

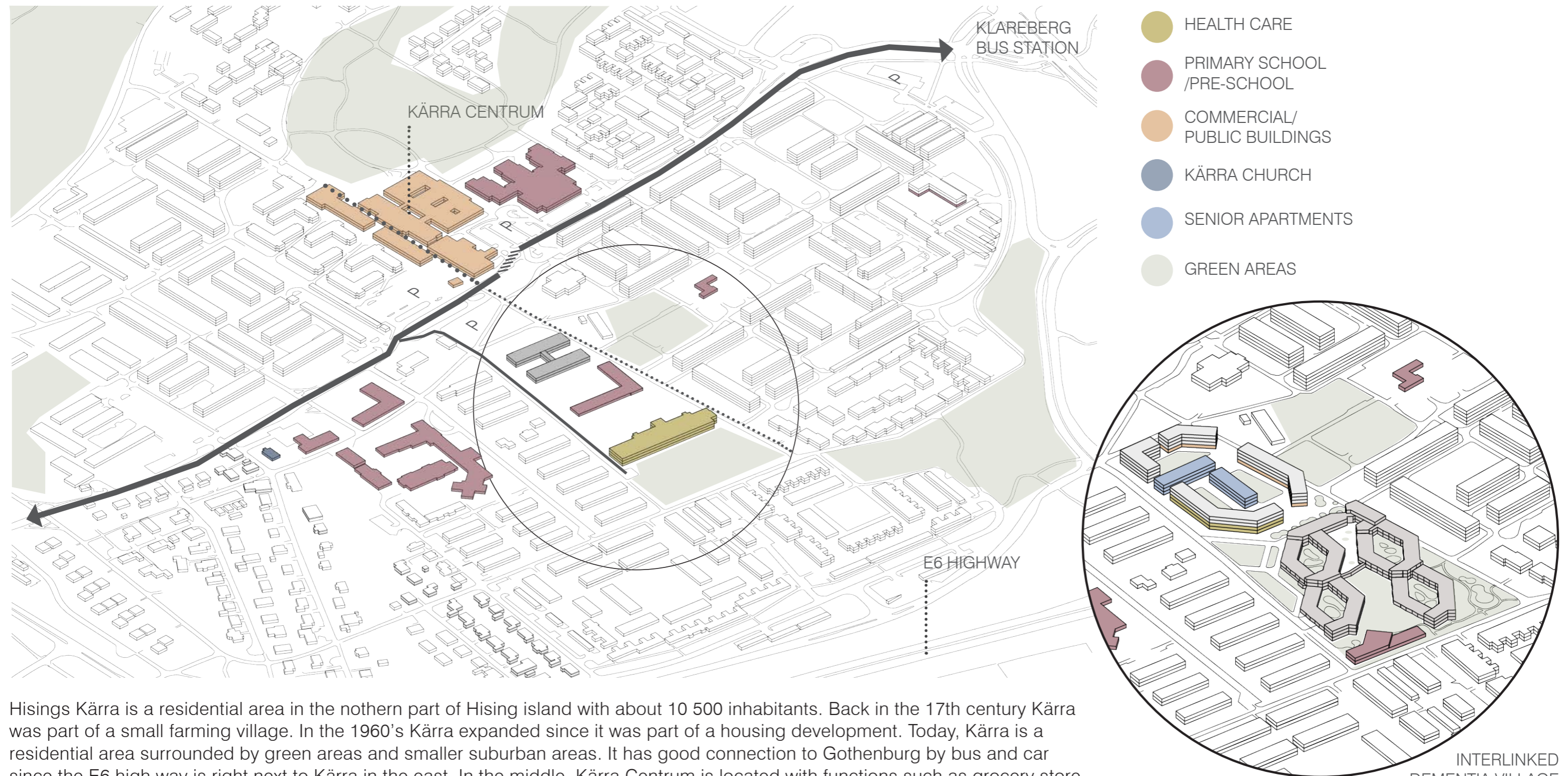
INTERLINKED Dementia Village

People connected through design. Linking Kärra Centrum, Elderly Care & Pre-School.



Team 4
Tomas Johansson
Jonna Kündig Hörberg
Claudia Larsen

KÄRRA AND THE PROJECT SITE

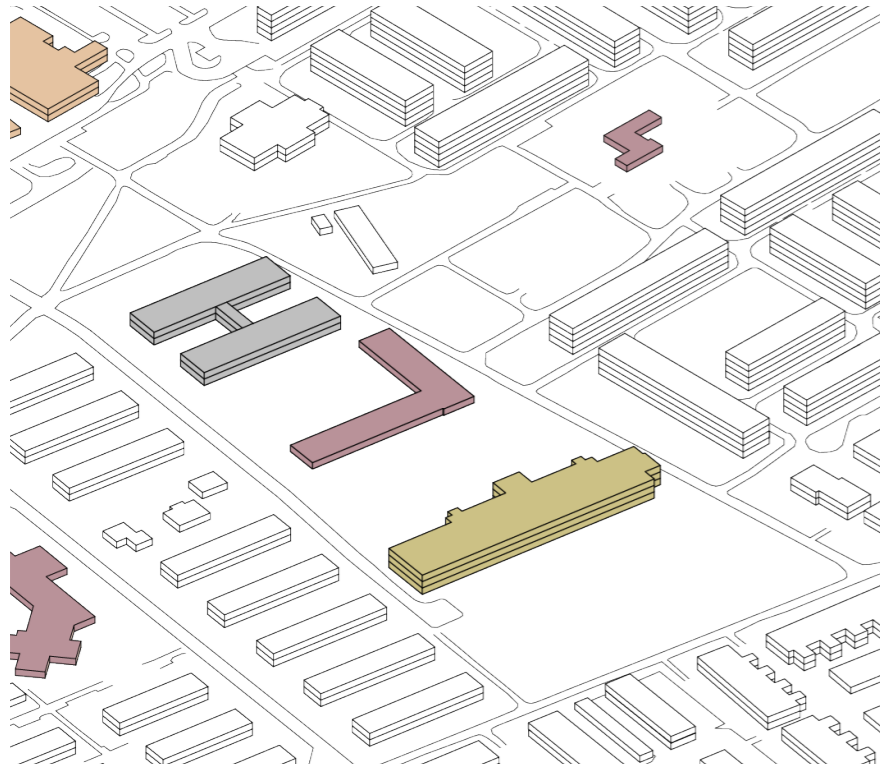


Hisings Kärra is a residential area in the northern part of Hising island with about 10 500 inhabitants. Back in the 17th century Kärra was part of a small farming village. In the 1960's Kärra expanded since it was part of a housing development. Today, Kärra is a residential area surrounded by green areas and smaller suburban areas. It has good connection to Gothenburg by bus and car since the E6 highway is right next to Kärra in the east. In the middle, Kärra Centrum is located with functions such as grocery store, library, restaurants and smaller shops. As well as two primary schools, pre-schools, dentist, healthcare center and an old elderly care facility.

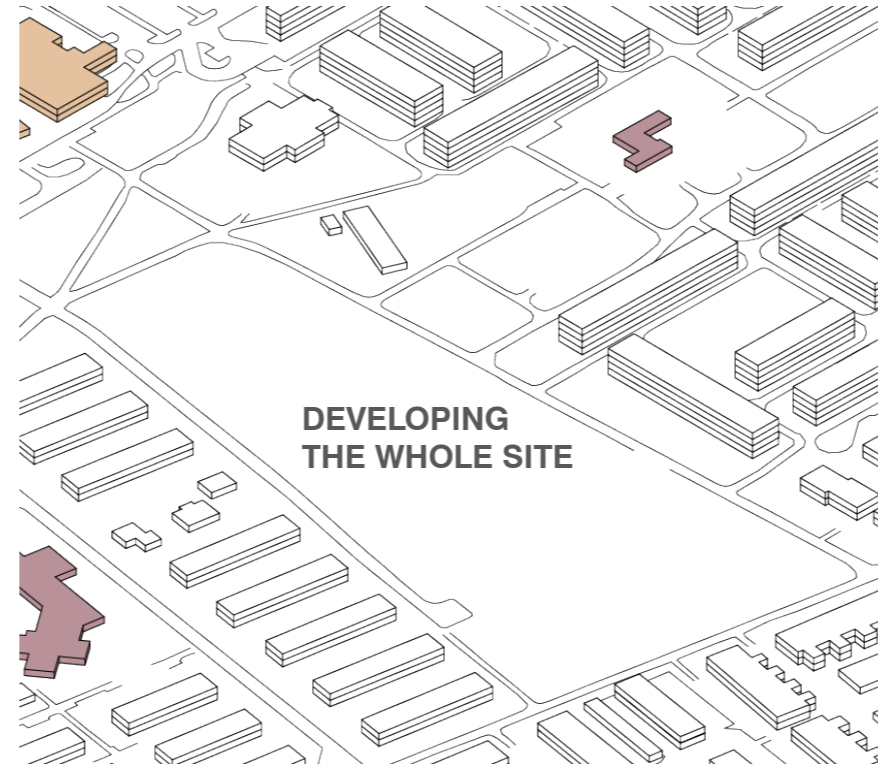
For future development of the area, Kärra is being part of a new developing program where Kärra and Kärra centrum in particular is planned to expand. As a part of this development a new elderly care facility for people suffering from Dementia is going to be built. For our proposal, we aim to show how the Dementia village can interact with Kärra, striving for an age-friendly society connecting people of all ages.

