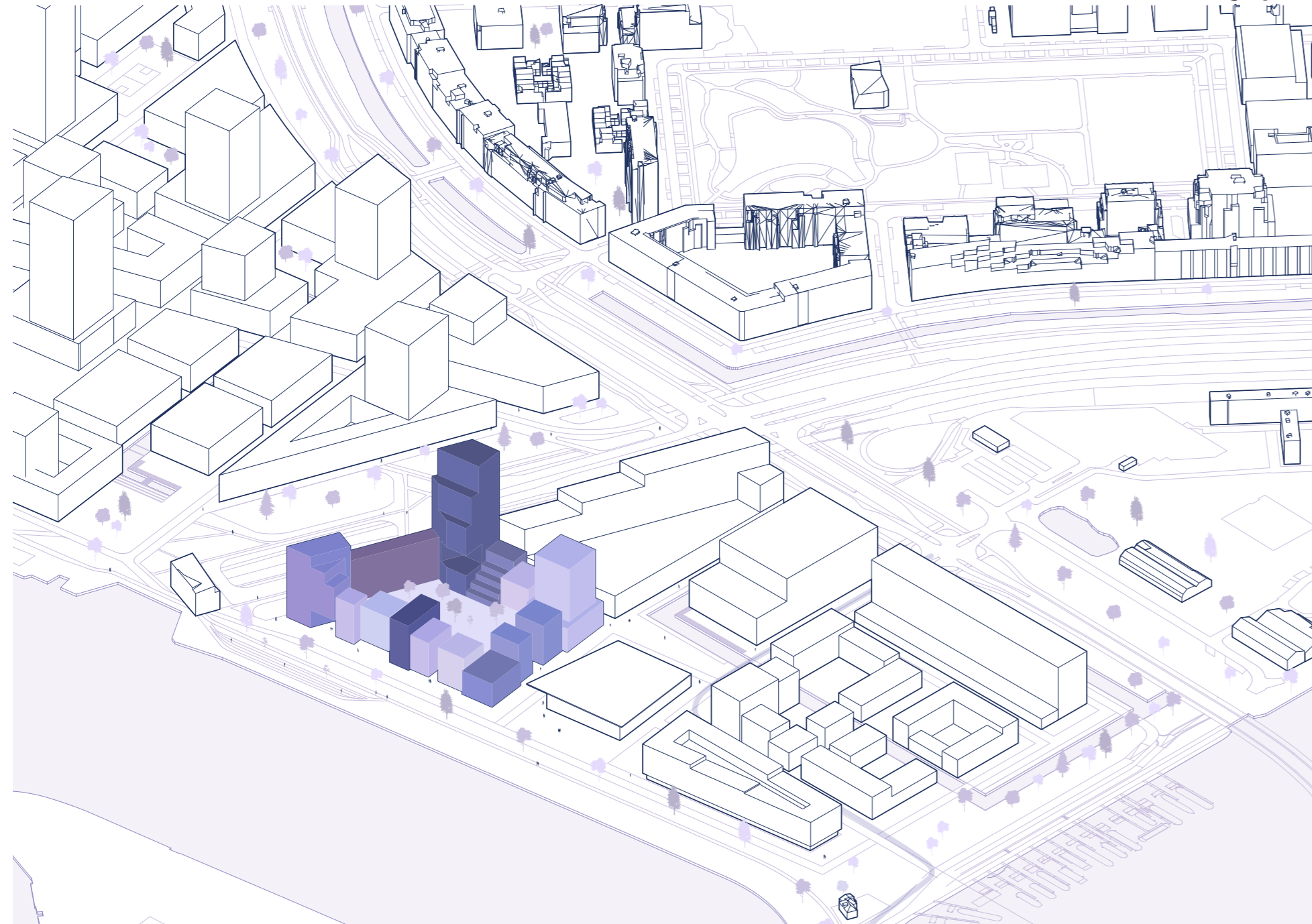
Engaged Routes



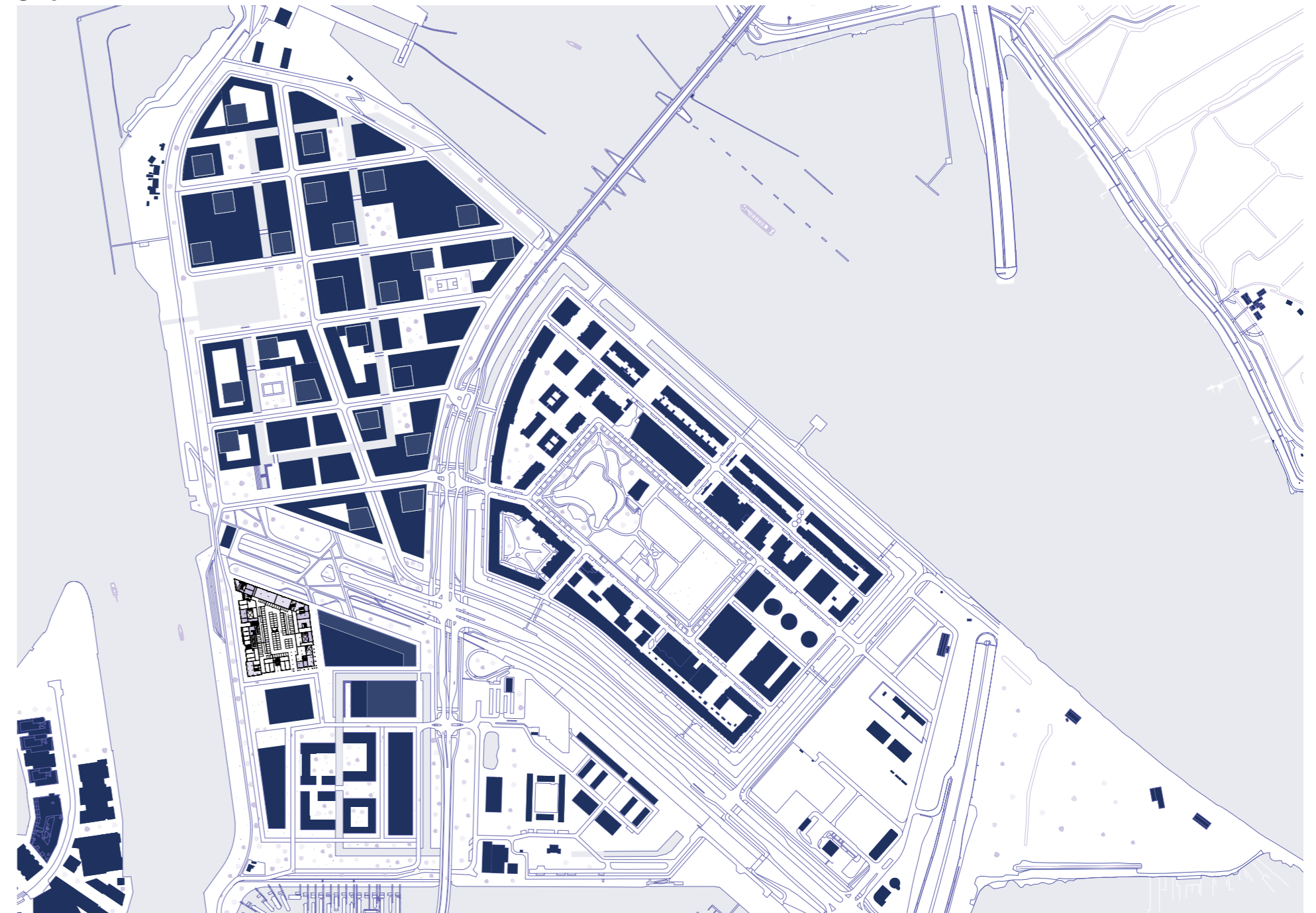
Cozy Living



Private Identity



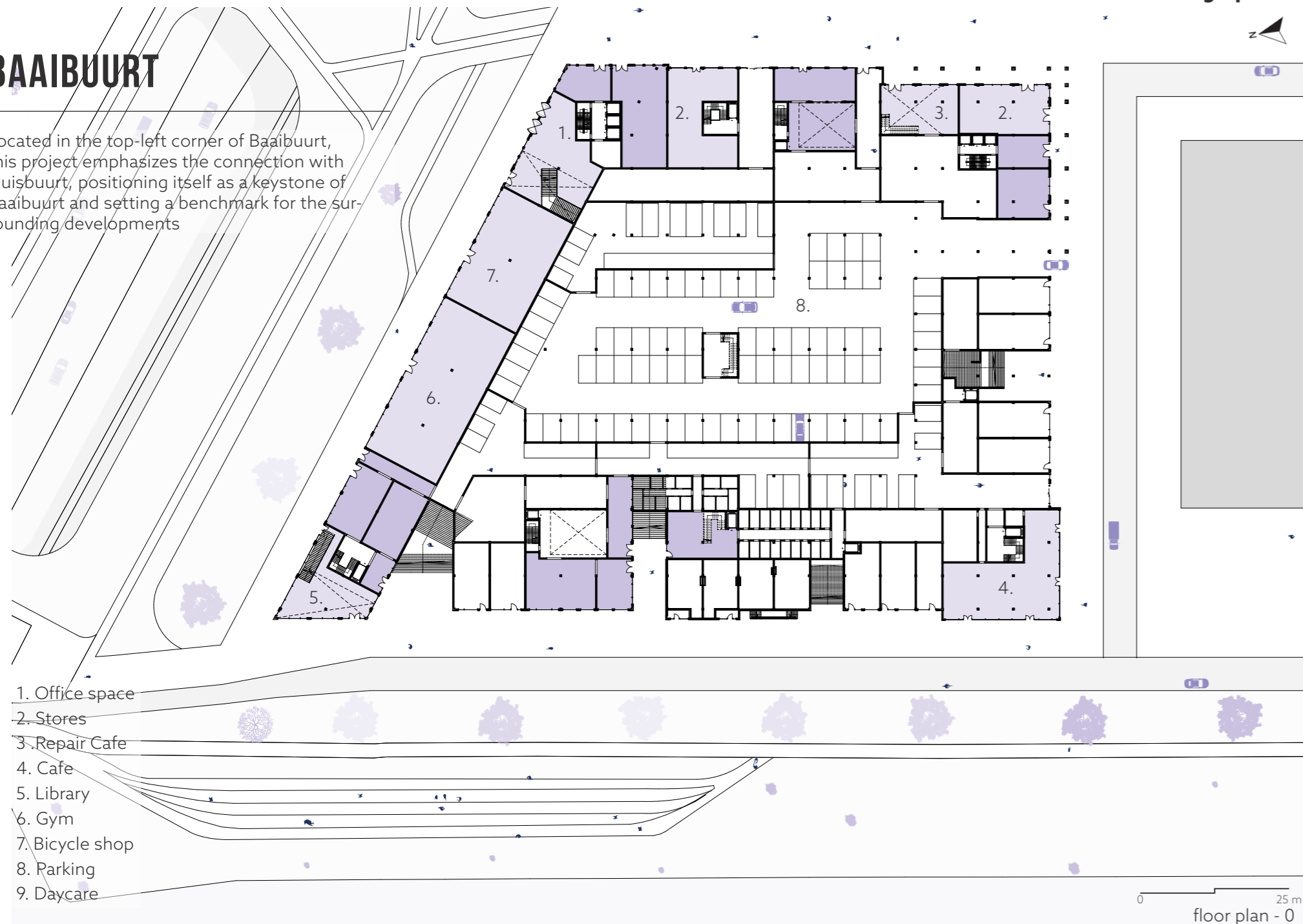
sit - zeeburgereiland



sit - zeeburgereiland

BAAIBUURT

Located in the top-left corner of Baaibuurt, this project emphasizes the connection with Sluisbuurt, positioning itself as a keystone of Baaibuurt and setting a benchmark for the surrounding developments

