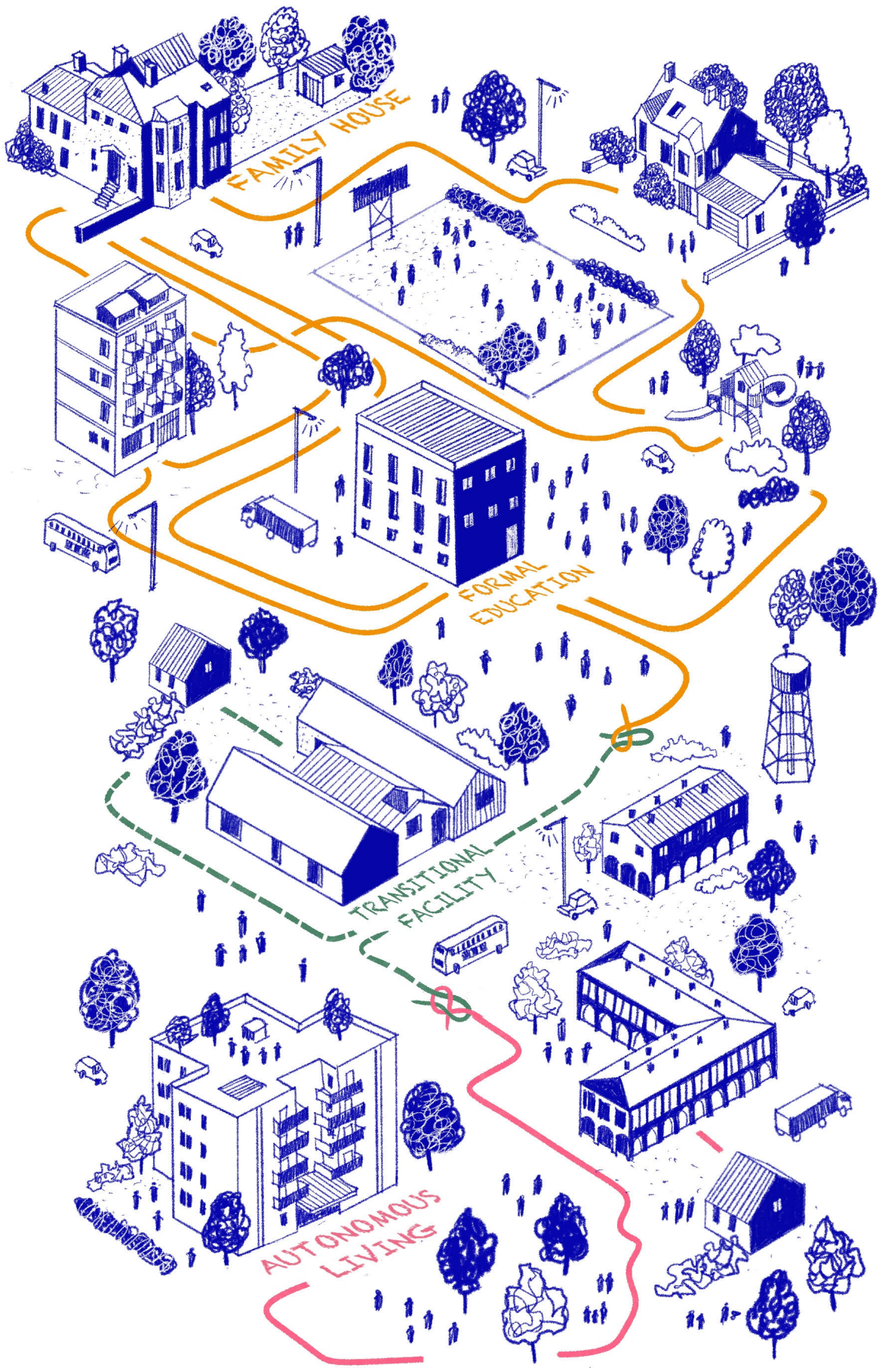


Autonomy-supportive environment for young adults with intellectual and developmental disabilities.

From formal education towards autonomous living

Diana Bulatova (5583624)

Young Adults with Intellectual Disabilities (YAIDD)

Family members of YAIDD have reported that:

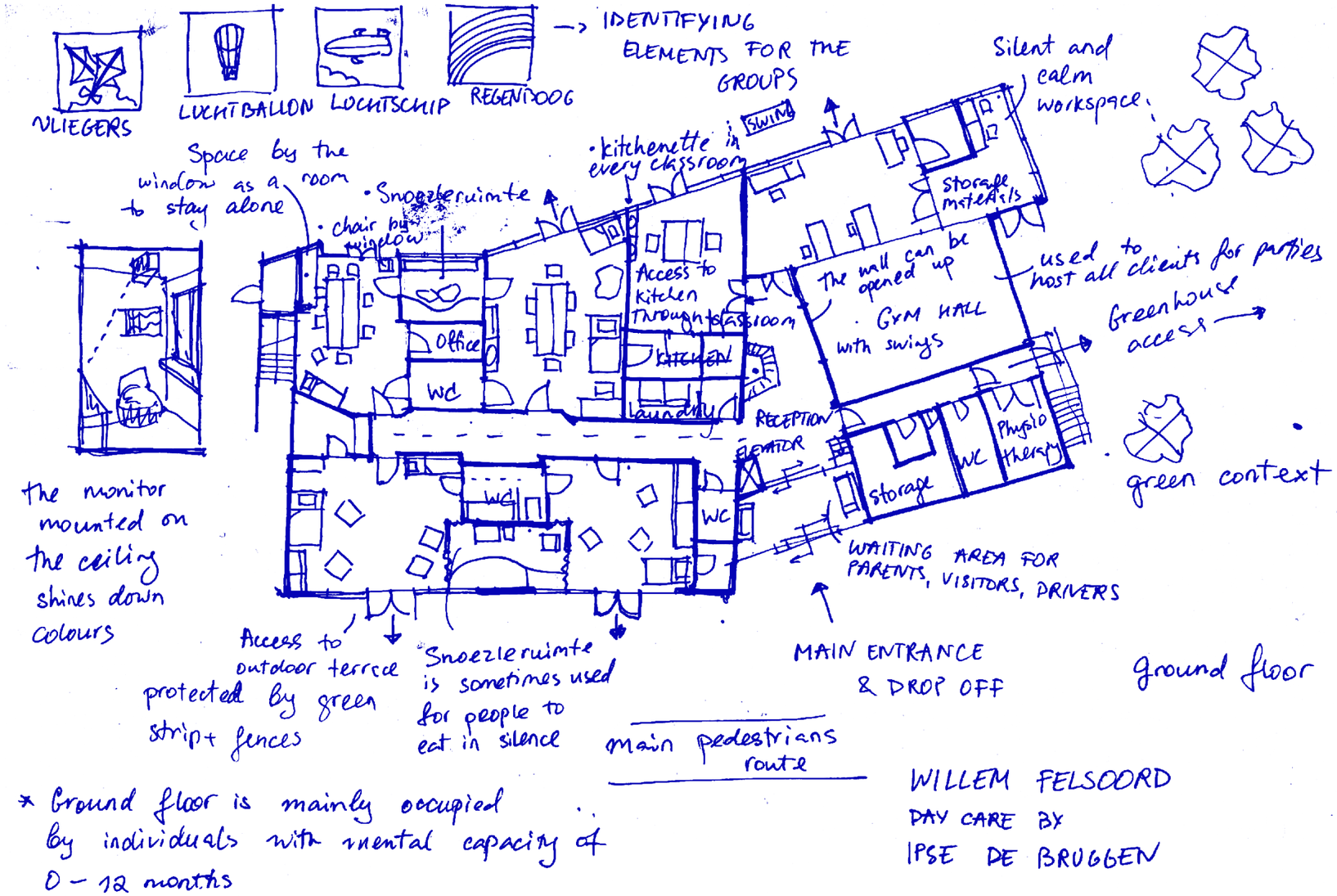
- Transition period is as **stressful** as the time of diagnosis
- Disrupted development and the missing knowledge of **independent living skills** delays transition
- **More guidance** is necessary when choosing transitional development plans

Figures sources:
https://www.edweek.org/teaching-learning/students-with-autism-get-virtual-reality-lessons-in-how-to-interact-with-police/2019/10
https://www.mayoclinichealthsystem.org/hometown-health/speaking-of-health/grief-and-loss-throughout-the-holiday-season
https://bestpracticeautism.blogspot.com/2013/10/independent-living-and-young-adults.html
https://estatemag.io/projects/day-care-centre-for-people-with-a-mental-disability-urbain-architectencollectief/

Fieldwork studies: site visits

The following facilities have contributed significantly to the fieldwork research by means of site visits and tours organized by the staff:

- Willem Felsoord daycare center by Ipse de Bruggen, Delft (Netherlands)
- Kinderwoonvorm group living for minors by Pameijer, Rotterdam (Netherlands)
- Kiem Special Care school, Dordrecht (Netherlands)



Fieldwork studies: interviews

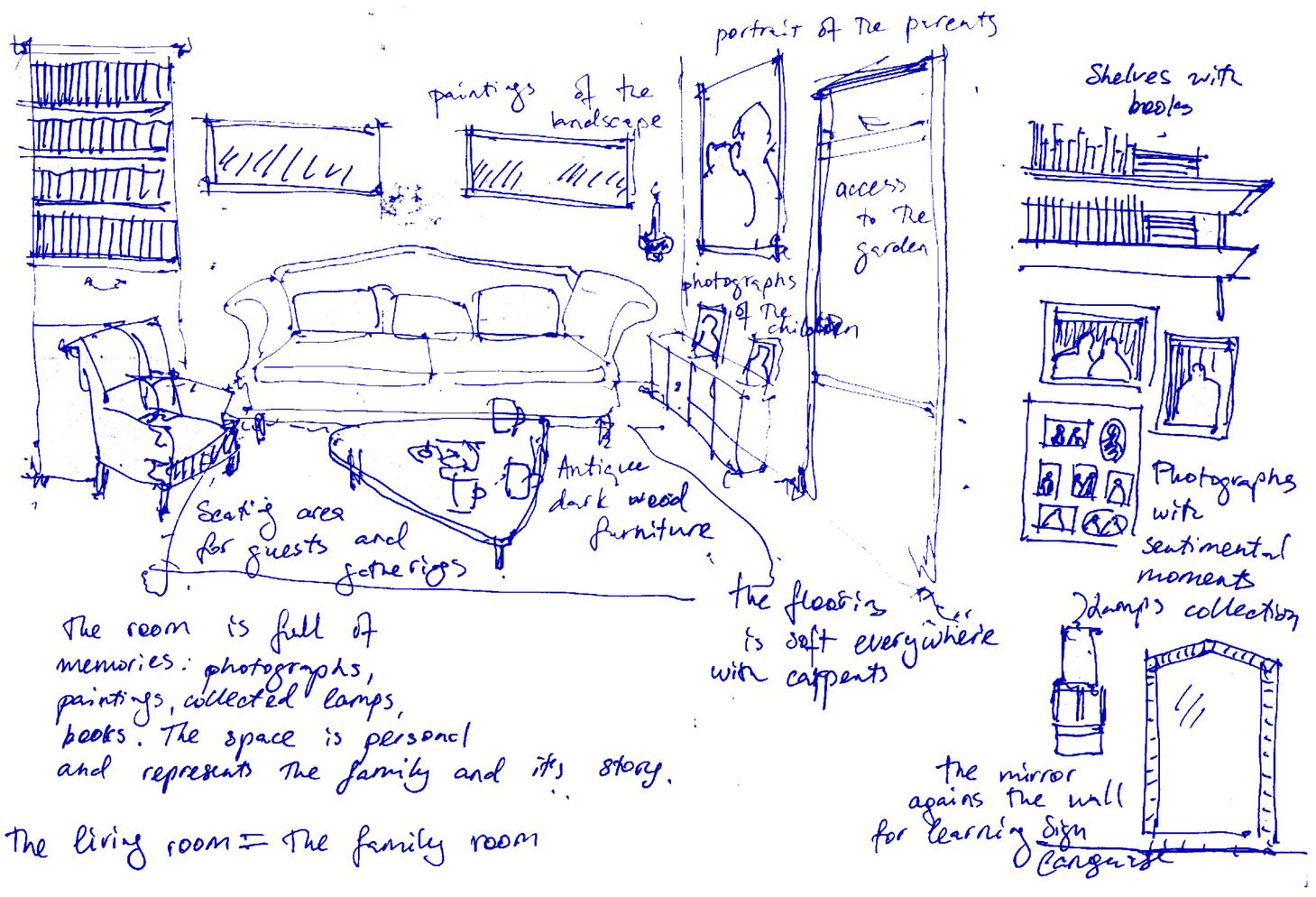
Daily living of YAIDD was studied through interviews with YAIDD, their parents, caretakers, employers, and architects.

"You treat him with respect, so he treats you with just as much respect",

- Bernie Dierks (Declan's mentor), interview for Curtin University

"I think that meeting with regular people, the contact with his colleagues makes Robert incredibly happy",

- Alies Hein (Pameijer advisor), fieldwork interview



Figures sources:
https://www.barkingwolf.com.au/intergenerational-2018
https://zakelijk.pameijer.nl/verhalen/robert

Guiding principles and outcomes of the project

Independence

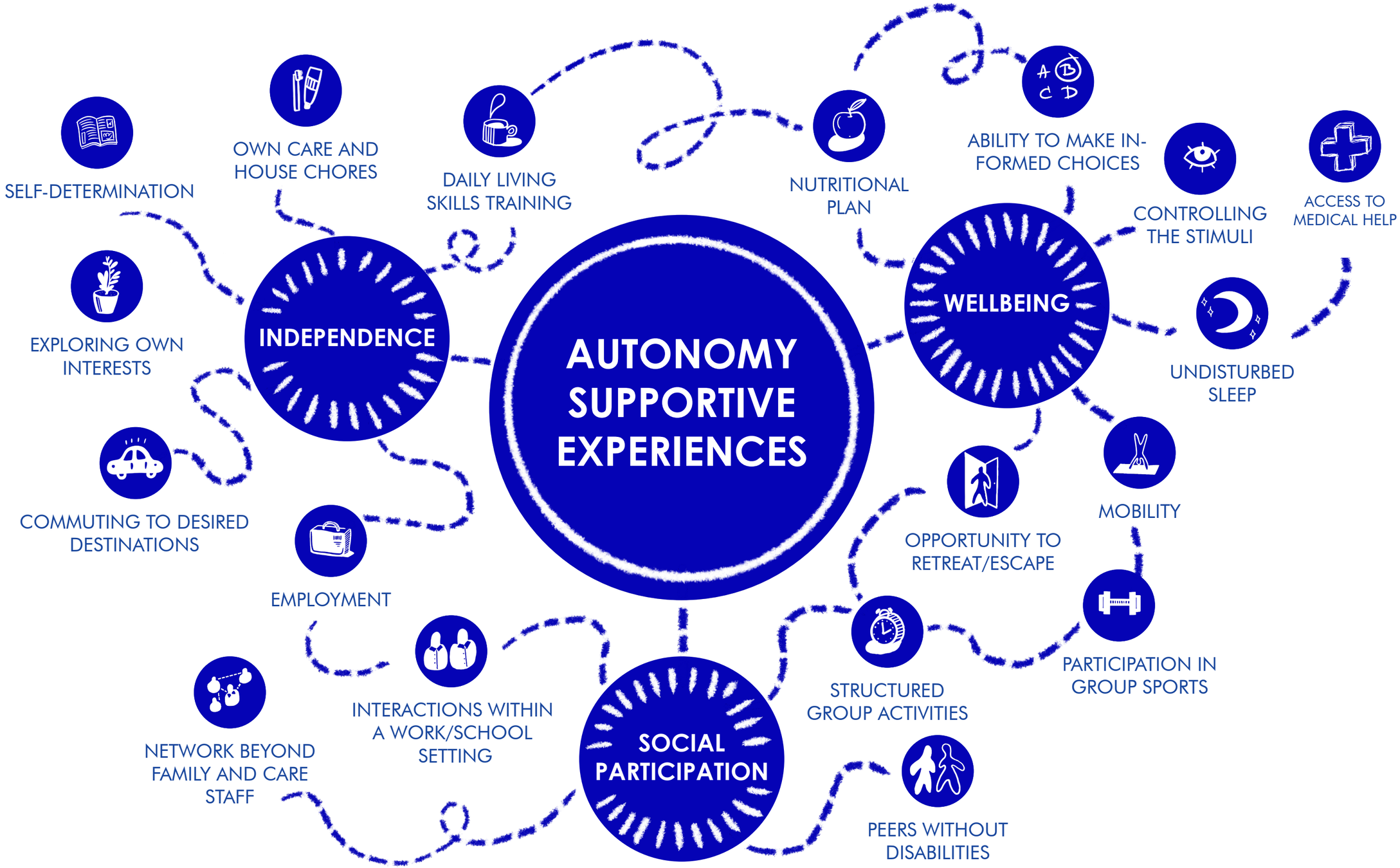
- Ability to perform own self-care and domestic tasks
- Skills of decision making, problem solving an self-advocacy

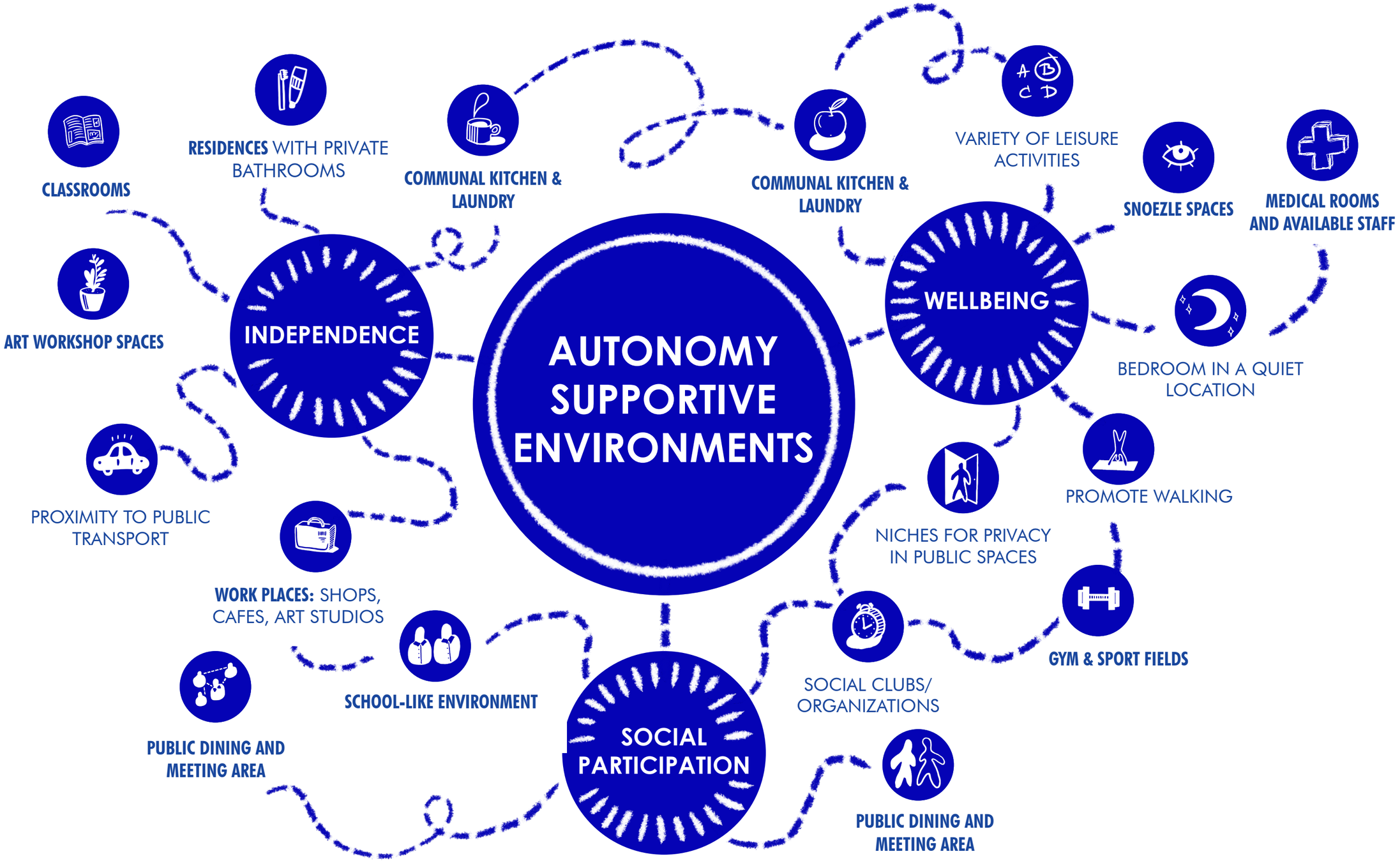
Social participation

- Social skills training programs focused on gestures, vocalization and quality of interactions
- Forming connections through jobs, hobbies and volunteering.