Reference: [http://www5.goteborg.se/prod/fastighetskontoret/etjanst/planobygg.nsf/vyFiler/Kärra%20Centrum%20-%20Utveckling%20av%20centrum%20och%20eventuellt%20nya%20bostäder-Program%20-%20samråd-Statistik/\\$File/Bilaga5Statistik.pdf?OpenElement](http://www5.goteborg.se/prod/fastighetskontoret/etjanst/planobygg.nsf/vyFiler/Kärra%20Centrum%20-%20Utveckling%20av%20centrum%20och%20eventuellt%20nya%20bostäder-Program%20-%20samråd-Statistik/$File/Bilaga5Statistik.pdf?OpenElement)

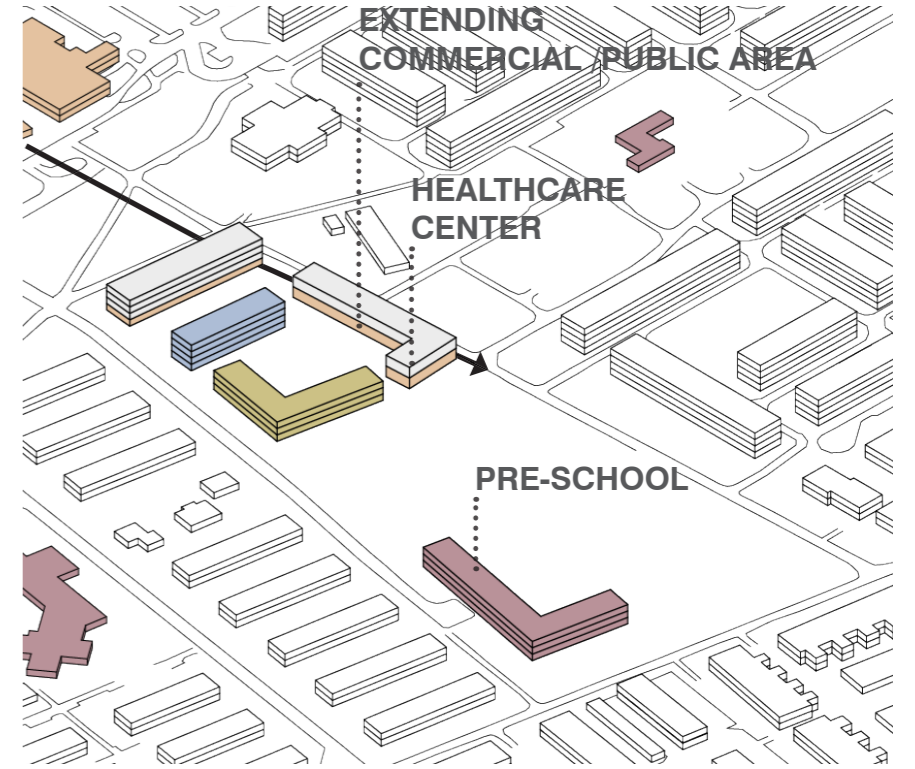
CONCEPT DESIGN PROCESS



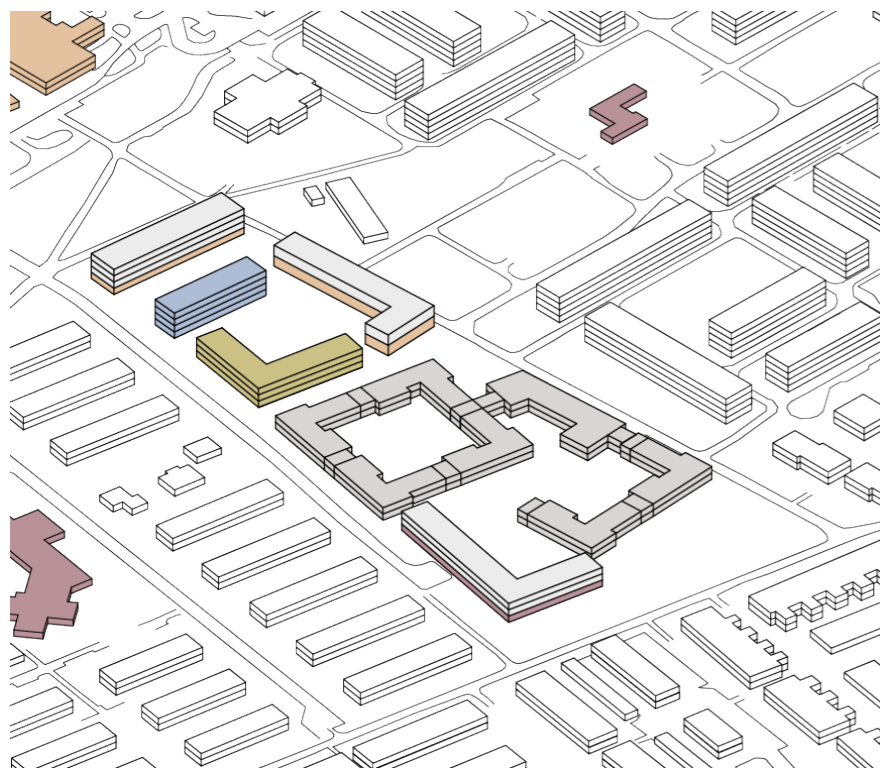
1. Existing site includes elderly care, pre-school and healthcare center with park area.



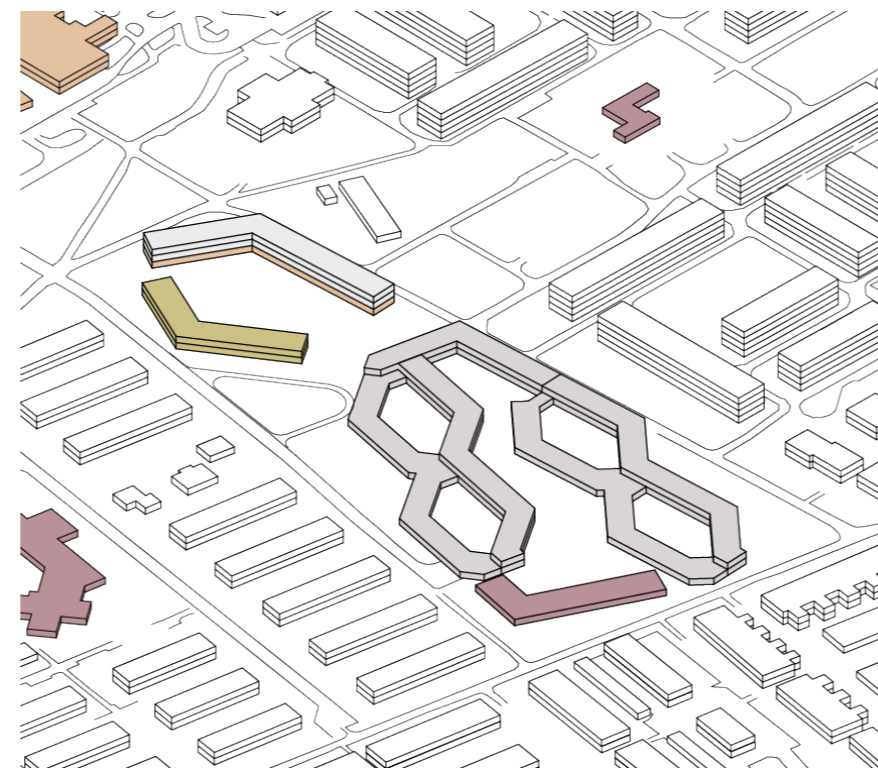
2. Due to the developing of Kärra centrum, we decided to work with the whole site and connecting the Dementia Village with Kärra.



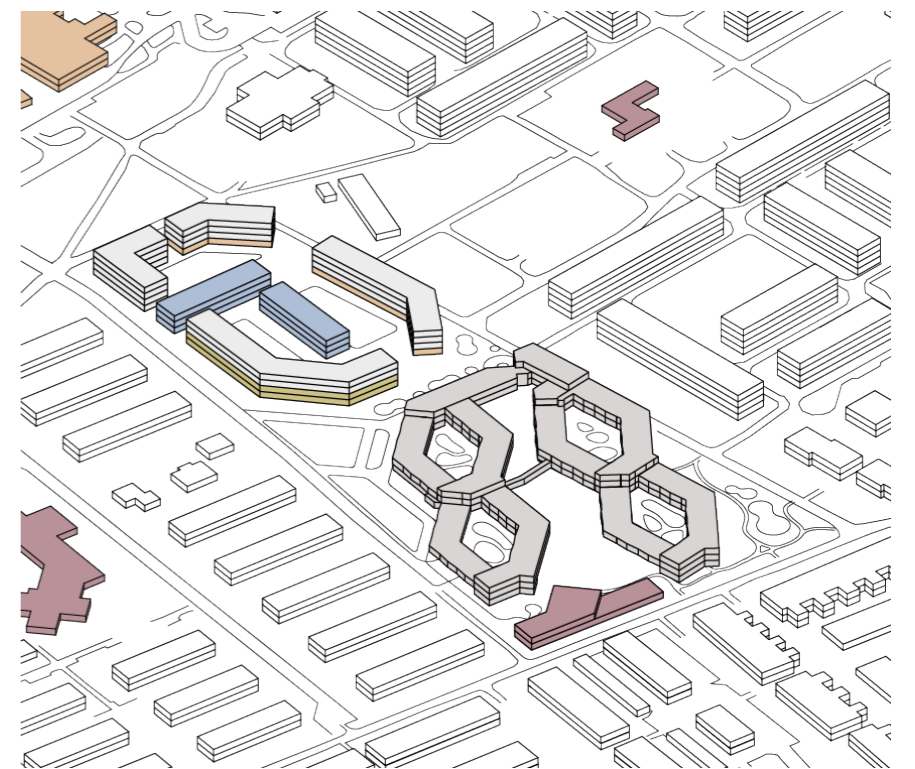
3. To enhance the connectivity between the different age groups, moving the pre-school closer to the project was one of the first decisions made.