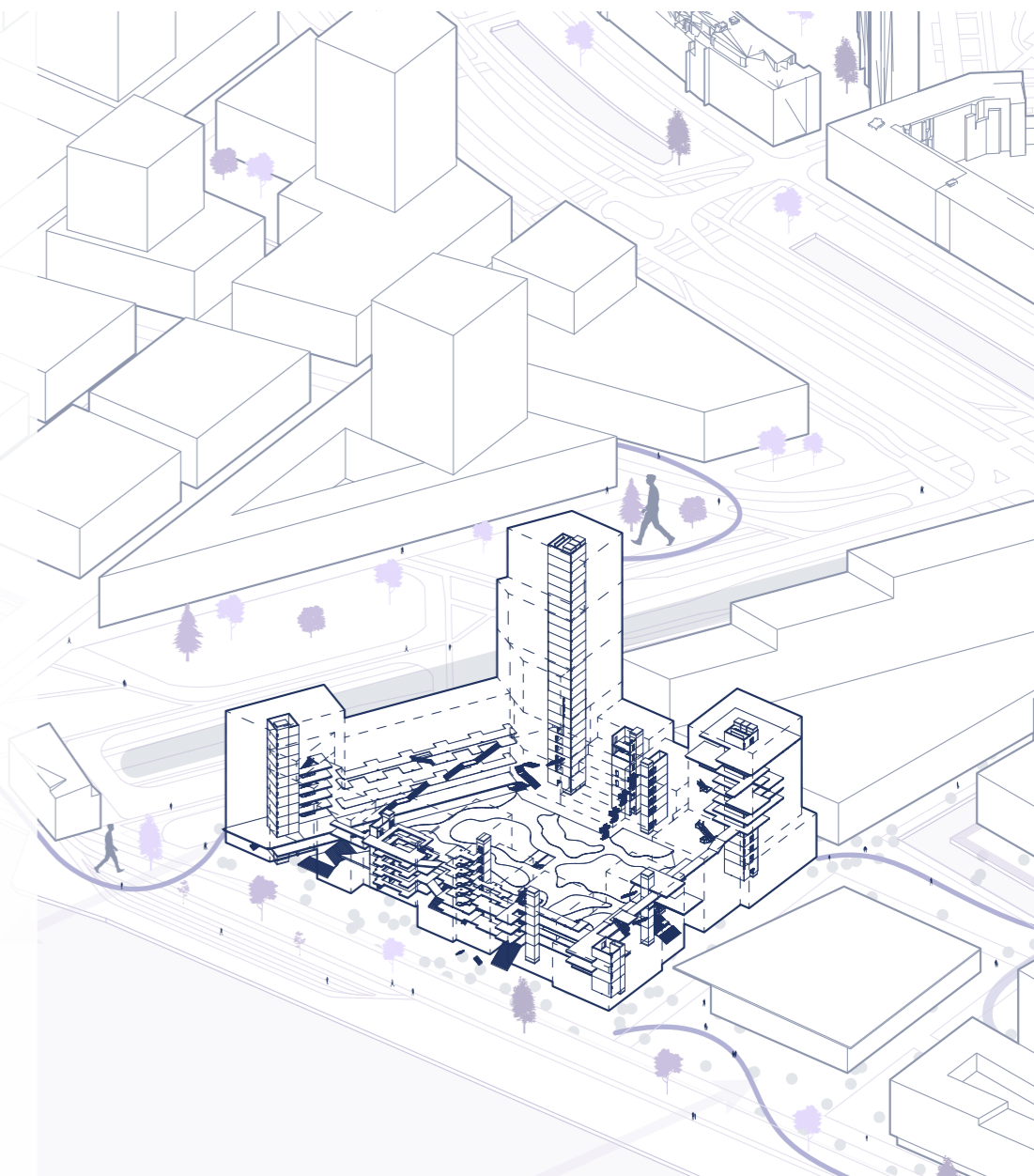


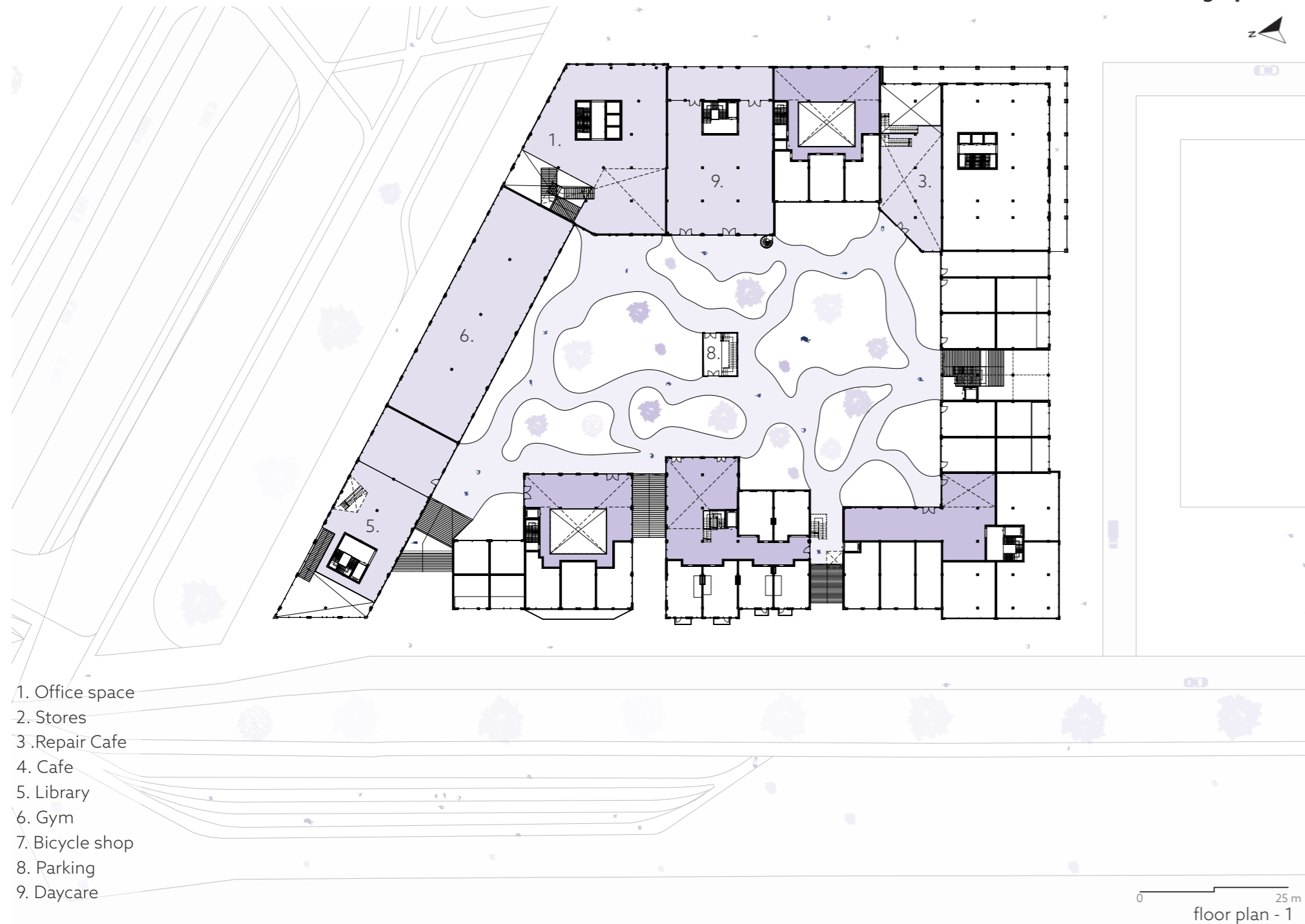
ROUTES OF INTERACTION

The building's routing is designed to foster interaction while maintaining a sense of hierarchy and privacy. A continuous, coherent path connects all buildings, adapting in height and orientation depending on function. Public access is limited to specific points, ensuring that residents retain ownership of their spaces while still engaging with the community.

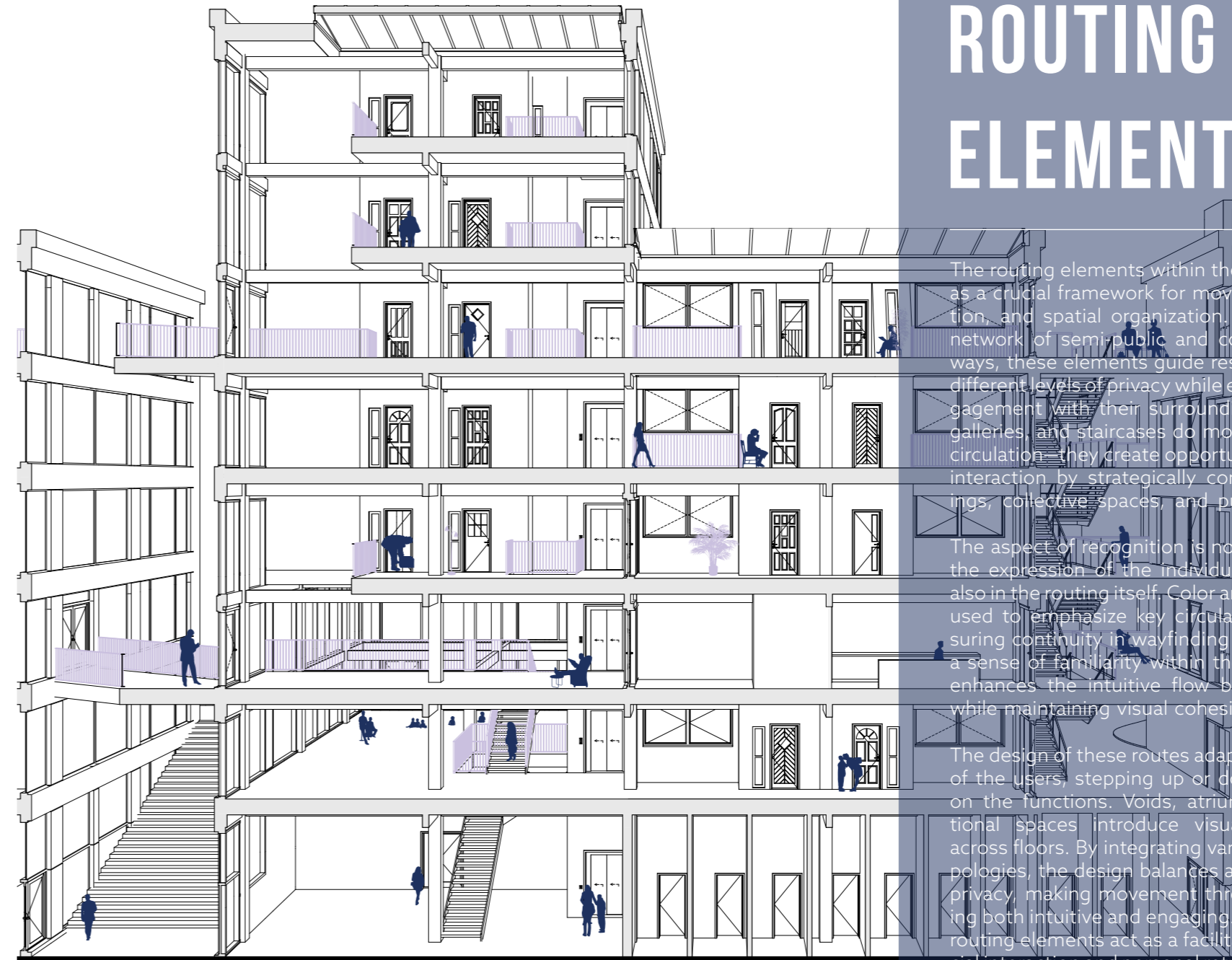
Transitional areas along the routes act as social catalysts, blending collective spaces with semi-private zones. These spaces, marked by distinct materials and daylight access, encourage casual encounters and a sense of familiarity. Residents can personalize sections of the route, reinforcing their connection to the shared environment.

The routing also branches into smaller, more intimate pathways, leading to communal courtyards, rooftop spaces, and private entrances. This layered design allows participation at various levels, from spontaneous interactions to organized activities. By integrating movement with moments of pause and engagement, the routing strengthens social cohesion and community identity.





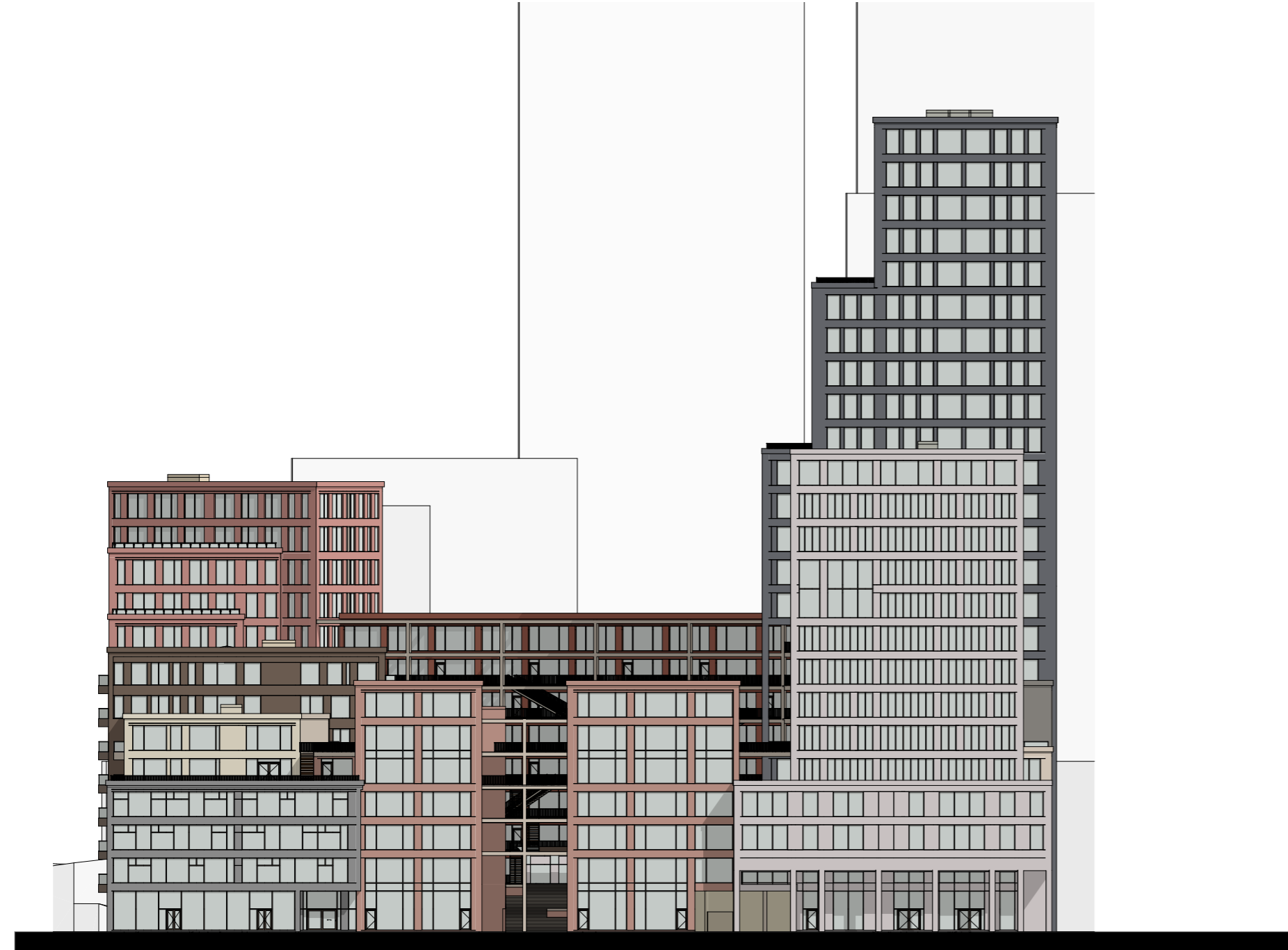
ROUTING ELEMENTS



The routing elements within the building serve as a crucial framework for movement, interaction, and spatial organization. Designed as a network of semi-public and communal pathways, these elements guide residents through different levels of privacy while encouraging engagement with their surroundings. Corridors, galleries, and staircases do more than provide circulation—they create opportunities for social interaction by strategically connecting dwellings, collective spaces, and public functions.

The aspect of recognition is not only visible in the expression of the individual volumes but also in the routing itself. Color and materials are used to emphasize key circulation paths, ensuring continuity in wayfinding and reinforcing a sense of familiarity within the building. This enhances the intuitive flow between spaces while maintaining visual cohesion throughout.

The design of these routes adapts to the needs of the users, stepping up or down depending on the functions. Voids, atriums, and transitional spaces introduce visual connections across floors. By integrating various routing typologies, the design balances accessibility and privacy, making movement through the building both intuitive and engaging. Ultimately, the routing elements act as a facilitator of both social interaction and personal retreat, supporting a dynamic and adaptable living environment.