Wellbeing

- Education and behavioral interventions that promote healthy habits.
- Optimizing environment to the controlled level of stimuli to minimize psychological distress.


AUTONOMY SUPPORTIVE EXPERIENCES
INDEPENDENCE
WELLBEING
SOCIAL PARTICIPATION
SELF-DETERMINATION
OWN CARE AND HOUSE CHORES
DAILY LIVING SKILLS TRAINING
NUTRITIONAL PLAN
ABILITY TO MAKE IN-FORMED CHOICES
CONTROLLING THE STIMULI
ACCESS TO MEDICAL HELP
EXPLORING OWN INTERESTS
UNDISTURBED SLEEP
COMMUTING TO DESIRED DESTINATIONS
EMPLOYMENT
OPPORTUNITY TO RETREAT/ESCAPE
MOBILITY
PARTICIPATION IN GROUP SPORTS
INTERACTIONS WITHIN A WORK/SCHOOL SETTING
NETWORK BEYOND FAMILY AND CARE STAFF
STRUCTURED GROUP ACTIVITIES
PEERS WITHOUT DISABILITIES


AUTONOMY SUPPORTIVE ENVIRONMENTS
INDEPENDENCE
WELLBEING
SOCIAL PARTICIPATION
CLASSROOMS
ART WORKSHOP SPACES
RESIDENCES WITH PRIVATE BATHROOMS
COMMUNAL KITCHEN & LAUNDRY
PROXIMITY TO PUBLIC TRANSPORT
WORK PLACES: SHOPS, CAFES, ART STUDIOS
SCHOOL-LIKE ENVIRONMENT
PUBLIC DINING AND MEETING AREA
COMMUNAL KITCHEN & LAUNDRY
VARIETY OF LEISURE ACTIVITIES
SNOEZLE SPACES
MEDICAL ROOMS AND AVAILABLE STAFF
BEDROOM IN A QUIET LOCATION
PROMOTE WALKING
NICHES FOR PRIVACY IN PUBLIC SPACES
GYM & SPORT FIELDS
SOCIAL CLUBS/ ORGANIZATIONS
PUBLIC DINING AND MEETING AREA

6 Design Principles

1 - LEGIBILITY AND WAYFINDING

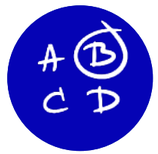
The process of organizing environmental information to help users find their way. To avoid user's frustration, designers must consider five predominate elements of legibility: paths, edges, districts, nodes, and landmarks (Pearson et al., 2016, p. 14).

2 - PROSPECT AND REFUGE

Prospect refers to the ability to survey the environment and have an uninterrupted view of the space before entering it. Refuge is the opportunity to hide inside the space or take necessary escape routes. When carefully designed, spaces that allow prospect and refuge encourage social interactions and active participation.

3 - TERRITORIALITY AND CONTROL

Regardless of the size of the territory, individuals with IDD wish to have control over an area of space.



4 - PRIVACY AND CHOICE

Neurodiverse individuals should be given an opportunity to choose the desired level of privacy: solitude, intimacy, anonymity, or reserve. (Pearson et al., 2016, p. 25).

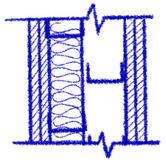
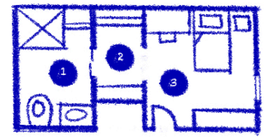
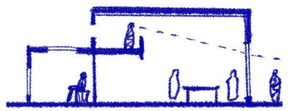
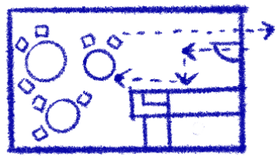
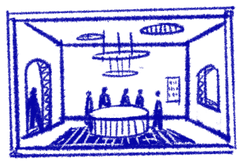
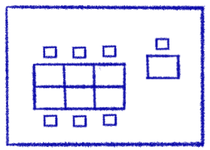
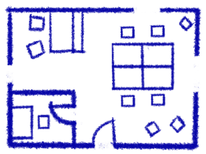
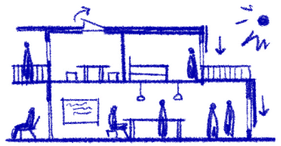
5 - DESIGN FOR SENSES

On one hand, sensory information can help YAIDD understand their environment, but it can also contribute to increased levels of stress one can get from an overloaded stimuli. For this project, light, color, noise and touch are taken into consideration. In addition, the benefits of Snoezle-rooms are addressed.

6 - DESIGN FOR ROUTINE

Sequencing of activities and spaces could promote routine for YAIDD. Compartmentalization of spaces for specific activities could be used for associating spaces with particular tasks.

Design recommendations manual

	LEGIBILITY AND WAYFINDING	PROSPECT AND REFUGE	TERRITORIALITY AND CONTROL	PRIVACY AND CHOICE	DESIGN FOR SENSES	DESIGN FOR ROUTINE
RESIDENCES	Visual clues of domesticity for residential spaces	Accessibility of residences within the reach from shared facilities for immediate refuge	Personalization of residences with own furniture + lighting control.	Residences with own bedroom and bathroom for improved privacy	 High quality noise insulation between the dwellings.	 Morning routine (bedroom - bathroom - closet)
COMMUNAL/PUBLIC	Landmarks inside the building through smell, sculpture, color, scale.	 Preview through side openings, balconies or glass doors.	Distance between the seats at the tables with clearance at least 90 cm to respect personal space.	Options of individual and group seatings in public areas.	Sound-absorbing ceiling and wall panels, rugs and cork boards to reduce noise.	 Visibility of reception, cashier and medical zones.
CLASSROOMS	 To avoid repetitiveness special character can be assigned to each classroom with color and layout.	Previewing classrooms through windows and glass doors. Alcove seats for refuge.	 Individual desks and chairs as identificators of personal space. Moveability of individual furniture for better control.	 Classroom layouts should accommodate spots for group work and individual work stations.	 Natural ventilation and natural daylight to increase productivity and reduce noise disturbances.	Wheelchair-accessible bathrooms close to the classroooms.

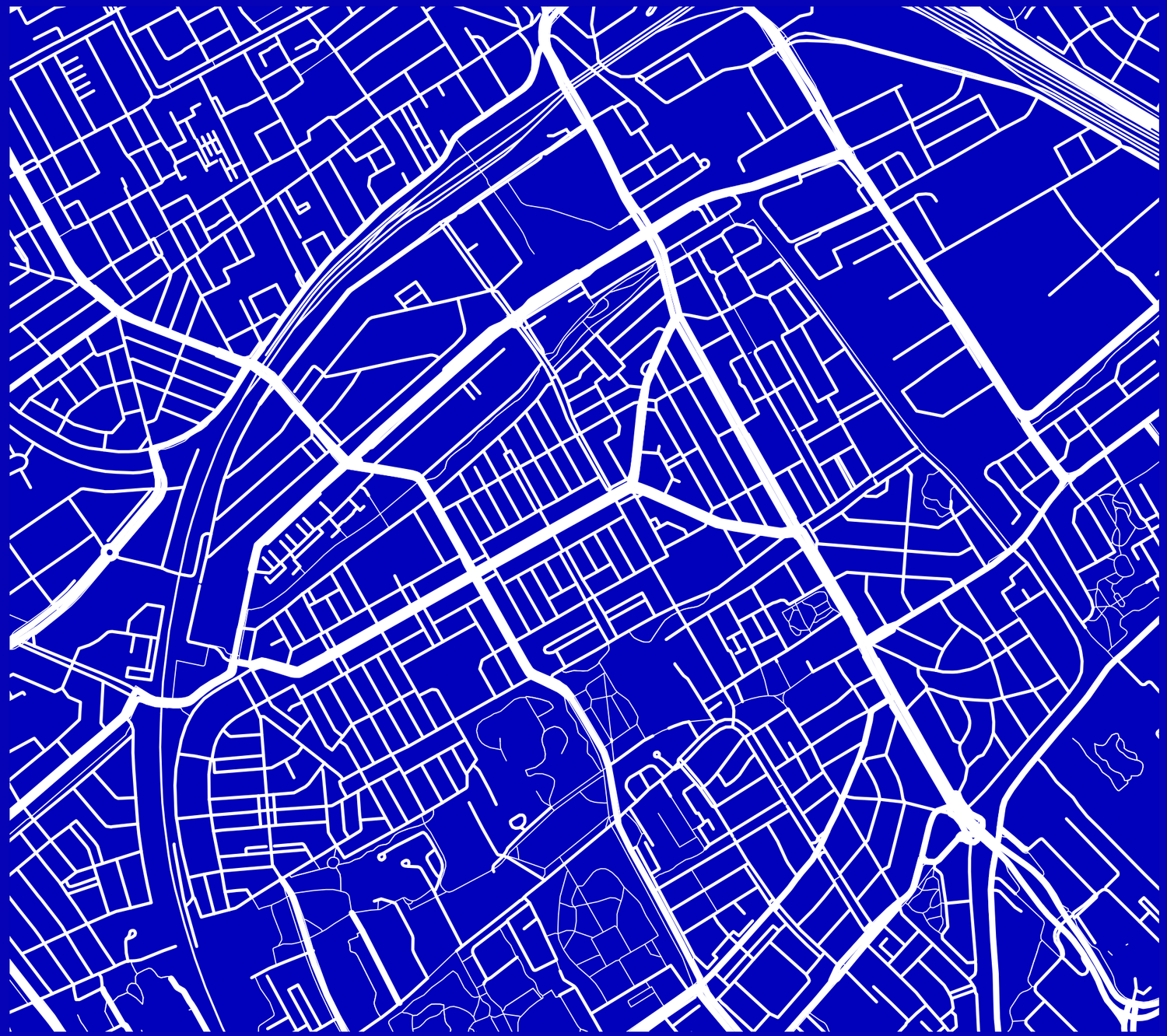
LAAKKWARTIER:
Site selection criteria

+ integrates YAIDD into the general society

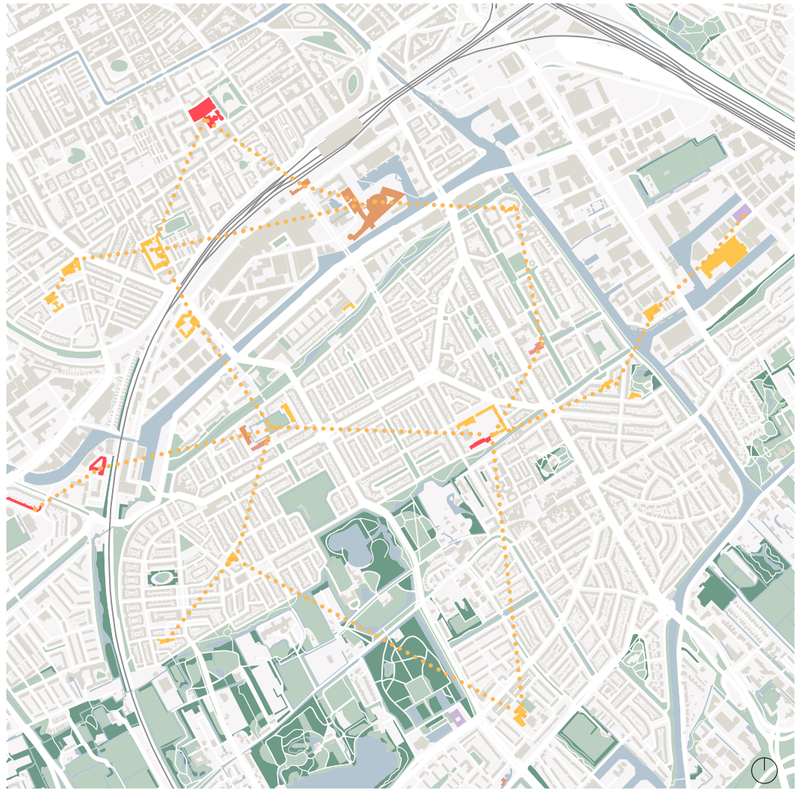
+ well-connected to the public transport

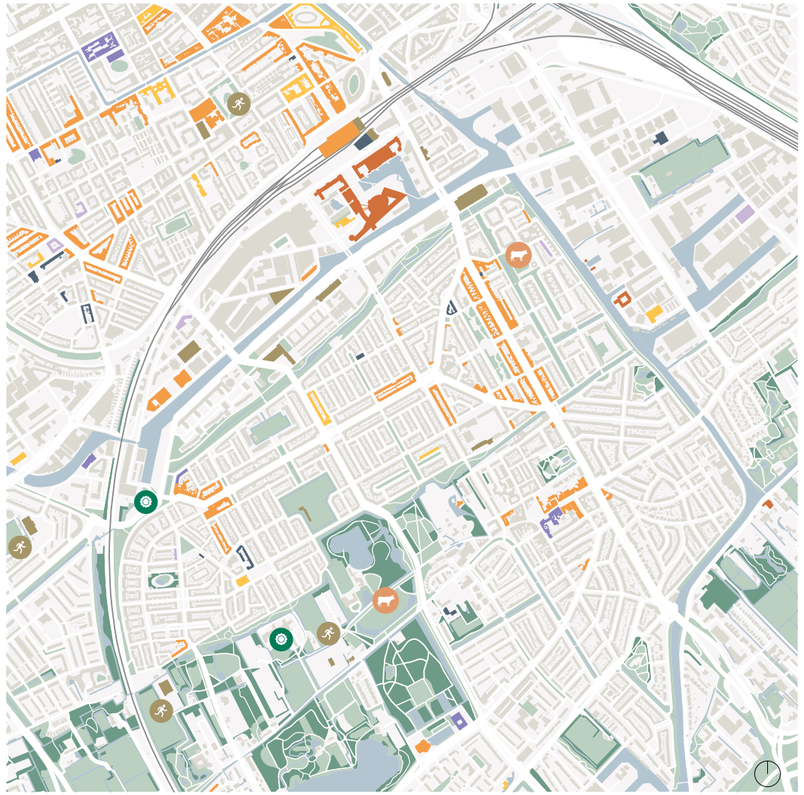
+ urbanized environment offers leisure activities to meet people

+ qualities of the typical residential blocks preserves a quiet neighborhood feel



LAAKKWARTIER:
Site selection criteria





Independence

- Special care facilities, schools, higher education, pedestrian accessibility

Social participation

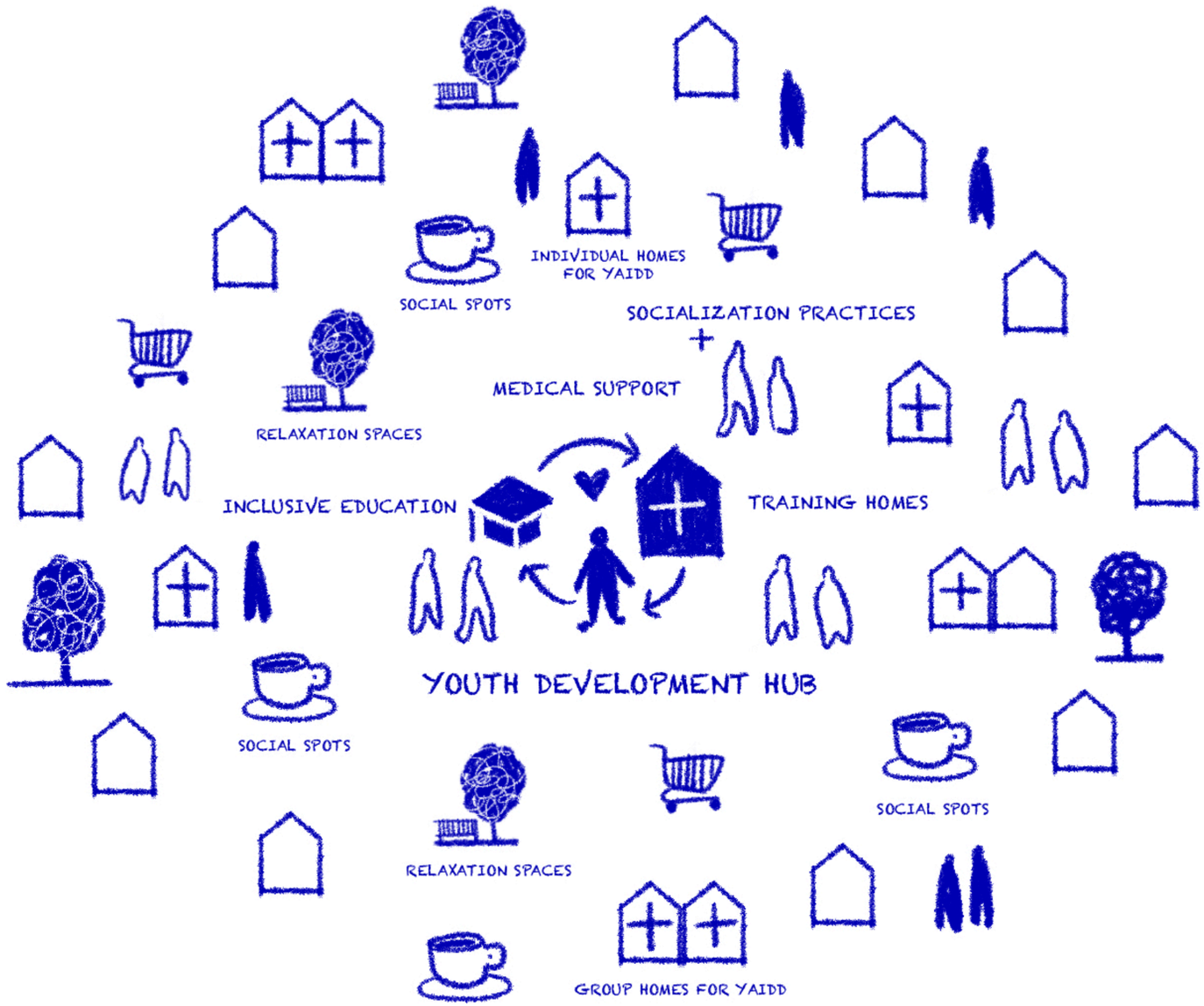
- Outdoor/indoor sports, community center, petting farm, dining places

