UPSCALING DEMENTIA ARCHITECTURE

BUGRA ATCIYURT 5248035 | 04-07-2023





PROBLEM STATEMENT







GROWING PROBLEM

amount of people with dementia will be doubled in 2040

NO NEW NURSING HOMES

people with dementia have to live longer at home

IMPROPER HOUSEHOLD

homes and neighborhoods are often not suited for requirements

BUGRA ATCIYURT | 5248035 | 31-01-2023 | DESIGNING FOR HEALTH & CARE



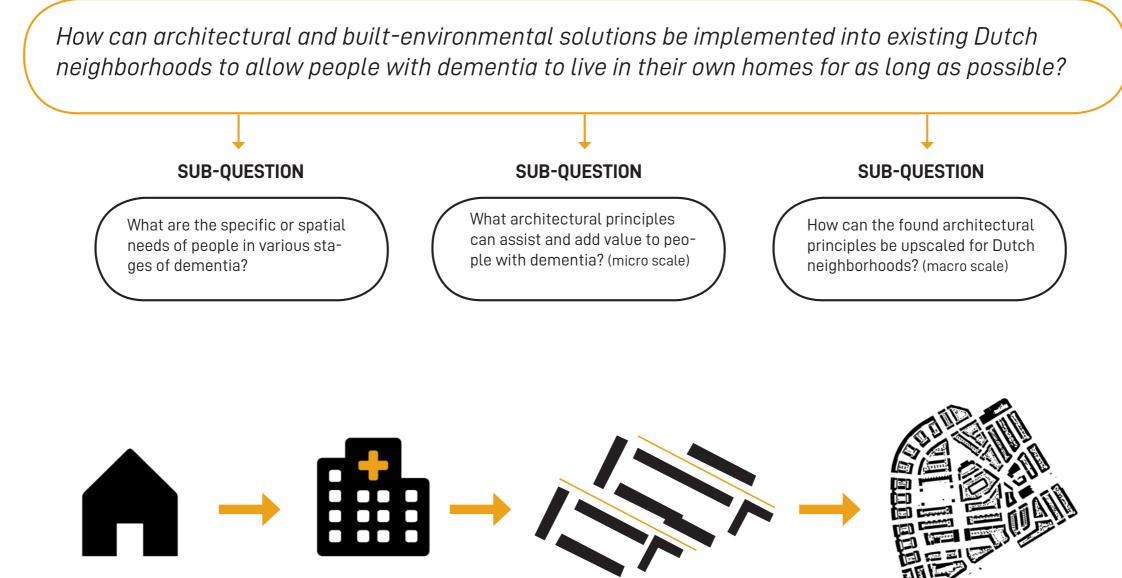
SOLUTIONS LIMITED

current solutions are either too small scaled or expensive

THERE IS A BIG PROBLEM, WHERE ARE THE SOLUTIONS?



RESEARCH QUESTION



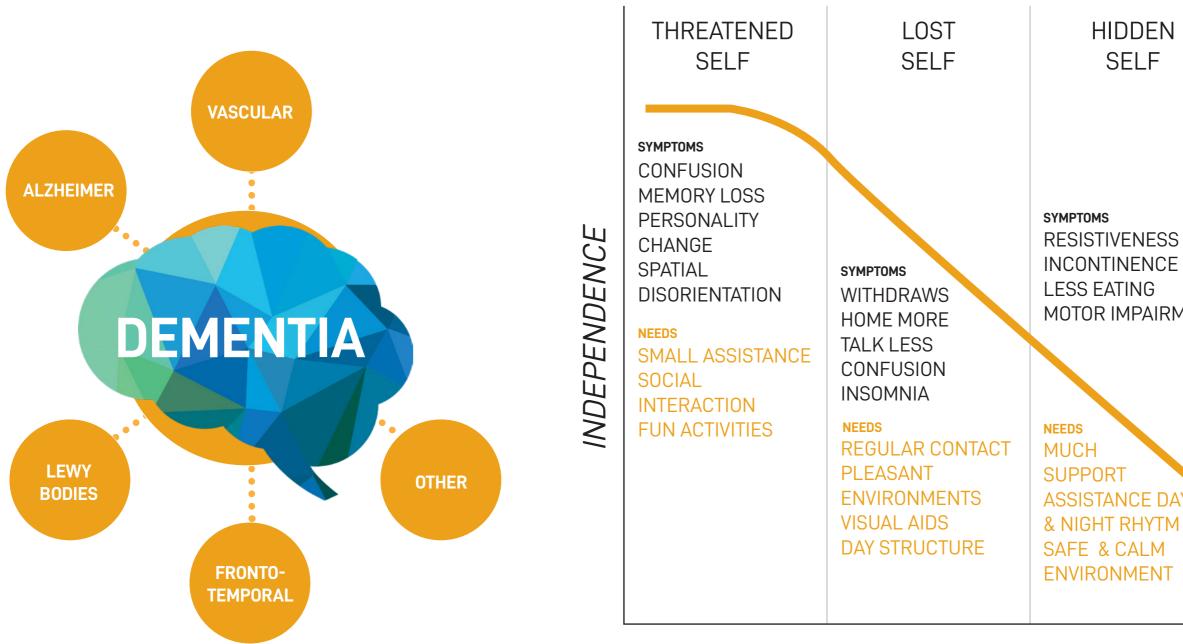


NEIGHBORHOOD





DEMENTIA



TIME

HIDDEN SELF

MOTOR IMPAIRMENT

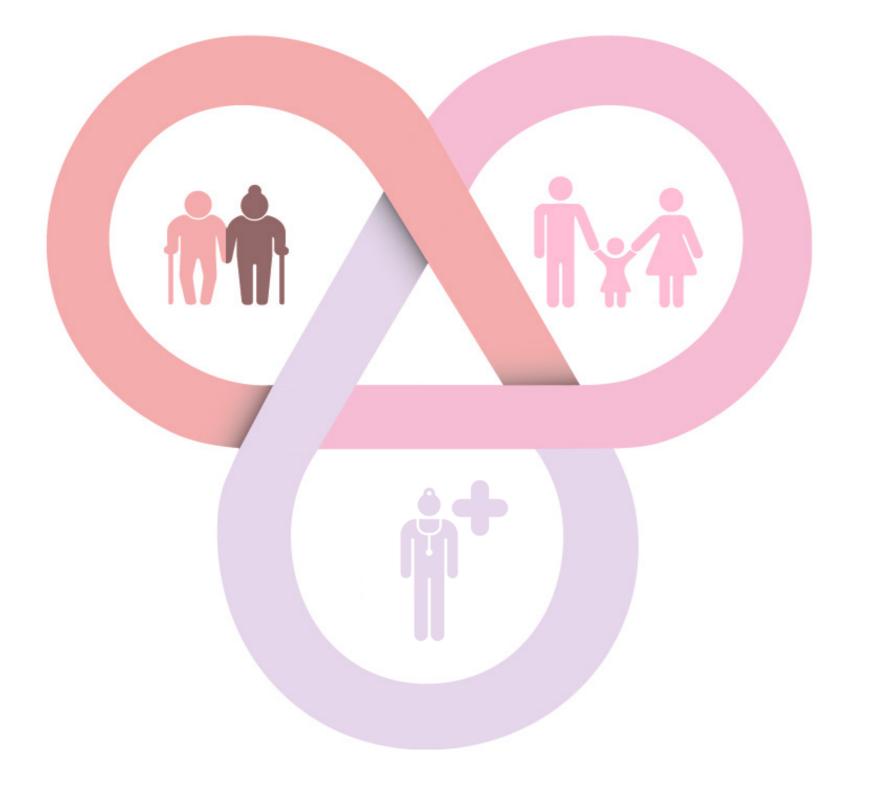
ASSISTANCE DAY

SUNKEN SELF

SYMPTOMS BEDRIDDEN MUTE **INFECTIONS** ANXIOUS INCONTINENCE

NEEDS TOTAL DEPENDANCE WHEELCHAIR **BED HOIST** SAFE & CALM **ENVIRONMENT FRESH AIR**

TARGET GROUP



• ELDERLY • FORMAL

DEMENTIA • INFORMAL CAREGIVERS CAREGIVERS

WISHES & NEEDS **Dementia & Caregivers**





INFORMAL CAREGIVERS

NEEDS

Assistance Social interaction Tailored activities Clear day rhytm Pleasant environments Visual aids

More personal time Social interaction Formal care at home Information about dementia Help from Case Manager

Efficiency in care Clear overview on patients Fast access to facilities Retreat for themselves Training for dementia

SOLUTION

WIJKZORG (IN)FORMAL CAREGIVER **INFO CENTER** DAYCARE

WIJKZORG + CASE MANAGER FORMAL CAREGIVER HELP **INFO CENTER** DAYCARE

NEARBY FACILITIES IN

NEIGHBORHOOD INFO CENTER NURSING STATIONS





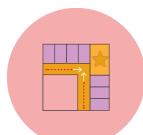


DEMENTIA FRIENDLY PRINCIPLES

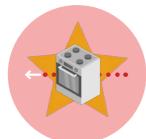
Micro-scale



DISTINCTIVE PERSONAL ELEMENTS



SPECIAL PLACES ON THE CORNERS IN BUILDING

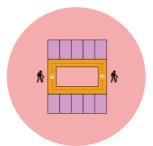


UTILIZE KITCHEN OR DINING ROOM AS REFERENCE POINT

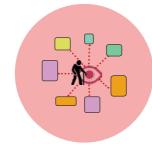


FREELY ACCESSIBLE INTERNAL AREAS WITH STRONG DAYLIGHT





CIRCULAR ROUTES AND NO DEAD ENDS



CLEAR VISUAL ACCESS ON ROOMS AND TOILETS



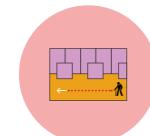
PERSONAL (OWN) FURNITURE



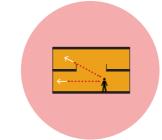
SUNSHADING OR CANOPY AGAINST LOW-ELEVATION SUN



UTILIZE RECOGNIZABLE & HOMELY DESIGN



RHYTMIC NICHES IN CORRIDORS FOR MORE STIMULI



SMALL SCALE BUILDING FOR OVERVIEW AND EASY NAVIGATION



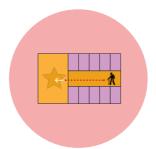
MIRRORED SURFACES MAY CONFUSE PERSON



UNIFORM LIGHTING TO AVOID LUMINANCE DIFFERENCES



BIOPHILIC DESIGN WITH PLANTS AND GREEN WALLS



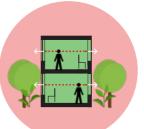
DESTINATION ON THE END OF THE CORRIDOR



DISTINGUISH ROOMS WITH DIFFE-RENT CHARACTERISTICS



WINDOWS WITH PARAPETS TO EMPHASIZE BOUNDARIES



VIEWS OF NATURE + SEATING NEXT TO WINDOWS



DARK COLORS AND PATTERNS PERCEIVED AS OBSTACLE



USE WOOD FOR NATURAL, COZY & FAMILIAR ATMOSPHERE



SCENTS REFER TO FUNCTION LIKE SOAP & BATHROOM



REDUCE AMOUNT OF VISIBLE DOORS IN CORRIDORS



PROVIDE VENTILATION FOR BAD SMELLS AND FRESH AIR



ACOUSTIC INSULATION & LOWER CEILINGS FOR LESS RESONANCE







SOURCE OF SMELL SHOULD BE VISIBLE TO AVOID CONFUSION



TO REDUCE NOISE, ROOMS CAN BE CLOSED OFF



BEDROOMS SHOULDN'T OPEN DIRECTLY INTO DINING ROOM



SCENTS CAN PROMPT PAST MEMORIES



SMALL ROOMS TO RESTRICT AMOUNT OF PEOPLE IN ROOM



MACRO-SCALE PRINCIPLES

Dementia-friendly neighborhood



DISTINCTIVE PERSONAL ELEMENTS



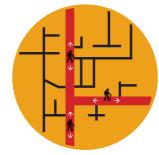
COLORED ROUTES WITH TILES AND SIGNS



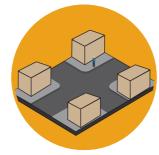
WAYFINDING



WAYFINDING ELEMENTS EVERY 30m



WIDE STREETS AS KEY WALKING ROUTES



CLEAR COLOR CONTRAST BETWEEN BOUNDARIES



RAILINGS AT SIGNS TO LEAN ON AT INTERSECTIONS



CIRCULAR WALKING ROUTES IN NEIGHBORHOOD



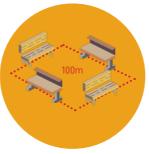
INCLUDE PARKS IN WALKING ROUTES



UTILIZE GREEN BUFFER ZONES FOR MORE SAFETY & LESS NOISE



SIGNS ON WALLS ON EYE LEVEL



BENCHES ON DEMENTIA-FRIENDLY ROUTE EVERY 100m



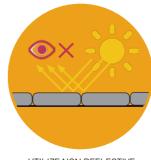
SCENTED TREES, BUSHES AND FLOWERS AS WAYFINDING CUES



UTILIZE SOCIAL PLACES AND PLACES FOR RETREAT.



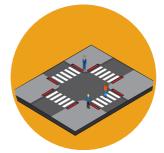
BIOPHILIC DESIGN AND URBAN GREEN CAN REDUCE STRESS



UTILIZE NON REFLECTIVE PAVEMENT



MARK BOUNDARIES



WIDER CROSSWALKS AND SECURE TRANSITIONS



SIGNS OF FACILTIES NEIGHBOR-HOOD CONTAIN NAME AND ICON

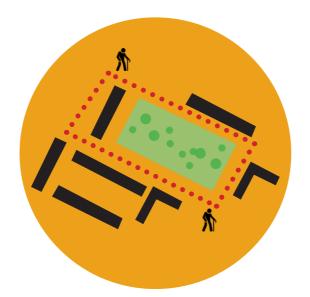


WOODEN STREET FURNITURE WITH GREENERY ON ROUTES

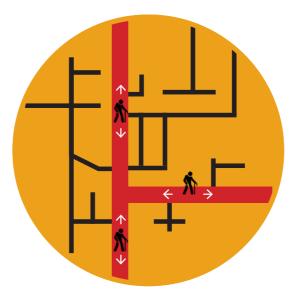
MACRO-SCALE PRINCIPLES Routing



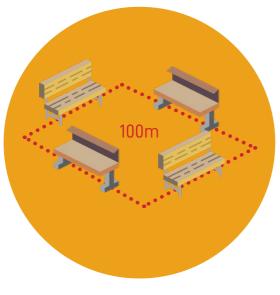
CIRCULAR WALKING ROUTES IN NEIGHBORHOOD



INCLUDE PARKS IN WALKING ROUTES



WIDE STREETS AS KEY WALKING ROUTES



BENCHES ON DEMENTIA-FRIENDLY ROUTE EVERY 100m



WOODEN STREET FURNITURE WITH GREENERY ON ROUTES



UTILIZE SOCIAL PLACES AND PLACES FOR RETREAT.



BIOPHILIC DESIGN AND URBAN GREEN CAN REDUCE STRESS

MACRO-SCALE PRINCIPLES Orientation



DISTINCTIVE PERSONAL ELEMENTS



WAYFINDING ELEMENTS EVERY 30m



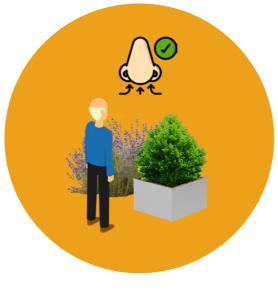
RAILINGS AT SIGNS TO LEAN ON AT INTERSECTIONS



COLORED ROUTES WITH TILES AND SIGNS



LAMPPOST VARIATIONS FOR WAYFINDING



SCENTED TREES, BUSHES AND FLOWERS AS WAYFINDING CUES

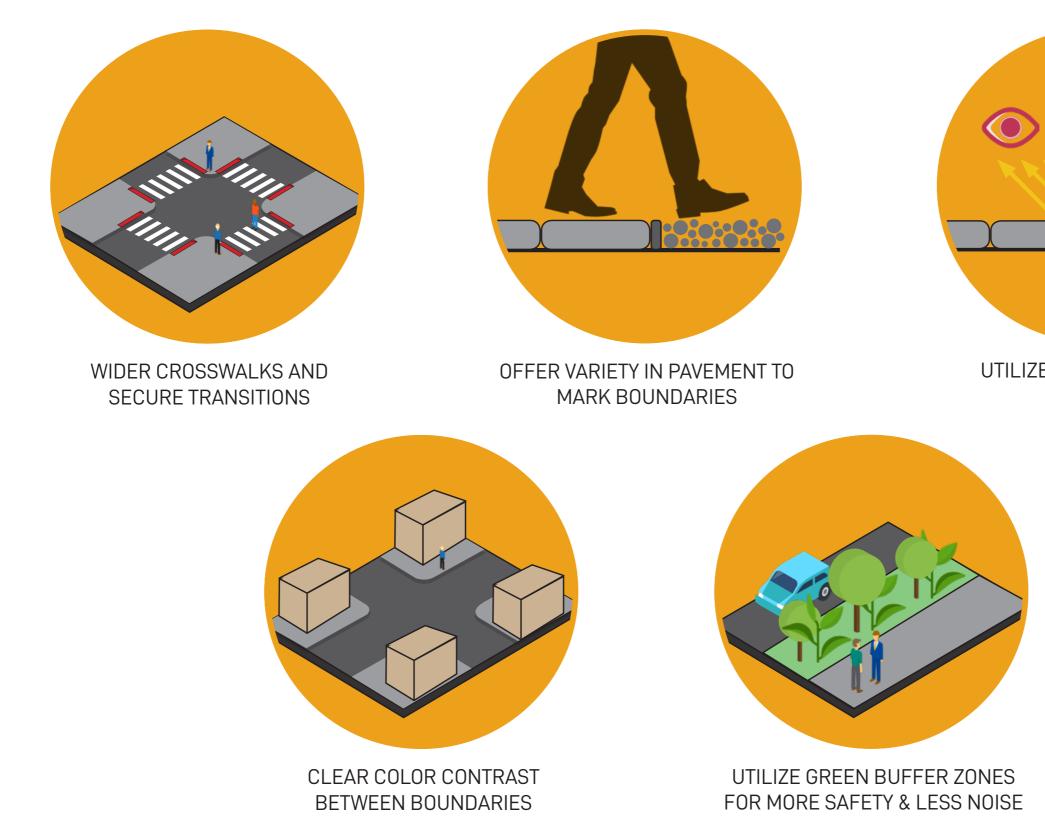


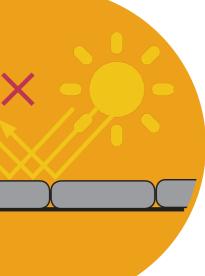
SIGNS ON WALLS ON EYE LEVEL



SIGNS OF FACILTIES NEIGHBOR-HOOD CONTAIN NAME AND ICON

MACRO-SCALE PRINCIPLES Safety





UTILIZE NON REFLECTIVE PAVEMENT



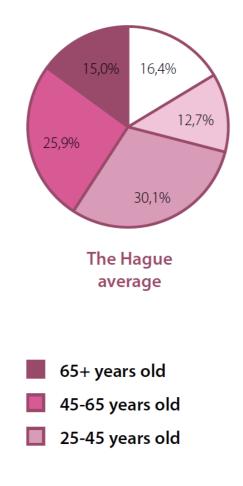
LAAKKWARTIER



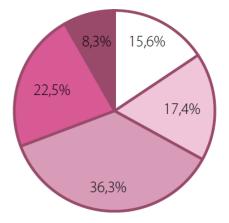
EXISTING NEIGHBORHOOD URBAN CONTEXT VARIETY CULTURES, TYPOLOGIES & FUNCTIONS

LAAKKWARTIER

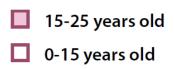




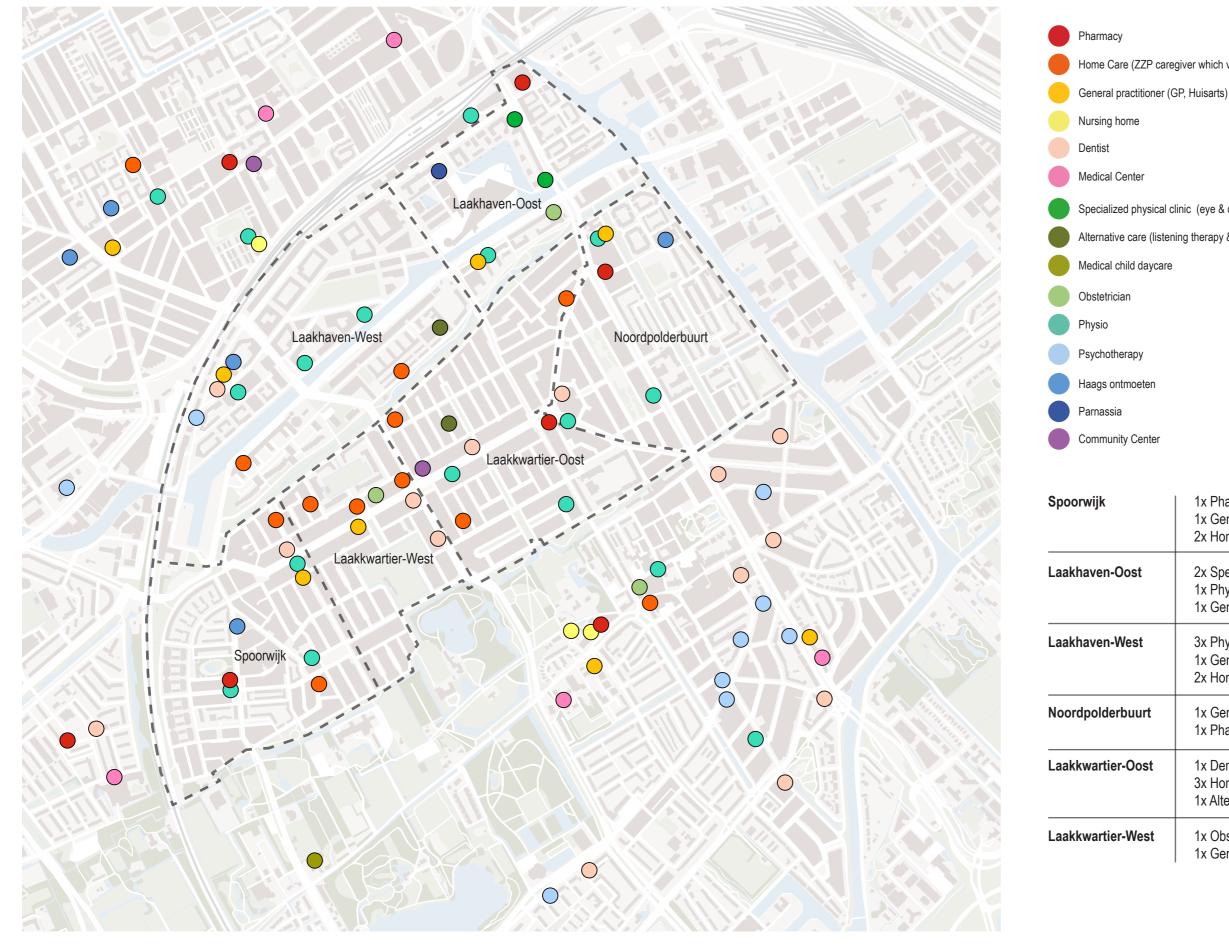
Laakkwartier 44,265 residents 3670 elderly



