

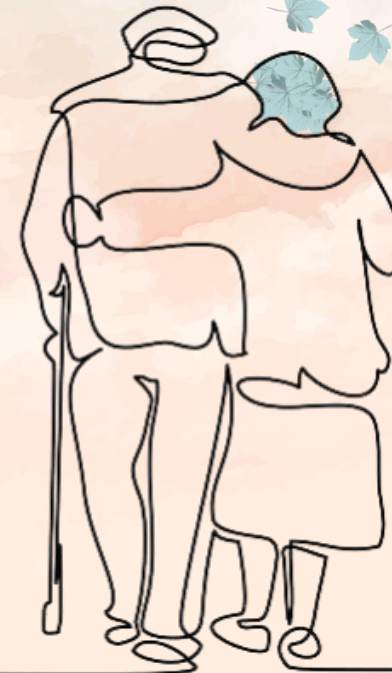
# Standing Strong Together

Designing a community orientated dementia residential care neighbourhood

**AR3AD110 Dwelling Graduation Studio**  
**Designing for Care in an Inclusive Environment**

**P5 Presentation**  
**19-06-2023**

**Tom Stuiver | 4479580**



# RESEARCH | Relevance of the research



Hersenaandoeningen Gevolgen Behandelingen Di



Hersenstichting. (2020). Verdubbeling aantal mensen met dementie in 2040. *Hersenstichting*. <https://www.hersenstichting.nl/nieuws/verdubbeling-aantal-mensen-met-dementie-in-2040/>

## Zorgen om toename dementie: 'Snelst groeiende doodsoorzaak in Nederland'

Door **ARIANNE MANTEL**  
02 sep. 2021 in BINNENLAND



Lees voor ▶

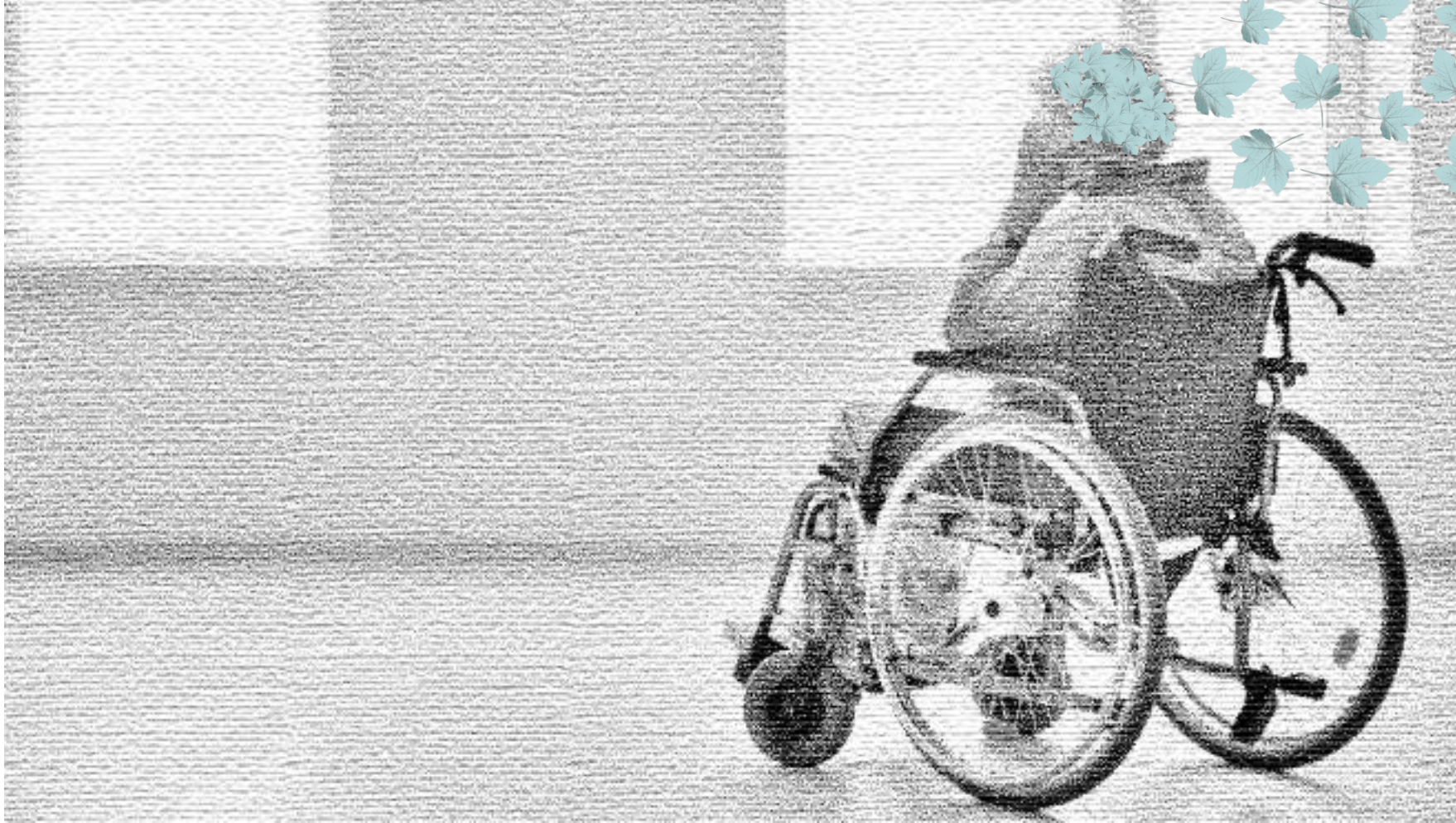


Mantel, A. (2021, September 2). Zorgen om toename dementie: "Snelst groeiende doodsoorzaak in Nederland." *Telegraaf*. <https://www.telegraaf.nl/nieuws/413193734/zorgen-om-toename-dementie-snelst-groeiende-doodsoorzaak-in-nederland>

### LAATSTE NIEUWS

- 19:54 **Treinverkeer rond Utrecht gestopt door stroomstoring**
- 19:47 **Oranjefan over WK in Qatar geannuleerd**
- 19:11 **Ruim 500 cobra's gevonden in Rotterdam**
- 18:51 **De Ligt over deelname aan droomde ik van'**
- 16:22 **'Ministers botsen over geboden regeringsvliegtuig'**
- 16:14 **PREMIUM Bergkamp bungee springt: chaos: 'De Chinezen lachen'**
- 15:40 **Bas Smit zorgt voor herrie'**

# RESEARCH | Relevance of the research



Original image: Jansen, R. (2020, March 15). 'Geen bezoek vanwege corona maakt ouderen eenzaam' - TVV | Photo. TVV. <https://www.tvvtotaal.nl/geen-bezoek-vanwege-corona-maakt-ouderen-eenzaam/>

# RESEARCH | Problem statement



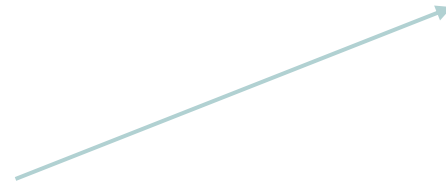
Dax Dementia Village, NORD Architects

Original image: NORD Architects. (n.d.). Alzheimers Village / NORD Architects | Photo. Archdaily. Retrieved on April 5, 2023, from <https://www.archdaily.com/973948/alzheimers-villa-nord-architects>

# RESEARCH | Problem statement



Dax Dementia Village, NORD Architects

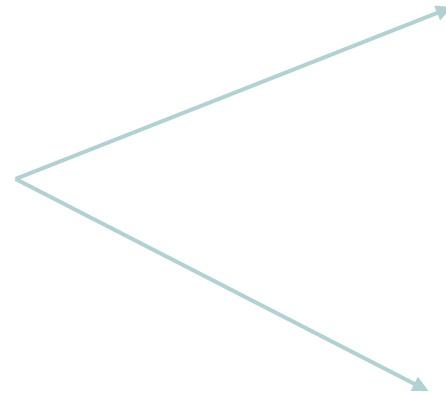


**Only for advanced  
dementia patients**

# RESEARCH | Problem statement



Dax Dementia Village, NORD Architects



**Only for advanced dementia patients**

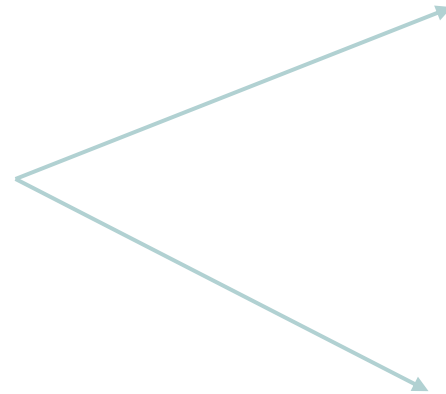


**Dire lack of financial funding and healthcare staff**

# RESEARCH | Problem statement



Dax Dementia Village, NORD Architects



**Only for advanced dementia patients**



**Dire lack of financial funding and healthcare staff**

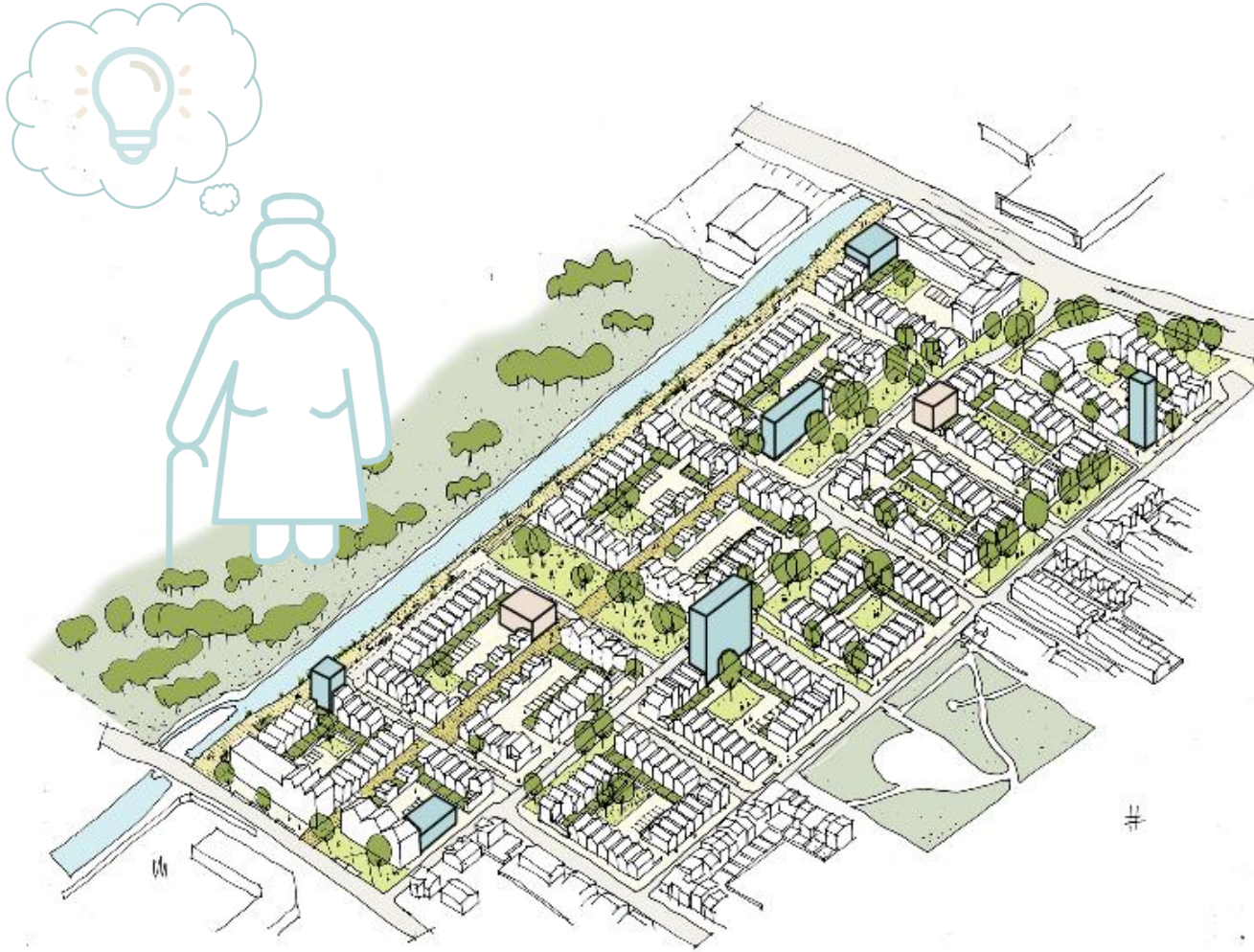
# RESEARCH | Problem statement



#  
Original image: Archdaily. (2021, May 17). *A Theme Park-Inspired Urban Design in Italy and a Floating Neighbourhood in Iran: 10 Unbuilt Projects Submitted to Archdaily [Sketch]*. <https://www.archdaily.com/961712/a-theme-park-inspired-urban-design-in-italy-and-a-floating-neighbourhood-in-iran-10-unbuilt-projects-submitted-to-archdaily/609fe0327480a60164087cbe-a-theme-park-inspired-urban-design-in-italy-and-a-floating-neighbourhood-in-iran-10-unbuilt-projects-submitted-to-archdaily-image>



# RESEARCH | Research goal



- Supporting people with dementia to remain living in their familiar home environment
- Addressing the 'gap' between staying at home and the nursing home
- Preventing fear, stress, anxiety, and social exclusion of people with dementia

How can the Dementia Village living environment provide residential care for early-stage dementia patients on a larger community orientated neighbourhood scale?

# Dementia Village architecture

```
graph TD; A[Dementia Village architecture] --> B[Dementia friendly environment]; A --> C[Community orientated neighbourhood];
```

## Dementia friendly environment

**SQ1:** What living environment features and conditions are of importance when designing for dementia patients?

## Community orientated neighbourhood

**SQ2:** How can the architectural design stimulate a community orientated living environment for early stage dementia patients?

# Dementia Village architecture

## Dementia friendly environment

SQ1: What architectural features are of importance when designing for dementia patients?

