



DEMENTIA *ART* ACADEMY

The Architectural Canvas of Dementia Well-being

DESIGN BOOKLET
Simone Bosveld



Dwelling - Health & Care
18.06.2024

by
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18/06/2024
Design Booklet

Dwelling Graduation Studio
AR3ADI10

**Designing for Care in an Inclusive
Environment**

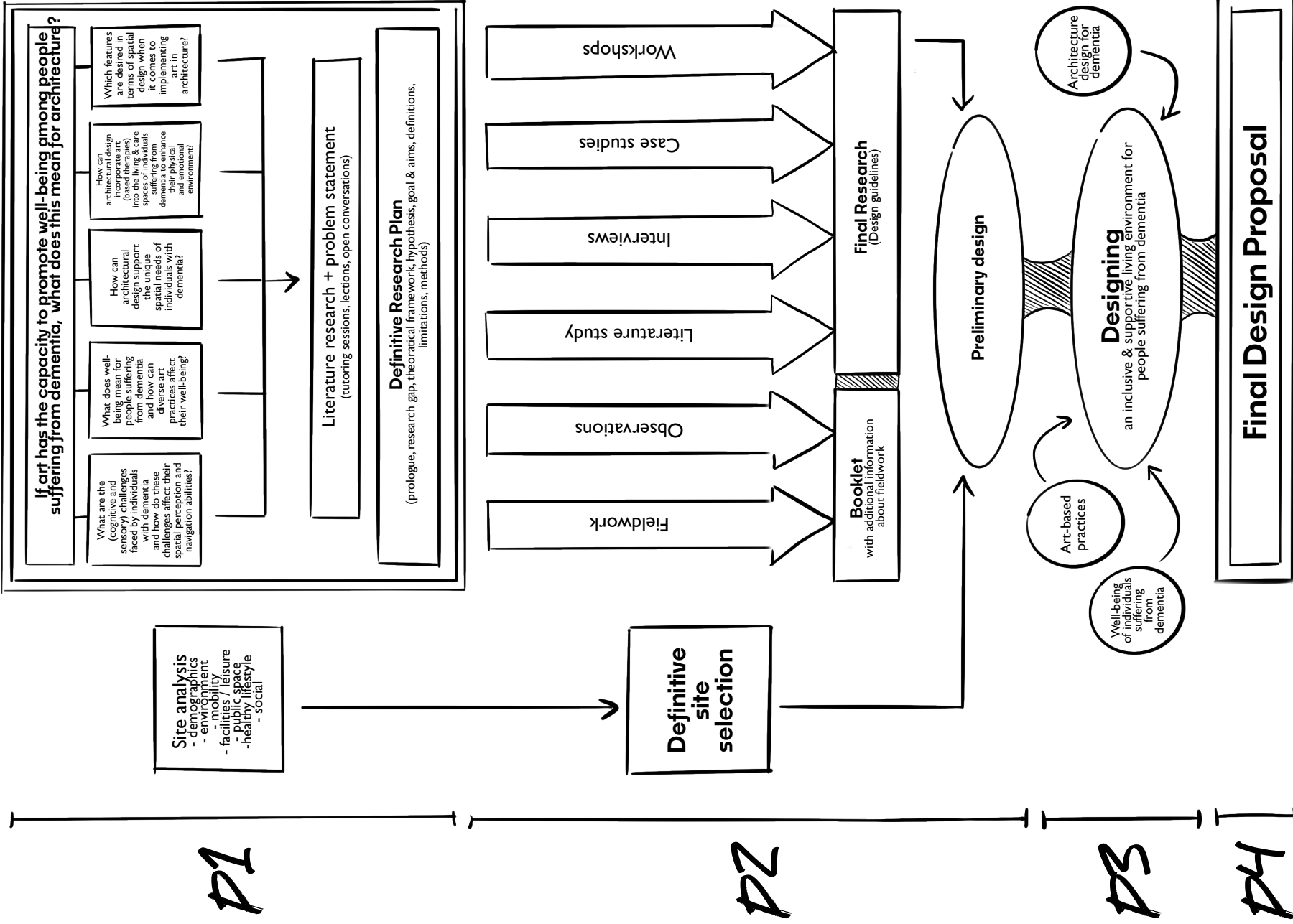
Delft University of Technology
Master Architecture, Urbanism and Building Sciences

INTRODUCTION

This extra booklet contains the design process of the Dementia Art Academy, including the associated drawings, sketches, diagrams, ideas, and comments.

This book shows all the topics covered in this design process, supplemented with drawings, diagrams, and visuals from P2 to P5. It begins with the design guidelines and the design brief, followed by the location selection, the concept, the design of the Academy (including material choices, brainstorm, mood boards, drawings, and official floor plans), renders and technical details of the building and structural construction. The book will conclude with a reflection section.

The Dementia Art Academy is an integral part of the expansion of the TU Delft and is situated next to the new Delft Campus train station on Tanthofdreef. The design serves as a cultural hub for the neighborhood where various art forms, students, artists, but above all, individuals with dementia come together within one building. The design stands out as a pioneer in contemporary dementia care. The academy offers respite care, including guest rooms for individuals with dementia, providing temporary relief for caregivers at home, ultimately enabling those with dementia to remain living at home longer. Its design pushes the boundaries of dementia care by adopting a fresh approach in its architectural layout. Throughout the day, individuals are free to roam the grounds and move wherever they please, without constraints on their freedom in the form of fences or locks. The design facilitates this concept with the use of rounded shapes in its interior and exterior, guiding the way and minimizing the risk of getting lost. The building provides a warm *inner world* contrasted against a harsh *outside world*, encouraging its visitors to linger within the complex and is distinguished by its recognizable red color, making it easily recognizable in its urban setting. The academy features an auditorium, dance studios, music rooms, lecture halls, an exhibition space, and a cinema. Shared artistic facilities, including art forms like visual arts, music, dance, and gardening, where the guests can participate in daily activities, are spread across the ground floor and 1st floor. Through a long organic corridor traversing the building, the various art forms are interconnected, with art serving as a guiding (red) thread throughout the structure. The complex is characterized by a green inner courtyard featuring a centrally covered stage, vegetable gardens, a terrace, and various organic pathways. The academy encourages independence, autonomy and improves the overall well-being of people suffering from dementia. It is a place where individuals with dementia are integrated into society and treated as ordinary people, where students and individuals with dementia can learn from and with each other.



P6 **I. DESIGN BRIEF**

P17 **2. SITE**

P25 **3. CONCEPT**

P39 **4. THE ACADEMY**

P126 **5. REFLECTION**





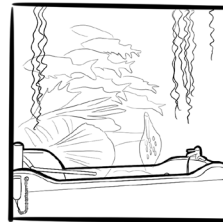
Design brief DESIGN GUIDELINES



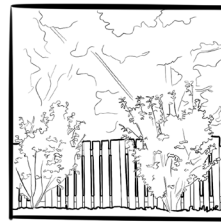
1. Easy orientation



2. Facilitate engagement



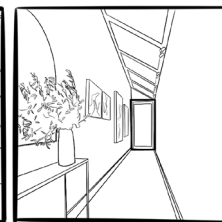
3. Sensory environment



7. Secure perimeters



8. Cluster living arrangements



9. Minimal change / direction



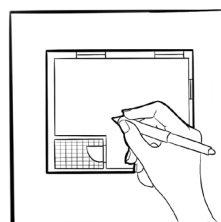
4. Balance between therapeutic & memory spaces



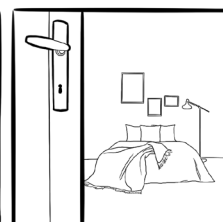
5. Clear overview



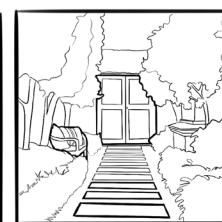
6. Promote social contact



10. Simple floorplans



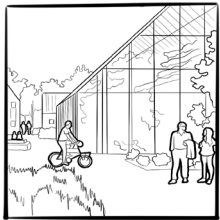
11. Visual access



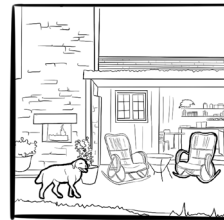
12. Inviting walkways



13. Integrate daily functions



14. Fostering a sense of community



15. Design appealing outdoor space



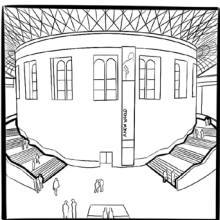
16. Provide flexible spaces



17. Empower autonomy



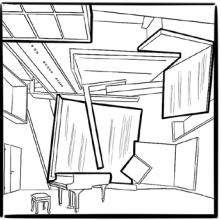
18. Focus on art and creativity



19. Create a central (cultural) hub



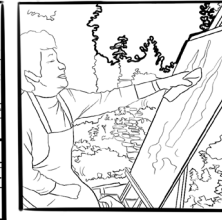
20. Feature prominent placement of artworks



21. Good acoustics



22. Accessible and safe kitchen space



23. Daylight access

24.01.2024 (P2)

On January 24th, I held my P2 presentation. I presented the outcomes of my research: 23 design guidelines and the conclusion of the research. Subsequently, I made the first design proposal.

Conclusion:

The integration of art, whether through music, visual arts, cooking and gardening, activity therapy or poetry, each to a varying extent but all contributing, proves to have the potential to enhance cognitive abilities, reduce behavioural challenges and promote overall happiness.

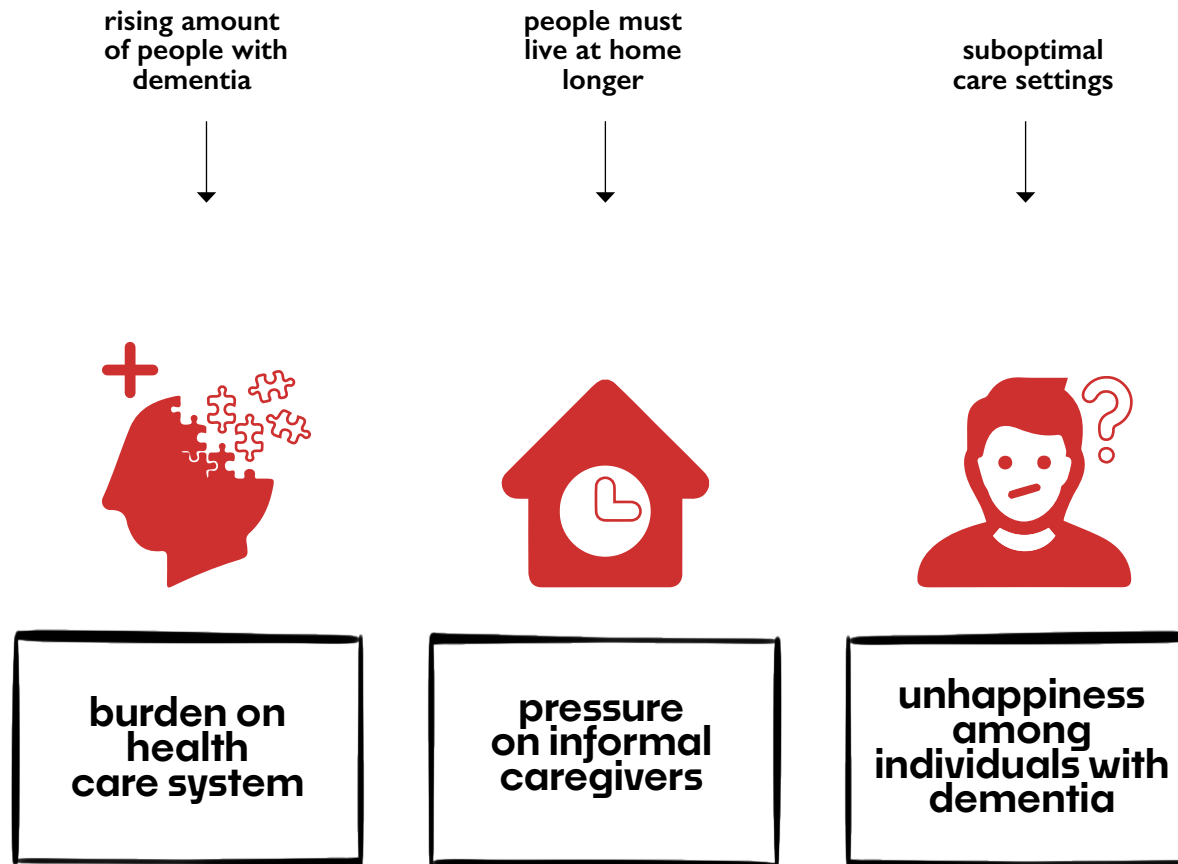
The results of this research reveal that implementing art has great potential for further developments in the architecture for dementia well-being and reducing the burden on the care system, presenting a promising vision for the future of dementia care.

Discussion:

If it could be proven that applying art in the lives of people with dementia contributes to reducing the burden on the healthcare system and therefore lower national healthcare costs, a real change in the current treatment of dementia and the Dutch healthcare system would truly commence.

Design brief FOCUS - THE PROBLEM

01.06.2024



An increasing proportion of the world's population is aged 65 and over. By 2100, in 76 years, this number is expected to rise by 22.5%. The number of people diagnosed with dementia will also increase significantly. In the Netherlands, the number of people with dementia is expected to accelerate, reaching half a million by 2050.

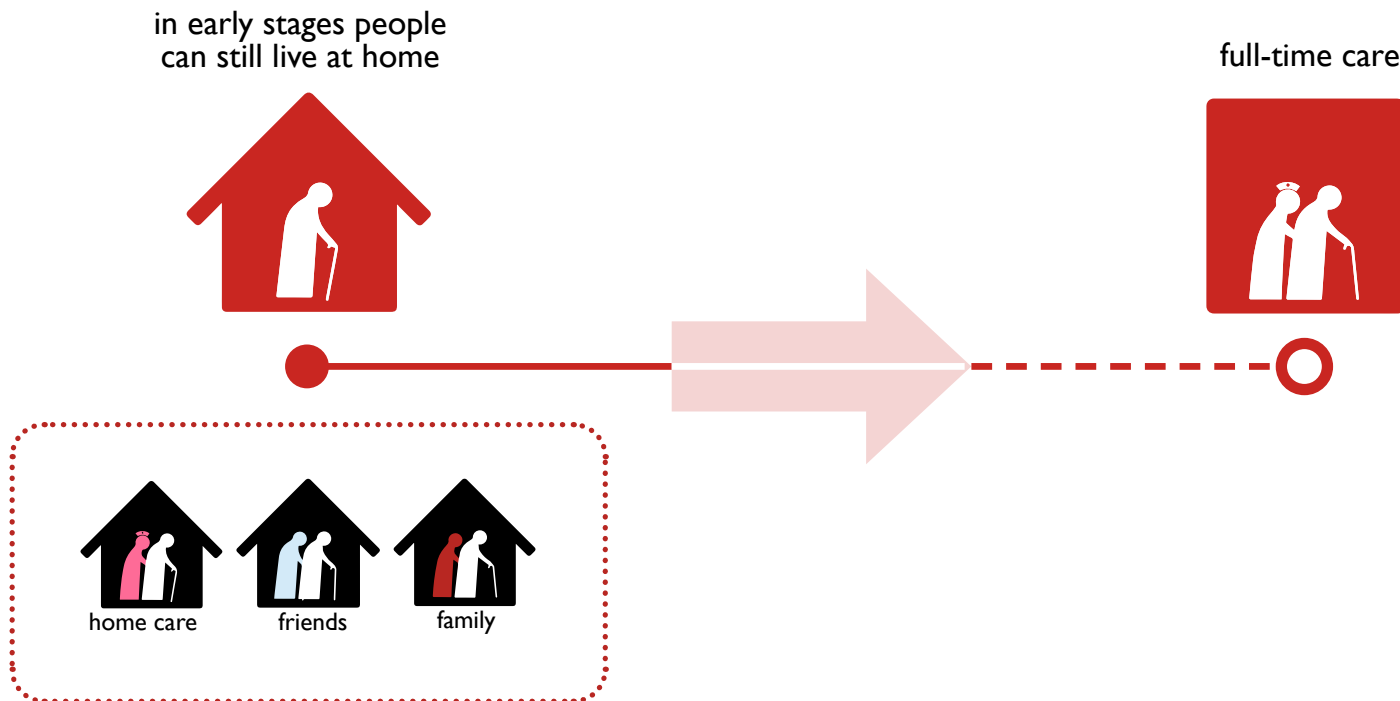
This leads to the core issue of this research: the rising number of people with dementia. People with dementia are required to live at home longer due to a shortage of care facilities capable of accommodating the growing numbers. Additionally, there is a lack of well-equipped institutions due to insufficient education and knowledge about the disease. This situation results in: a) a burden on the Dutch healthcare system, b) significant pressure on informal caregivers at home, and c) social isolation and unhappiness among people with dementia.

01.06.2024

Caring for someone with dementia is a demanding responsibility, with informal caregivers dedicating approximately 39 hours per week to provide the necessary support. This already substantial commitment is often made even more challenging by the fact that 40% of these caregivers are also juggling a job alongside their caregiving duties.

As a result, many caregivers experience significant stress and burden; in fact, over half (53%) of those caring for people with dementia report feeling heavily burdened. This intense pressure can become overwhelming, and when caregivers are no longer able to manage their responsibilities, it often leads to the admission of the person with dementia to a nursing or care home.

However, if caregivers can be temporarily relieved of their duties, they are more likely to sustain their caregiving roles for longer periods. This respite support enables people with dementia to remain living at home longer, which in turn reduces the strain on the healthcare system and helps lower healthcare costs. By providing caregivers with the necessary support and breaks they need, we can create a more sustainable and compassionate approach to dementia care that benefits everyone involved.



Design brief **DESIGN FOCUS**



IMPLEMENT ART THERAPY

the research indicates that incorporating art into the daily lives of people with dementia can enhance cognitive abilities, reduce behavioral challenges, and promote overall happiness



DESIGN RESPITE CARE

given the overburdened healthcare system, there is a need for an intermediate form of support that temporarily relieves informal caregivers and allows them to recharge, ultimately enabling people with dementia to remain living at home for longer periods

Design brief

GOAL



CURRENT SITUATION

closed departments with locked doors
little daylight, no outside area
no clear wayfinding
many residents, little care staff



AMBITION

relieve burden on the healthcare system
relieve burden on informal caregivers
freedom and autonomy
inclusive living environments for people living
with dementia with attention to individual
preferences

Design brief

DESIGN GUIDELINES IMPLEMENTATION

10.06.2024

	1. Easy orientation	2. Facilitate engagement	3. Sensory environment	4. Balance between therapeutic & memory	5. Clear overview	6. Promote social contact	7. Secure perimeters	8. Cluster living arrangements	9. Minimal change / direction	10. Simple floorplans	11. Visual access	12. Inviting walkways	13. Integrate daily functions	14. Fostering a sense of community	15. Design appealing outdoor space	16. Provide flexible spaces	17. Empower autonomy	18. Focus on art and creativity	19. Create a central (cultural) hub	20. Feature prominent placement of artworks	21. Good acoustics	22. Accessible and safe kitchen space	23. Daylight access
art therapy (day care)																							
care facility + garden																							
dementia care facility																							

Because the research concluded that the integration of art, whether through music, visual arts, cooking and gardening, activity therapy, or poetry, has the potential to enhance cognitive abilities, reduce behavioural challenges, and promote overall happiness, it was crucial to incorporate these guidelines into the graduation project. Art can significantly impact the health of people with dementia, so I analysed each guideline in detail.

The top row indicates which guidelines are relatively easy to integrate into 'standard' care facilities according to current design principles. It turns out that 10 out of 23 guidelines for integrating art into the lives of people with dementia are missing. If a garden was added to the care facility, which unfortunately not all current care facilities have, an additional three guidelines could be incorporated. This would still only bring the total to 13 out of 23 guidelines.

As the next step, one could consider adding extra spaces for art therapy or an external location where art can be applied to the lives of people with dementia through day activities. This way, significantly more guidelines can be integrated into the design, thereby contributing to the well-being of people with dementia. However, four guidelines crucial for designing an inclusive environment for people with dementia and art are still missing: 4. balance between therapeutic and memory spaces, 14. fostering a sense of community, 17. empowering autonomy, and 19. creating a central (cultural) hub. These could be added by designing respite care and an art academy into one facility.

Design brief

DESIGN GUIDELINES IMPLEMENTATION

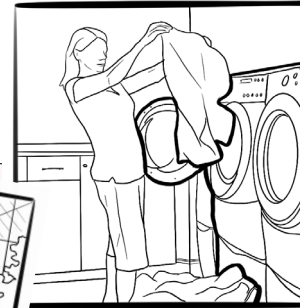
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art academy																							
art therapy (day care)																							
care facility + garden																							
dementia care facility																							



4. Balance between therapeutic & memory spaces



14. Fostering a sense of community

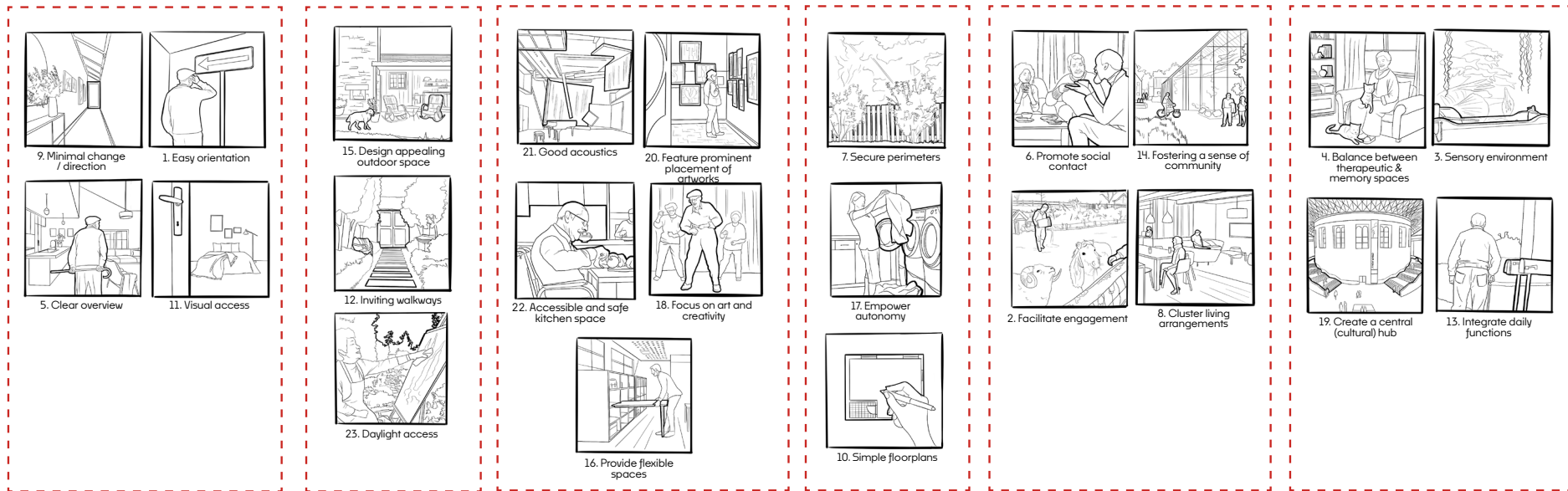


17. Empower autonomy



19. Create a central (cultural) hub

Design brief LOCATION CRITERIA



Accessibility and convenience

(easily accessible for
people with dementia/
visitors and staff)

Natural environment

(calm and green
environment, provide
activities like gardening,
daylight access)

Space for art and creativity

(a location with
sufficient space for art
studios, galleries and
creative workspaces,
also for music)

Safety and security

(clear perimeters,
calm roads)

Sense of community

(shops or social
meeting spaces can
contribute to a sense
of connection)

Central cultural hub

(a place where
various artistic
disciplines come
together; this can
serve as a meeting
place and a source of
inspiration)