4. The intention for the first proposal was to work with similar shaped units with transparent connections to achieve visual contact with the surroundings.



5. The second proposal with a more organic shape creates a natural connection between the public, the assisted living and the pre-school.



6. Our final proposal is a result of development of our second conceptual proposal which confines the project within site boundaries.

SITE PLAN 1:1000

PRIVACY LEVELS

- A. PUBLIC
- B. SEMI-PRIVATE
- C. PRIVATE

KÄRRA CENTRUM

1] HOUSING WITH SHOPS ON GROUND FLOOR

2. SENIOR APARTMENTS

3. HEALTHCARE CENTER

4. SQUARE

5. INTERLINKED DEMENTIA VILLAGE

6. PUBLIC SQUARE

7. SEMI-PRIVATE GARDEN

8. PRE-SCHOOL

LILLEKÄRR SÖDRA

20 40 100

1:1000

DEMENTIA AND OUR AGING SOCIETY

In Sweden between 130 000 and 150 000 people are diagnosed with conditions that cause Dementia, with projections of increase to 180 000–190 00 by 2030 and 250 000 by 2050. Every year 20 000 - 25 000 people start showing signs of dementia. (Socialstyrelsen, 2017)

"Dementia does not just affect older people because it is not just a normal part of ageing, it is a brain disease and is considered to be one of the health care challenges of the 21st Century." (Bill Halsall of the Halsall Lloyd Partnership & MacDonald, 2008)

With symptoms such as memory loss, poor learning, difficulties with language, in recognizing objects, planning and organizing, amongst others, the surrounding environment can play a crucial role in bringing quality of life to people with dementia. Such interventions need to recognize the senses: sight, smell, hearing, and taste.

The way the neighborhood is constructed can also aid/prolong or hinder independence for people with dementia. Close and easy connections to public functions and activities such as library, parks and cafés aids in giving a meaningful everyday life full of activities. The Dementia Village proximity to Kärra center gives plentiful of opportunities for people with light symptoms, but the Village itself provides it for the residents showing more severe symptoms.

To deal with this our Dementia Village proposes:

- Integration with community
- Access to basic facilities within the village
- Activities such as music, crafts, gardening/planting
- Opportunity for exercise
- Safe access to green spaces
- Safety/Privacy
- Visual connection to the outside from all spaces

References:

Socialstyrelsen. (2017). Vård och omsorg vid demenssjukdom Vård och omsorg vid demenssjukdom – Stöd för styrning och ledning Nationella riktlinjer 2017 Stöd för styrning och ledning. https://demenscentrum.se/sites/default/files/globalassets/publicerat_pdf/2017-12-2_var_d_och_omsorg_vid_demenssjukdom.pdf

Bill Halsall of the Halsall Lloyd Partnership, & MacDonald, R. (2008). Design for Dementia - Volume 1 - A Guide with helpful guidance in the design of exterior and interior environments. The Halsall Lloyd Partnership. https://www.hlpdesign.com/images/case_studies/Vol1.pdf

BIOPHILIC & SALUTOGENIC DESIGN

Evidence based design show that connecting humans with nature contributes to wellbeing and improves health and recovery. Duarte Dias, (2015)

Early on in the project we decided to work with different kinds of elements to achieve visual and physical connection to nature and creating spaces that are easily perceived for people suffering from Dementia.

It is important for people who suffer from Dementia to feel safe and at home with enough private space, meanwhile it is also important to give them the possibility to feel like they contribute and belong. Feddersen & Lüdtke, (2017) When it comes to the outdoor environments of the facility, all apartments have a large private balcony. The courtyards are private but shared between two units. The square is public and used by everyone, while the semi-private courtyard in between the buildings two wings is a shared space between the elderly and the children in the pre-school.

DESIGN FOR THE SENSES

The landscape of the courtyards are shaped differently, but have the same concept of being sensory gardens. Here you can find different elements to stimulates all the senses, such as flowers and herbs for scent and taste and birds nest and bee hotels for sight and sound.

In the semi-private courtyard, a natural stream follows the terrain from the top all the way down to the pre-school. The stream is not only a biophilic design element but also works as a rainwater management element.

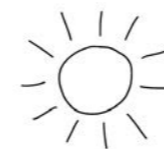
ACTIVITIES

The private courtyards has more relaxing activities such as gardening, and different kinds of seating areas. On the square there is a fountain, artwork and activities such as chess and boule. In the semi-private courtyard you also find different kinds of seating areas, gardening and a nice walkway with bridges crossing the stream connecting to the pond next to the pre-school.

References:

Feddersen, E., & Lüdtke, I. (2017). Living for the Elderly. A Design Manual Second and Revised Edition. London: Walter de Gruyter GmbH.

Duarte Dias, Bruno. (2015) Beyond Sustainability – Biophilic and Regenerative Design in Architecture. In: European Scientific Journal

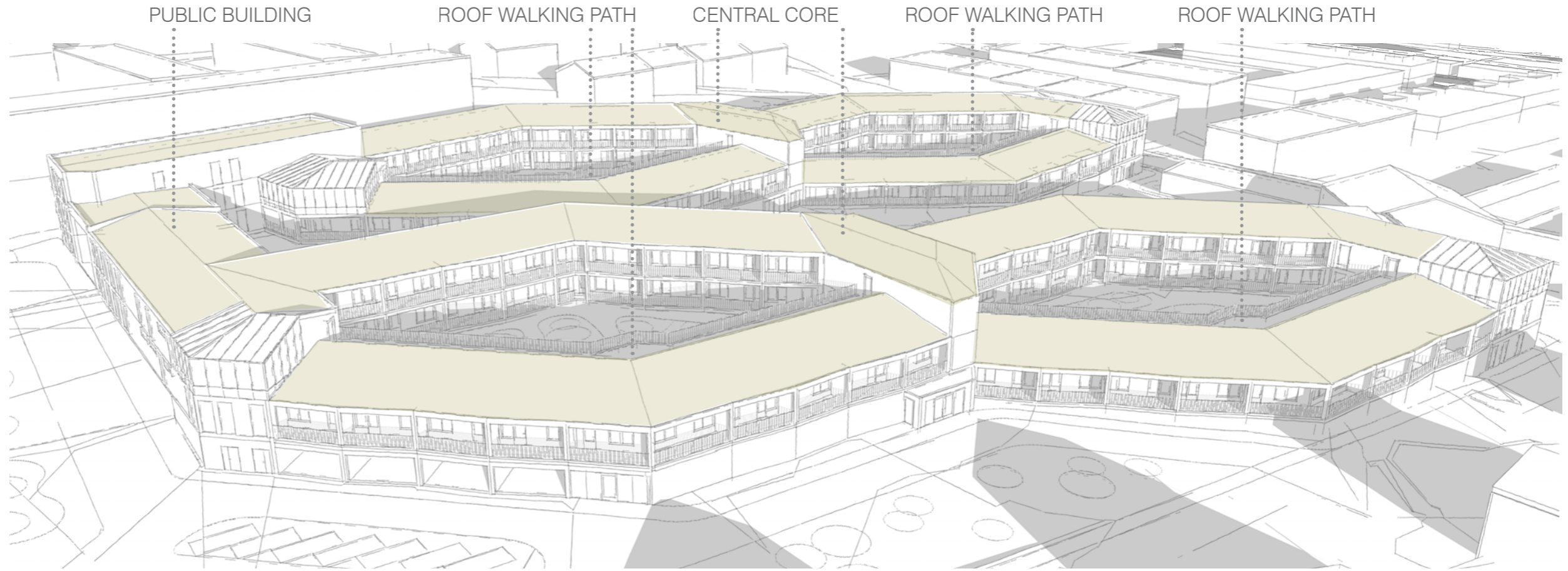


SUN STUDY

NOVEMBER
14:00

The south-west facing apartments benefit from the low sun angle during the winter months, having the whole facade washed with natural light and heat.

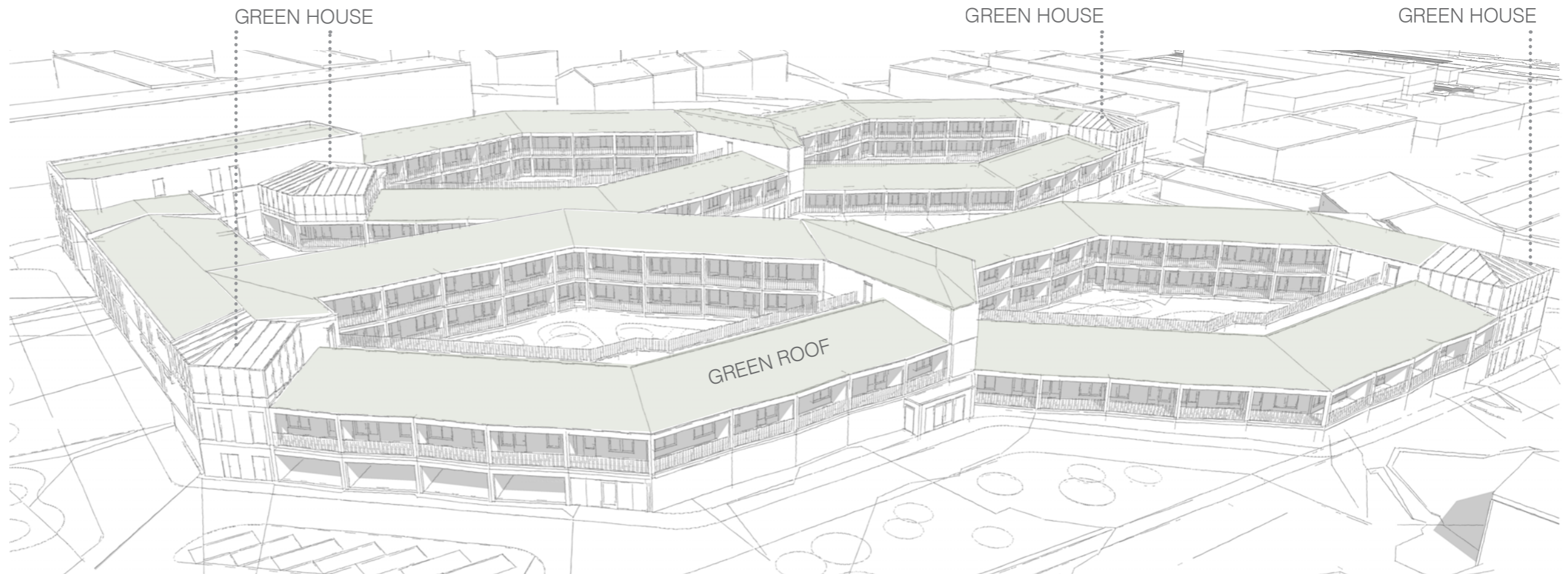
The roof walking paths provide the top level apartments direct access to the outside, also connecting the Central cores to the Public Building.