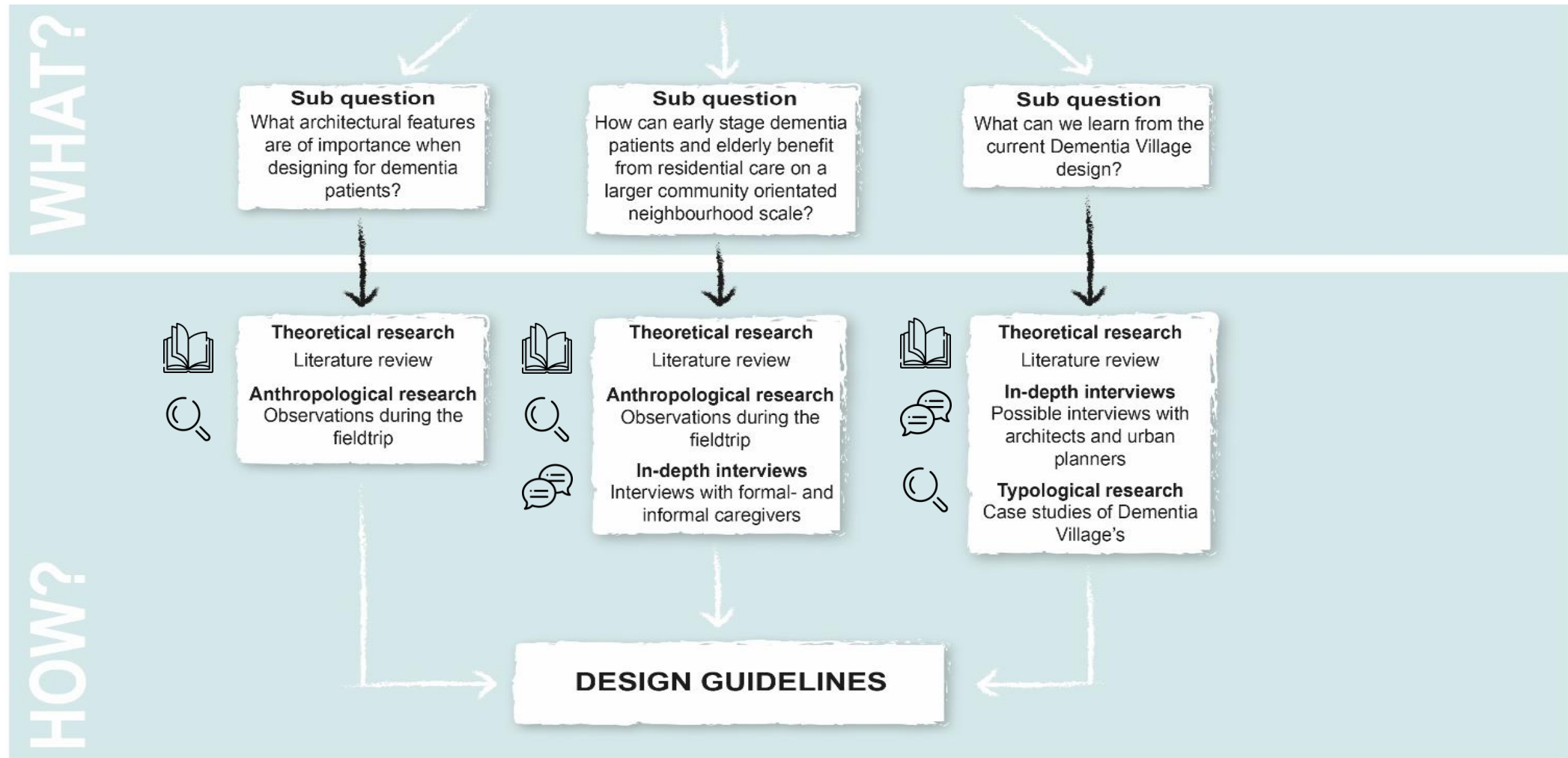
## Community orientated neighbourhood

SQ2: How can the architectural design stimulate a community orientated neighbourhood for early stage dementia patients?

## Dementia Village case studies

SQ3: What can we learn from the current Dementia Village design?

# RESEARCH | Methods



# RESEARCH | Fieldwork



De Reigershoeve, Heemskerk: 24 – 26 + 28 October

Zorgboerderij | Stichting Reigershoeve. (n.d.). [Photo]. <https://reigershoeve.nl/>



Van Der Linden (n.d.). *Liv-Inn-Hilversum-Hilversum* [Photo] <https://www.vanderlinden.nl/huurwoning/Liv-Inn-Hilversum-Hilversum/101375>

Liv inn, Hilversum: 31 October – 2 November

# RESEARCH | Dementia friendly environment

SQ1: What architectural features are of importance when designing for dementia patients?

# RESEARCH | Dementia friendly environment

SQ1: What architectural features are of importance when designing for dementia patients?

Current literature focusses on dementia friendly design features in assisted-living healthcare facilities

e.g., Hou et al., 2019; Kleibusch, 2018; Marquardt, 2014; McAdam & Williams, 2017; Niedderer et al., 2019; van Buuren & Mohammadi, 2022

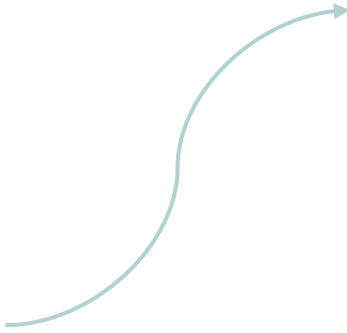


# RESEARCH | Dementia friendly environment

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Missing research about the successful implementation of these design features within a home like environment

# RESEARCH | Dementia friendly environment



**Wayfinding** (indoor and outdoor)



**Natural lighting and views on nature**

**Dementia friendly environment**



**Ambiance and familiarity**

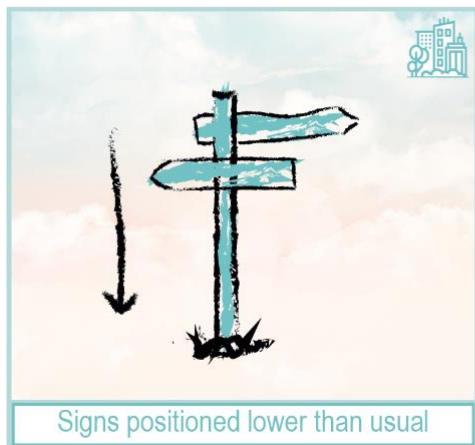
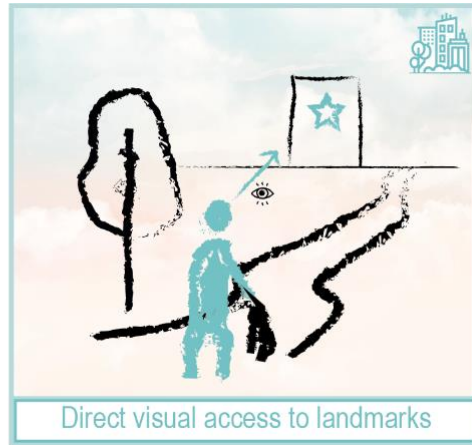
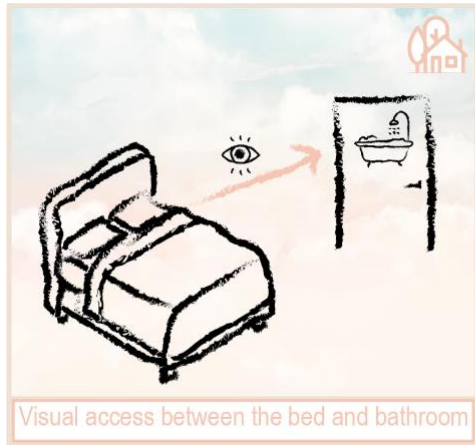


**Autonomy within the direct environment**

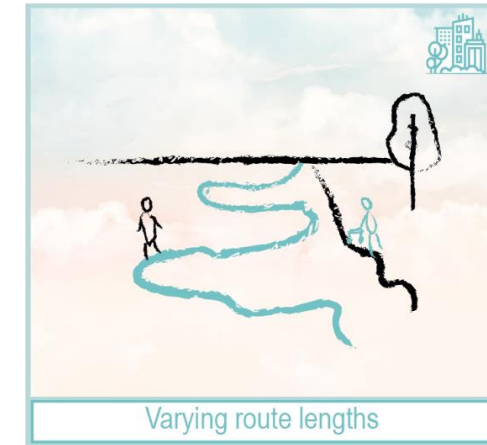
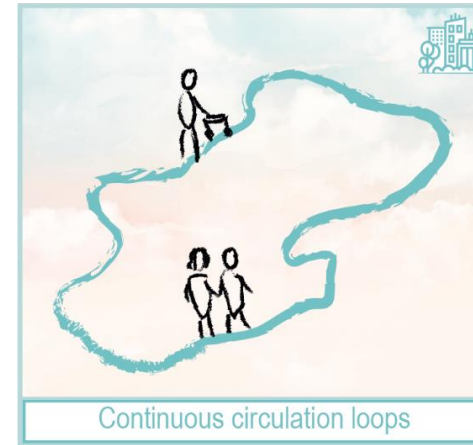


# RESEARCH | Dementia friendly environment

## Wayfinding



## Autonomy within the direct environment



# RESEARCH | Community orientated neighbourhood



**Mixing people with dementia along elderly**

Bremmers, S. (2018, May 7). *Iets doen voor de ander belangrijk voor ouderen* [Photo].  
Zorgvisie. <https://www.zorgvisie.nl/iets-doen-voor-de-ander-belangrijk-voor-ouderen/>

# RESEARCH | Community orientated neighbourhood



Mixing people with dementia along elderly



Mixing people with dementia along families with young children



Tienhooven, G. (2014, April 12). *Omroep MAX laat bejaarden samenleven met kleuters* [Photo]. AD. <https://www.ad.nl/show/omroep-max-laat-bejaarden-samenleven-met-kleuters-a2fd3e91>

# RESEARCH | Community orientated neighbourhood

## A multifunctional neighbourhood

- Multifunctional community centre



# RESEARCH | Community orientated neighbourhood

## A multifunctional neighbourhood

- Multifunctional community centre



- Preserving the feeling of autonomy



# RESEARCH | Community orientated neighbourhood

## A multifunctional neighbourhood




- Multifunctional community centre
- Preserving the feeling of autonomy





# RESEARCH | Community orientated neighbourhood

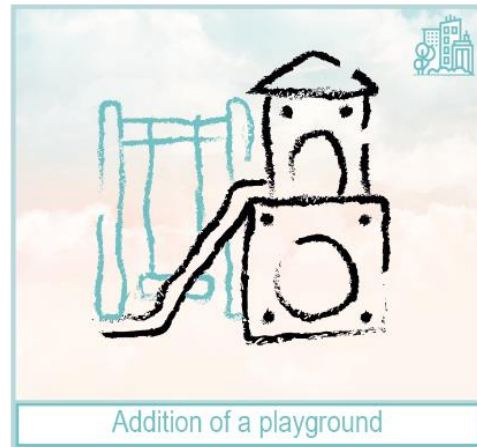
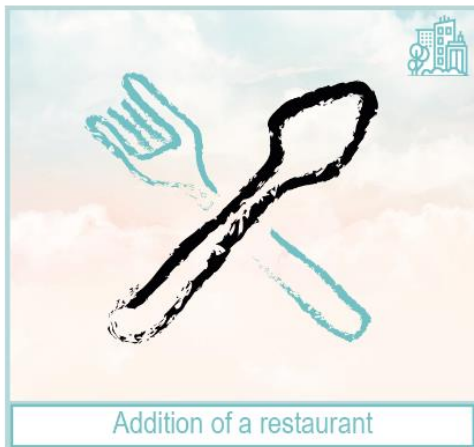
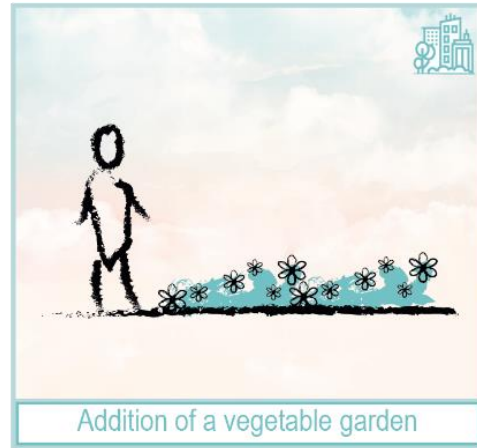
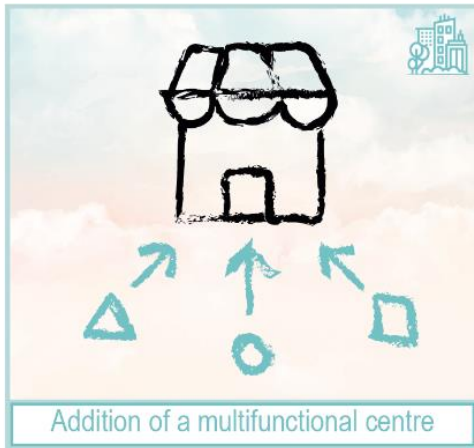
## A multifunctional neighbourhood