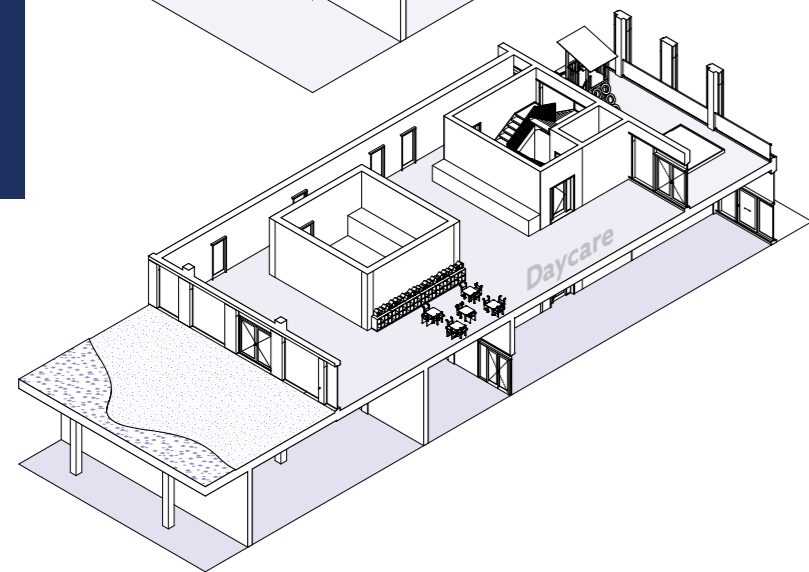
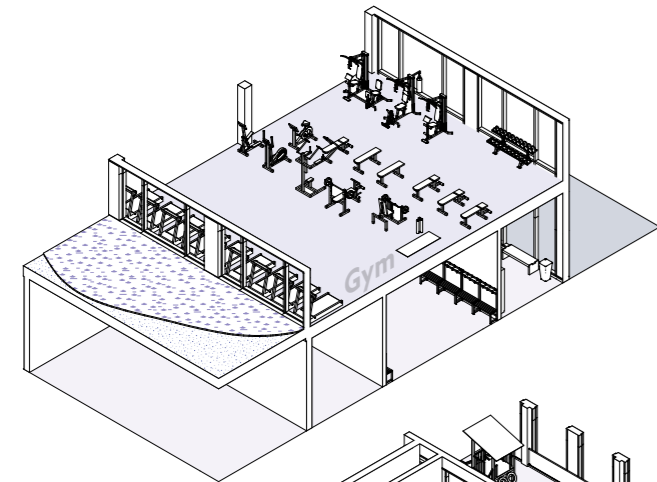
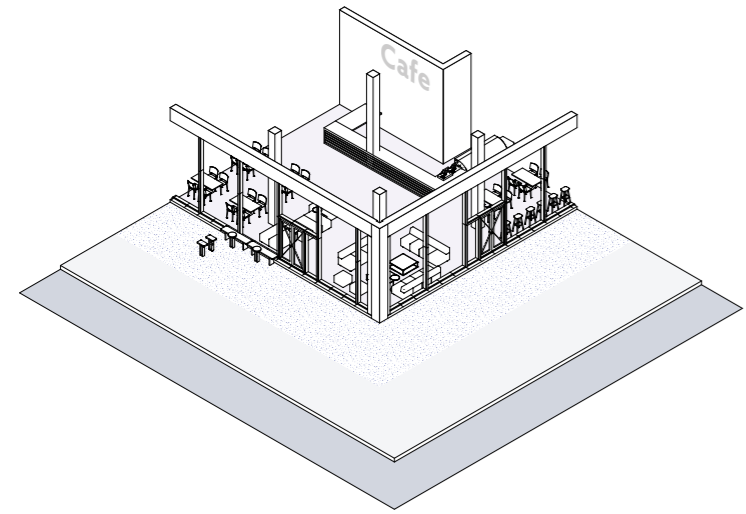


elevation - south



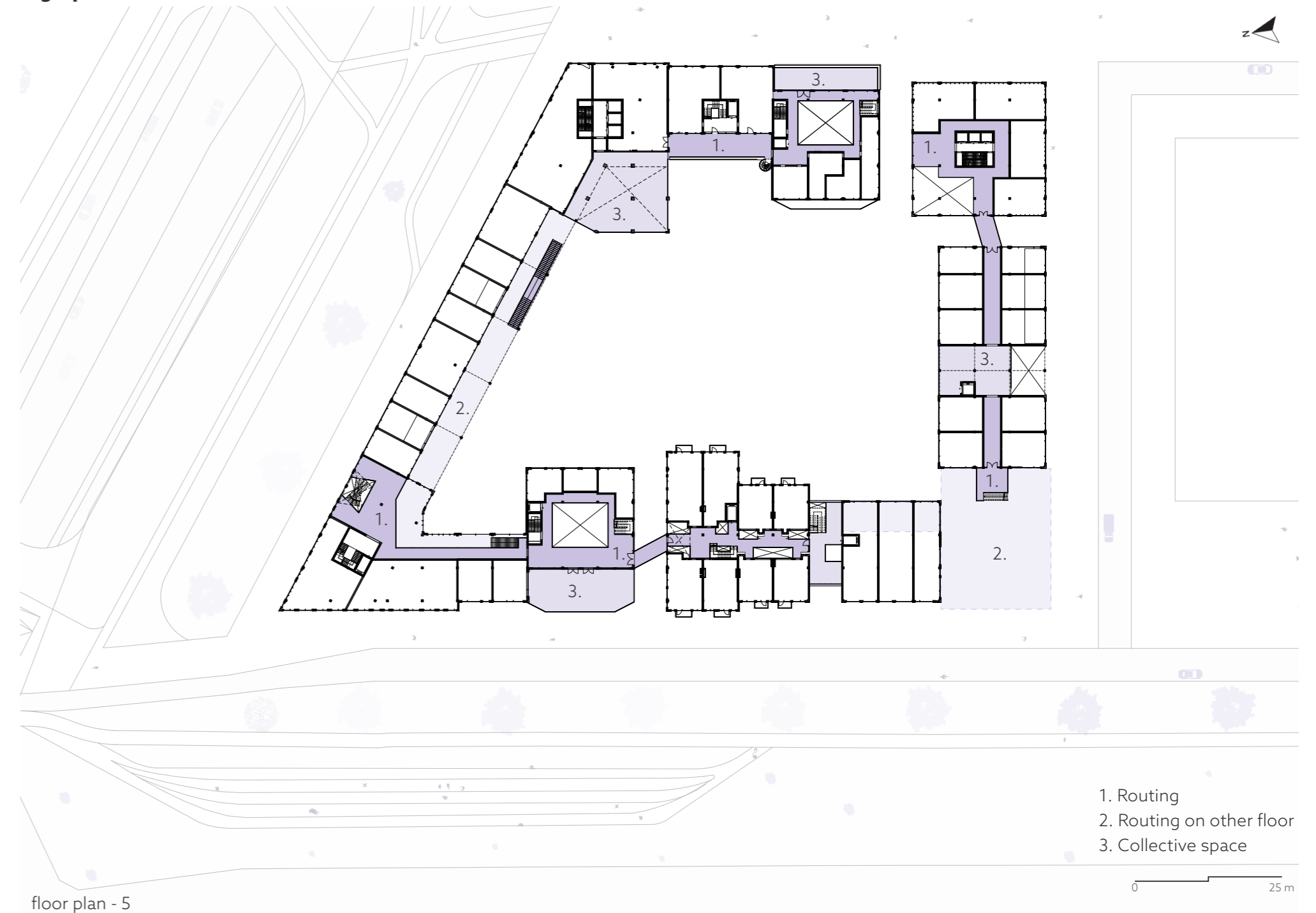
elevation - west

PUBLIC



PUBLIC FUNCTIONS

The public functions within the building cater to both residents and the broader community, creating a dynamic and inclusive environment. Positioned at key corners and accessible from both street level and the semi-public courtyard, these spaces integrate seamlessly into the urban fabric. Functions such as shared offices and a gym encourage interaction between residents and visitors, while amenities like a daycare and repair café serve the community's needs while maintaining a residential focus. The materiality and color of these spaces highlight their purpose, ensuring clear recognition. This balance between public and private enhances both engagement and social sustainability.



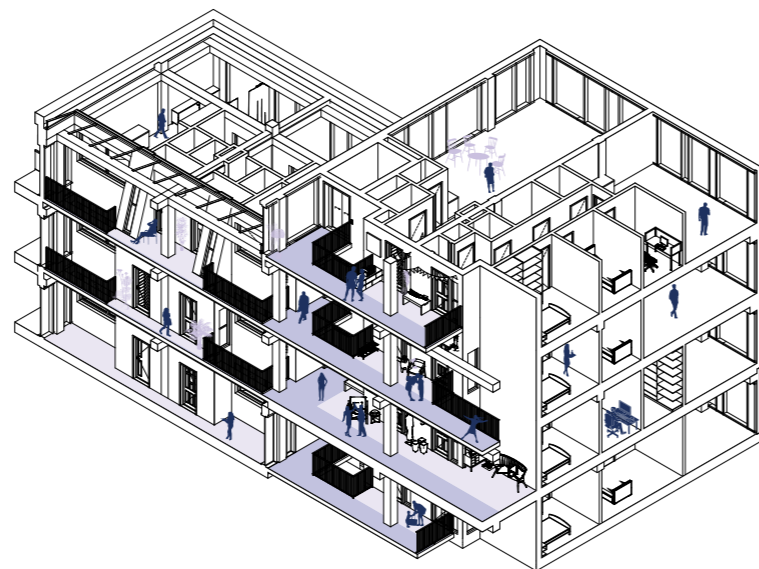
floor plan - 5

ROUTING AS A FACILITATOR

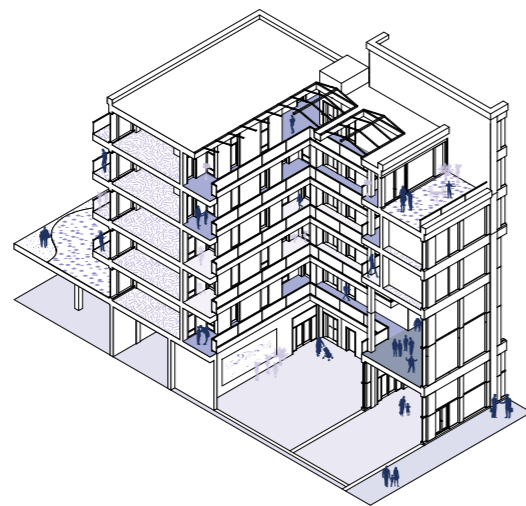
The routing elements within the building are designed to facilitate interaction and connection through a network of semi-public routes. These paths, such as corridors and staircases, link both private and communal spaces, encouraging residents to engage with each other while maintaining privacy. By stepping up or down in response to varying functions, these routes guide movement and highlight key areas.

Material choices and daylight enhance wayfinding, reinforcing a sense of location. The semi-public routes create a dynamic social structure, promoting community engagement while maintaining personal space.

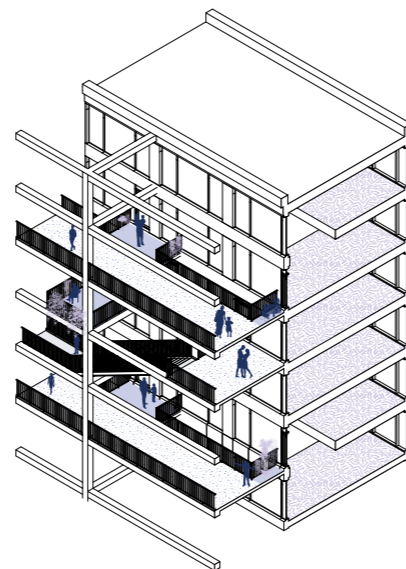
The routing is designed to foster spontaneous interactions while providing opportunities for more intimate connections in the smaller, branching pathways. By balancing accessibility with privacy, the routing elements facilitate connections between residents and the broader community. The mix of different typologies allows for flexibility and diversity in these interactions. For example, in the atrium, the large open space fosters a constant sense of responsibility, while in the corridor or gallery, this is achieved through the use of voids.



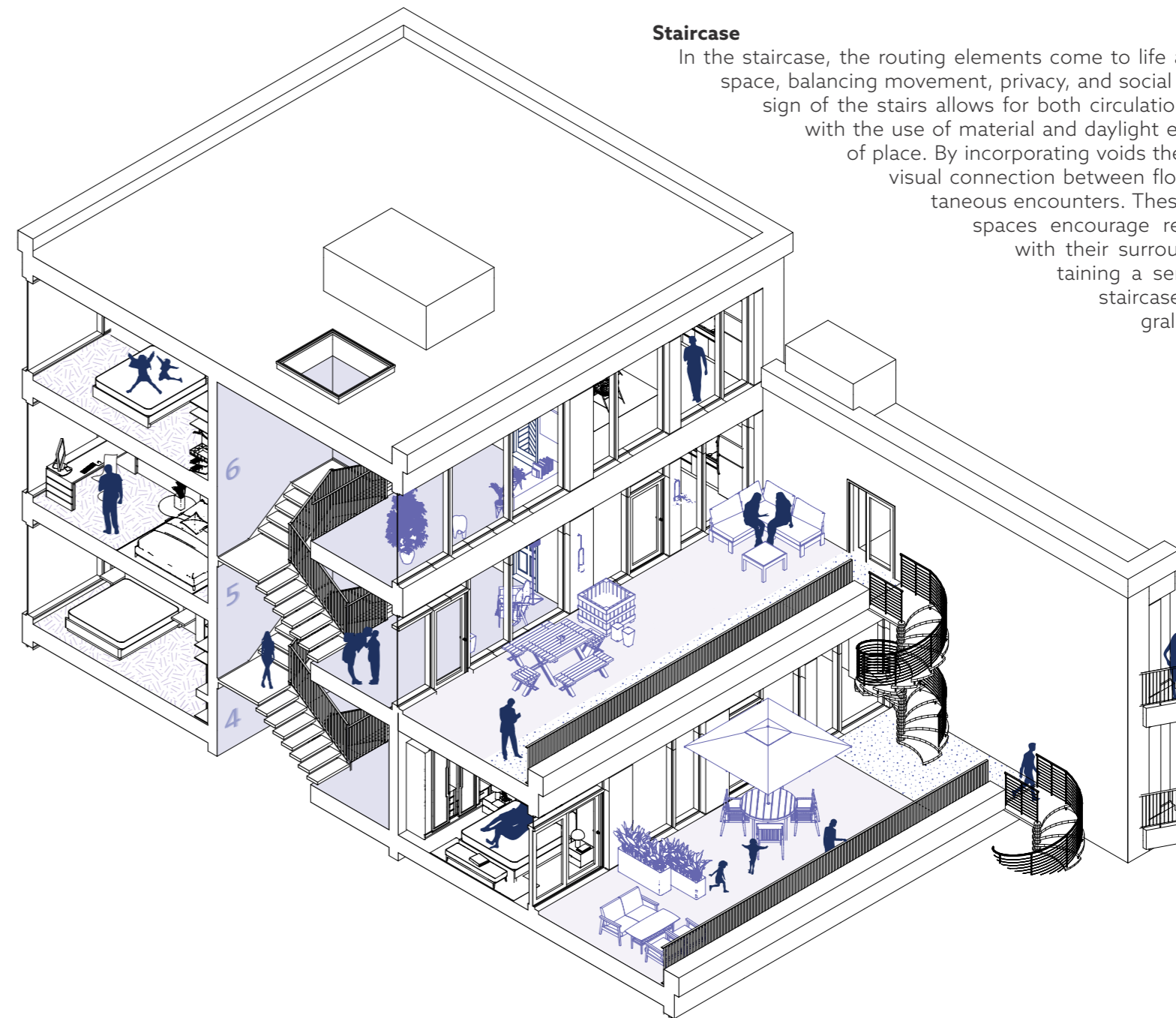
Corridor



Atrium



Gallery



Staircase

In the staircase, the routing elements come to life as a key transitional space, balancing movement, privacy, and social interaction. The design of the stairs allows for both circulation and engagement, with the use of material and daylight enhancing the sense of place. By incorporating voids the staircase creates a visual connection between floors, fostering spontaneous encounters. These open, semi-public spaces encourage residents to engage with their surroundings while maintaining a sense of privacy. The staircase becomes an integral part of the dynamic social structure within the building.