P6 **1. DESIGN BRIEF**

P17 **2. SITE**

P25 **3. CONCEPT**

P39 **4. THE ACADEMY**

P126 **5. REFLECTION**

Site LOCATION

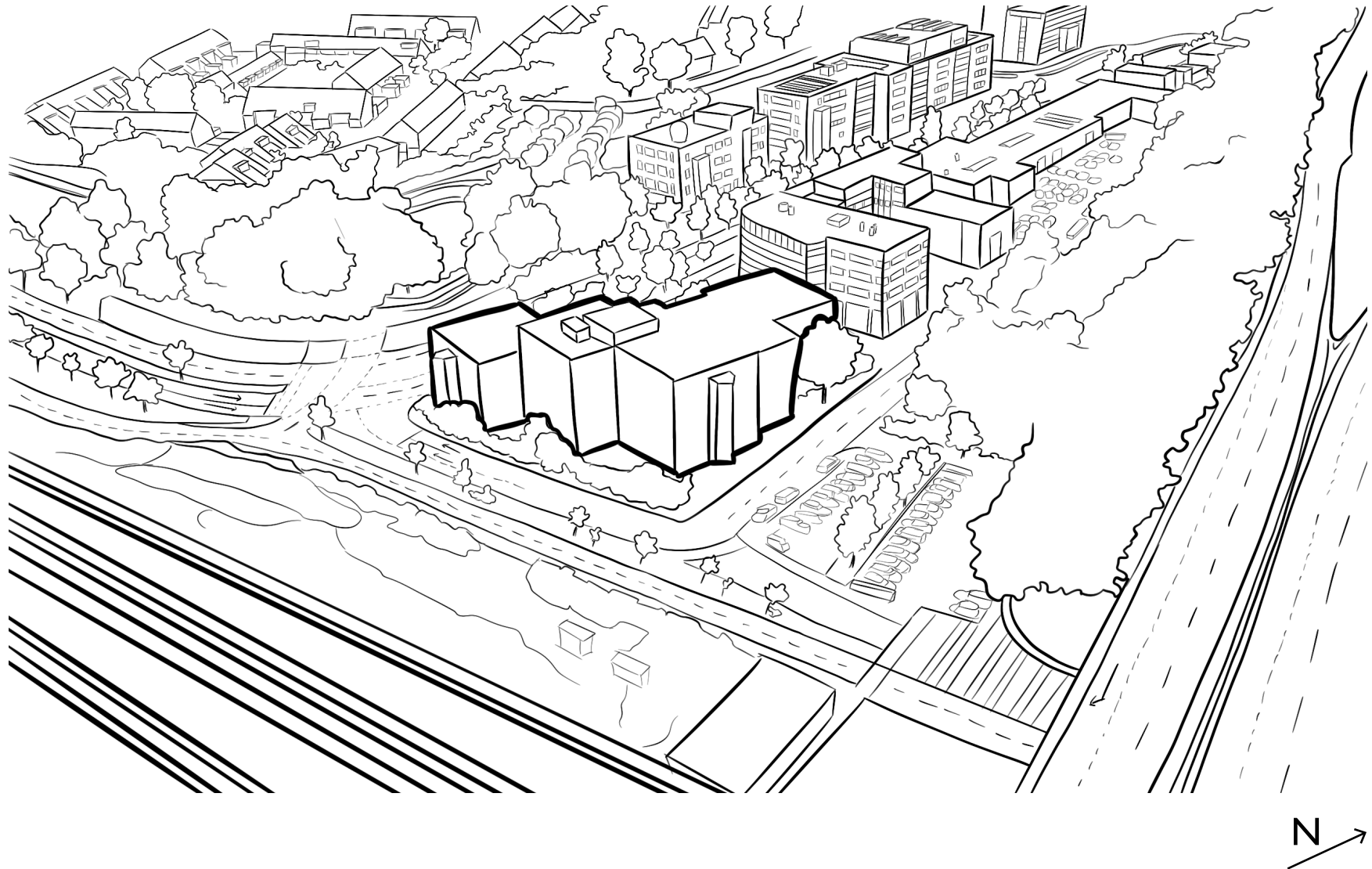


THE NETHERLANDS, SOUTH-HOLLAND

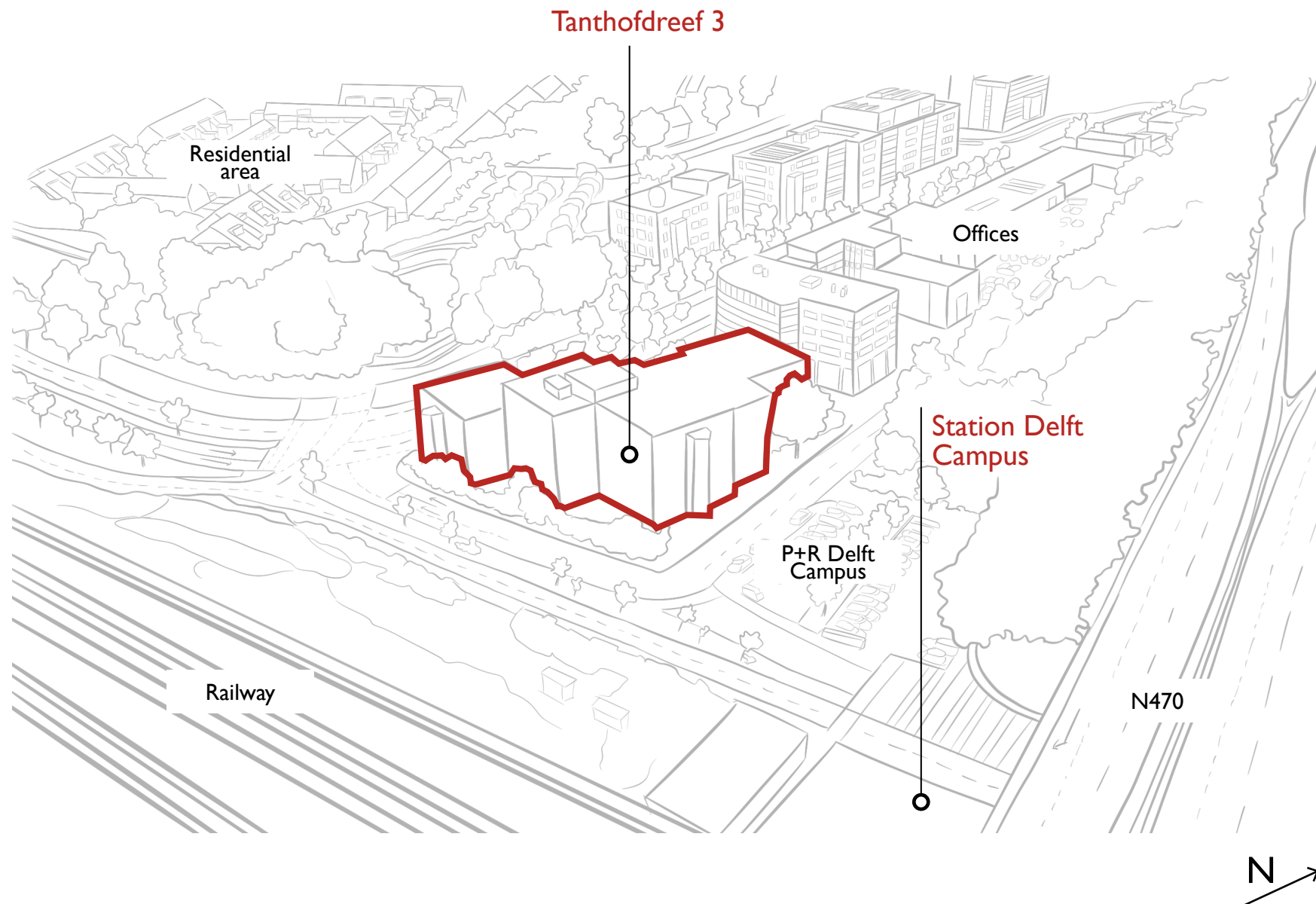


SOUTH-HOLLAND, DELFT

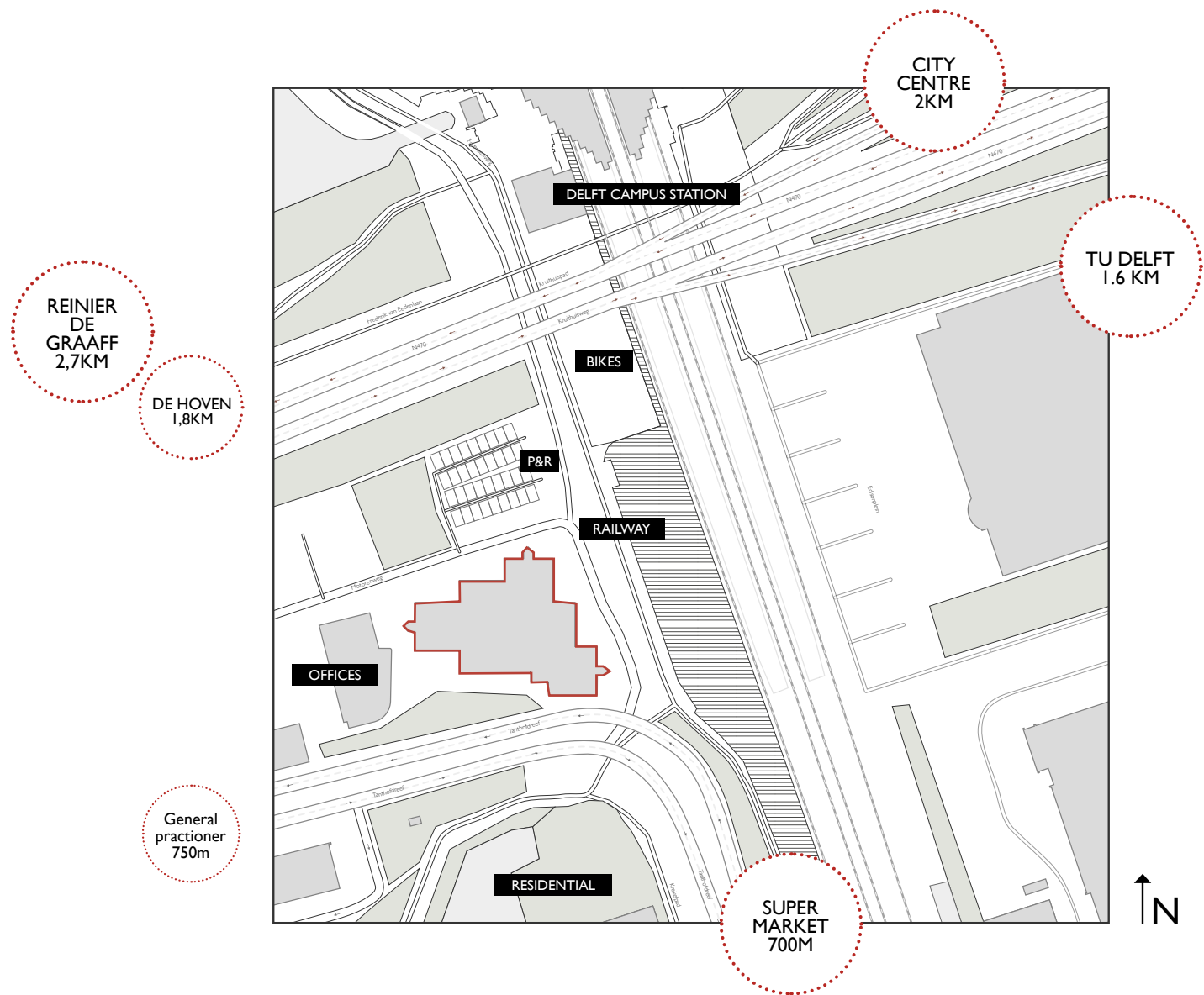
Site
SITUATION DRAWING



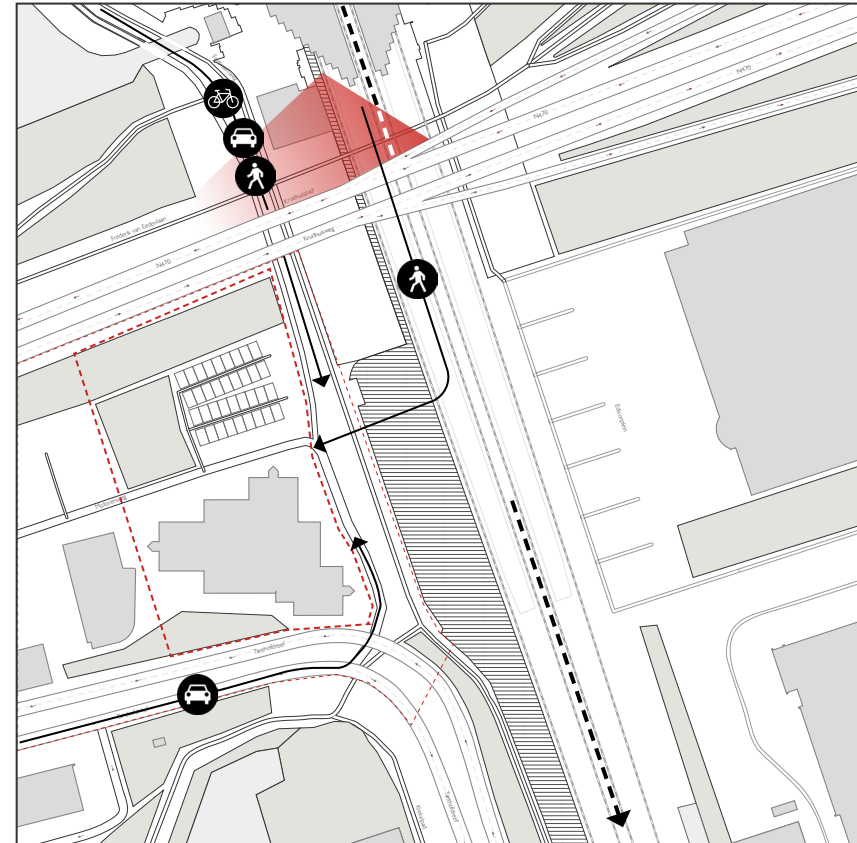
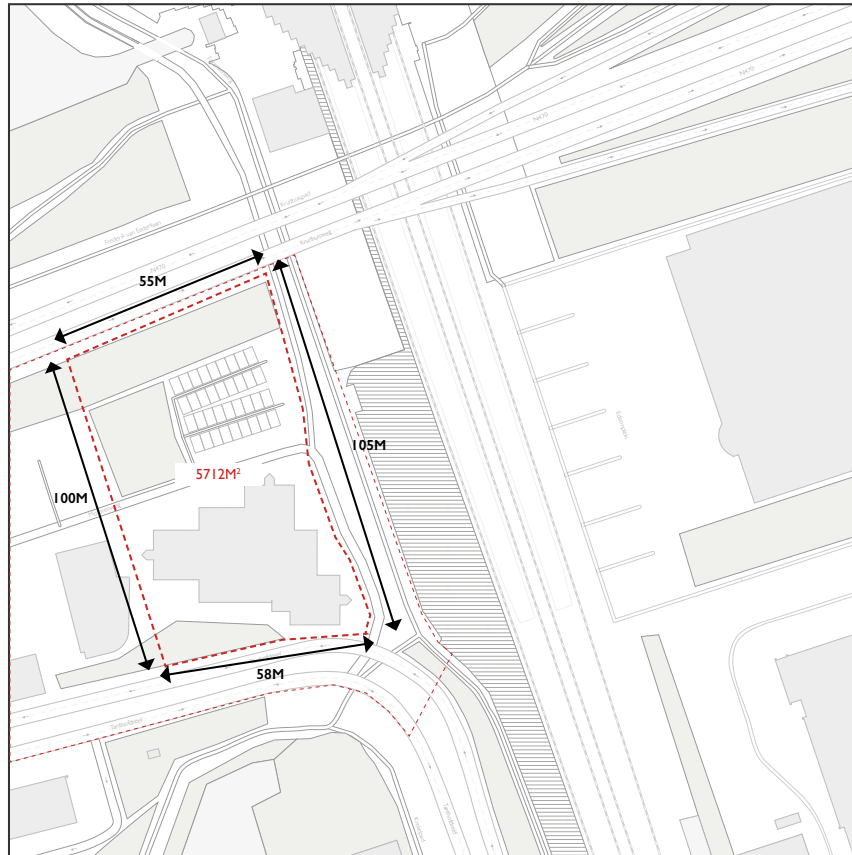
Site
SITUATION DRAWING P2



Site P4
SITUATION DRAWING P4



Site P4 MEASUREMENTS & TRANSPORT P4



Site PLOT & FIRST VOLUME CONCEPT P2

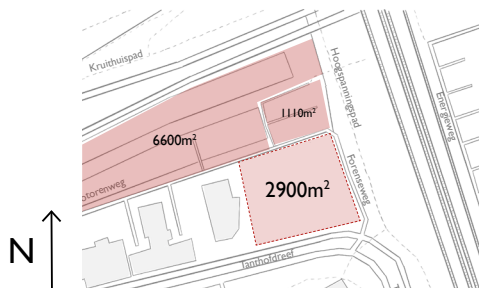
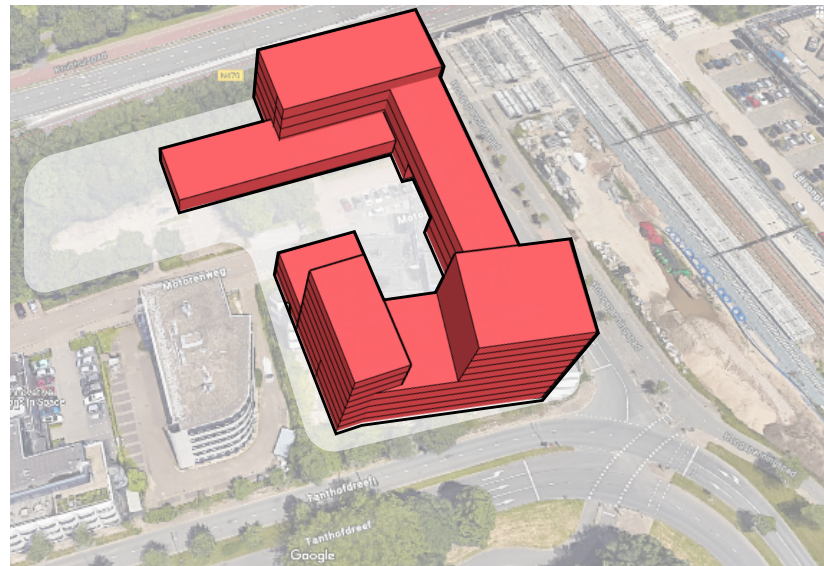
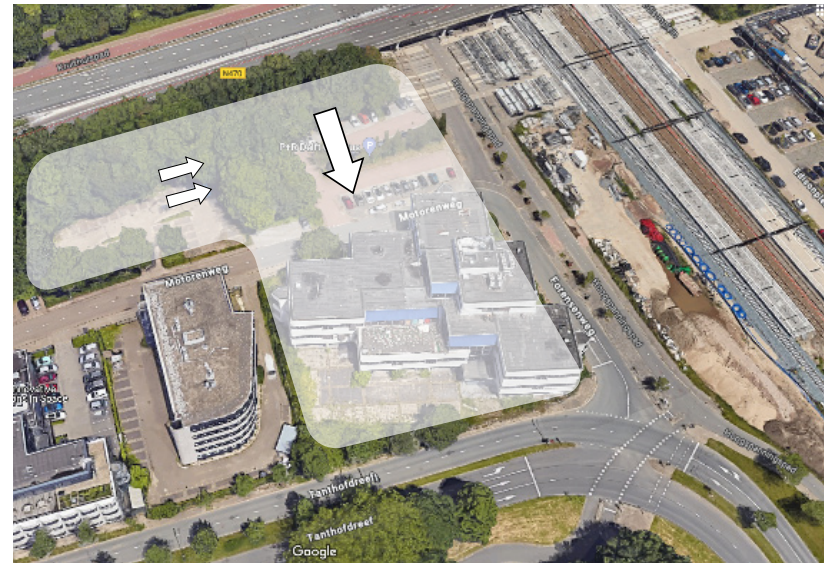
24.01.2024 (P2)

The first steps in the design, after selecting the appropriate location, focused on shaping the building. By extending the side strip, I created a clear entrance and meeting place, attracting passersby, people from Delft Campus station, and locals to the building. This design choice ensures the building is accessible and inviting.

To enhance access to nature, the design proposes bridging the road (Motorenweg) and constructing on the opposite side of the plot, integrating the park strip with the building. This approach makes nature inclusive and usable for various artistic forms, enriching the overall experience.

Additionally, by creating an intimate square surrounded by the building, I established a cultural hub where people can gather. This space allows different parts of the building to be secluded yet interconnected, promoting a sense of community and collaboration in the center. The design fosters a dynamic and inclusive environment, encouraging interaction and creativity among visitors.

On the left, you can see the plots above and the initial layout proposal for the building below, based on the P2 concept. While the shape may change, the foundation will remain the same.



Site SITE AMBITIONS & CHARACTERISTICS P2

CHARACTERISTICS

**Station Delft
Campus
(public
transport,
highways and
biking lanes)**

**Quiet area
with greenery**

**Clear
perimeters,
pedestrian
area and
closed off
roads**

AMBITIONS

**Expansion of
the TU Delft**

**Lack of
meeting
space**

**Lack of a
central hub**

P6 **1. DESIGN BRIEF**

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Concept DEMENTIA ART ACADEMY

10.06.2024



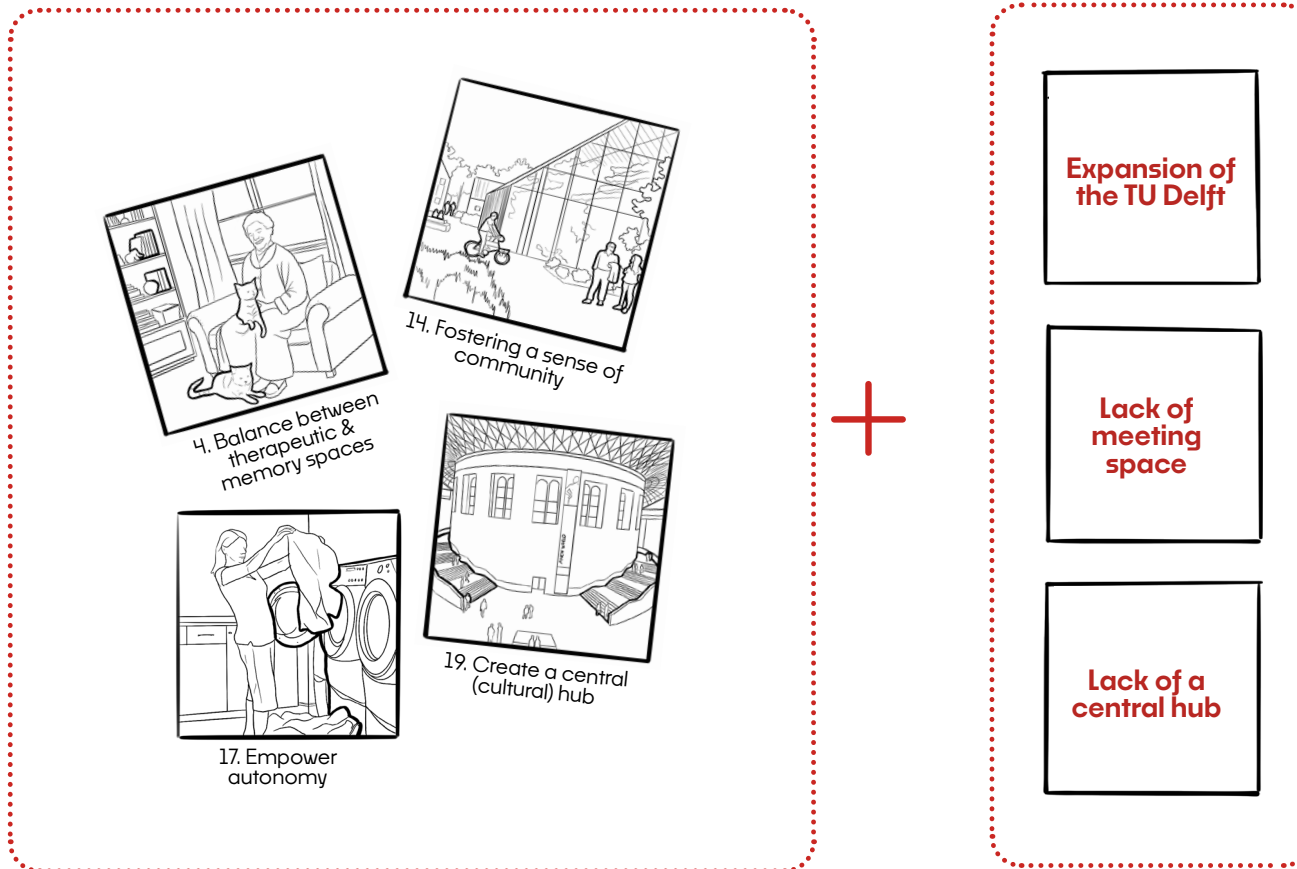
In preparation for P5 on the 18th of June, I reviewed all the design guidelines one last time. The final design is based on all of the 23 design guidelines. As explained on page 11, not all guidelines can be incorporated into 'standard care facilities'. By integrating art into the daily lives of people with dementia through the addition of art-specific spaces or the implementation of day activities, many guidelines can be met. However, by designing a respite care facility within an art academy, the remaining four guidelines can also be accommodated in one building. After extensive planning and adjustments, the selection shown in the image on the left was created. Refer to the table on pages 11 and 12 for detailed explanations or the visual on the next page (25) for the key guidelines of the Dementia Art Academy,

Concept DEMENTIA ART ACADEMY - KEY GUIDELINES

10.06.2024

As shown on page 21, the location near Delft Campus station is optimally situated in relation to public transport, highways, and bike lanes. It is a quiet area with abundant greenery and has clear perimeters, pedestrian areas, and closed-off roads. These qualities perfectly align with the site requirements derived from the guidelines on page 13.

The Dementia Art Academy addresses the four missing guidelines identified in the “Tones of Comfort” research that serves as the base for this design. Additionally, the ambitions for the site align perfectly with the design. The TU Delft plans to expand the campus in this direction, making an art academy an ideal opportunity. Moreover, there is no meeting place for travellers from Delft Campus station and no ‘central hub’: a place where travellers can meet local residents, have coffee, or buy a sandwich. By incorporating a supermarket and a public café, the Dementia Art Academy not only meets the 23 guidelines but also fulfils the needs of the plot on Tanthofdreef and the vision of TU Delft.



Concept KEY GUIDELINES



4. Balance Between Therapeutic & Memory Spaces

Argument:

A combined art academy and respite care facility naturally integrates therapeutic and memory spaces. The art academy offers structured therapeutic activities such as art therapy, while the respite care facility provides memory-enhancing environments through familiar and comforting settings.

Importance:

Balancing these spaces is crucial because therapeutic activities can help maintain cognitive functions, while memory spaces provide emotional security and reduce anxiety. This balance can be difficult to achieve in traditional care facilities where therapeutic and memory spaces are often segregated or underemphasized.



14. Fostering a sense of community

14. Fostering a Sense of Community

Argument:

An art academy fosters a sense of community by bringing together individuals with shared interests in art and creativity. This shared focus can enhance social interaction and build supportive networks among residents, caregivers, and artists.

Importance:

Social engagement is vital for mental health and can significantly improve the quality of life for people with dementia. Traditional care facilities or art therapy day care activities often lack the immersive community environment that an art academy provides, the feeling of being part of something bigger.

Concept KEY GUIDELINES



17. Empower autonomy

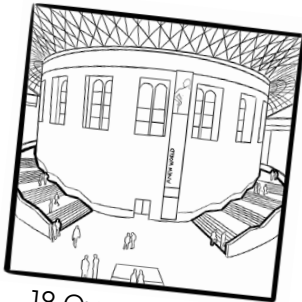
17. Empower Autonomy

Argument:

The art academy model empowers individuals by giving them the freedom to explore their creative interests and participate in various activities at their own pace. This autonomy is facilitated by flexible spaces and an accessible design.

Importance:

Empowering autonomy helps maintain dignity and self-esteem, which are often compromised in conventional care settings where routines can be rigid and options for personal choice are limited. Traditional care facilities might not provide the same level of freedom and self-directed activity as an integrated art academy.



19. Create a central (cultural) hub

19. Create a Central Cultural Hub

Argument:

An art academy naturally functions as a cultural hub, offering regular exhibitions, performances, and communal art projects. This central hub can be a vibrant focal point for both the residents and the broader community, fostering a sense of inclusion and engagement.

Importance:

A central cultural hub enriches the environment, providing ongoing stimulation and opportunities for meaningful interaction. This is often missing in standard care facilities or day care activities, which may not have the resources or space to create a dynamic cultural center.

Concept BENEFITS & SHORTCOMINGS

Benefits of the Art Academy Principle

Integrated Care: Combining art therapy and respite care in one setting ensures a seamless integration of therapeutic and memory-supportive environments.

Enhanced Social Networks: The art academy fosters a stronger sense of community and social engagement among residents and the local community.

Increased Autonomy: Flexible, creative spaces empower residents to make choices and engage in activities that interest them, preserving their independence.

Rich Cultural Environment: A central cultural hub offers continuous opportunities for engagement, learning, and interaction, enriching the residents' lives.

Why Traditional Care Facilities Fall Short

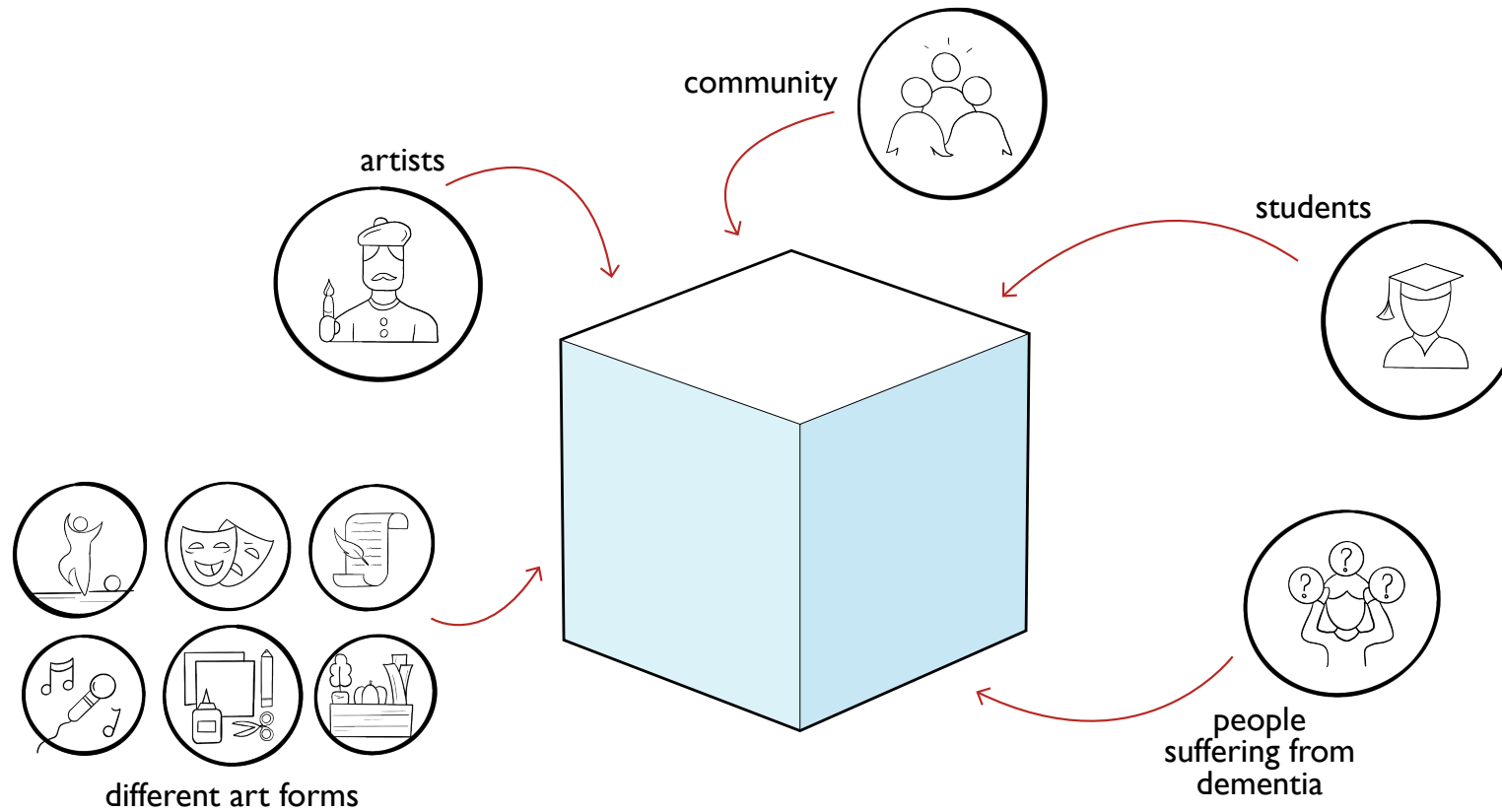
Segregation of Spaces: Traditional care facilities often separate therapeutic activities and memory care environments, leading to less integrated and holistic care.

Limited Social Interaction: Standard care settings might not emphasize community-building to the same extent, leading to social isolation.

Restricted Autonomy: Conventional care environments often have more rigid schedules and less opportunity for self-directed activity, limiting residents' autonomy.

Lack of Cultural Engagement: Typical care facilities might not have the infrastructure or focus to create a vibrant cultural hub, missing out on the benefits of continuous cultural and creative engagement.

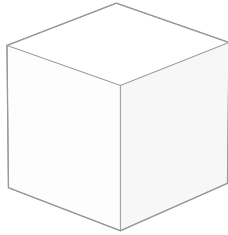
Concept
USERS



ART ACADEMY

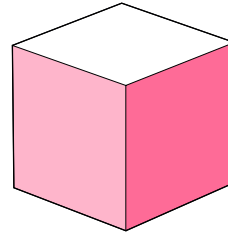
Establish an educational building where individuals with dementia, students, and artists can learn from, enjoy, and benefit each other.

Concept PROGRAM



Apartments

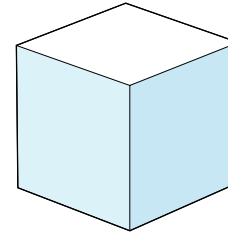
There already is a plan for a 70-meter high, 25,000 square meters luxury apartment complex. While this specific area is in need of a social and cultural hub, combining the design with an apartment complex has benefits and can ensure a secure environment with a constant flow of people, fostering a vibrant atmosphere day and night.



Art academy

As an extension of the TU Delft, the Art Academy serves as a dynamic hub where students, artists, individuals with dementia, and the local community come together to engage in mutual learning and collaborative creativity.

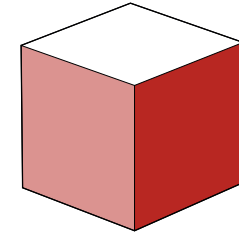
+



Respite care

A space providing overnight accommodations for individuals with dementia, ranging from one night to three weeks. This facility aims to offer temporary respite for informal caretakers, supporting them to sustain caregiving and promote prolonged independent living.

+

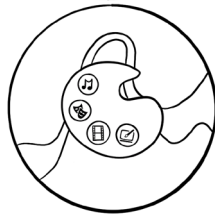


Central hub

The new Central Hub not only facilitates community gatherings but also offers essential daily services. Strategically located next to the new central station Delft Campus, it emerges as a fresh and inviting meeting place for residents and visitors.

Concept DESIGN CONCEPTS P2

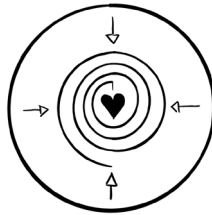
1



Art as the red thread

Art guiding you through the building and forming the essence of every design choice and activity.

2



Cultural hub

A place where different art forms come together, uniting diverse groups and serving as a new community meeting point in the area.

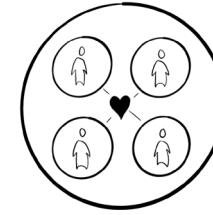
3



Learning & living

A design centered around creating a supportive environment for individuals with dementia, emphasizing an experience where people can learn from and about dementia, regardless of their background.

4

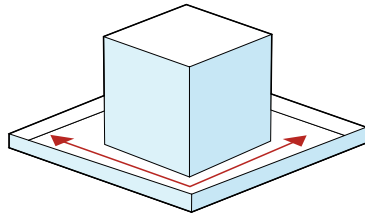


A new community

A space intentionally designed for bending different groups of people - students, artists, passers-by, and those with dementia - in a harmonious and inclusive setting.

Concept DESIGN CONCEPTS P2

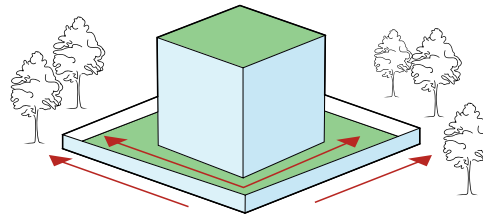
1



Safe & clear perimeters

Encourage free movement, allowing individuals to explore freely.

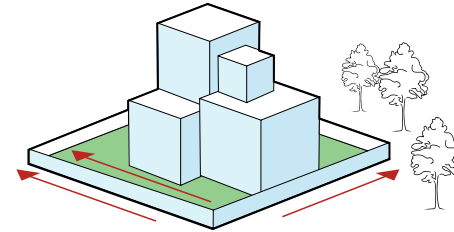
2



Engaging & healthy environments

Create environments that facilitate engagement, interaction, and meaningful activities.

3



Balance living & activities

Separate respite areas and activity areas to create a balance between serenity and enjoyment for the residents and students.

Concept DETAILED PROGRAM

Art academy

Apartments (private)

Apartments
Living facilities for to expand the Delftse Schie Oever (existing plans)

Lobby/entrance
A safe space where people can enter, separate from the academy entrance

Care (private)

Respite care
Living facilities (bedrooms, living areas & kitchens) for stay-overs, varying from 1 night to 3 weeks

Care spaces
For respite care

Facilities (public)

Workshop
Crafts, timber, open for community

Cafeteria
For students, (temporary) residents and family

Supermarket

Entrance hall
Open for community, waiting area for the station, art display

**Gallery/
exhibition**
Accessible for visitors and available for art academy work display

Park

Art school (private)

Music space
Single classrooms and an auditorium

Dance hall
Space for activity therapy

Computerlabs

Lecture halls
To rent and educational purposes

Library
To rent and educational purposes

Classrooms
For education and courses

Administration
To rent and educational purposes

Storage
Materials & equipment

Artists (private)

**Independent
(freelance)
studio's**
To be hired by professional artists as studio

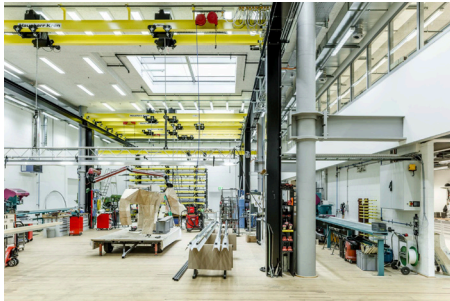
Concept
DETAILED PROGRAM (MEASUREMENTS)

Art academy

Apartments (private)	Care (private)	Facilities (public)	Art school (private)	Artists (private)
Apartments Living facilities for to expand the Delftse Schie Oever (existing plans)	Respite care Living facilities (bedrooms, living areas, kitchen) for stay-overs, varying from 1 night to 3 weeks	Workshop Craft workshop open for community	Music space Single room and an auditorium	Independent (freelance) To be hired by professional artists as studio
Lobby/entrance A safe space where people can enter, separate from the academy entrance	Carpenteries For respite care	Cafeteria For students (temporary) residents and family	Ballroom Space for activity therapy	
		Suppermarket	Co-working hubs	
		Entrance hall Open to community, waiting area for the station, art display	Lecture halls To rent for educational purposes	
		Gallery/exhibition Accessible for visitors and available for art academy work display	Library To rent for educational purposes	
			Clinics For education and courses	
			Administration To rent for educational purposes	
		Park	Storage Materials & equipment	
5000 m ²	900 m ²	850 m ²	2350 m ²	1000 m ²

The Academy FUNCTIONS

1 Workshop



2 Film



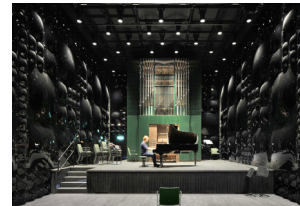
3 Dance/activity hall



3 Recording studio



4 Music



6 Atelier



5 Cinema



7 Auditorium



IF **ART** HAS THE CAPACITY TO PROMOTE
WELL-BEING AMONG PEOPLE
SUFFERING FROM **DEMENTIA**

WHAT DOES THIS MEAN FOR
ARCHITECTURE?

WHAT IF THERE WAS A PLACE...

THAT COULD INTEGRATE ART
INTO THE DAILY LIVES OF PEOPLE
SUFFERING FROM DEMENTIA

WHAT IF THERE WAS A PLACE...

WHERE **RESPIRE CARE** (TO RELIEVE INFORMAL
CAREGIVERS) AND **DAILY ART THERAPY** CAME
TOGETHER UNDER ONE ROOF

WHAT IF...

**ART,
DEMENTIA,
ARCHITECTURE
& EDUCATION**

CAME TOGETHER?