- Multifunctional community centre  

- Preserving the feeling of autonomy  

- Outdoor functions for children  




# RESEARCH | Community orientated neighbourhood

## Design guidelines

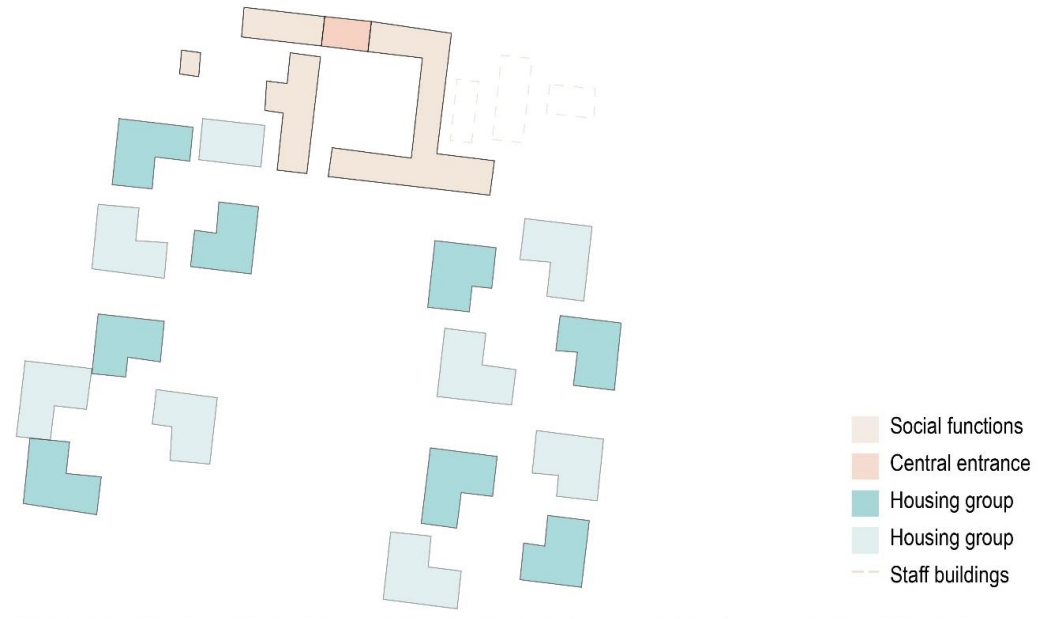


# RESEARCH | Case studies



De Hogeweyk dementia village, The Netherlands

Courtyards with different identities

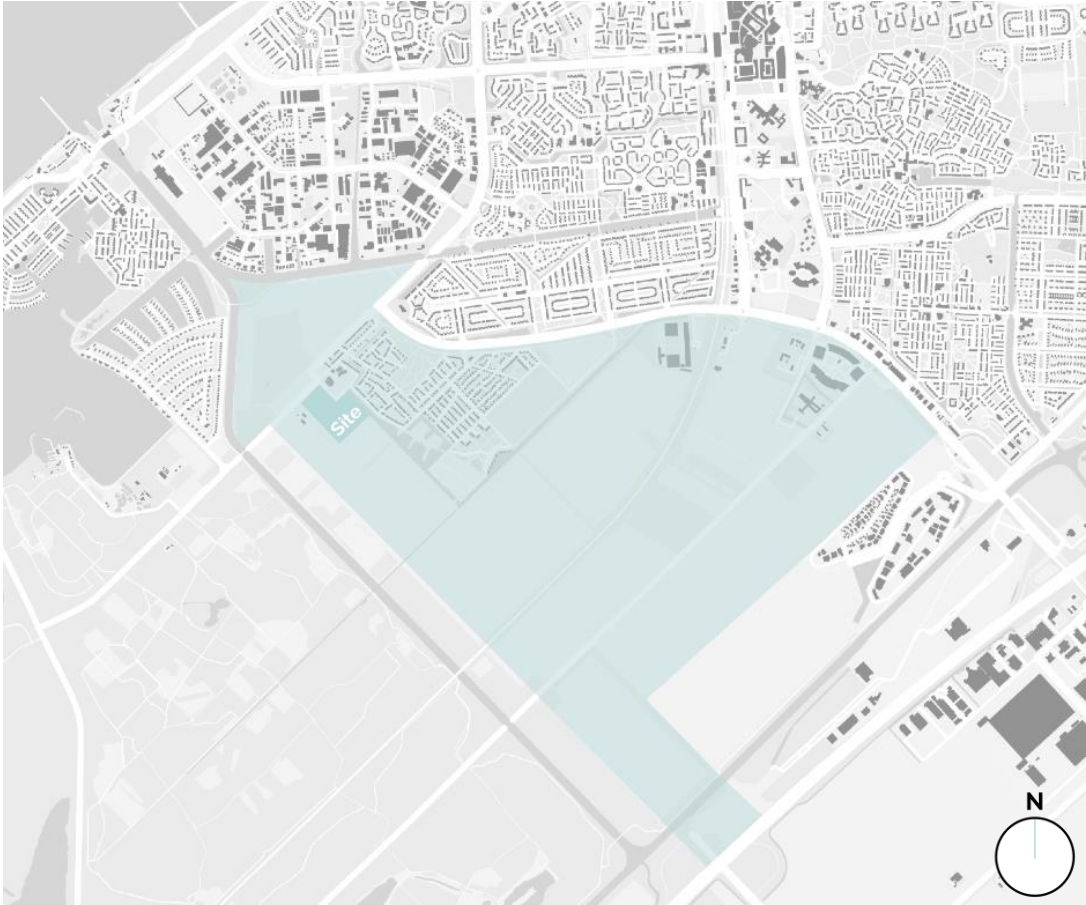


Dax dementia village, France

Link with nature



# DESIGN SITE | Location



Warande neighbourhood, Lelystad | 1 : 50.000



Design site, Warande | 1 : 10.000

# DESIGN SITE | Current masterplan



Warande Cittanova masterplan, Lelystad | 1 : 5,000

- Fragmented
- Too much variety in building typologies
- Very rigid and orthogonal
- Lacking the desired 'living amongst nature' atmosphere

# DESIGN SITE | SWOT analysis



## STRENGTHS

- Situated nearby a national nature reserve
- Social heart with supermarket, primary school and healthcare facility
- The Stadshoeve as a central meeting spot and place for day care
- Vision from the municipality shows strong connections with the research
- Parking spots on fixed positions near the edge of the site to encourage daily movement and possible ways to interact with other residents

## WEAKNESSES



- Apart from the social heart no strong connections with the surrounding neighbourhoods, making the site quite isolated
  - The greenery is currently not really accessible
    - Only one way of public transport to the city centre
  - No strong implementation of wayfinding within the masterplan, divergence between types of roads etc.
- The road system in the masterplan is very rigid and perpendicular, not really suiting this 'living amongst nature' organic feeling and not providing ways for people with dementia a possibility to simply wander around

# SWOT

Waranda design site and  
Cittanova masterplan

- Implementation of the 'freedom feeling' within e.g. possible activities like a cafe, restaurant, etc.
- Implementation of more variation within the types of greenery
- Nearby retiring farm creates possibilities for farm based dementia day care
- Better implementation of water within the site, Lelystad is known for its playfulness with water heights
- Implementation of height differences to encourage movement and a healthy lifestyle while keeping the paths flat and accessible.
- Upgrading the Stadshoeve into a multifunctional space, surrounded by public greenery to maximize its potential
- Creating a view on nature from each dwelling



## OPPORTUNITIES

## THREATS



- The plot is 4,5 meters below sea-level
- The East part of the plot could feel isolated compared to the West where all the social functions are located
- Dividing the plot in different zones with different styles could disturb the orientation and create confusion for people with dementia
- The masterplan is not interactive enough, providing not enough incentives
  - Lack of benches and public toilets creates a barrier for people with dementia to make use of the public space