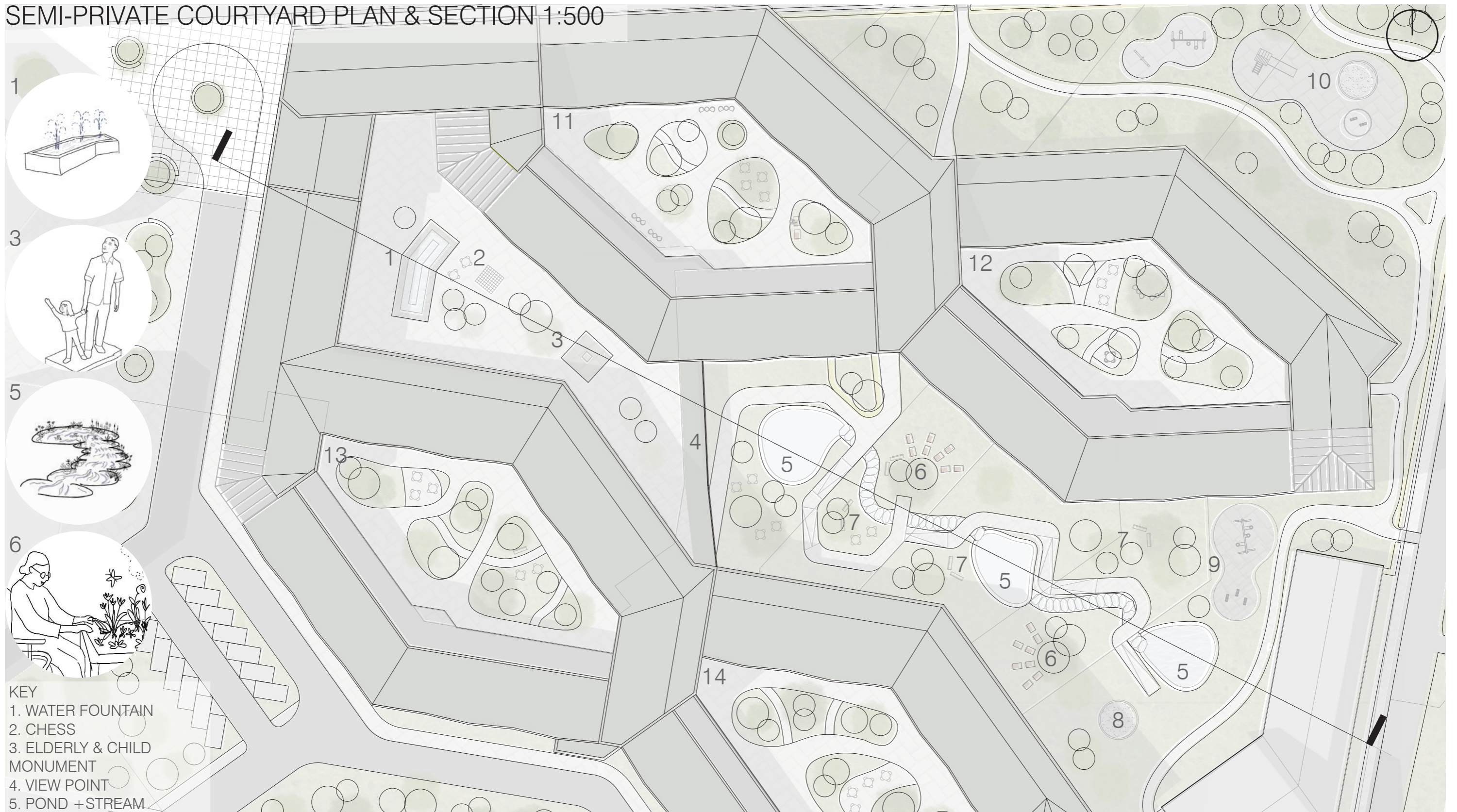
JULY
14:00

The two-metre deep inset balconies act as sun shades and prevent the apartments from overheating during the summer months.

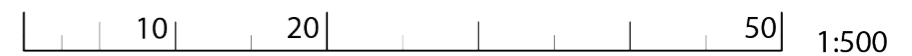
The green roof is proposed to help cool down the building in the warmer months as well as a rainwater management strategy.



SEMI-PRIVATE COURTYARD PLAN & SECTION 1:500



- KEY**
- 1. WATER FOUNTAIN
 - 2. CHESS
 - 3. ELDERLY & CHILD MONUMENT
 - 4. VIEW POINT
 - 5. POND + STREAM
 - 6. ELEVATED PLANTERS
 - 7. SEATING
 - 8. SAND PIT
 - 9. PLAY GROUND 1
 - 10. PLAY GROUND 2
 - 11. COURTYARD 1
 - 12. COURTYARD 2
 - 13. COURTYARD 3
 - 14. COURTYARD 4



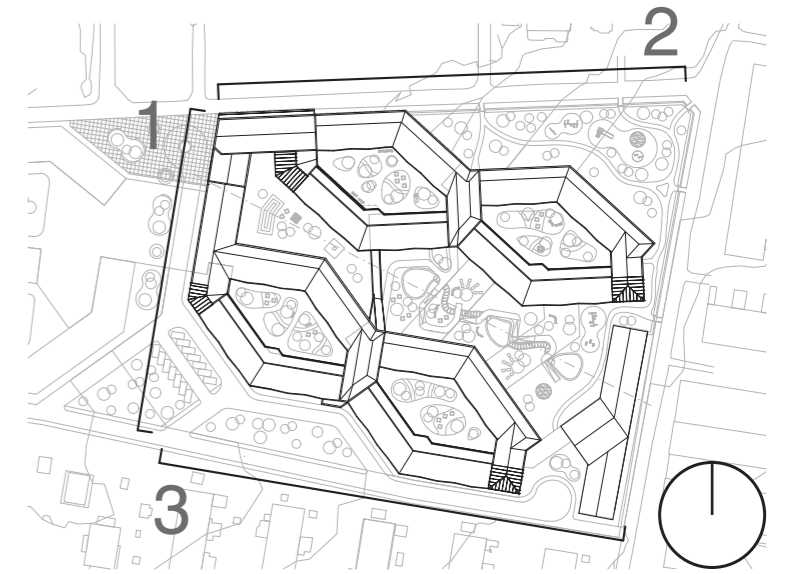
SEMI-PRIVATE COURTYARD PLAN VISUAL



FACADES - 1:500

Our proposal follows the terrain with its highest parts at the top of the plot in northwest and the lowest parts in the south. That way the natural slope of the landscape is emphasized and kept. It also takes the surrounding buildings into account, matching the lower scale of the terraced houses to the south and the higher apartment buildings to the north. The façade materials mainly consist of brick and wood, a material palette that is found in the

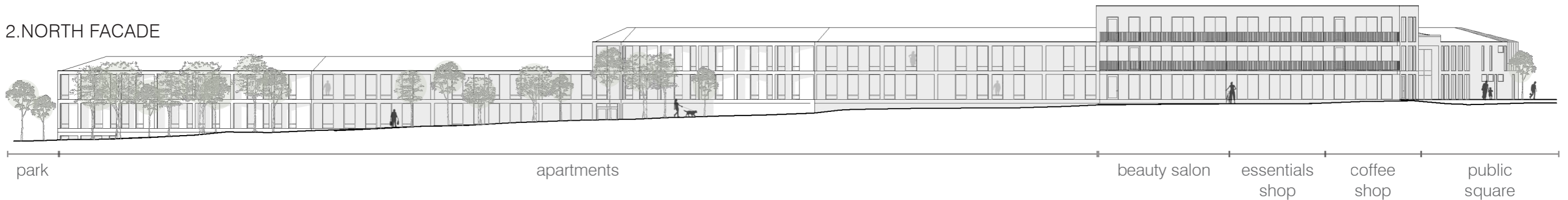
surrounding buildings. The public northwest part of the project has a brick façade with details in wood to separate it from the more private wings that consists of a wood cladding with a brick base. As the terrain falls, that base expands to form the shared souterrain level that are housing the Residents & Visitors Entrance, Spa area and Pre-school Flexi-rooms.