P6 **1. DESIGN BRIEF**

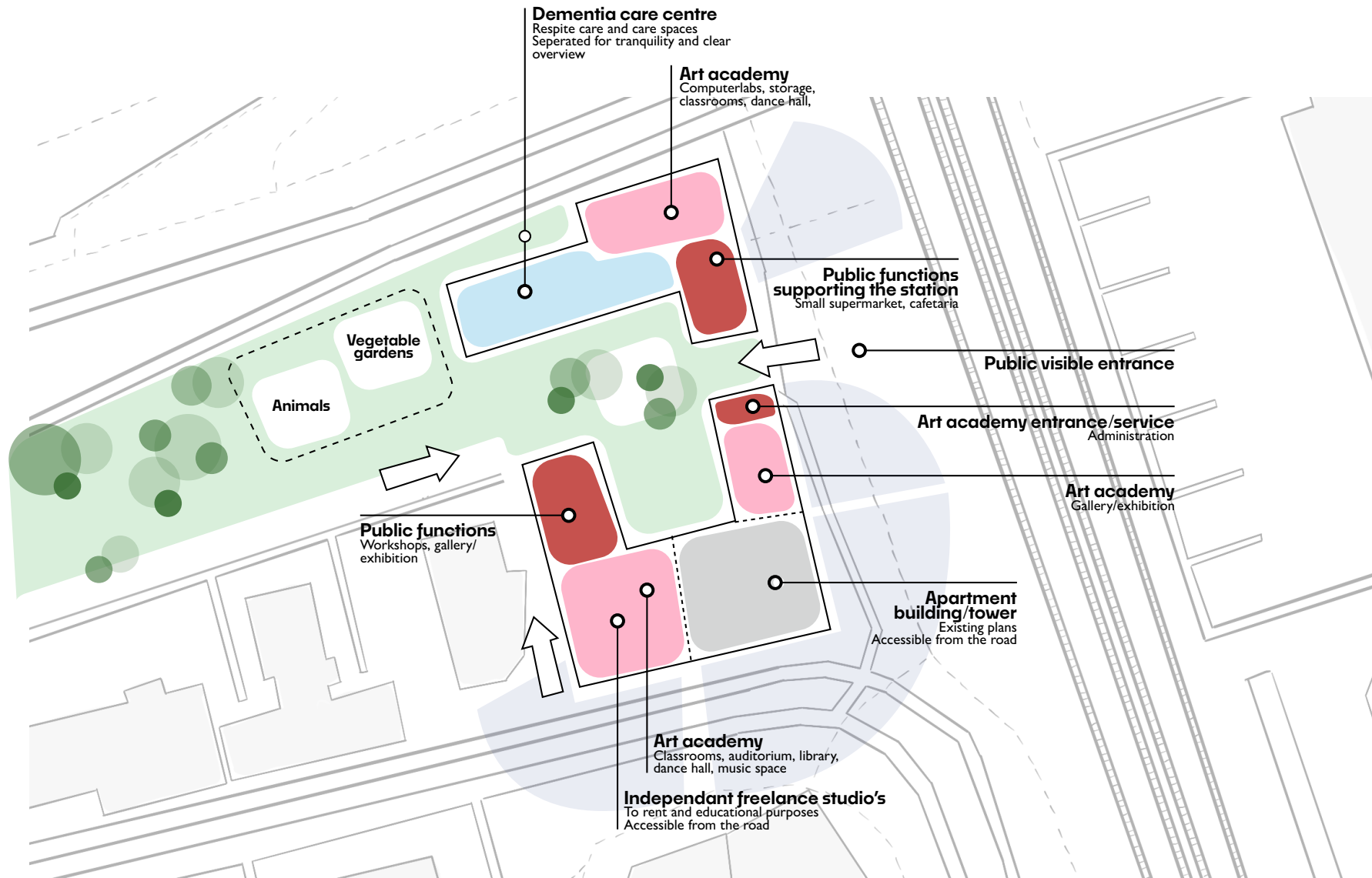
P17 **2. SITE**

P25 **3. CONCEPT**

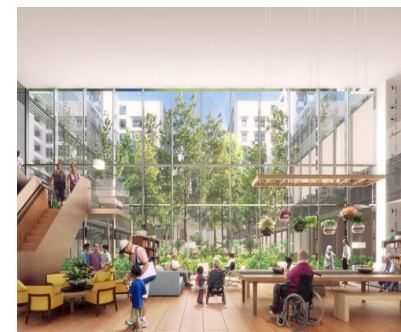
P39 **4. THE ACADEMY**

P126 **5. REFLECTION**

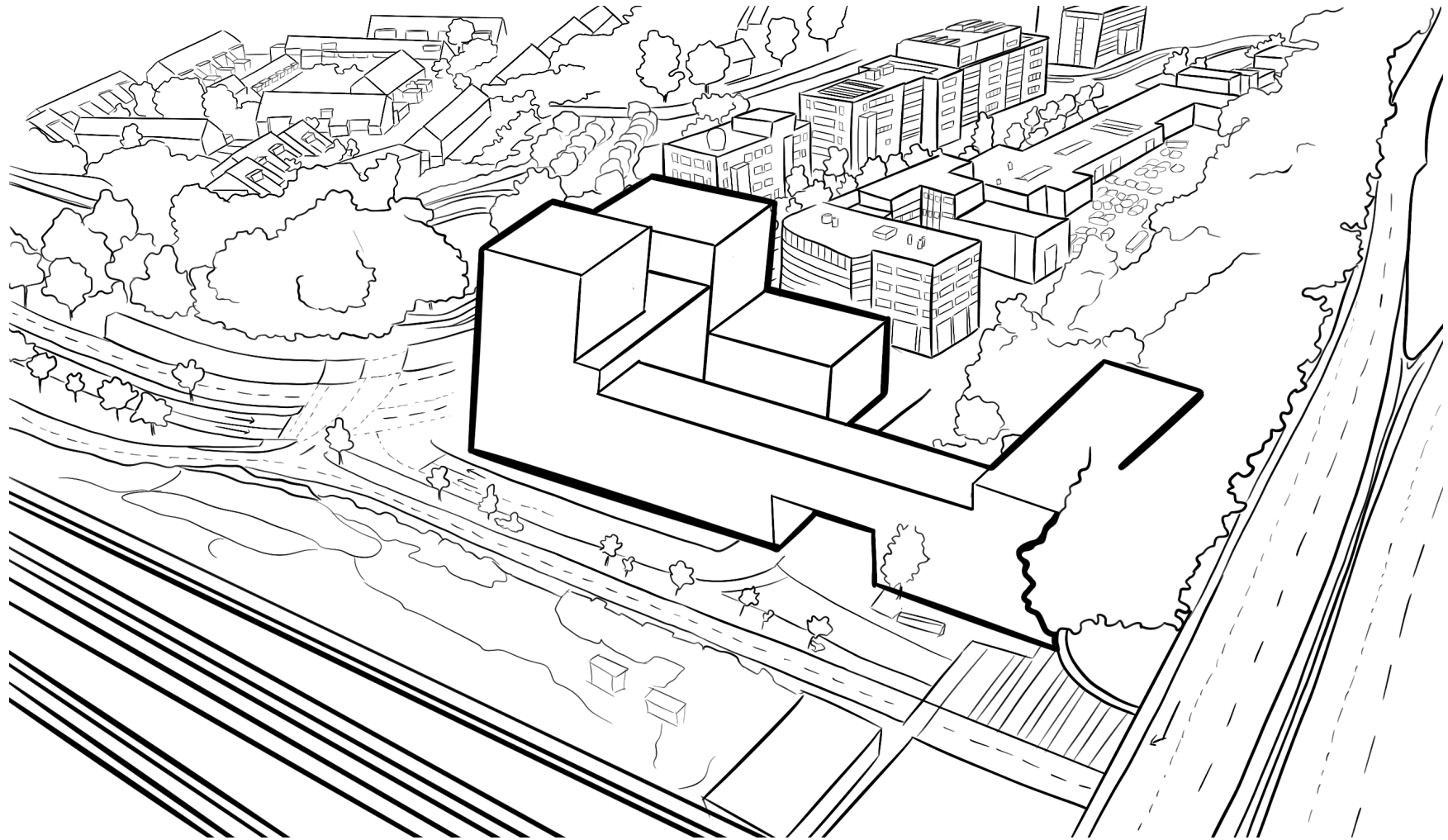
Design FIRST FUNCTION PLAN P2 (DRAFT)



Design MOODBOARD P2



Design
(NEW) SITUATION DRAWING P2 (DRAFT)

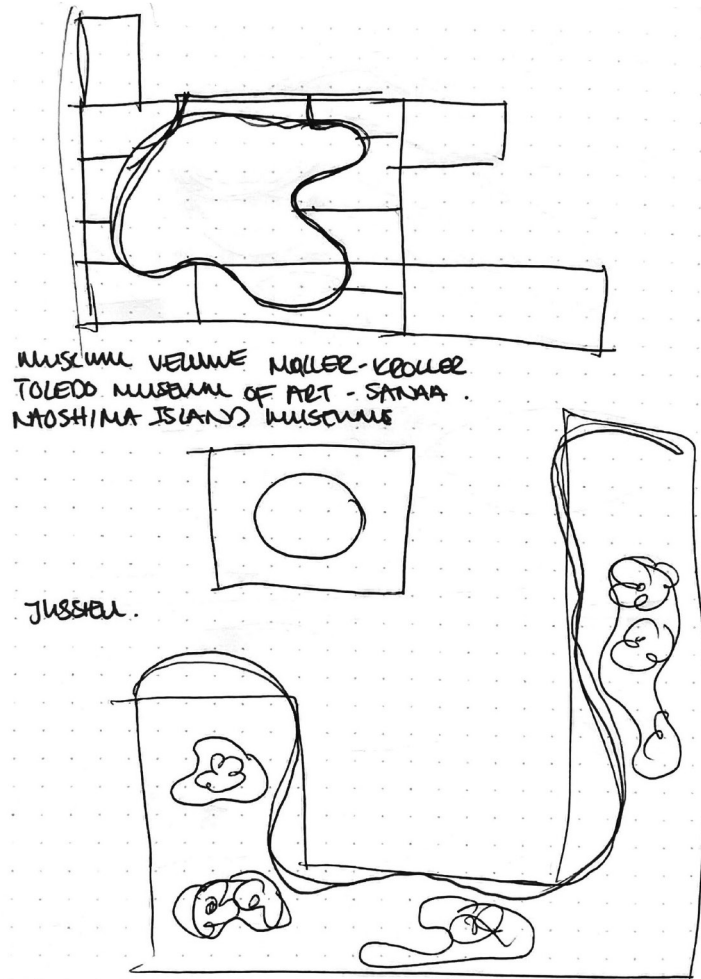


The Academy SHAPE BRAINSTORM

01.03.2024

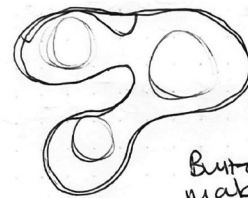
At the small care farm we visited, we encountered a design principle: make the 'outside world' (the area outside the premises) unattractive so that residents or visitors are gently encouraged to stay on the premises. According to the founder of the small care farm (see extra research booklet for the full interview), this can be achieved through architecture that influences their choice while allowing them the freedom to go wherever they want.

To recreate this principle at Tanthofdreef, I designed a warm 'inner world' using rounded, accessible forms (1: easy orientation, 9: minimal change/direction, 10: simple floorplans) that create a sensory route with a vibrant inner garden where much activity takes place (2: facilitate engagement, 12: inviting walkways, 15: design appealing outdoor space). This contrasts with a rectangular 'outer world' (7: secure perimeters) made of wood, surrounded by a curb, and having an urban image. People with dementia are free to go wherever they wish, but by designing the environment in this way, they will be inclined to stay within the safe perimeters of the project and return inside when they approach the harsh edge of the premises. The rounded shapes of the building and garden provide smooth pathways and an inviting space to wander around in (17: empower autonomy).

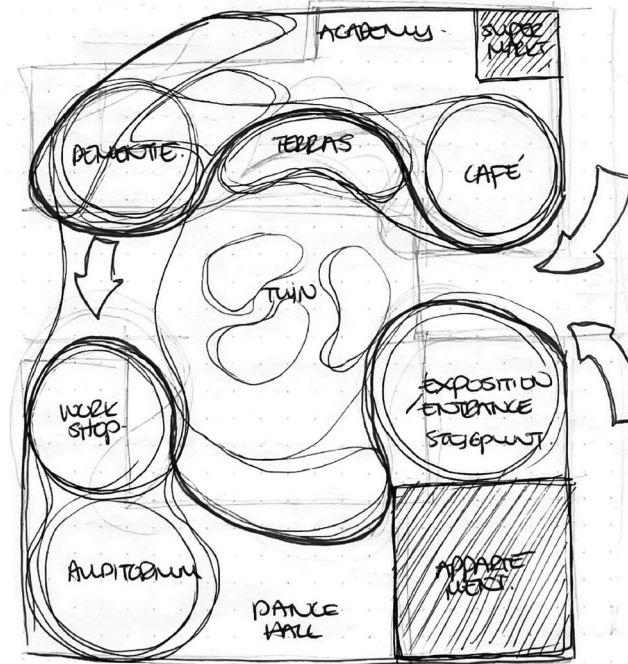


Ontwerpen vanuit functie?

Volvo experience centre / Henning Larsson

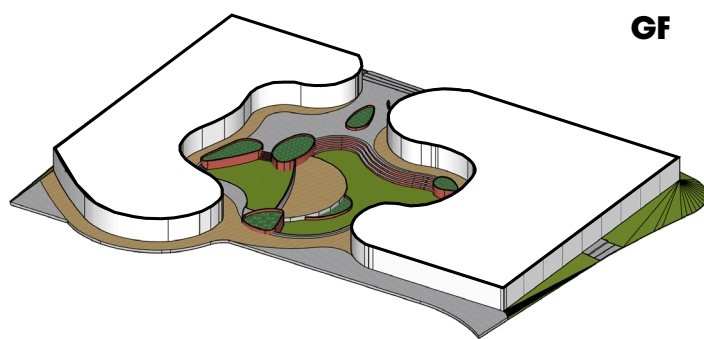


Buitenwereld onaantrekkelijk maken net als Reigerhoeve.

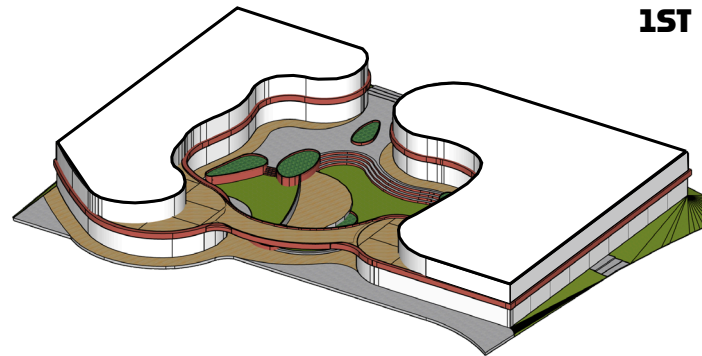


The Academy SHAPE BRAINSTORM

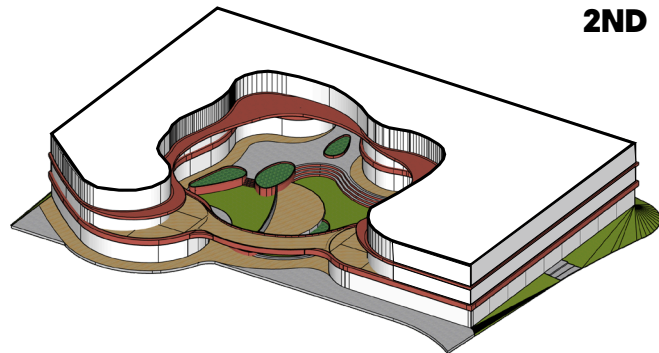
26.03.2024



GF



1ST



2ND

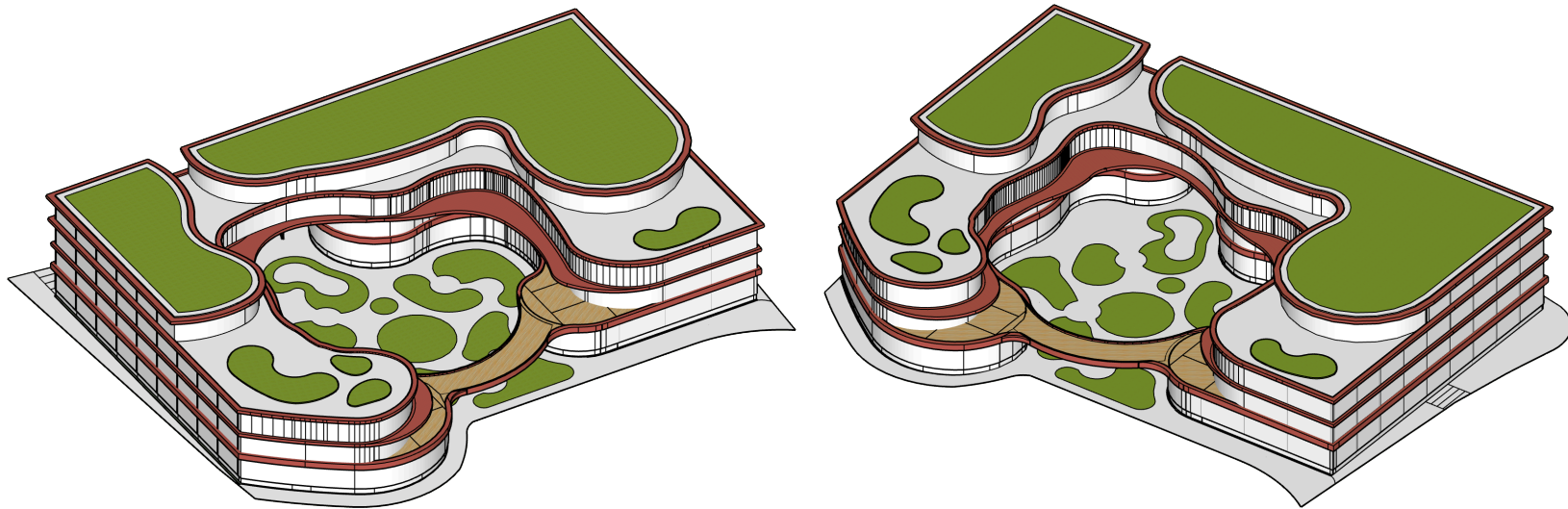


3RD

A few weeks later, the initial forms began to take shape. The wavy forms of the warm inner world and the rectangular forms of the harsh outer world were applied across multiple layers. The wavy lines were then set back several metres, varying by floor. This design creates shaded areas over the café terrace, provides space for multiple balconies, and makes room for rooftop gardens and outdoor studios.

Most importantly, this approach creates intriguing 'see-throughs' throughout the building (19: create a central cultural hub). From different floors and various angles, you can see different parts of the building. This design ensures that art is connected throughout the entire building, keeping you engaged with art as a central theme running through the entire space (20: feature prominent placement of artworks).

The Academy
FINAL SHAPE P4



Design REFERENCE + CONCEPT BRAINSTORM

Belangrijkste referenties



Tróides Bank / PAU



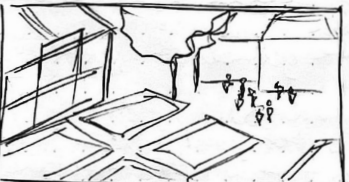
Sydney / Woodmarsh



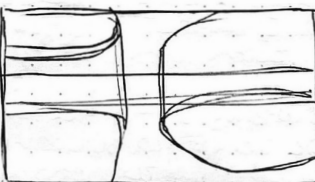
B Dymak / BIG



Uni. Groningen / KAAPN



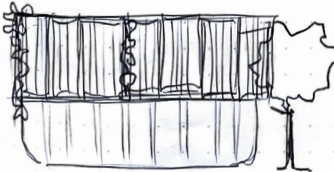
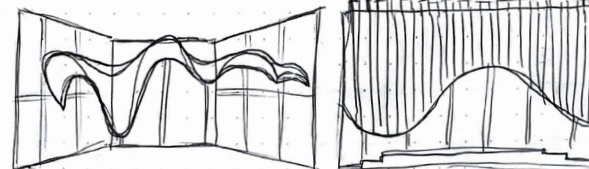
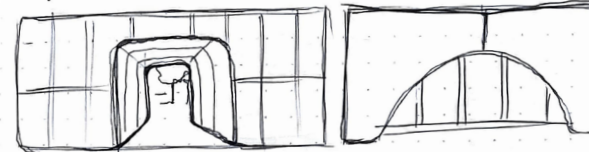
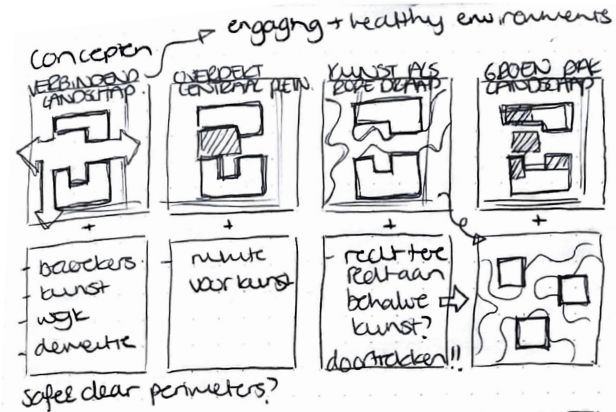
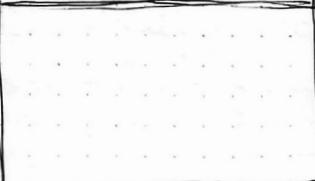
St. Ludwigs church / BPO



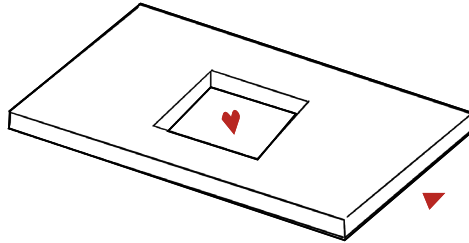
Toledo Museum / Banau



Kengo Kuma / Andersen

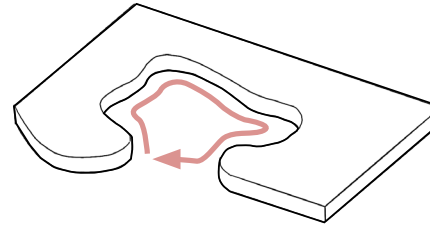


The Academy CONCEPT SHAPE P4



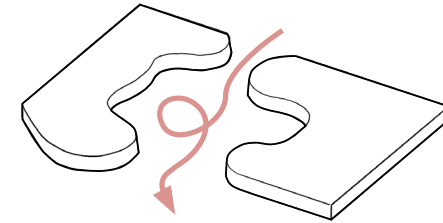
1. 'Inner world' vs 'outer world'

Design an inner courtyard that brings together diverse groups: local residents, students, individuals with dementia, artists, and public transport users. While the building gazes out onto the city, the courtyard serves as a unifying space for people.



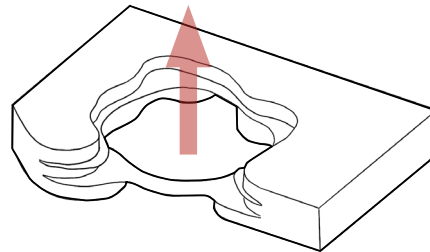
2. Safe & clear perimeters

Round shapes! By employing fluid forms, encourage individuals with dementia to roam freely. Following the fluid lines guides them back to their starting point, making it difficult to become lost.



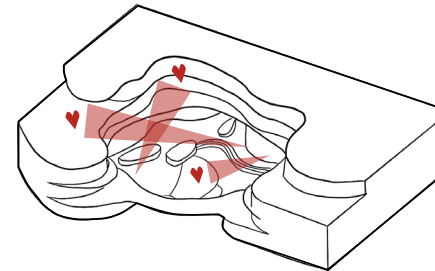
3. Engaging & healthy environments

A large open gateway connects the courtyard to the street, introducing greenery to the formerly urban setting.



4. Integration of living and learning

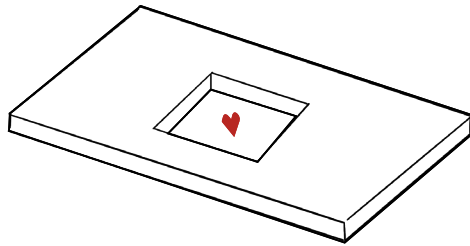
With multiple levels, the ground floor can be dedicated to, and arranged for individuals with dementia to live peacefully and use the art facilities. The floors above provide study facilities and ateliers for students and artists to work.



5. 'Art as the red thread'

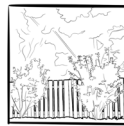
By arranging various fluid lines above each other, intriguing sightlines are created that ensure art on different levels that is visible from all angles through the curved glass facades of the building.

The Academy CONCEPT SHAPE P5

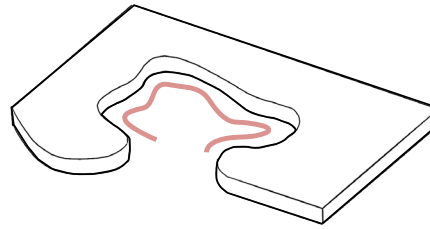


1. Create a central courtyard

By designing a warm and inviting core within the complex, people are gently encouraged not only to enter the building but also to stay inside. The courtyard serves as a unifying space for people.

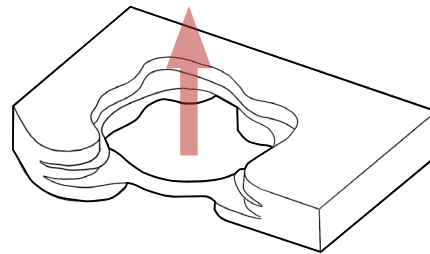


7. Secure perimeters



2. Incorporate round shapes

By incorporating fluid shapes into the architectural design, wayfinding and routing become central elements. This encourages people with dementia to roam freely. Following the fluid lines guides makes it difficult to become lost. By applying the round shapes only on the inside, a 'warm inner world' is created that contrasts with a 'hard outer world'.



4. Integration of living and learning

Adding multiple floors creates attractive routes and shapes, providing space for green rooftop gardens. With multiple levels, the ground floor can be dedicated to, and arranged for individuals with dementia to live peacefully and use the art facilities.



12. Inviting walkways



15. Design appealing outdoor space



14. Balance between therapeutic & memory spaces



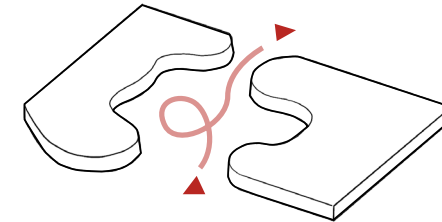
1. Easy orientation



9. Minimal change / direction



11. Visual access

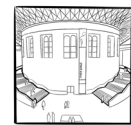


3. Accessible building

Since the Dementia Art Academy serves as a central hub, multiple entrances will be added to the complex. This ensures the building is easily accessible and open to everyone: local residents, students, individuals with dementia, artists, and public transport users. A large open gateway connects the courtyard to the street, introducing greenery to the formerly urban setting.



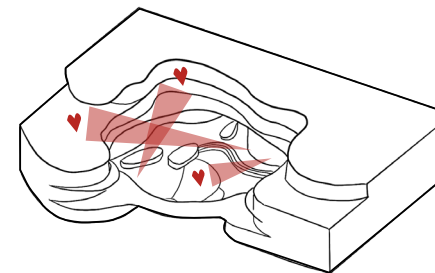
14. Fostering a sense of community



19. Create a central (cultural) hub



6. Promote social contact



5. 'Art as the red thread'

By arranging various fluid lines above each other, intriguing sightlines are created that ensure art on different levels that is visible from all angles through the curved glass facades of the building.



2. Facilitate engagement



20. Feature prominent placement of artworks

Design FACADE DESIGN CONCEPT

12.03.2024

OUTSIDE WORLD



1. Thistle Foundation / 3DReid
2. Kengo Kuma Andersen Museum / H.C. Andersen
3. Hout- en Meubileringscollege Rotterdam / RoosRos
4. Red Wood Clinic / Graphroot

INSIDE WORLD



To extend the 'harsh outer world' versus 'warm inner world' concept, a difference in materials has also been applied. The inner world consists of glass for a clear overview (5), ample daylight access (23), and visual access (11). In contrast, the outer world is made of vertical wooden slats. This choice not only creates a contrast with the warm inner world but also serves as a landmark visible from Delft Campus Station, giving the building the appearance of an art academy and central hub. The wooden slats will be painted red with Scandinavian wood paint, as red is the colour most easily recognised by people with dementia. If residents choose to leave the premises and become disoriented, the building will be easily recognisable.



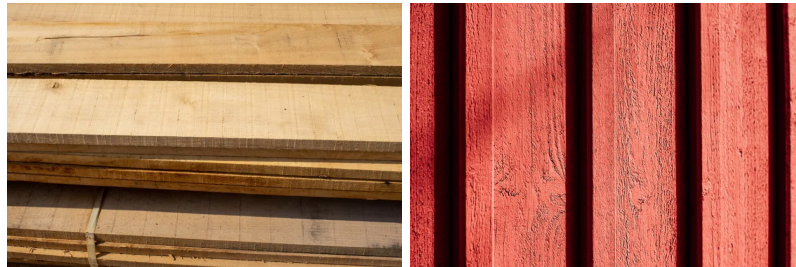
Design
RED WOOD CLINIC / GRAPHROOT - REFERENCE



Design FACADE DESIGN MATERIALS

12.03.2024

From left to right and top to bottom:



Robinia Wood

Robinia wood is a carefully chosen material for its natural resistance to rot, mould, and insect infestations. Its high density and hardness make it exceptionally resistant to wear and deformation, ensuring long-term durability. The wood also offers a beautiful, warm appearance with natural texture and colour. As a renewable resource sourced from Europe, it supports sustainability while providing the longest lifespan of up to 25 years.

Falu Rödfärg

The outer walls of the building are painted with Falu Rödfärg, a red paint that serves multiple purposes. Red is the most recognisable colour for people with dementia, making the building easily identifiable if residents leave the premises and become disoriented. This colour also emphasises the artistic nature of the building, fitting its identity as an art academy. The paint is both durable and environmentally friendly, protecting the wood while allowing it to breathe.



Round Glass

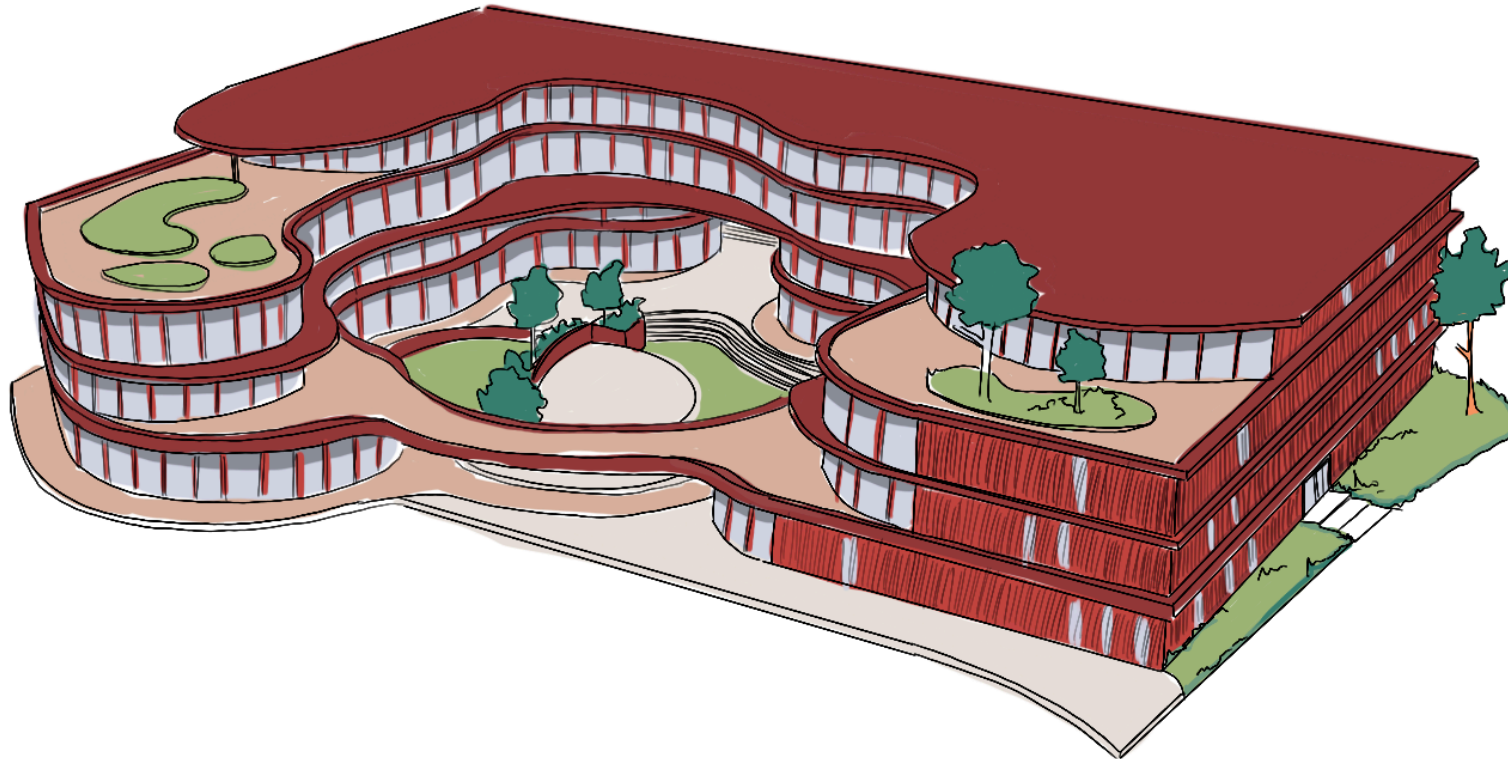
Despite the inner world's facade appearing curved, the glass and frames are actually straight. The frames are placed at such small angles to each other that the facade as a whole appears to have a curve. This design choice was made because using straight glass is more sustainable and easier to dismantle and recycle. This approach ensures longevity and ease of maintenance, aligning with the project's sustainable principles.