# DESIGN SITE | Adjusted masterplan



Warande Cittanova masterplan, Lelystad | 1 : 5.000

# DESIGN SITE | Adjusted masterplan



Warande Cittanova masterplan, Lelystad | 1 : 5.000



# DESIGN SITE | Adjusted masterplan

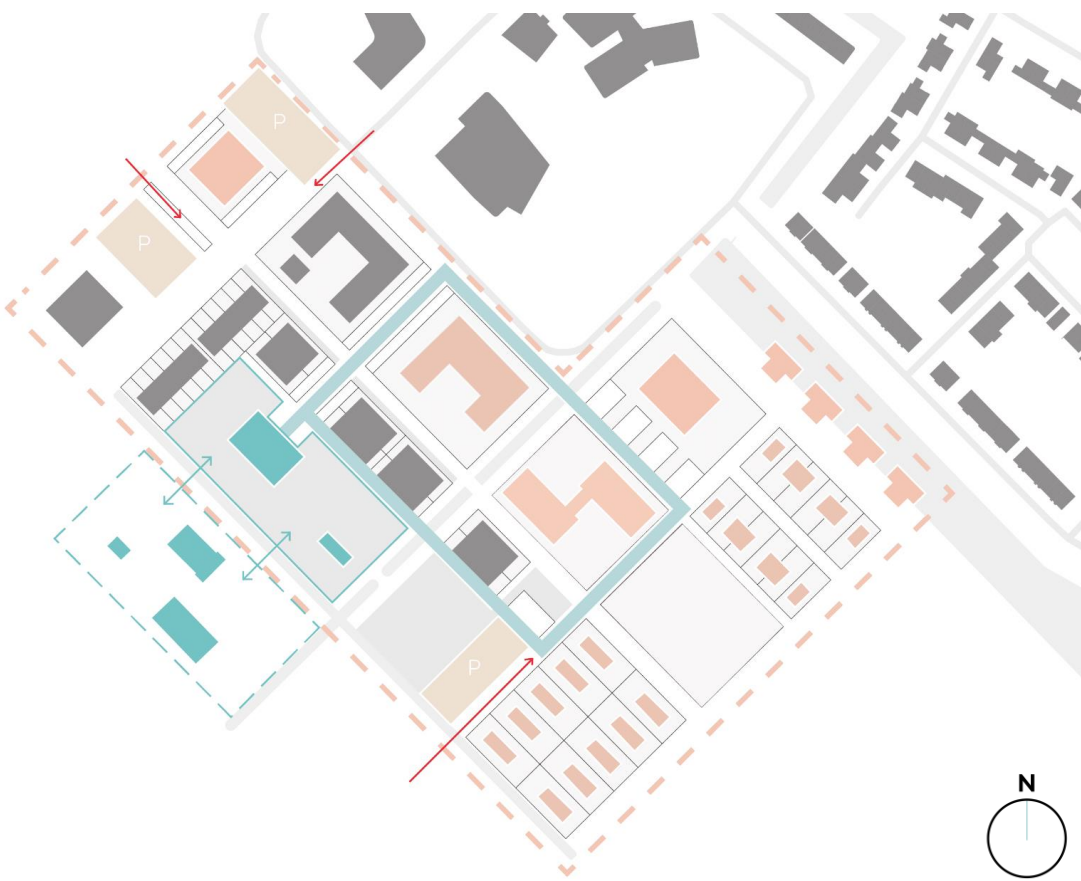


Warande Cittanova masterplan, Lelystad | 1 : 5.000

# DESIGN SITE | Adjusted masterplan



Warande Cittanova masterplan, Lelystad | 1 : 5.000

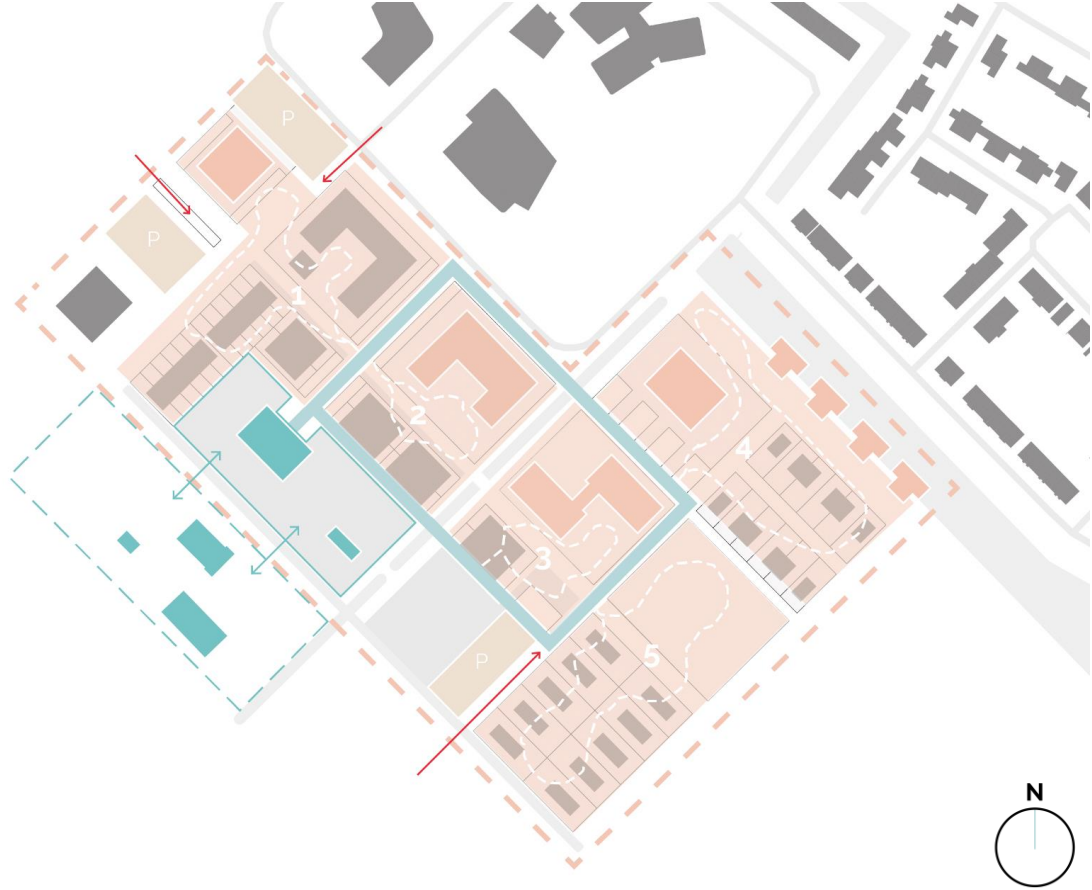


# DESIGN SITE | Adjusted masterplan



Warande Cittanova masterplan, Lelystad | 1 : 5.000

# DESIGN SITE | Adjusted masterplan



Warande Cittanova masterplan, Lelystad | 1 : 5.000

# DESIGN SITE | Adjusted masterplan



Warande Cittanova masterplan, Lelystad | 1 : 5.000



New masterplan, Lelystad | 1 : 5.000

# DESIGN SITE | Site selection

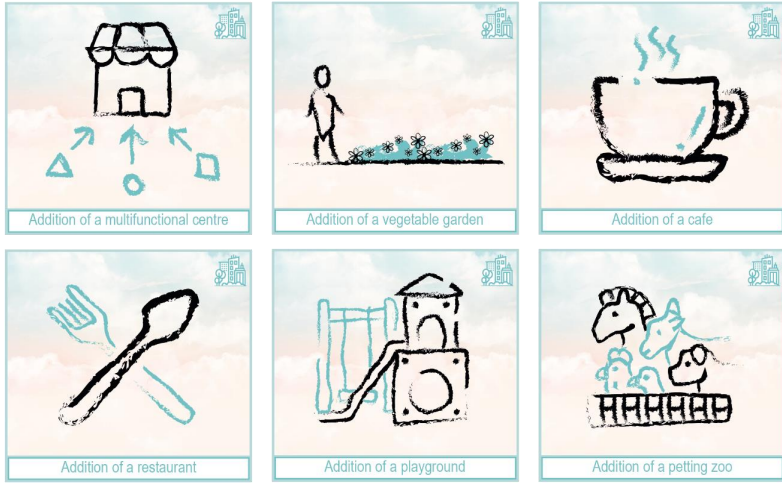


Current surfaces present within masterplan



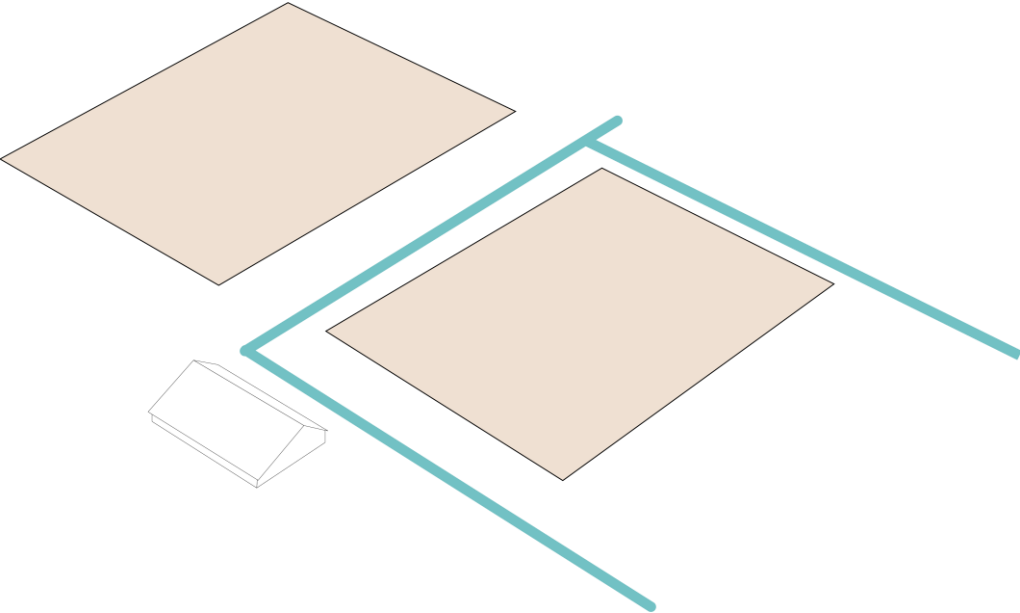
Selected site in masterplan | 1 : 5.000

# DESIGN SITE | Addition of community

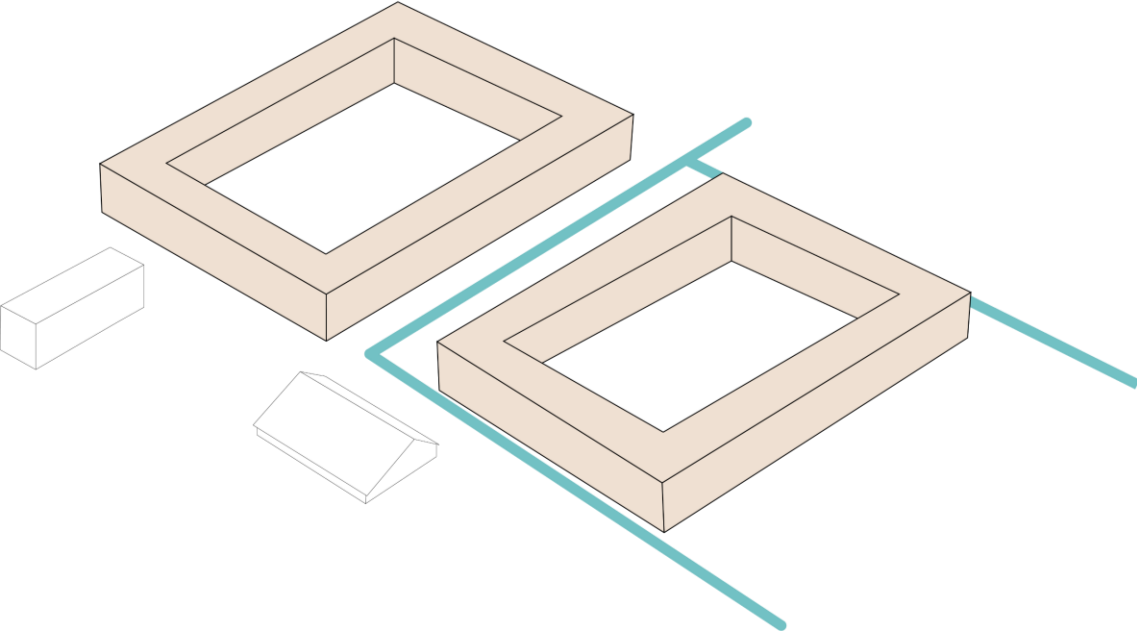


Addition of amenities on a central spot | 1 : 2500

# DESIGN SITE | Urban shapes



1. Definition of two zones near the main route, according to master plan

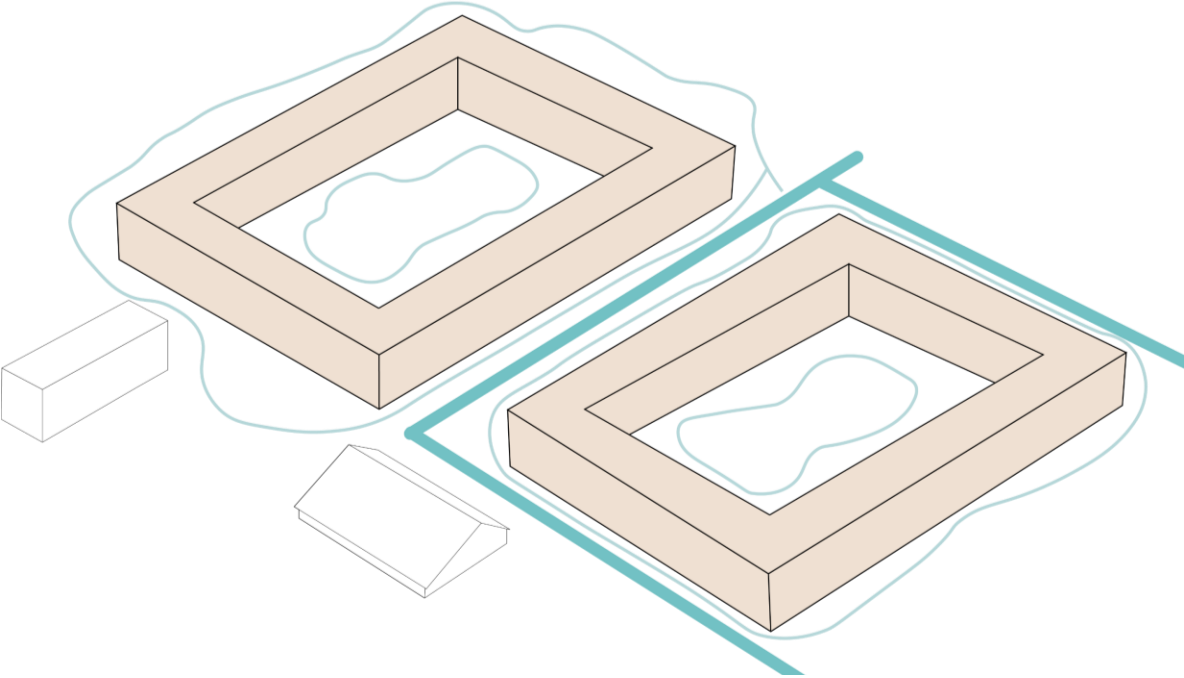


2. Addition of courtyards

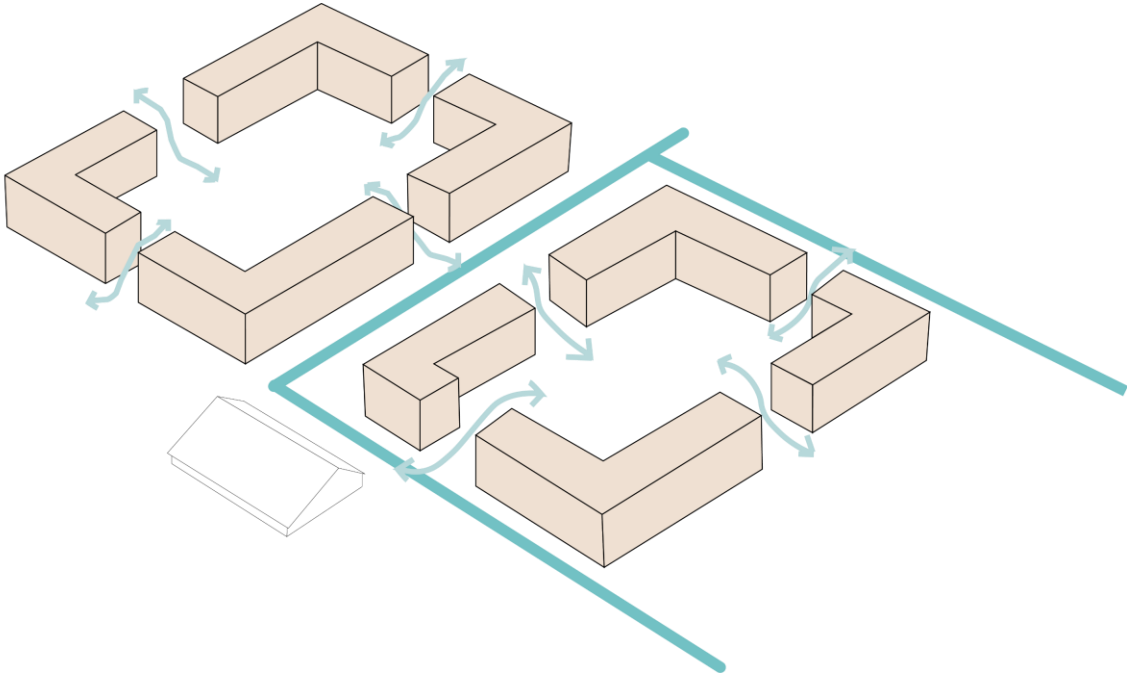




# DESIGN SITE | Urban shapes



3. Addition of routing within and around the courtyards

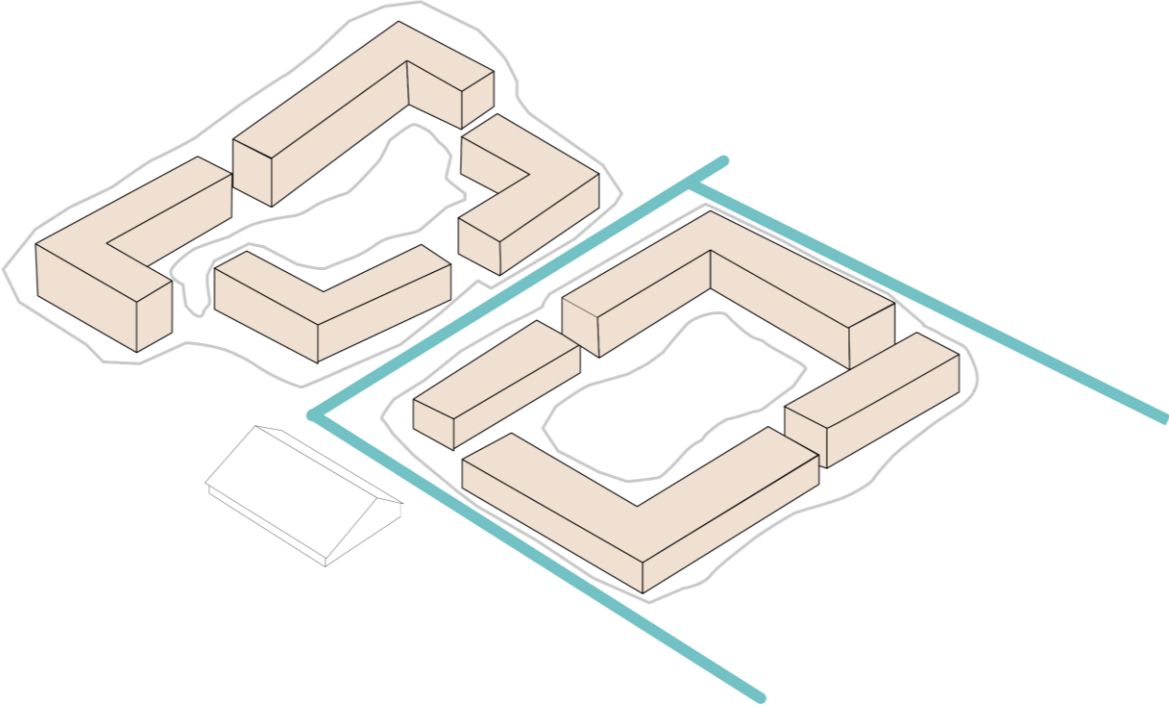


4. Opening the courtyards for better accessibility



DEMENTIA FRIENDLY ENVIRONMENT

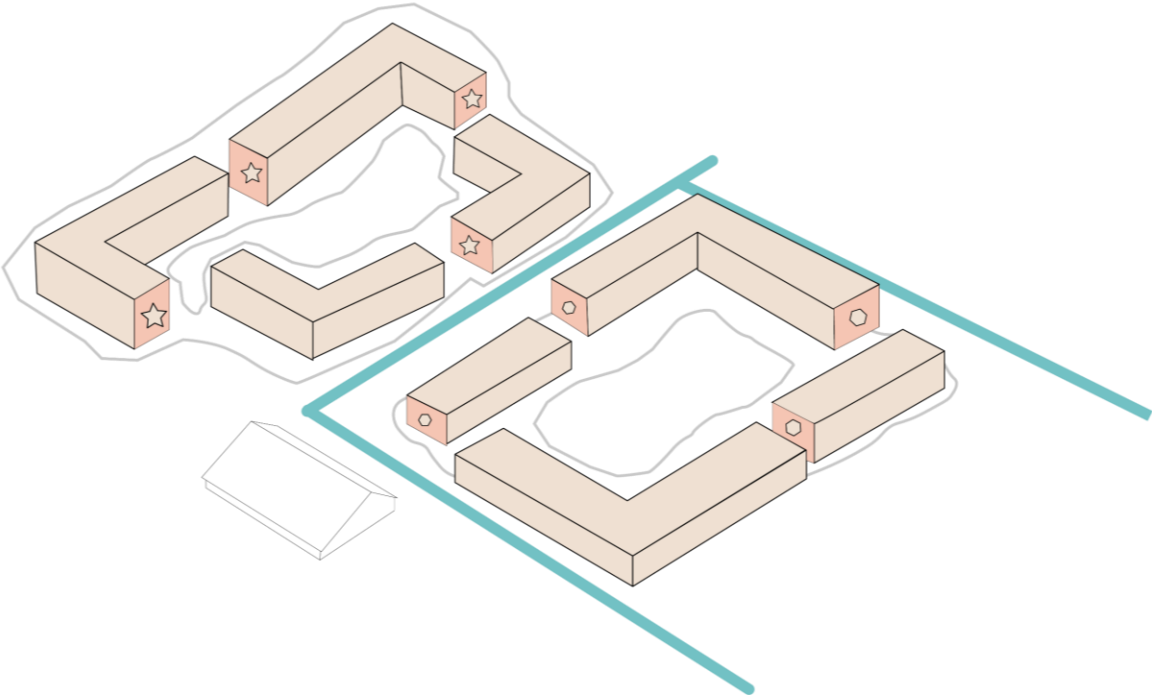