1. WEST FACADE



2. NORTH FACADE



3. SOUTH FACADE



CIRCULATION



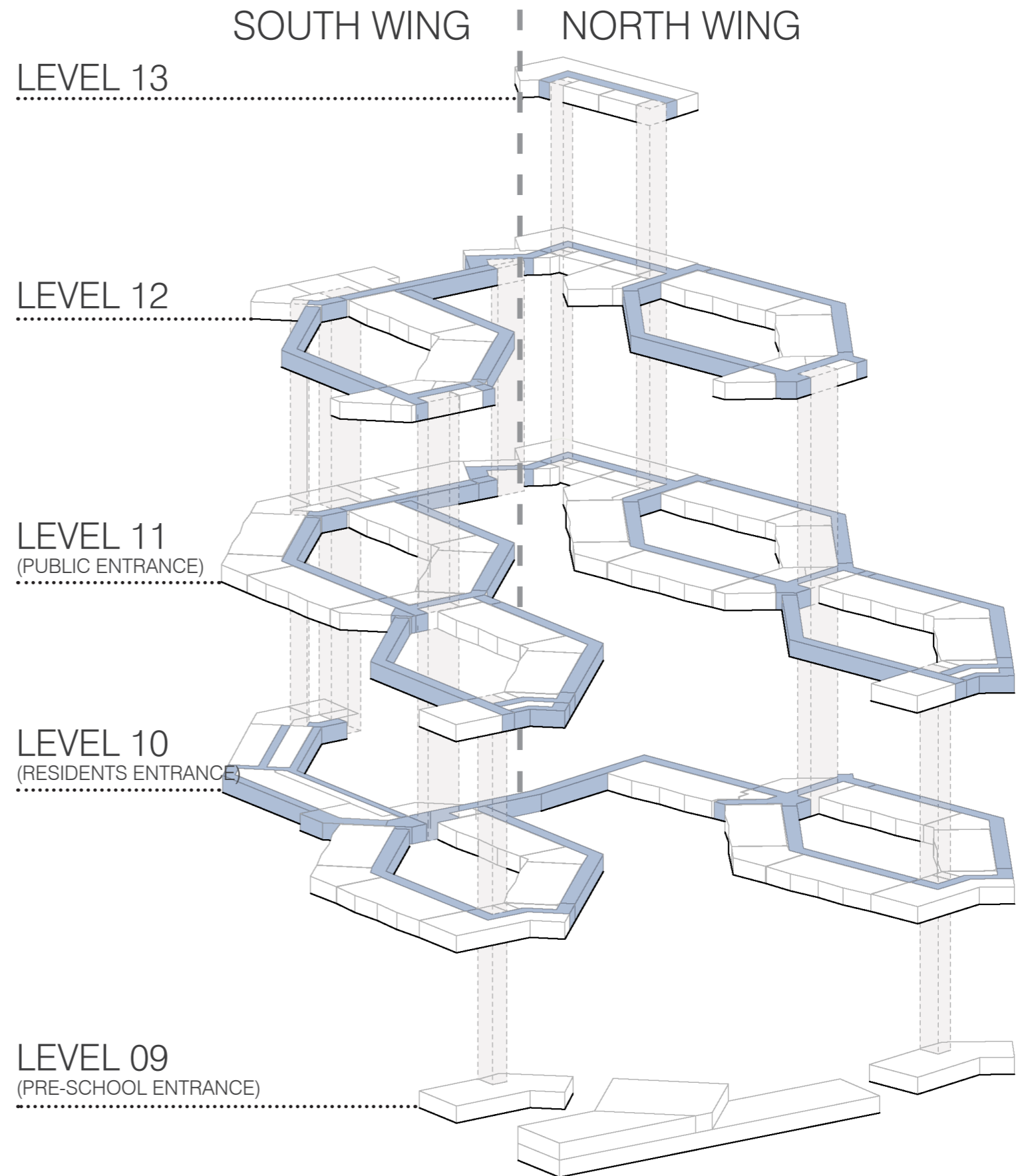
The angled shape of the building comes from the idea of having a circular flow for communication, helping the residents with wayfinding and giving the opportunity to take walks in the building without meeting dead end corridors.

With this shape we were able to place all apartments to the south or southwest and having all the circulation to the north, giving the apartments plenty of daylight.

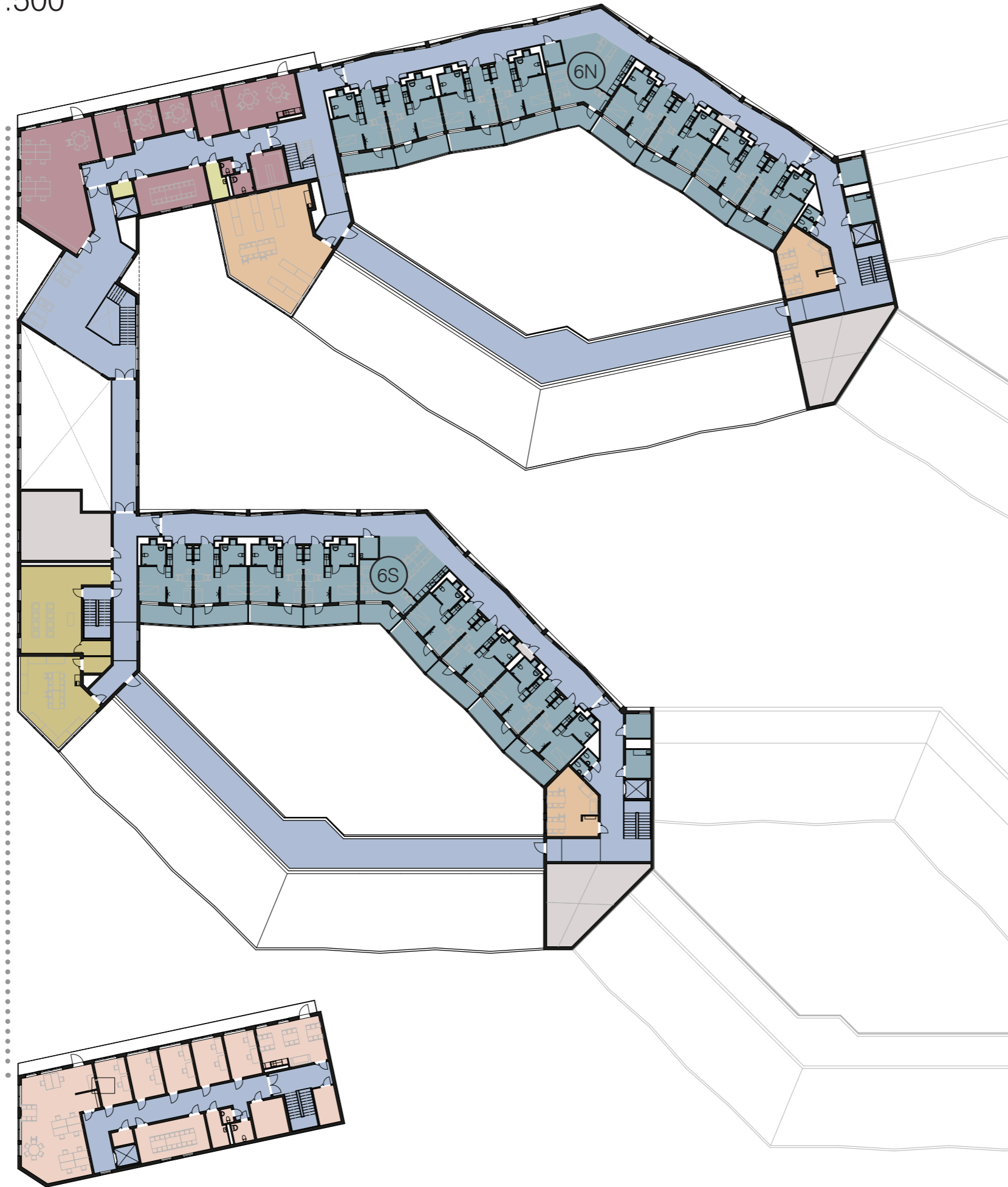
The building is separated into two wings, following the terrain from the northwest to the lowest point in southeast. The public functions are placed in the northwest on level 11, where the Village meets the pedestrian street leading to Kärra Centrum. The wings follow the terrain and create a shared garden in between. This space is shared with the pre-school located in the southeast corner of the site, on level 9.

The vertical communication is in the ends of the wings and in the middle of each wing, in the core. This is the main vertical communication for both residents and staff, provided with staircase and elevator.

Since the site has a sloping terrain, the entrances of the building are placed in different levels. The public entrance is located on level 11, residential and staff entrance on level 10 and the pre-school has its entrance on level 9.