INBETWEEN SPACES

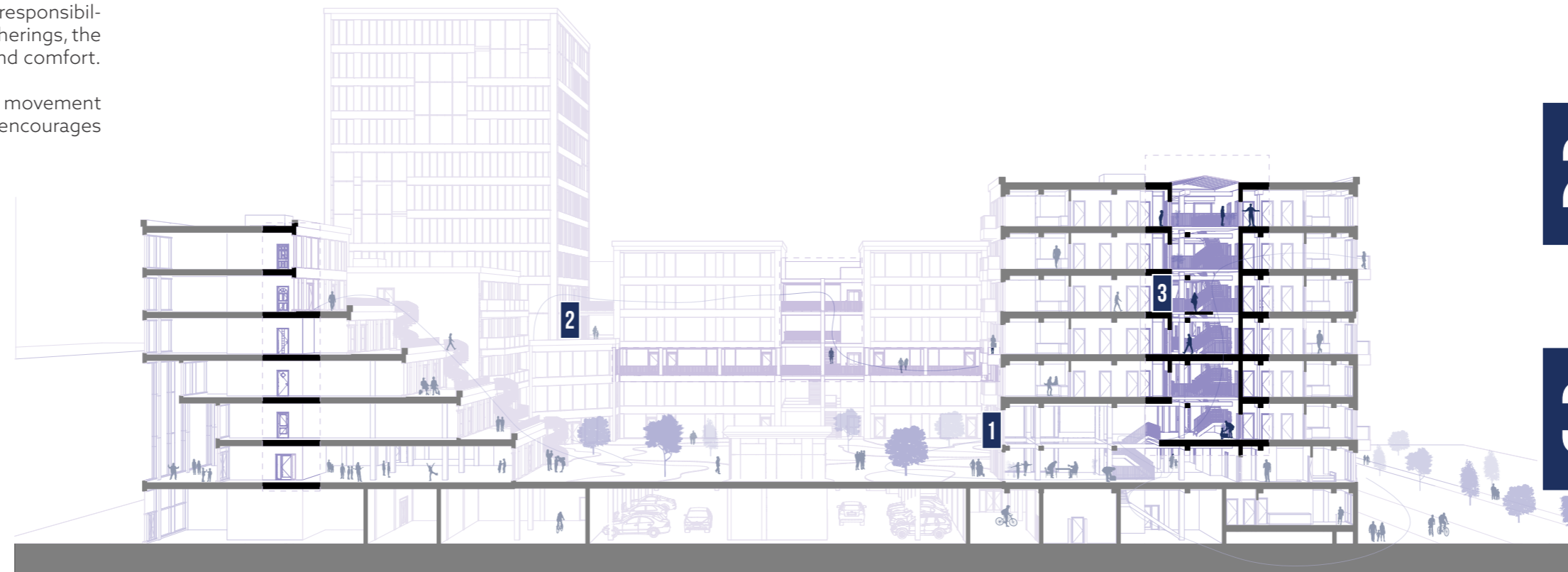
The in-between spaces serve as key transitional zones, blending private, collective, and public areas to create a socially sustainable living environment. Their purpose is to foster interaction, strengthen community bonds, and enhance residents' sense of ownership and responsibility. By designing spaces that facilitate both casual encounters and intentional gatherings, the project encourages participation and engagement while maintaining privacy and comfort.

The routing functions as the backbone of these in-between spaces, guiding movement while structuring social interaction. It connects different areas in a way that encourages spontaneous meetings and fosters a dynamic living environment.

Collective spaces along the routing provide opportunities for social activities, supporting a sense of community through shared experiences. These spaces are designed to be flexible, allowing them to adapt to residents' needs over time.

Personal spaces within these transitional areas reinforce a feeling of belonging and ownership. Semi-private zones in front of dwellings allow residents to personalize their environment, strengthening their connection to the shared spaces. This integration between personal and collective elements ensures a balance between individual comfort and community engagement.

By combining these elements, the in-between spaces aim to create a hierarchy of interaction, ranging from public engagement to private retreat. The goal is to design an environment where residents naturally take part in shaping their surroundings, leading to a more connected and socially resilient community.



1 COLLECTIVE SPACES

The collective spaces are strategically placed along the building's routing to foster social interaction and community engagement. Designed for flexibility, they accommodate various activities, from studying and socializing to gardening and communal dining. By clustering these spaces near dwellings, they remain easily accessible while allowing adaptation to residents' needs. Through shared experiences in these spaces, residents naturally build connections, strengthening the sense of belonging and community.

2 ROUTING

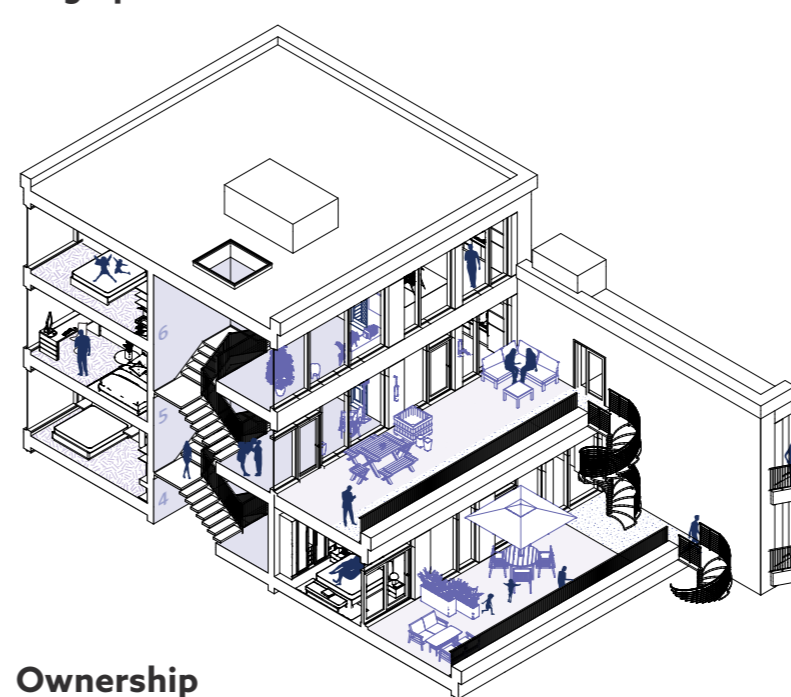
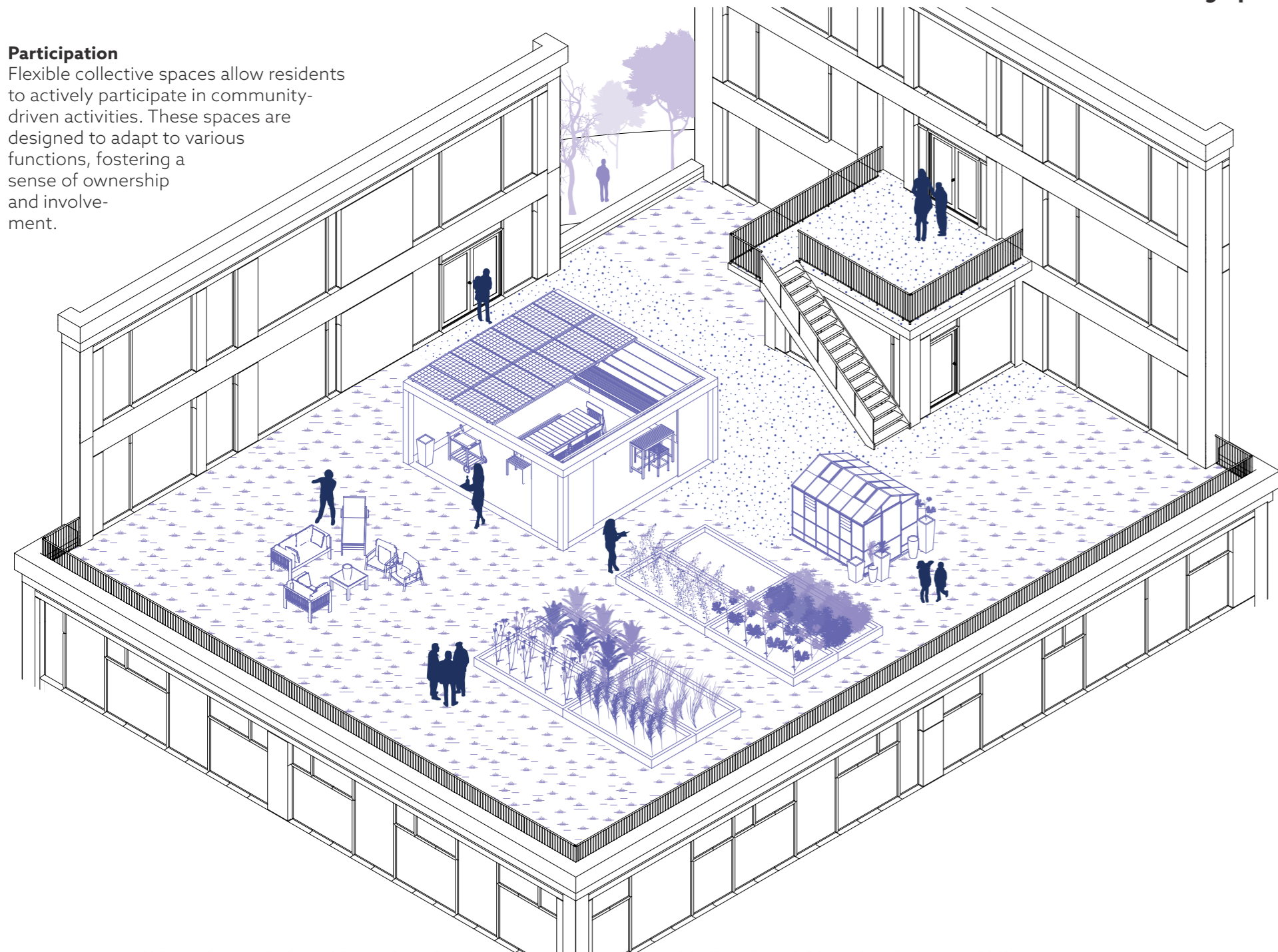
The routing within the building creates a seamless network of movement, connecting all spaces while fostering interaction. Designed with a social hierarchy, it allows public access at key points while maintaining residential privacy. The pathways adjust in height to accommodate different functions, incorporating daylight and distinct materials for recognition. By branching into intimate corridors, courtyards, and communal spaces, the routing encourages both spontaneous encounters and structured participation.

3 PERSONAL SPACES

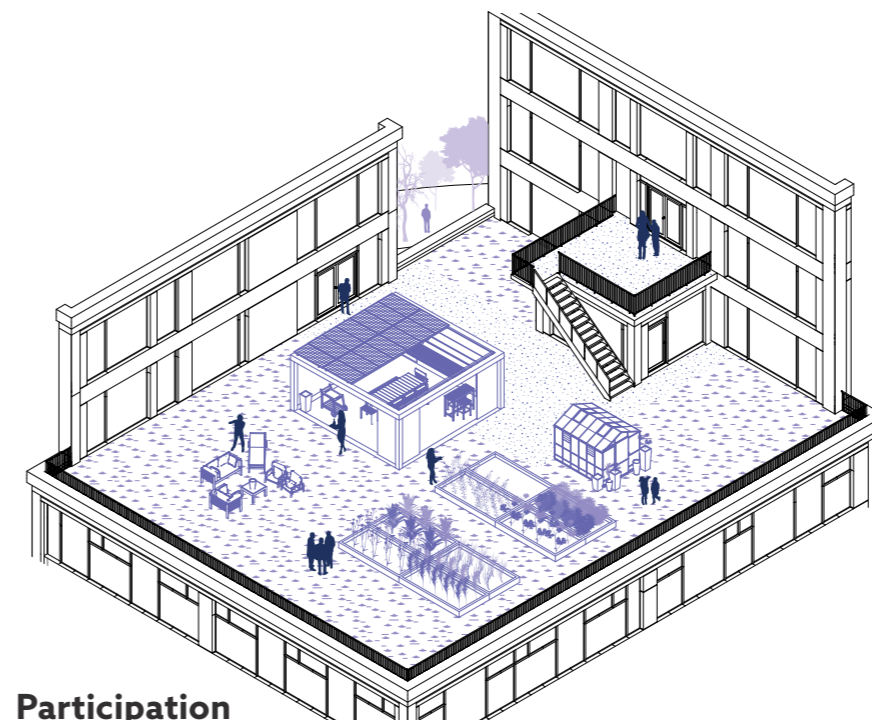
Personal spaces extend beyond the dwellings, integrating semi-private zones that enhance comfort and ownership. Setbacks in front of homes allow residents to personalize their environment, placing items or creating small seating areas. Additional windows strengthen the connection between private and transitional spaces, fostering social awareness. Material variations in flooring highlight these areas, distinguishing them from collective zones. This integration of personal and shared elements encourages responsibility and engagement, ensuring a balance between individual comfort and communal interaction.