# DESIGN SITE | Urban shapes



5. Slightly tilting building blocks for better view on nature



STRONG LINK WITH NATURE ON ALL SCALES

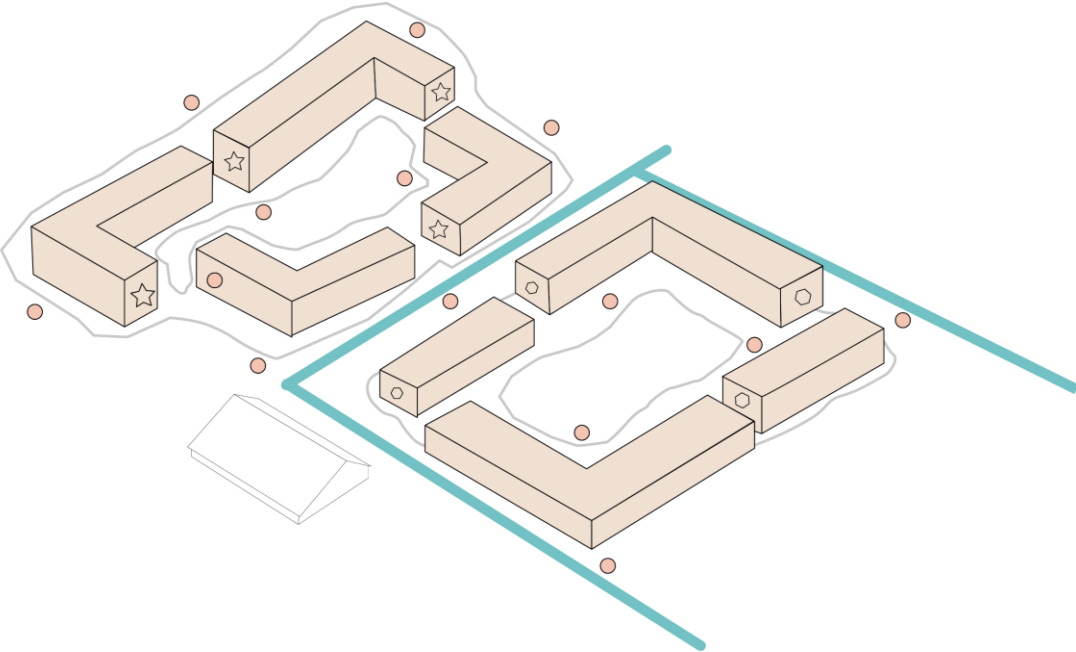


6. Addition of mosaics on blind facades as landmarks

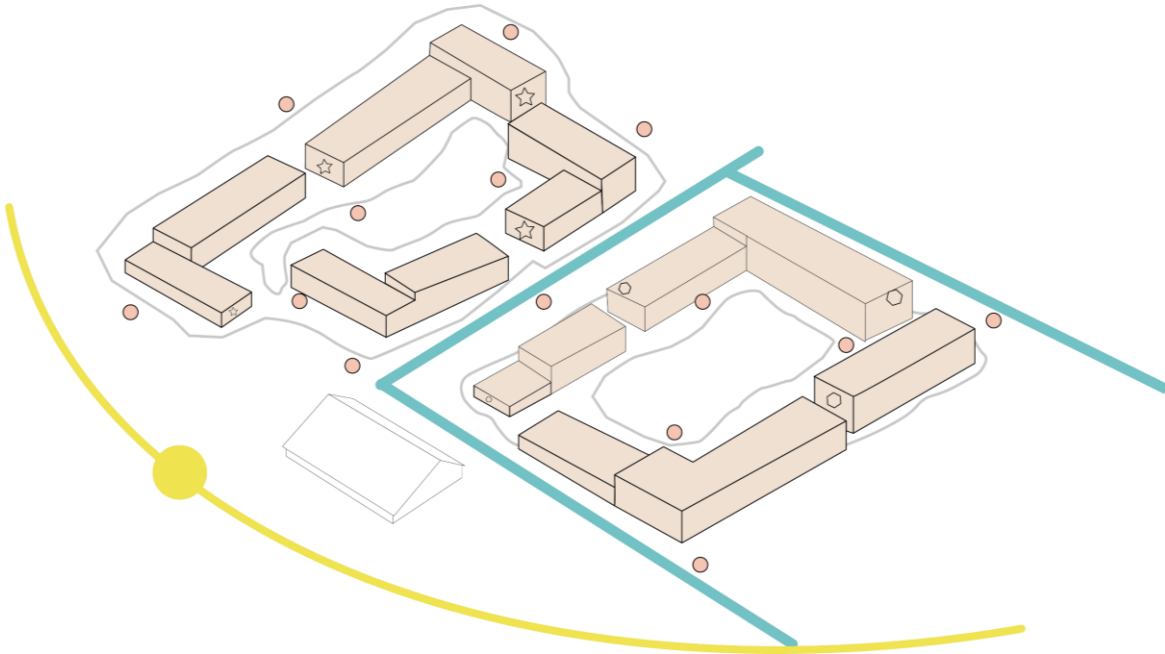


DEMENTIA FRIENDLY ENVIRONMENT

# DESIGN SITE | Urban shapes



7. Addition of benches and public toilets along routes

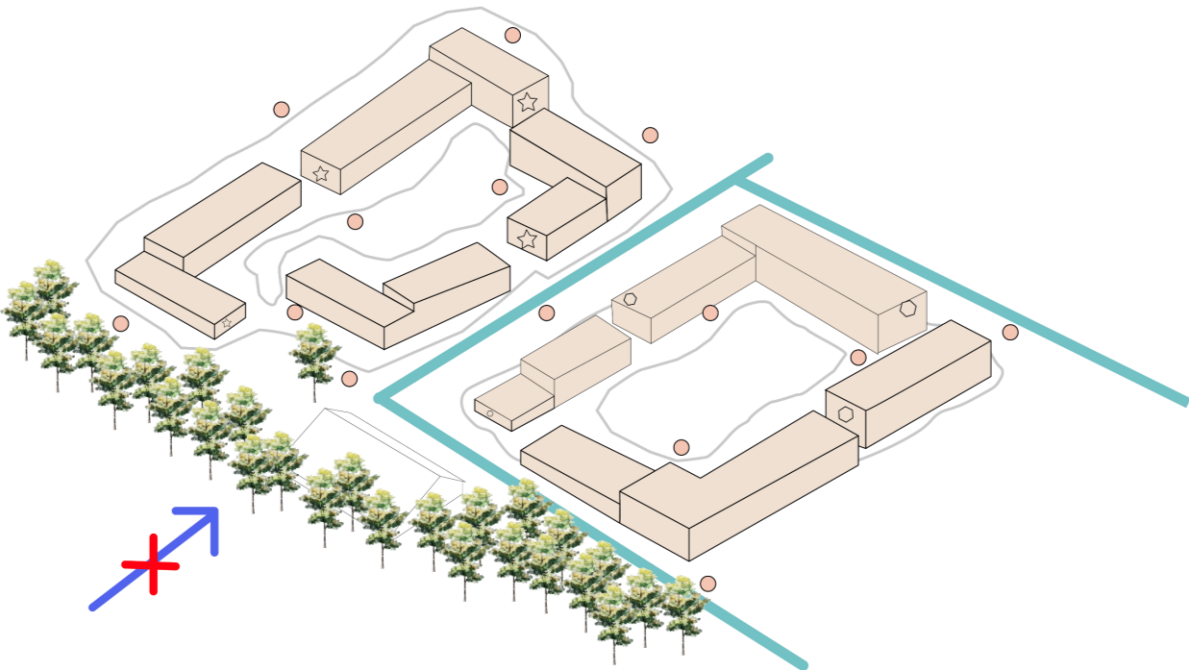


8. Modifying building blocks according to sunpath

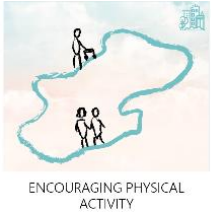


DEMENTIA FRIENDLY ENVIRONMENT

# DESIGN SITE | Urban shapes



9. Addition of nature on South-West side to block predominant wind direction



10. Addition of slanted roofs for more 'home like' and small-scale environment



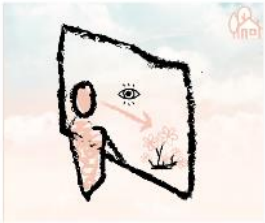
# DESIGN SITE | Urban shapes



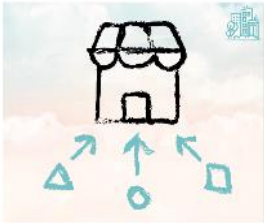
DEMENTIA FRIENDLY ENVIRONMENT



ENCOURAGING PHYSICAL ACTIVITY



STRONG LINK WITH NATURE ON ALL SCALES



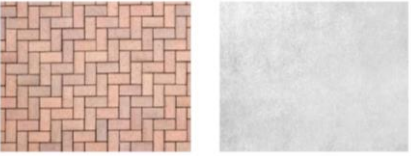
ENCOURAGING SOCIAL CONTACT BETWEEN

Design site- Urban planning | 1 : 500

# DESIGN SITE | Main roads



Design site- Urban planning | 1 : 500

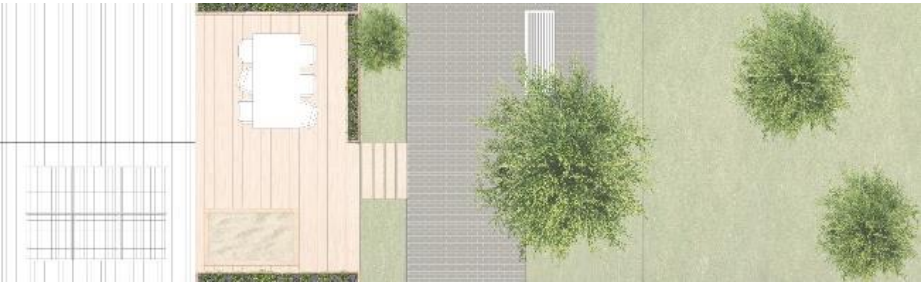


Street  
Street profile – Main road | 1 : 50

# DESIGN SITE | Secondary roads



Design site- Urban planning | 1 : 500



Street profile - Secondary road | 1 : 50

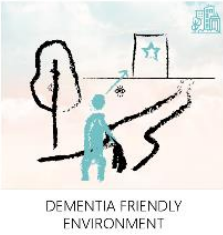
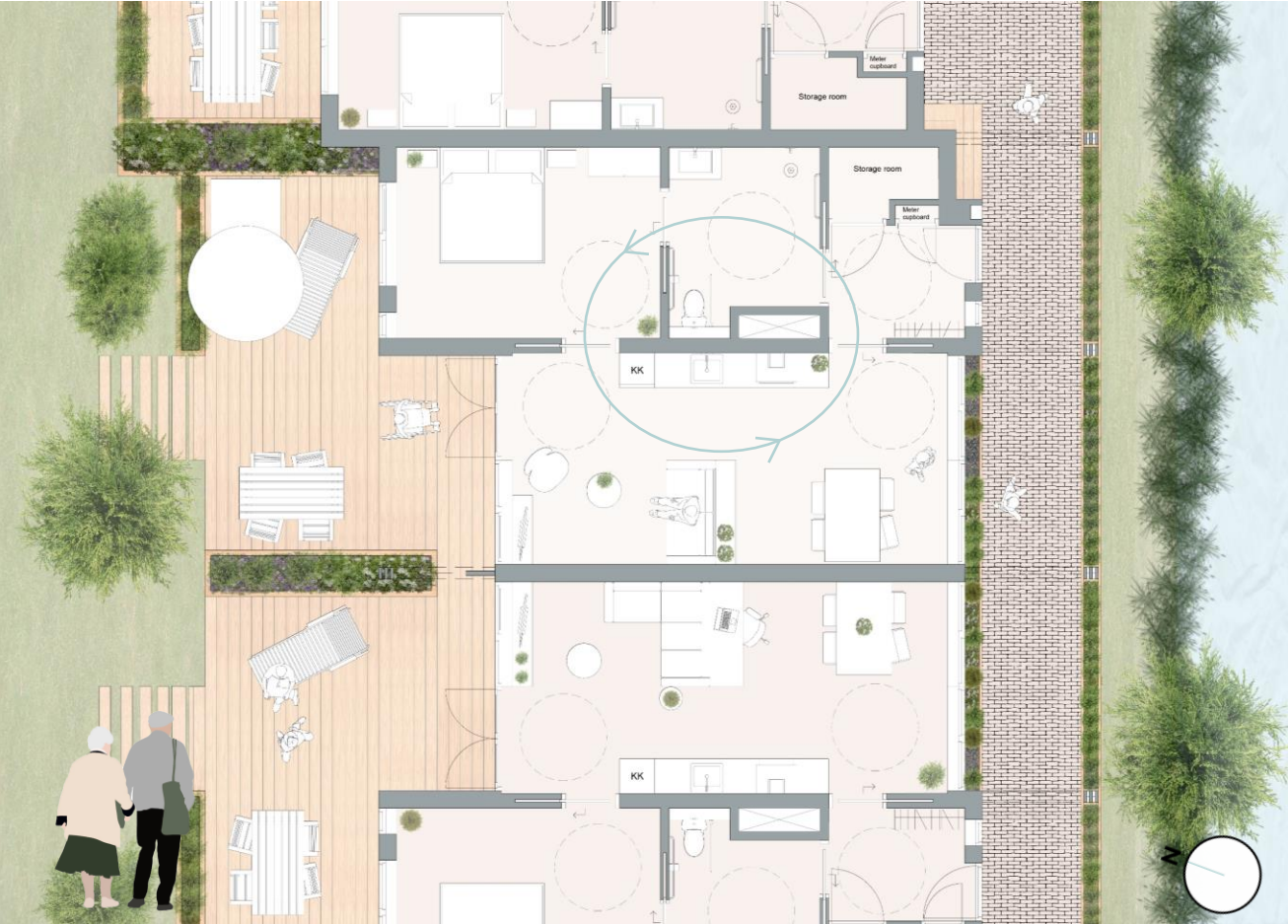
# DESIGN SITE | Residential care dwellings



Typical residential care apartment- Ground floor | 1 : 50



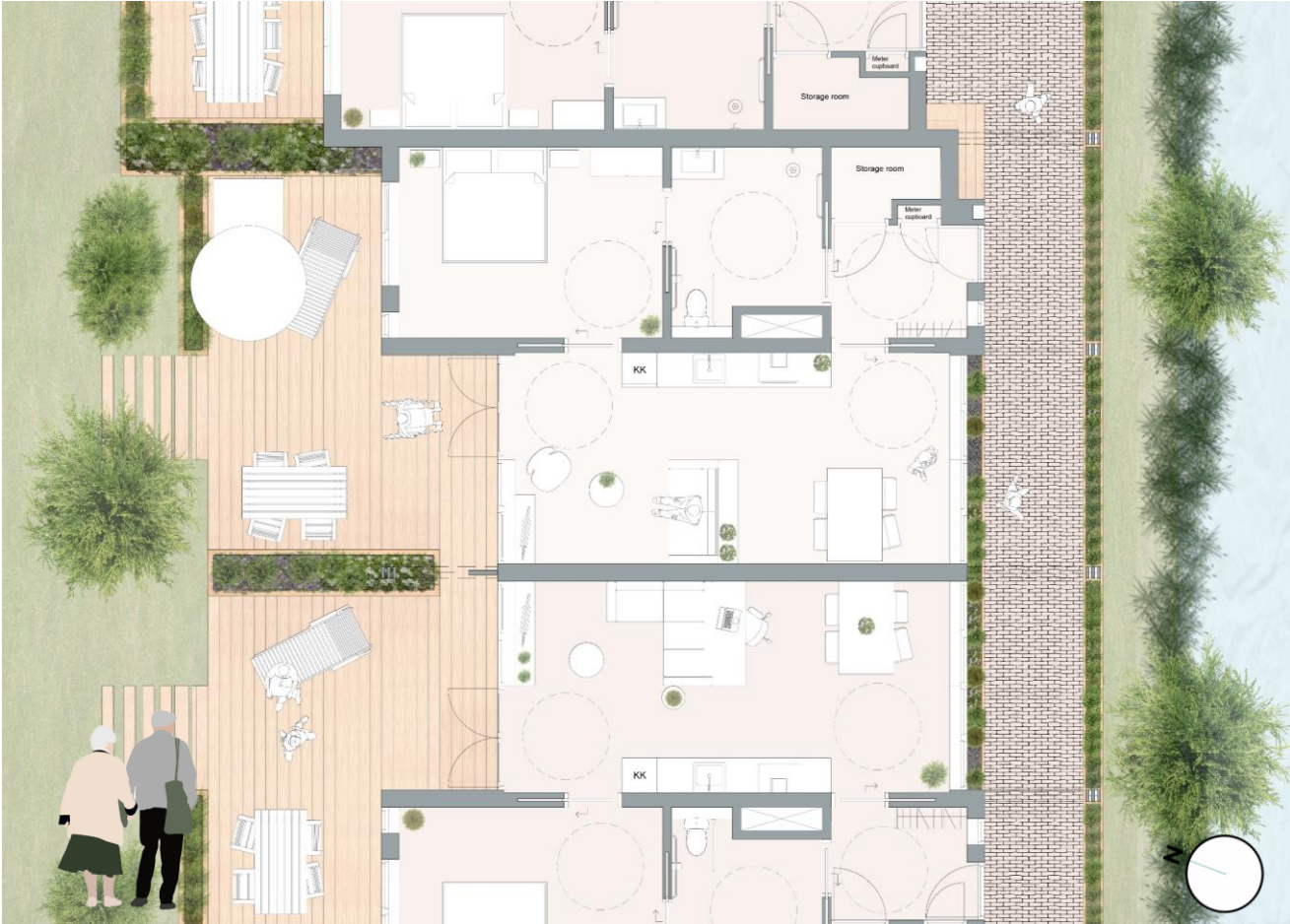
# DESIGN SITE | Residential care dwellings