Wellbeing

- Pharmacies, hospitals, specialized doctors, GP offices

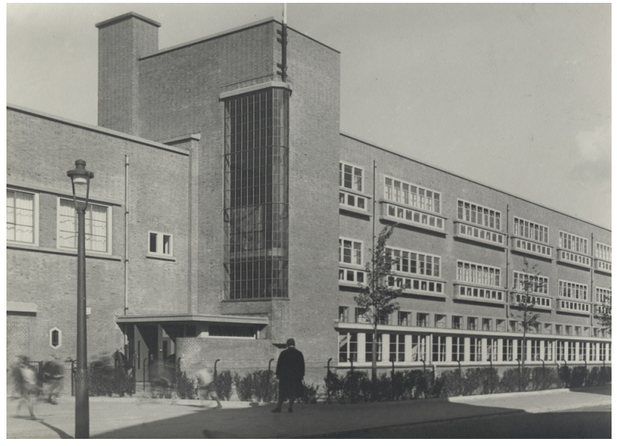
Urban vision for Youth Development Hub

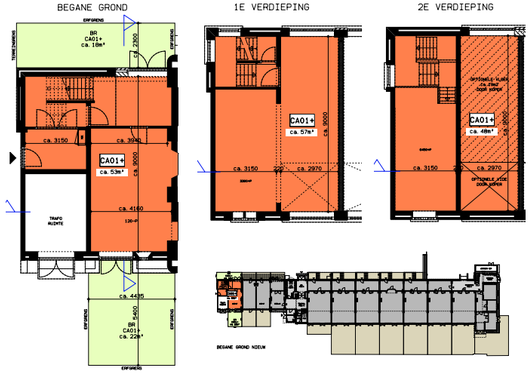
**Based on the interview with Laura van Dullemen (Pameijer)*



- Regular mainstream homes
- Group homes
- Individual homes
- Supermarkets/Essential shops
- Relaxation spots
- Social spots
- Medical support
- Training assisted homes
- Autonomy-related education

Capadosestraat 9: opportunities for further development





1929-1931

School designed by architect J.M. Luthmann

1931-2014

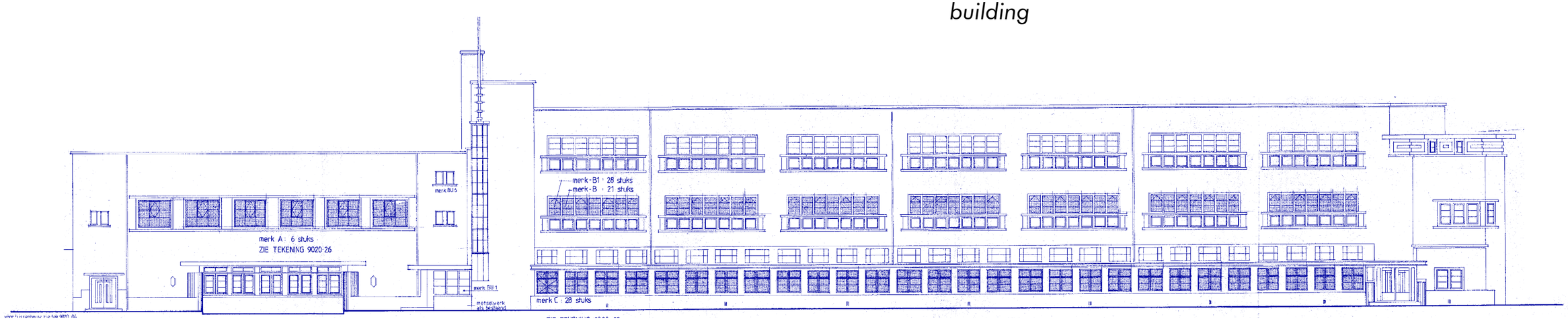
Laakkwartier public school

2014-2019

Vacant building after Primary School Dr. Willem Drees relocated to the new building

2019 -

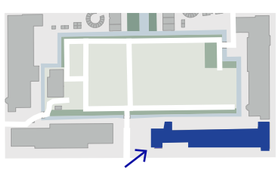
Transforming the school into 20 DIY housing units



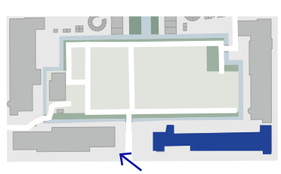
Figures sources:
https://www.nieuwehaagseschool.nl/agenda/architectuurwandeling-nieuwe-haagse-school-laak/
https://www.schoolbank.nl/school/kleuterschool-de-laak
https://www.ikbouwindenhaag.nl/klushuis/kluscomplex-capadosestraat-10/

Capadosestraat 9: opportunities for improvements

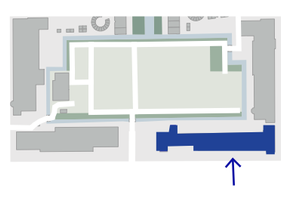
Poorly maintained / Dead facade



Blind facade



Unfinished private terraces at the monumental facade



Capadosestraat 9 as a Youth Development Hub

Independence

- Classrooms (4)
Financial skills, work ethics, job interview masterclass

- Hobby / leisure spaces (flexible)
Art room, kitchen, woodworking, clay sculpting

- Cafe hiring employees with IDD
Dining options, shops with art works produced by YAIDD

- Common laundry and kitchen
Step-by-step instructions of use

- Studios and apartments (19)
Assisted living and independent studios

Social Participation

- Social clubs
Interest-based clubs, language cafes, game-clubs

- Meeting spots
Meeting for YAIDD, families, friends, students from the nearby educational facilities

Wellbeing

- Physiotherapy room

Sport hall

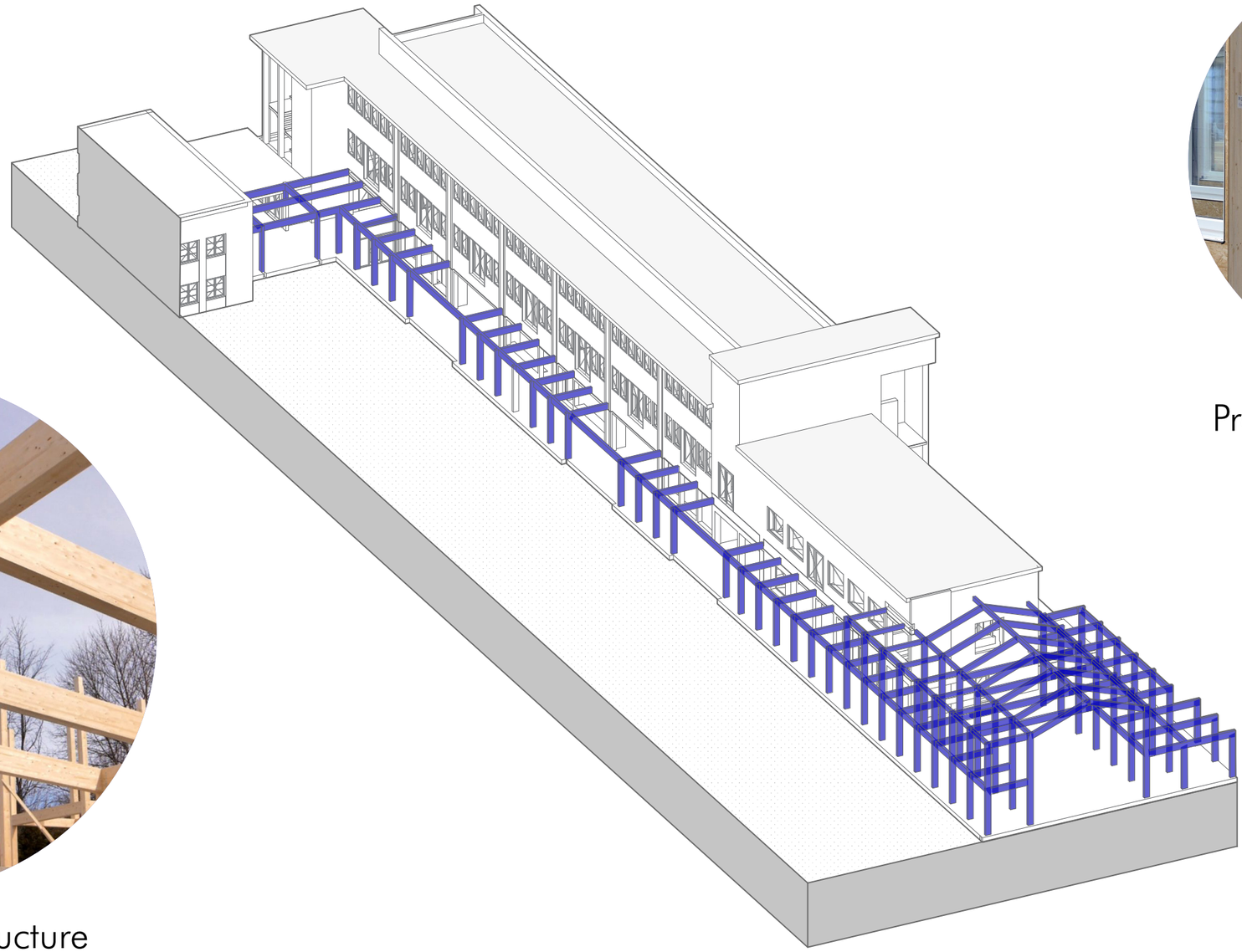
- Snoezelen room

- Outdoor sport fields
Small football fields, play zones

- Outdoor green spaces / parks

Extending the structure

Glulam column-beam structure

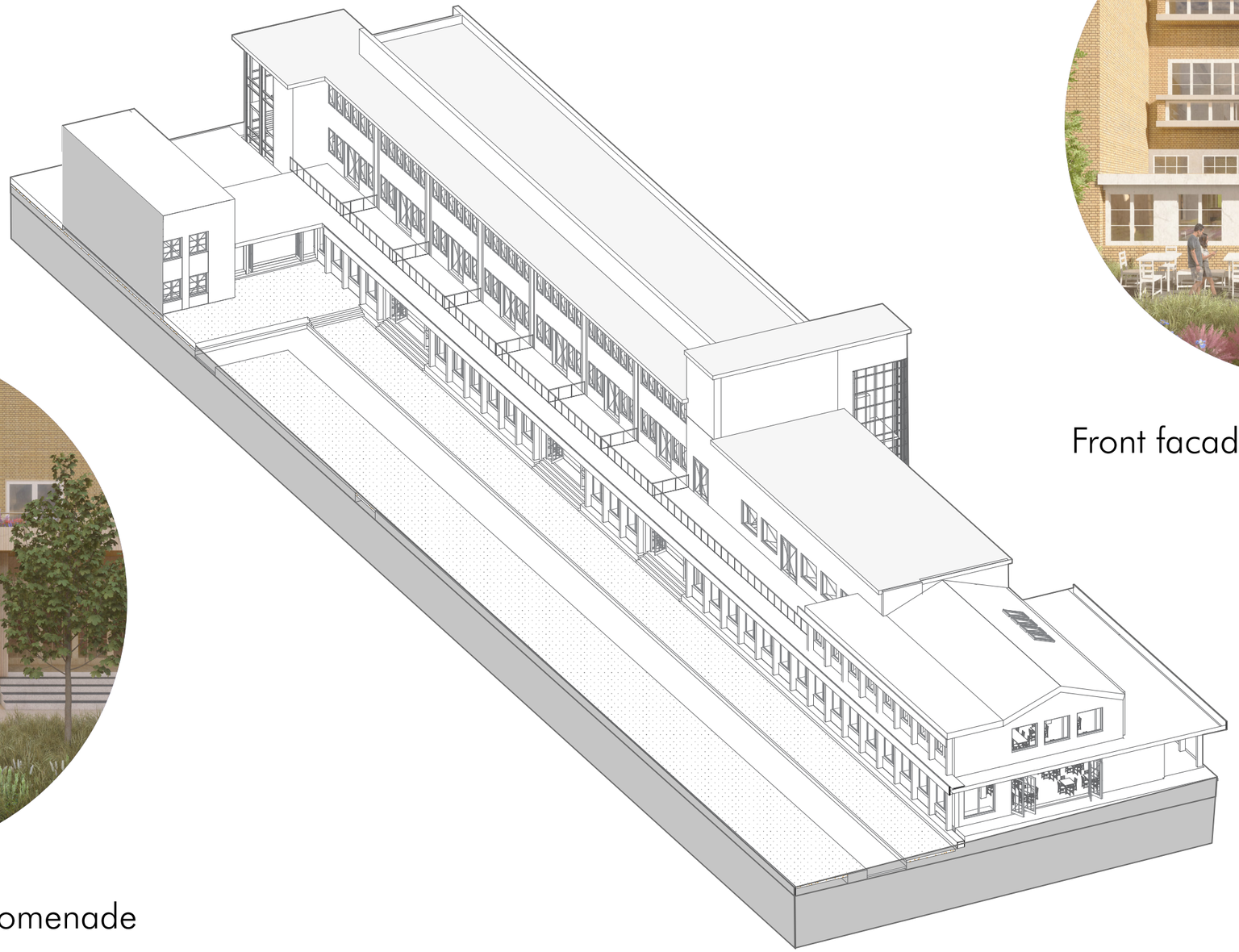


Prefabricated facade panels

Figures sources:
https://elementfive.co/elements/glulam/
https://www.rubner.com/en/holzbau/solutions/building-envelopes/wall-elements/

Fitting the program

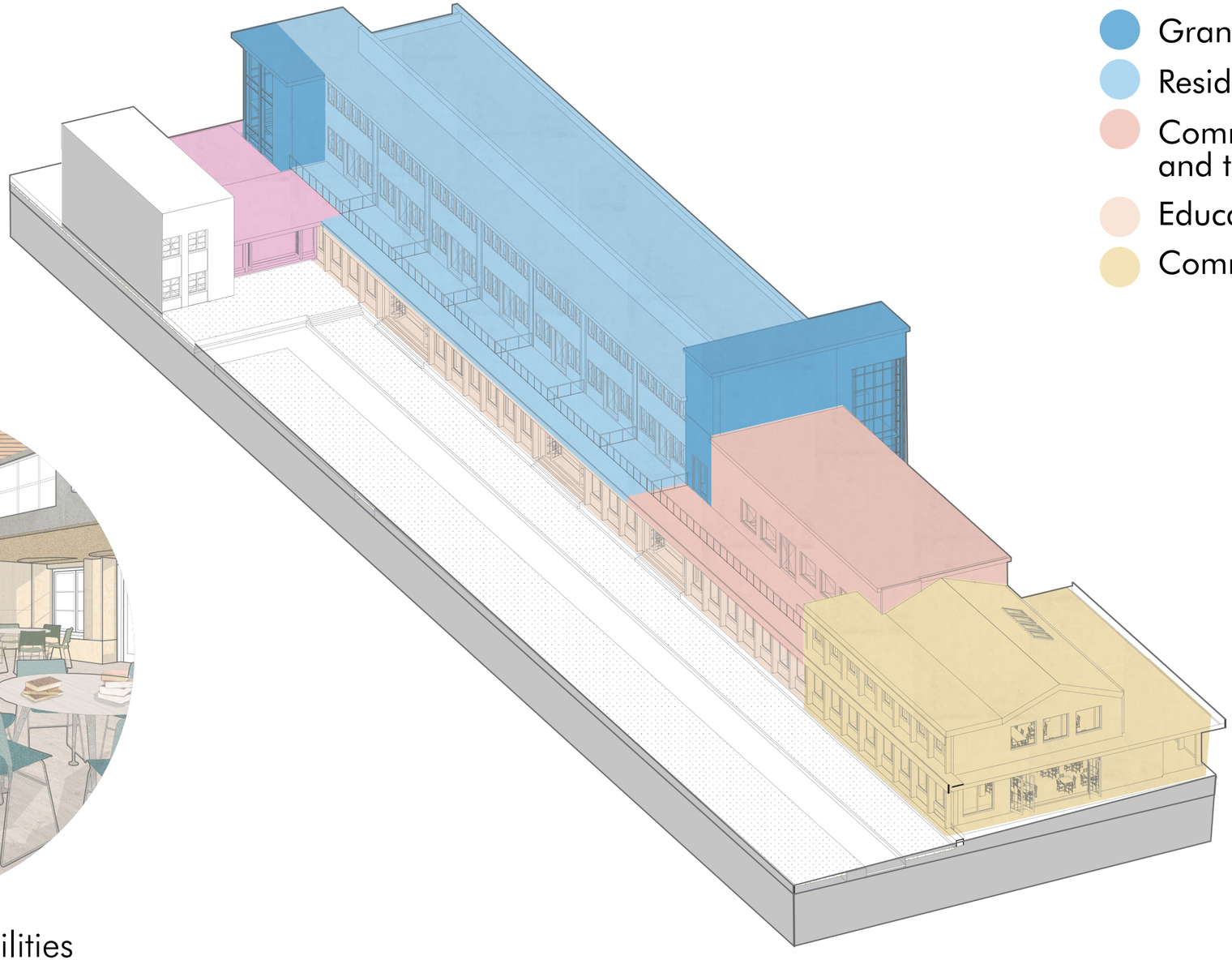
Back facade: waterfront promenade



Front facade: school's front-yards

Fitting the program

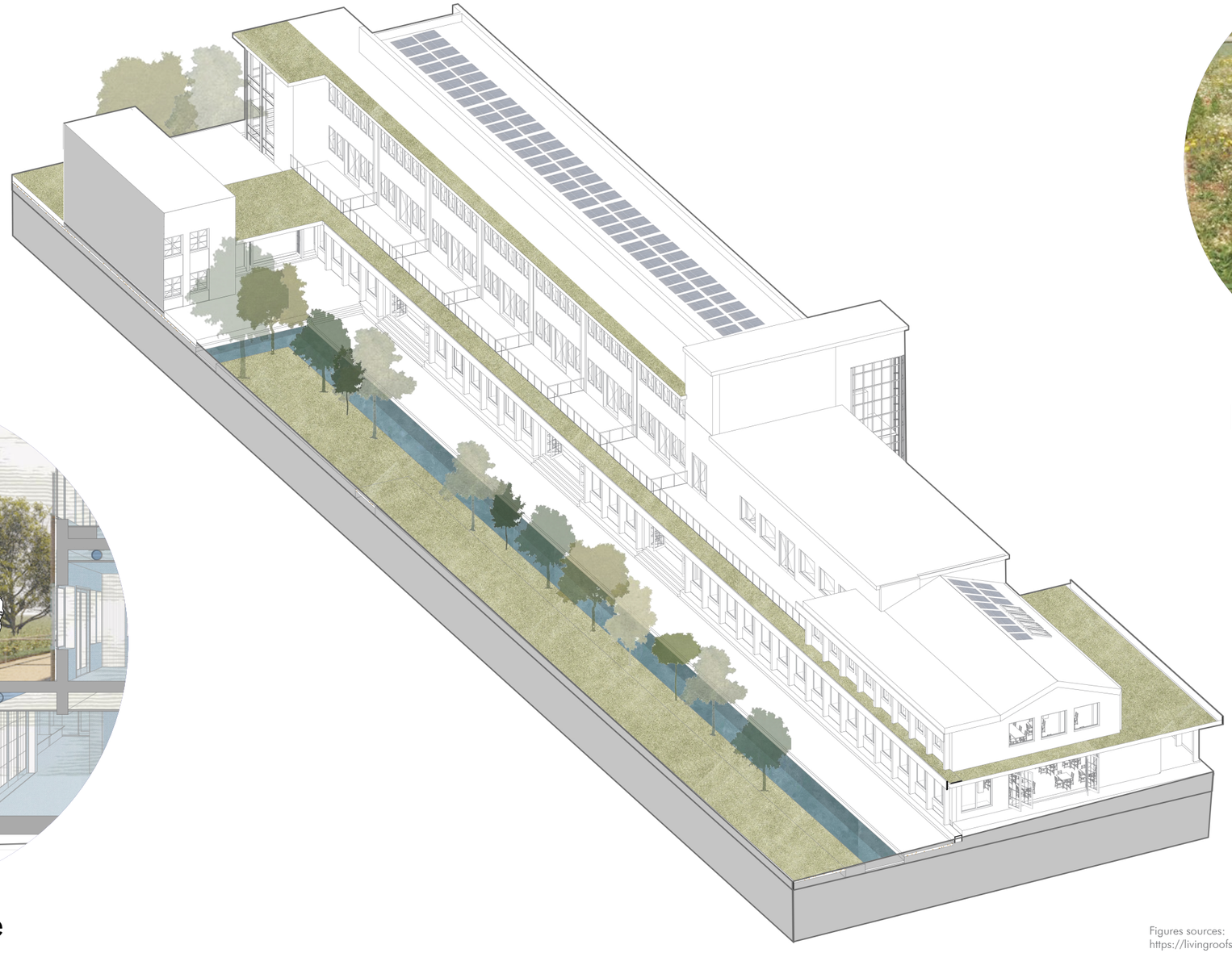
Educational facilities



- Entrance for residents only
- Grand staircases
- Residences
- Communal laundry, kitchen and terraces
- Educational spaces
- Community center