Laakkwartier Spoorwijk



MEDICAL MAP LAAKKWARTIER



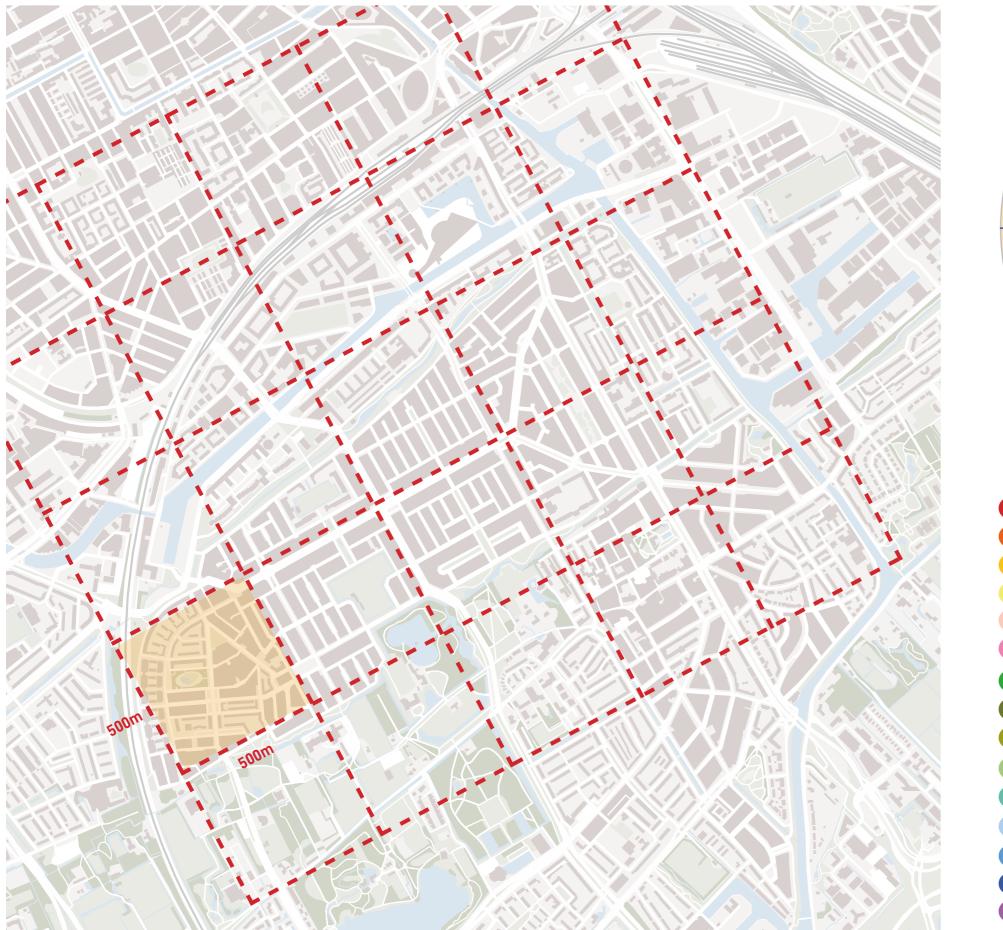
Home Care (ZZP caregiver which visits homes for care)

Specialized physical clinic (eye & dermatology)

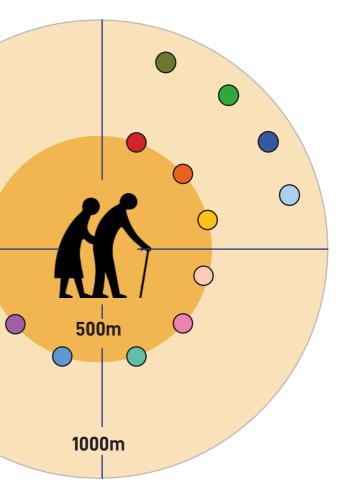
Alternative care (listening therapy & Ayurveda)

1x Pharmacy, 3x Physio, 1x Dentist 1x General practitioner, 1x Haags ontmoeten 2x Home Care 2x Specialized physical clinic, 1x Pharmacy, 1x Physio, 1x Obstetrician, 1x Parnassia 1x General practitioner 3x Physio, 1x Haags ontmoeten, 1x Dentist 1x General practitioner, 1x Psychotherapy 2x Home Care, 1x Alternative Care 1x General practitioner, 3x Physio, 1x Dentist 1x Pharmacy, 1x Haags ontmoeten, 1x Dentist, 1x Pharmacy, 2x Physio, 3x Home Care, 1x Community Center, 1x Alternative care 1x Obstetrician, 3x Home Care, 2x Dentist 1x General practitioner,

NEIGHBORHOOD STRATEGY | AGING IN PLACE | SPOORWIJK







Home Care (ZZP caregiver which visits homes for care)

General practitioner (GP, Huisarts)

 \bigcirc

Pharmacy

Nursing home

Medical Center

Medical child daycare

Restaurant

Supermarket

Psychotherapy

Haags ontmoeten

Community Center

Parnassia

Physio

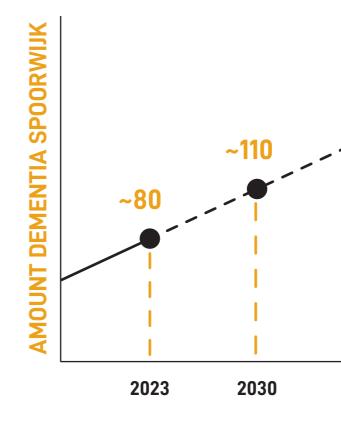
Dentist

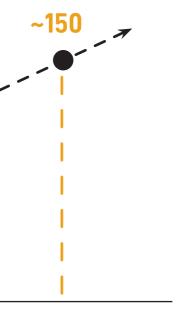
Alternative care (listening therapy & Ayurveda)

SPOORWIJK



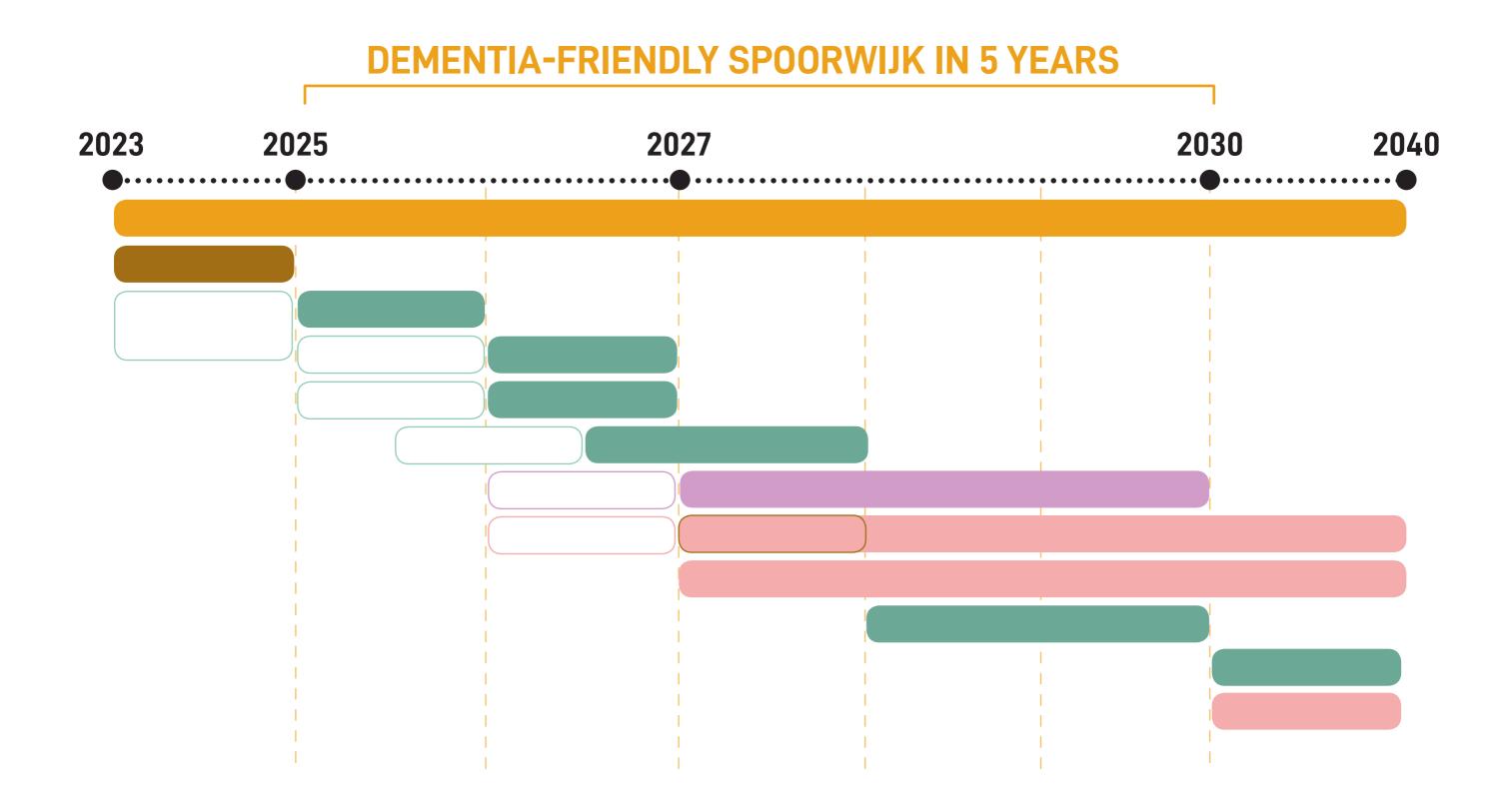
RESIDENTIAL NEIGHBORHOOD VARIETY IN TYPOLOGIES **DISTINCTION NEW & OLD** NEXT TO MOERWIJK STATION **1 MAIN ROAD GREEN AREAS**