Typical residential care apartment- Ground floor | 1 : 50

Climate scheme- Residential care apartment | 1 : 50

# DESIGN SITE | Residential care dwellings



DEMENTIA FRIENDLY ENVIRONMENT



ENCOURAGING PHYSICAL ACTIVITY

Typical residential care apartment- Ground floor | 1 : 50

# DESIGN SITE | Residential care dwellings



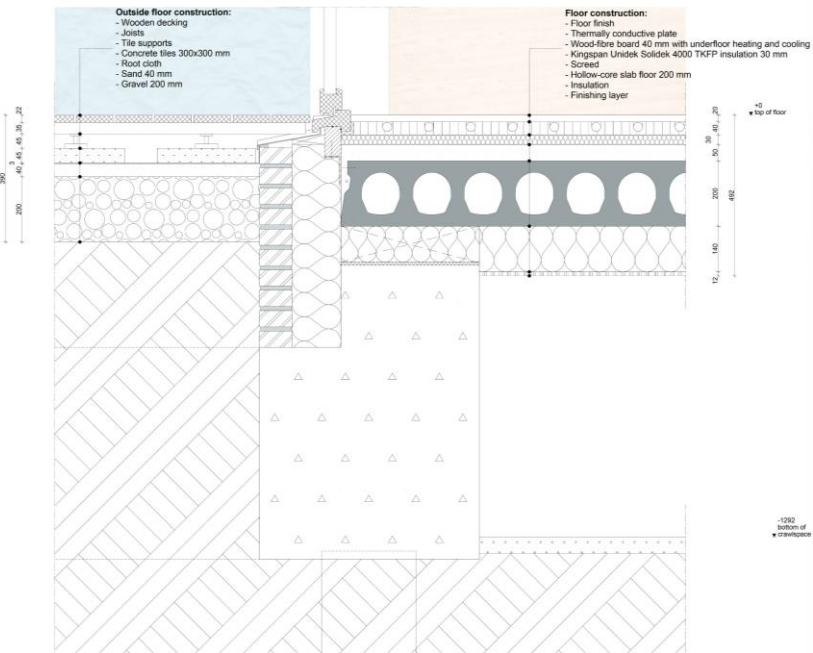
Typical residential care apartment- Ground floor | 1 : 50