Connecting with the context

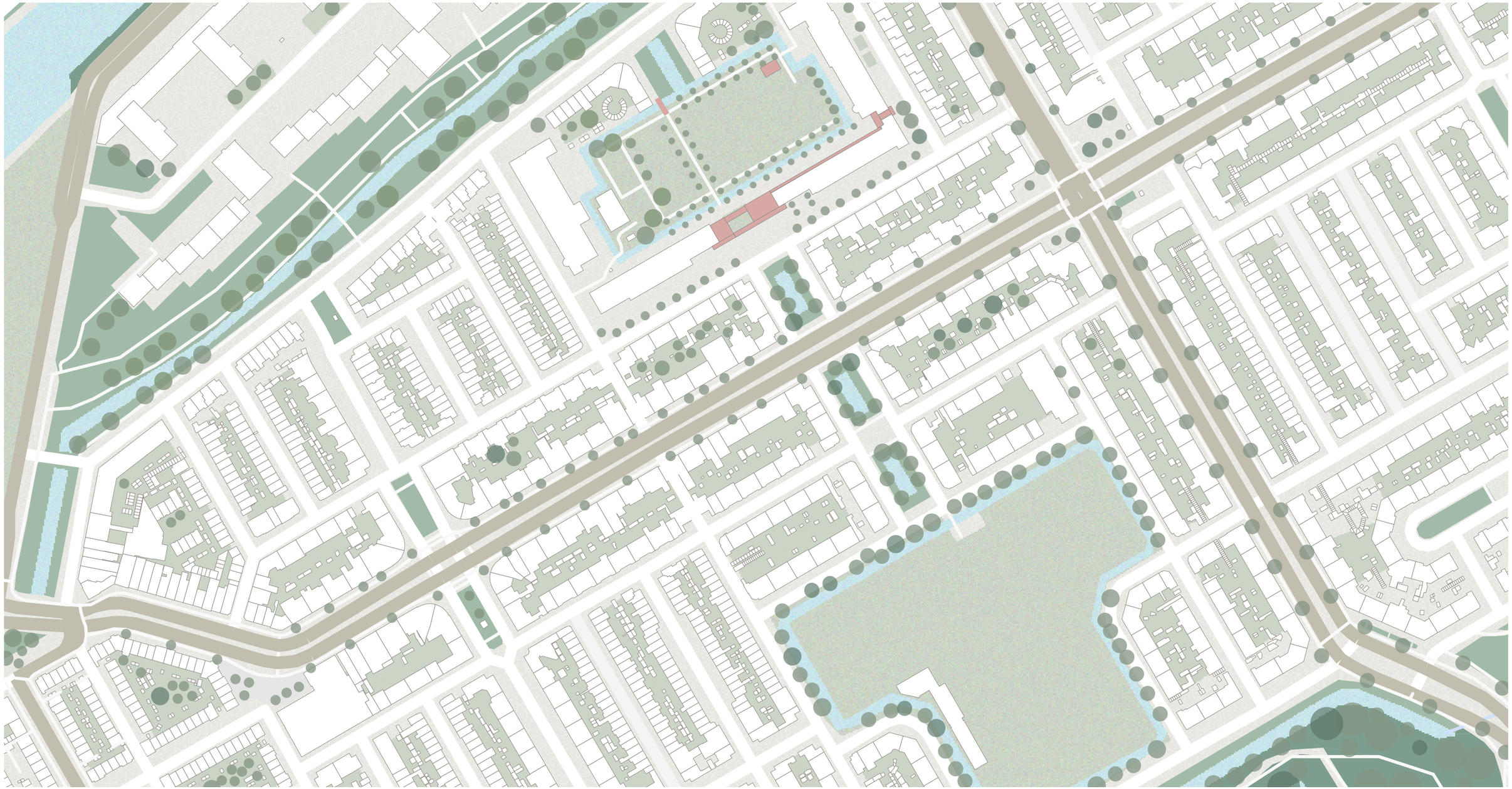
New promenade



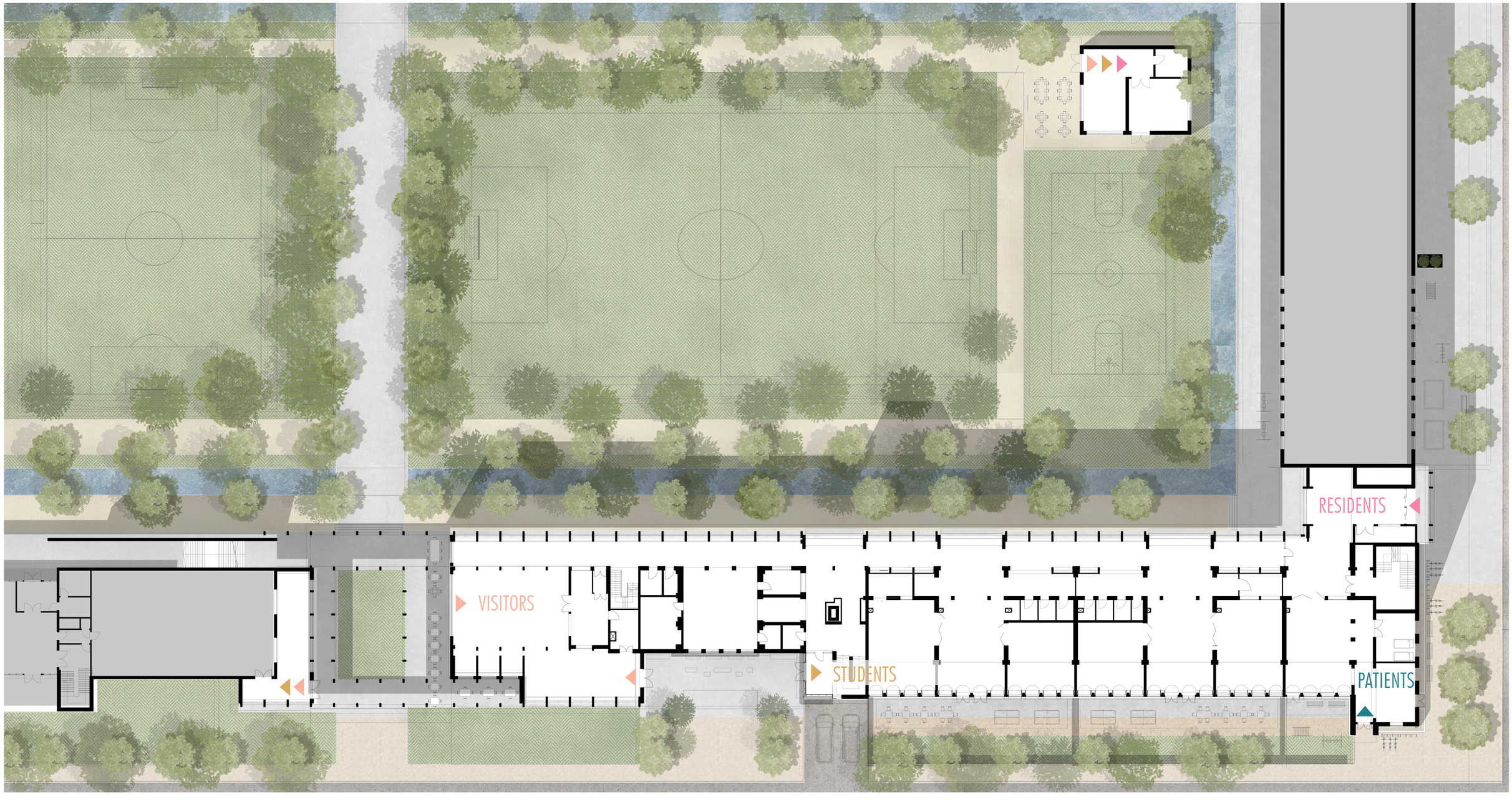
Bio-solar green roofs

Figures sources:
https://livingroofs.org/introduction-types-green-roof/biosolar-green-roofs-solar-green-roofs/

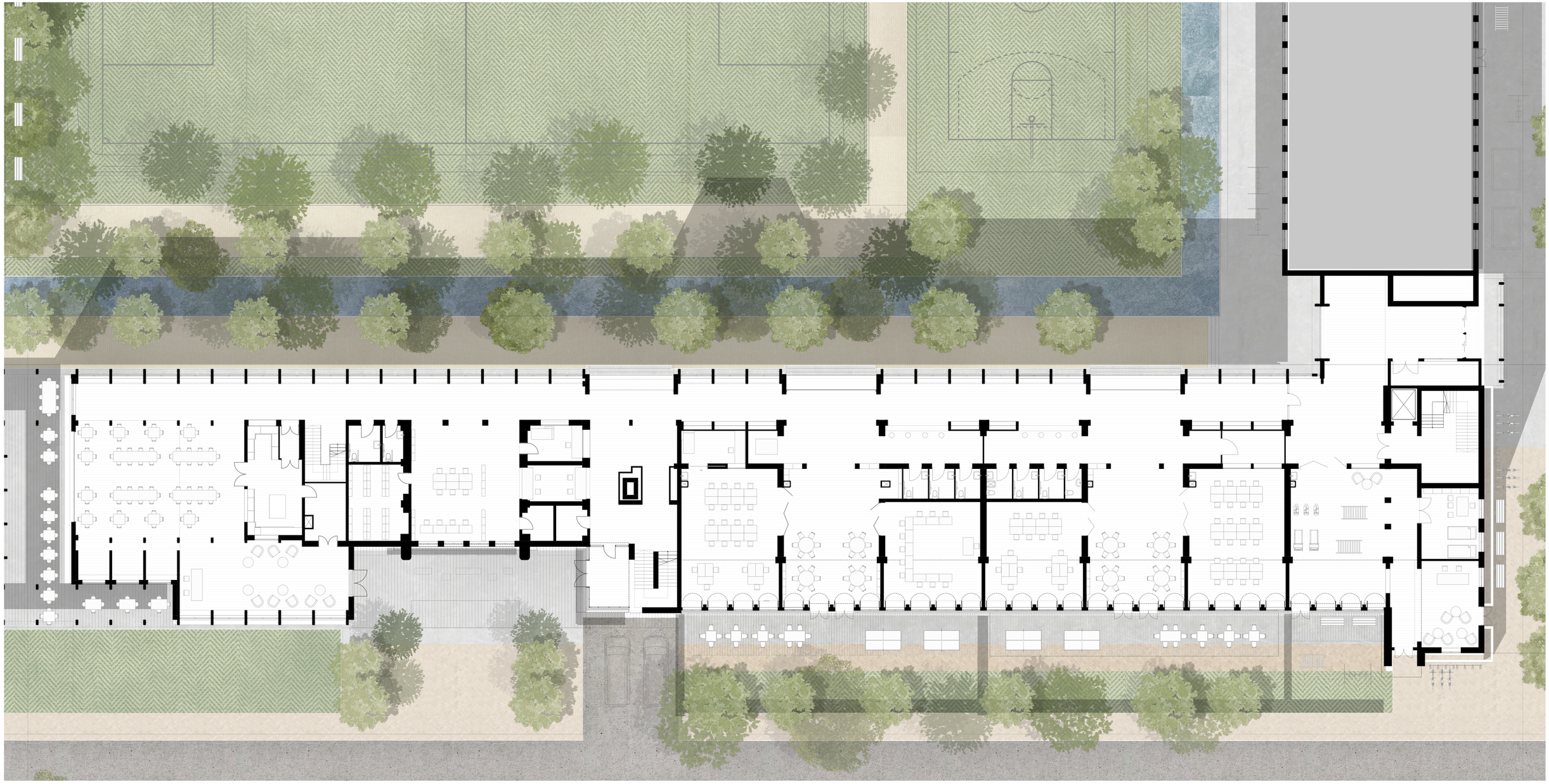
Integrating the neighborhood



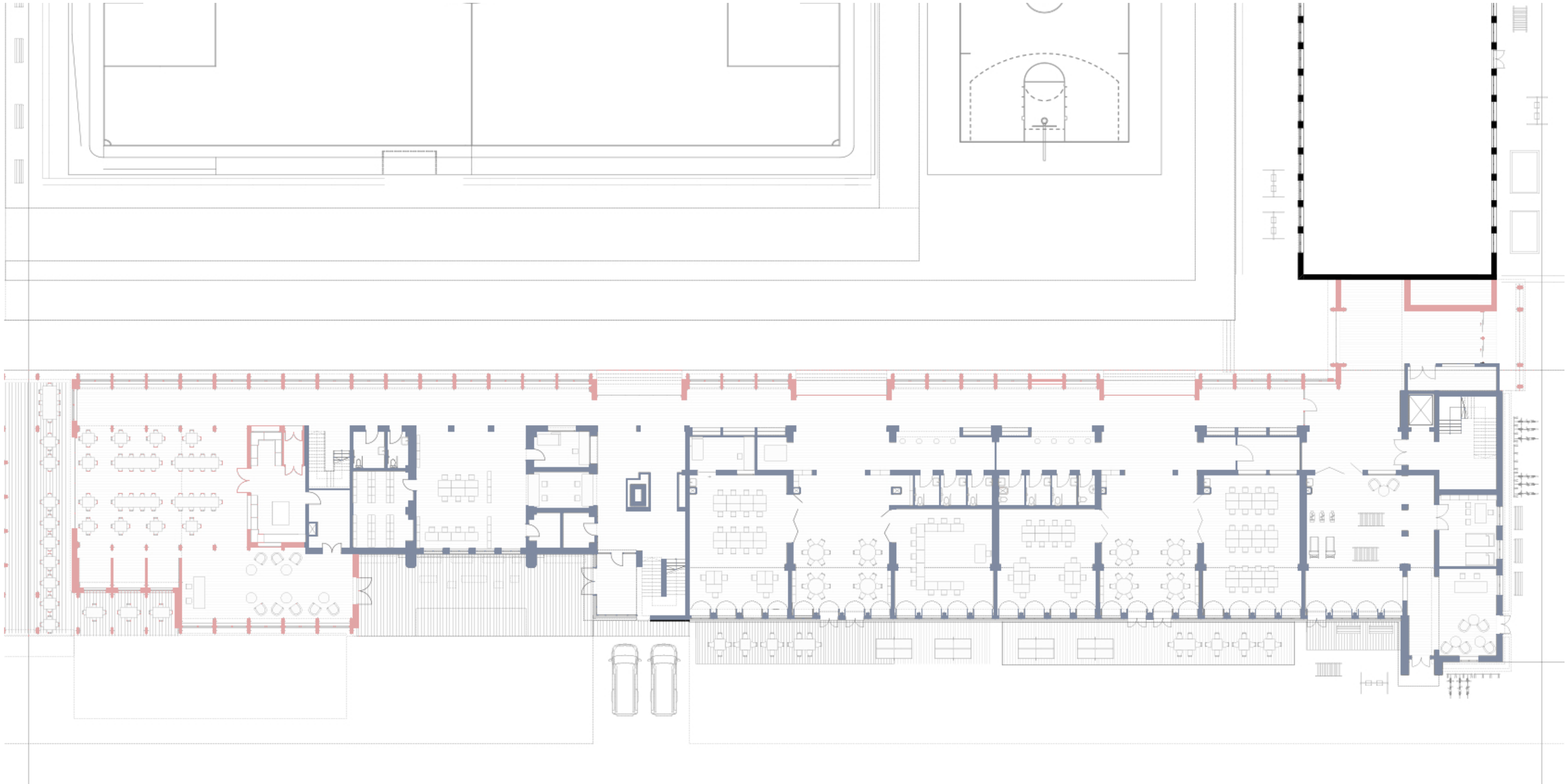
Building entrance and privacy-level control