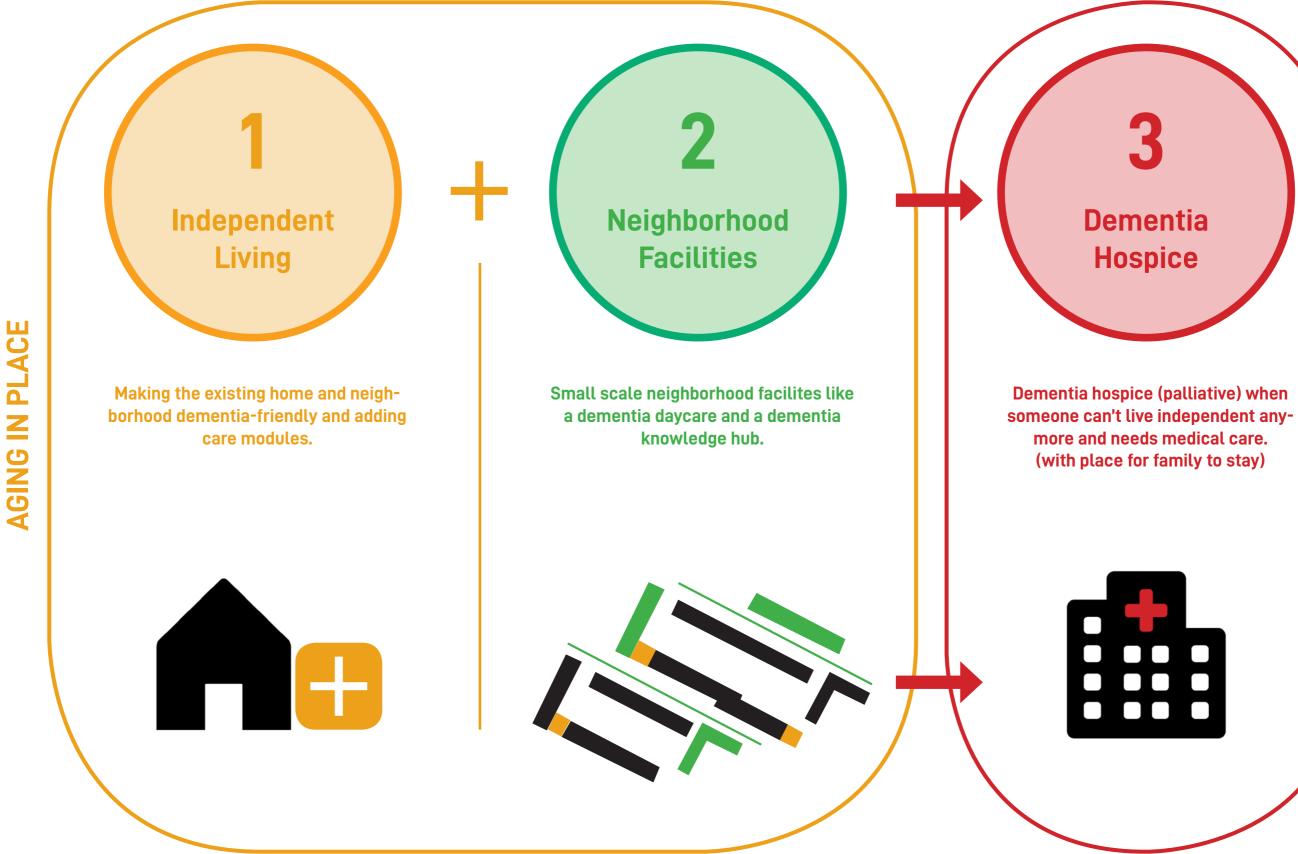




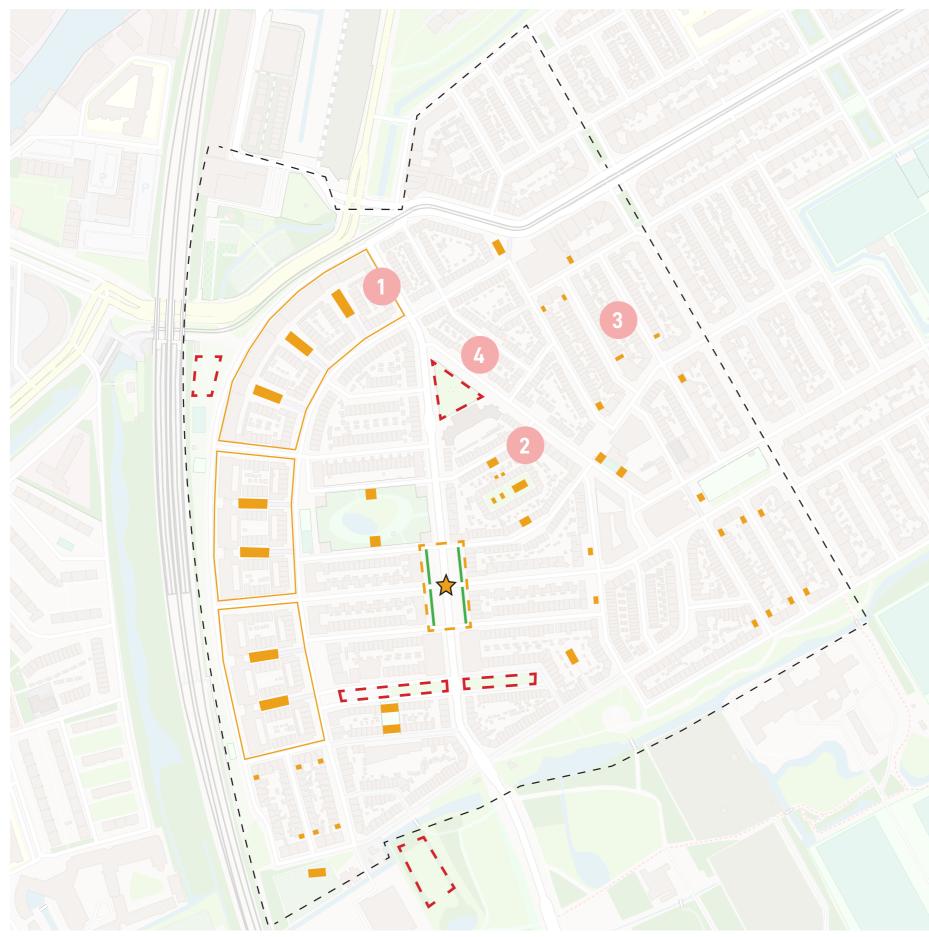




NEIGHBORHOOD STRATEGY



DEMENTIA-FRIENDLY SPOORWIJK | OPPORTUNITIES











DWELLING EXAMPLE

Nursing Station - Row houses





SOURCE: ARCHDAILY





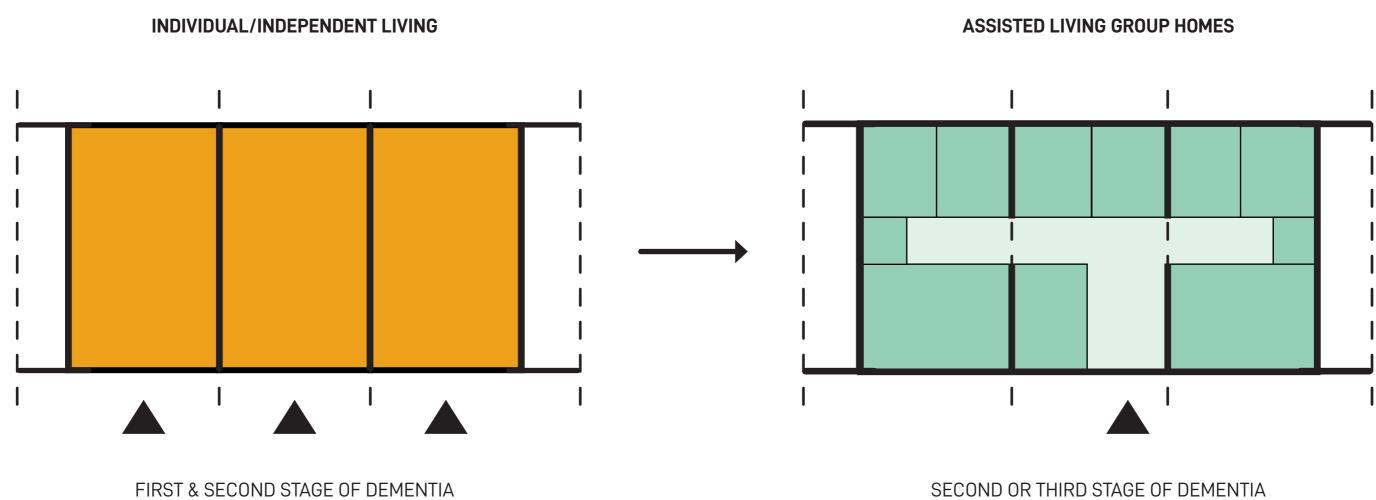
Care Unit

+ 24/7 care on demand + Visits homes + Eases the burden on formal caregivers

+ Communal functions

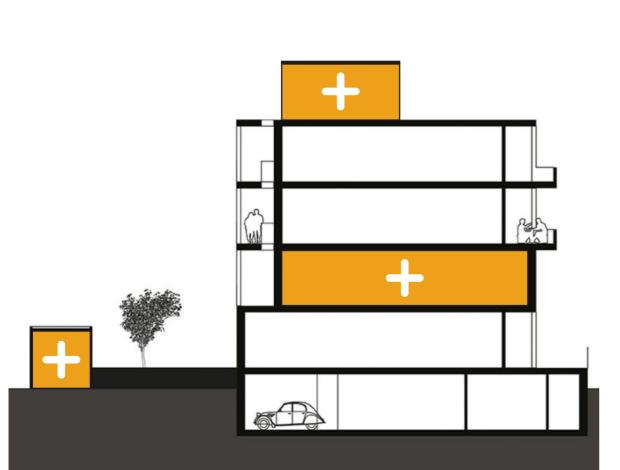
DWELLING EXAMPLE

Row House - Group Homes





DWELLING EXAMPLE Gallery Flat

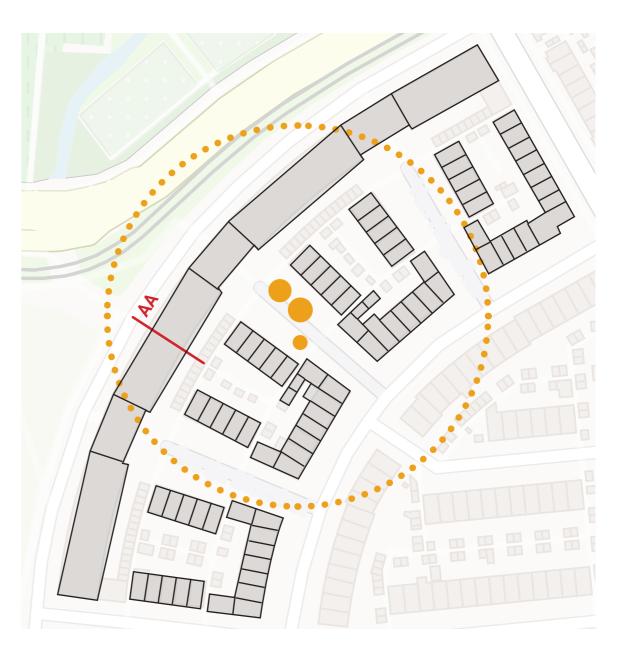


SECTION AA GALLERY FLAT 24/7 NURSING STATION EMPTY APARTMENT

- + Direct connection with apartments
- Housing shortage, loss of worth 1 house

SHORT TERM





STANDALONE NURSING STATION 24/7 CARE

+ Cheaper alternative + Versatile and placed where needed + Operates in a larger radius - No direct connection

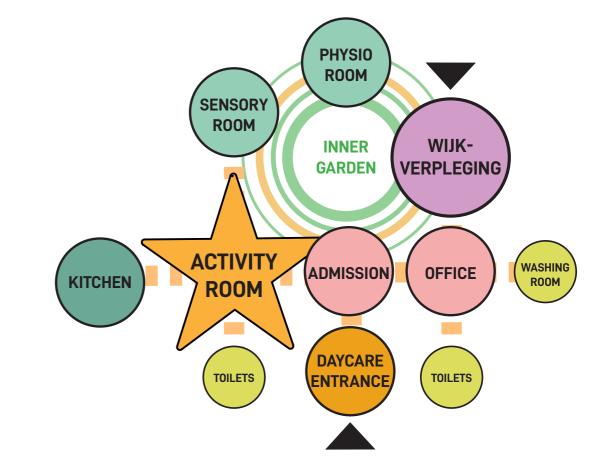
NURSING STATIONS Standalone

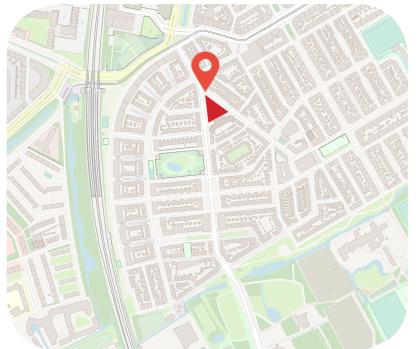


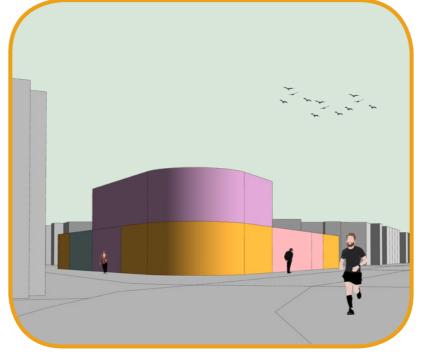


DAYCARE - MEDICAL Mass Study Example











 + Customized day care, routine, more peace and less confusion
+ Eases the burden on carers
+ Postpones moving to nursing home

- Without informal caregiver not feasible to live independently



2025 2040 OPTIONS BASED ON DEMAND





2040: APARTMENTS EXPANSION COR 24/7 CARE APARTMENTS ASSISTED LIVING 12 APARTMENTS

2025: DAYCARE + THUISZORG ROOMS FOR THERAPY 3 GROUP ROOMS 12 PEOPLE PER GROUP



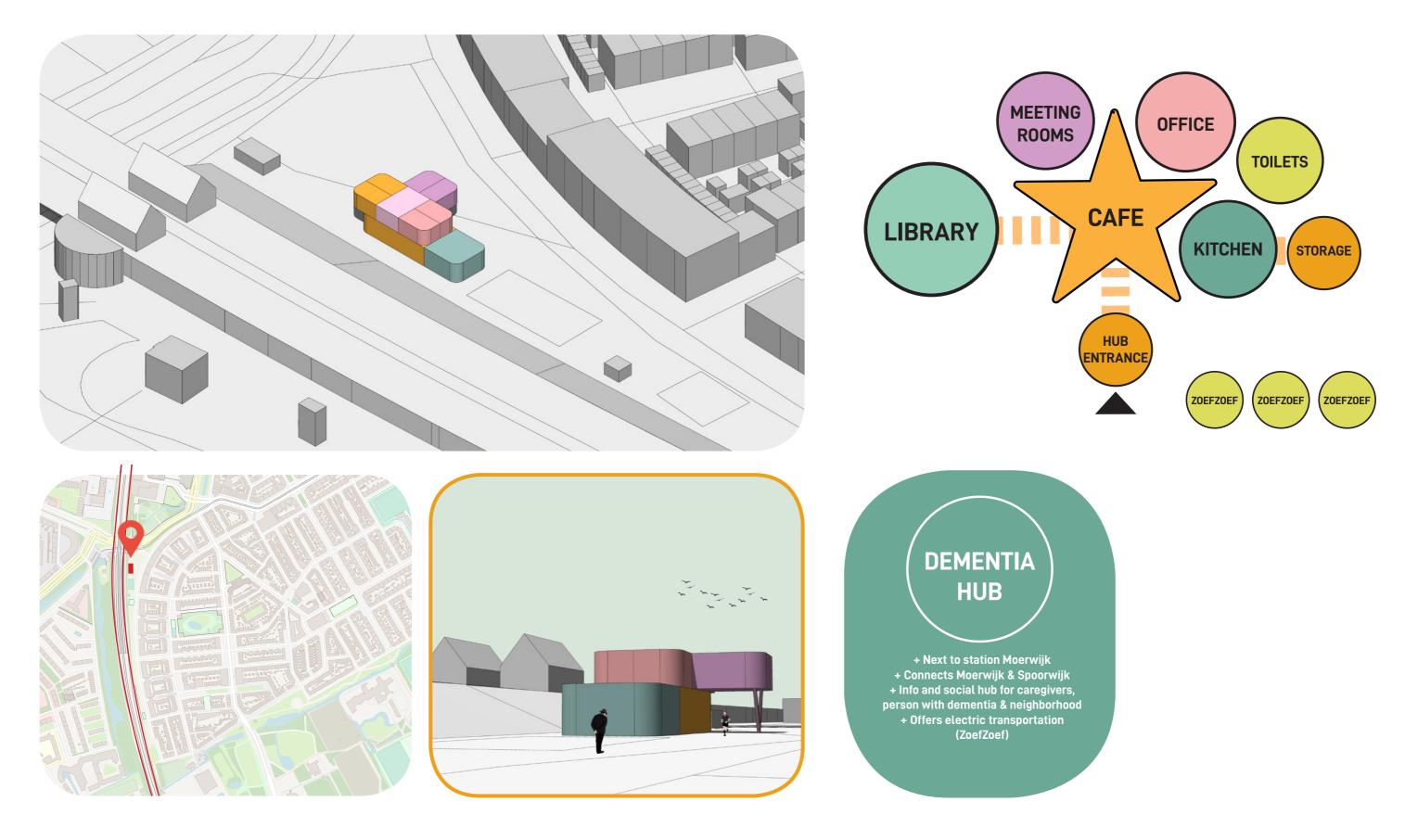
2040: ACTIVITY ROOM EXPANSION

3 EXTRA GROUP ROOMS 6 GROUP ROOMS 12 PEOPLE PER GROUP

 \rightarrow

DEMENTIA HUB - SOCIAL

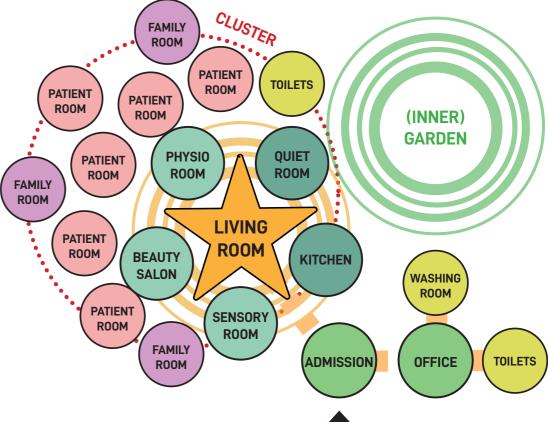
Mass Study Example



DEMENTIA HOSPICE - MEDICAL

Mass Study Example





HOSPICE

+ Palliative care + Specialized care & support + Place for family + Safe and calm environment

DEMENTIA HOSPICE - 2040

Mass Study Expansion



2030: HOSPICE 6 PATIENT ROOMS 3 FAMILY ROOMS 2 LIVING ROOMS THERAPY ROOMS

2030: HOSPICE 12 PATIENT ROOMS 6 FAMILY ROOMS 2 LIVING ROOMS THERAPY ROOMS

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2040: HOSPICE

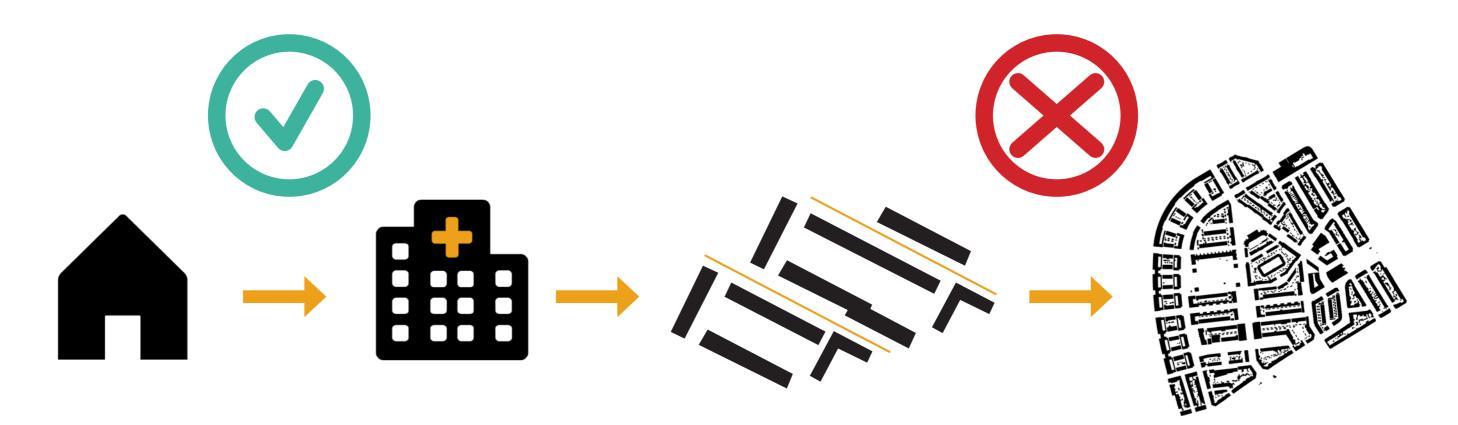
 $- \text{OR} \longrightarrow$

20 PATIENT ROOMS 6 FAMILY ROOMS **3 LIVING ROOMS** THERAPY ROOMS

SO, IS THIS ENOUGH TO SOLVE THE PROBLEM?



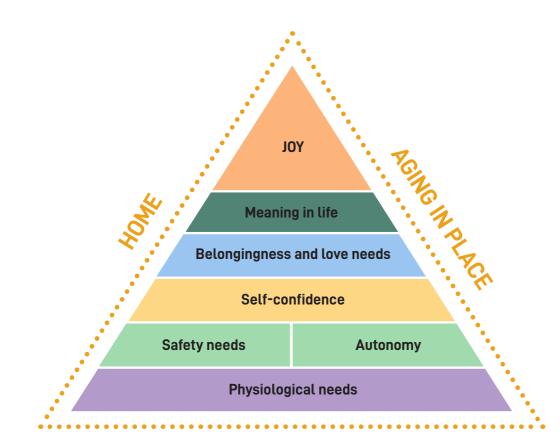






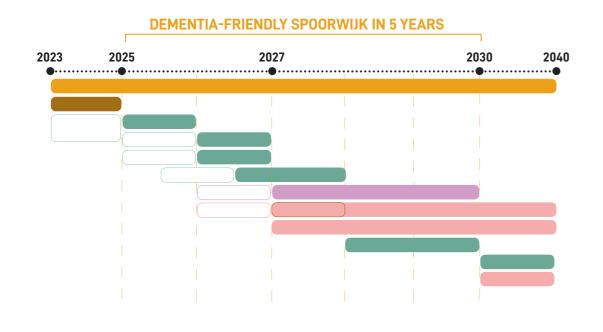
NEIGHBORHOOD

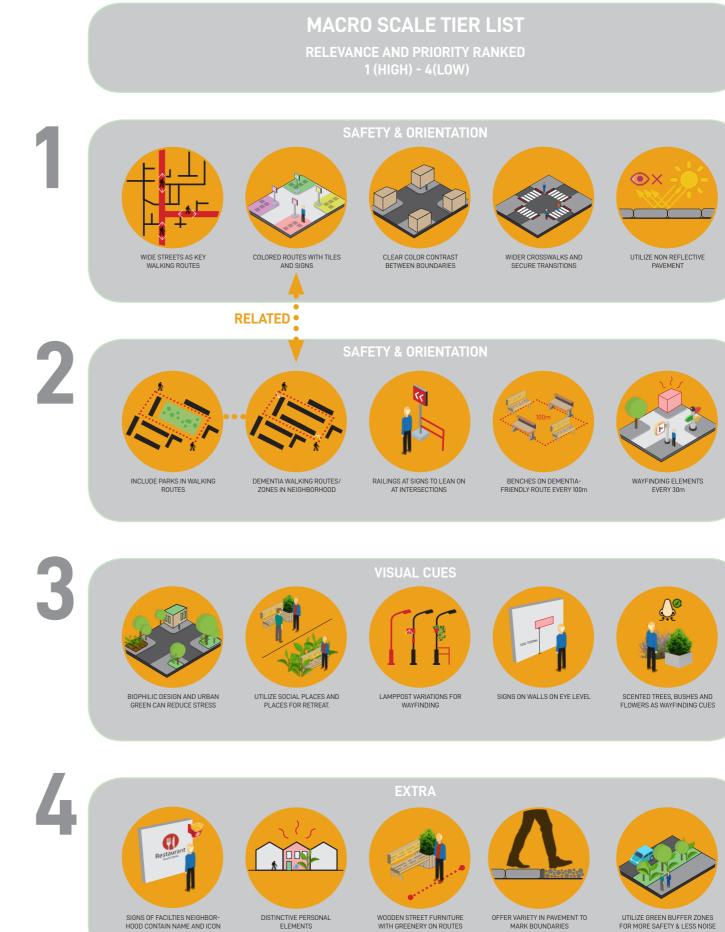
MACRO-SCALE TIER LIST



NEIGHBORHOOD

Pyramid of Bugra (2023)



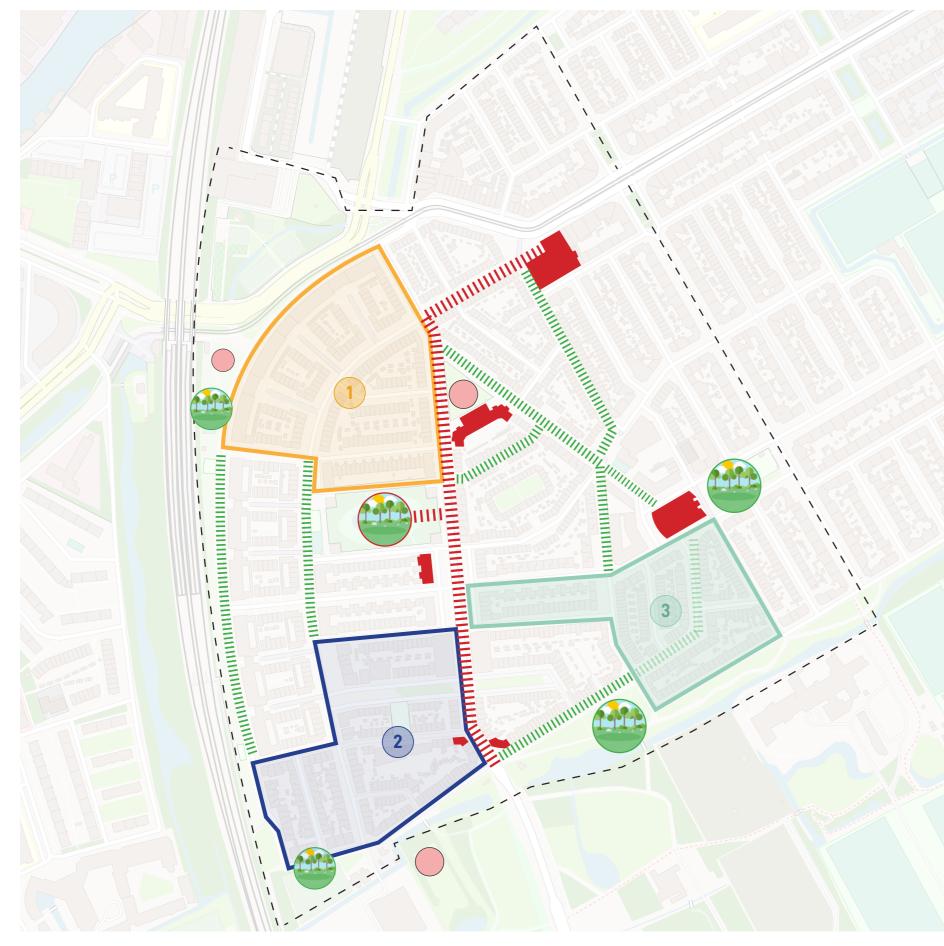




OFFER VARIETY IN PAVEMENT TO MARK BOUNDARIES

UTILIZE GREEN BUFFER ZONES FOR MORE SAFETY & LESS NOISE

DEMENTIA-FRIENDLY SPOORWIJK | STRATEGY



WALKING ROUTE 1 Park

Playground **Dementia Hub** Daycare Temple

WALKING ROUTE 2

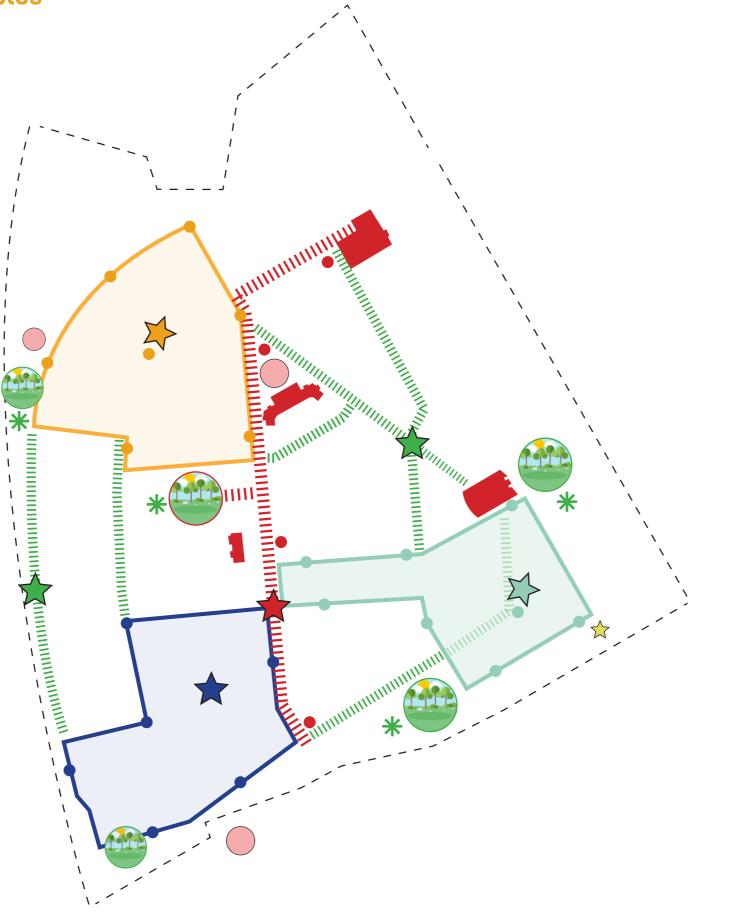
Urban Farming patch Park **Sports Hall** Cafeteria Playground