DEMENTIA FRIENDLY ENVIRONMENT

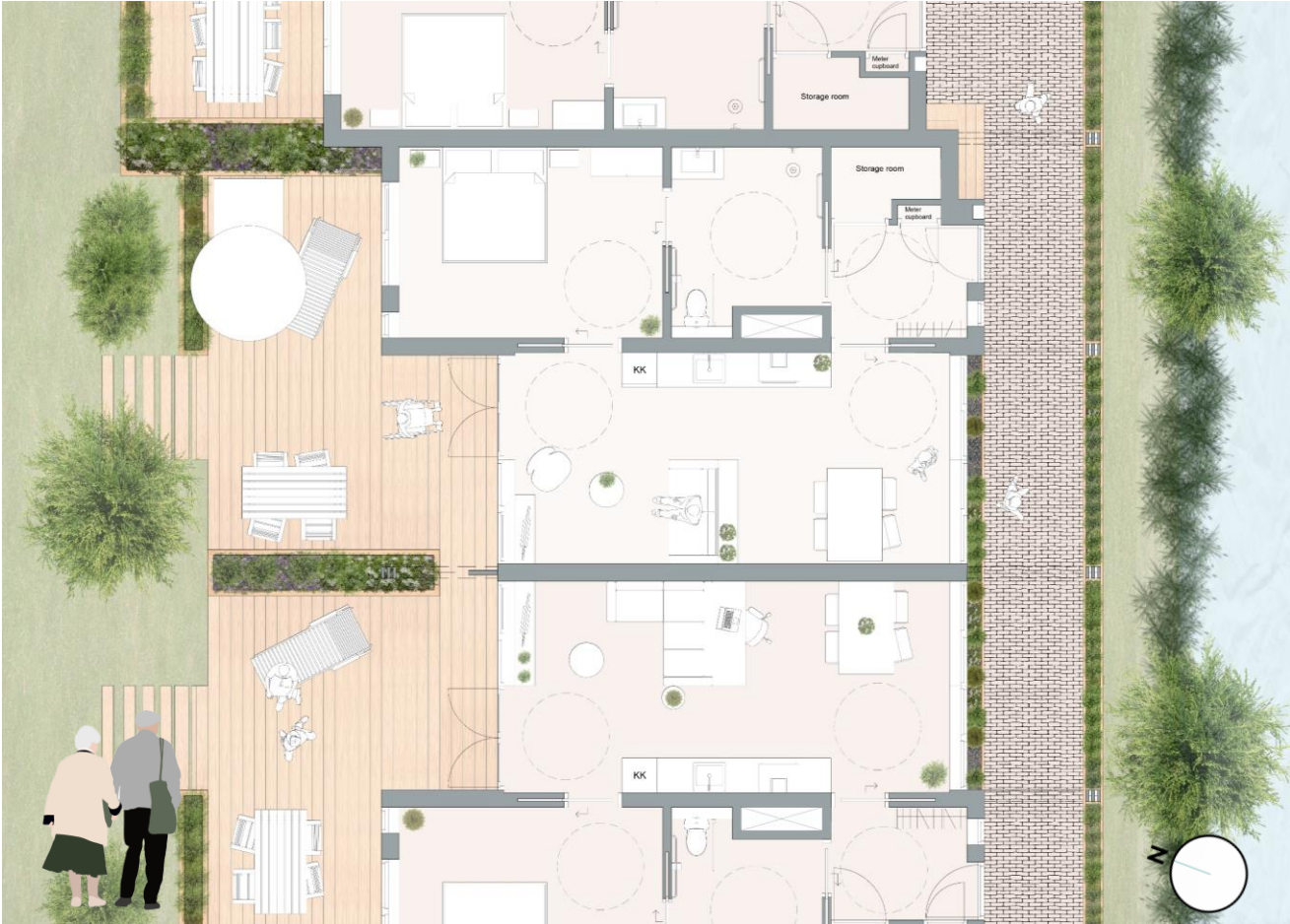


ENCOURAGING PHYSICAL ACTIVITY



Foundation detail- Residential care apartment | 1 : 20

# DESIGN SITE | Residential care dwellings



DEMENTIA FRIENDLY ENVIRONMENT



ENCOURAGING PHYSICAL ACTIVITY



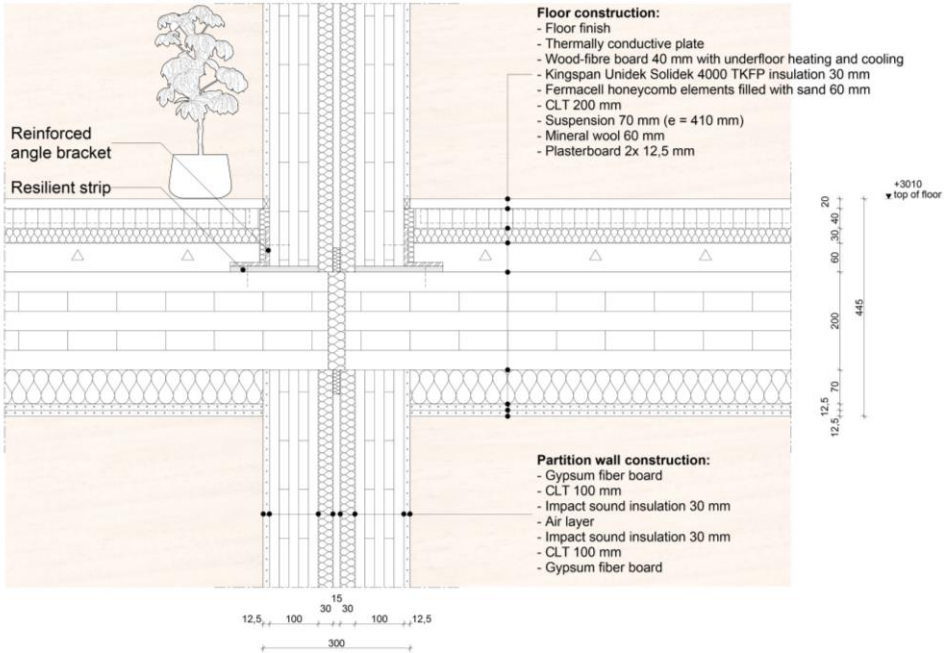
STRONG LINK WITH NATURE ON ALL SCALES

Typical residential care apartment- Ground floor | 1 : 50

# DESIGN SITE | Residential care dwellings

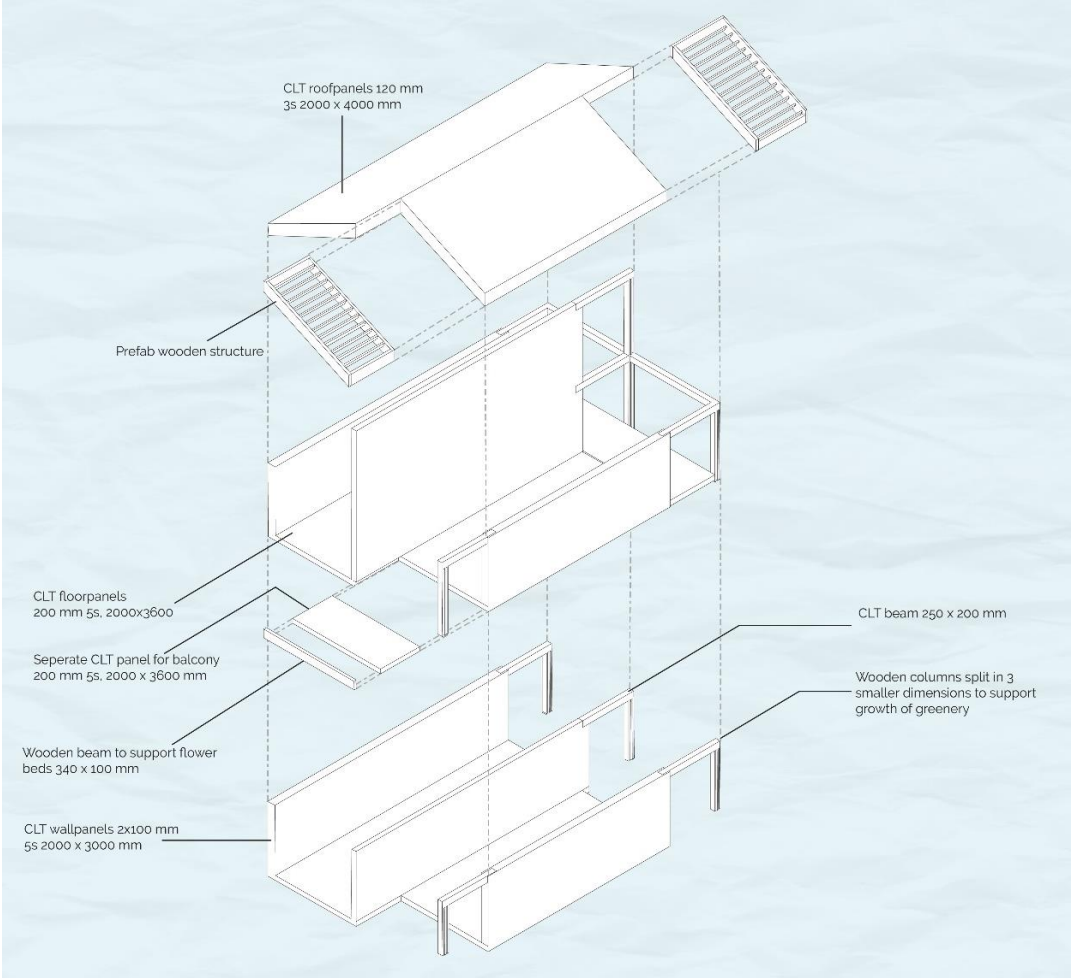


Typical residential care apartment- Ground floor | 1 : 50

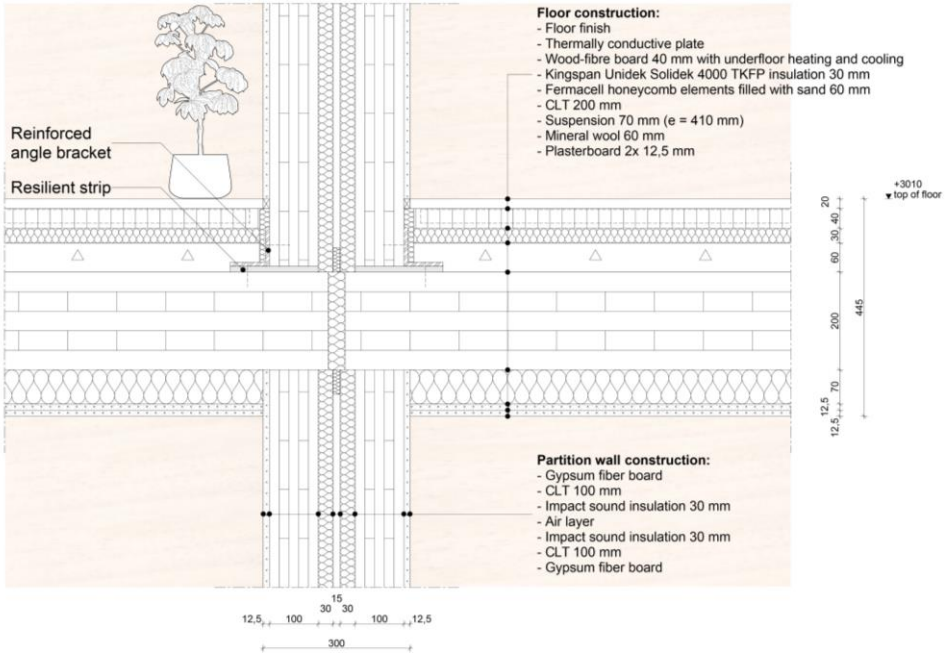


Separation wall detail- Residential care apartment | 1 : 20

# DESIGN SITE | Residential care dwellings

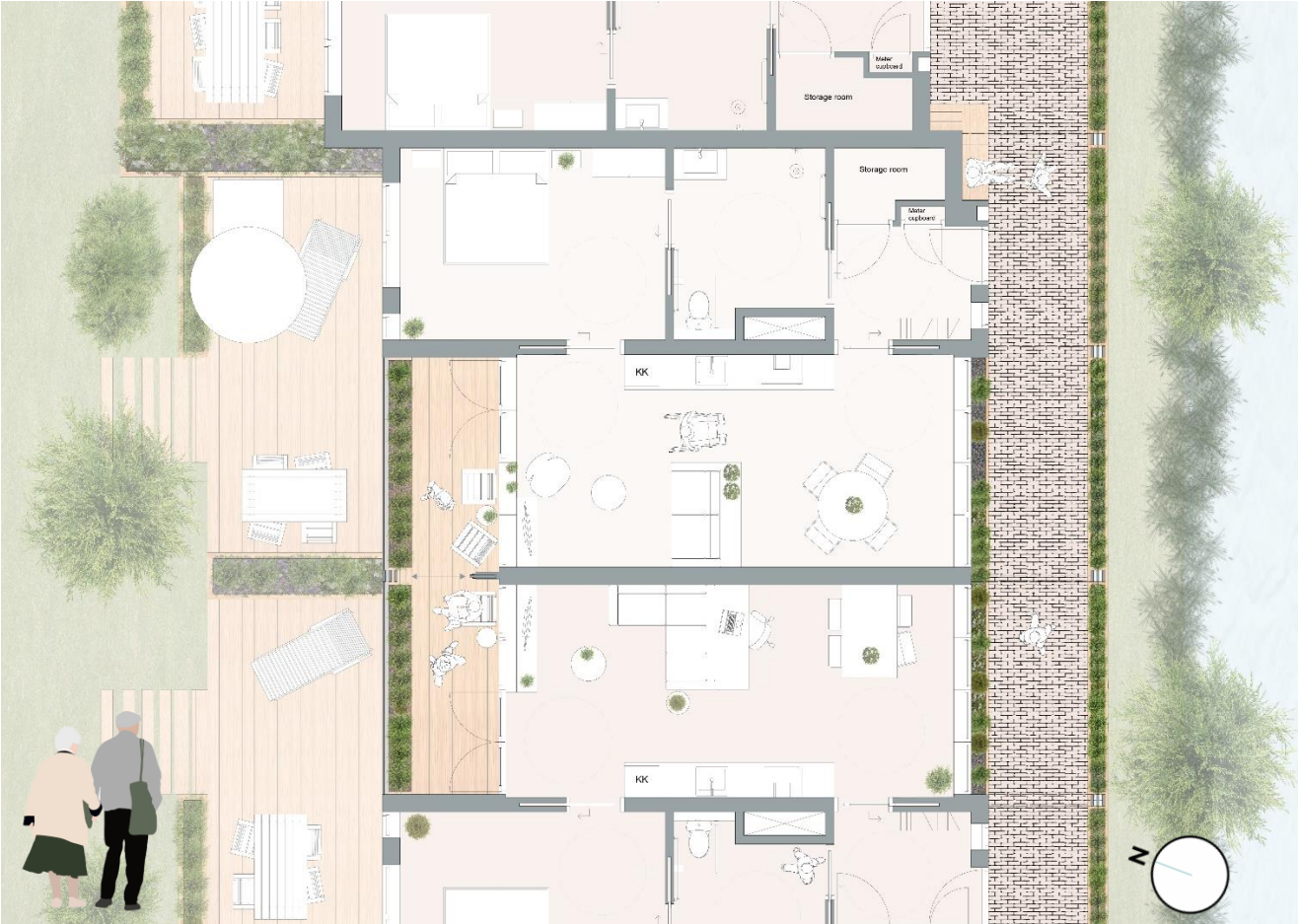


Wooden construction – Residential care apartment



Separation wall detail– Residential care apartment | 1 : 20

# DESIGN SITE | Residential care dwellings



DEMENTIA FRIENDLY ENVIRONMENT



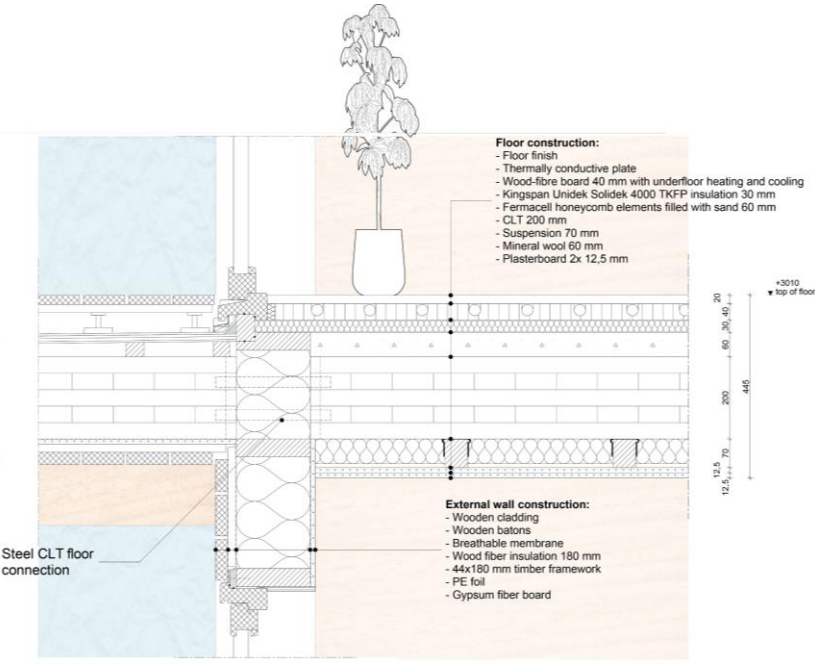
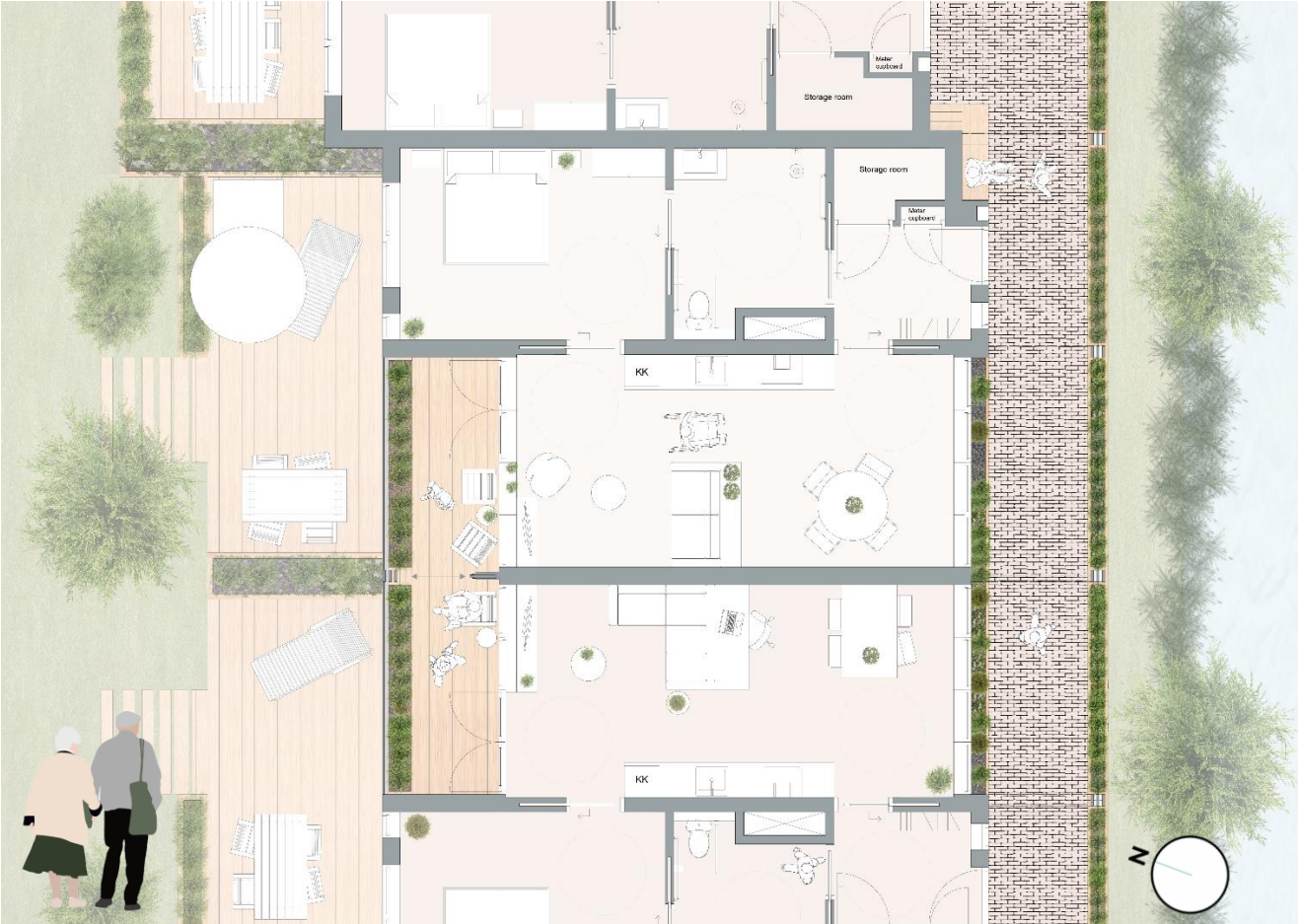
ENCOURAGING PHYSICAL ACTIVITY