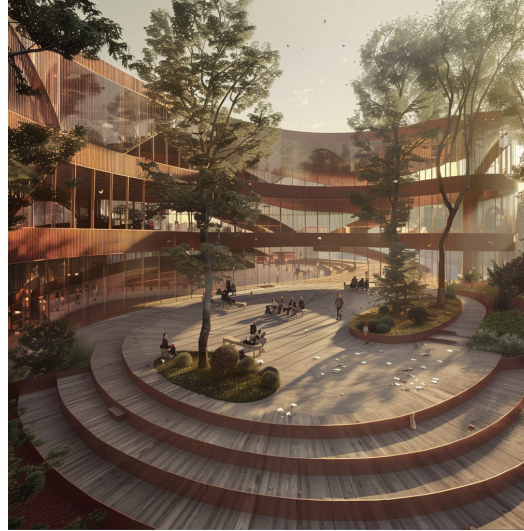
Aluminium Window Frames and Roof Edges

Aluminium is selected for the window frames and roof edges due to its exceptional durability. It withstands adverse weather conditions, such as rain, wind, and snow, without rusting. Aluminium is also a strong and stable material, providing resistance against break-ins. With a lifespan of up to 50 years, these frames rarely need replacement. Additionally, aluminium profiles can be easily painted in various colours, seamlessly fitting into the colourful design of the art academy.

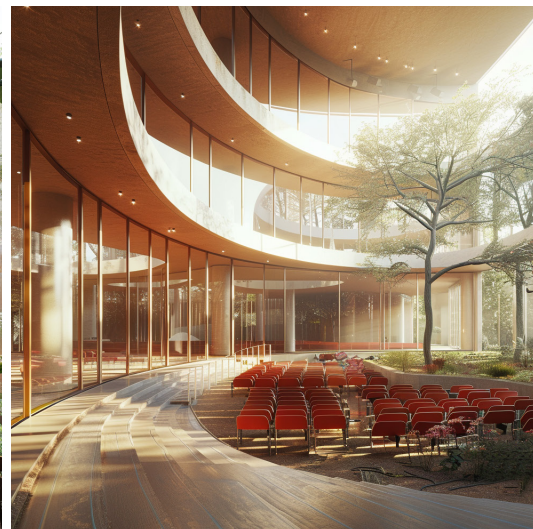
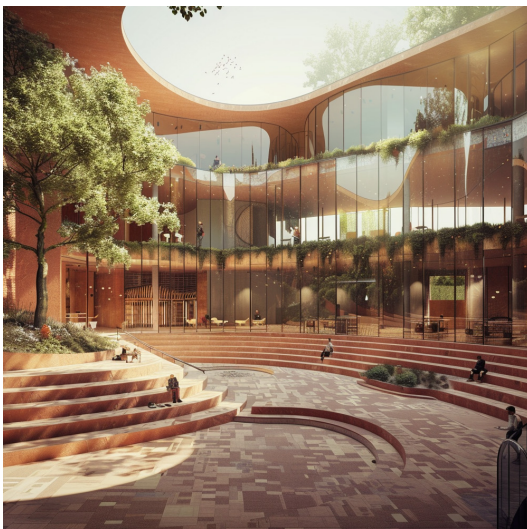
The Academy
CONCEPT SHAPE DRAFT

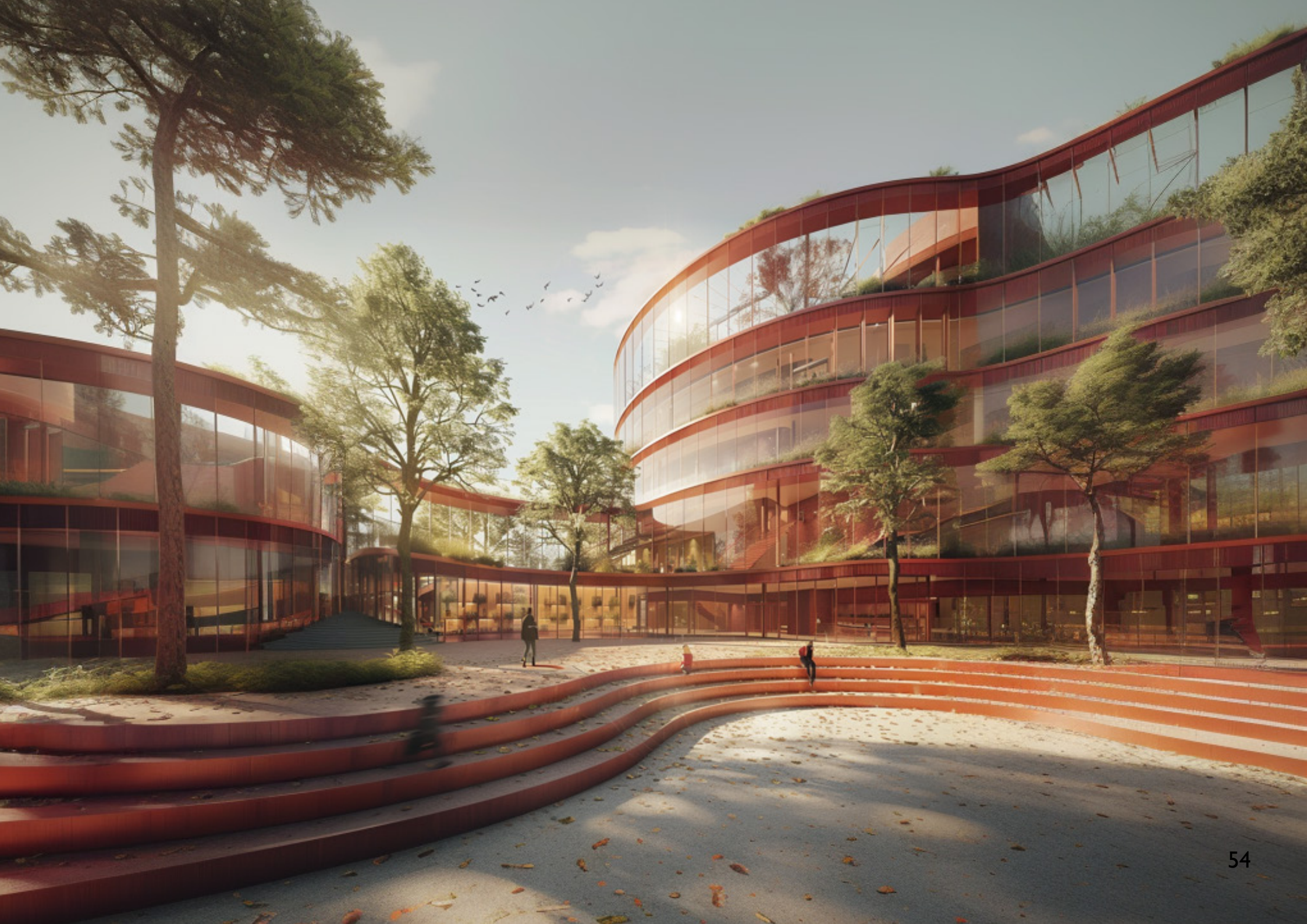


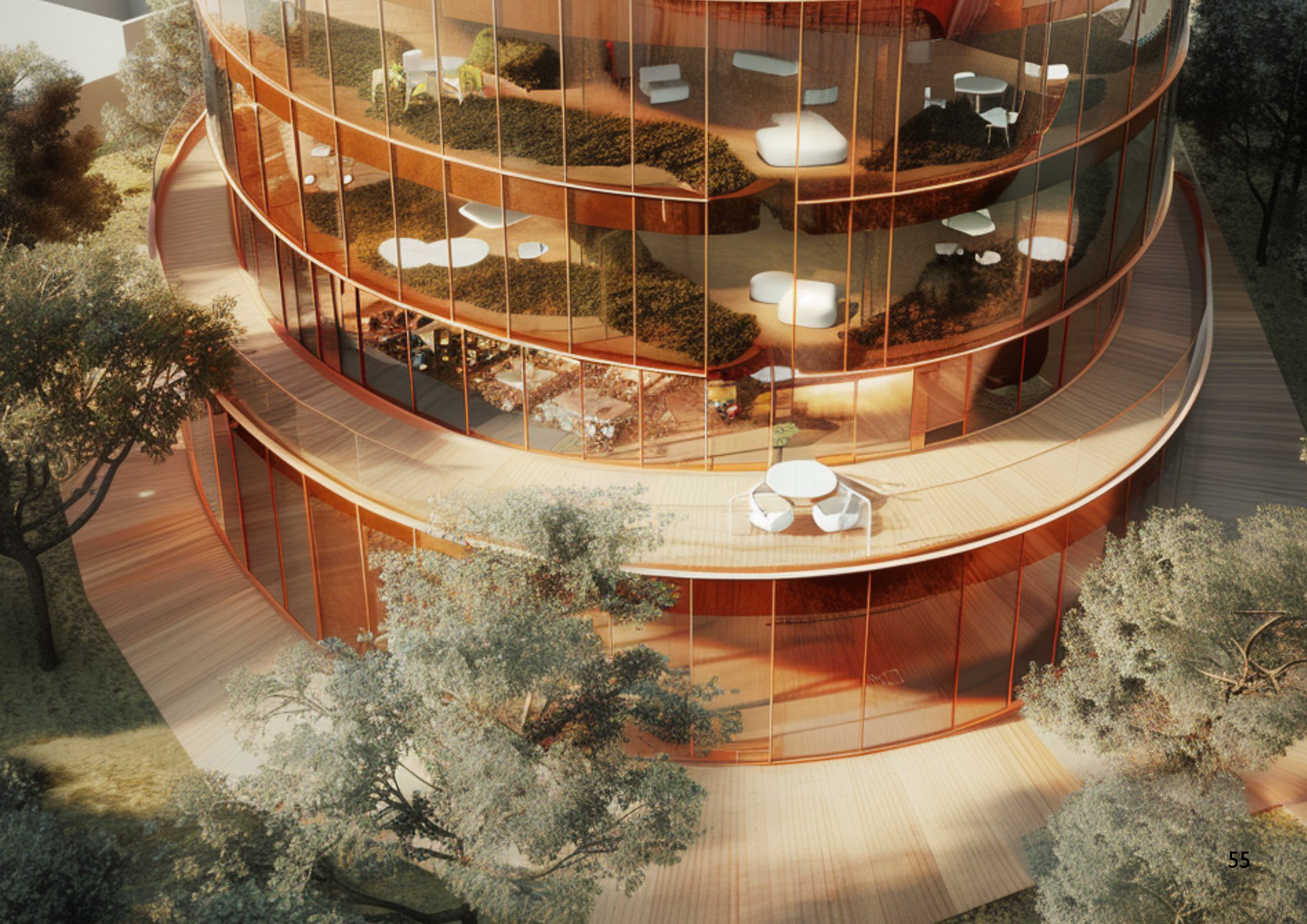
Design
ACADEMY EXTERIOR VIEW - MIDJOURNEY REFERENCE



Design
ACADEMY INTERIOR VIEW - MIDJOURNEY REFERENCE















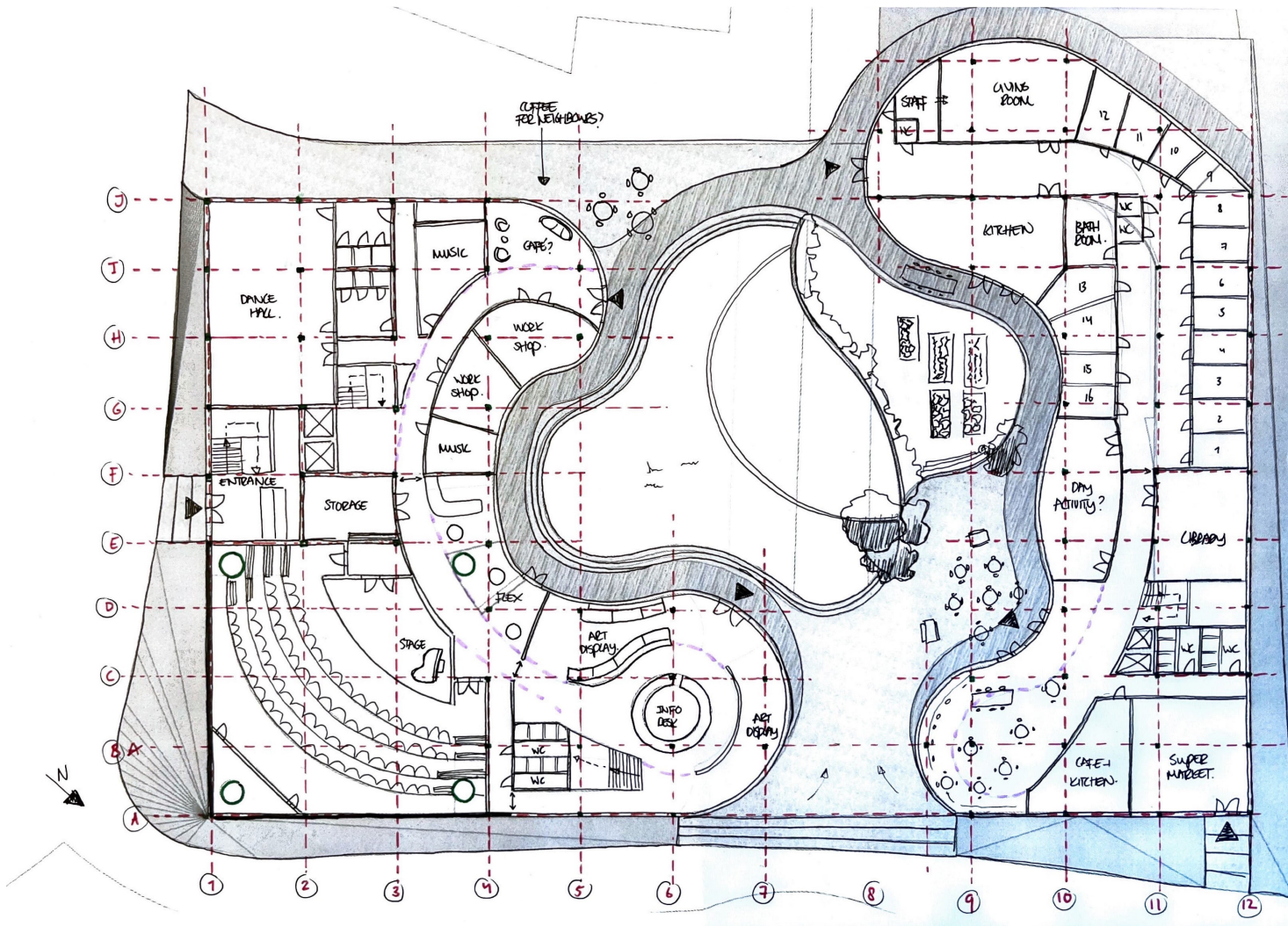


The Academy
BRAINSTORM PLAN GF

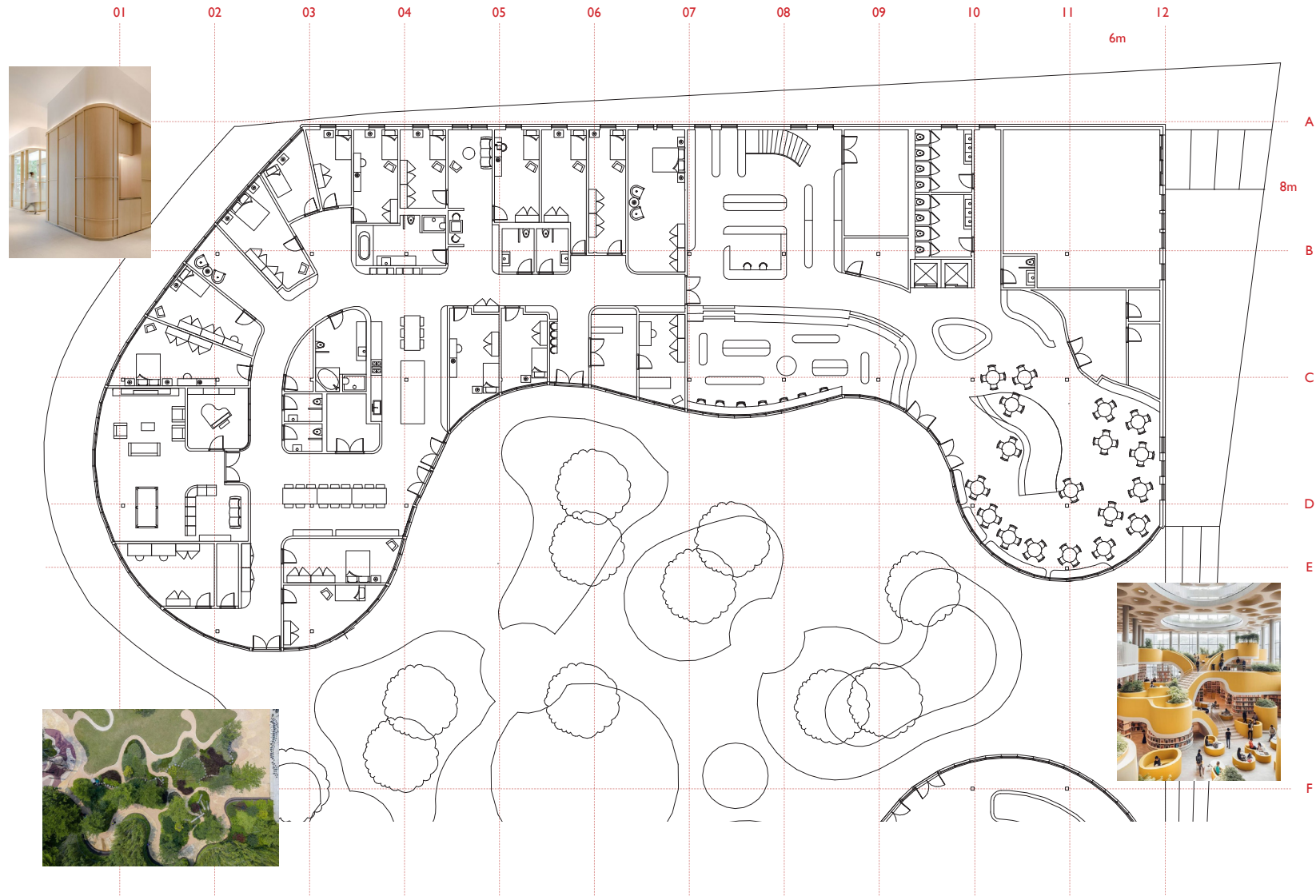
01.03.2024

The image on the left shows the initial (hand-drawn) ground floor layout. The central curved corridor was a key element from the beginning, but arranging the surrounding functions was a challenge. The auditorium is located in the bottom left corner, placed there because of the large columns of the apartment complex. This positioning allowed the auditorium ceiling to be easily supported by a wooden truss between the columns. The dance hall, the entrance to the apartment complex, and the auditorium are all situated on the southern facade, as these spaces require minimal sunlight, thus limiting heat entry into the building.

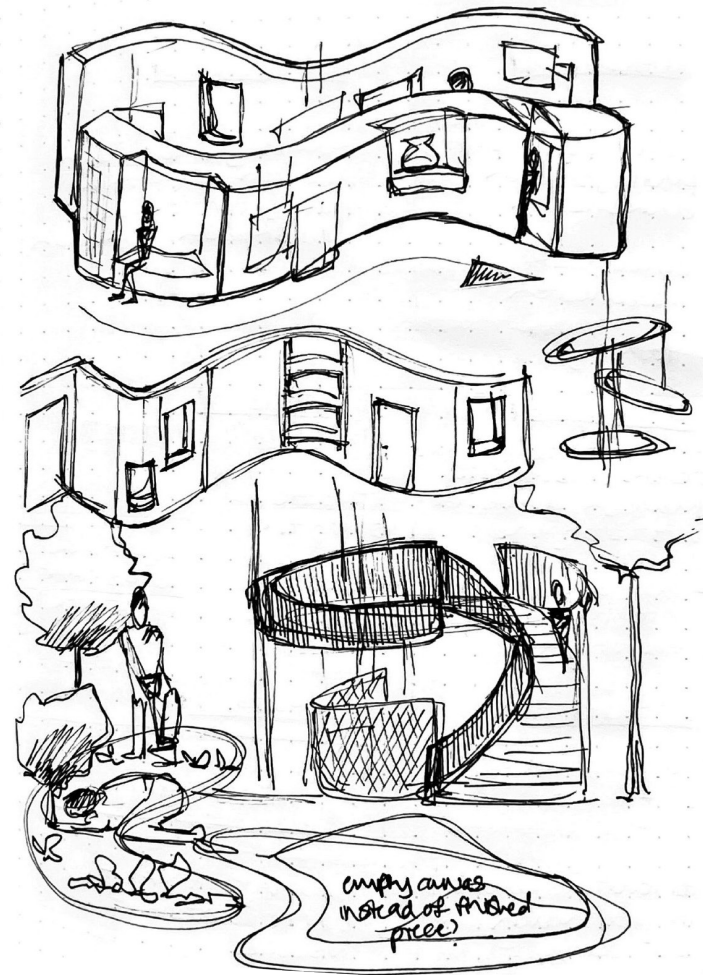
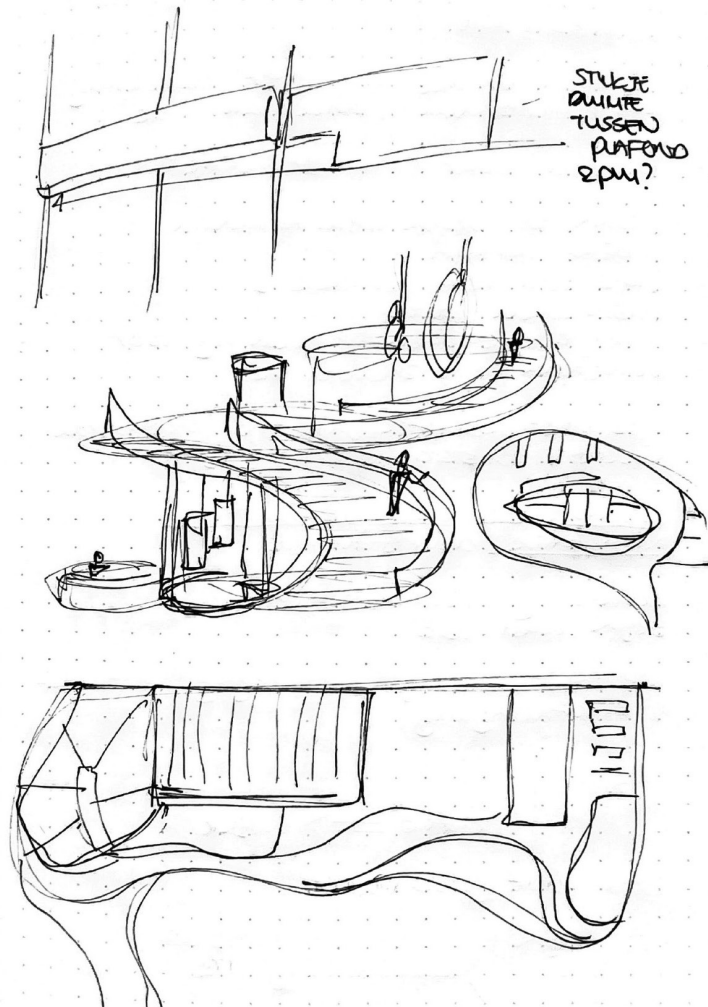
The ground floor functions were established relatively quickly. The open studio on the left side, the café, the dementia wings, the inner garden, and the exhibition space all underwent changes in their arrangement. The image on the next page shows a more advanced stage of the floor plan development (26 March 2024). For the final floor plans, please refer to page 74.



The Academy BRAINSTORM PLAN GF

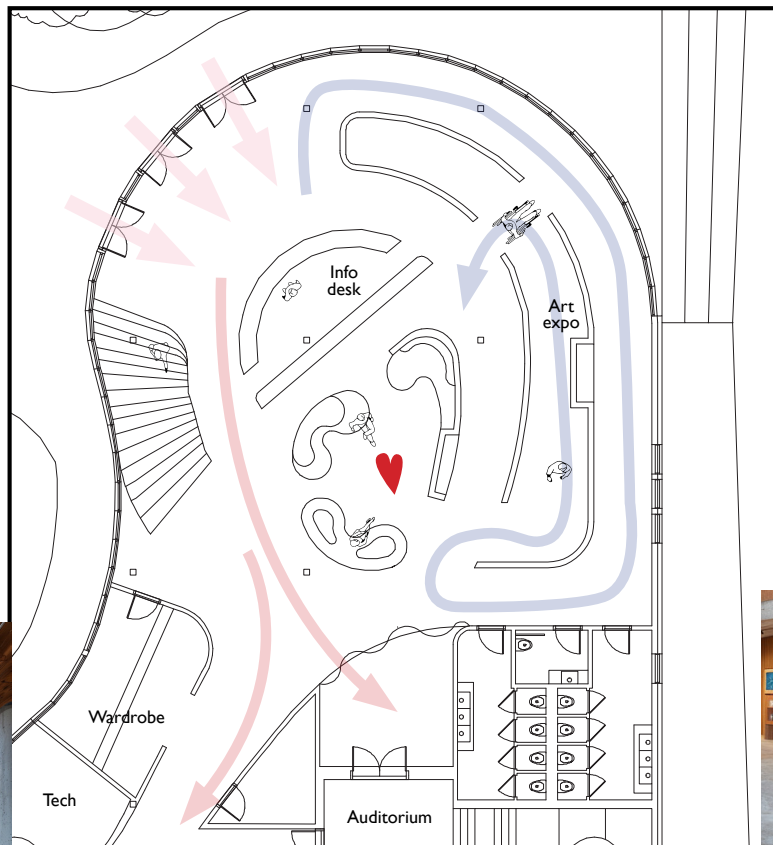
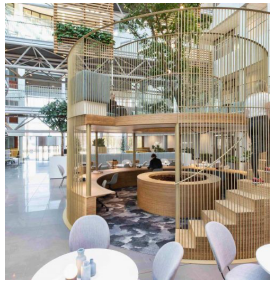


The Academy BRAINSTORM INTERIOR



The Academy BRAINSTORM PLAN GF

09.04.2024



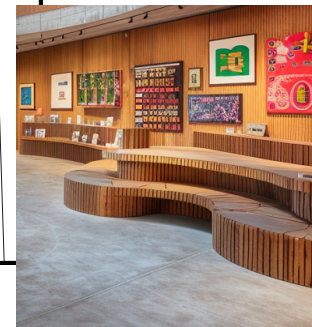
Richard Serra



When the floor plan was developed, the entrance hall played a crucial role. This was the space where various groups (artists, art enthusiasts, the community, students, and people with dementia) would converge, making it the showcase of the art academy. Additionally, the entrance hall needed to feature a circular route to connect with the curved corridor that runs through the building and to immediately immerse visitors in art.

In the central hall, a large curved staircase leads to a mezzanine, creating a spacious two-storey open area. The main entrance to the auditorium is located at the bottom left of the drawing. This entrance is characterised by a wide hall with a large curtain. The hall features a central circular information desk that serves as the focal point of the entrance. The round desk guides you in a circle through the entrance hall.

Finally, there are seating areas where visitors can wait for appointments and a large open exhibition space. Here, visitors can freely wander to view graduation projects or works by individual artists. This design ensures that the entrance hall not only serves its functional purposes but also embodies the artistic spirit of the academy, welcoming and inspiring all who enter. The images show reference photos that served as inspiration for the various elements in the central entrance hall.



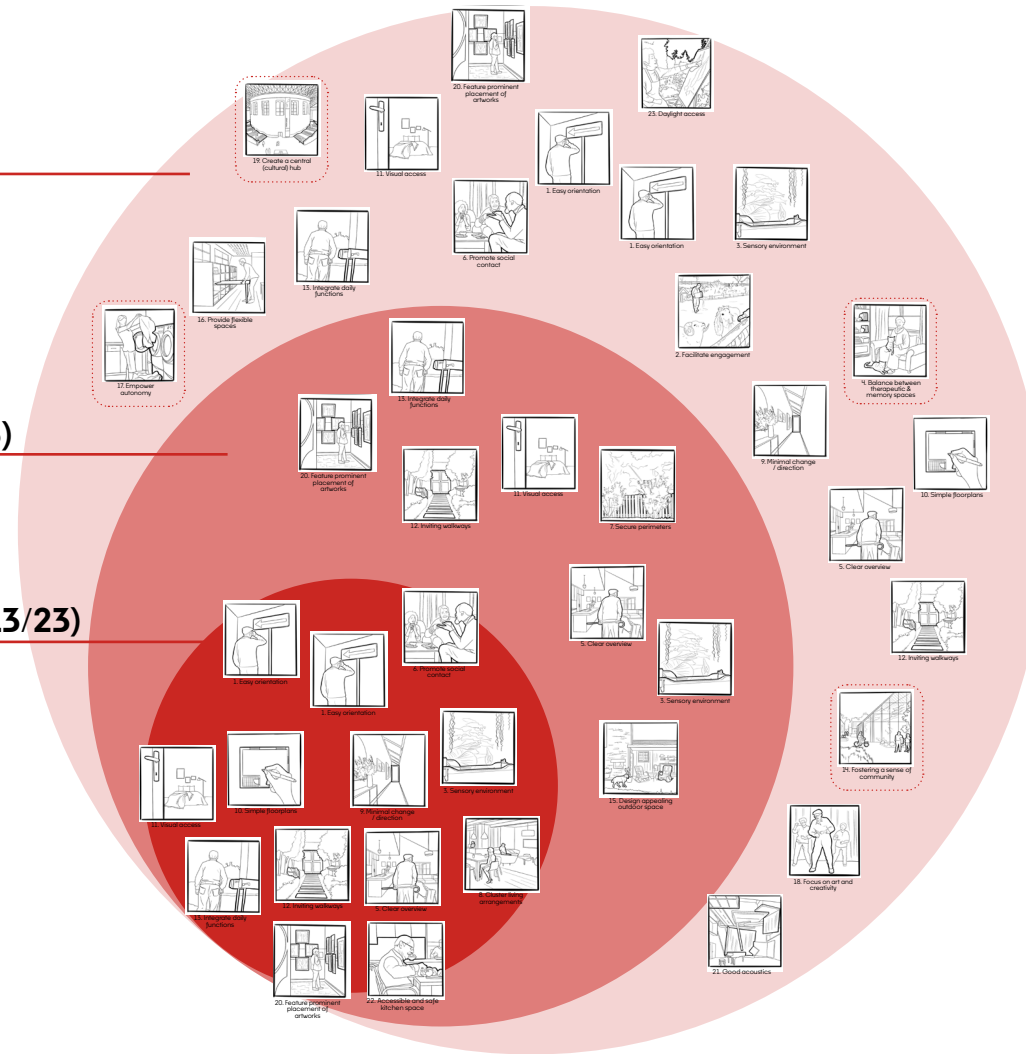
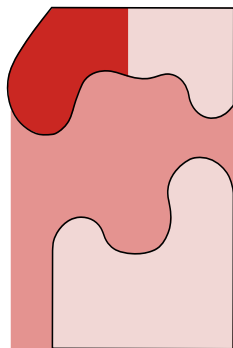
The Academy FLOORPLAN CONCEPT

12.03.2024

Art Academy (20/23)

Green Courtyard (8/23)

Respite Care Facility (13/23)



The diagram on the left shows the application of the 23 different design guidelines in the art academy building. The simplified representation of the building in the bottom left illustrates the application of these guidelines in each area, while the large circular visual in the centre provides a schematic overview. The dark red area represents the dementia wings, the dark pink the central courtyard, and the light pink the entire art academy (excluding the dementia wings).