Participation

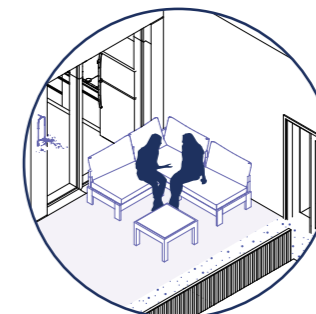
Flexible collective spaces allow residents to actively participate in community-driven activities. These spaces are designed to adapt to various functions, fostering a sense of ownership and involvement.



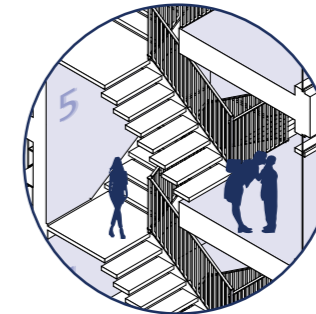
Ownership



Participation



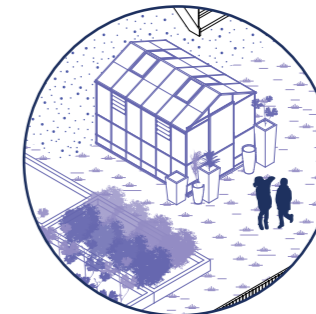
Private Spaces



Routing Elements



Communal



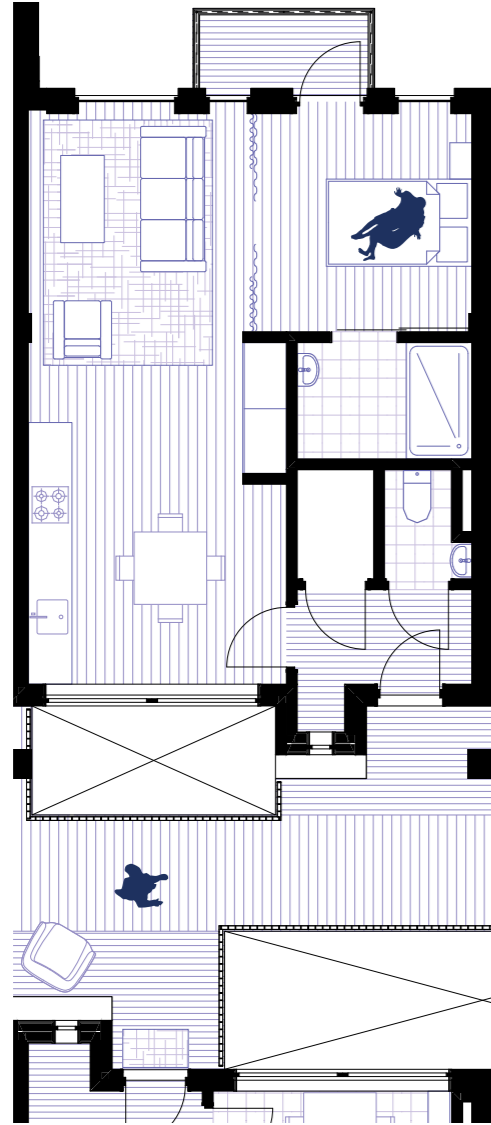
Participation

ELEMENTS OF SIGNIFICANCE

By engaging in these shared areas, residents feel a sense of ownership in maintaining and managing the space, which fosters a sense of responsibility. This involvement strengthens the social fabric of the community, encouraging collaboration and mutual support.

While both ownership and participation aim for similar outcomes, they achieve them in different ways. Participation thrives in the collective areas where residents can meet and partake in activities, while the transitional areas allow for shorter, yet meaningful, interactions.

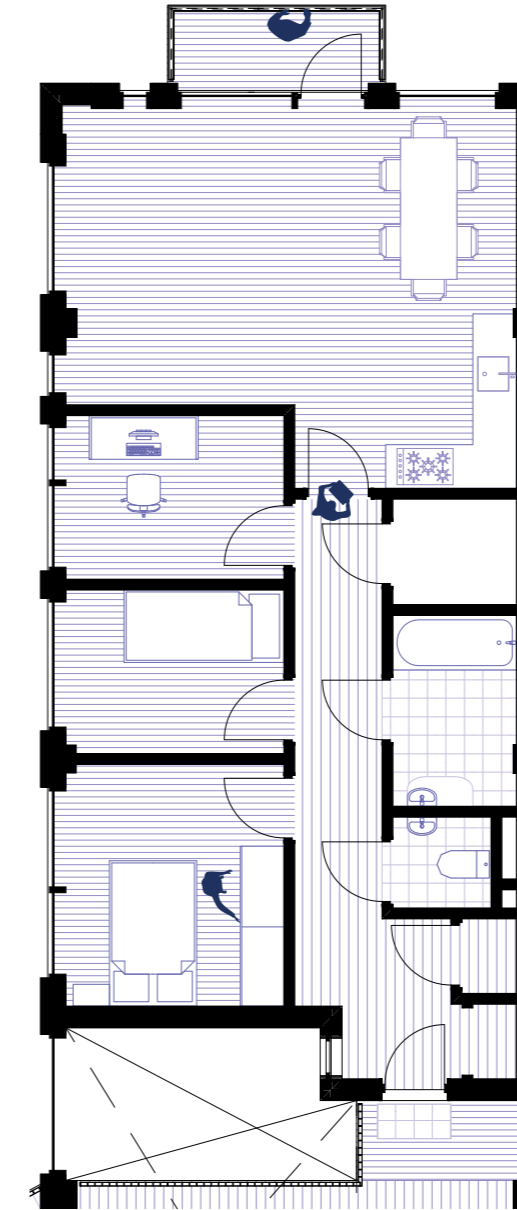
By facilitating activities within the transitional areas as well, the nature and duration of interactions shift, reflecting a more intimate and personal connection. These spaces bring residents and participants closer to the private spaces, fostering deeper connections. Ultimately, the design cultivates a dynamic and participatory atmosphere, encouraging both individual and collective engagement while promoting a strong sense of community and responsibility.



STUDIO APARTMENT

Target group: Student/Starter
 Area (m²): 46 m²
 Rooms: 1.5 rooms

The studio apartment maintains a strong connection with the routing through a large window that opens up to the interior living space, fostering a sense of openness while still allowing for privacy. The bedroom is positioned around the corner, with direct access to the bathroom. This layout guarantees privacy even when the kitchen blinds are open.



APARTMENT

Target group: Starter/Family
 Area (m²): 73 m²
 Rooms: 3/4 rooms

The apartment is designed to provide both privacy and connection, making it well-suited for a starter or small family. Unlike the studio, the living room is positioned toward the back of the apartment, ensuring a more secluded and intimate space. Instead of a large window connecting the living area to the routing, smaller windows in the entrance hallway provide natural light and a subtle visual link to the shared spaces.

Depending on the dwelling, the number and function of rooms, can be adapted to suit residents' needs and preferences. For example, the office space can be converted into a third bedroom, allowing for a growing family, or reconfigured into two larger bedrooms, or to merge spaces, creating a spacious living room.

The entrance hallway offers storage space, while the semi-private area in front of the door allows for personalization, reinforcing a sense of ownership and connection to the collective space.

MAISONETTE APARTMENT

Target group: Family
 Area (m2): 115 m2
 Rooms: 4 rooms

The maisonette dwelling is designed to balance privacy and connection, making it ideal for families or shared living. Unlike smaller apartments, the living room spans an entire floor, creating an open and spacious environment for gathering and daily activities. Large windows provide ample natural light and a strong visual connection to the surroundings, while a private balcony extends the living space outdoors.

Below, three rooms offer flexibility, functioning as bedrooms, an office, or other spaces according to residents' needs. This level also features a second balcony, enhancing access to fresh air and outdoor space.

A key feature of the maisonette is its dual entry points on both floors, allowing for direct access to different parts of the home. This unique layout strengthens the connection to the routing while maintaining privacy. The semi-private areas outside each entrance further emphasize ownership and engagement with the collective space, fostering a sense of community.



typical floor plan - 5

TYPICAL FLOOR PLAN

A typical floor plan is structured around the principle of clustering, grouping dwellings and collective functions to create smaller communities within the larger building. By organizing apartments, studios, and maisonettes into clusters, residents naturally interact with a smaller, more familiar group of neighbors, fostering a sense of belonging. These clusters are strategically placed around shared collective spaces, such as communal lounges, workspaces, or green terraces, ensuring accessibility and encouraging participation.

Routing plays a crucial role in connecting these clusters, with wide corridors, voids, and daylight openings enhancing orientation and interaction. Smaller apartments maintain visual links with the routing through entrance hallway windows, while maisonettes with dual entries integrate into the shared environment on multiple levels.

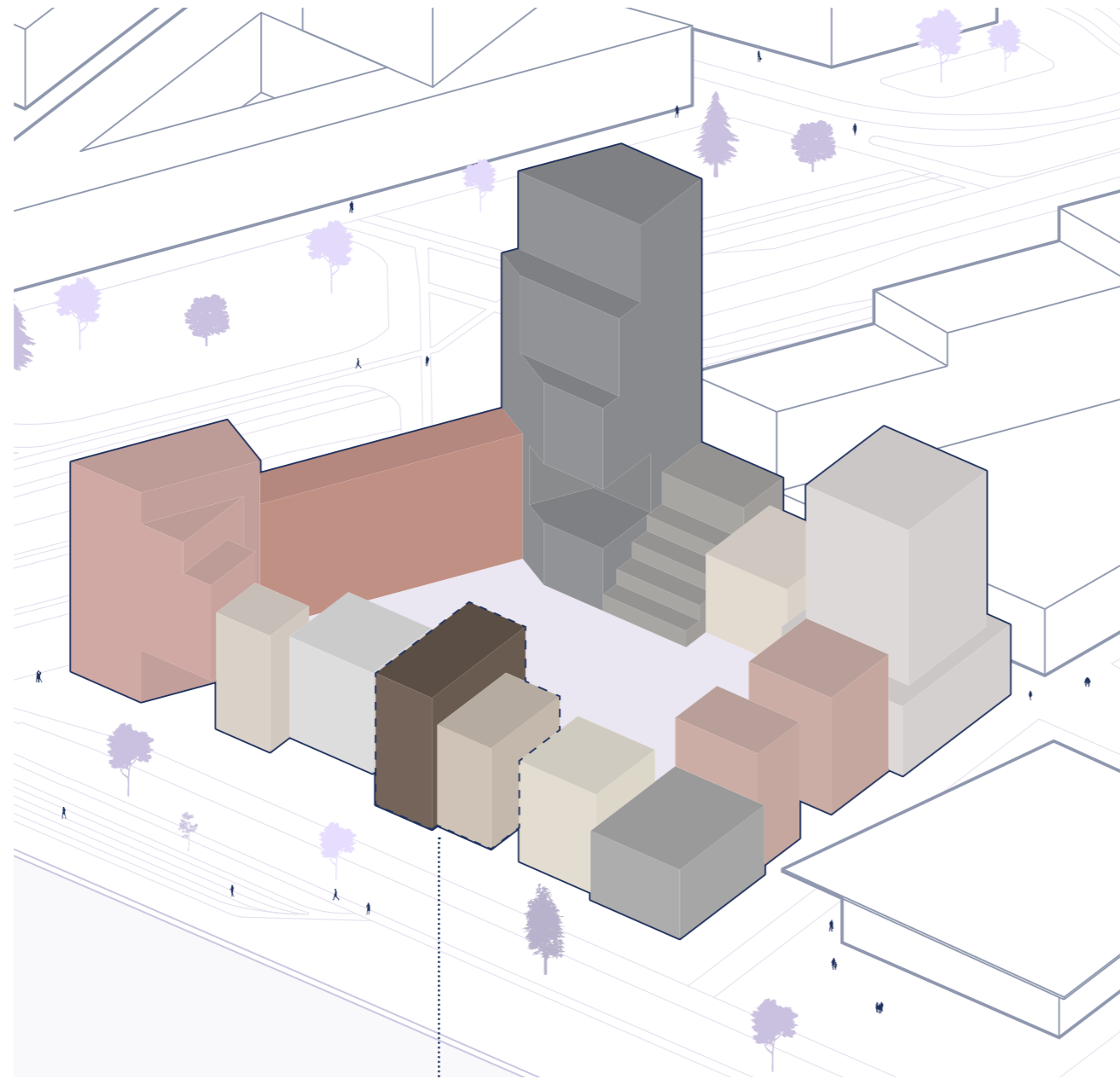
Ownership is emphasized through semi-private areas in front of dwellings, allowing personalization with plants, seating, or decorations. The careful layering of privacy—from collective spaces to personal thresholds—ensures a dynamic and adaptable living environment.

DETAILING

The principle of expressive volumes is reflected in the architectural detailing throughout the building, where different sizes, shapes, and materials are used to create a distinctive and recognizable identity. The varying volumes within the design emphasize key spatial relationships and improve wayfinding, guiding residents through the building while providing clear visual markers of their location. This approach reinforces the sense of ownership and connection to specific areas, as each volume contributes to the overall character of the space.

The use of different materials, from textured surfaces to contrasting colors, is applied at the building scale, while the routing follows a more coherent design. Individual elements like apartment numbers, floor numbers, and other signage function as key markers of recognition within the space.

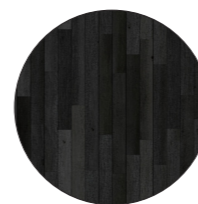
Of this large ensemble, two buildings have been designed in further detail, showcasing both exterior and interior details. The building principles and detailing can be applied throughout the structure, with the facade being the main exception.