STRONG LINK WITH NATURE ON ALL SCALES

Typical residential care apartment- First floor | 1 : 50

# DESIGN SITE | Residential care dwellings

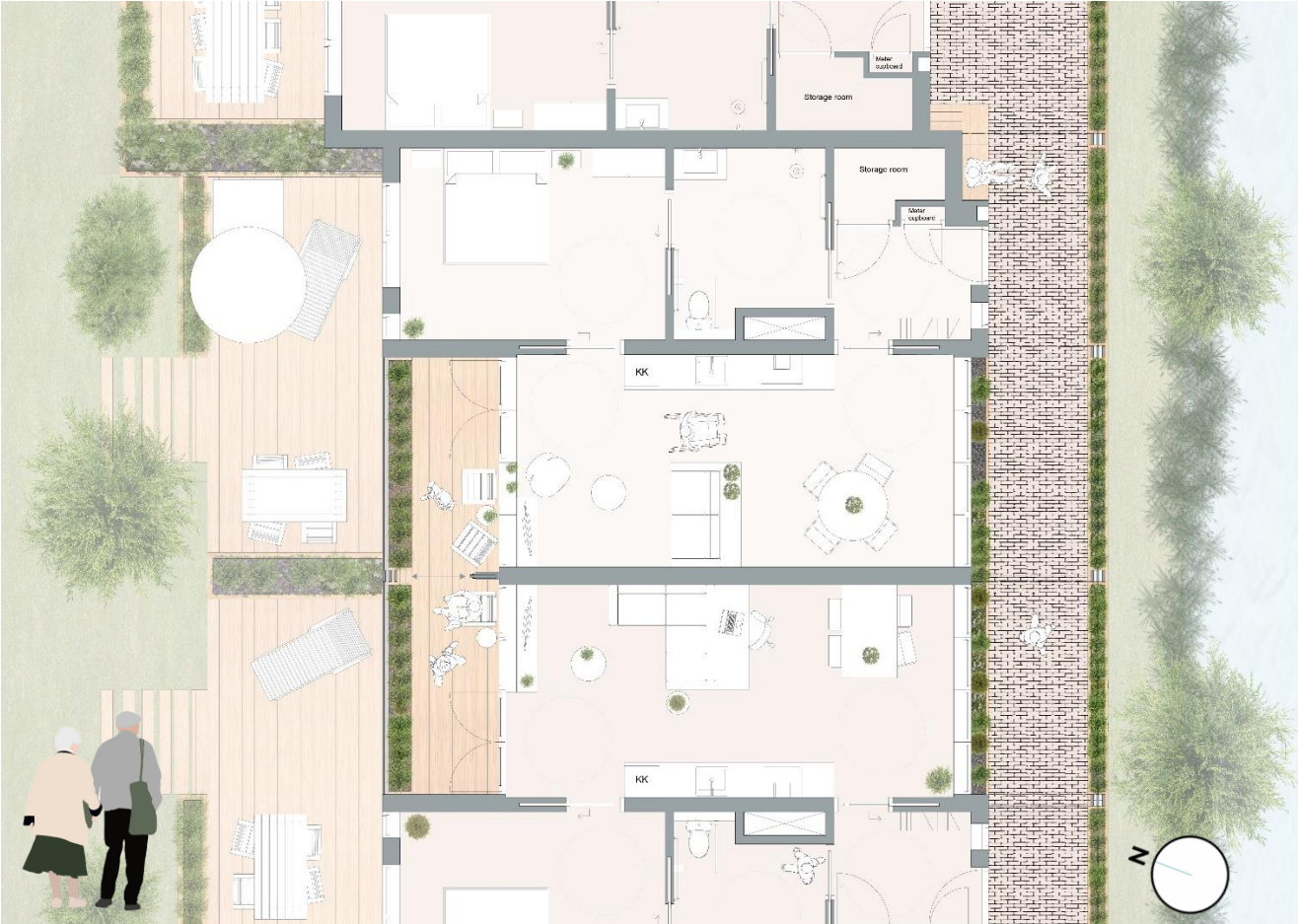


Typical residential care apartment- First floor | 1 : 50

Balcony detail- Residential care apartment | 1 : 20



# DESIGN SITE | Residential care dwellings



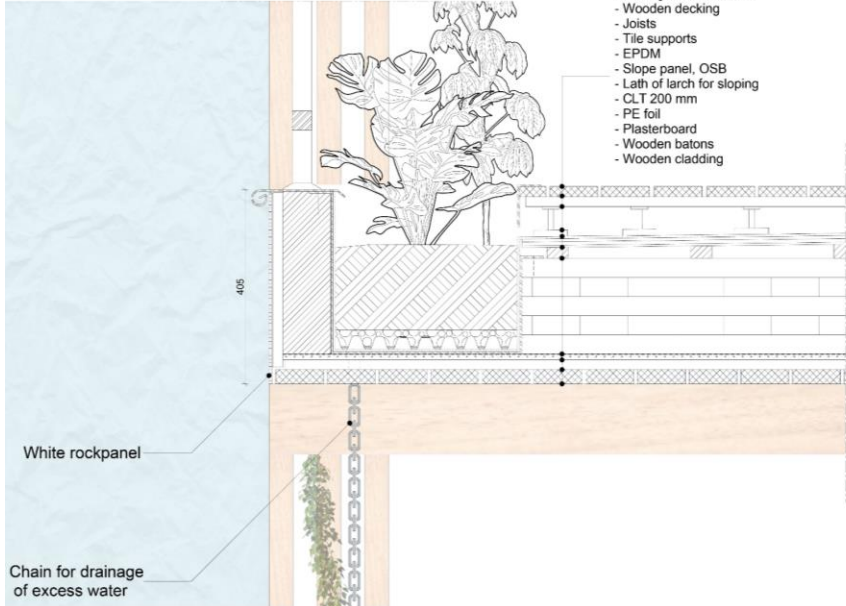
DEMENTIA FRIENDLY ENVIRONMENT



ENCOURAGING PHYSICAL ACTIVITY



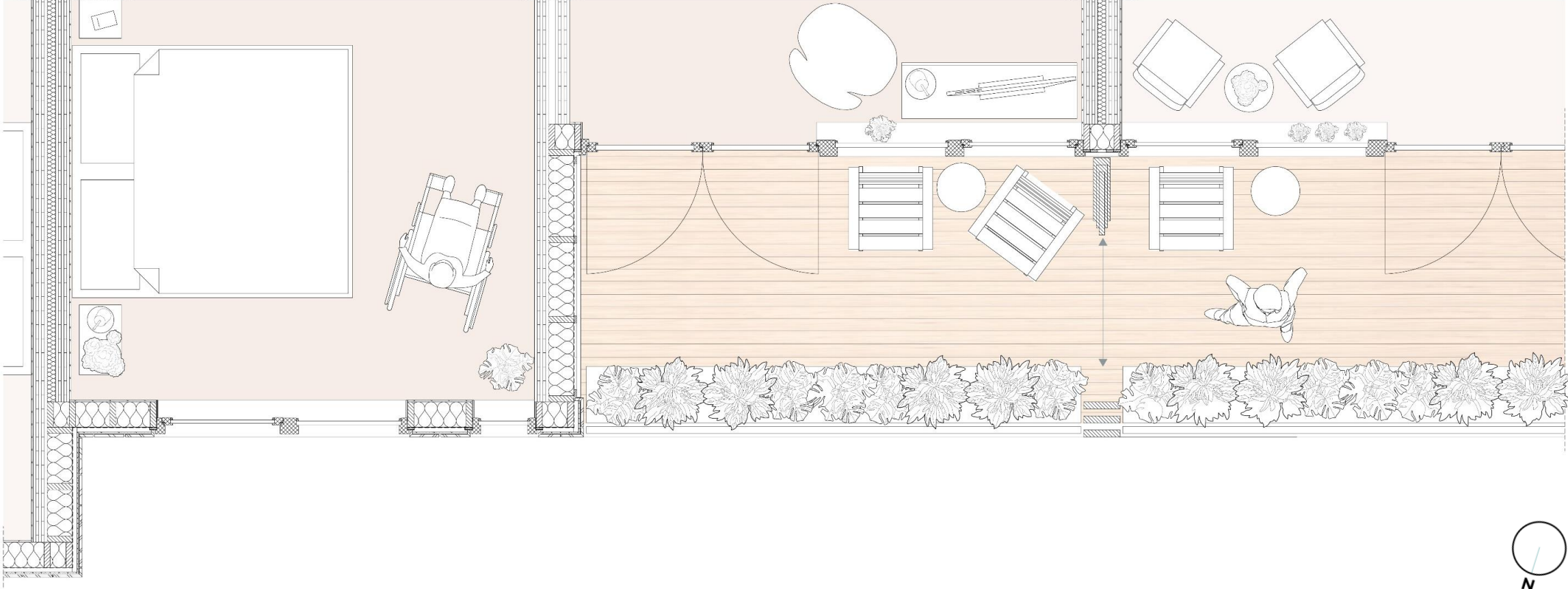
STRONG LINK WITH NATURE ON ALL SCALES



Typical residential care apartment– First floor | 1 : 50

Balcony detail– Residential care apartment | 1 : 20

# DESIGN SITE | Residential care dwellings

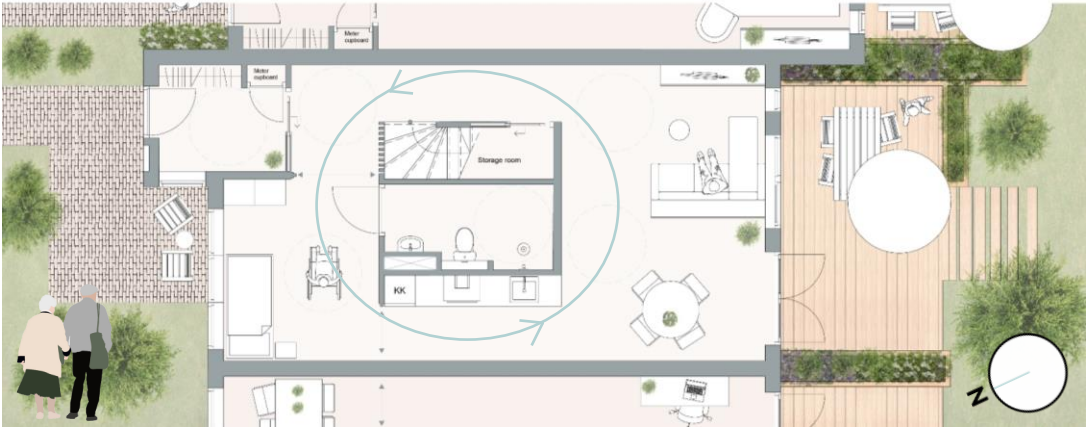


Horizontal section- First floor | 1 : 20

# DESIGN SITE | Rowhouses



Typical rowhouse – Ground floor | 1 : 50



Typical rowhouse – Ground floor | 1 : 50



DEMENTIA FRIENDLY ENVIRONMENT



ENCOURAGING PHYSICAL ACTIVITY

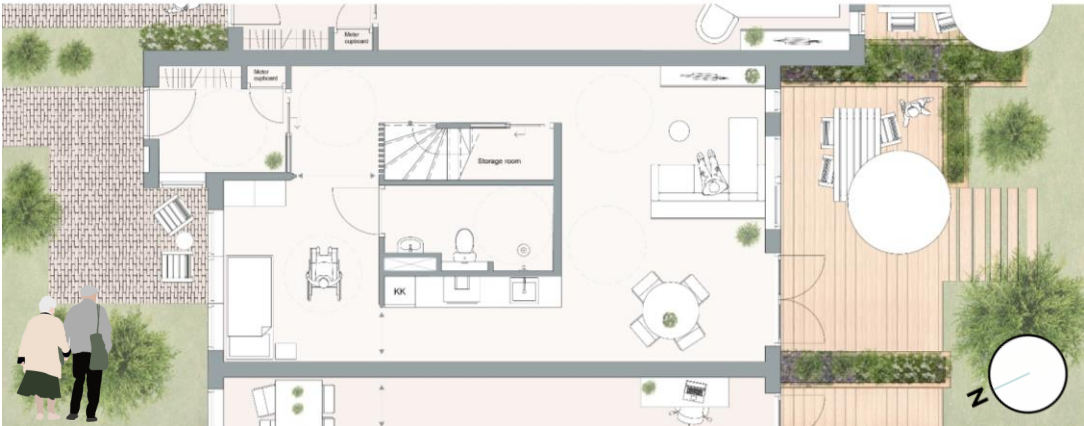


STRONG LINK WITH NATURE ON ALL SCALES

# DESIGN SITE | Rowhouses



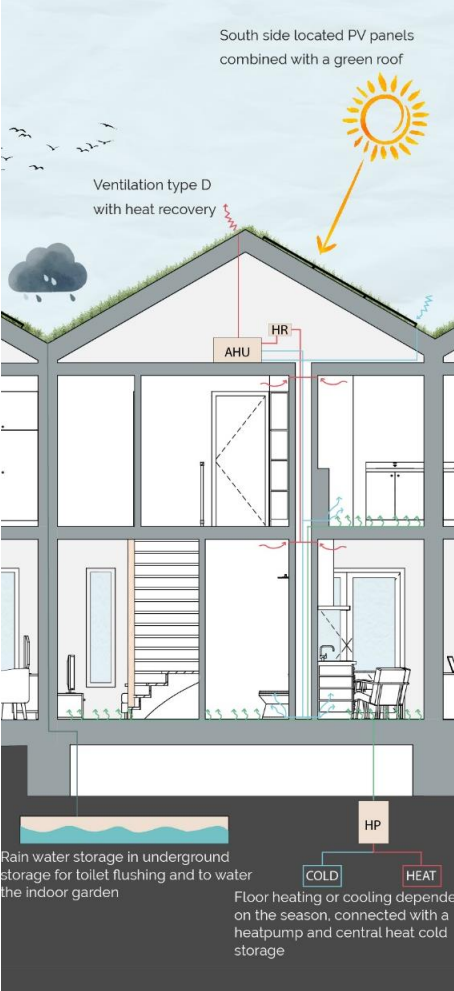
Typical rowhouse – Ground floor | 1 : 50



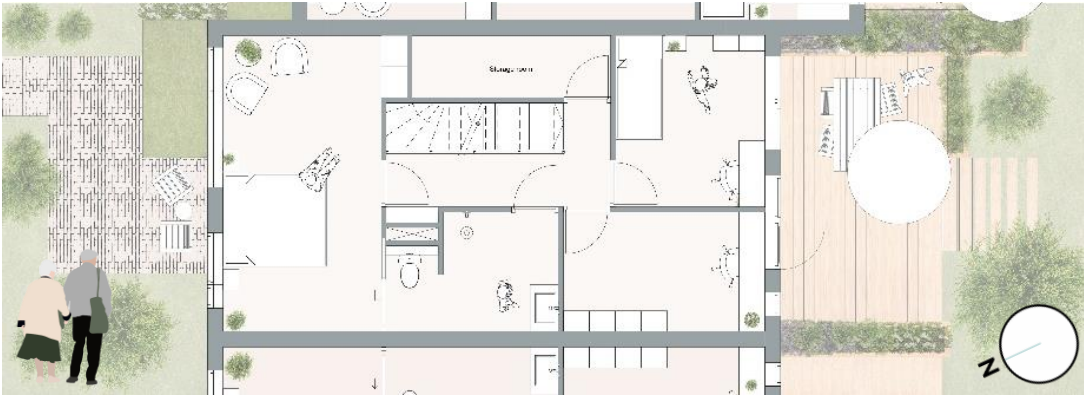
Typical rowhouse – Ground floor | 1 : 50



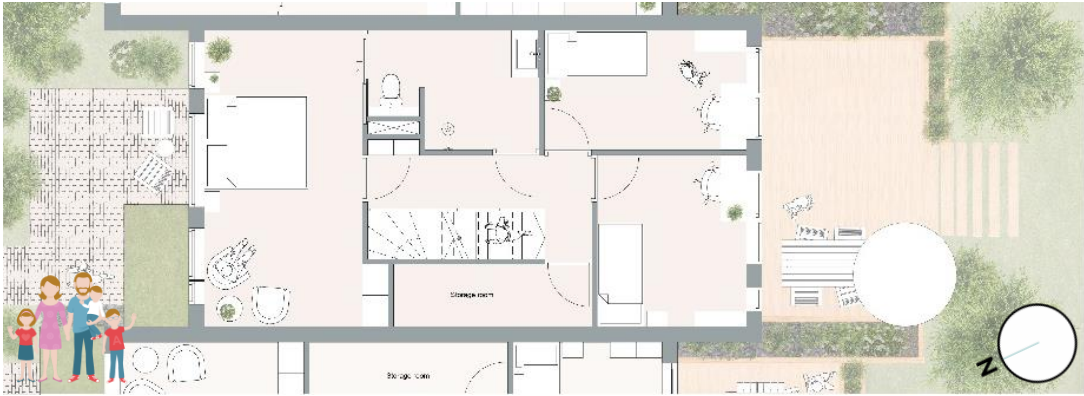
DEMENTIA FRIENDLY ENVIRONMENT



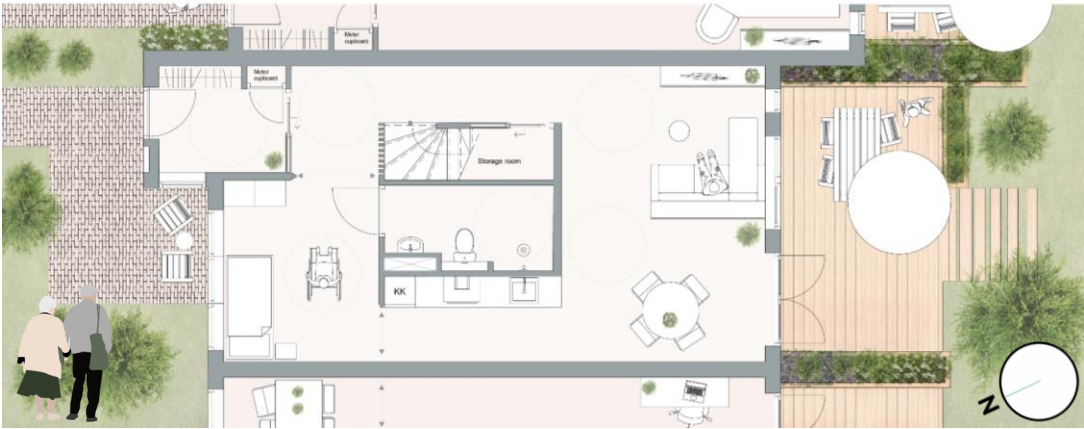
# DESIGN SITE | Rowhouses



Typical rowhouse – First floor | 1:50



Typical rowhouse – First floor | 1:50



Typical rowhouse – Ground floor | 1:50



Typical rowhouse – Ground floor | 1:50

# DESIGN SITE | Rowhouses



Residential care complex – Long section | 1 : 50



Typical rowhouse – Long section | 1 : 50

# DESIGN SITE | Residential care dwellings



Façade fragment and vertical section | 1 : 20



Original image: Jansen, R. (2020, March 15). 'Geen bezoek vanwege corona maakt ouderen eenzaam' - TVV | Photo1. TVV. <https://www.tvvtotaal.nl/geen-bezoek-vanwege-corona-maakt-ouderen-eezaam/>







Thank you for your attention