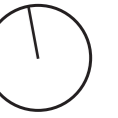


PLAN LEVEL12 - 1:500



FUNCTIONS:

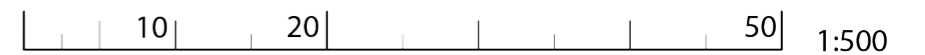
- ENTRANCE & COMMUNICATION ZONES
AREA=1257 m²
- UNITS
AREA=921 m²
- ADMINISTRATION
AREA=237 m²
- STAFF
AREA=186 m²
- SUPPORT AREAS
AREA=10 m²
- COMMON AREAS (VILLAGE ONLY)
AREA=140 m²
- TECHNICAL ROOMS
AREA=200m²

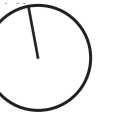


PLAN LEVEL13

FUNCTIONS:

- ENTRANCE & COMMUNICATION ZONES
AREA= 97 m²
- FACILITIES (RENTAL OFFICES)
AREA= 272 m²





FUNCTIONS:

- ENTRANCE & COMMUNICATION ZONES
AREA= 2034 m²
- UNITS
AREA= 2784 m²
- FACILITIES (SHARED WITH COMMUNITY)
AREA= 633 m²
- SUPPORT AREAS
AREA= 22 m²
- COMMON AREAS (VILLAGE ONLY)
AREA= 429 m²
- TECHNICAL ROOMS
AREA=97m²
- DELIVERY & WASTE
AREA=14 m²

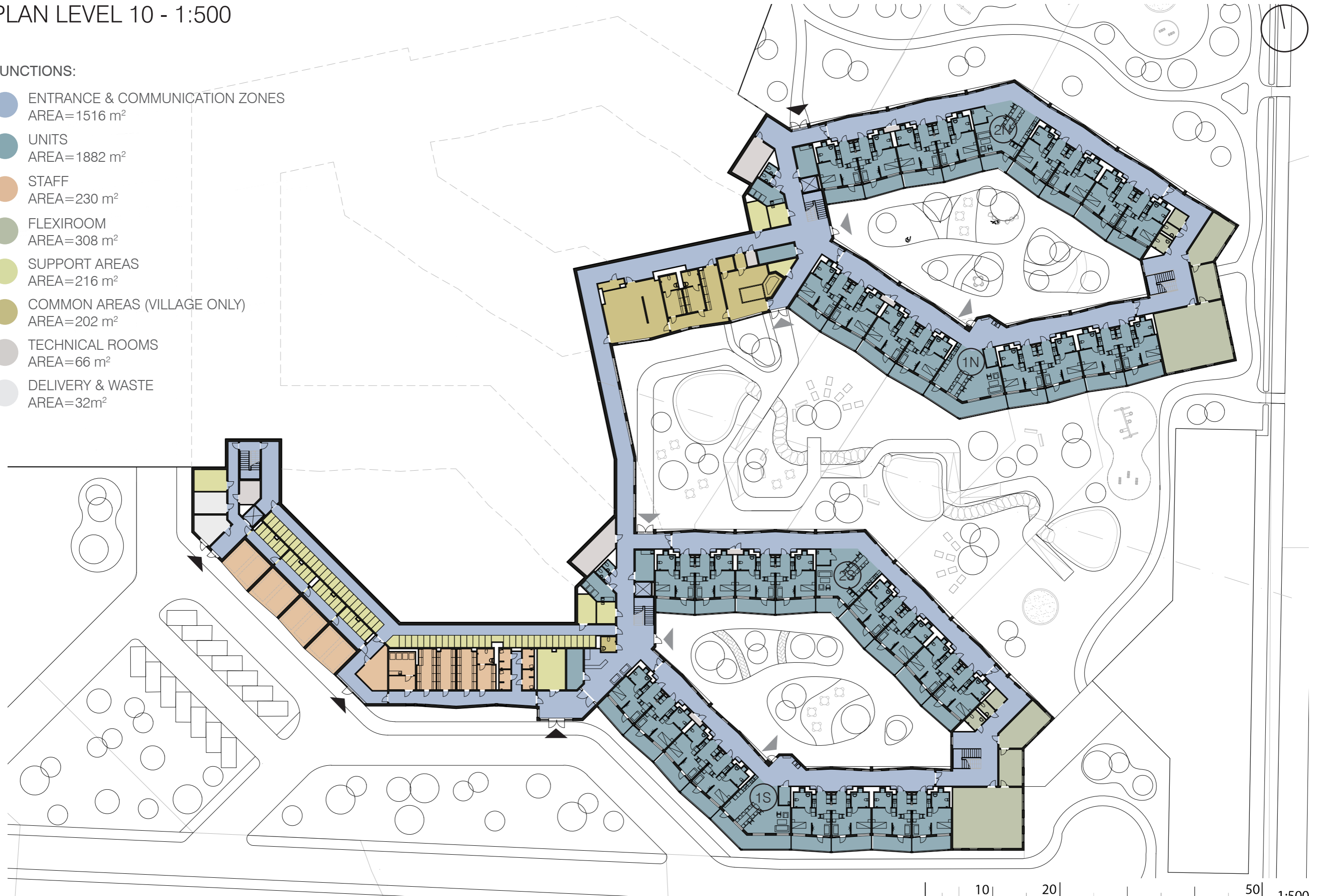


1:500

PLAN LEVEL 10 - 1:500

FUNCTIONS:

- ENTRANCE & COMMUNICATION ZONES
AREA=1516 m²
- UNITS
AREA=1882 m²
- STAFF
AREA=230 m²
- FLEXIROOM
AREA=308 m²
- SUPPORT AREAS
AREA=216 m²
- COMMON AREAS (VILLAGE ONLY)
AREA=202 m²
- TECHNICAL ROOMS
AREA=66 m²
- DELIVERY & WASTE
AREA=32m²



PLAN LEVEL 9 - 1:500

FUNCTIONS:

- ENTRANCE & COMMUNICATION ZONES
AREA= 56 m²
- FLEXIROOM PRE-SCHOOL
AREA=173 m²

Social isolation and stigmatization are common amongst people with dementia. Multiple studies focusing on intergenerational programs between people suffering from dementia and youth, has shown benefits for both groups. Amongst those are an increase in sense of self, joy, a decrease in anxiety and social isolation for people with dementia. The children learn valuable skills such as patience, respect, and empathy, and also how to interact with elderly.

Suitable activities includes:

- Crafting, painting and scrapbooking
- Music and storytelling
- Dance and performing arts
- Gardening and exploring

Galbraith et al. (2015) concludes their study with the following sentences:

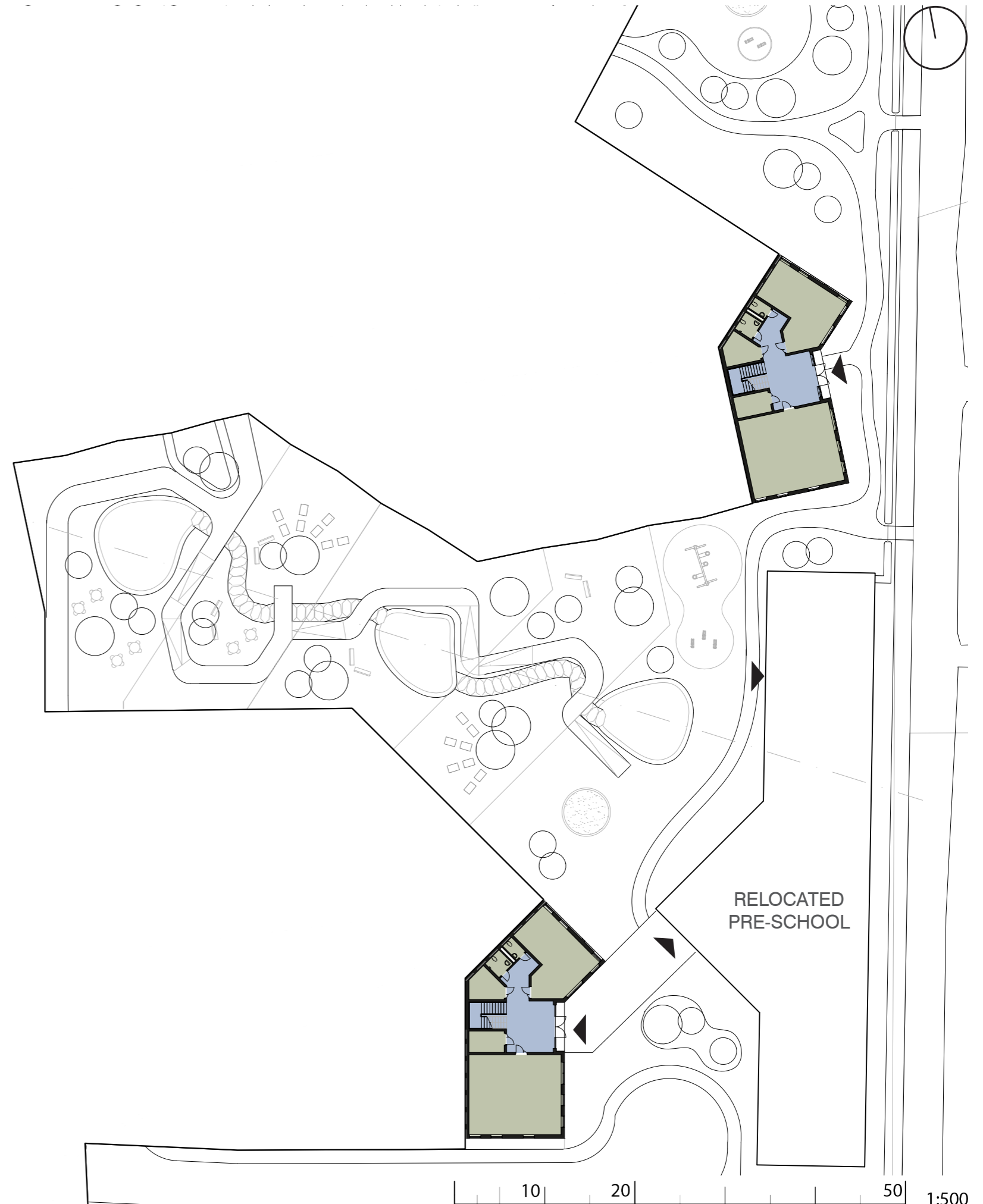
“Music, arts-based, and narrative programs were the most commonly described programs. However, the type of program has less of an impact on outcomes than whether it is meaningful and relationship focused, as these factors promote participation, engagement, and personality.”

To facilitate an ongoing program and to be able to support a multitude of activities that are meaningful, natural arenas have been created. They are formed by the colocation of the preschool and assisted living, with them sharing flexirooms and the semi-private courtyard. This allows for a wide range of interactions no matter of weather and season. For example, the two western greenhouses can be used to prolong the season for gardening. Teaching kids how to grow their own produce and giving the people with dementia a chance to teach, not only the wonders of gardening but also in an interactive way teaching them how to care for something and codependence that nature rely on. More physical activities can also be explored such as dance and music or strait up play in the varied semi-private garden.