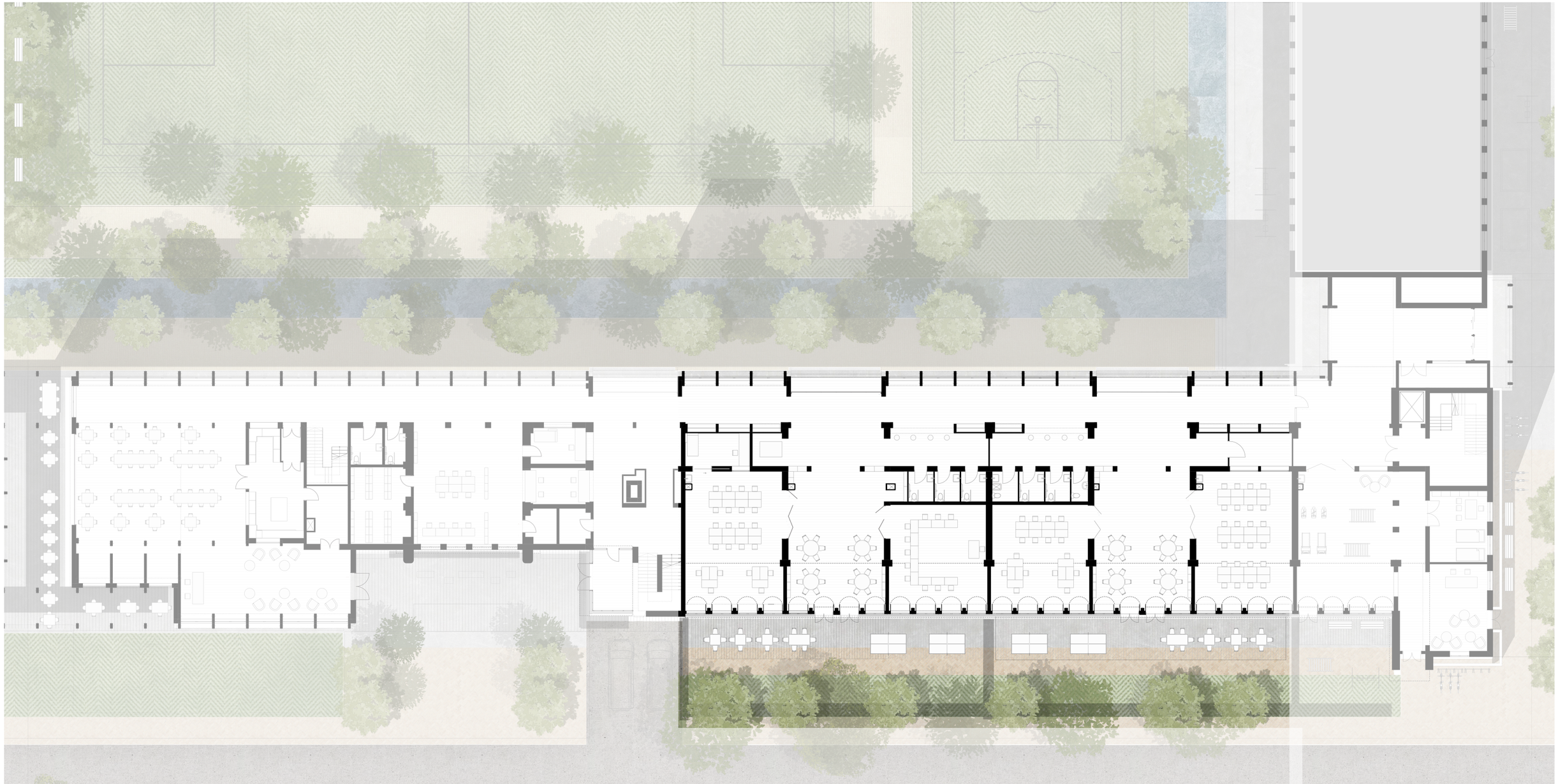
Ground floor: public functions



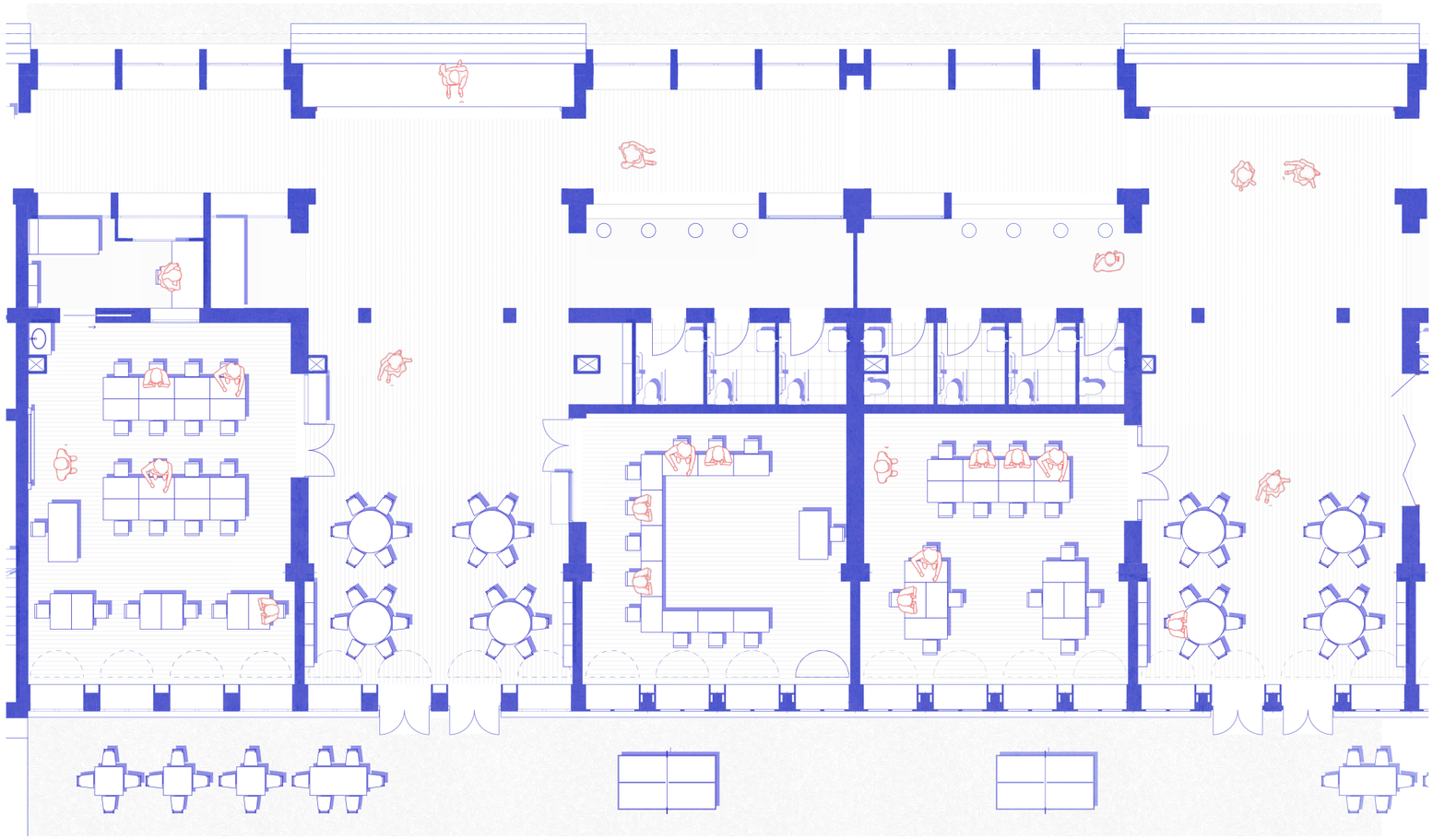
Ground floor: public functions



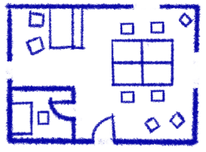
Ground floor: education cluster



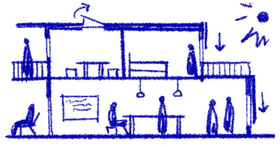
Education cluster



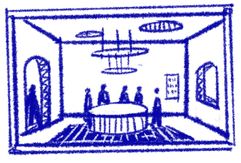
Previewing classrooms through windows and glass doors. Alcove seats for refuge.



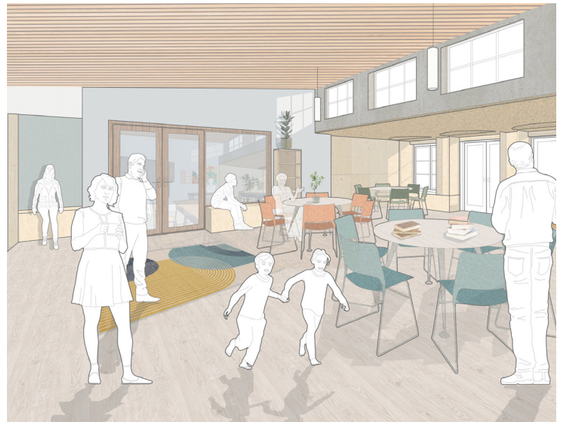
Classroom layouts should accommodate spots for group work and individual work stations.



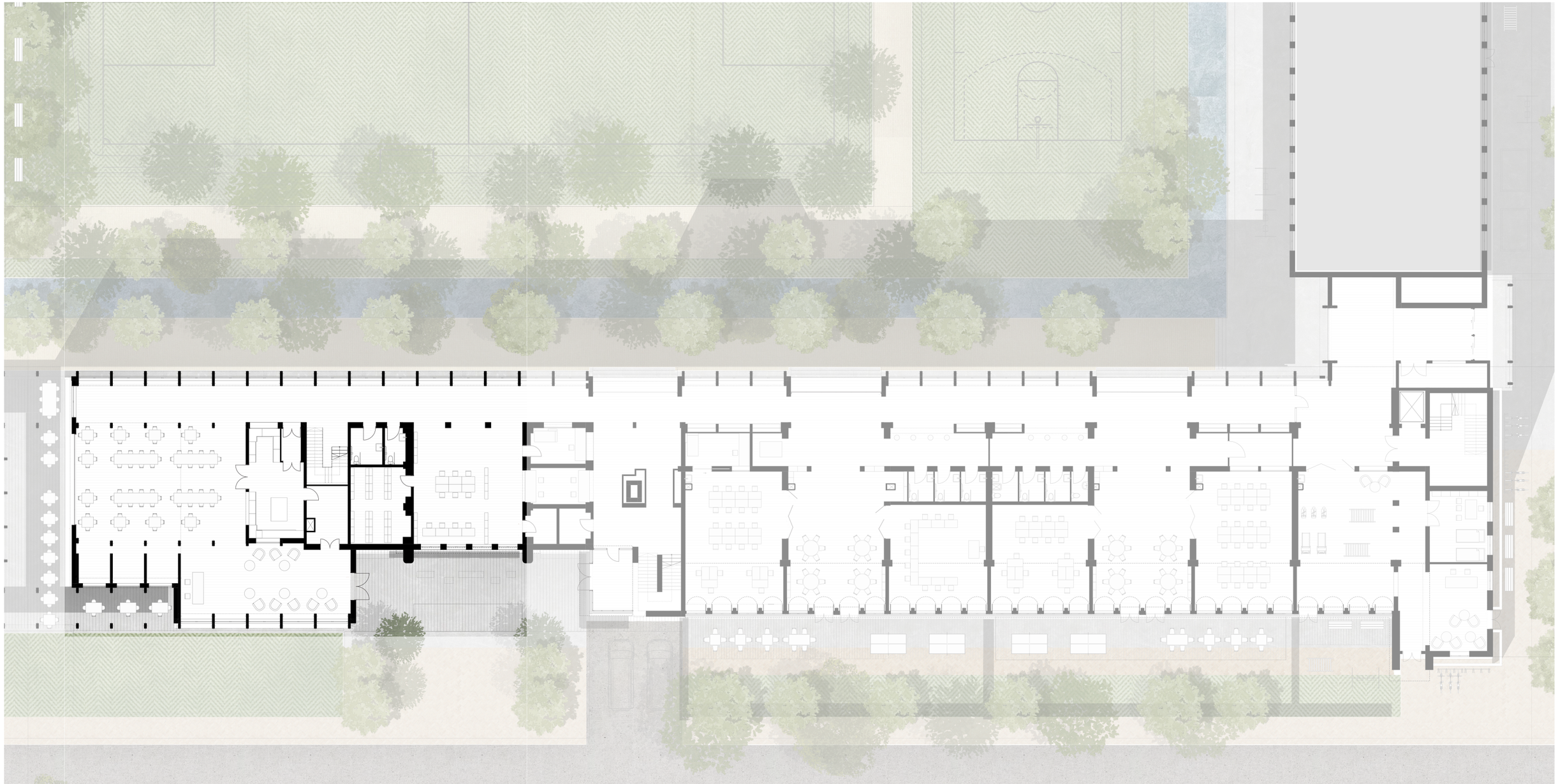
Natural ventilation and natural daylight to increase productivity and reduce noise disturbances.



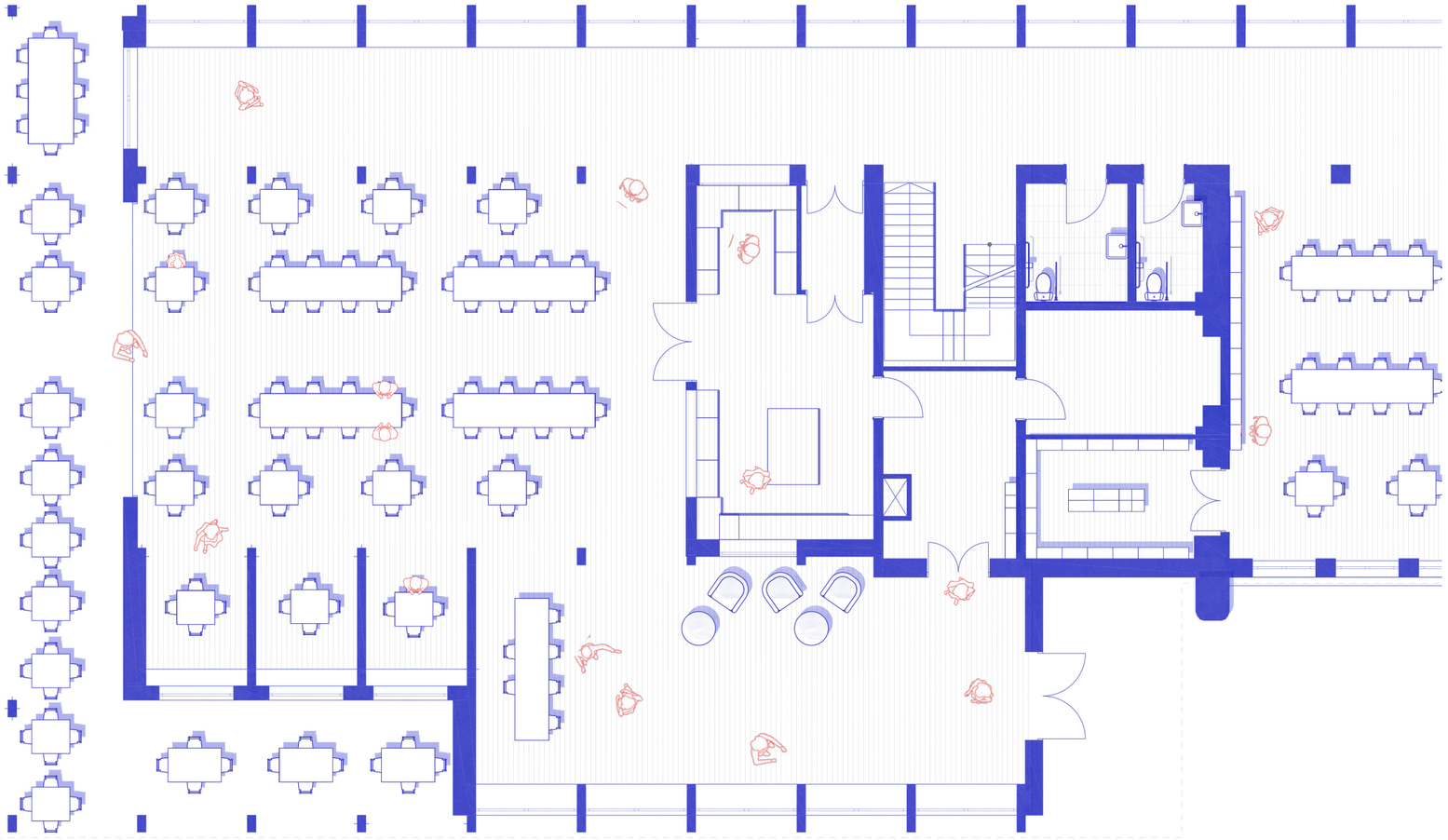
To avoid repetitiveness special character can be assigned to each classroom with color and layout.



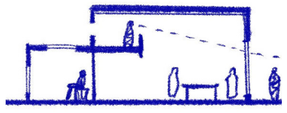
Ground floor: community center



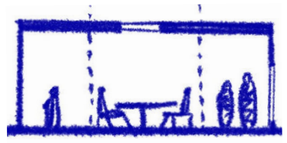
Community center



Landmarks inside the building through smell, sculpture, color, scale.



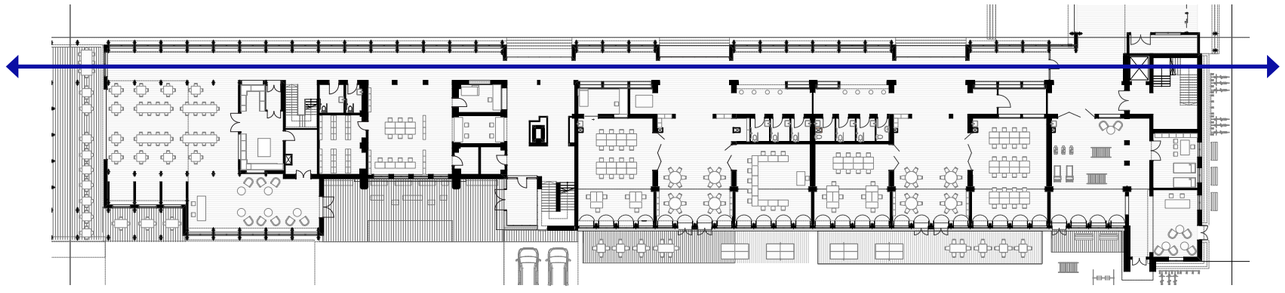
Preview through side openings, balconies or glass doors.



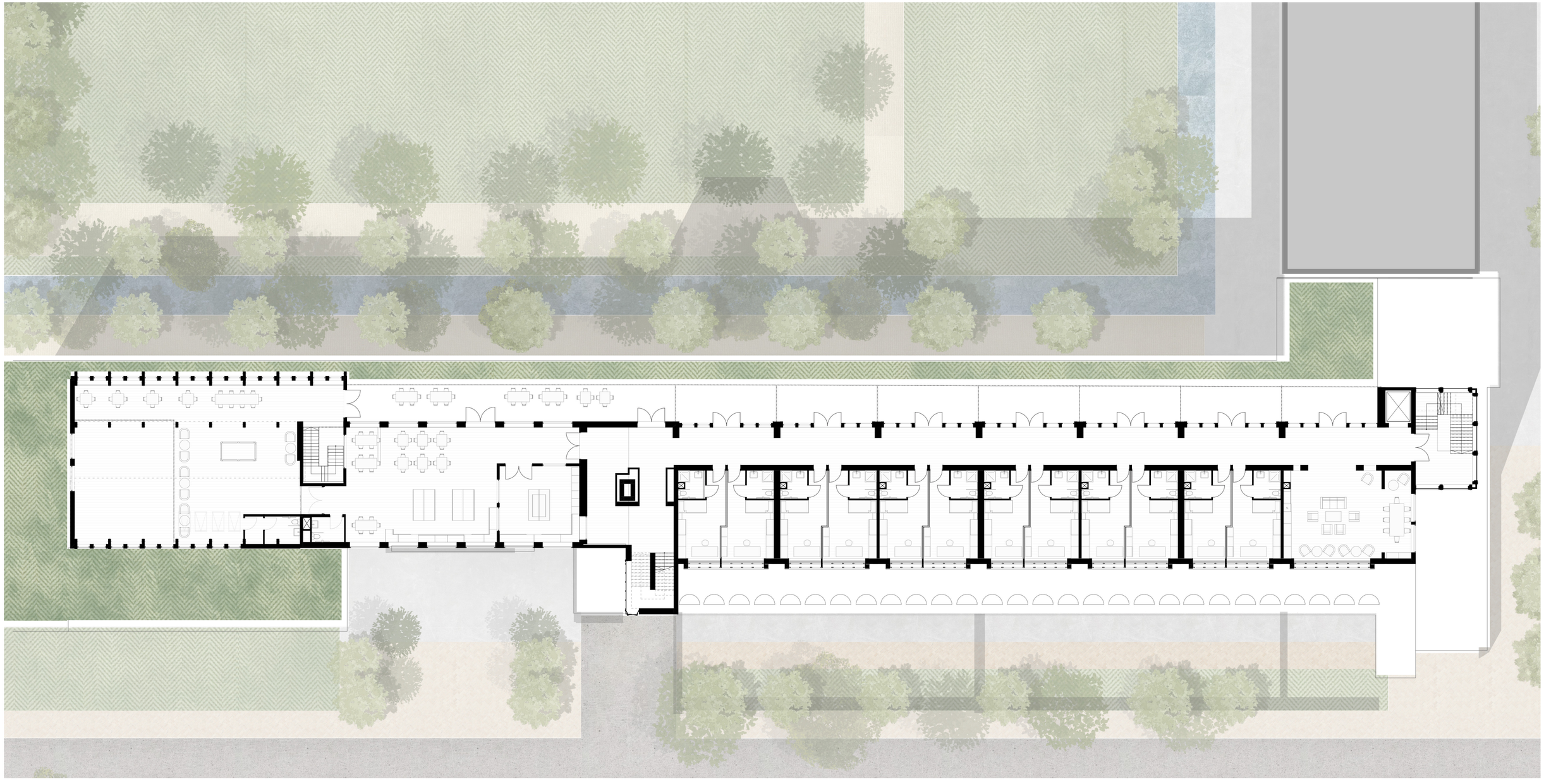
Options of individual and group seatings in public areas.