WALKING ROUTE 3 Park Playground **Outdoor Fitness Community Center**

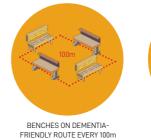
MAIN ROAD

Connects main facilites and routes Big Park Health Center Temple Daycare **Supermarket**



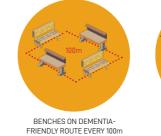


***** TOILET BLOCK **BENCH** WALKING ROUTE





WITH GREENERY ON ROUTES



WIDER CROSSWALKS AND SECURE TRANSITIONS





INCLUDE PARKS IN WALKING ROUTES



COLORED ROUTES WITH TILES AND SIGNS



CIRCULAR WALKING ROUTES IN NEIGHBORHOOD



LAMPPOST VARIATIONS FOR WAYFINDING

MAIN ROAD



WIDE STREETS AS KEY WALKING ROUTES



LAMPPOST VARIATIONS FOR WAYFINDING



COLORED ROUTES WITH TILES AND SIGNS



RAILINGS AT SIGNS TO LEAN ON AT INTERSECTIONS

SCENTED TREES, BUSHES AND FLOWERS AS WAYFINDING CUES





PERSONALISATION

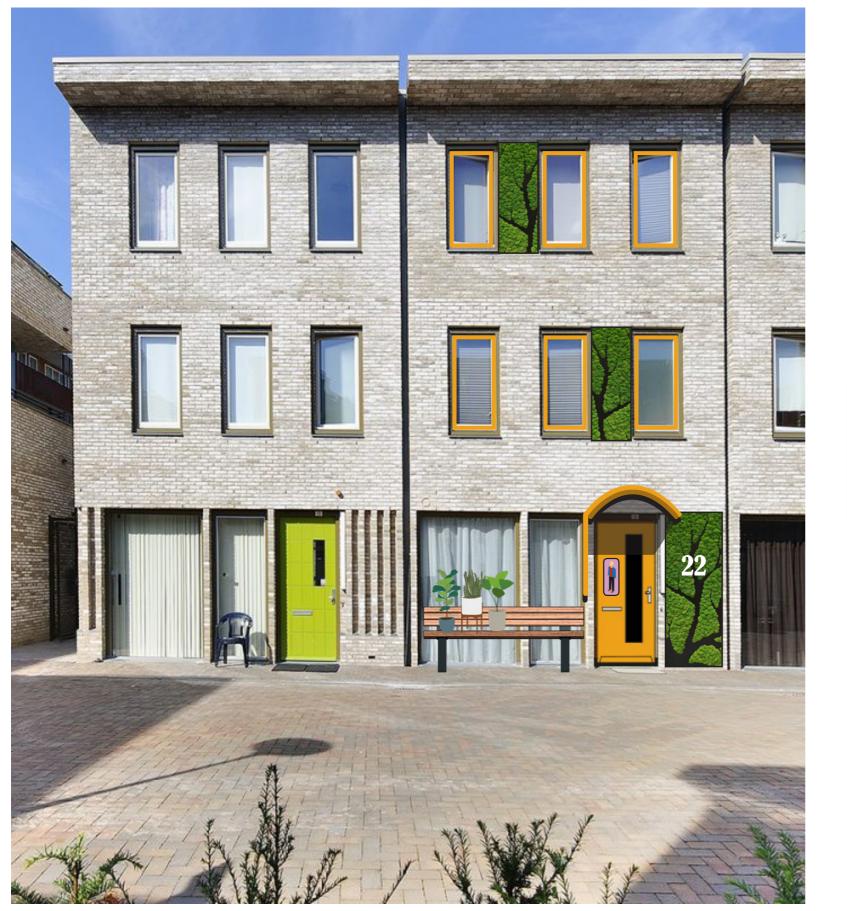
Media Coverage



ARTICLE IN ALGEMEEN DAGBLAD About facade in Laakkwartier

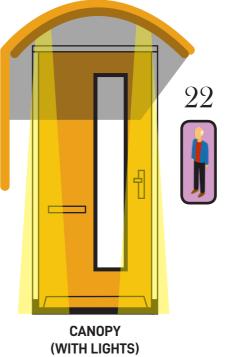
PERSONALISATION

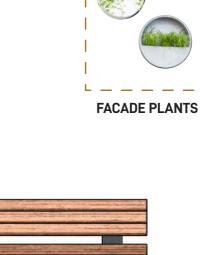
Individual Homes



COLORED DOOR









PERSONAL FURNITURE



DECAL DOOR



SHOWCASE ITEM OR QUOTE





MOSS PANEL



PERSONALISATION

Neighborhood - recognizability & orientation



UNIQUE ARTIST MURALS

UNIQUE SYMBOL AND AREA NAME

ARTIST ARTWORKS WITH BIRDHOUSES



BIOPHILIC DESIGN

Confusing Squares



BRICK AND CONCRETE SQUARES IDENTICAL LIMITED GREENERY NOT USED AND EMPTY

Various Themes - recognizability & orientation



DISTINCTION WITH THEMES ENCOURAGE SOCIAL INTERACTION MORE ACTIVITIES MORE GREENERY

Urban Farming

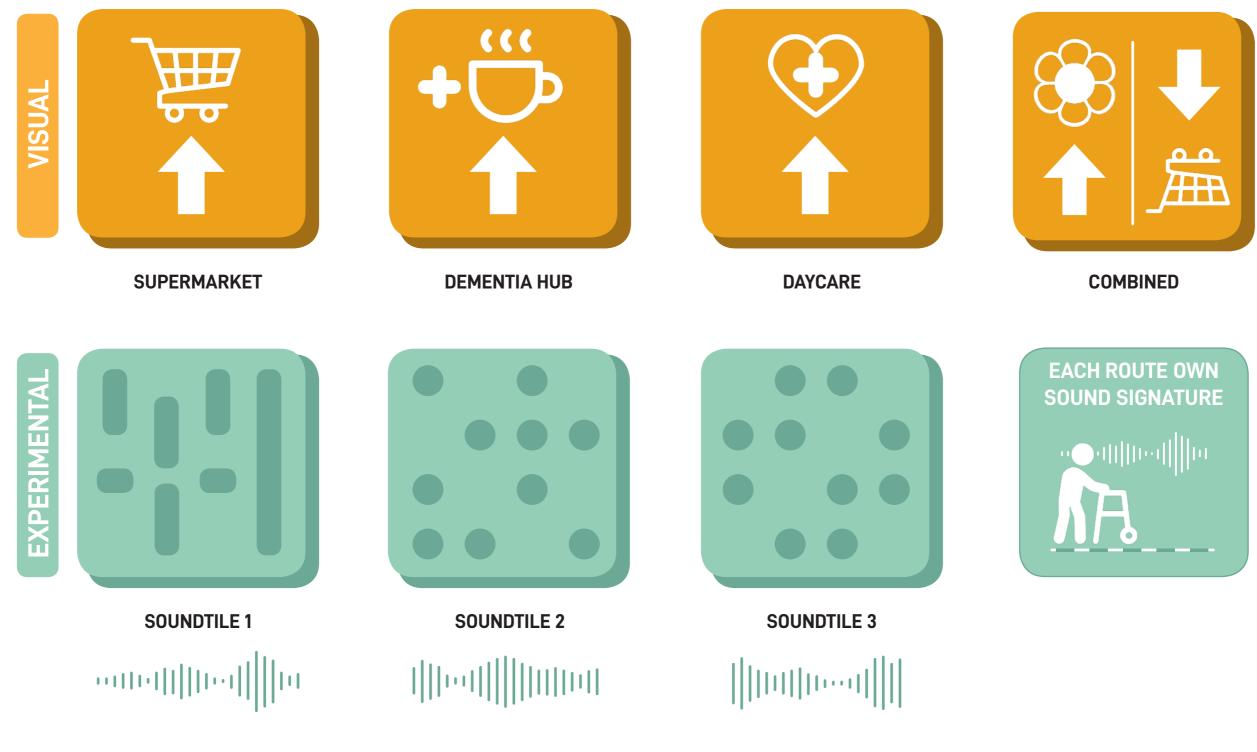


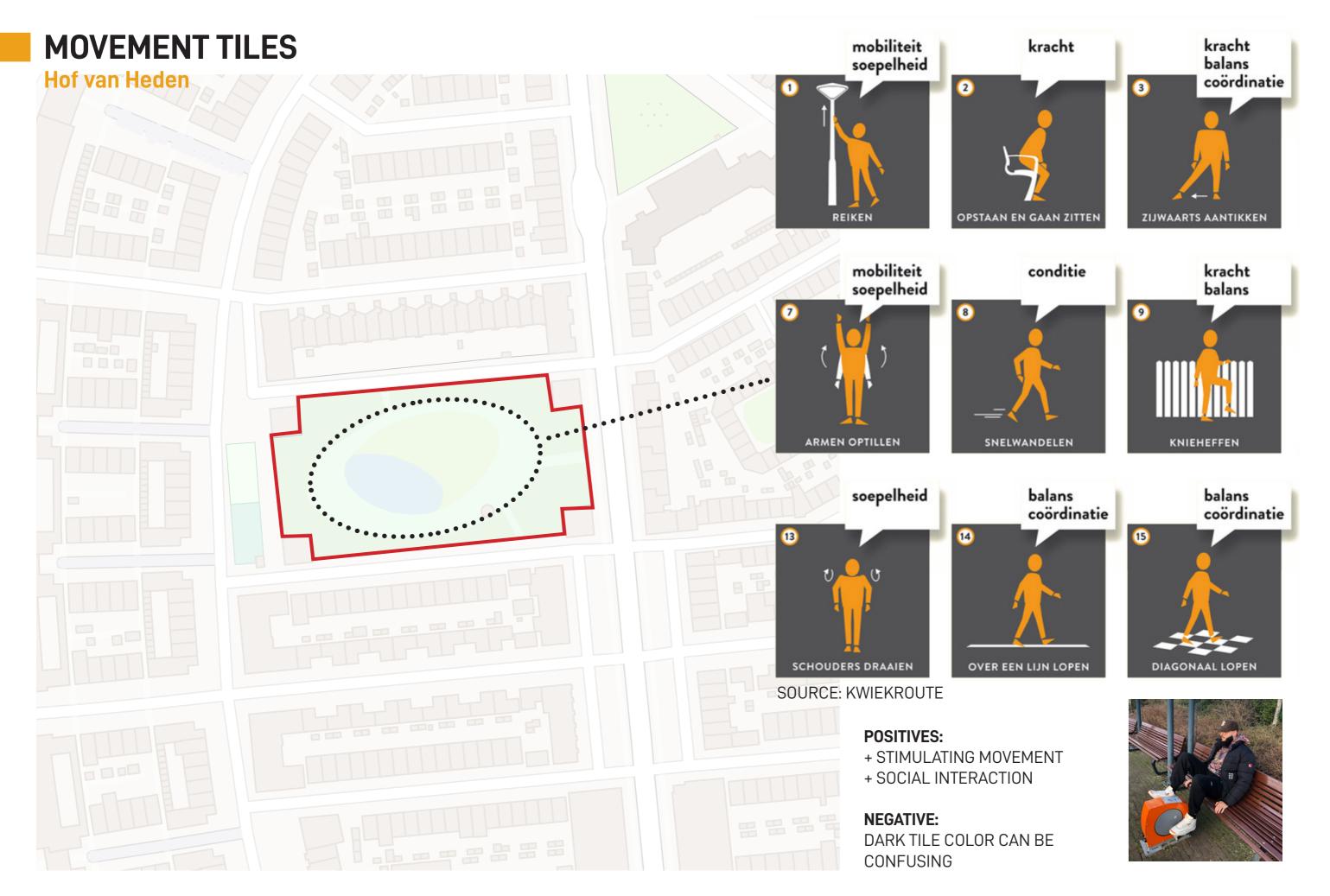
DISTINCTION WITH THEMES MORE SOCIAL INTERACTION MORE ACTIVITIES MORE GREENERY

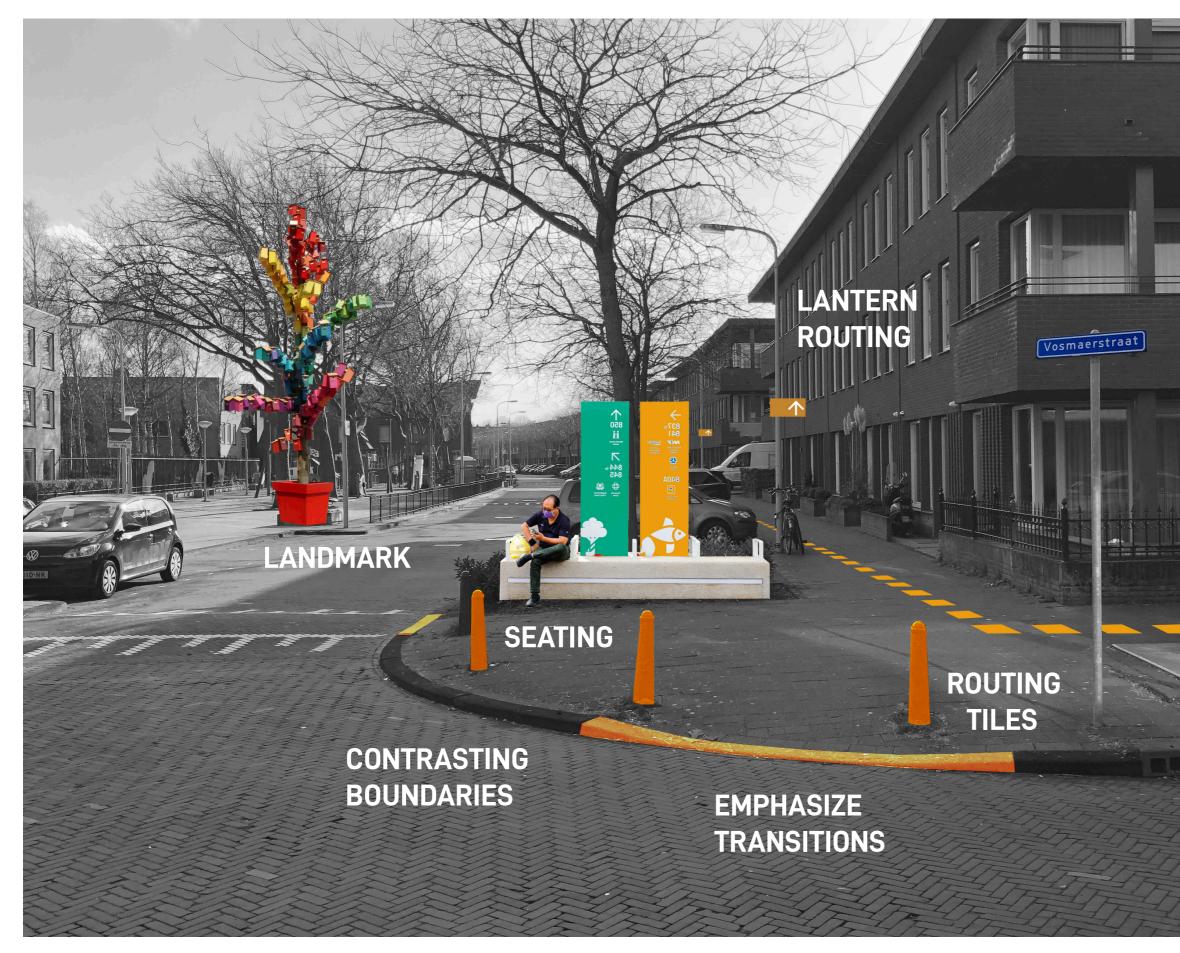












CONTRAST OUTLINE CONTAINER

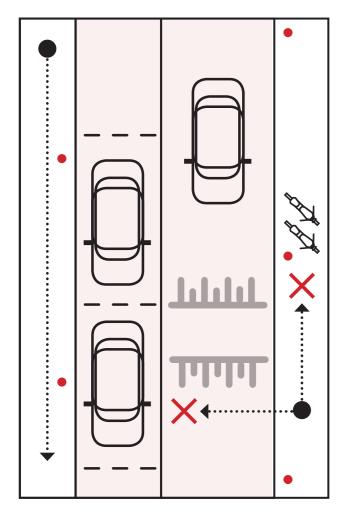


COLOR EXIST. BOLLARDS

Narrow Streets



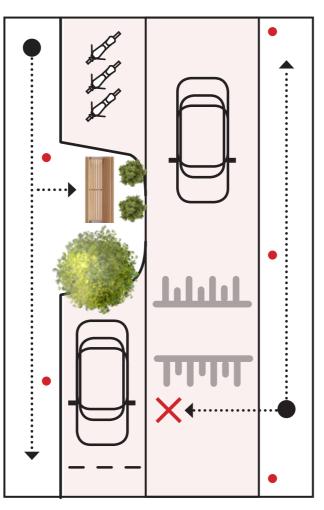
Narrow Street Options



CURRENT SITUATION

NOW:

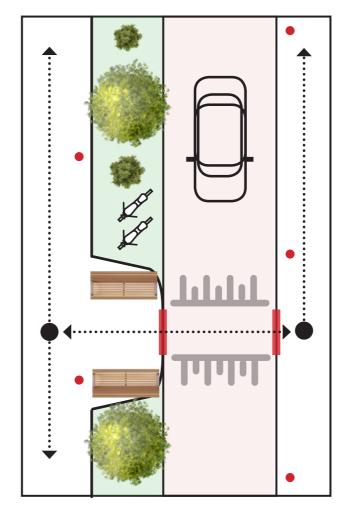
- CAR DOMINANT
- NO PLACE FOR BENCHES
- CLUTTER BLOCKING STREET
- NARROW FOOT PATH
- NO SAFE TRANSITIONS
- NO GREENERY



1. REMOVED PARKING SPOT

CHANGES:

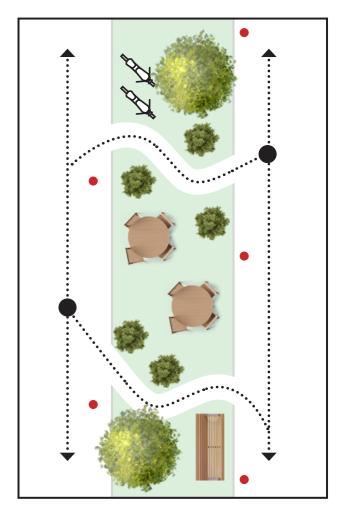
- REMOVED PARKING SPOT
- ADDED SPACE FOR BENCH
- GREENERY
- SPACE FOR BIKES
- NO CLUTTER
- TIME •
- EFFORT •
- MONEY €



2. GREEN BUFFER

CHANGES:

- REMOVED ALL PARKING SPOTS
- GREEN BUFFER FOR SAFETY AND SOUND
- BENCHES AND WIDER STREET
- SAFE TRANSITIONS
- TIME ••
- EFFORT ••
- MONEY €€



3. CAR FREE STREET

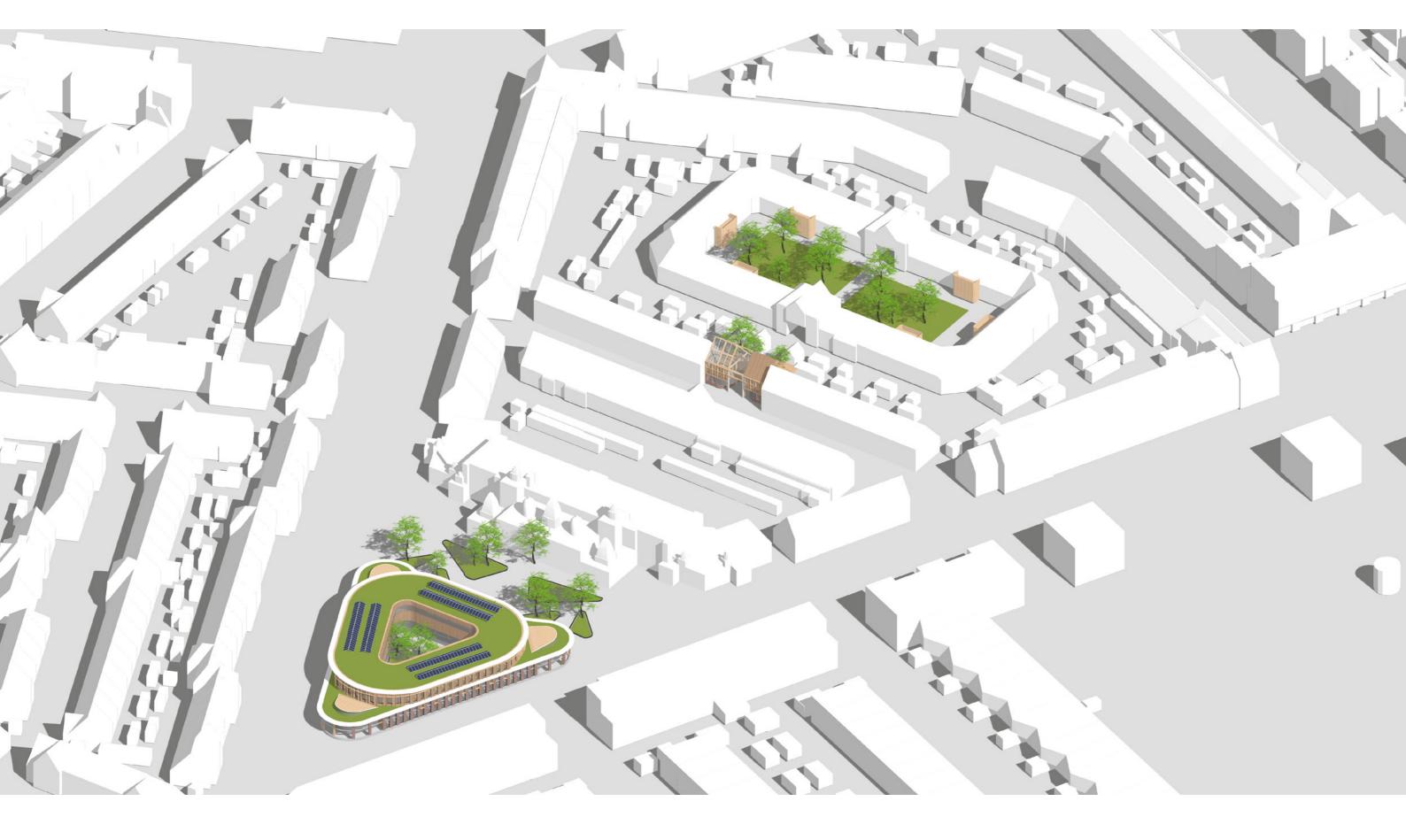
CHANGES:

- DIFFERENT PAVEMENT TYPES
- QUIETER STREET
- MORE OVERVIEW & SAFETY
- MORE GREENERY
- SPACE FOR ACTIVITIES

| TIME | ••• |
|--------|-----|
| EFFORT | ••• |
| MONEY | €€€ |



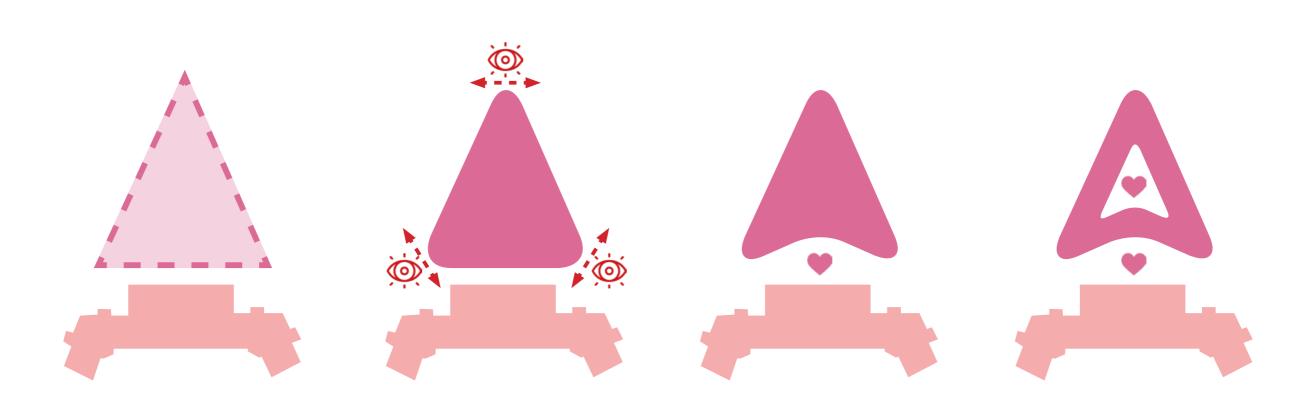
NEIGHBORHOOD



DEMENTIA DAYCARE



CONCEPT

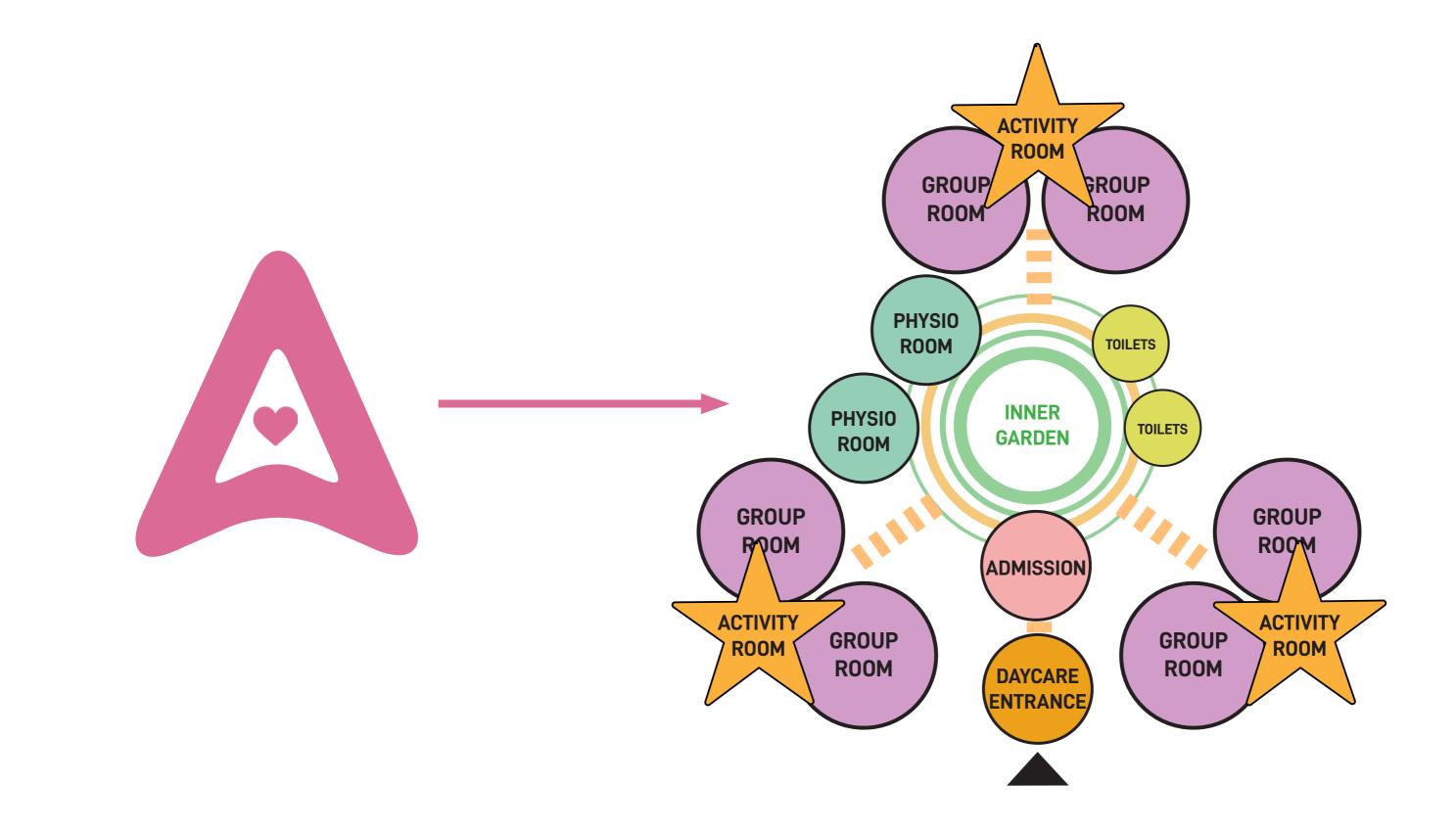


1. empty plot next to the temple

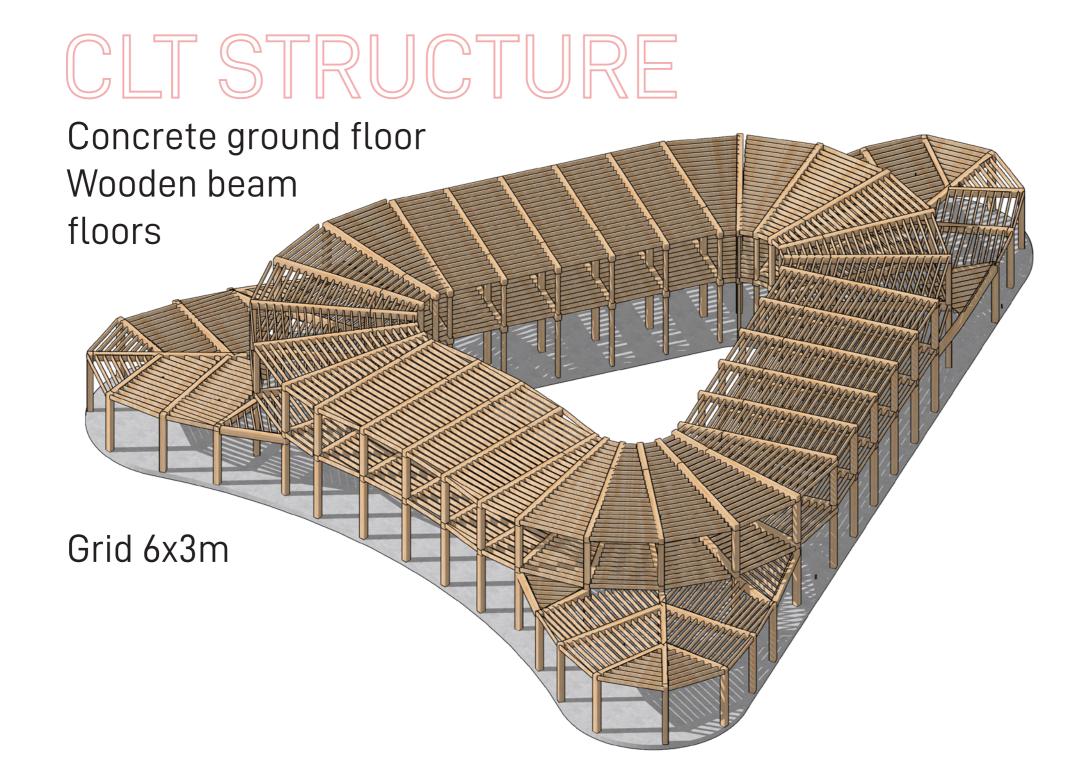
2. rounded corners for better visibility 3. square in front of temple for social interaction