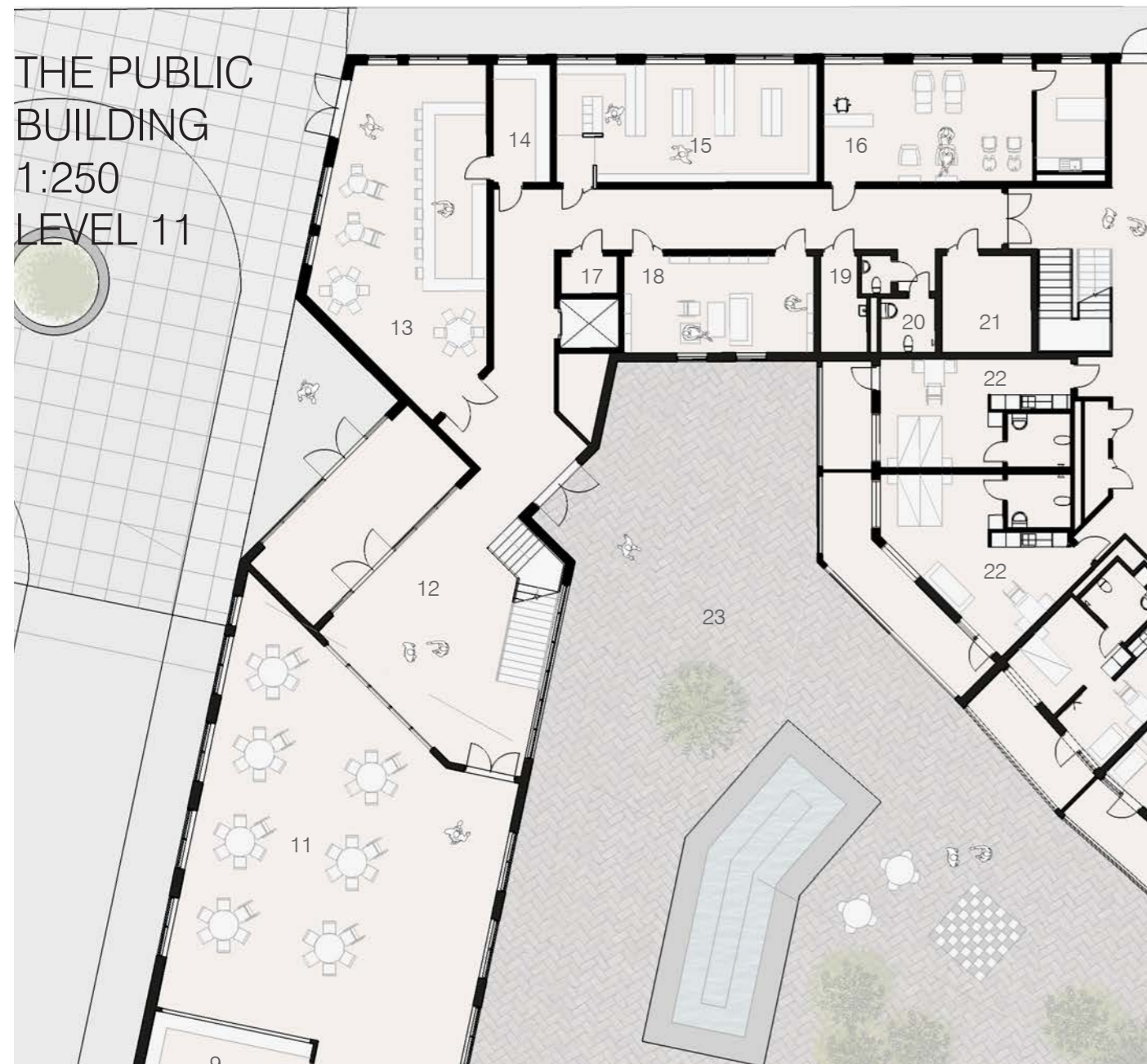
References:

Galbraith, B., Larkin, H., Moorhouse, A., & Oomen, T. (2015). Intergenerational Programs for Persons With Dementia: A Scoping Review. *Journal of Gerontological Social Work*, 58(4), 357–378.

<https://doi.org/10.1080/01634372.2015.1008166>



THE PUBLIC BUILDING
1:250
LEVEL 11



1. Office 7m²
2. WC 2 m²
3. Staff Room 16m²
4. Prep Room 26m²
5. Fridge 3m²
6. Freezer 5m²
7. Bakery 17m²
8. Kitchen 37 m²
9. Serving 21m²
10. Dish 25m²
11. Restaurant 155m²
12. Public Entrance 104 m²
13. Coffee shop 80m²
14. Prep 11m²
15. Essentials Shop 51m²
16. Beauty Salon 40m²
17. Storage 4m²
18. Library 30m²
19. Cleaning 7m²
20. WC's 7m²
21. Waste 21m²
22. Guest apartment 33m²/41m²
23. Square

The public entrance welcomes people in Kärä to visit not only the residents in the Dementia Village, but also the public restaurant, café, essential store and the beauty salon. When entering you have a view of the public square behind the glazed wall. This square is a shared space within the village where the ages interact. The entrance to the square is separated from the main entrance and instead directed towards the café and circulation to not encourage the residents to walk out of the Dementia Village. All public functions are placed together near the entrance to keep the residential part safe and calm both for residents and staff.

THE PUBLIC BUILDING
1:250
LEVEL 12



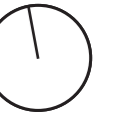
1. Green House 64m²
2. Chapel 74 m²
3. Ventilation 66m²
4. Circulation /Lounge 138m²
5. Open Plan Office 93m²
6. Manager's Office 16m²
7. Meeting Room 12m²
8. Staff Room 37m²
9. Storage 4m²
10. Conference Room 30m²
11. Cleaning 7m²
12. WC's 7m²
13. Drug Storage 14m²
14. Staff Green House 112m²

When going upstairs the visitor enter a public lounge before the private administration area. In this part of level 12 offices with conference room and meeting rooms are located. The staff has access to a large green house shared between all staff in the Dementia Village.



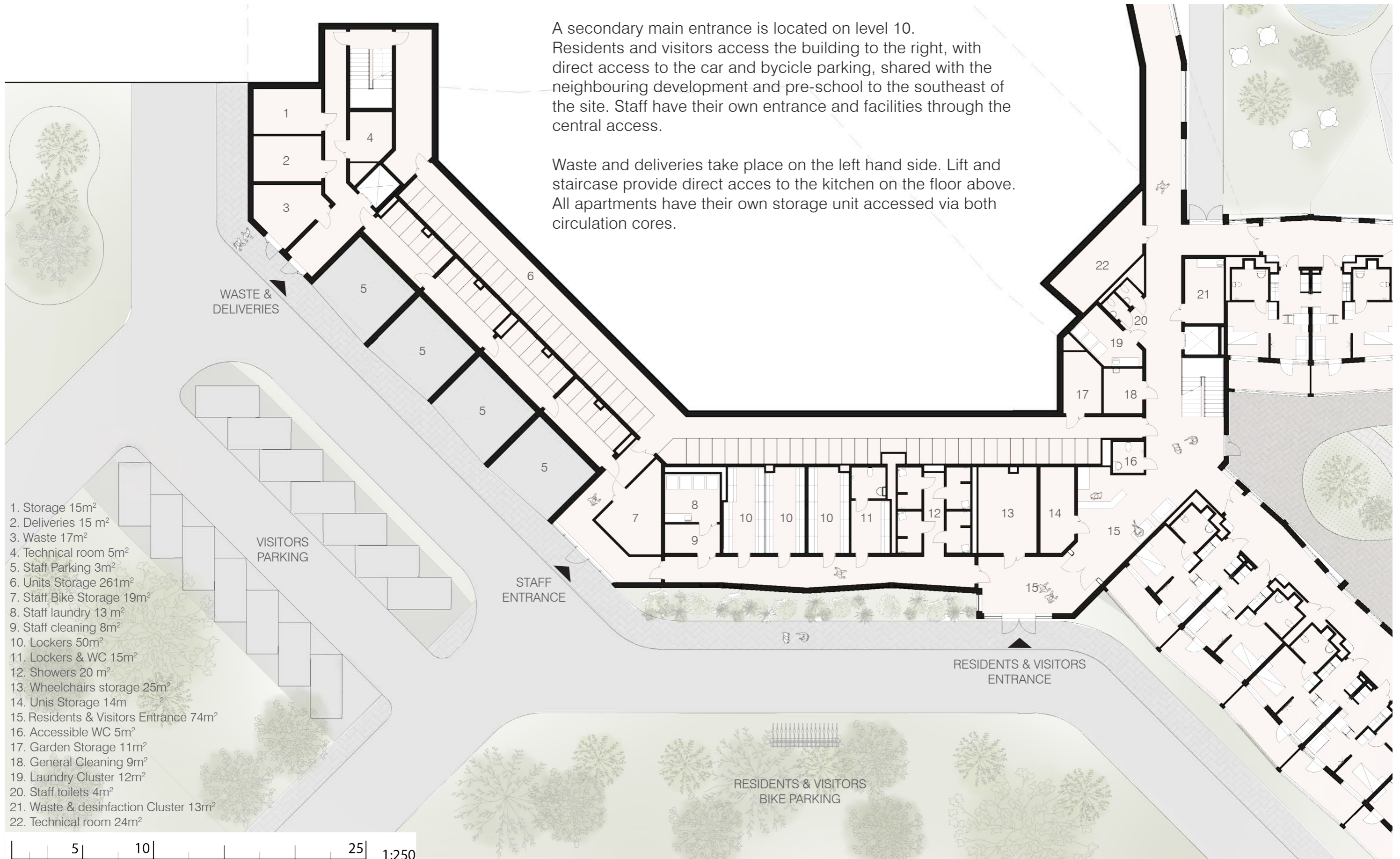
RESIDENTS ENTRANCE + SERVICE ENTRANCE - 1:250

LEVEL 10

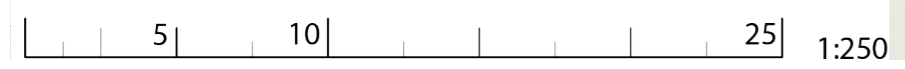


A secondary main entrance is located on level 10. Residents and visitors access the building to the right, with direct access to the car and bicycle parking, shared with the neighbouring development and pre-school to the southeast of the site. Staff have their own entrance and facilities through the central access.