Sound-absorbing ceiling and wall panels, rugs and cork boards to reduce noise.

Engaging corridor: an interior street



First floor: living with shared amenities



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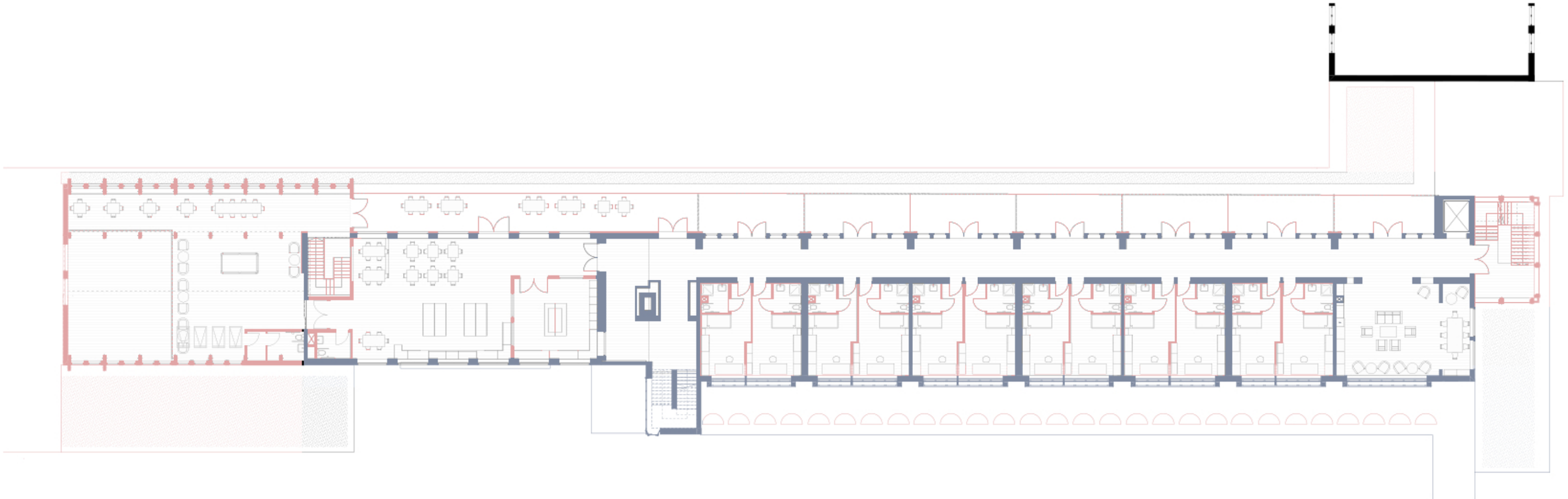

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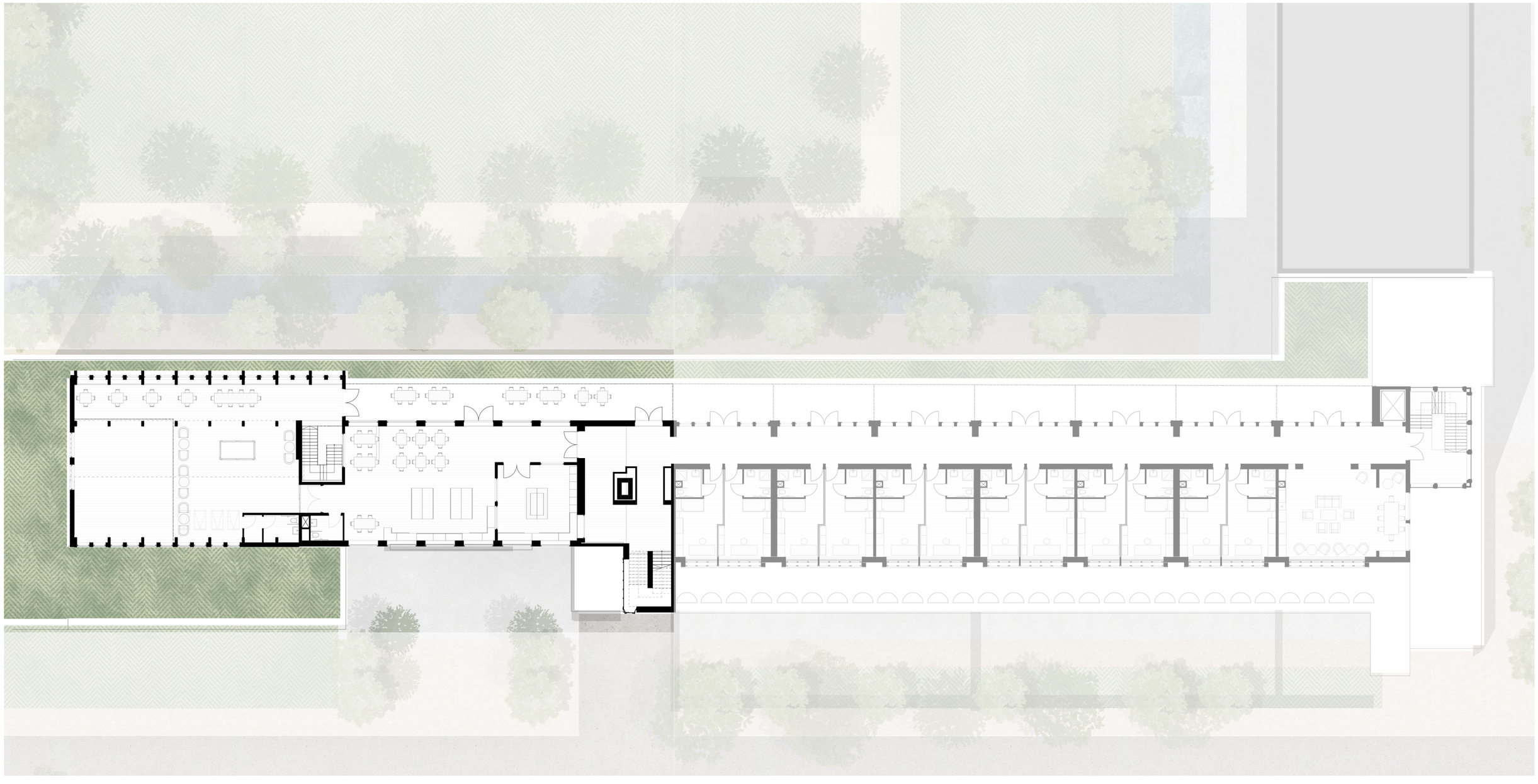
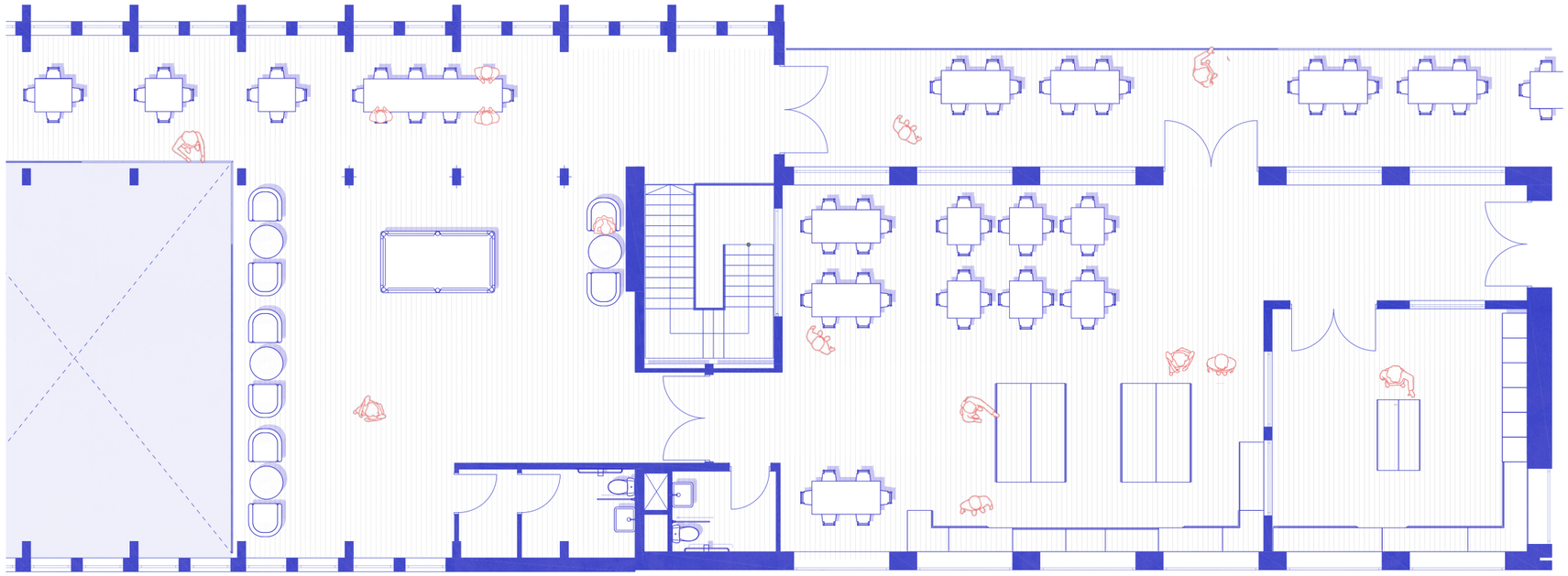
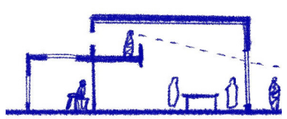


First floor: shared kitchen, laundry and leisure zone



Accessibility of residences within the reach from shared facilities for immediate refuge



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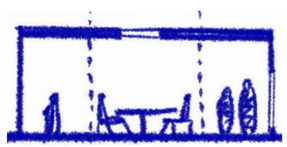
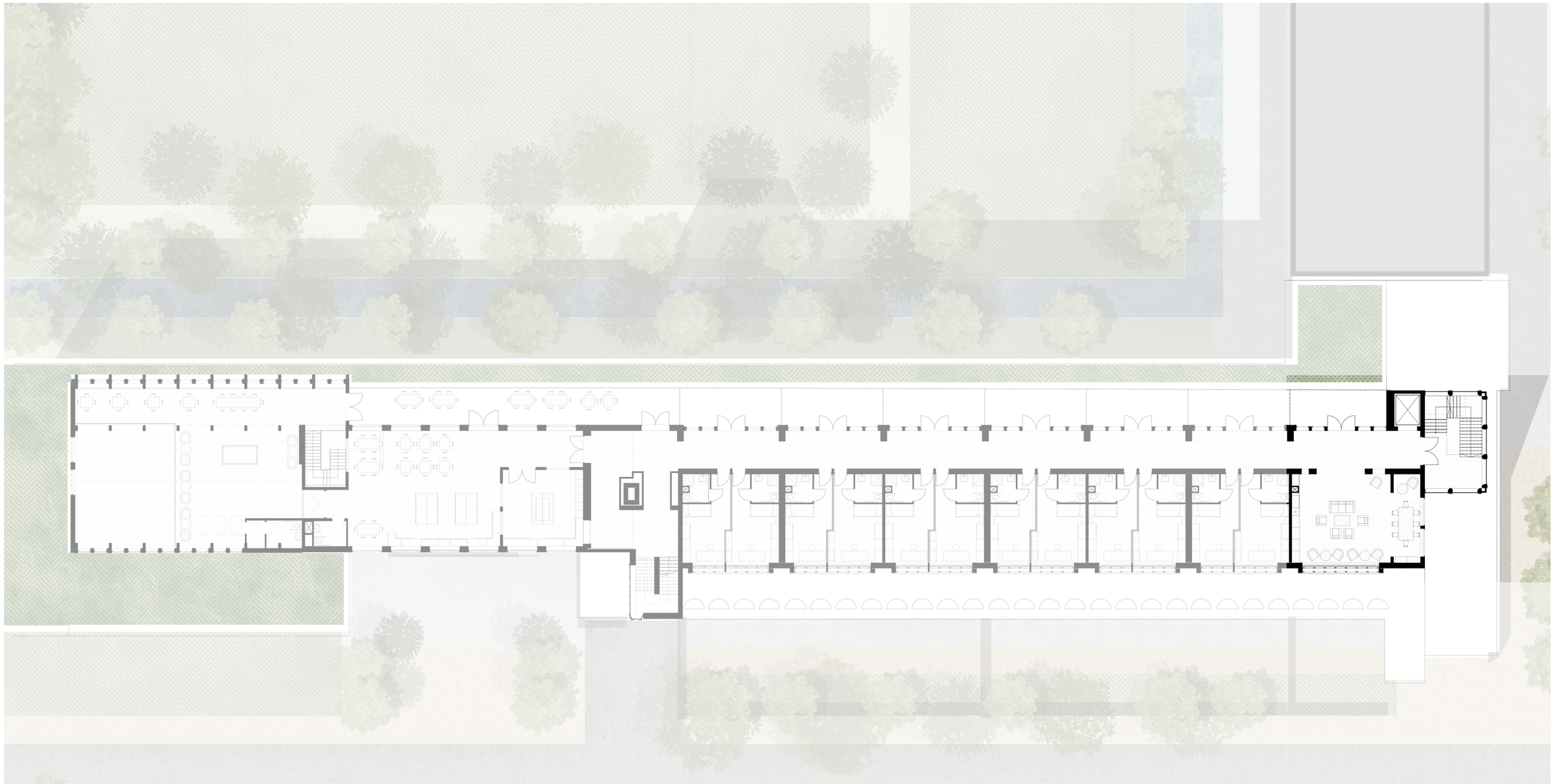


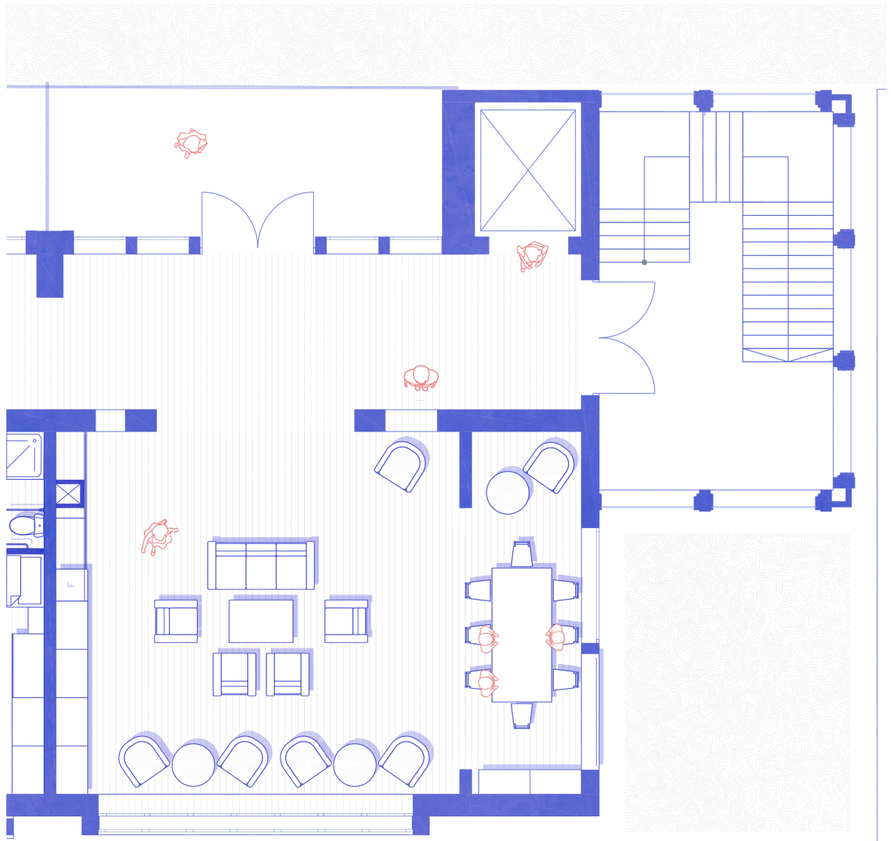
Options of individual and group seatings in public areas.

Sound-absorbing ceiling and wall panels, rugs and cork boards to reduce noise.

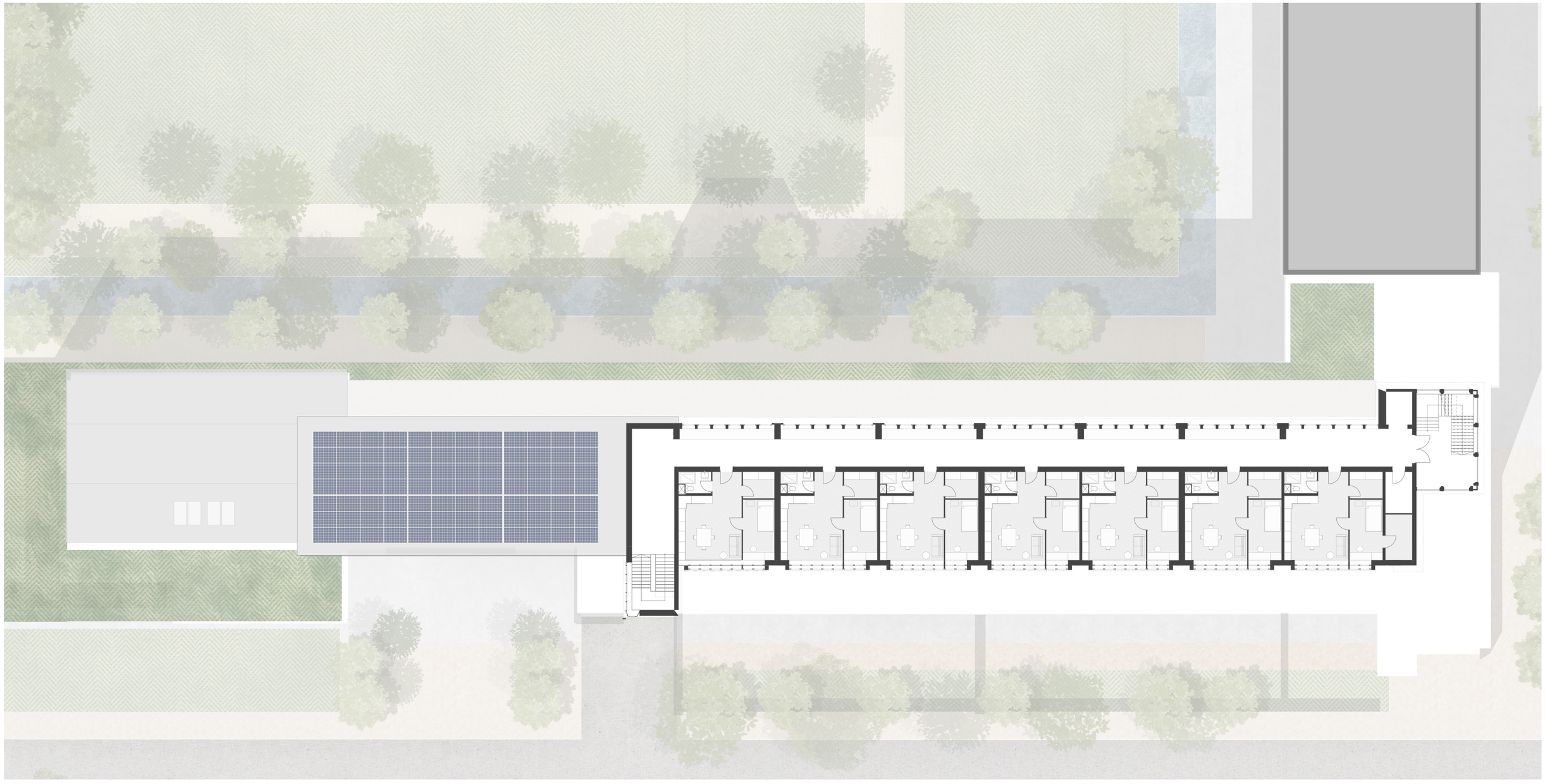
First floor: living with shared amenities