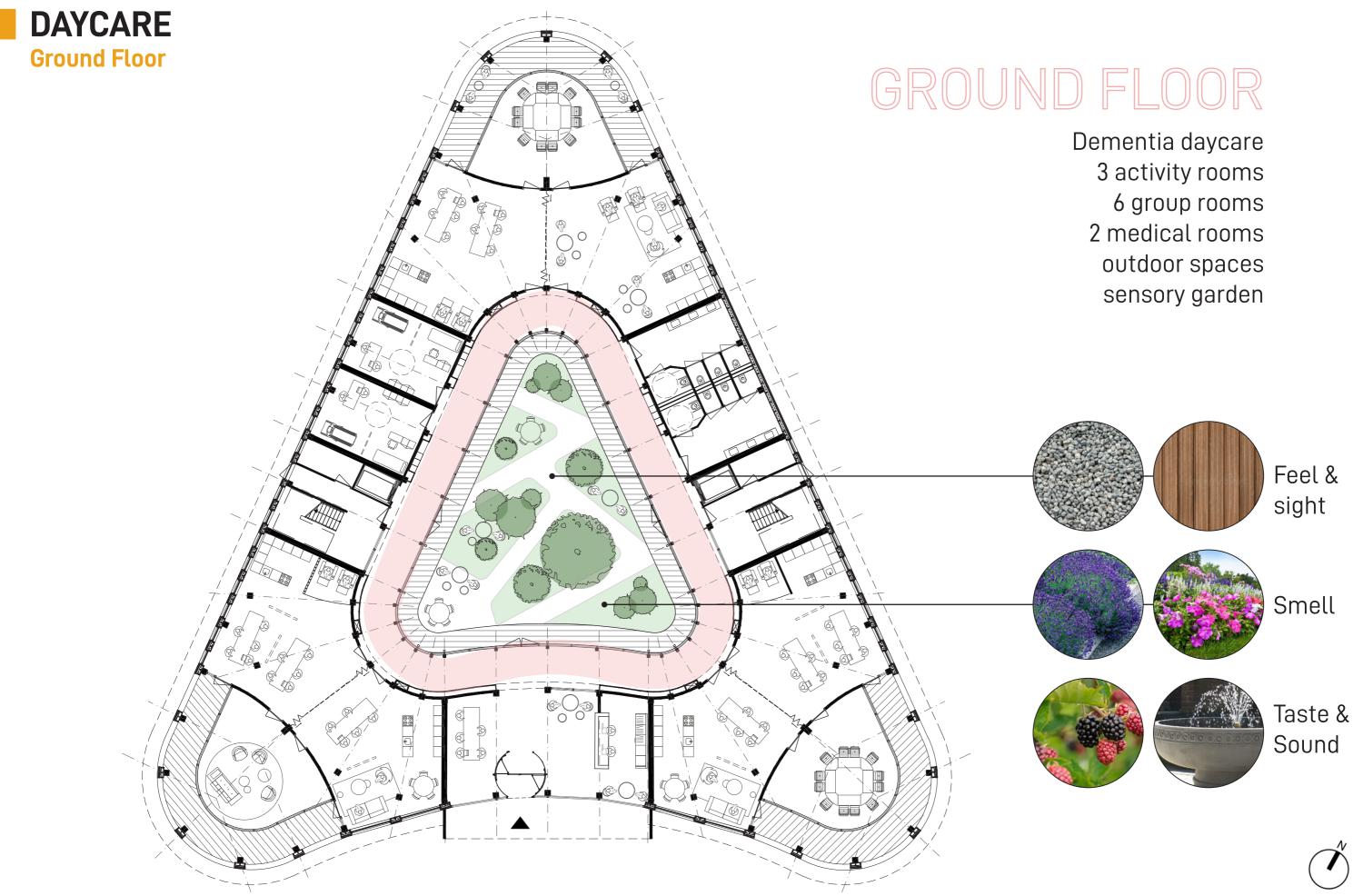
4. safe and calming sensory garden

SPATIAL PROGRAM

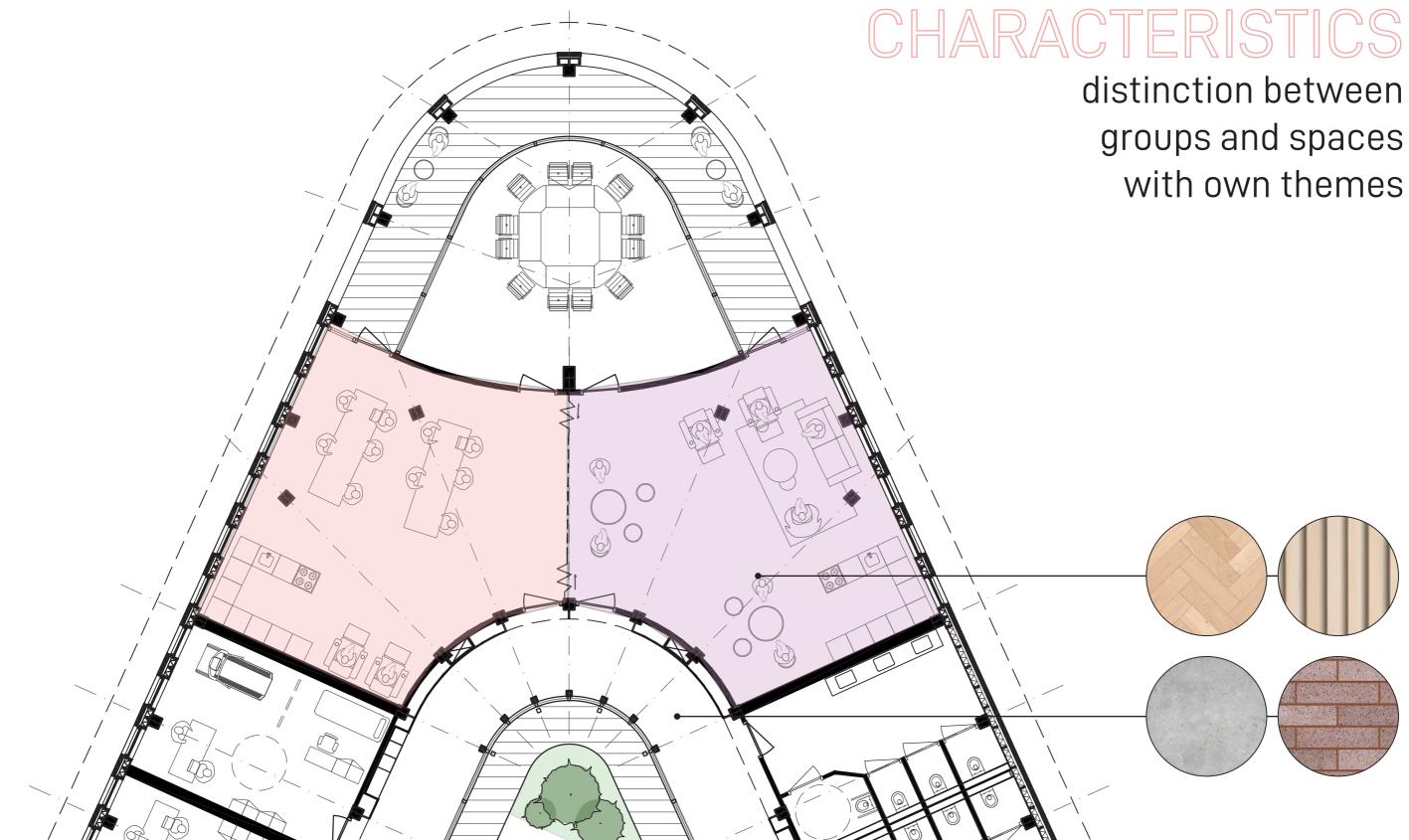


STRUCTURE





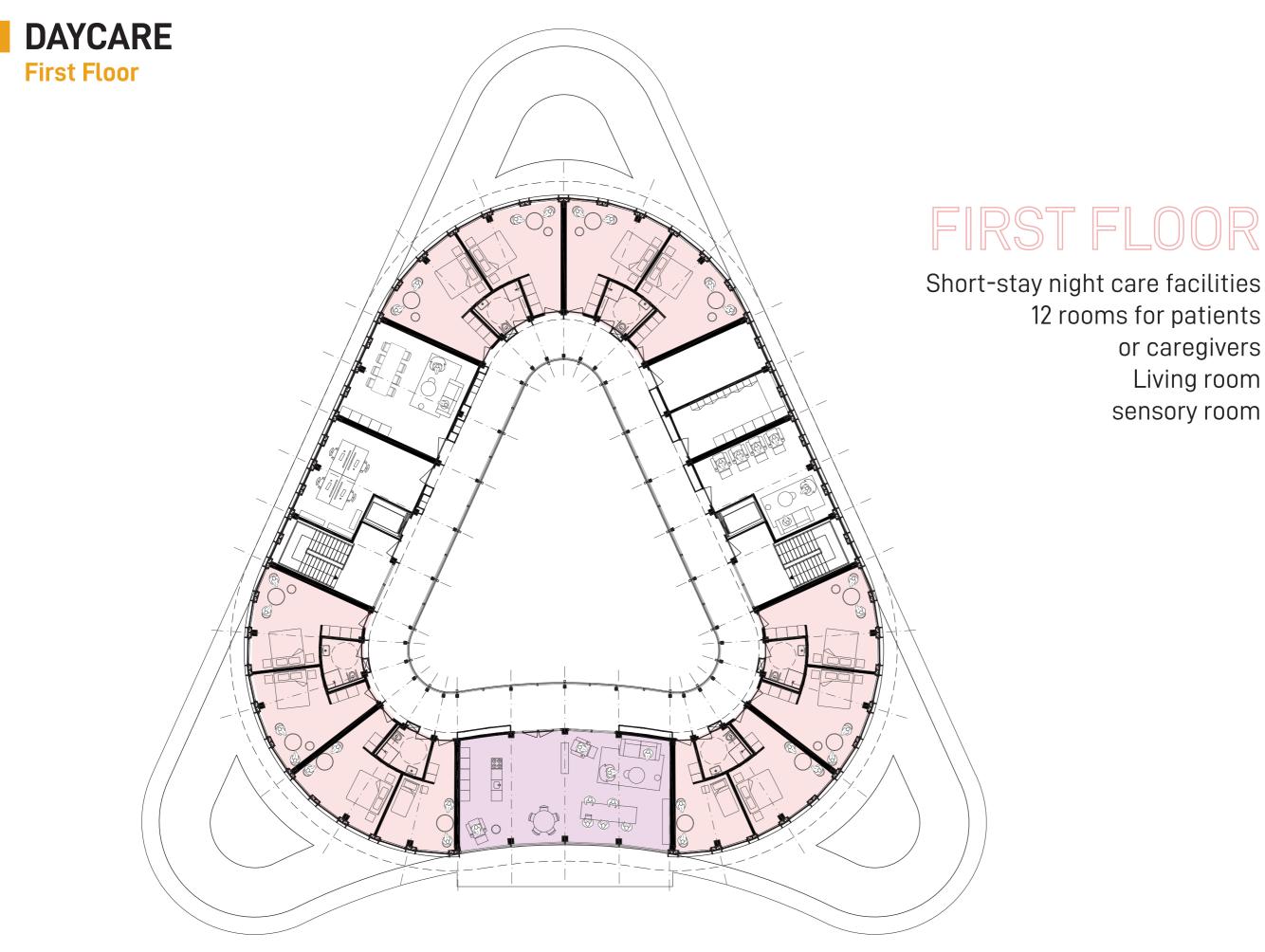






IMPRESSION INTERIOR DAYCARE

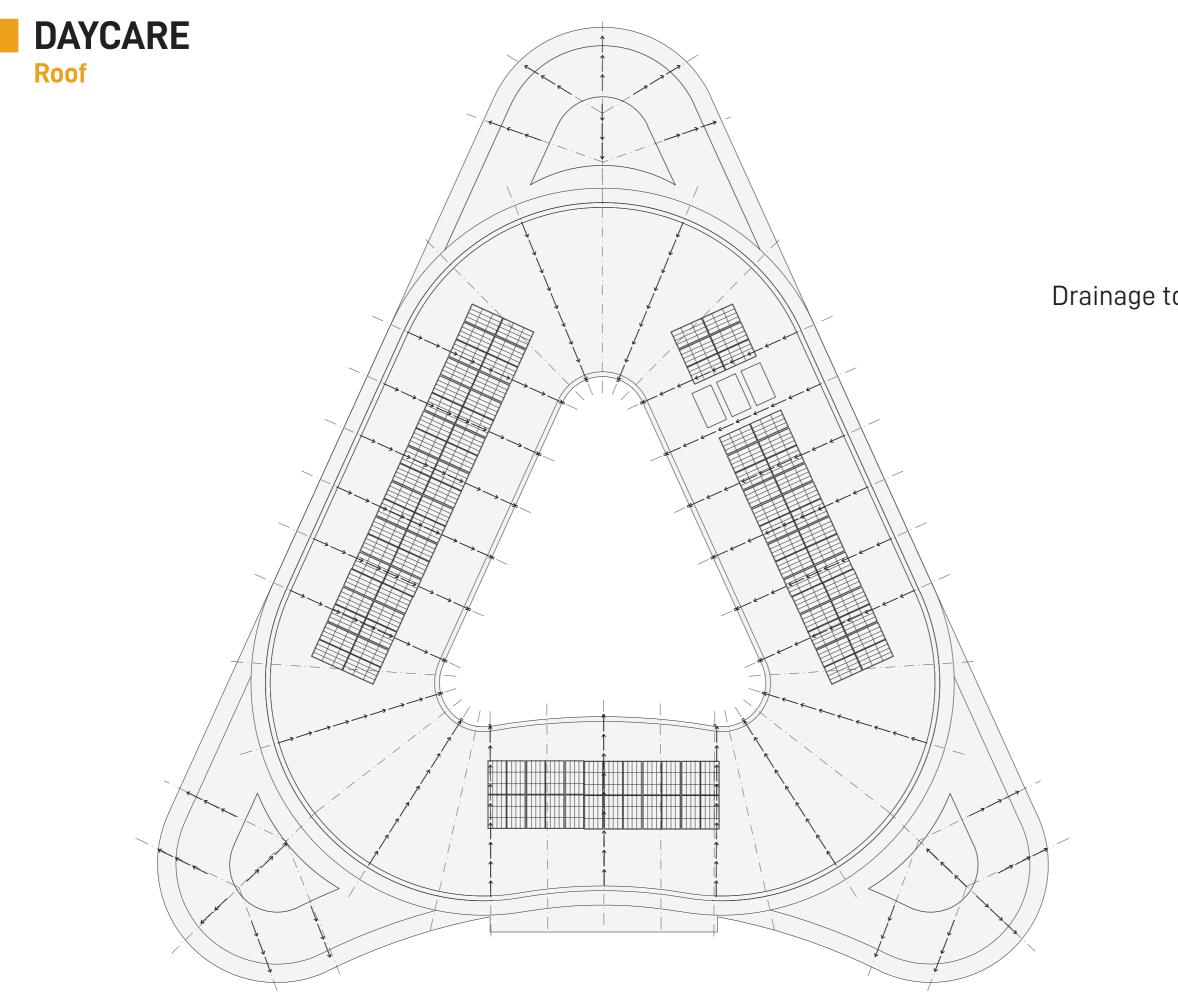






12 rooms for patients or caregivers Living room sensory room

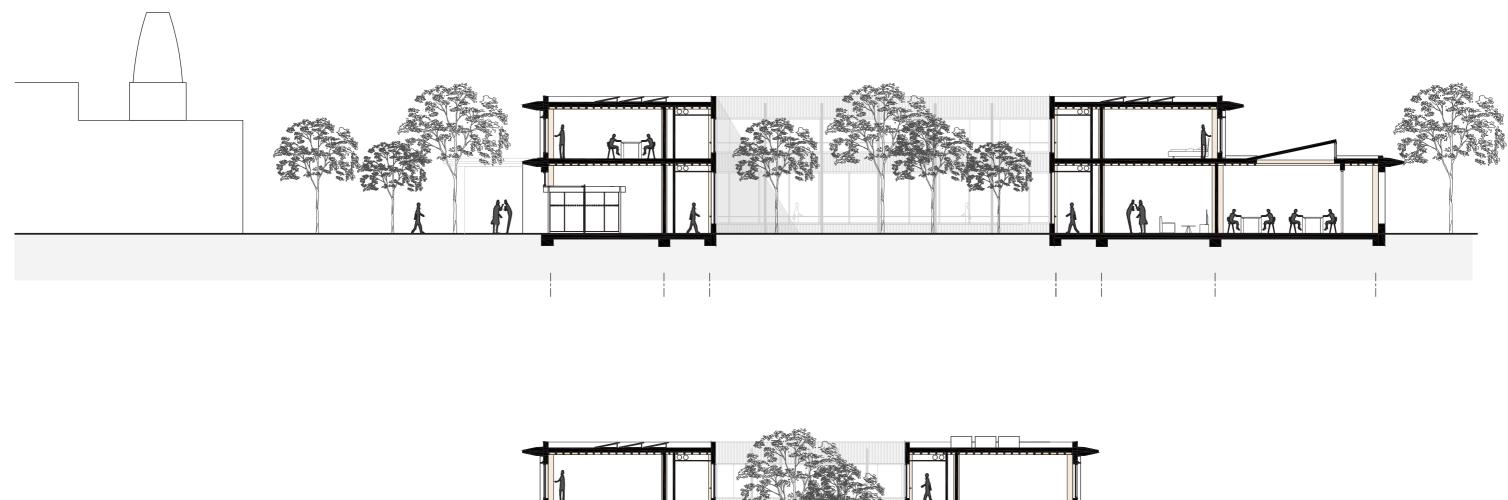


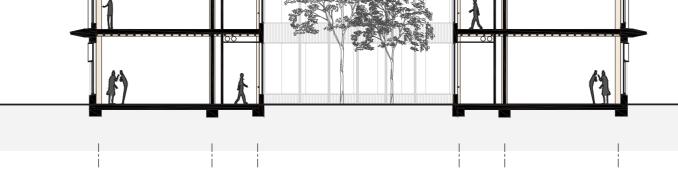




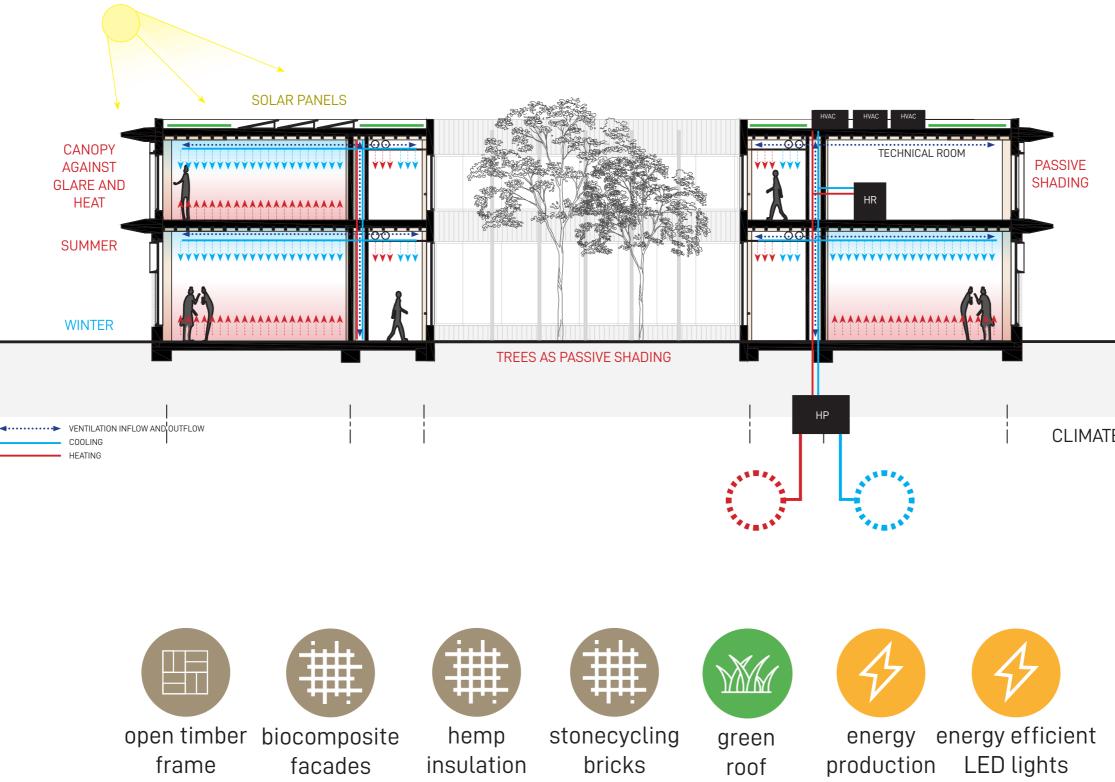
Drainage to inner garden Solar panels HVAC