Designed in further detail

FACADE DETAILLING

SHOU-SUGI
BAN



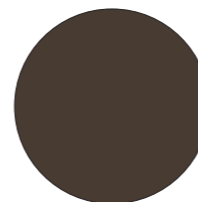
ACCOYA
WOOD



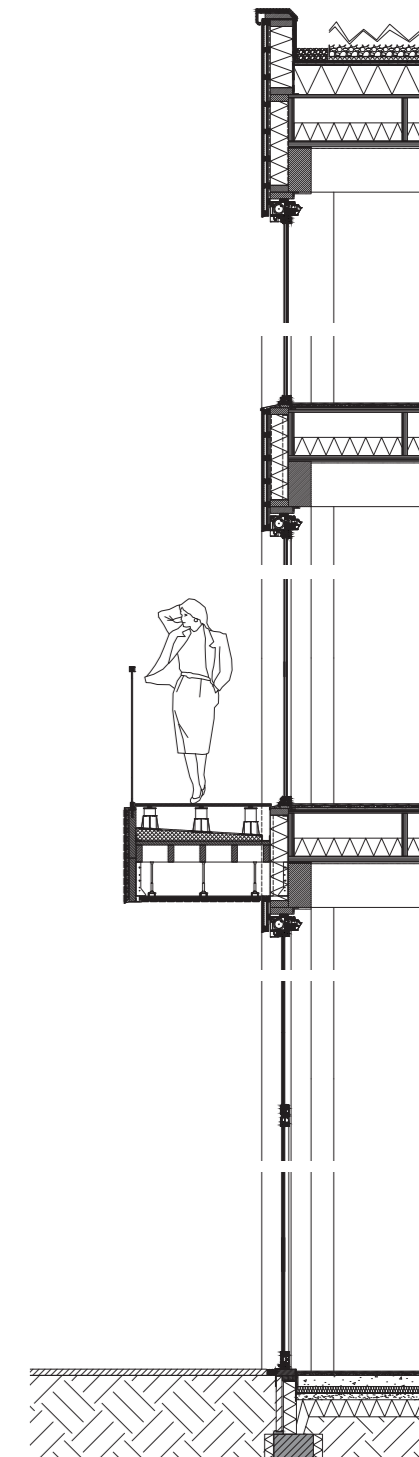
ACCOYA
WOOD



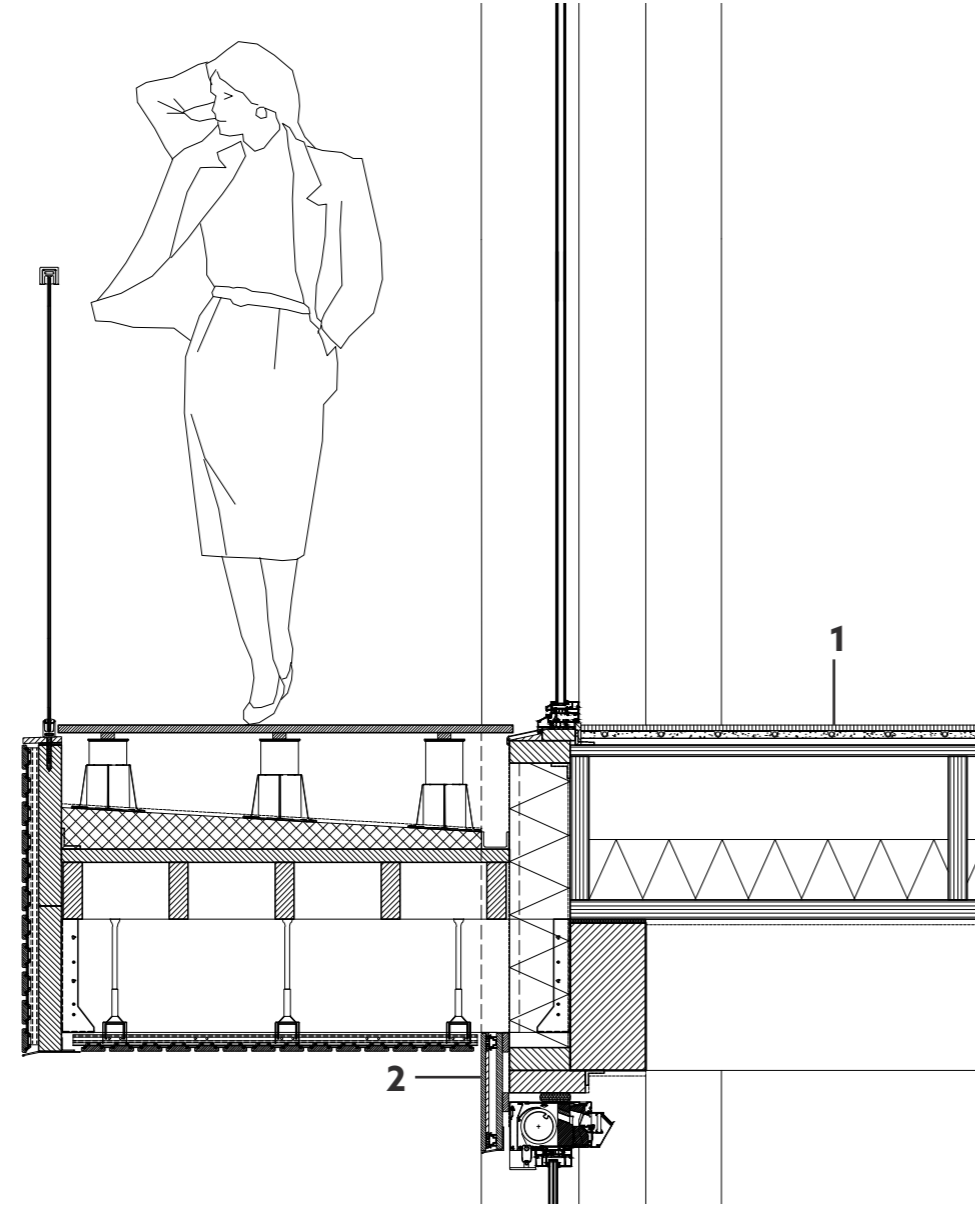
ALUMINIUM
ELEMENTS



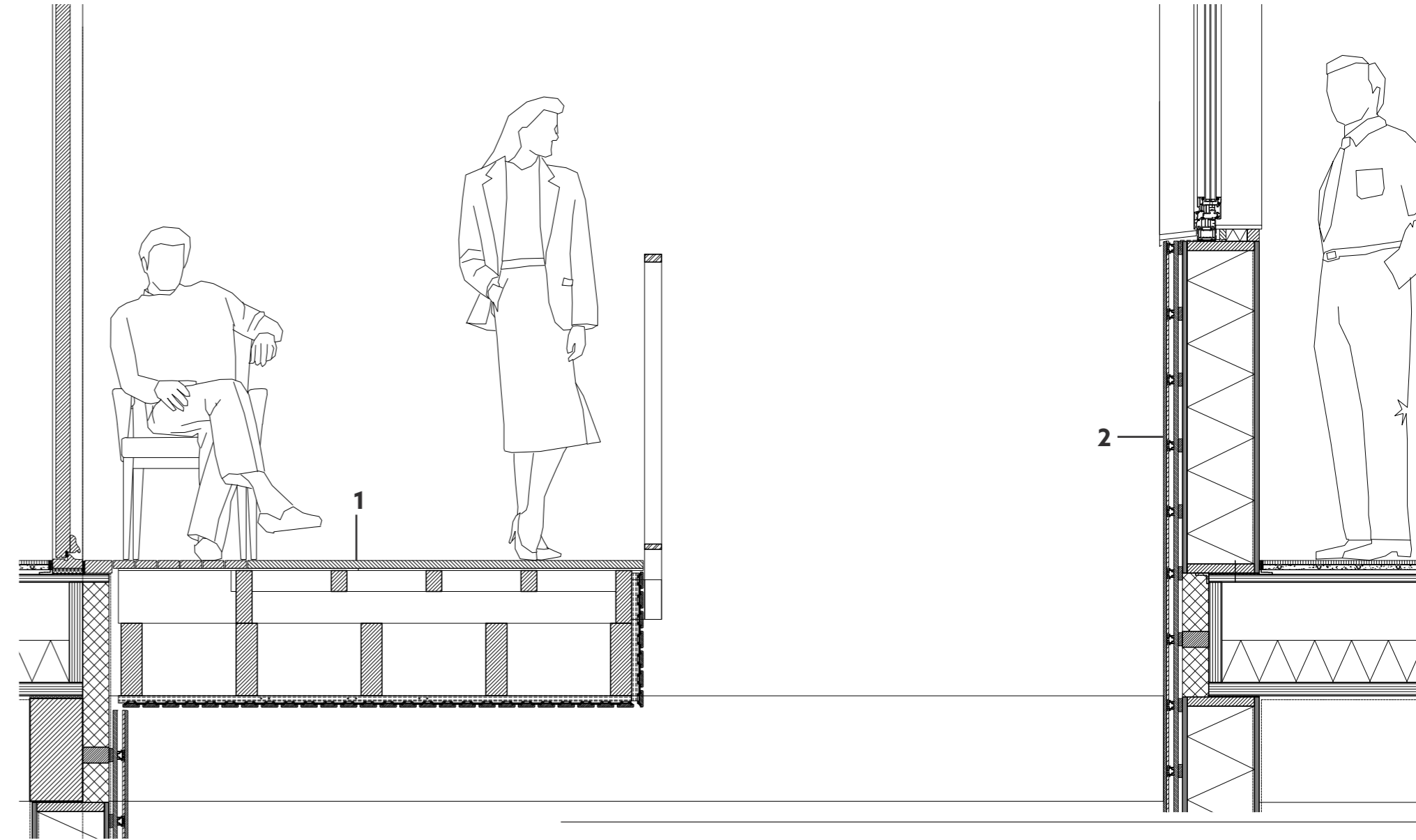
fragment - facade



- 1** 10mm linoleum, Compact filling mass, Varioprofile tube 11.6 x 1.5 laser, 18 mm gypsum fiberboard, Kerto-Ripa box element 460mm (with 160mm insulation), Ceiling finish
- 2** Accoya wood (Shou-sugi ban), Derarko facade system, wooden battens, Water-resistant foil, DucoTwin 120, Plaster finish Dentimex



detail 1:20 - balcony



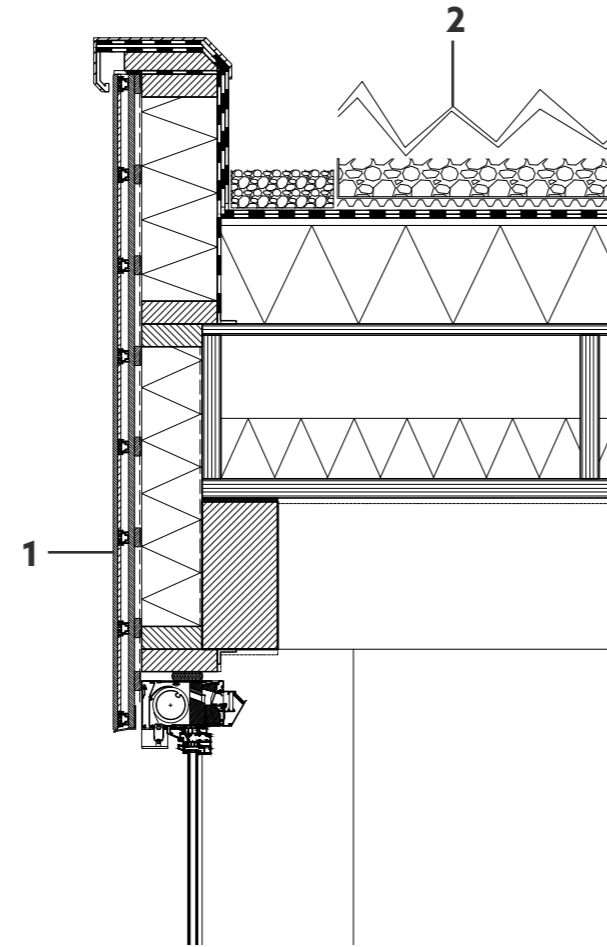
- 1** Accoya wood, Wooden beam, Derarko facade system (ceiling), Accoya wood
- 2** Accoya wood, Derarko facade system, wooden battens, Water-resistant foil, 18mm plywood,

Isovlas insulation 0.035 m2 K/W, Vapor barrier foil, 18mm plywood finish, Plaster finish Dentimex

detail 1:20 - interior

1 Green roof vegetation, Substrate, Drainage system, Water and root barrier, Isovlas insulation 0.035 m² K/W, Kerto-Ripa box element 460mm, Ceiling finish

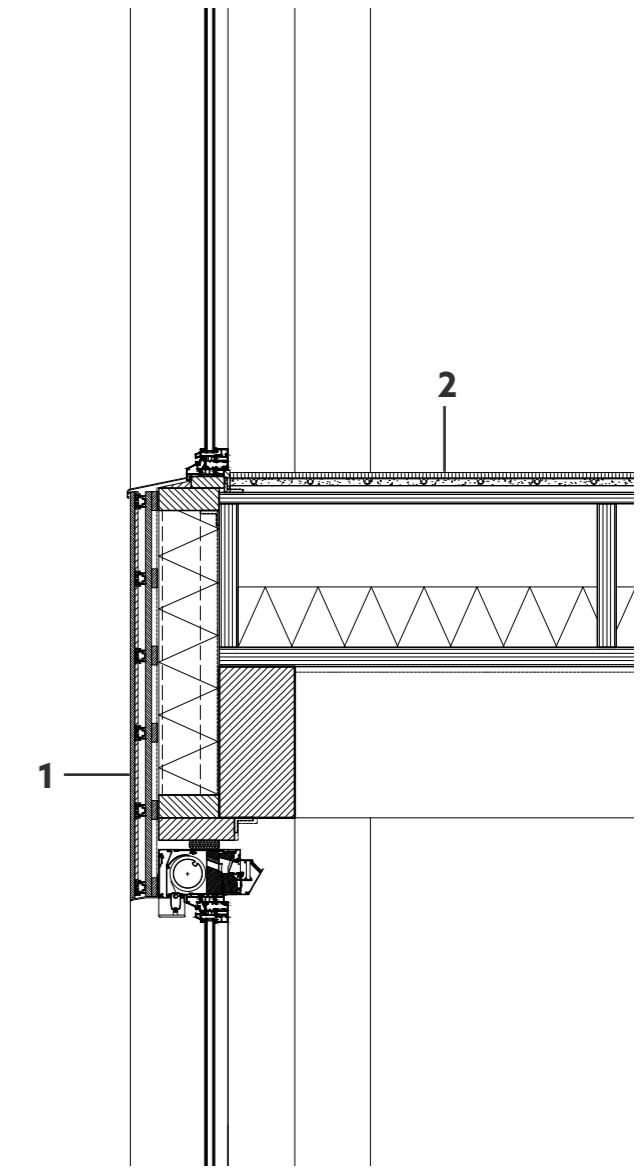
2 Accoya wood (Shou-sugi ban), Derarko facade system, wooden battens, Water-resistant foil, 18mm plywood, Isovlas insulation 0.035 m² K/W, Vapor barrier foil, Wooden beam