Waste and deliveries take place on the left hand side. Lift and staircase provide direct access to the kitchen on the floor above. All apartments have their own storage unit accessed via both circulation cores.



- 1. Storage 15m²
- 2. Deliveries 15 m²
- 3. Waste 17m²
- 4. Technical room 5m²
- 5. Staff Parking 3m²
- 6. Units Storage 261m²
- 7. Staff Bike Storage 19m²
- 8. Staff laundry 13 m²
- 9. Staff cleaning 8m²
- 10. Lockers 50m²
- 11. Lockers & WC 15m²
- 12. Showers 20 m²
- 13. Wheelchairs storage 25m²
- 14. Unis Storage 14m²
- 15. Residents & Visitors Entrance 74m²
- 16. Accessible WC 5m²
- 17. Garden Storage 11m²
- 18. General Cleaning 9m²
- 19. Laundry Cluster 12m²
- 20. Staff toilets 4m²
- 21. Waste & disinfection Cluster 13m²
- 22. Technical room 24m²



CLUSTER - 1:250

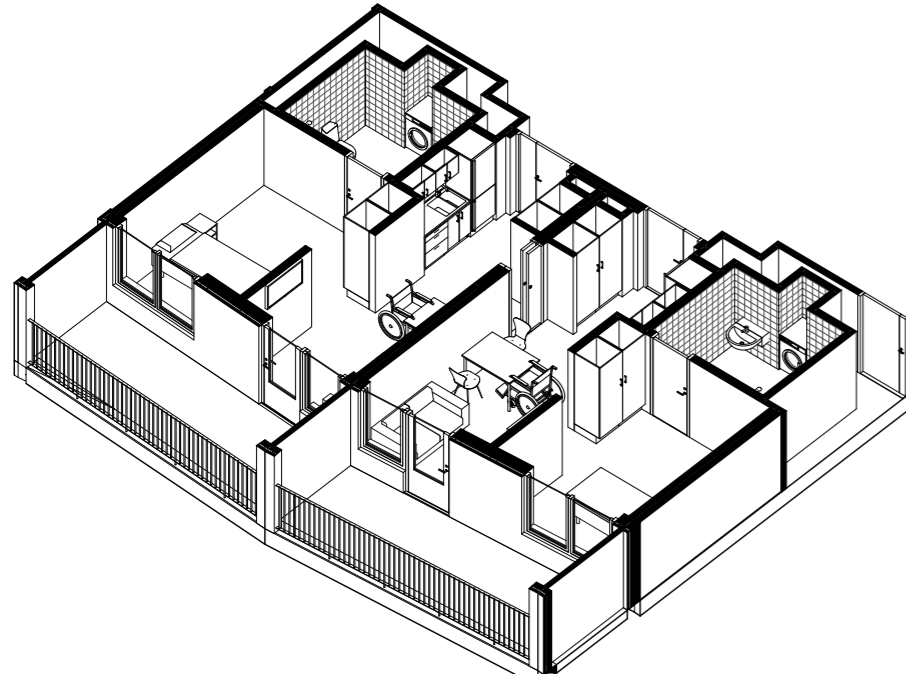
One cluster consists of two units, these share a 'private' courtyard and services located in the circulation core. Each unit is formed by eight apartments that share a common room. All apartments are south and west facing and all circulation is north facing. Circulation allows easy access to private and semi-private courtyards, and encourages movement.



- 1. Gym 70m²
- 2. Changing rooms 66m²
- 3. Lockers 34m²
- 4. Sauna 5m²
- 5. Spa Storage 3m²
- 6. Technical room 3m²
- 7. Unit Storage 12m²
- 8. Spa 50 m²
- 9. Spa garden
- 10. Aid Storage 6m²
- 11. Garden Storage 6m²
- 12. General Cleaning 6m²
- 13. Cluster laundry 12m²
- 14. Staff toilets 4m²
- 15. Technical room 21m²
- 16. Waste & Desinfection 13m²
- 17. Common room 56m²
- 18. Cleaning Unit 4m²
- 19. Technical Room Unit 2m²
- 20. Flexiroom 93m²
- 21. Storage 19m²
- 22. Flexiroom 29m²
- 23. Toilets 8m²
- 24. Storage 5m²



APARTMENT - 1:100



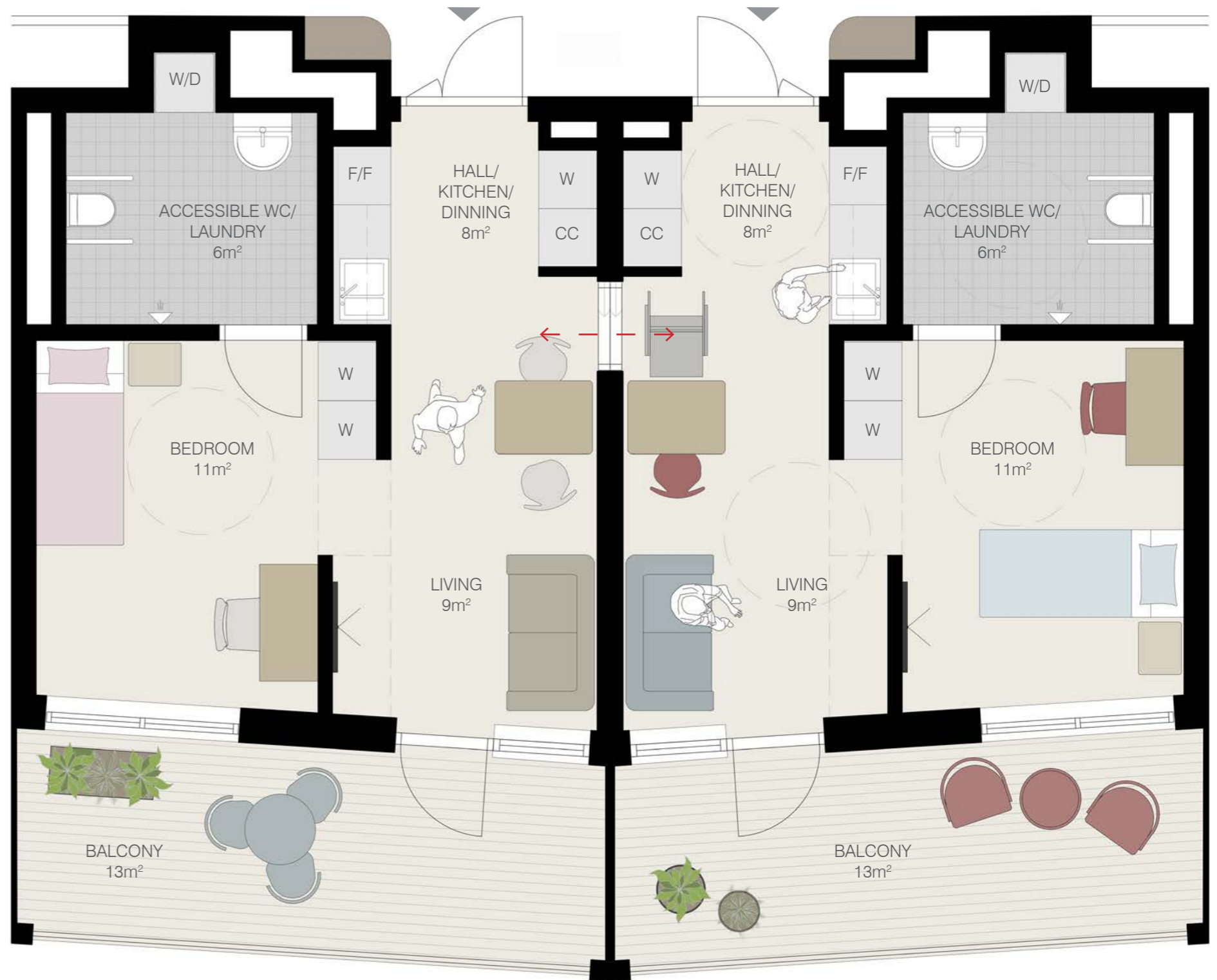
The apartments are grouped in pairs with the doors recessed in niches. The colors and material in these vary to aid the residents in finding their way home.

The pair can be connected to each other via a sliding door in the hallway/kitchen area, to suit a more flexible living for couples. When entering the apartment, you have a sight line out through the glazed balcony door and window.

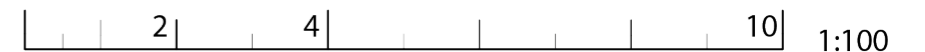
Storage are located in the hallway, kitchen, above the TV in the living room and in the bedroom. The generous size of the bedroom allows for a flexible placement of the bed, desk and even a TV.

The bathroom connects directly to the bedroom for easy use at night and are equipped with a washing machine / dryer for laundry.

A large inset balcony gives each resident their own private outdoor space facing south and southwest. The balcony provides shading midday under the summer for the large windows, but allows plenty of light in to the apartment during the winter.



BOA= 35m²



THANK YOU!