CLIMATE & SUSTAINABILITY



CLIMATE CONCEPT

DAYCARE Context



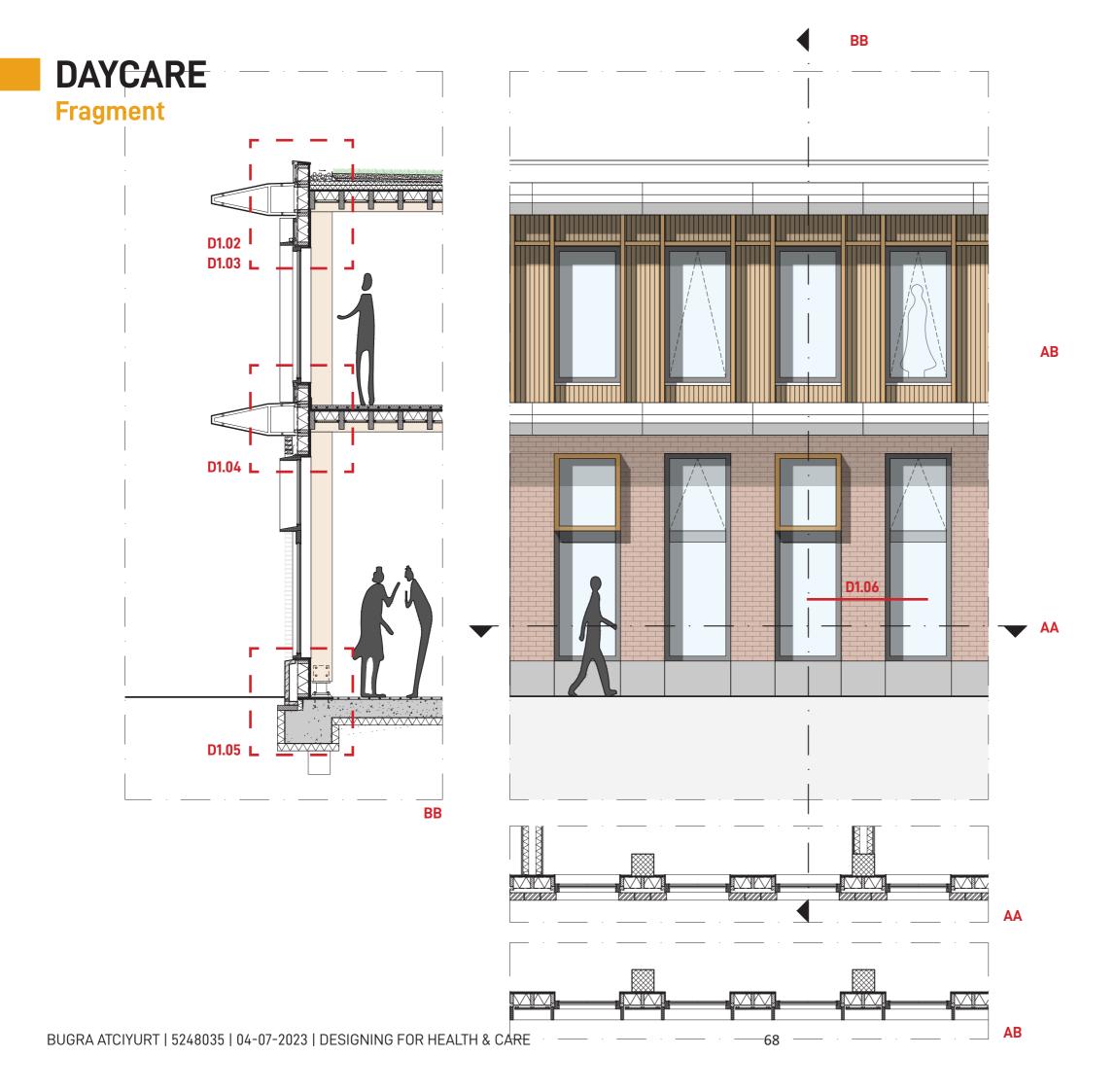


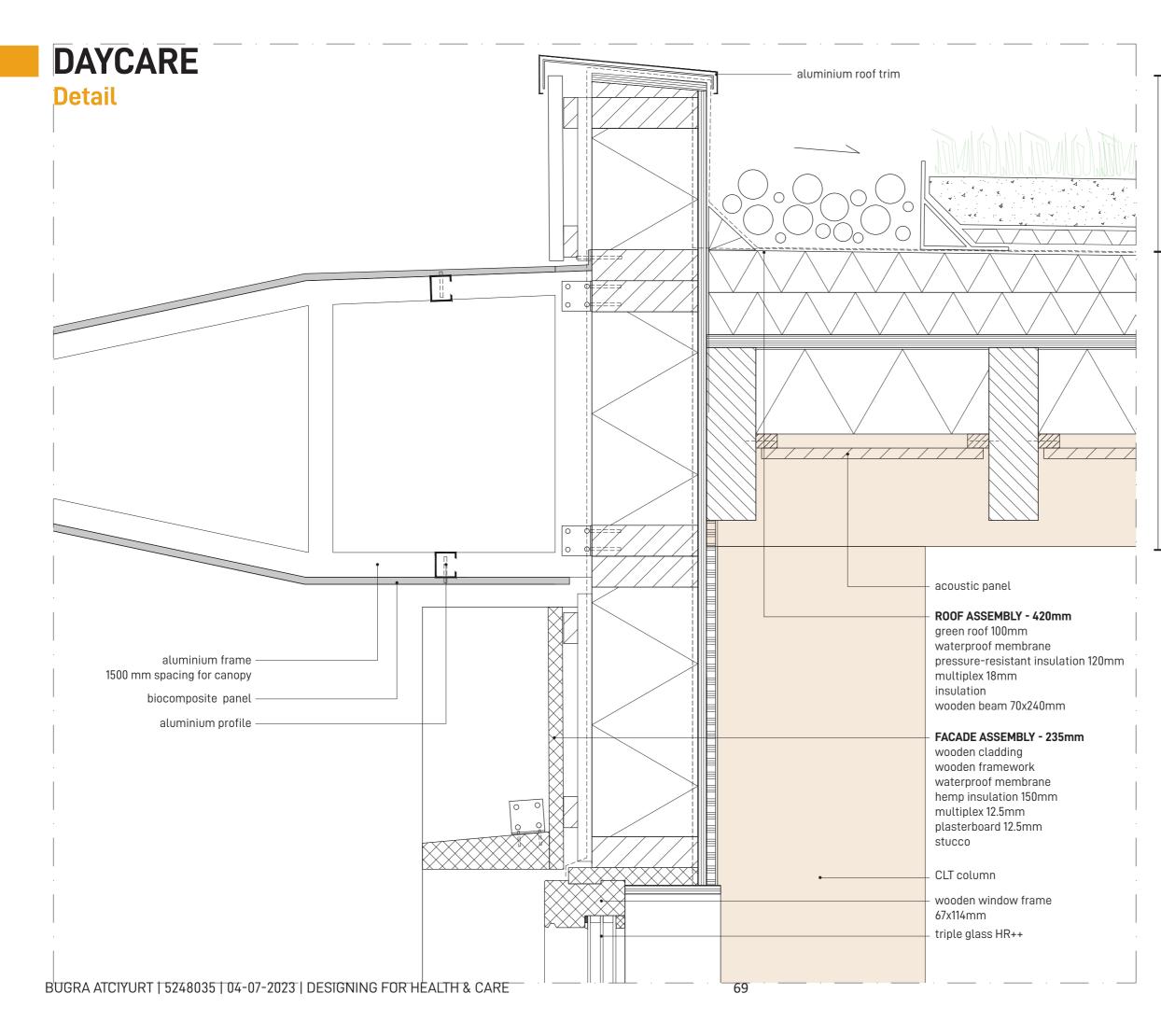


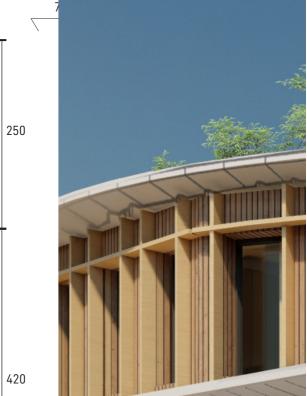


IMPRESSION DAYCARE





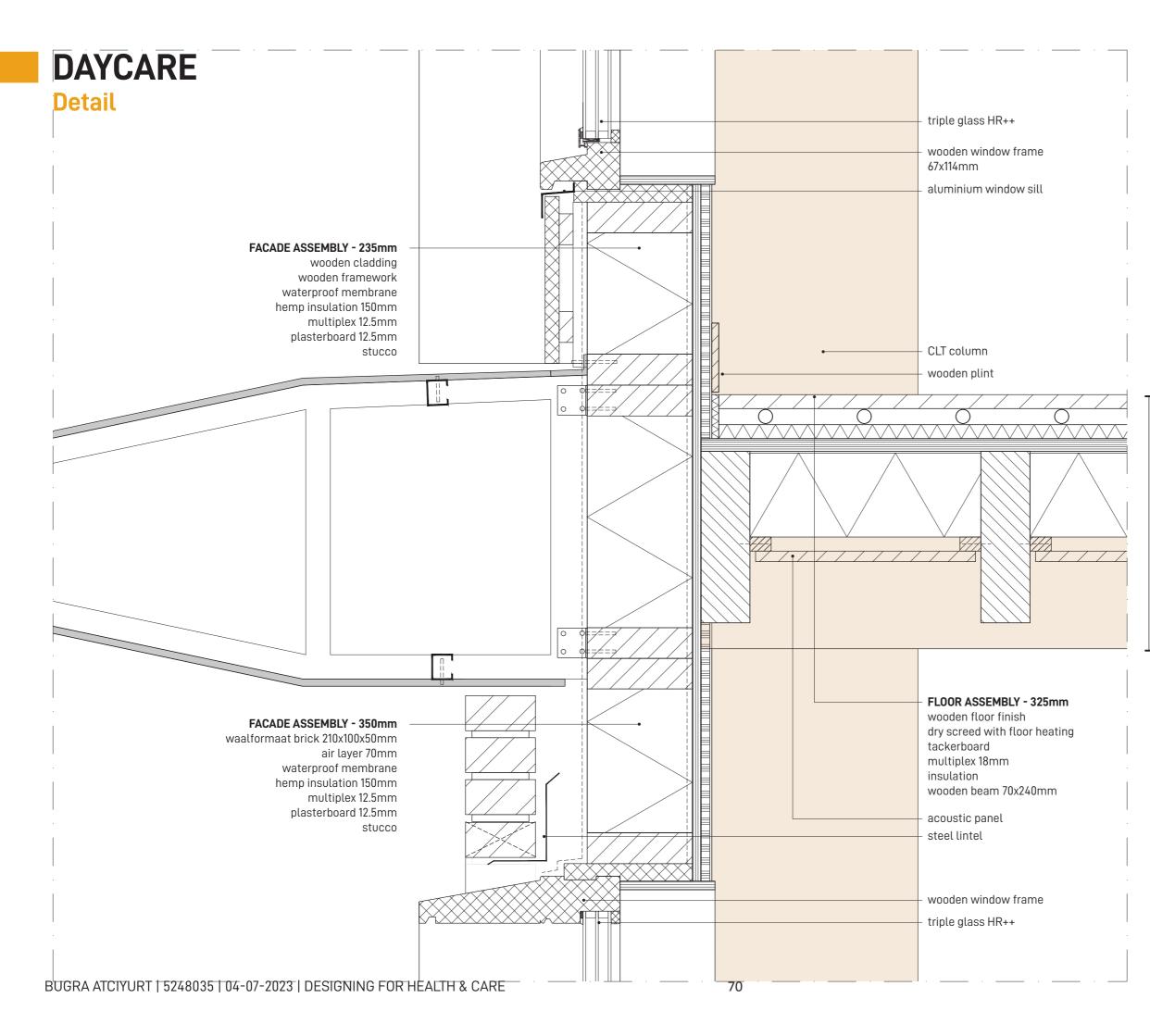




420

6600+

| code | DY - Gevel | | | |
|-----------|------------|---|---|--|
| schaal | 1:5 | | | |
| datum | 16-05-23 | | | |
| gewijzigd | а | b | с | |
| | d | e | f | |
| | g | h | i | |
| tek.nr | 1.02 | | | |



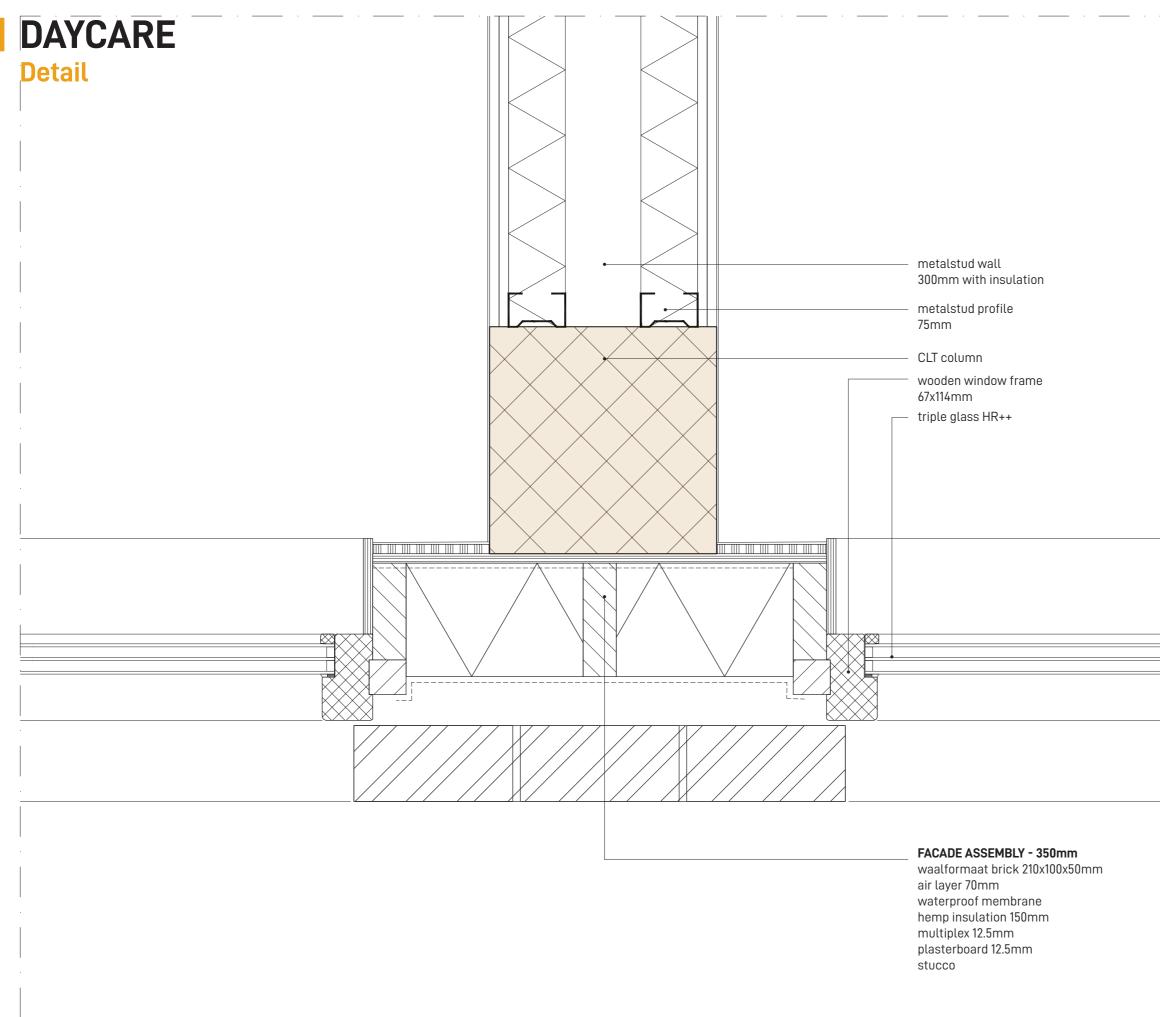


360

3600+

 $\overline{}$

| code | DY - Gevel | | |
|-----------|------------|---|---|
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| | d | е | f |
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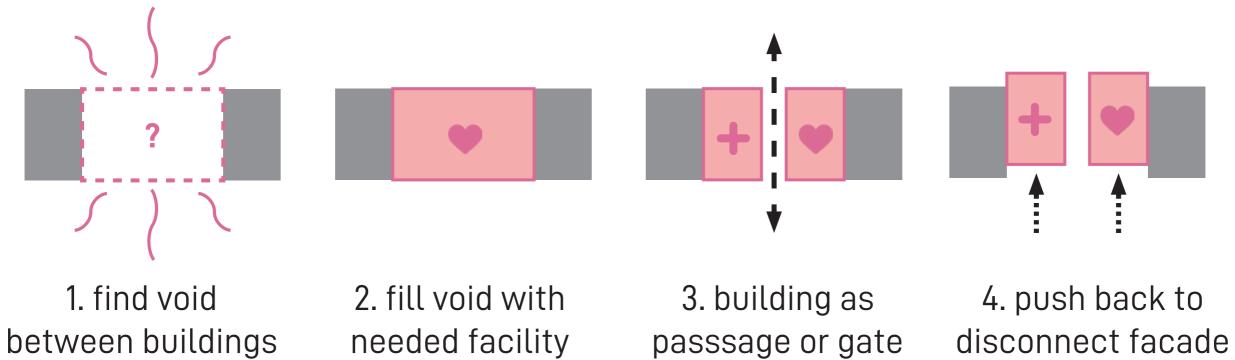


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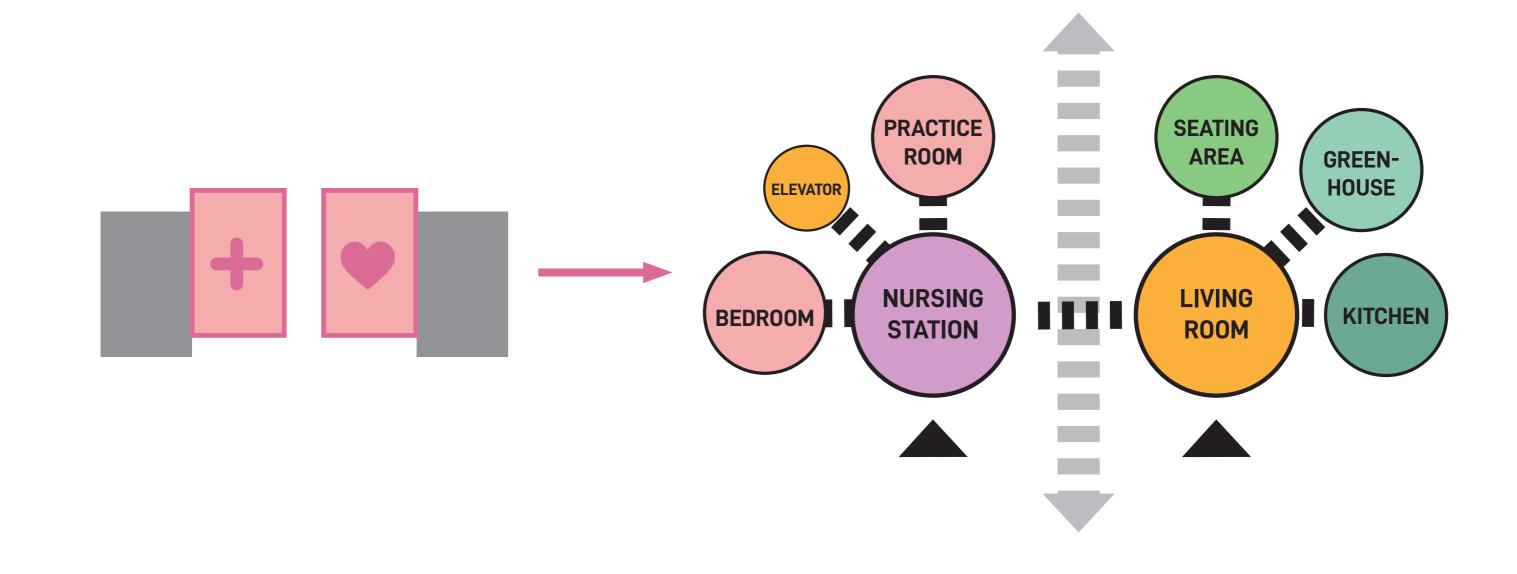
NURSING STATION