detail 1:20 - roof

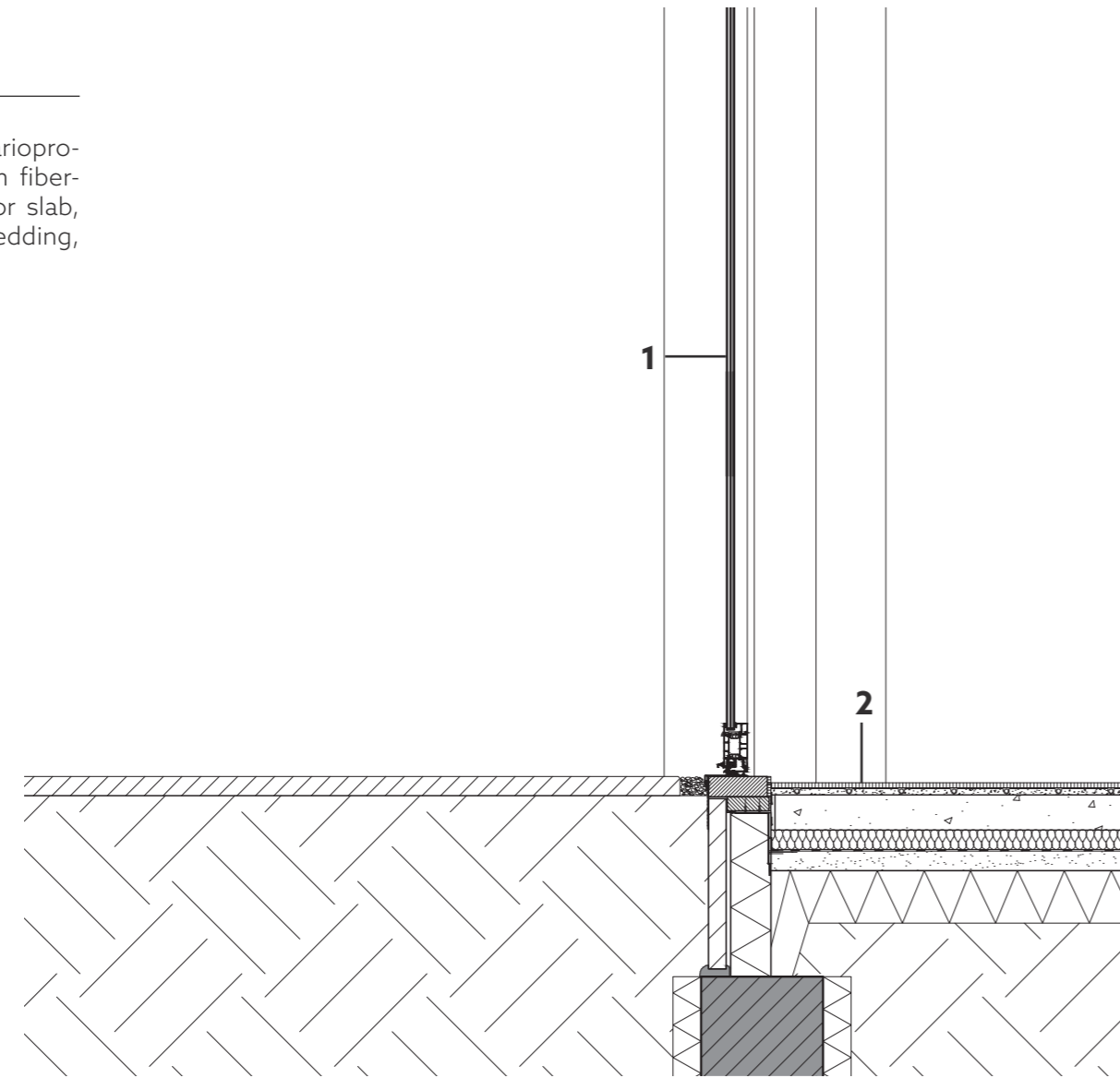
1 10mm linoleum flooring, Compact filling mass, Varioprofile tube 11.6 x 1.5 laser, 18 mm gypsum fiberboard, Kerto-Ripa box element 460mm (with 160mm insulation), Ceiling finish

2 Accoya wood (Shou-sugi ban), Derarko facade system, wooden battens, Water-resistant foil, 18mm plywood, Isovlas insulation 0.035 m² K/W, Vapor barrier foil, Wooden beam

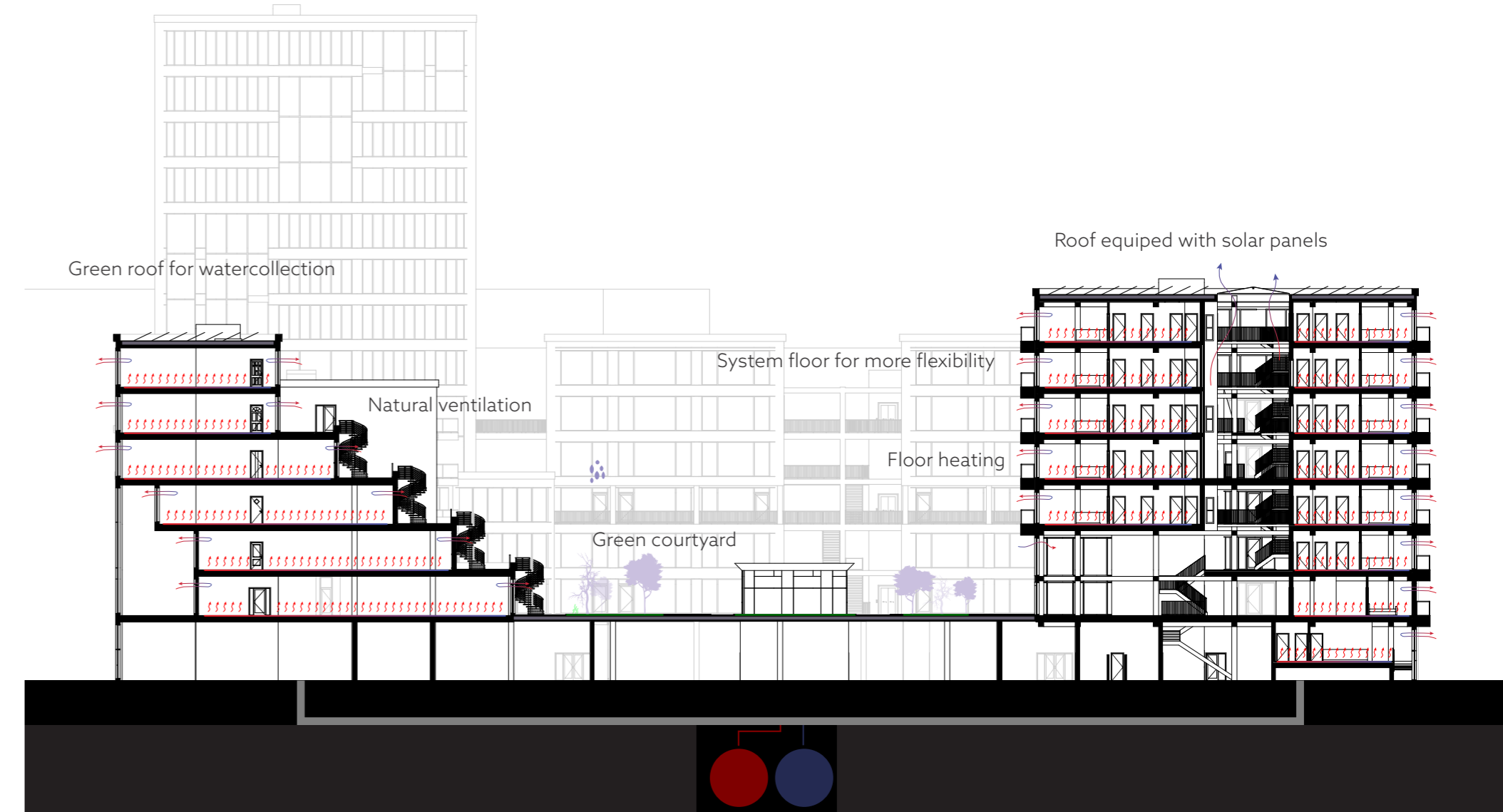


detail 1:20 - facade

- 1** 10mm linoleum, Compact filling mass, Varioprofile tube 11.6 x 1.5 laser, 18 mm gypsum fiberboard, PE construction foil, Concrete floor slab, Rockwool Rockfloor 60mm, DPM, Sand bedding, Hardcore
- 2** Reynaers CS77 window frame



detail 1:20 - ground floor



section - climate concept

PUBLIC SPACE

Access

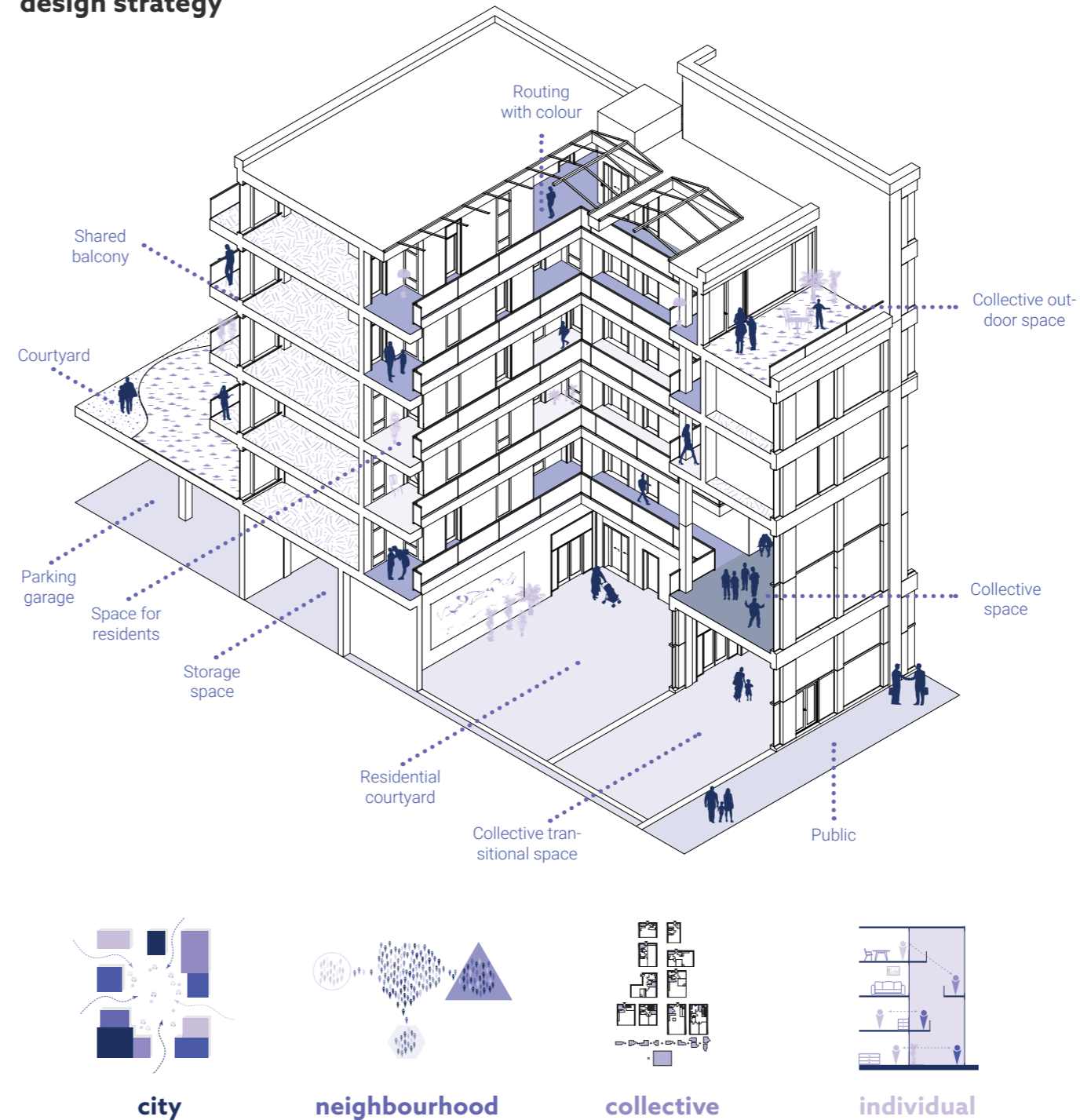
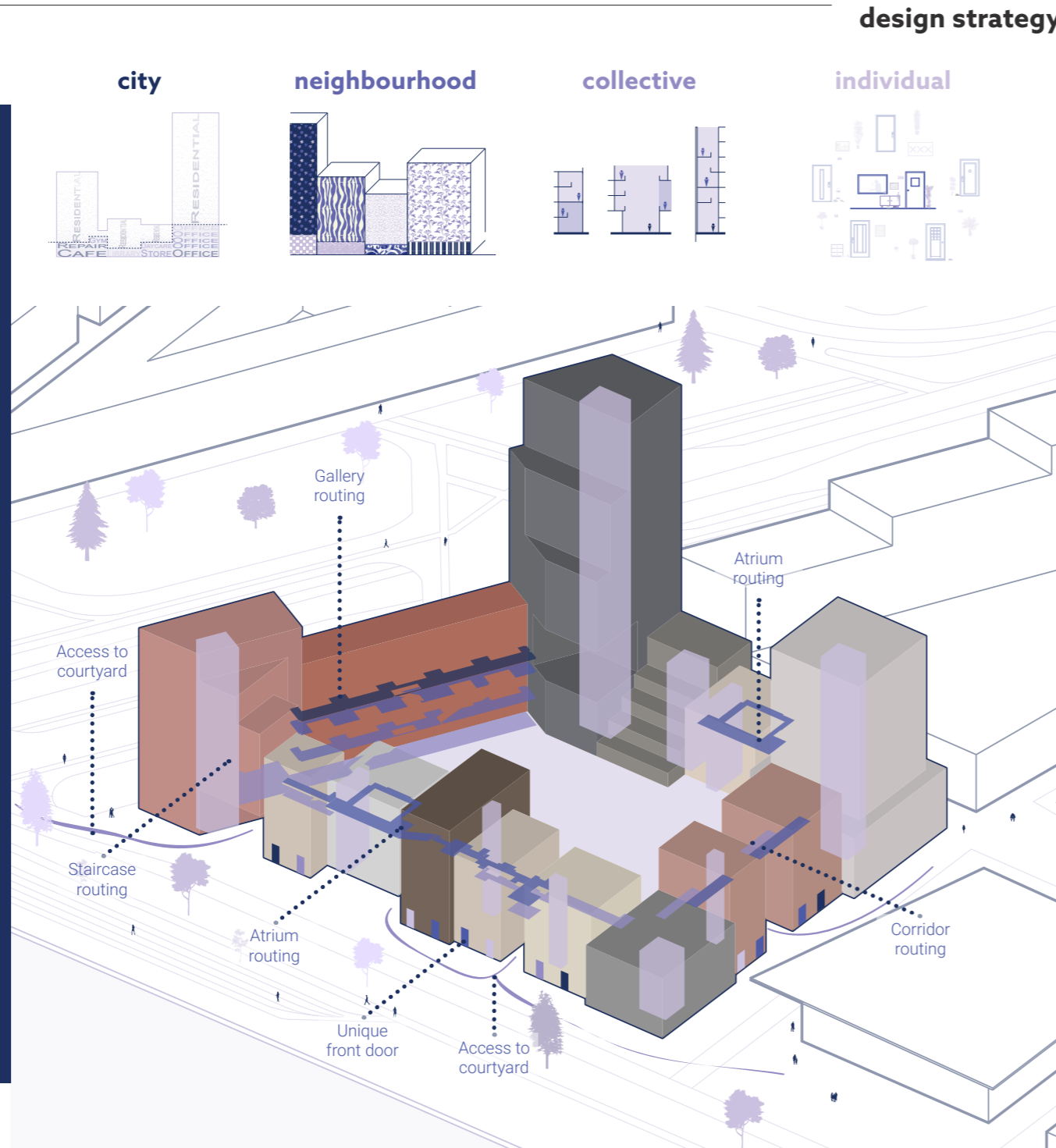
The different types of access, both for public and residential functions, are crucial in maintaining a strong connection between the building and its surrounding context. Clear and well-defined access points contribute to a safe and welcoming environment while supporting a socially manageable structure.