First floor: shared living room

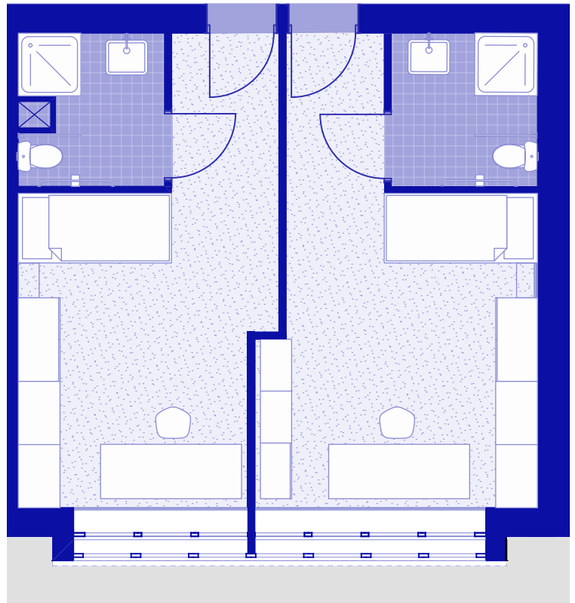


Second floor: independent apartments

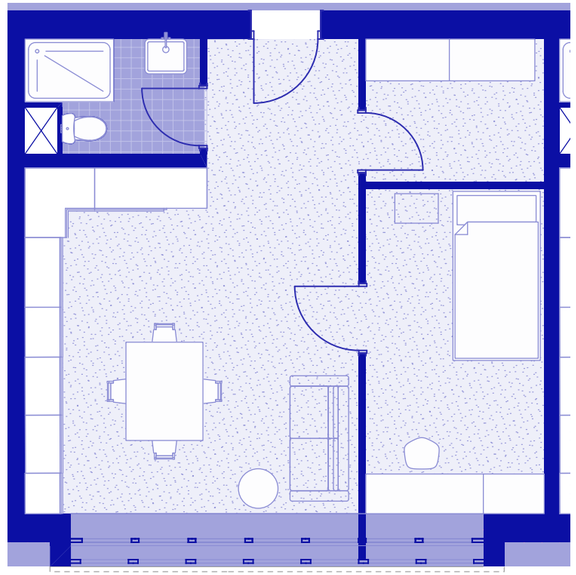


Second floor: independent apartments

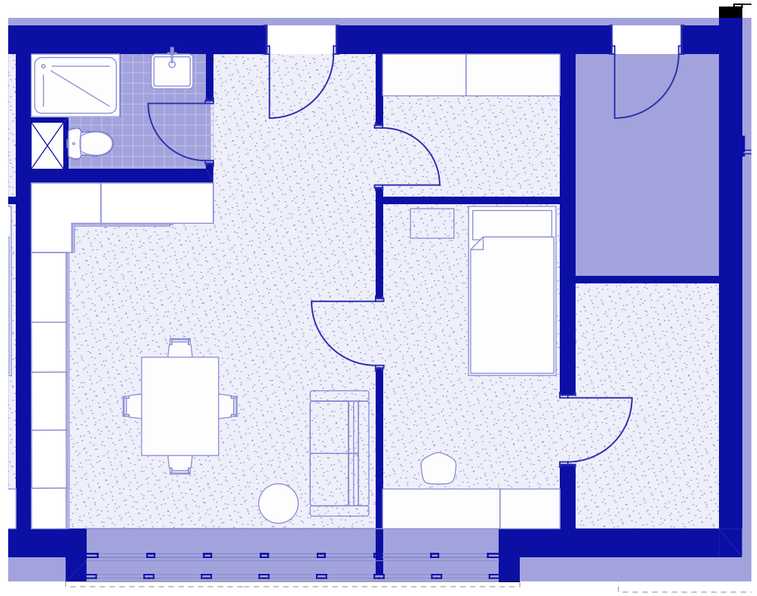
Residential typologies



24.5 m2 studio
Own bathroom, study space and option to include a small fridge

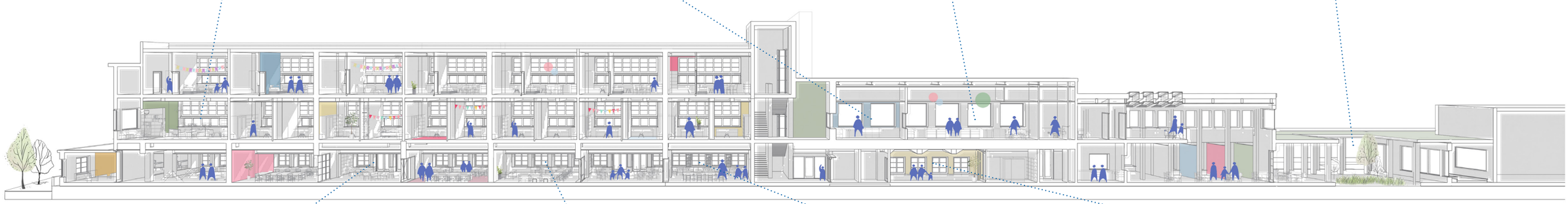


49 m2 apartment suitable for singles and couples
Own bathroom, kitchen, workspace and wardrobe



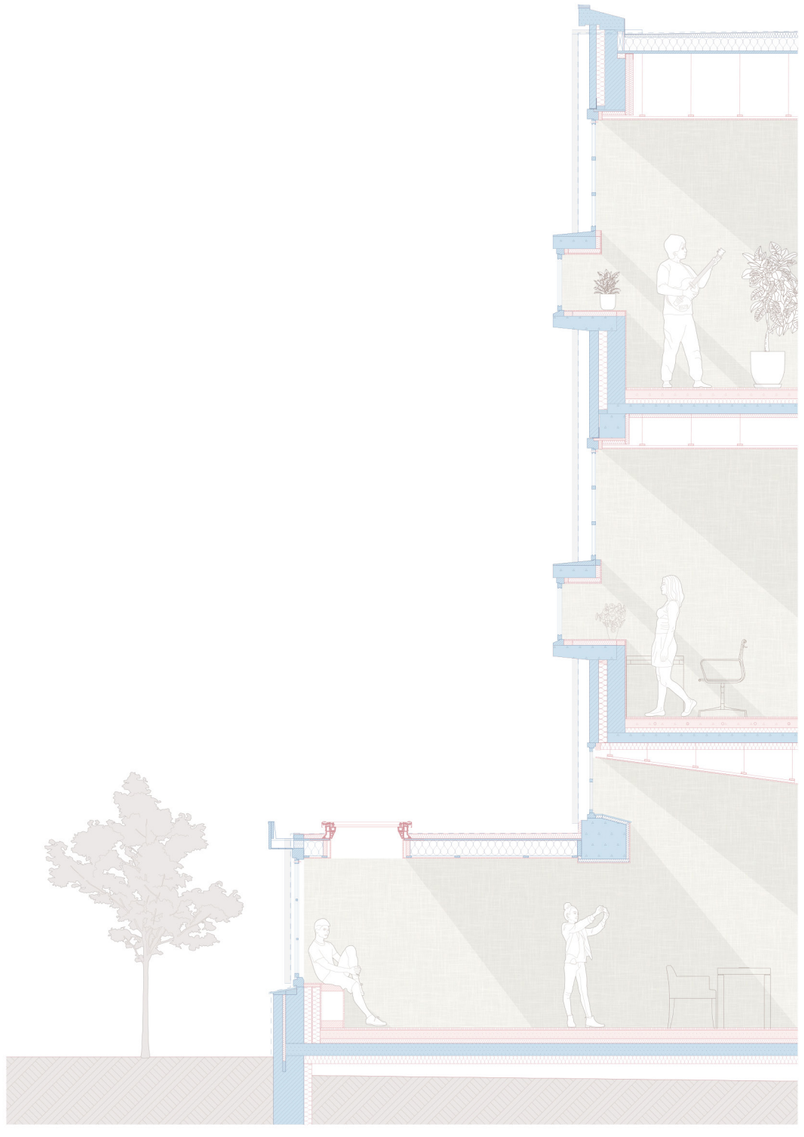
55 m2 apartment suitable for singles and couples
All of the apartment amenities + extra room for snoezle function

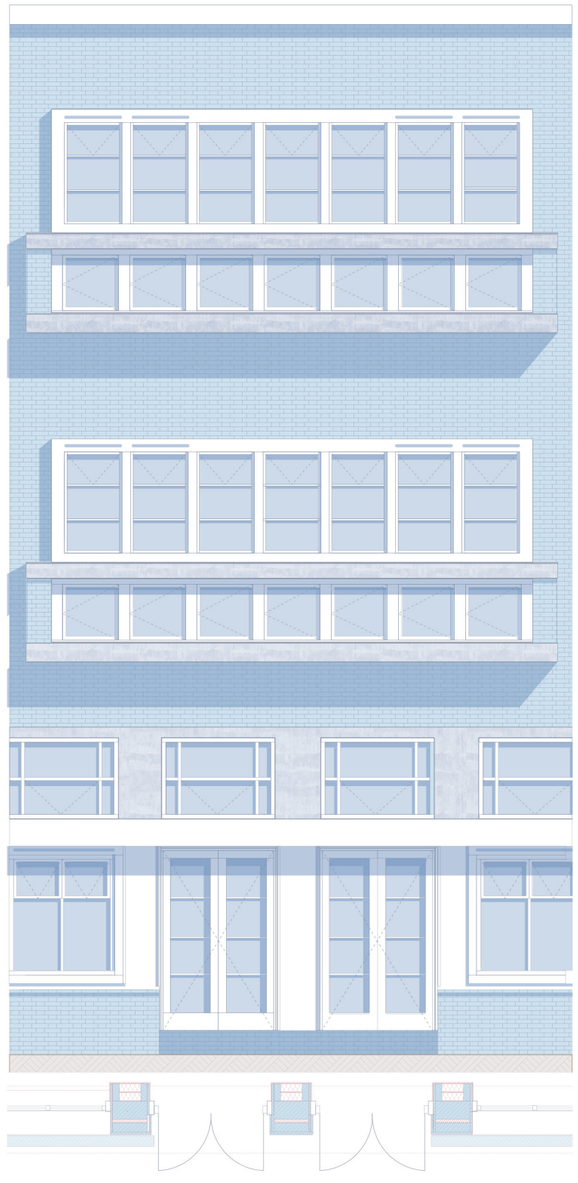
Gradual transition towards autonomy through building levels