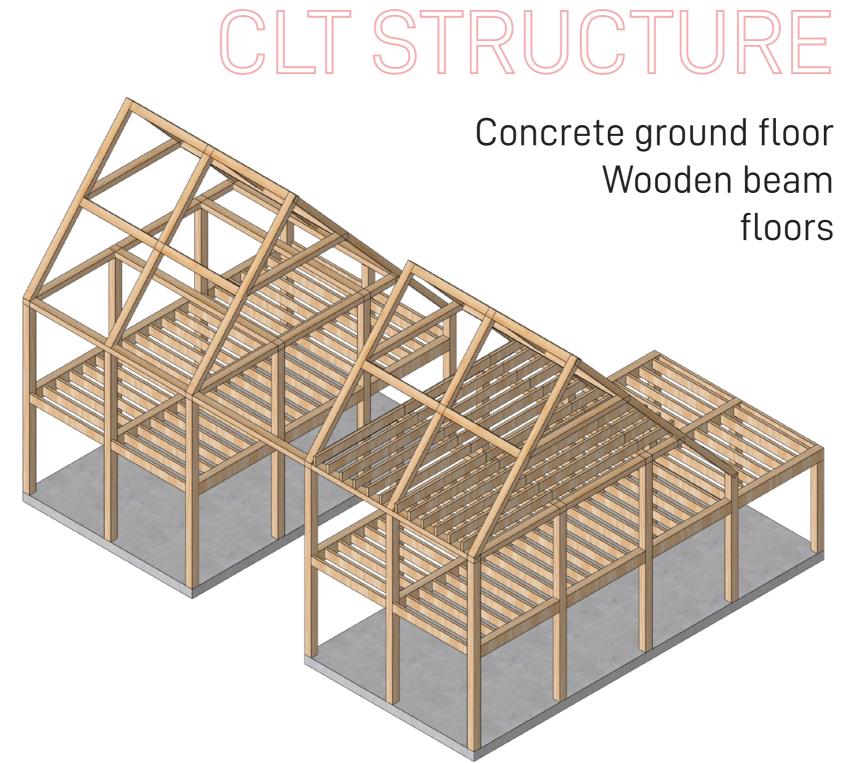




SPATIAL PROGRAM



STRUCTURE

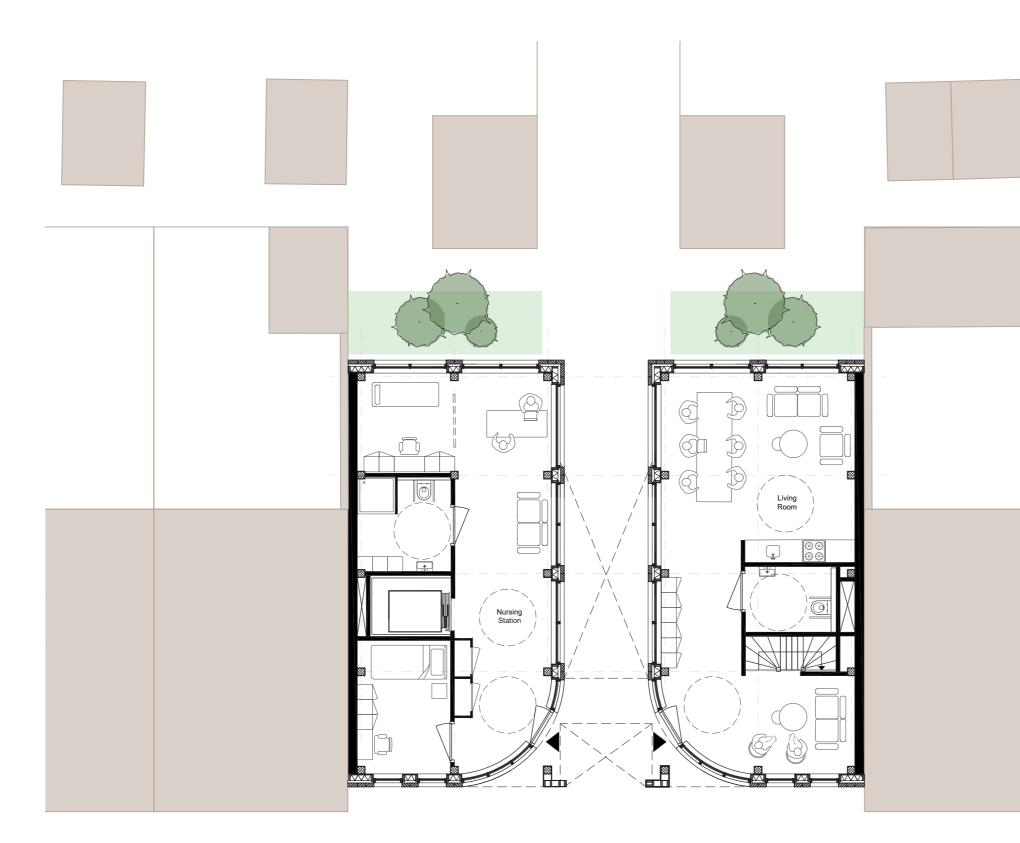


r J

5

NURSING STATION

Floorplan - Ground floor







NURSING STATION Floorplan - First floor

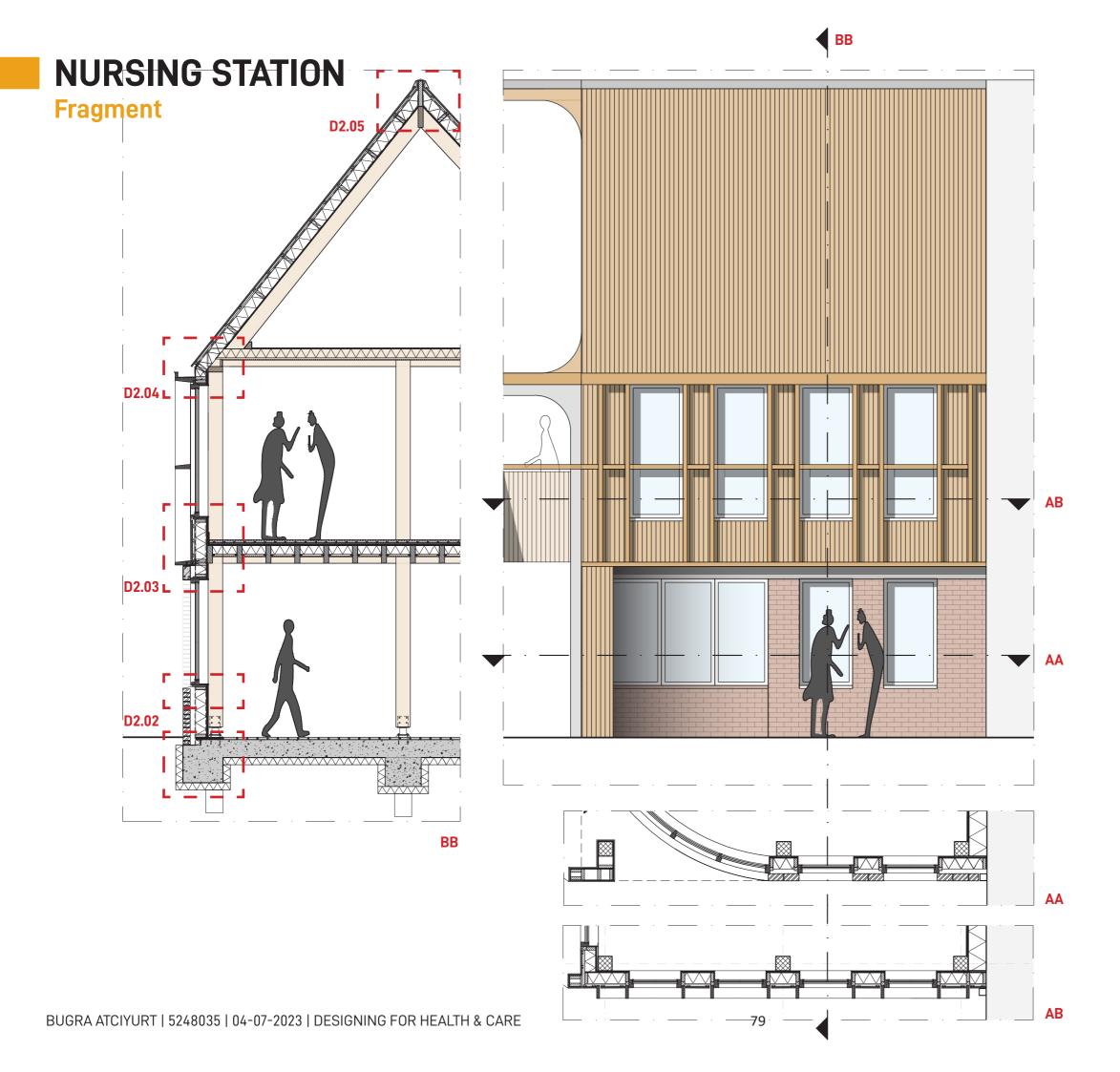
Rø MVV



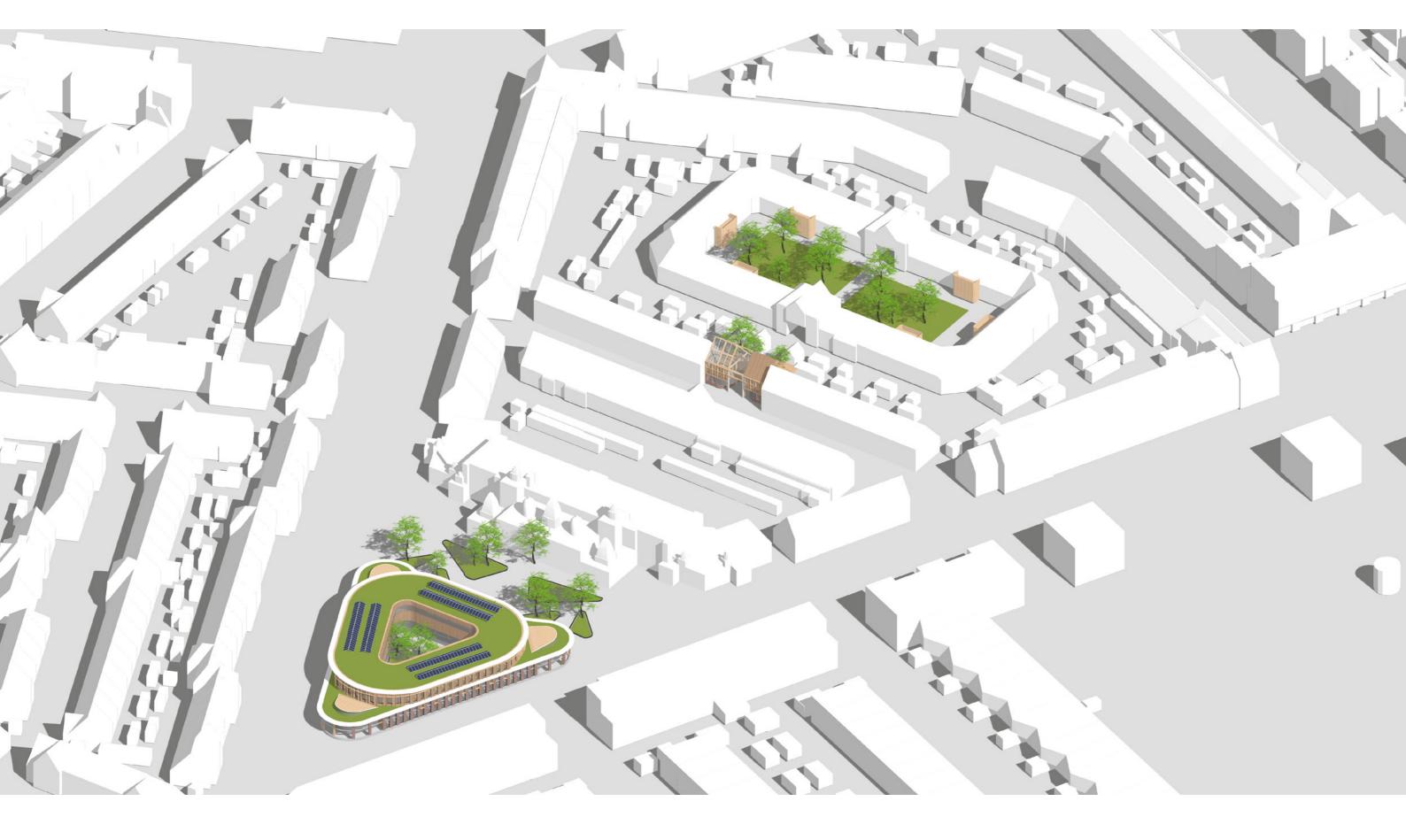


IMPRESSION NURSING STATION





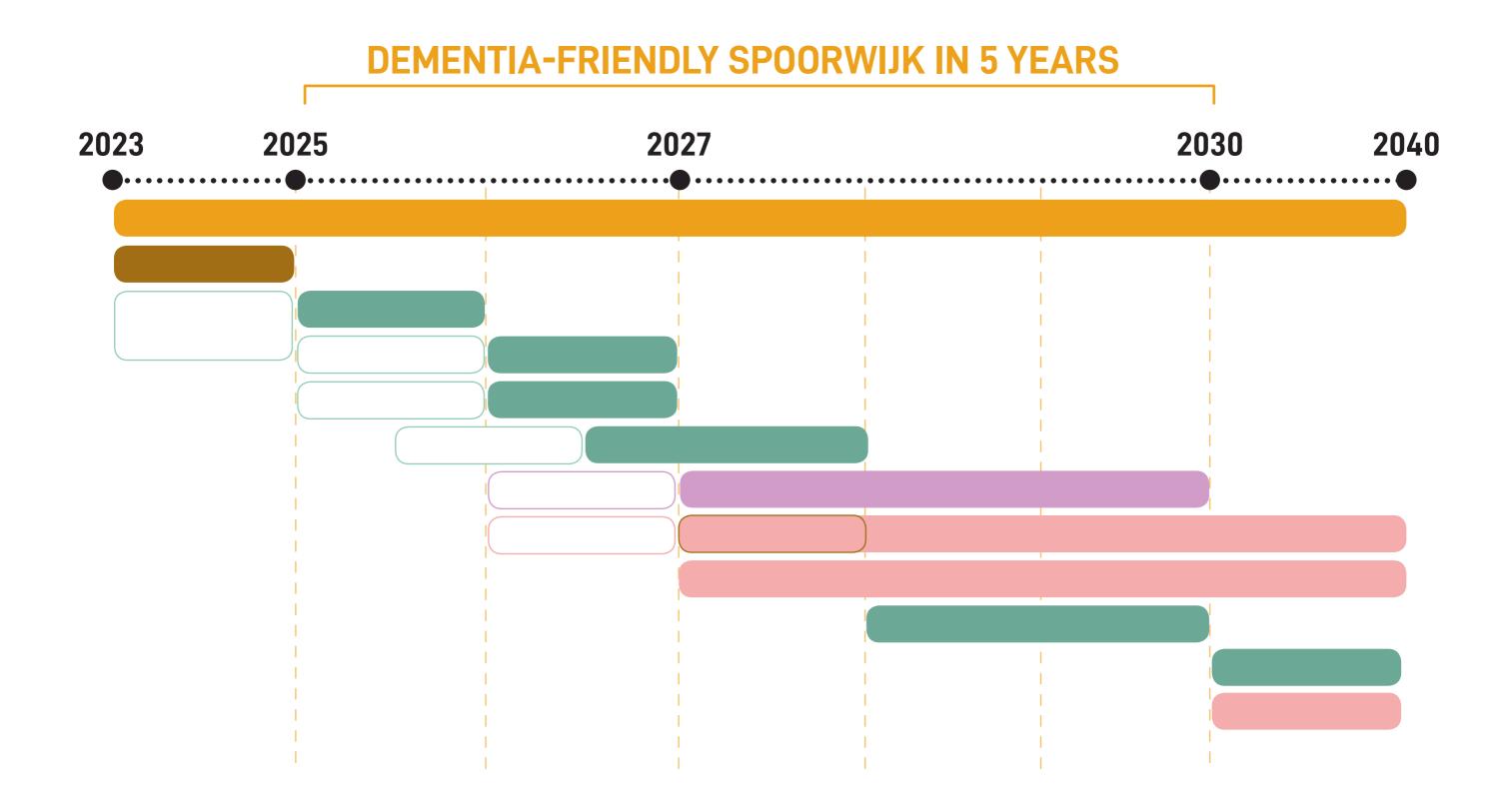
NEIGHBORHOOD



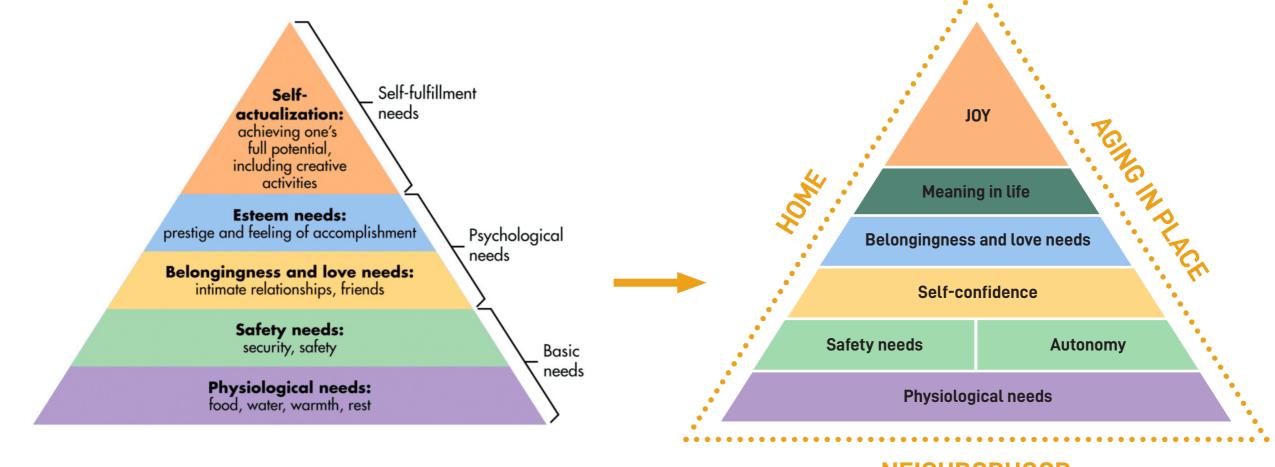
ROADMAP POOR







PYRAMID THEORIES



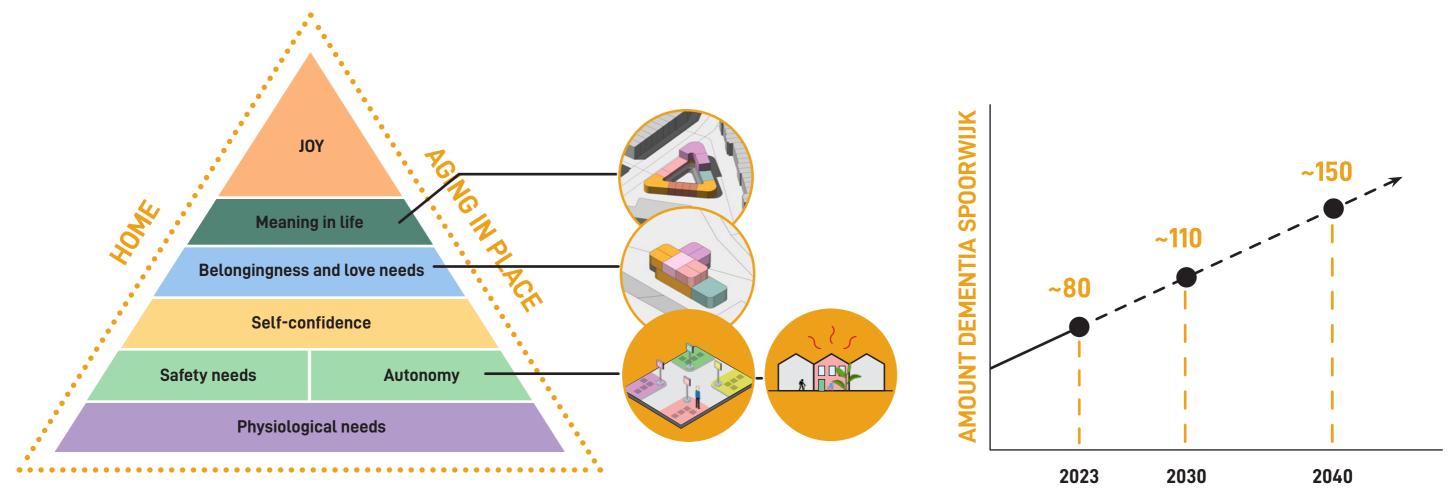
NEIGHBORHOOD

Pyramid of Maslow (1943)

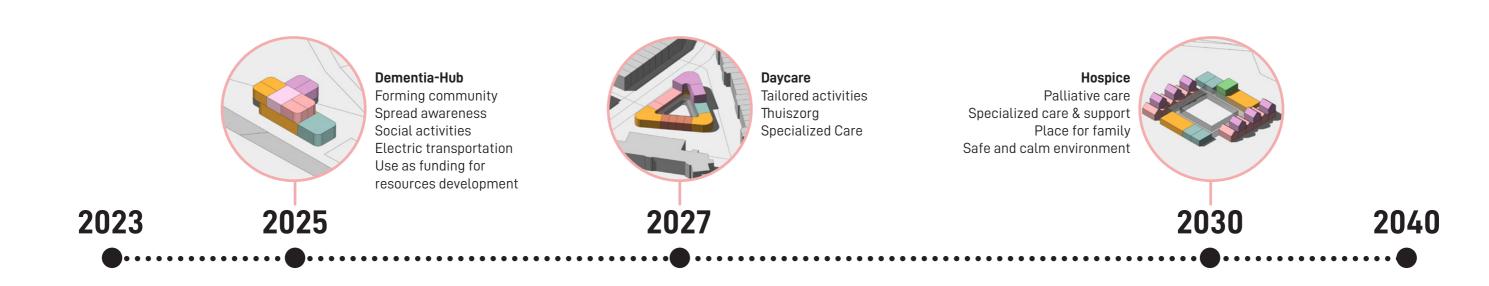
Pyramid of Bugra (2023)

DEMENTIA-FRIENDLY ROADMAP

Pyramid of Maslow

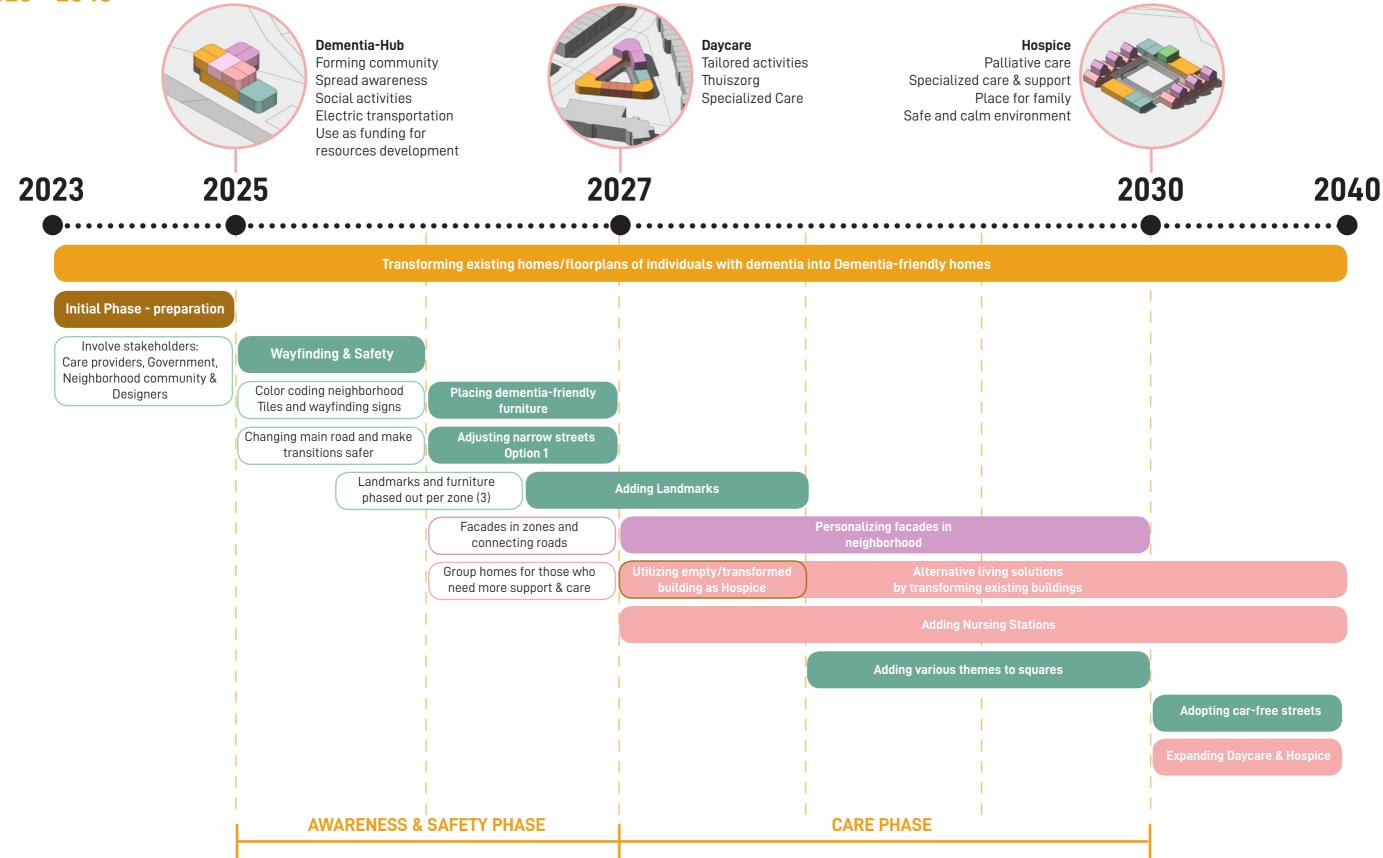


NEIGHBORHOOD

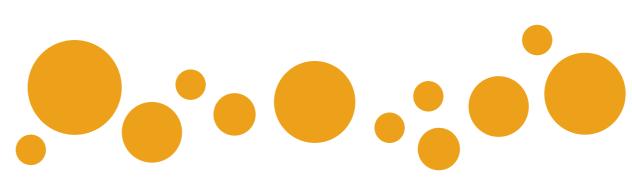


DEMENTIA-FRIENDLY ROADMAP

2025 - 2040



THANK YOU! BUGRA ATCIVURT





SOURCES

Front page illustration:

https://www.freepik.com/premium-vector/confused-old-male-character-forget-address-lost-city-isolated-white-background-forgetful-senior-man-with-alzheimer-disease-senility-dementia-concept-cartoon-people-vector-illustration_25487274.html

Pyramid of Maslow:

Maslow's hierarchy of needs, represented as a pyramid with. (n.d.). ResearchGate. https://www.researchgate.net/figure/Maslows-hierarchy-ofneeds-represented-as-a-pyramidwith-the-more-basic-needs-at-the_ fig3_324279637