As the diagram indicates, 13 out of 23 design guidelines are applied in the dementia wings. This is partly because some guidelines pertain to outdoor areas and some can only be implemented when respite care is combined with, in this case, an art academy. For a detailed explanation of this combination, please refer to pages 13, 14, 25, and 26. In the courtyard, 7 out of 23 guidelines are applied, and in the art academy, 20 out of 23 are applied. The complete set of guidelines is achieved by integrating these three facilities within one design.

Guidelines APPLICATION



1. Easy orientation

1. Easy orientation

Dementia Wing:

The dementia wing features a single long, curved hallway that provides clear directional guidance and an intuitive route. This design eliminates any T-junctions, making the paths easy to navigate. Both wings culminate in a shared living space where residents can eat, cook together, and watch TV.

Garden:

The garden design mirrors the interior architecture, with circular islands that intuitively guide visitors towards various garden features such as a fountain, illuminated benches, or an outdoor stage. All garden paths lead to one of the main entrances: the grand entrance, the open studio, the café, or the dementia wing.

Art Academy:

The art academy extends the circular routes throughout the entire facility, avoiding T-junctions and reducing the risk of getting lost. By following these circular paths, individuals will eventually return to the dementia wings. Additionally, a strip of different-colored material on the floor indicates the route.



2. Facilitate engagement

2. Facilitate engagement

Dementia Wing:

Engagement is fostered through an open kitchen and dining area where residents can assist in cooking, gardening, or folding laundry.

Art Academy:

The art academy promotes engagement by offering various open art studios where individuals with dementia can join at any time. There is also an open exhibition space, a café for socializing, an open library for browsing, and music rooms for making music.



3. Sensory environment

3. Sensory environment

Dementia Wing:

A sensory environment engages the physical senses. The open kitchen spreads food aromas throughout the wing, which has a positive effect on residents with dementia. The use of curved shapes, wooden materials, and music rooms further enhances this sensory environment.

Garden:

The garden features several sensory stations, including a fountain, illuminated benches and chairs, and an outdoor stage. Residents can also engage in gardening activities in the vegetable garden.

Art Academy:

Sensory environments are prevalent throughout the academy. In the open exhibition area, one can touch and see artworks; in the café, one can smell and taste; and in the auditorium or music rooms, one can hear and see performances. Good acoustic design ensures that music is contained within designated areas to avoid overstimulation.

4. Balance between therapeutic & memory spaces

Art Academy:
Balancing therapeutic and memory spaces is one of the four key guidelines for the art academy. The combined art academy and respite care facility naturally integrate these spaces. The art academy offers structured therapeutic activities such as art therapy, while the respite care facility provides memory-enhancing environments through familiar and comforting settings. Visitors can relax in the dementia wings, while the academy facilities and activities offer emotional security and reduce anxiety.



4. Balance between therapeutic & memory spaces

5. Clear overview

Dementia Wing:

A small section accommodating a maximum of 7 residents (3 single bedrooms and 1 double bedroom) ensures oversight. A short circular corridor connects all functions, and recesses in the hallway allow daylight into the area, minimizing stark contrasts in colors or materials that might unsettle visitors.

Garden:

Small, hilly areas no higher than 1 meter ensure visibility across the entire garden. Circular pathways always lead back to one of the main entrances, maintaining an overview of the inner garden.



5. Clear overview

Art Academy:

The art academy uses many open floor plans (studios, library, café, exhibition spaces), maintaining clear visibility across the areas. Curved walls and corridors prevent surprises around sharp corners, and extensive use of glass walls ensures spaces are well-lit with views of the outside.

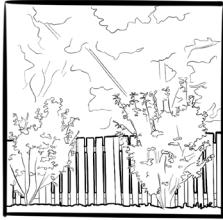
6. Promote social contact

Art Academy:
Promoting social contact is a primary pillar of the art academy. As a central cultural hub, it brings together students, local residents, artists, and individuals with dementia. The goal is to reintegrate people with dementia into society rather than isolating them. Open functions such as the library, studios, and music rooms encourage social interaction.



6. Promote social contact

Guidelines APPLICATION

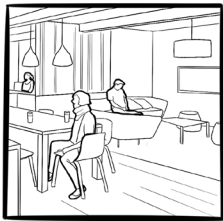


7. Secure perimeters

7. Secure perimeters

Garden & Art Academy:

The inner garden of the art academy is enclosed by the building, with its curved shapes gently encouraging visitors to stay within the perimeters. If someone ventures off the premises, the exterior of the building, made from a different, more austere material, subtly encourages them to return. The building's striking red color makes it a recognizable beacon for both dementia patients and external visitors. Inside, all functions are easily accessible, with the undulating hallway providing a safe path throughout the building. Parts of the building can be closed off for evening programs or private use, ensuring security and privacy.

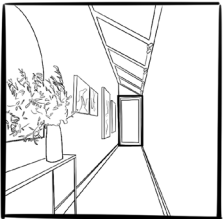


8. Cluster living arrangements

8. Cluster living arrangements

Dementia Wing:

Small living groups provide oversight and tranquility, with a maximum of 7 residents (5 single rooms and 1 double room) per unit. The living functions are centralized in one area to involve residents in daily activities and to help caregivers maintain oversight. Separate spaces are available for dining or for individuals to retreat to, minimizing stress and anxiety.

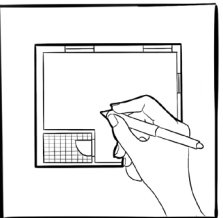


9. Minimal change / direction

9. Minimal change / direction

Overall Design:

The entire building is designed with "minimal change/direction" in mind, avoiding T-junctions to prevent disorientation. The flowing lines and curved hallways ensure that following the circular paths will eventually lead residents back to the dementia wing. Should anyone get lost, community members are always ready to guide them back to their unit or an open studio.



10. Simple floorplans

10. Simple floorplans

Dementia Wing:

By keeping the sections small, with a maximum of 7 residents, the spaces remain manageable. One (curved) hallway connects all functions, with each door leading to either a communal open space or the hallway itself. The layout is easy to understand, minimizing choice-related stress in routing.

Art Academy:

The open floor plans make the building easy to navigate. The long hallway connects various art functions, allowing easy movement from an open studio to the exhibition space. There are no difficult decisions, sharp corners, or restricted areas. The different art functions guide visitors through the building seamlessly.

11. Visual access

Dementia Wing:

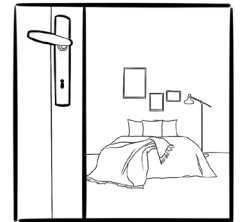
Open, clustered living arrangements ensure visual access. Residents can easily find the breakfast area by following the only hallway and the scent of food. Art spaces or displays are easy to locate and not hidden behind closed doors.

Garden:

Small, hilly areas no higher than 1 meter ensure visibility across the entire garden. Circular pathways always lead back to one of the main entrances, maintaining an overview of the inner garden.

Art Academy:

The open plans throughout the academy provide "see-through" views, allowing glimpses of art activities in other rooms. This transparency offers a clear overview of what's happening in the building and lets art guide visitors through the space. Various art functions are visible through glass walls or open plans.



11. Visual access

12. Inviting walkways

Dementia Wing:

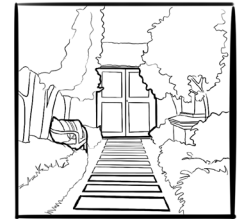
Art contributes to creating inviting walkways. Along the central hallway, finished with warm wooden materials, are various art displays where residents can view (their own) art. There are also cut-outs with benches for sitting or playing games.

Garden:

The garden features various art objects and seating areas that keep the routes accessible and engaging. There are graduate projects on display, illuminated objects, or objects that produce gentle sounds (like trickling water).

Art Academy:

Art itself plays a significant role in making the walkways inviting. By connecting various art functions with a single hallway, art serves as a continuous thread through the building. From one art function (like the open studio on the ground floor), you get intriguing views into another function (such as the open exhibition space). This continuous visual engagement invites exploration and discovery throughout the building.



12. Inviting walkways

13. Integrate daily functions

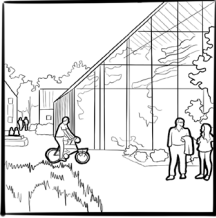
Overall Design:

Daily functions are integrated into all areas. In the dementia wings, clustered living arrangements allow residents to cook together and fold laundry. The garden features a vegetable garden for daily gardening activities. The art academy offers daily programs, including workshops, classes, and activities. This integration promotes active participation, routine, and a sense of normalcy for all residents and visitors.



13. Integrate daily functions

Guidelines APPLICATION



14. Fostering a sense of community

14. Fostering a sense of community

Art Academy:

One of the key pillars of the art academy is to serve as a hub for various art forms, a meeting place for local residents, a flexible workspace for artists, a school for students, and temporary accommodation for people with dementia. By creating an art academy where diverse individuals can gather, a community is formed. This community of like-minded people connects through art, sharing their passions and forming bonds.



15. Design appealing outdoor space

15. Design appealing outdoor space

Garden:

The garden offers various features that invite exploration: outdoor performances in the summer (music and theater), a vegetable garden maintained by dementia patients and students, rainwater taps for garden watering, illuminated seating elements guiding pathways, seating alcoves, a fountain, and various art exhibitions showcasing student and independent artists' works. Ground-floor studios open to outdoor areas for painting and sculpting in the summer, and the visual arts studio on the first floor extends to an open-air bridge for outdoor art activities.



16. Provide flexible spaces

16. Provide flexible spaces

Dementia Wing:

Each dementia wing includes two flexible art spaces—one per unit. These spaces allow for smaller group activities, such as creating art or music, catering to those who may not want to visit the main academy or who are easily overstimulated.

Art Academy:

The art academy features multiple flexible spaces. Open plans allow for versatile arrangements tailored to different functions. The exhibition space can be reconfigured for various themes or shows, and the studios are adaptable for different art activities. Additionally, there are flexible workspaces for freelancers and independent artists, as well as various rentable spaces.

17. Empower autonomy

Perhaps the most crucial guideline of the entire project is to "empower autonomy." Placing a respite care function within an art academy maximizes autonomy. In typical care facilities, art activities are sometimes organized, but residents must sign up in advance. By integrating a respite care wing within an art academy, individuals can decide spontaneously what they want to do each day. They can explore on their own and join a class, workshop, or activity whenever they choose.

The open and inviting layouts and functions ensure that people with dementia are included in the academy's programs. If they prefer to stay on the ward, that's perfectly fine—they can help with cooking or watch TV. However, the design encourages them to independently (or with a student) explore and participate in a painting workshop, have coffee in the cafe or on the terrace, take a music lesson, or enjoy graduate art exhibitions or performances. All staff and students are aware of these "special" guests and know how to interact with them appropriately, fostering an inclusive and supportive environment.



17. Empower autonomy

18. Focus on art and creativity

Dementia Wing:

Each wing is designed with a focus on art, featuring a flexible space where various art forms can be explored. This space is ideal for residents who may feel overstimulated and prefer not to visit the main art academy. Additionally, an extra-large storage area is provided to store garden-grown vegetables and fruits, enhancing creativity in cooking. Residents can participate in cooking, which further promotes their autonomy.

Art Academy:

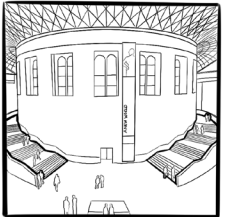
The art academy emphasizes art through a variety of artistic functions. Key art activities for people with dementia are located on the ground and first floors for easy access. Throughout the day, there are art programs and classes that they can join or observe. The building's layout features a central winding hallway that guides visitors through all the art functions. This path leads from the public library to the open exhibition space showcasing graduate projects and works by individual tenants or artists, then to the auditorium, dance hall, and open atelier with various workshop rooms.



18. Focus on art and creativity

19. Create a central (cultural) hub

The art academy serves as a central cultural hub by bringing together diverse groups of people: students, local residents, artists, and individuals with dementia. It provides a space for various artistic expressions and community activities, fostering social interaction and cultural exchange. The academy's open layout and inclusive programs encourage participation from all community members, creating a vibrant environment where art and culture thrive.



19. Create a central (cultural) hub

Guidelines APPLICATION



20. Feature prominent placement of artworks

20. Feature prominent placement of artworks

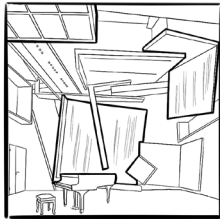
Dementia Wing:
In the dementia wings, there are numerous spaces within the walls designed to display and exhibit self-made art. Additionally, residents can look outside and see various art objects, enhancing the visual and sensory experience.

Garden:

The garden is dotted with various artworks, providing space for graduate students' projects as well as sculptures and other pieces by private artists. This outdoor art display creates an engaging and stimulating environment.

Art Academy:

The art academy is infused with art. The open exhibition space hosts various shows throughout the year, featuring guest designers and graduate projects. Many art functions are visible through glass walls, allowing easy access to performances in the open-air theater or the auditorium. The presence of different atriums and balconies offers views of art on other floors. Art serves as a guiding element throughout the building, offering visitors numerous "see-throughs" and intriguing glimpses into other parts of the academy.



21. Good acoustics

21. Good acoustics

Overall Design:
In the academy, the construction has been developed with enhanced floor and wall insulation to ensure optimal acoustics. This design keeps sound contained within designated spaces, preventing noise from spreading and causing disturbances. Additionally, there are recording studios with extra thick walls to further contain sound.



22. Accessible and safe kitchen space

22. Accessible and safe kitchen space

Dementia Wing:
The dementia wing features an accessible and safe kitchen space with extra storage for homegrown vegetables and fruits. This kitchen allows residents to participate in cooking activities, promoting autonomy and providing a sense of accomplishment.

23. Daylight access

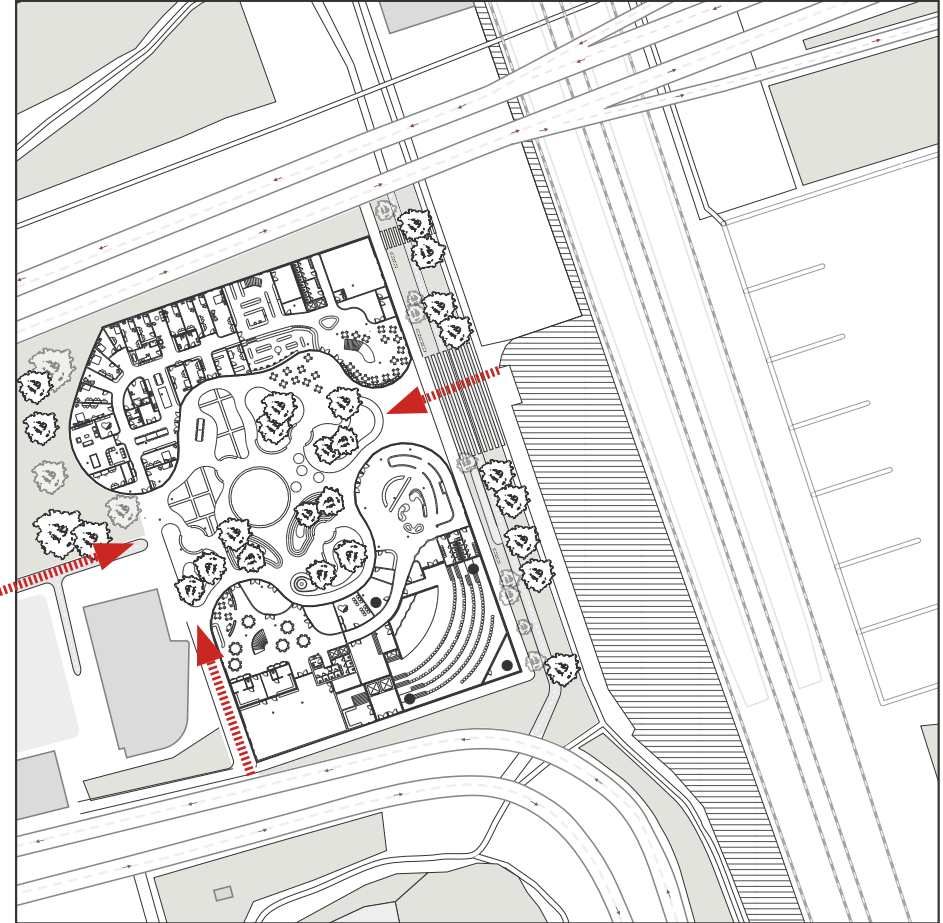
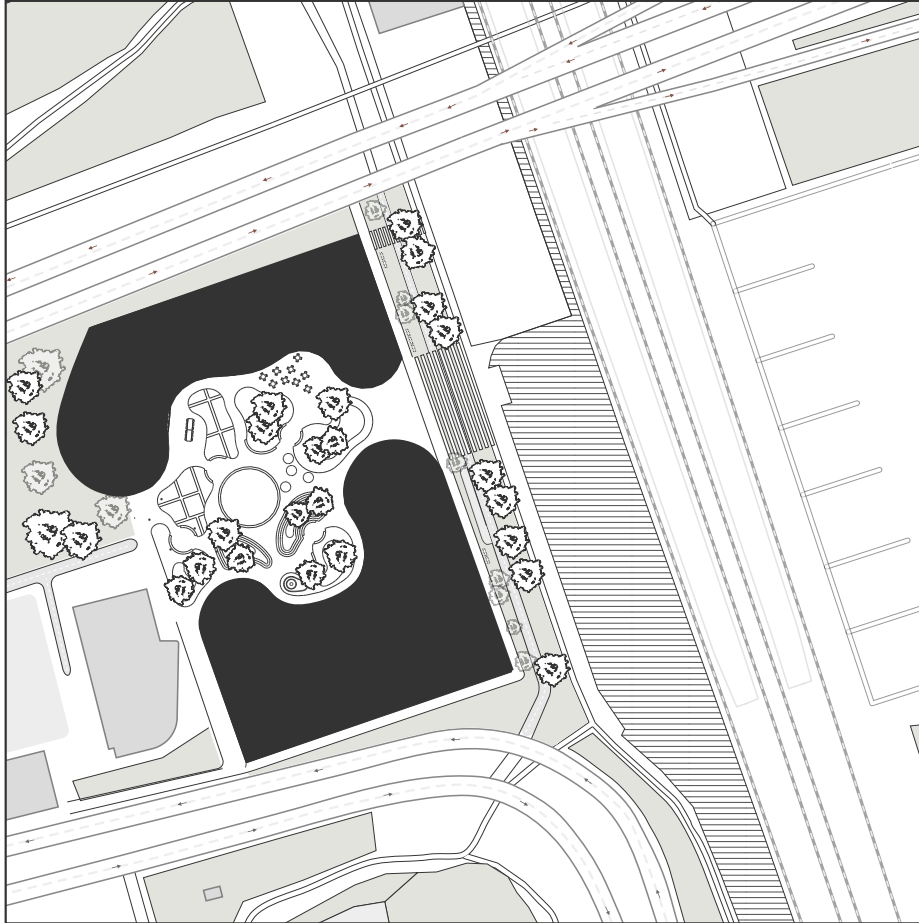
Dementia Wing:
All rooms in the dementia wings are designed to receive ample daylight. Common areas are situated along the glass facade facing the inner garden, allowing residents to look outside and enjoy natural light throughout the day.

Art Academy:

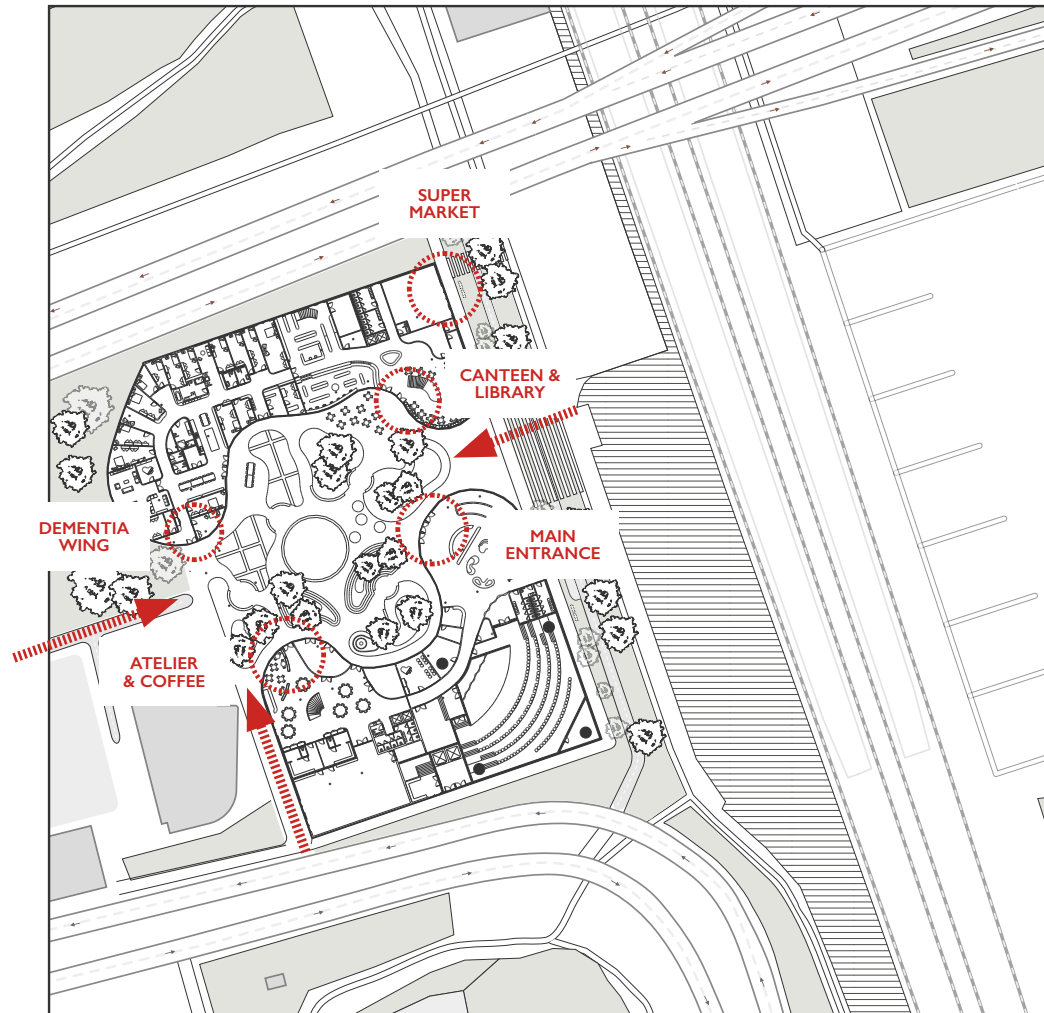
In the art academy, functions requiring abundant light are positioned along the glass facade surrounding the inner garden. This layout enables these activities to extend outdoors during the summer. The central hallway connects to the facade at several points, ensuring it is well-lit and providing a clear overview. This design minimizes harsh contrasts in light and materials, reducing stress and confusion.



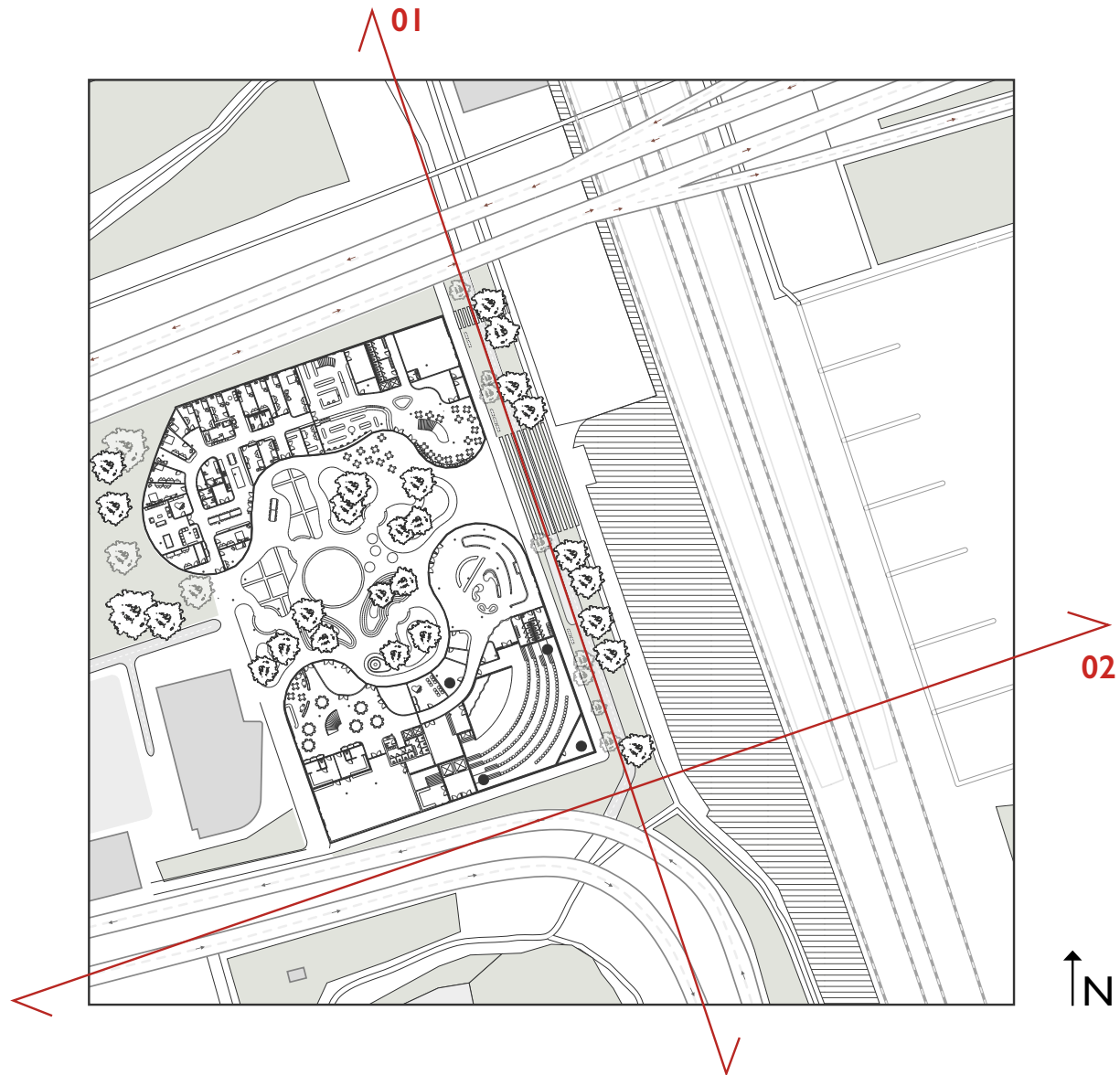
The Academy MASTERPLAN ROUTING



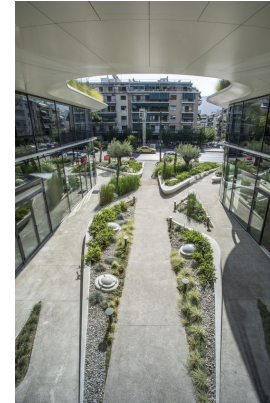
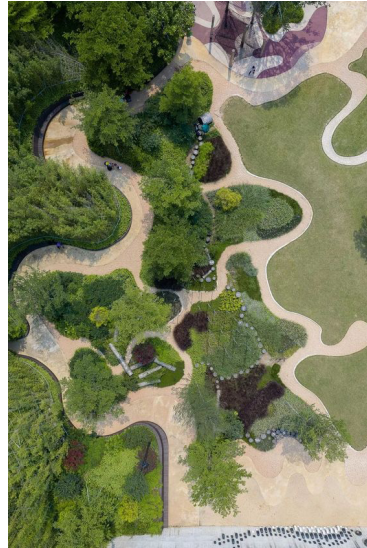
The Academy MASTERPLAN ROUTING / ENTRANCES



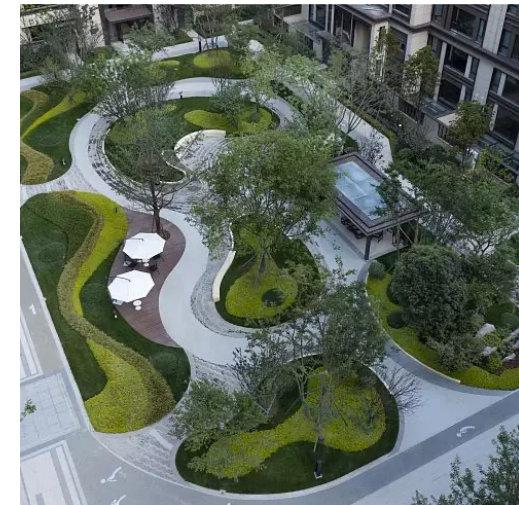
The Academy
MASTERPLAN ROUTING / ENTRANCES



The Academy COURTYARD REFERENCE

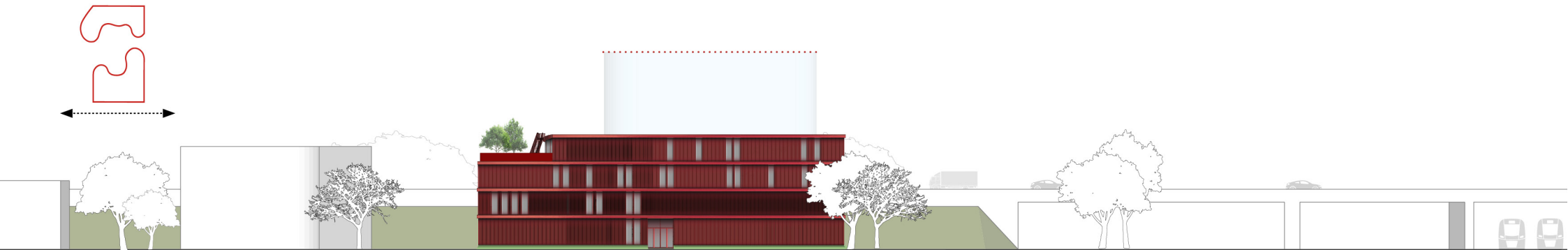
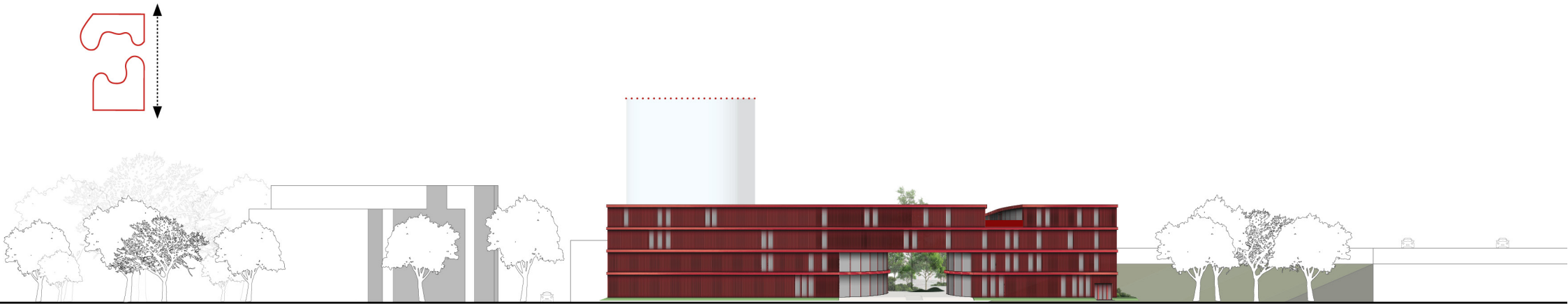


Curvy courtyards, easy wayfinding,
seating areas in the corners, natural flow

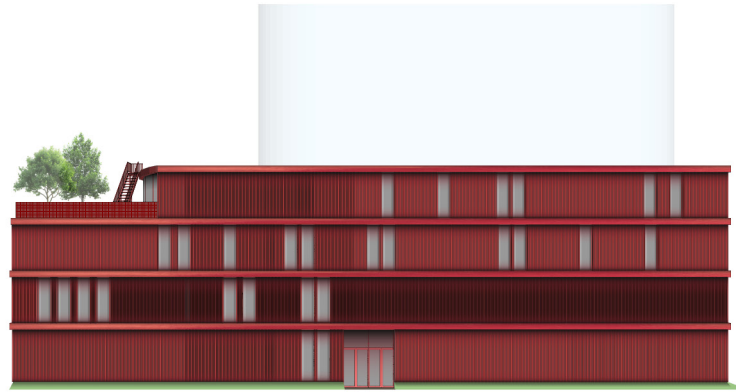


Sensory art (light, running water), stairs that
can be used as benches, open air theater