Movement

To foster a vibrant and socially sustainable environment, the integration of movement and mixed functions is essential. The plinth of the building combines public programs with residential entrances, allowing constant activity throughout the day. This functional mix ensures that the building remains lively and engaging. The varied routing and strategic placement of collective spaces encourage interaction, establish a sense of responsibility among users, and contribute to the social safety and quality of the shared spaces.

Recognition

In a high-density context, recognition is vital for orientation and personal connection. This is achieved not only through the building volumes but also through individualized entrances. Within the interior, colour, and material further support wayfinding and a sense of identity, enhancing familiarity and ownership for the residents.



COMMUNAL SPACE

Access

The routing not only defines access to the communal spaces but also introduces a diversity of pathways, enabling various ways of reaching and engaging with these areas. This variation in movement fosters spontaneous encounters and layered interactions, enriching the social dynamic of the building and enhancing the usability of communal spaces for different users.

Clustering

Clustering is a key principle in organizing collective spaces. It ensures that communal areas are appropriately scaled to promote interaction without overwhelming individual expression. Smaller collective spaces work best when shared by 4-8 dwellings, allowing for intimacy and familiarity. In contrast, larger collective areas can support 15-30 dwellings, depending on their size and the needs of the target groups. This flexible clustering approach strengthens social ties while accommodating a variety of activities and community types.

Interaction

The success of transitional and collective spaces depends largely on resident engagement. Clustering, combined with diverse routing, encourages interaction and supports community-driven activities within communal spaces. These strategies help foster and sustain smaller communities within the larger collective.

TRANSITIONAL SPACE

Colour and Material Identifiers

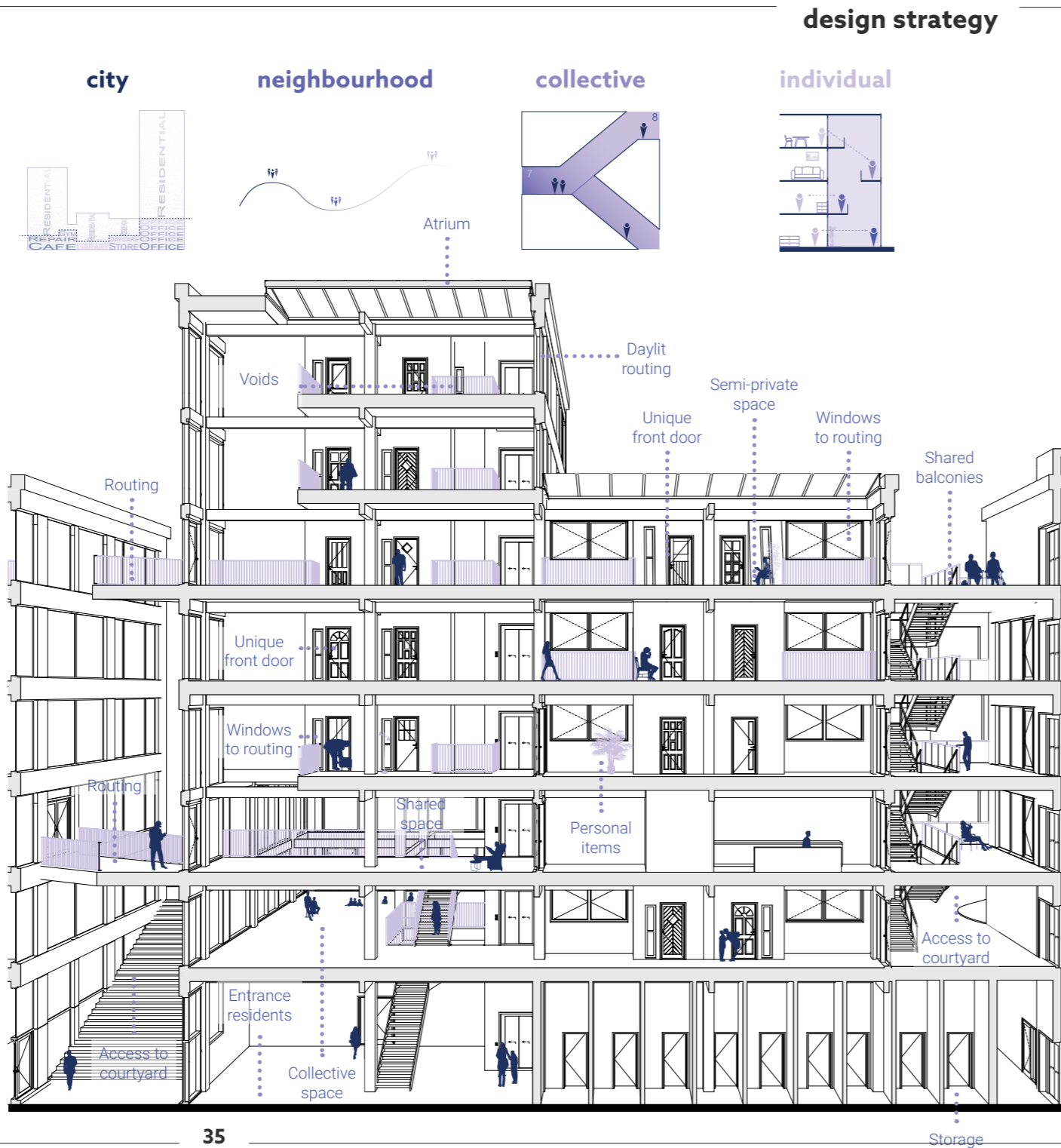
As with the larger building scale, wayfinding and recognition are essential within the transitional spaces. A continuous routing connects the individual buildings, making it crucial for residents to easily identify their location within this network. Colour and material changes act as subtle visual cues, reinforcing a sense of place and orientation throughout the interior circulation.

Interaction

Interaction within transitional spaces mirrors the intent of communal areas, aiming to foster social engagement and a sense of responsibility. However, due to the absence of large gathering spaces, this interaction is supported primarily through a sense of ownership. Setbacks at the entrances allow for semi-private zones that residents can personalize and casually use, while windows between living spaces and the routing increase visual connections. These design features foster natural encounters and informal dialogue, enhancing the lived quality of shared spaces.

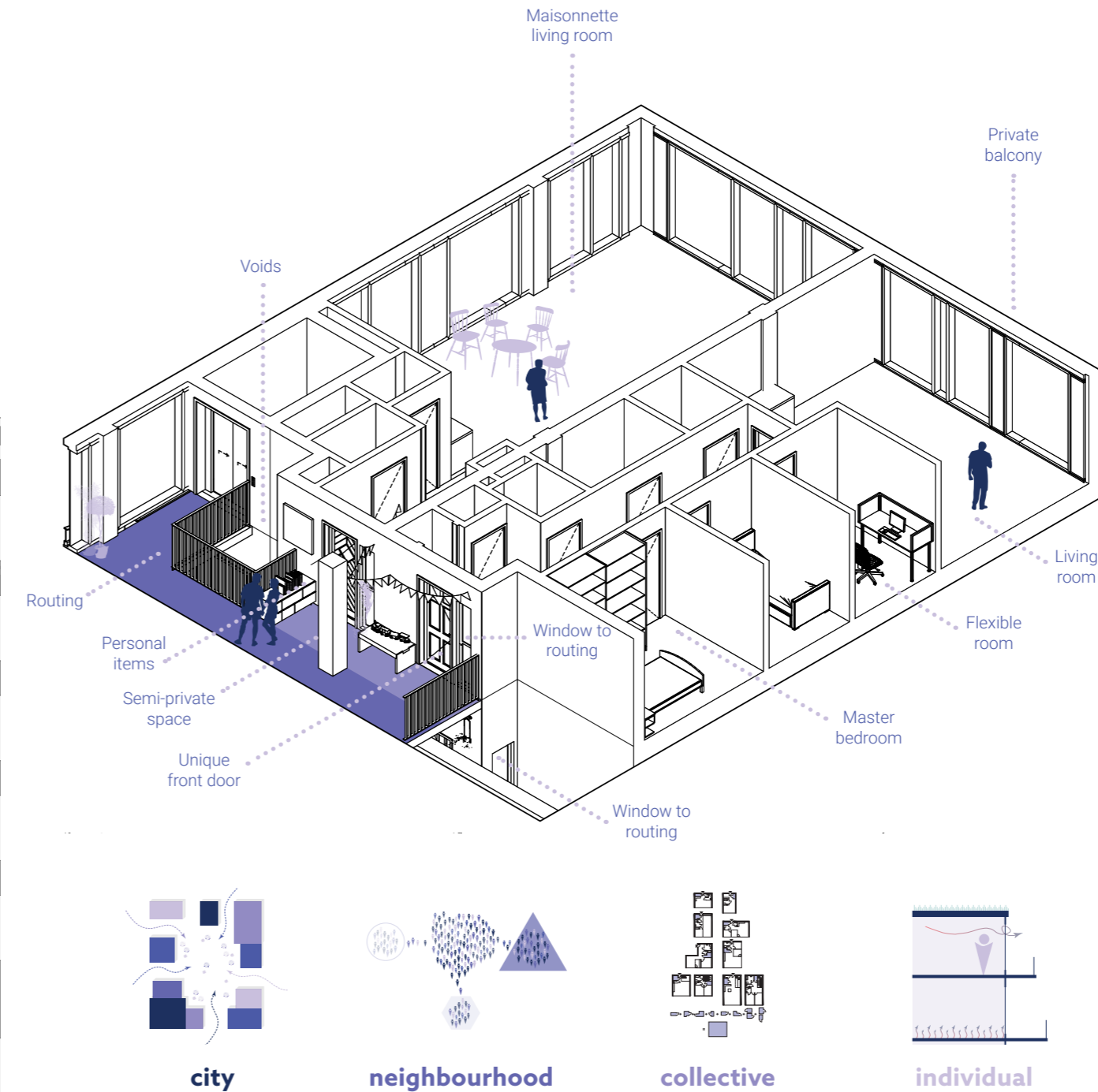
Staying Spaces

These semi-private areas do more than support interaction, they elevate the spatial experience. Small moments of connection, initiated by eye contact through windows or the presence of personal items in front of doors, build a stronger sense of community. These staying spaces resemble a lively residential street or shared garden.



design strategy

design strategy



PRIVATE SPACE

Privacy management

A key factor in ensuring individual comfort is allowing residents to manage their own level of privacy. This is achieved in various ways across different dwelling types. In the studio apartment, for example, a large window creates a direct visual connection between the living space and the circulation area, fostering openness. In contrast, the other apartments establish this connection more subtly, often through hallways, making the interaction less immediate and more filtered. This balance is further supported by the semi-private spaces in front of each dwelling. These spaces allow residents to choose when and how they engage with their surroundings, whether they wish to interact socially or retreat into privacy.

Semi-private spaces

The small areas in front of each dwelling offer room for personal items, seating, or decoration. These spaces not only encourage spontaneous, low-threshold interactions but also serve as a form of self-expression. A bench, a plant, or a bicycle becomes a subtle introduction to the resident behind the door, often sparking casual conversation and making social engagement feel more natural and approachable. These spaces act almost like miniature front gardens or vibrant residential streets, encouraging casual interactions and adding character to the collective environment.

OVERVIEW

The project focuses on creating a socially sustainable, multifunctional building within the Baibuurt area, integrating residential spaces with public functions. The primary goal is to address the growing housing demand while fostering a sense of community and ownership among residents. The design incorporates principles of spatial interaction, privacy, and flexibility, balancing public, semi-public, and private realms.

The building is organized around a coherent routing system that connects different volumes and spaces, guiding residents and visitors through the structure while maintaining clear boundaries. Expressive volumes, with varied sizes, shapes, and materials, are used to enhance the building's identity, aid wayfinding, and create a dynamic environment that reflects both individual and collective needs. These volumes also help distinguish public areas from private, encouraging engagement without compromising personal privacy. The design emphasizes participatory spaces, where residents can engage with each other through flexible, community-driven functions such as shared office spaces, a gym, daycare, and repair cafe.

By focusing on design principles like ownership, participation, and connectivity, the project aims to create an environment where residents feel empowered to take part in managing communal spaces and contribute to the social fabric of the building. Ultimately, the goal is to offer a flexible, sustainable living solution that can adapt to the evolving needs of the community.



design strategy

design strategy

DESIGN STRATEGIES

By applying the established design principles and reflecting on their spatial and social impact, specific design strategies are developed to enhance how the building functions and how its users interact. These strategies highlight how spatial adjustments, such as shifts in routing, the clustering of dwellings, or the articulation of transitional zones, can influence behavior, and foster community engagement.

These design strategies are translated into principles applied at various scales, and can therefore be implemented at different stages of the design process. By operating across multiple scales, ranging from urban form to architectural detail, the strategies not only shape the physical environment but also address social dynamics.