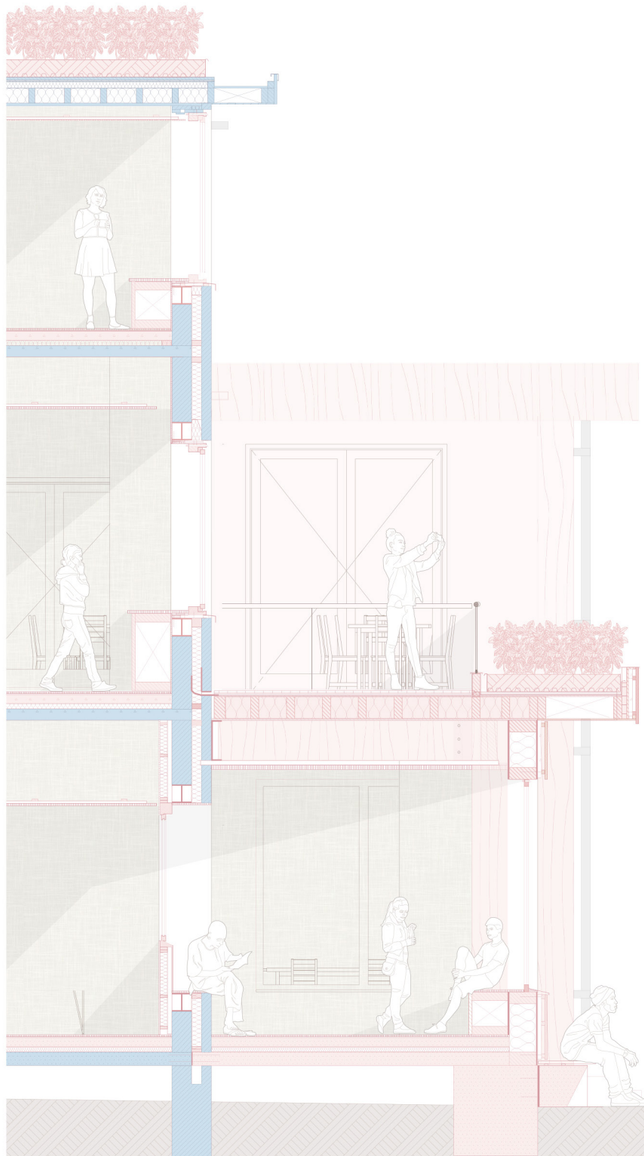
Elevations & Access

Protected facade

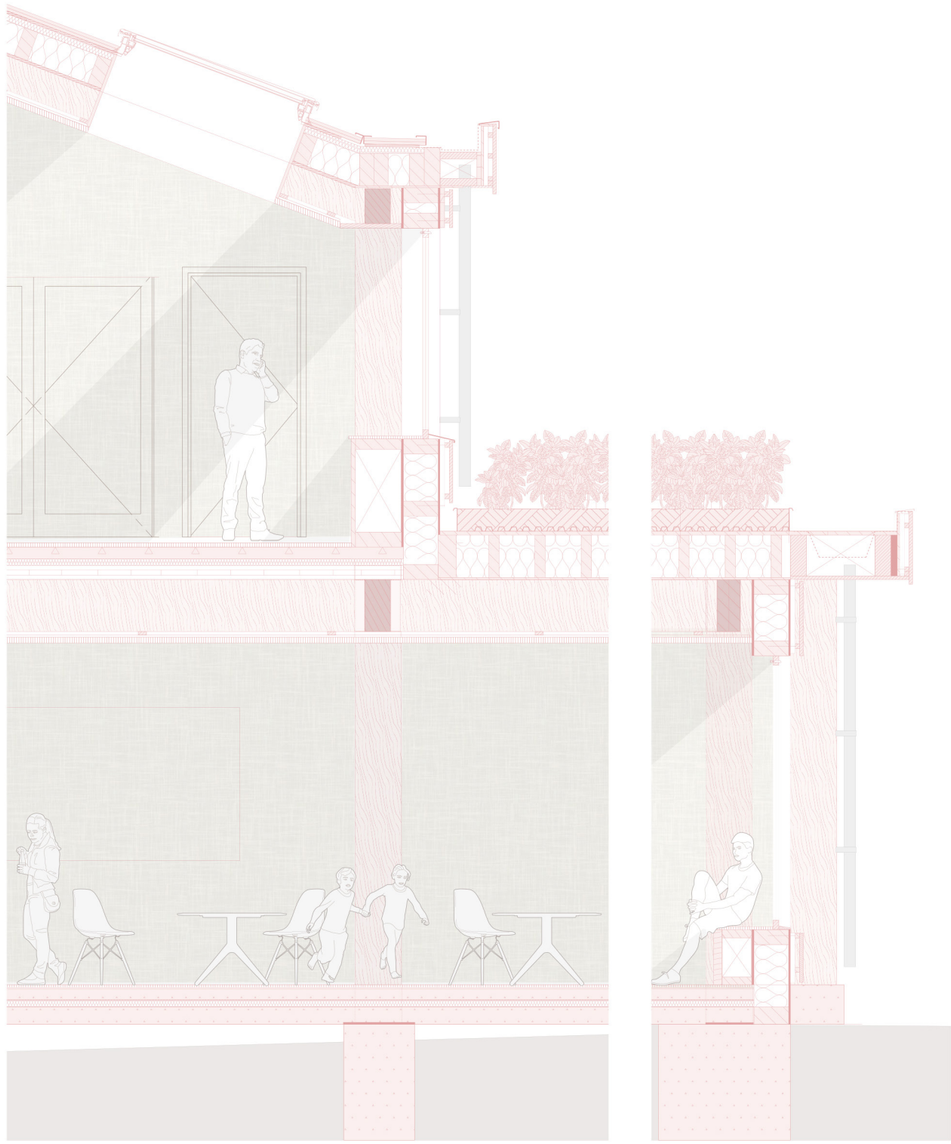


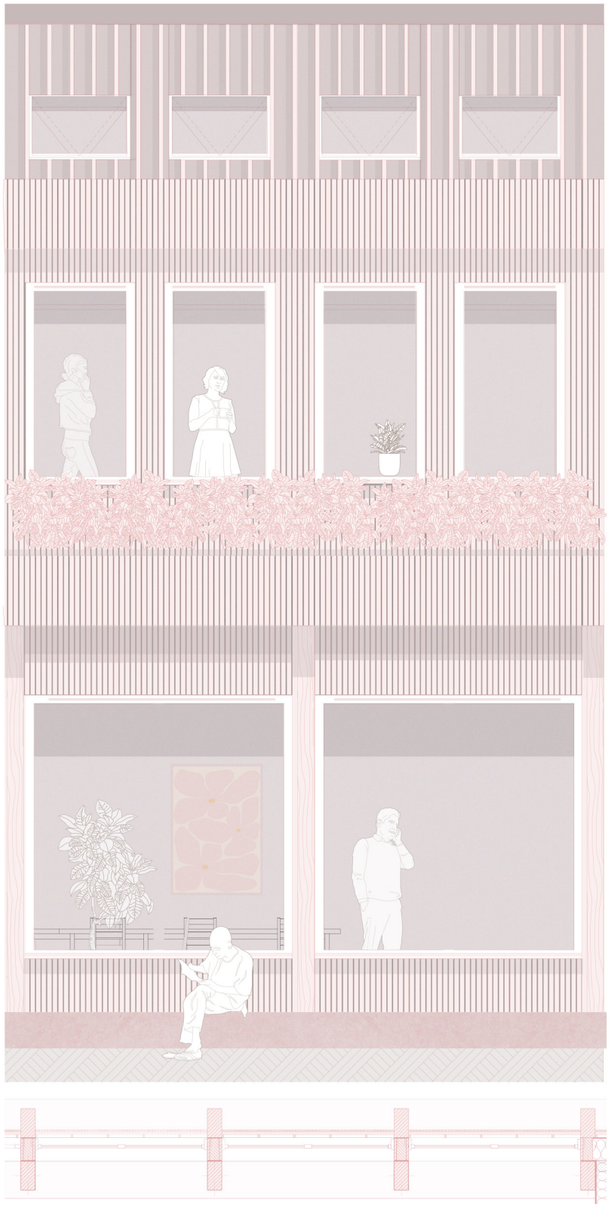


New facade

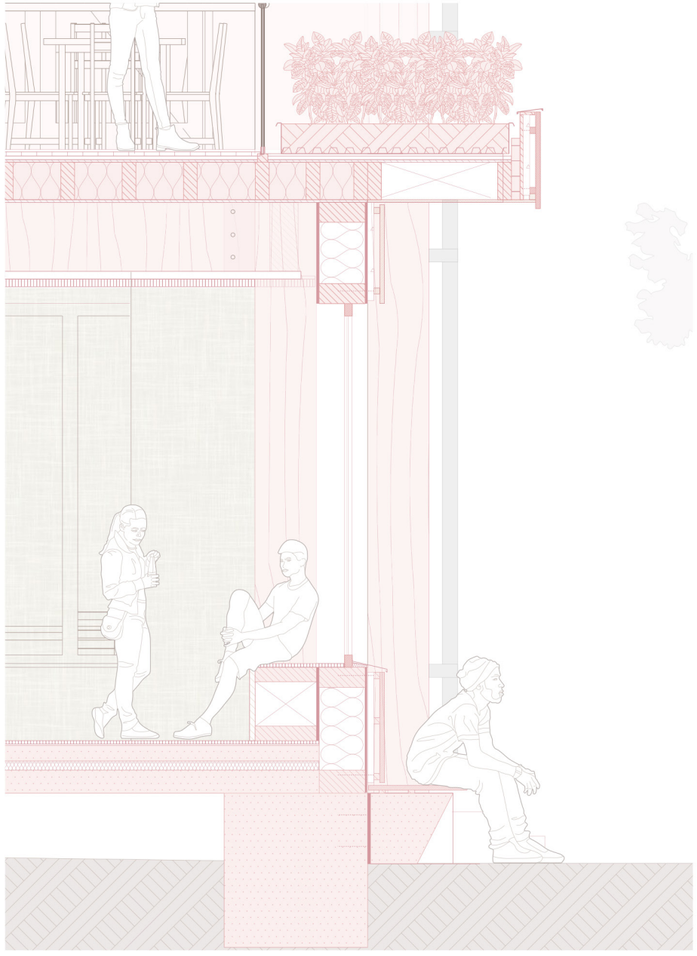


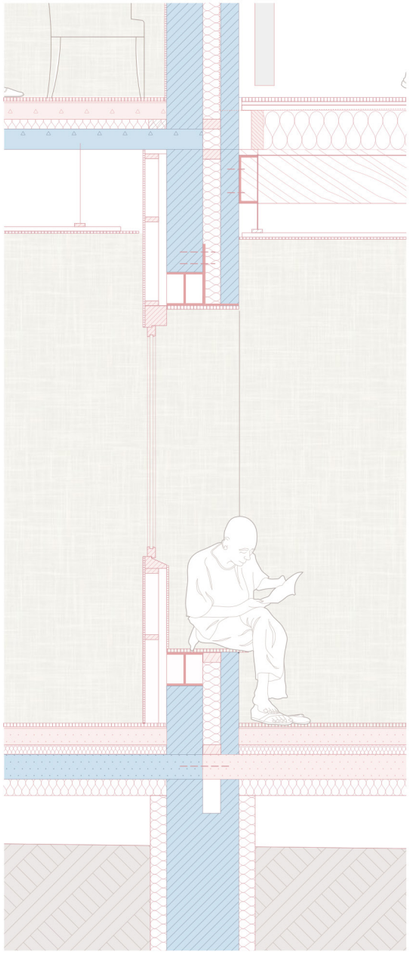
Community center

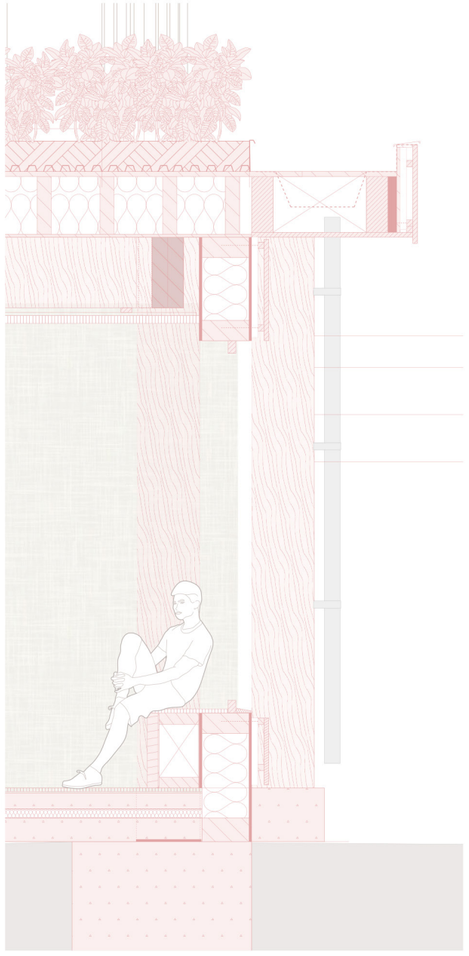


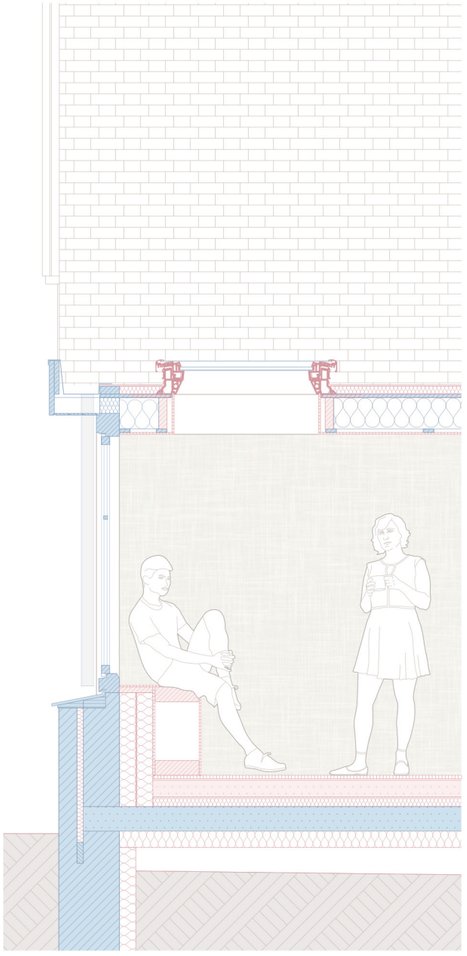


Facade as a space







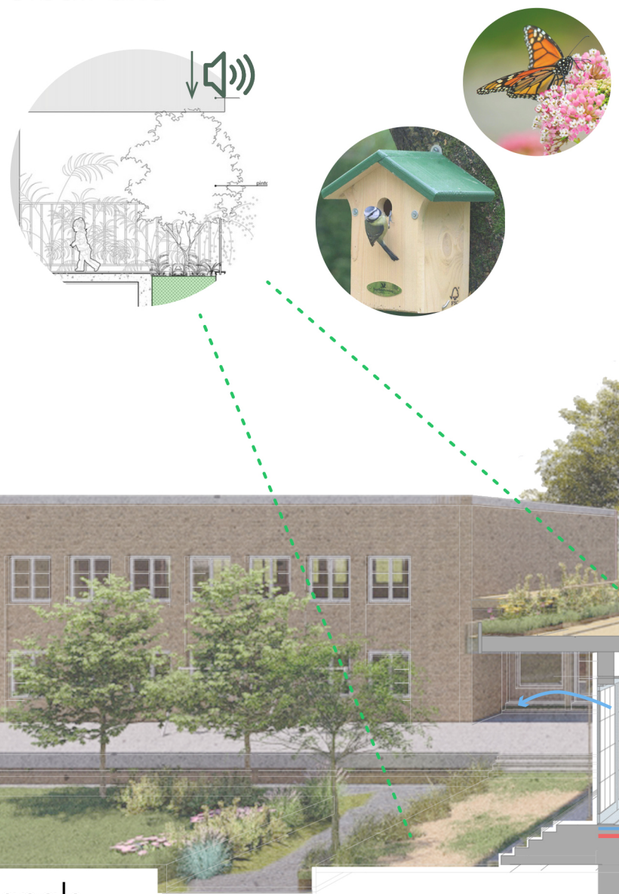


Sustainability and climate

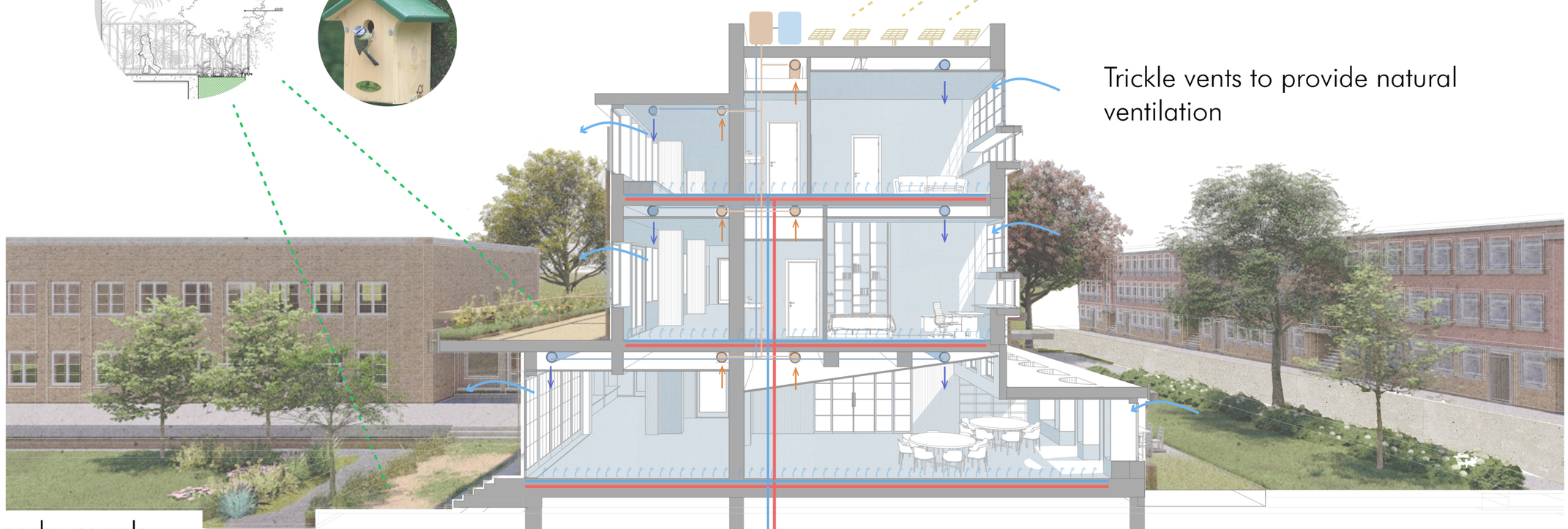
Green buffers to reduce the noise from football and basketball fields

Supporting biodiversity of Laakkwartier through vegetation

Approximately 495 m2 rooftop surface dedicated to solar panels, producing 86,625 KWh per year (at the rate of 170 KWh/m2 per year)



Trickle vents to provide natural ventilation

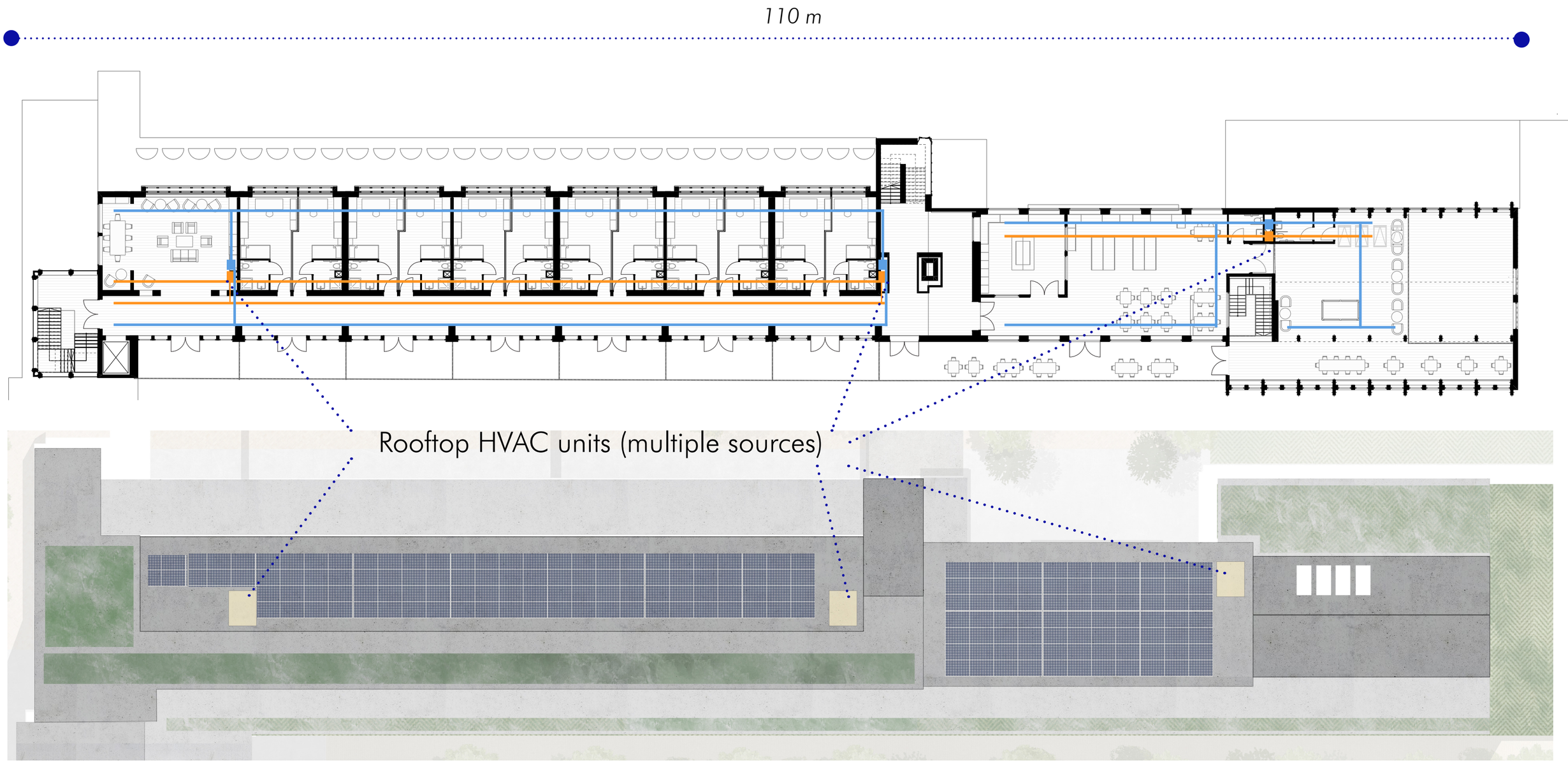


Utilize nearby canals (within 50 m reach) for energy-production

Lake collectors and pond mats

Ground source heat pump

Climate: building scale



Vision for the future of Capadosestraat 9

THANK YOU!

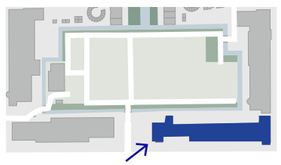
TU Delft
BK Bouwkunde

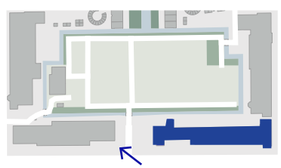
Capadosestraat 9: opportunities for improvements

Poorly maintained / Dead facade

Blind facade

Unfinished private terraces at the monumental facade





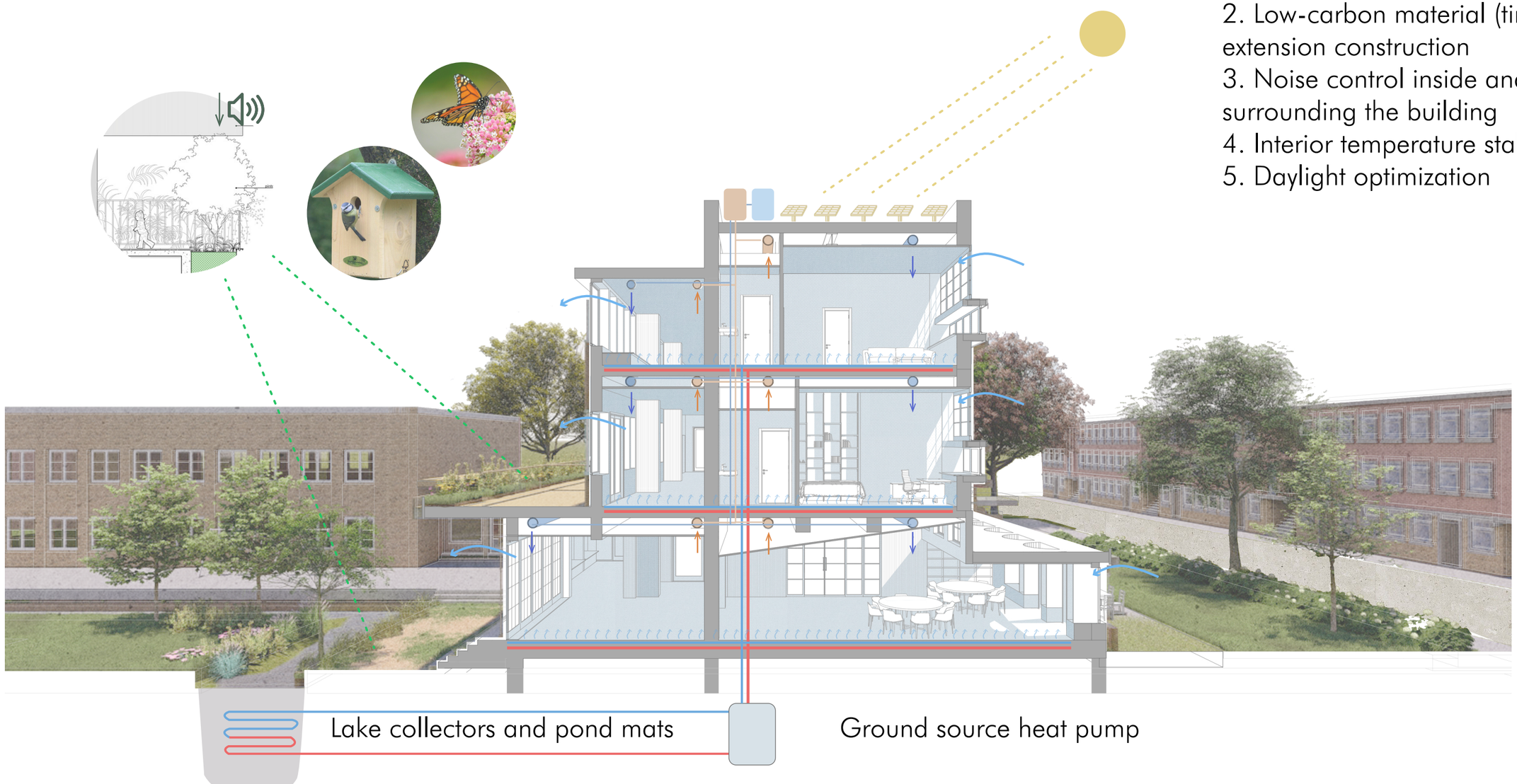
REQUIREMENTS:

- PROTECT/RENOVATE ORIGINAL FACADE APPEARANCE FROM THE SIDE OF THE MAIN ROAD
- PROVIDE SOCIAL FUNCTIONS AND RESIDENTIAL FUNCTIONS
- DO NOT EXCEED THE MAXIMUM BUILDING HEIGHT OF 13 METERS
- PRESERVING/ENHANCING THE SPORT FIELDS
- REFLECTING THE HISTORICAL VALUE OF THE PLACE
- PRESERVING/ENHANCING THE GREEN AXIS

as defined by the rules of Protected Cityscape by Monumentenzorg (2002), Laakwijk - Schipperskwartier Development plan (2009)

Key featuresof the building

5 sustainability concepts



1. Building re-use
2. Low-carbon material (timber) for extension construction
3. Noise control inside and surrounding the building
4. Interior temperature stabilization
5. Daylight optimization