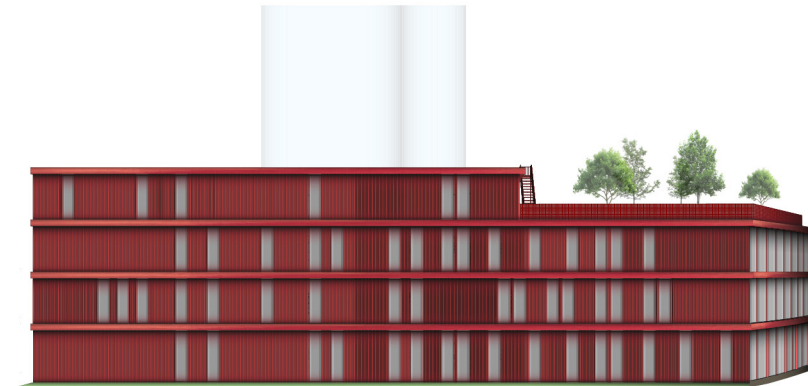
The Academy URBAN SECTION



The Academy FACADES

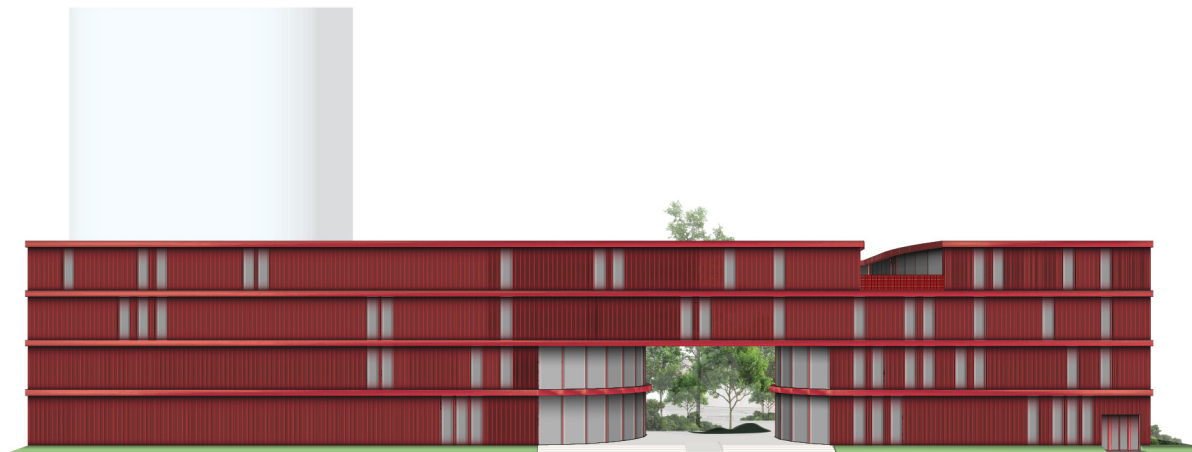


SOUTH
FACADE

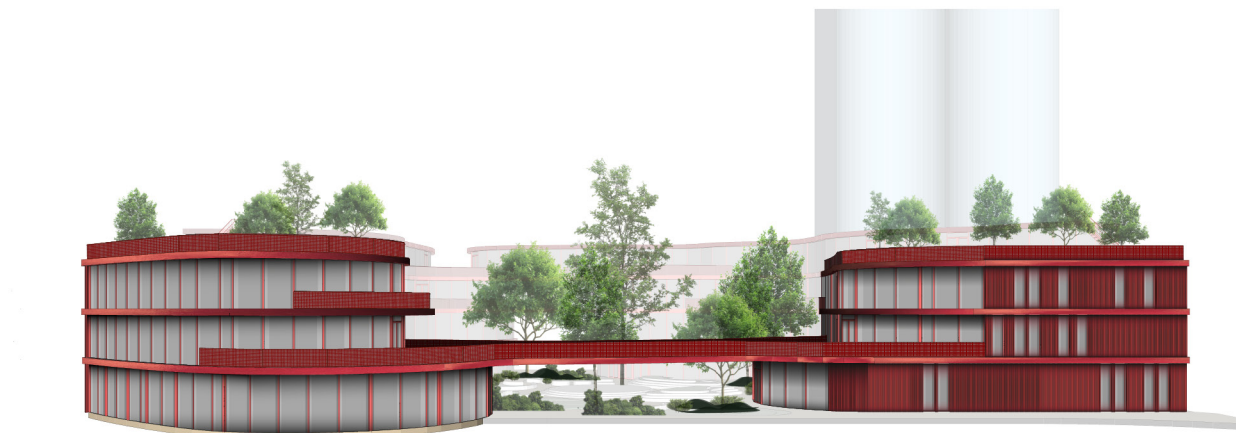


NORTH
FACADE

The Academy FACADES



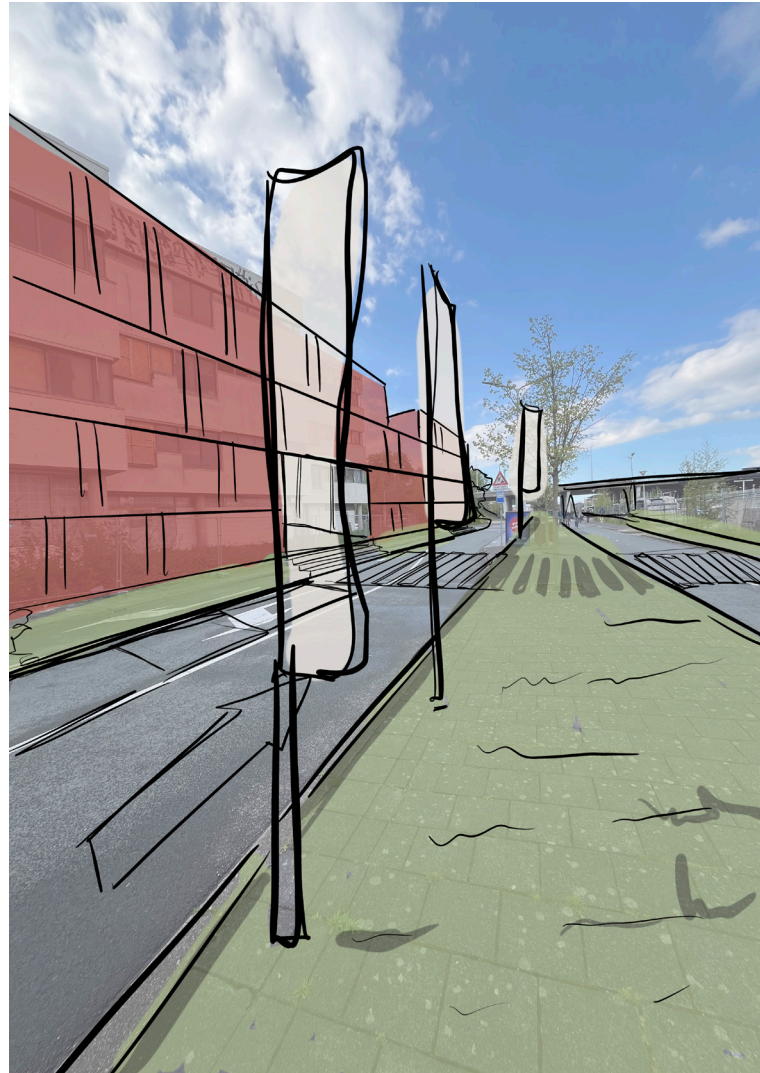
EAST
FACADE



WEST
FACADE

The Academy STREET VIEW DRAFT

25.04.2024

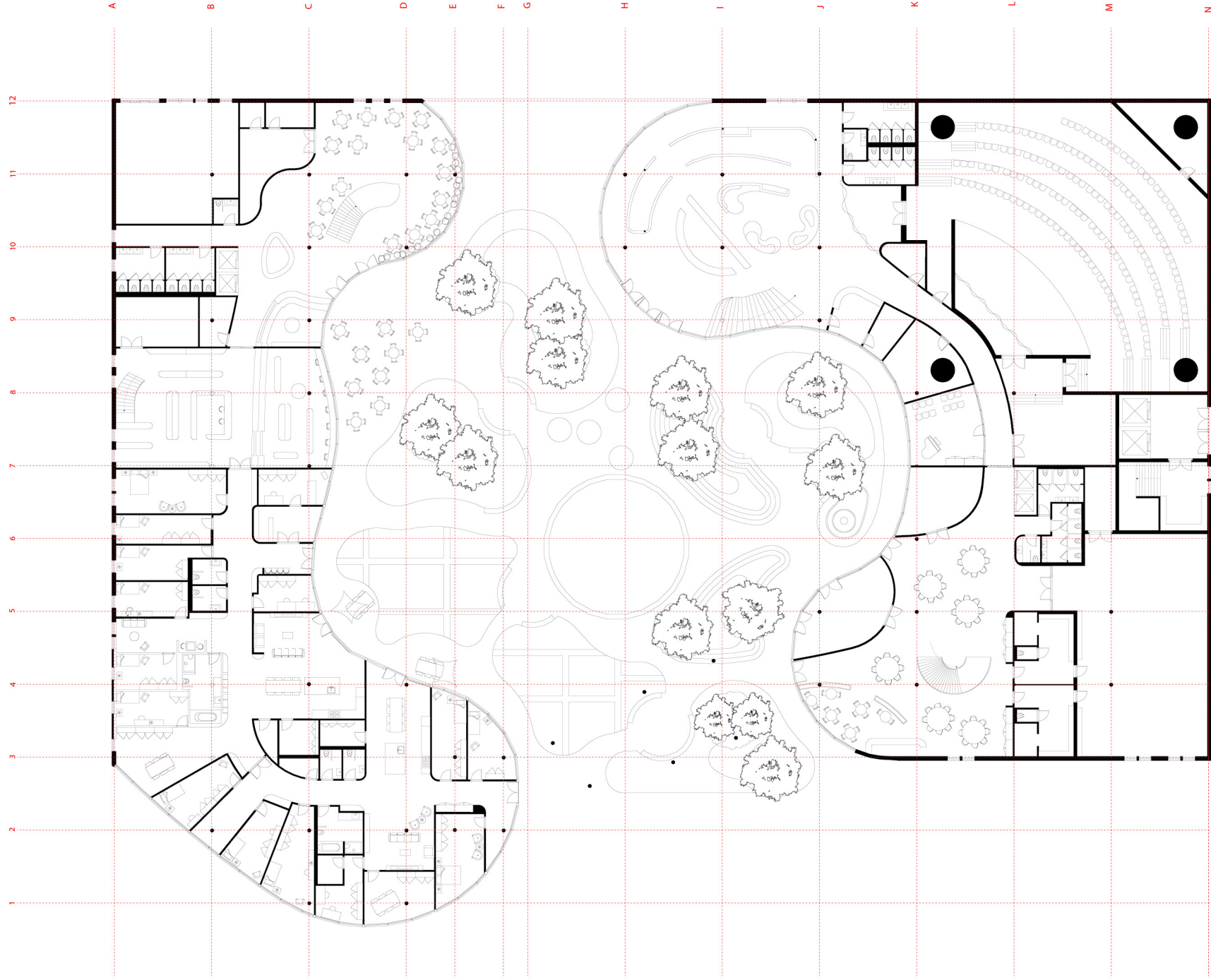


Modifying Forensenweg, the street located at the main entrance of the art academy, was also on the agenda. Currently, the street is entirely paved and unappealing. The new street design aims to guide public transport users from Delft Campus station to the main entrance of the art academy or the supermarket. At present, there is a wide car lane primarily used by buses. The plot where a part of the art academy now stands was previously a small parking lot.

Since the parking lot has been replaced by a green inner courtyard, the car lane is no longer as necessary. Vehicles can access the area from the back, where several office buildings and other parking spaces are located. This change allows Forensenweg to be transformed with additional greenery and banners to make the art academy recognizable and promoted. The art academy itself is elevated 0.5 metres above ground level to preserve the building materials, creating a green verge between the building and the pavement.

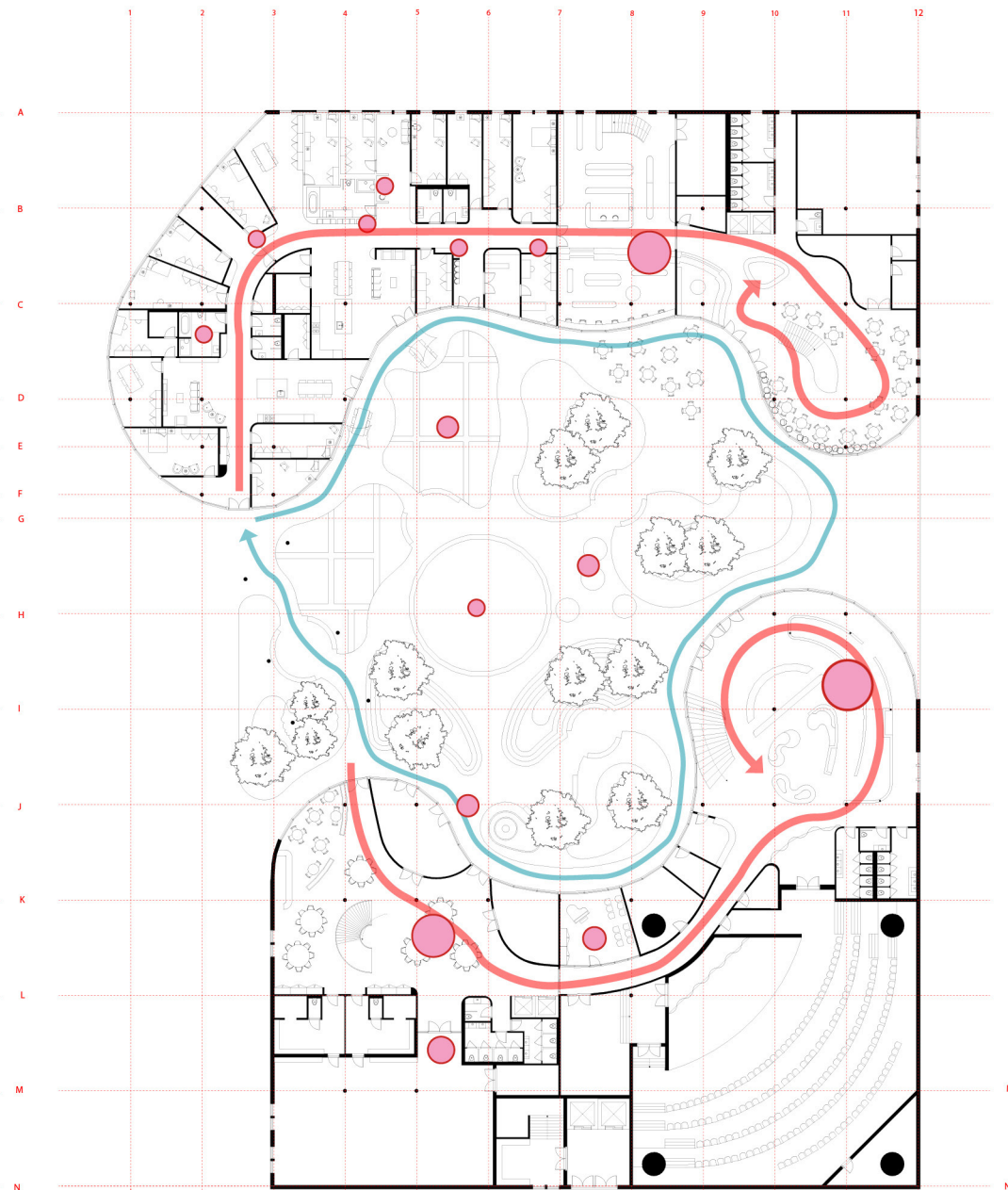
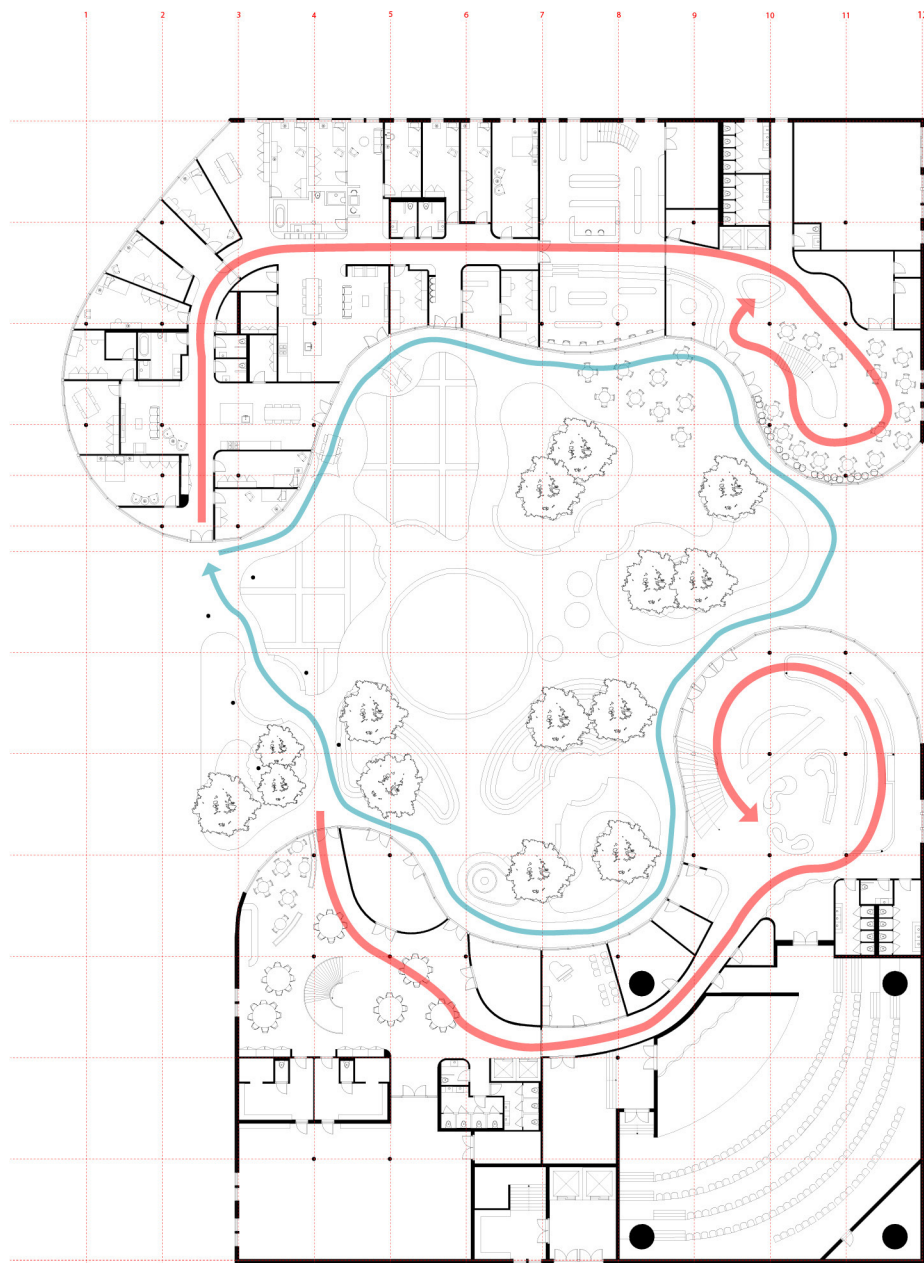
The roadway has been reduced to a single one-way lane with several kiss-and-ride spots. The existing wide bike path has been preserved. Finally, a 10-metre-wide zebra crossing has been added to clearly indicate that this is a pedestrian area. This redesign ensures that the street is more attractive and better serves the needs of the art academy and its visitors.

The Academy PLAN BG



Scale bar

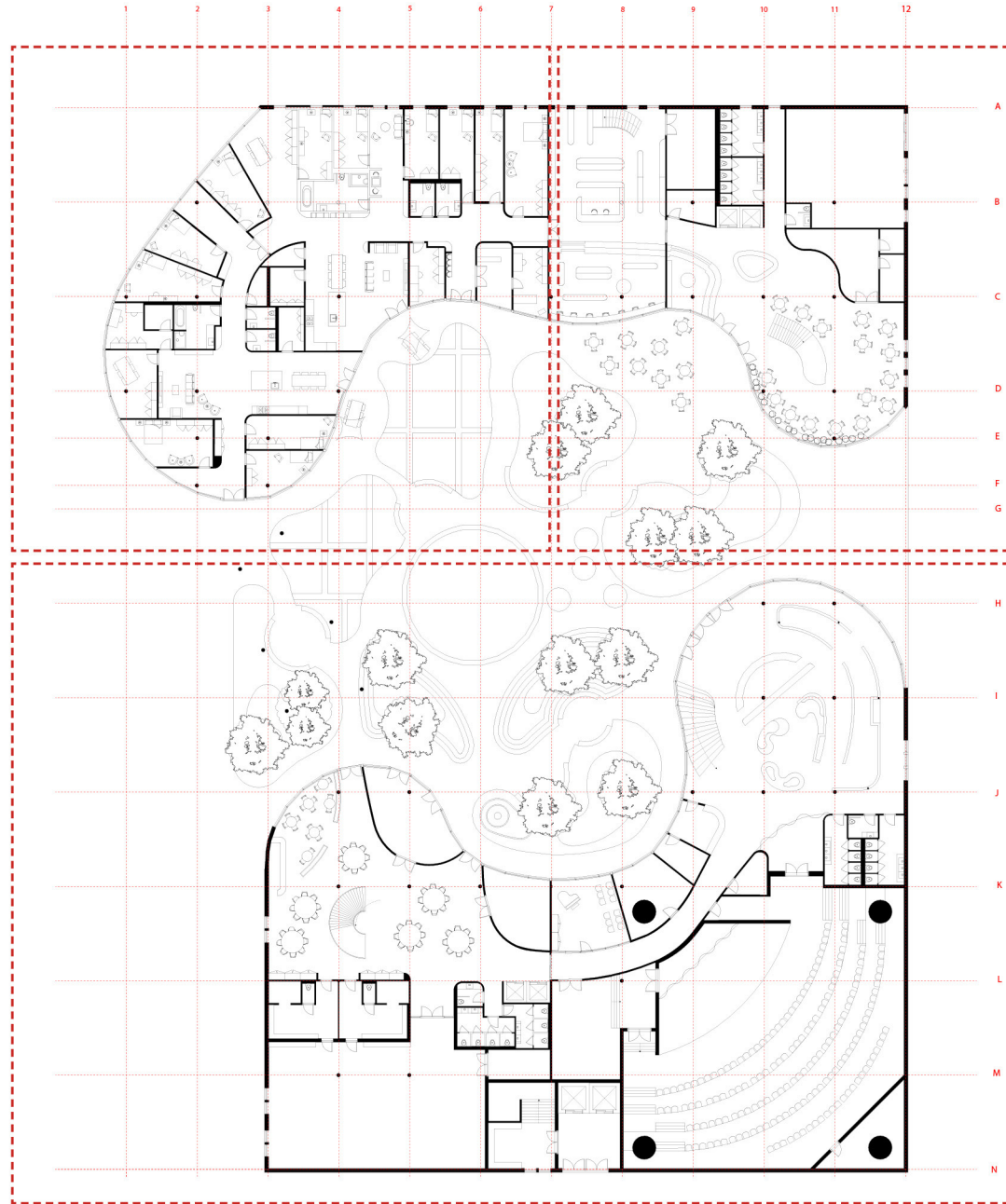




01

02

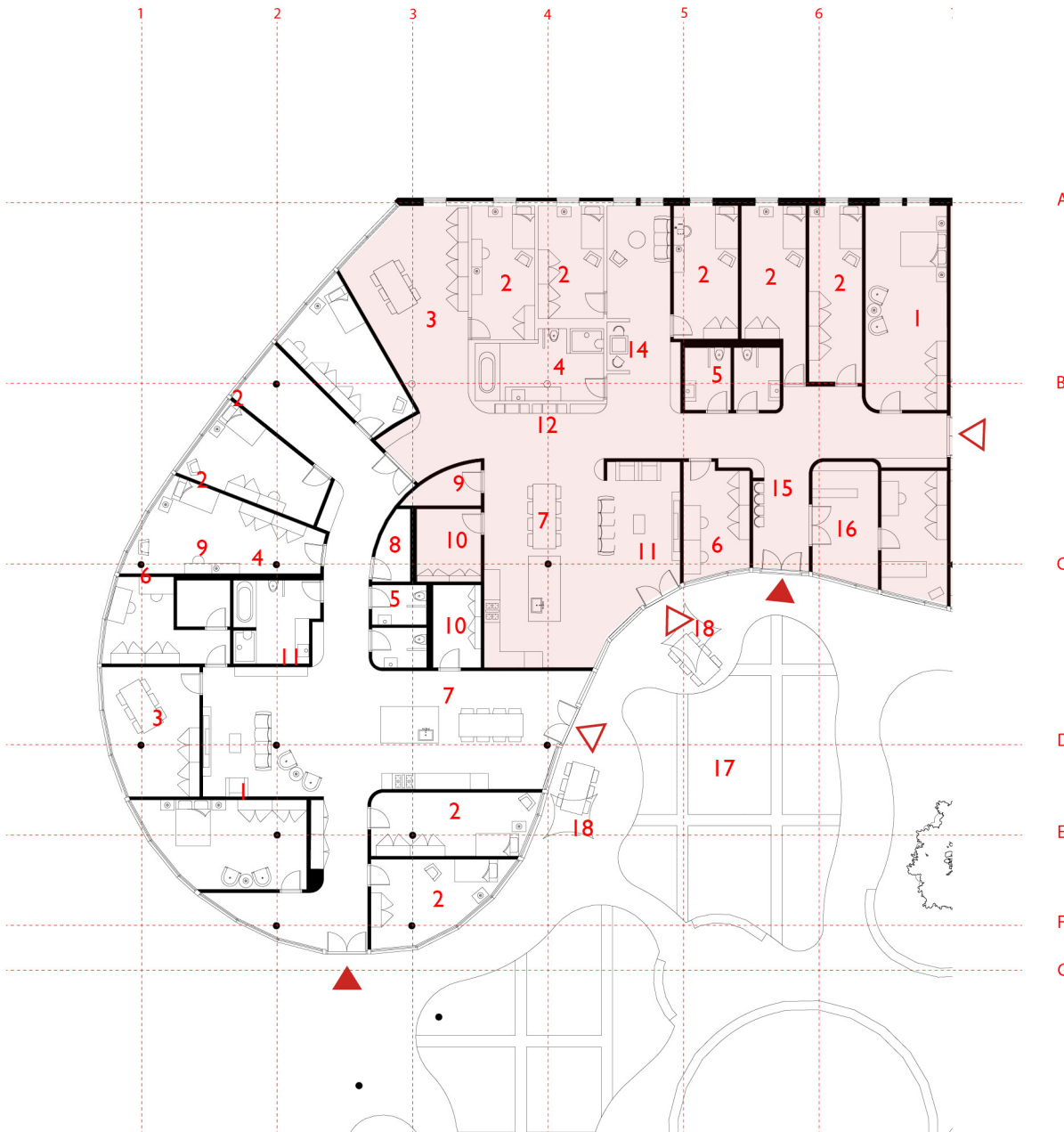
03



Scale bar



The Academy PLAN BG 01



LEGEND

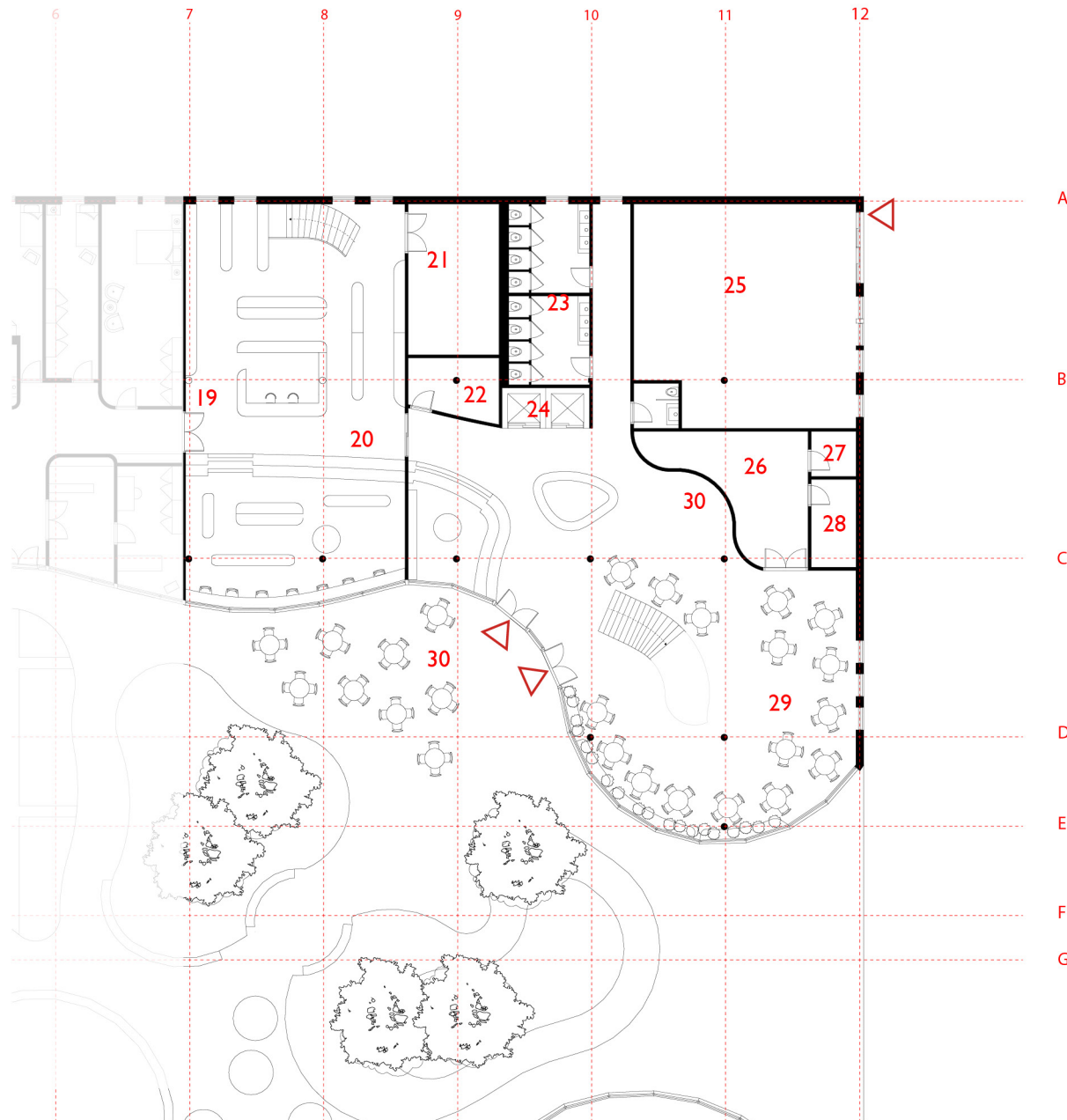
Dementia wing (2 seperate departments)

- 1. Double bedroom (x2)
- 2. Single bedroom (x10)
- 3. Art (therapy) room
- 4. Bathroom (x2)
- 5. Toilets seperate(x4)
- 6. Staff room
- 7. Open kitchen with dining area
- 8. Storage
- 9. Technical area
- 10. Kitchen storage with cooling room
- 11. Living area (TV)
- 13. Seperate dining space
- 14. Boardgame area
- 15. Waiting room
- 16. General practitioner
- 17. Vegetable gardens
- 18. Outside dining space

Scale bar



The Academy PLAN BG 02



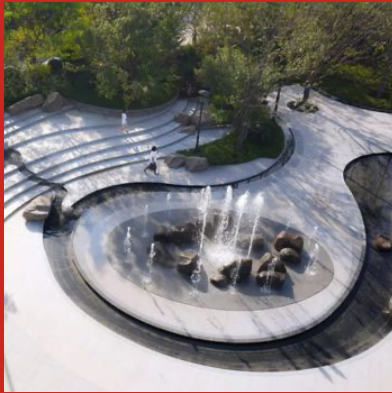
LEGEND

- 19. Entrance dementia wing
- 20. Open library (I)
- 21. Library storage
- 22. Cleaning storage
- 23. Toilets (x2)
- 24. Elevators
- 25. Supermarket (public)
- 26. Kitchen
- 27. Cooling area
- 28. Dishwashing kitchen
- 29. Canteen
- 30. Buffet
- 31. Outside terrace

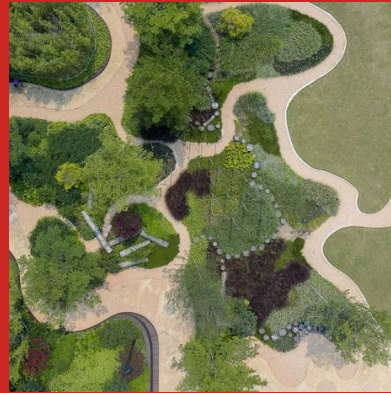
Scale bar



The Academy
REFERENCES GARDEN



falu rød



curtain facade

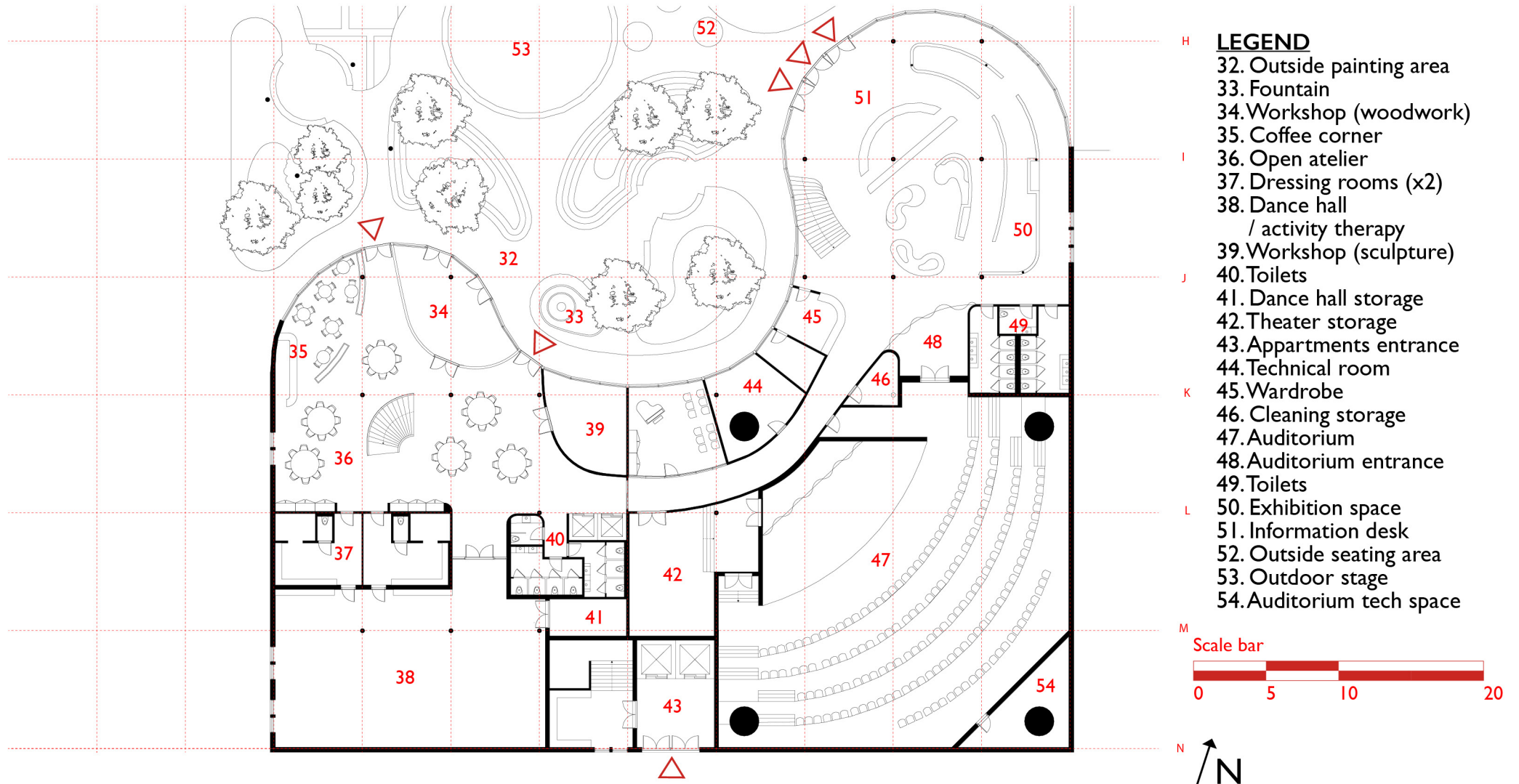


steel balustrades

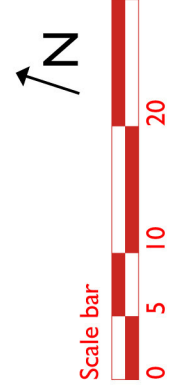
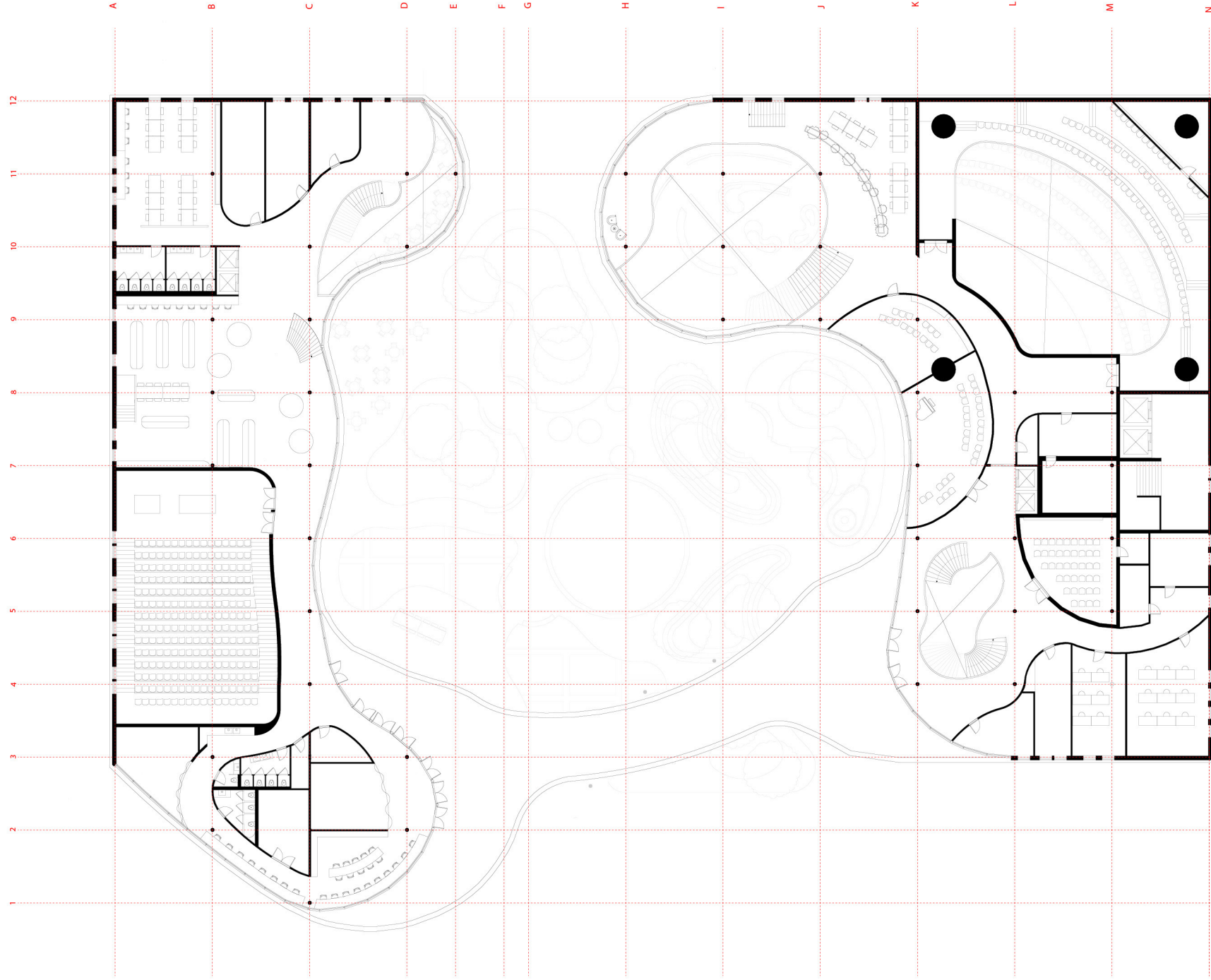


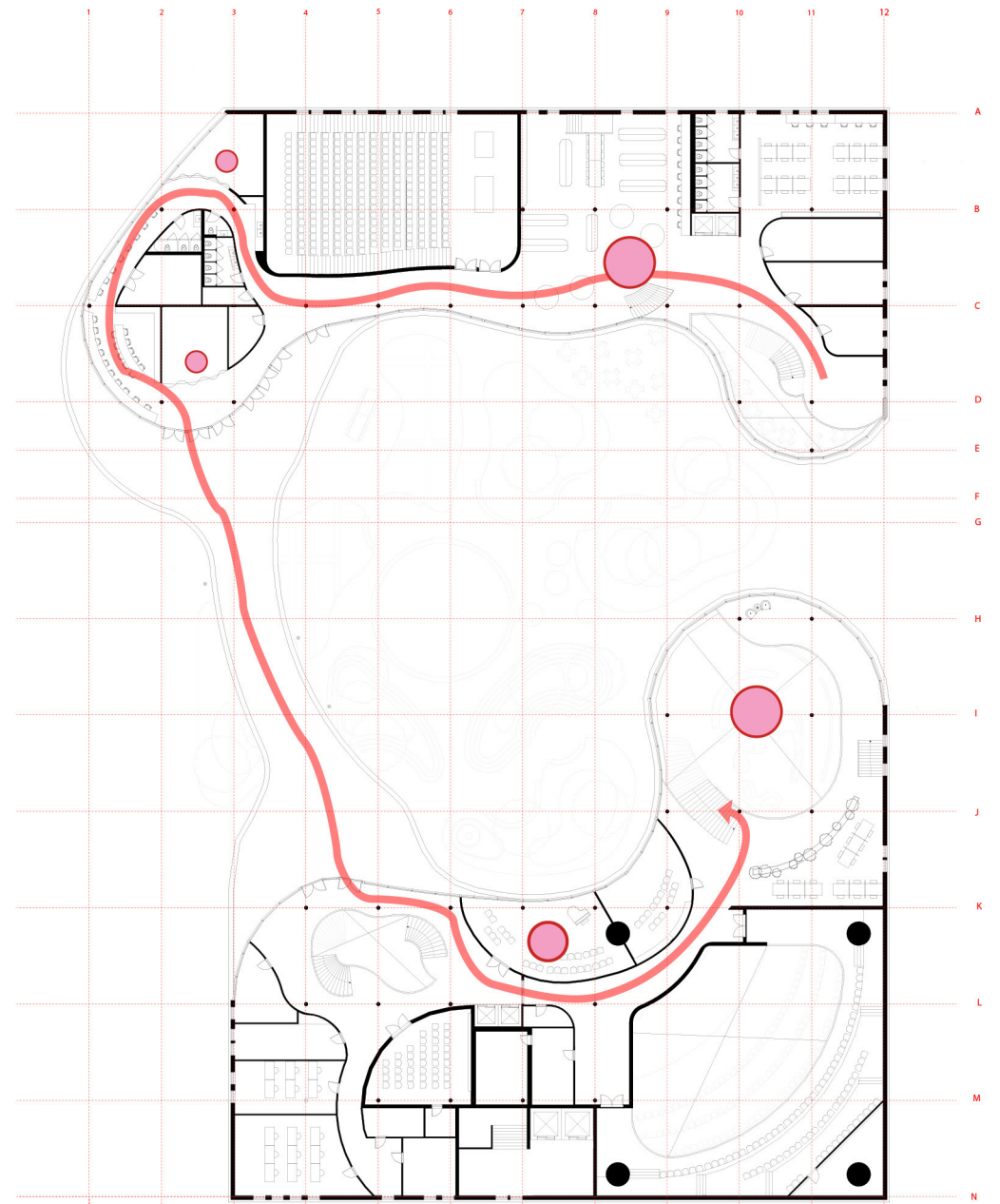
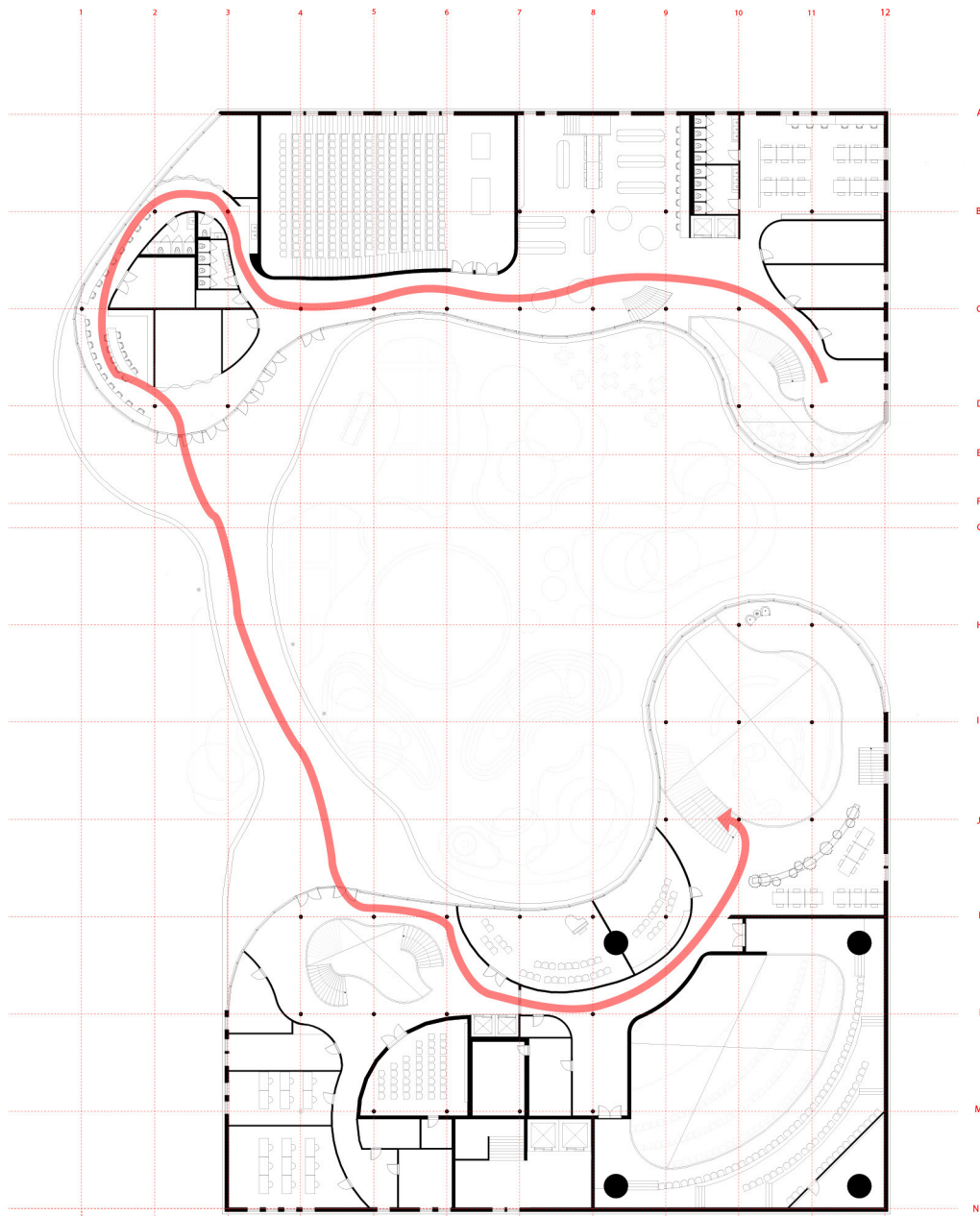
rooftop gardens

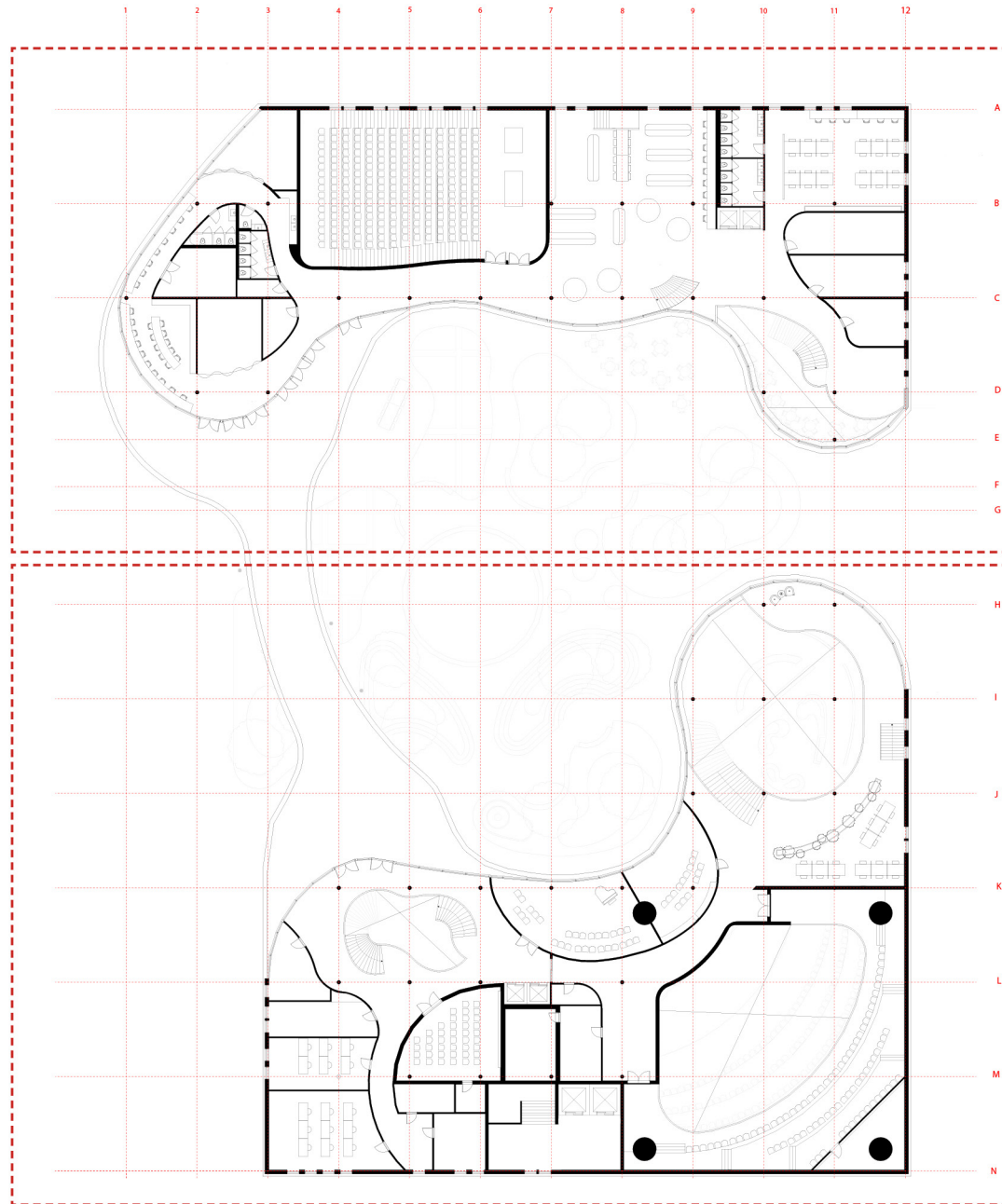
The Academy PLAN BG 03



The Academy PLAN 1ST





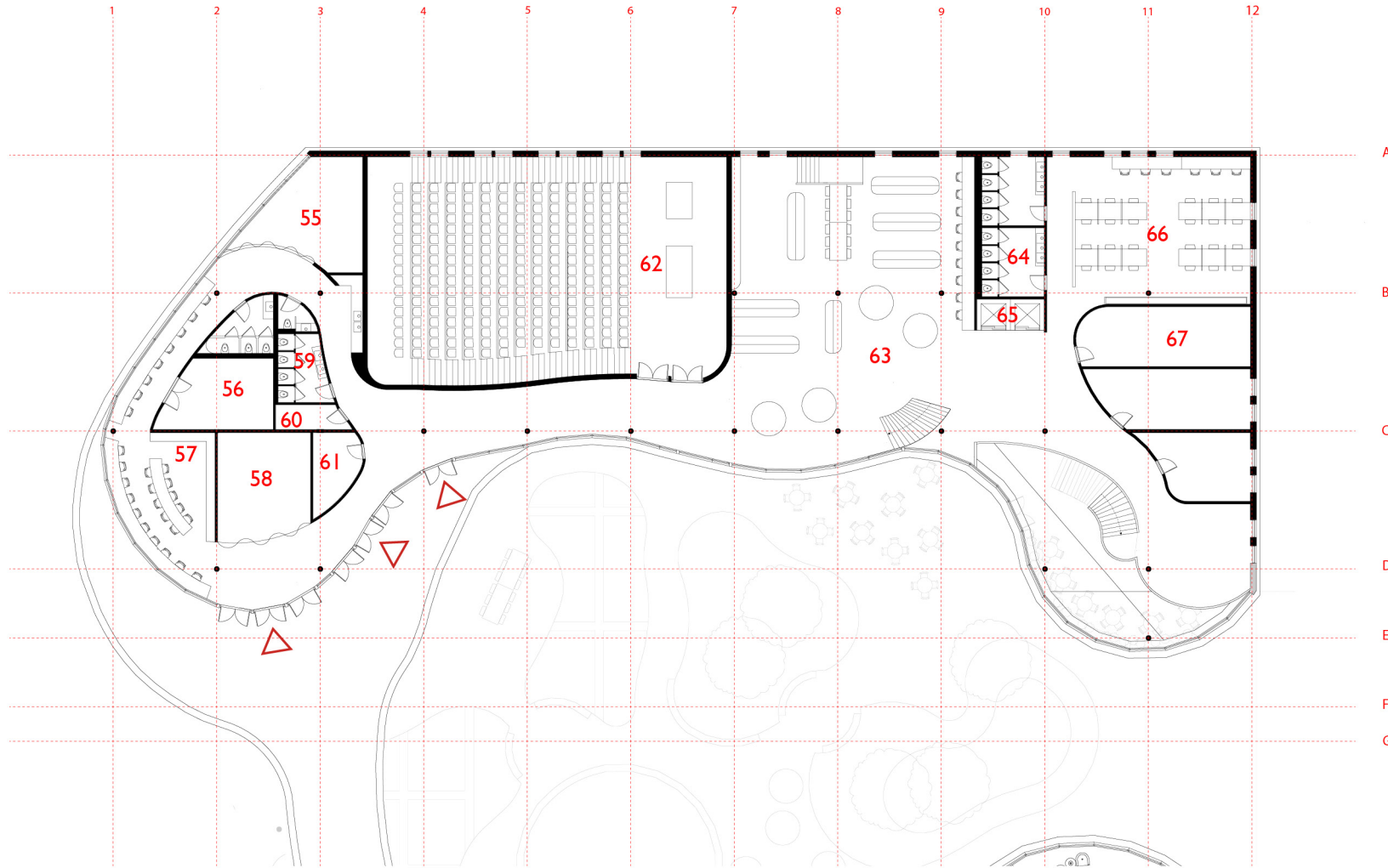


01

02



The Academy PLAN 1ST 01



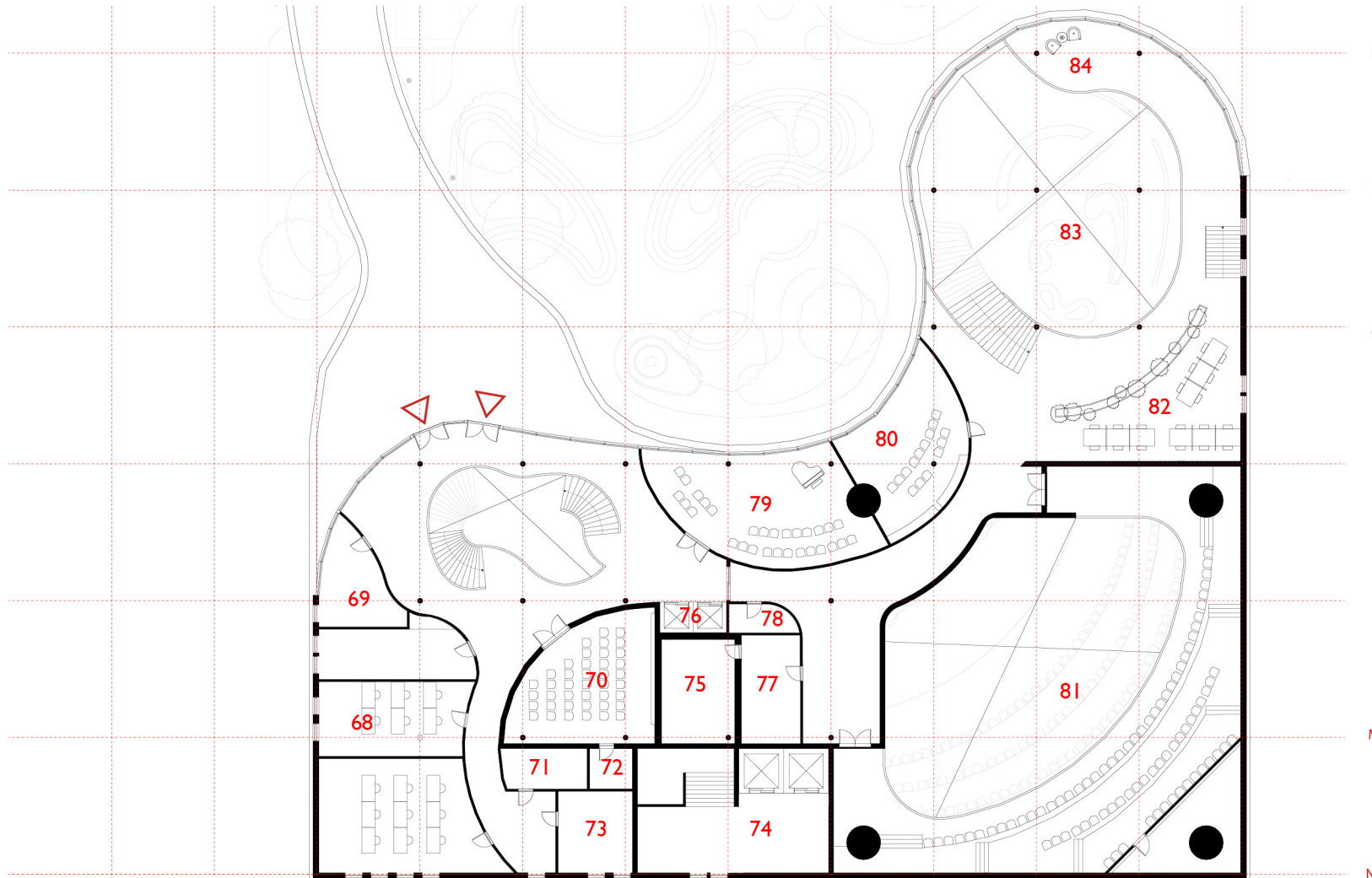
LEGEND

- 55. Painting area
- 56. Digital art room
- 57. Open atelier
- 58. Painting area
- 59. Toilets
- 60. Cleaning storage
- 61. Supply storage
- 62. Lecture hall
- 63. Open library (2)
- 64. Toilets
- 65. Elevators
- 66. Flex working space
- 67. Freelance ateliers

Scale bar



The Academy PLAN 1ST 02



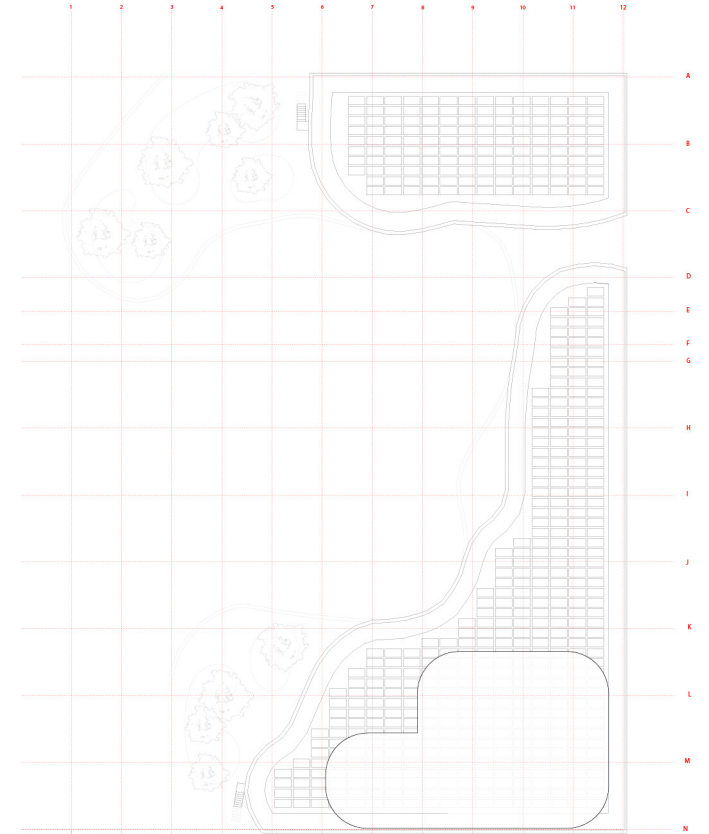
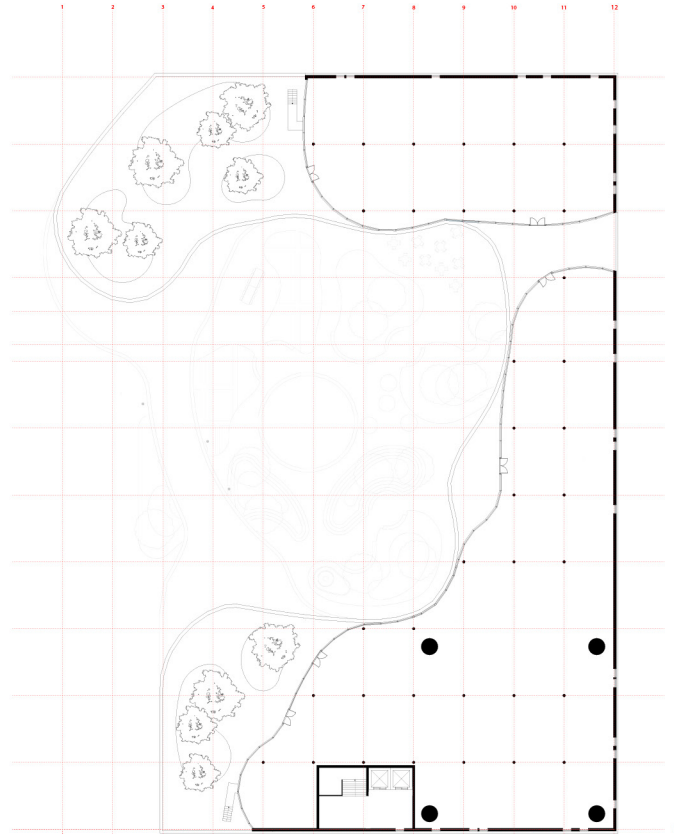
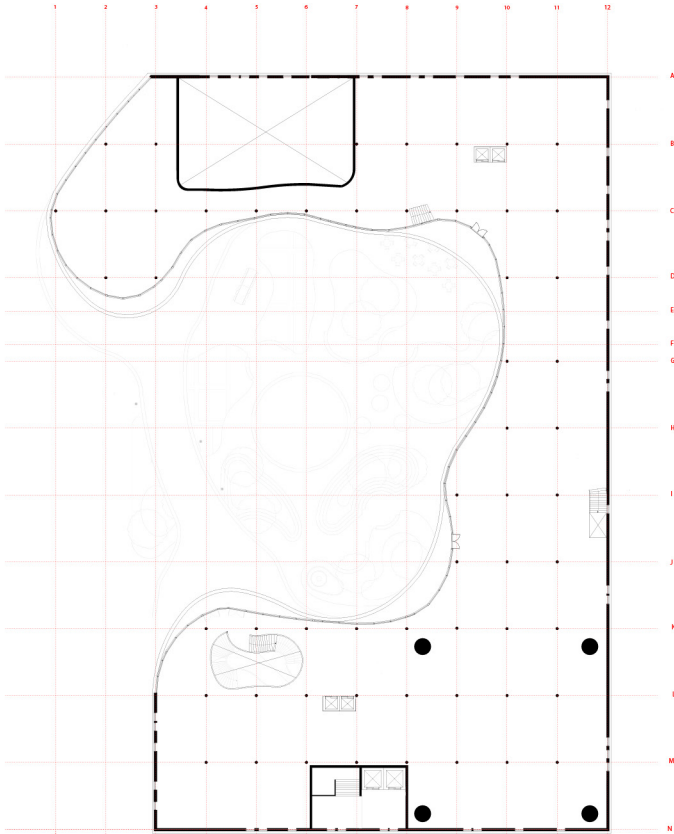
LEGEND

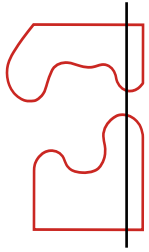
- 68. Classrooms
- 69. Freelance ateliers
- 70. Cinema
- 71. Silent music room
- 72. Cinema movie storage
- 73. Music room
- 74. Apartments entrance
- 75. Record studio (1)
- 76. Elevators
- 77. Record studio (2)
- 78. Cleaning storage
- 79. Concert hall 1
- 80. Concert hall 2
- 81. Auditorium 2nd ring
- 82. Flex working space
- 83. Entrance hall
- 84. Seating area

Scale bar



The Academy PLAN 3RD - 4TH - ROOF





The Academy SECTION 01



The Academy CLIMATE DESIGN DRAFT

19.03.2024

BUILDING

Health

Water efficient roof landscape
(positive effect on flora and fauna)

Optimal daylight design
(complete glass facades)

Orientation
(curves and wayfinding on the
floor guide you through the
building)

Art practices
(surroundings promote to interact
with art, positively impacting
well-being)

The color red
(promotes visibility among people
suffering from dementia)

Materials with low emission
values

Energy

Thermal storage
(beneath the stage in the
courtyard, can be used to cool and
heat ventilation)

Heat recovery

Triple glazing and insulation

Closed off south facade to
minimize heat entrance

Materials

Wooden skeleton with wooden
floors - remountable/ww
(calculate growth time?)

Make material passport?

Materials exported from Europe
(Robinia wood)

Recycled aluminum windowframes
with a thermal break

Lignatur floors (prefab made to
minimize material waste)

Metal stud interior walls that can
easily be recycled and have low
maintenance

Social

Artists, scholars, neighbours and
people suffering from dementia
learning and benefiting from each
other

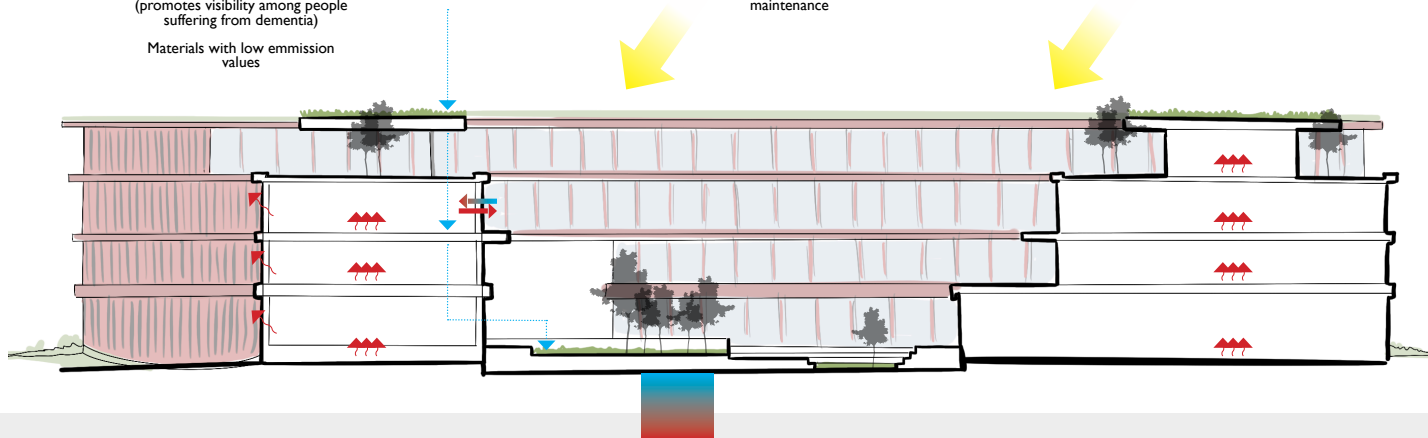
A new central hub near Delft
Campus station

Water

Water saving taps and toilets
(flushed with rainwater collected
from the roofs after watering the
roof vegetation)

Water efficient roof landscape
(green roofs serve as a rainwater
buffer)

The building is placed 500cm
above the ground to anticipate to
floods and preserve the foundation



SURR.

Health

Use of public transportation is
stimulated by the location

Use of land for self-grown food
and herbs

Energy

Solar panels
In the windows? On the roof?
South facade?

Materials

Use grass and soft materials on
the ground in the courtyard to let
water/rainfall infiltrate the ground

Social

Vegetable gardens in the courtyard
to facilitate food for cooking in the
central cafeteria and daily activities
for people suffering from dementia

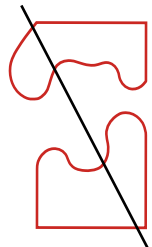
Water

Open air theatre can serve as a
buffer at times of extreme rainfall

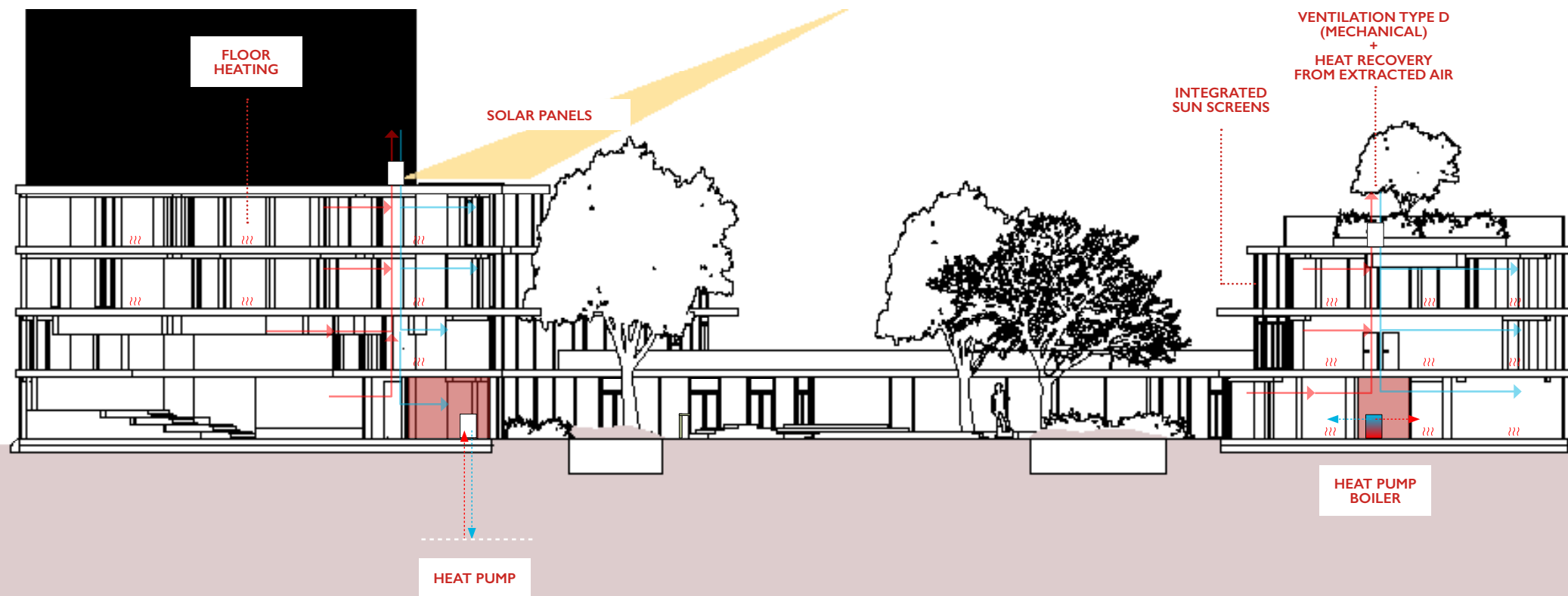
When creating a climate concept, various aspects were carefully considered. From the outset, the plan was to integrate the rooftop gardens into the water management design. Water would be guided from the rooftop gardens along the facades and stored underground. Additionally, solar energy would play a significant role, complemented by a heat pump, boiler, and underfloor heating. The inner courtyard provided opportunities for storing large quantities of water.

This comprehensive approach ensures that the building not only meets its energy needs sustainably but also manages water efficiently. The rooftop gardens contribute to the building's insulation and aesthetic appeal while also playing a crucial role in water collection and management. Solar panels provide renewable energy, reducing reliance on external power sources. The heat pump and boiler system, along with underfloor heating, ensure efficient and comfortable temperature regulation throughout the building. The inner courtyard, besides being a pleasant green space, serves as a practical solution for water storage, further enhancing the building's sustainability.

For the final climate and water design, please refer to pages 93 to 96.

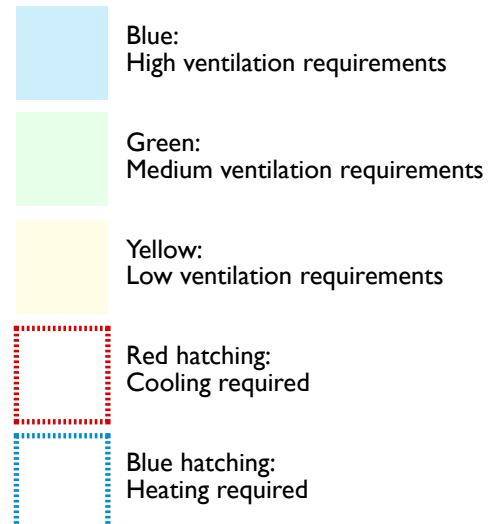
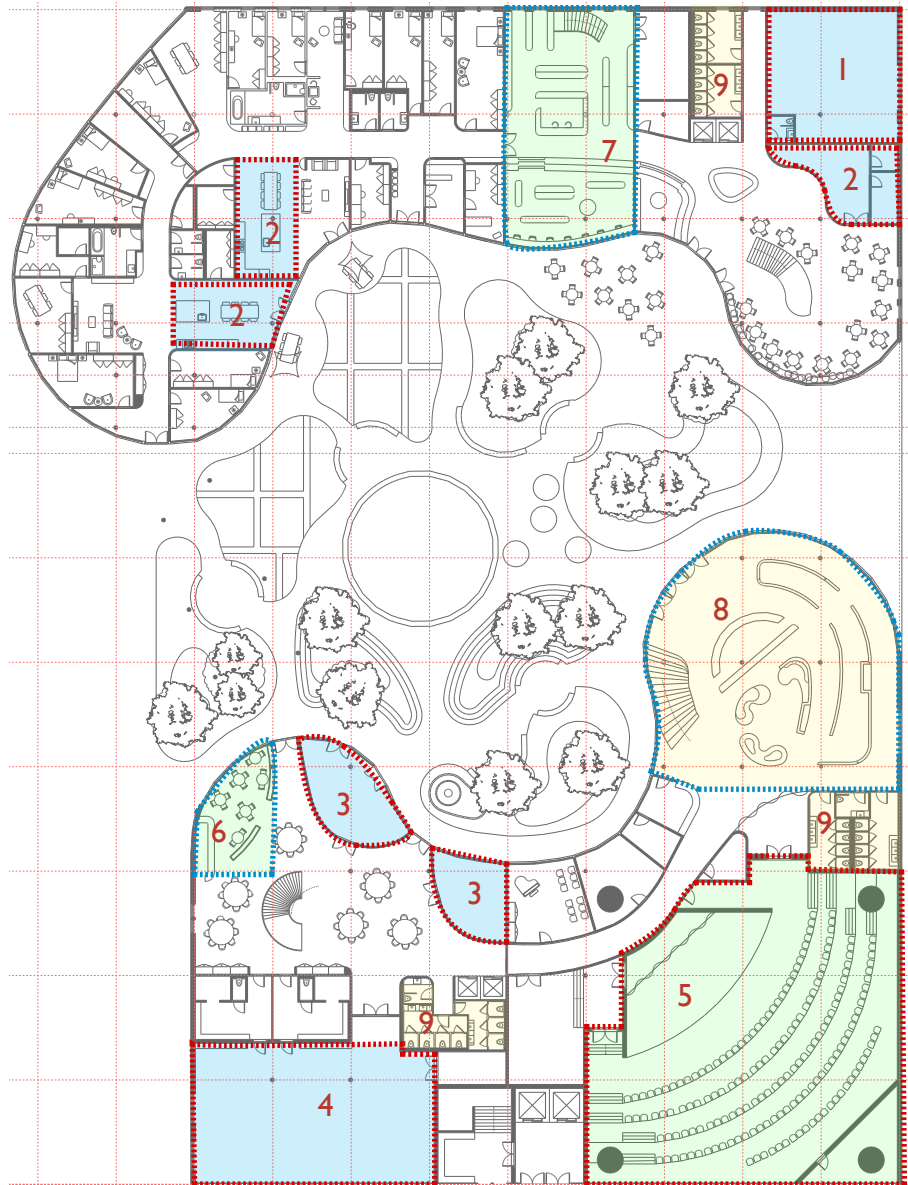


The Academy CLIMATAE SECTION 01



The Academy CLIMATE / ZONING

11.06.2024



1. Supermarket (Blue + Red hatching):
High ventilation requirements due to the presence of many people and food odours.
Cooling needed due to heat production.

2. Public kitchen and 2 private kitchens (Blue + Red hatching):
High ventilation requirements due to heat and moisture from cooking. Cooling needed.

3. Workshop spaces (Blue + Red hatching):
High ventilation requirements for dust and fume extraction. Cooling needed.

4. Dance hall (Blue + Red hatching):
High ventilation requirements due to physical exertion. Cooling needed.

5. Auditorium (Green + Red hatching):
Medium ventilation requirements for events. Cooling needed for large crowds.

6. Café (Green + Blue hatching):
Medium ventilation requirements due to food and people. Heating needed for comfort.

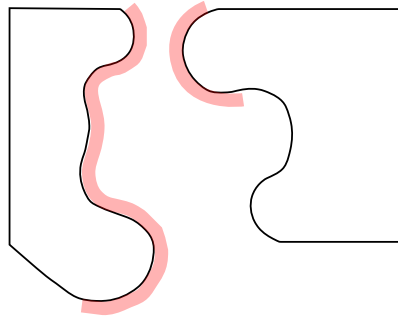
7. Library (Green + Blue hatching):
Medium ventilation requirements for a constant flow of people. Heating needed for comfort.

8. Entrance hall (Yellow + Blue hatching):
Low ventilation requirements unless it is a busy area. Heating needed for comfort.

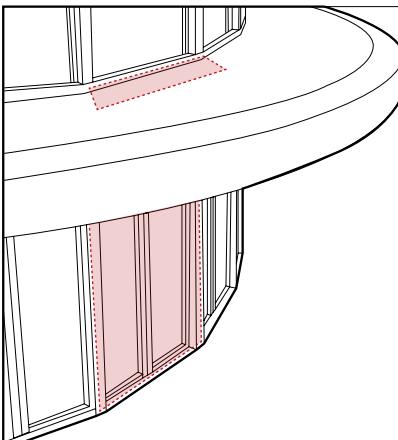
9. Public toilets and bathrooms (Yellow):
Low ventilation requirements for hygiene.

The Academy CLIMATE / SHADING

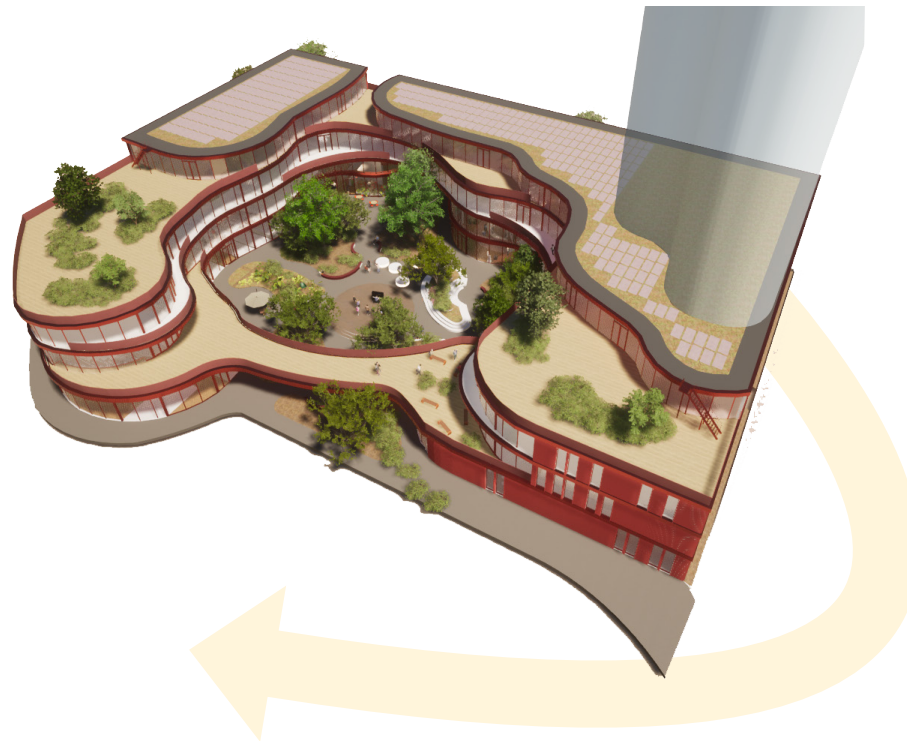
11.06.2024



Placement integrated sunshades

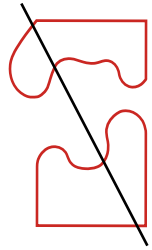


Integrated sunshade principle

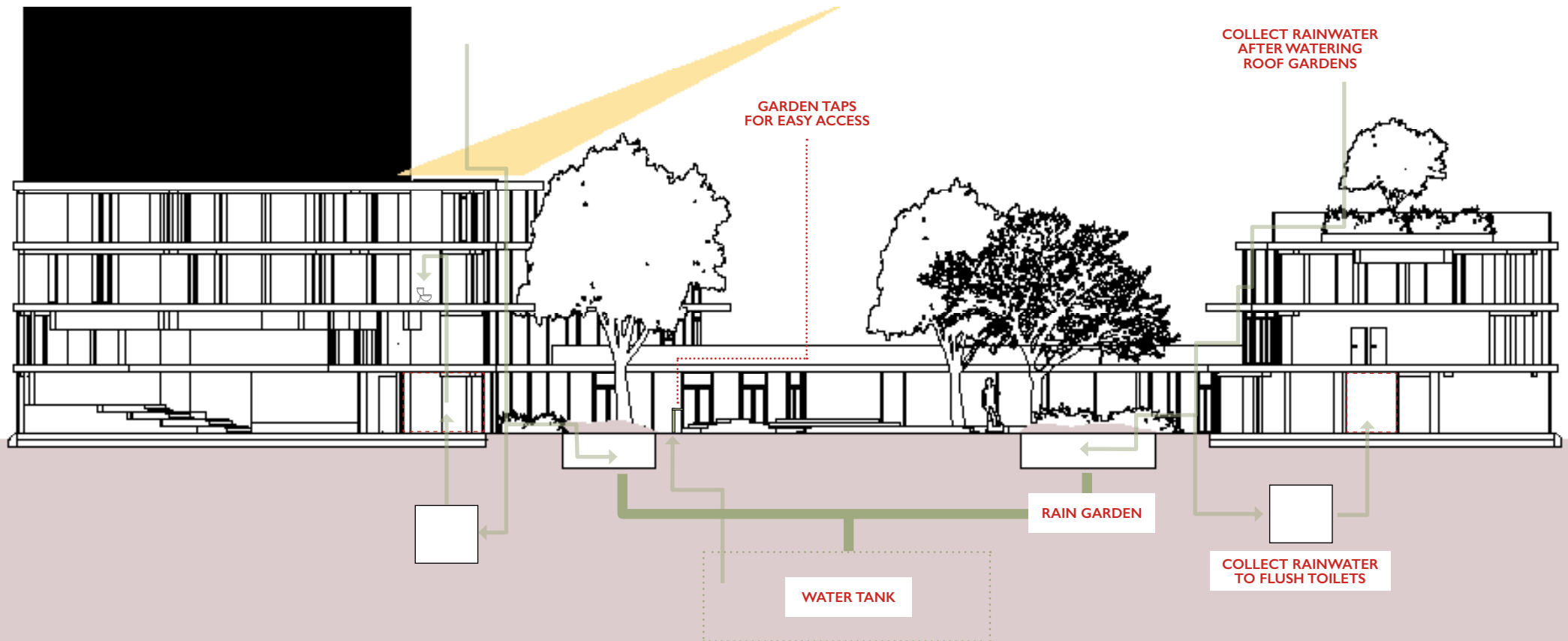


The Dementia Art Academy is equipped with integrated sunshades in the extended roof edge. At every point of the building, the roof edge extends at least 400 mm and in some places even further. Since the glass panes are rectangular (as explained on page 50), the sunshades can also be implemented in a rectangular profile. The sunshades are attached to the aluminium window frames, as shown in detail 3 and 4 on pages 112 and 113.

Given that the sun rises in the east and sets in the west, this luxurious, complex, and costly integration is not needed throughout the entire building. The diagram on the left illustrates where the sunshades are located within the building (top left) and how the rectangular profiles are integrated into the curved roof edge (bottom left). This strategic placement ensures that the sunshades are used where they are most effective, optimizing both functionality and cost.



The Academy CLIMATE SECTION 02



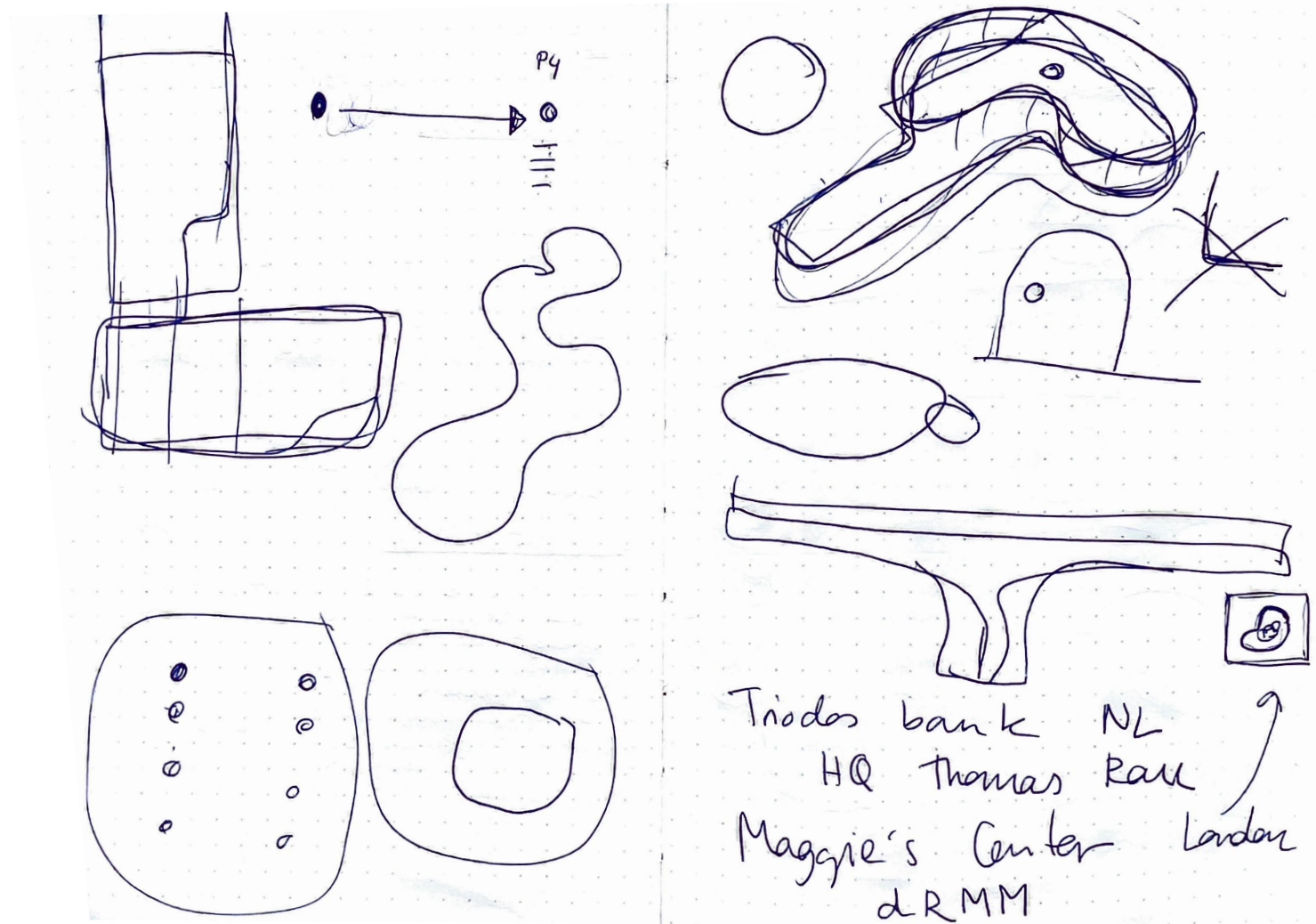
The Academy CONSTRUCTION - BRAINSTORM

19.02.2024

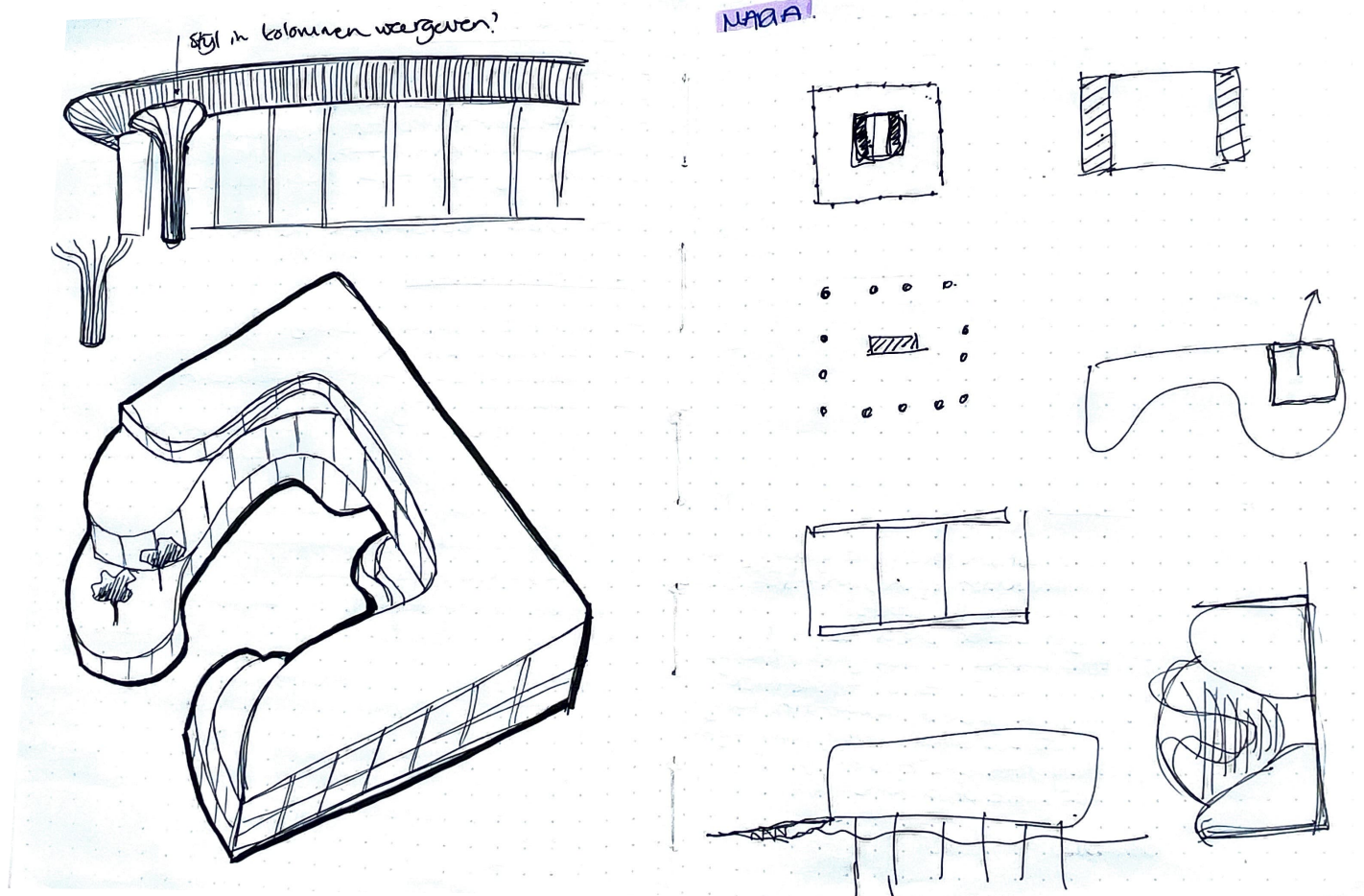
These and the following page (98) showcase the process of designing the load-bearing structure. Throughout this process, I was supported by my tutor Maria Meizoso Aguilar. The guiding principle was: 'CONTROL THE CURVES!'.

For the load-bearing structure, I established a 6m x 8m grid. Using a fixed grid makes the building easy to read, as well as easy to recycle and dismantle. The grid is composed of wooden columns, around which a glass curtain wall winds. The wooden CLT or Lignatur floors are supported by wooden beams. The structure is designed so that the column grid dictates the curves. The floor extends a minimum of 0.5 meters and a maximum of 1.5 meters beyond the columns. This approach ensures that the floor is easily supported by the structure, avoiding the need for technically complex solutions.

The schematic floor representation and their overhangs can be seen on page 100.



The Academy
CONSTRUCTION - BRAINSTORM 'CONTROL THE CURVES'



The Academy CONSTRUCTION DETAILS

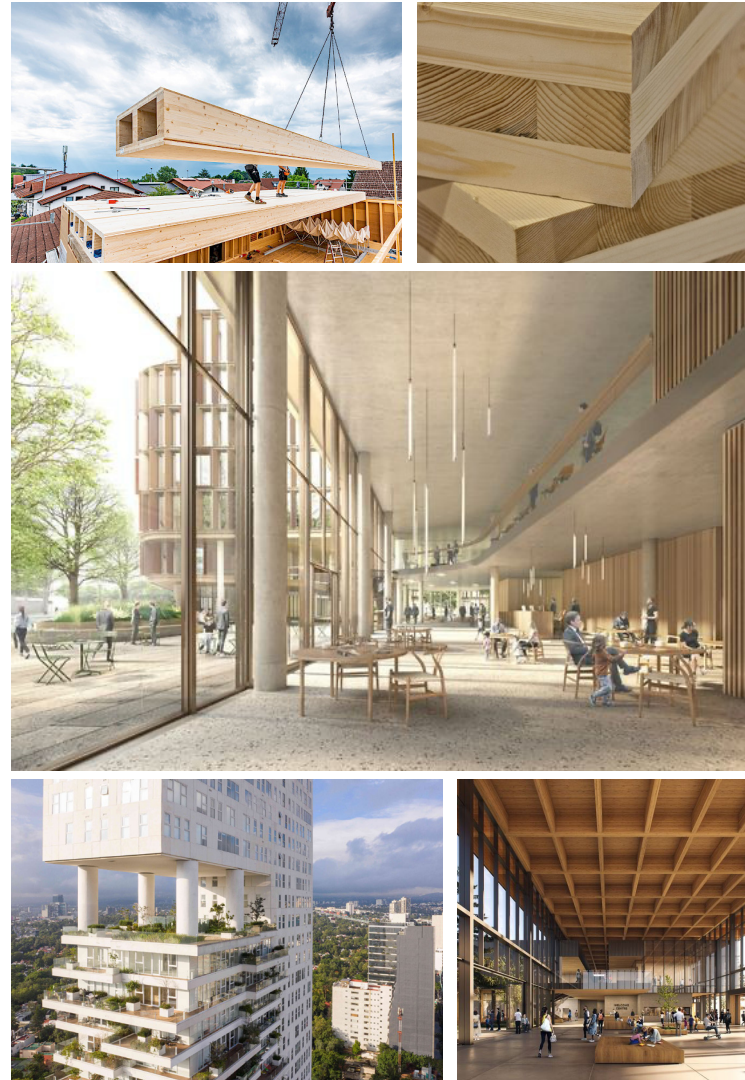
12.03.2024

From left to right and top to bottom:

In the Dementia Art Academy, Lignatur floors were used due to their unique benefits, including their ability to span large areas without additional support, their excellent acoustic and insulating characteristics, and their exceptional fire safety performance. These were combined with CLT floors around the edges because CLT is easily cut to fit the curved facade.

The facade itself is a curtain wall suspended from the floor edges, as shown in the middle photo. The windows have aluminium frames, and the floor is a cast concrete-look floor made of epoxy, providing a modern and durable finish.

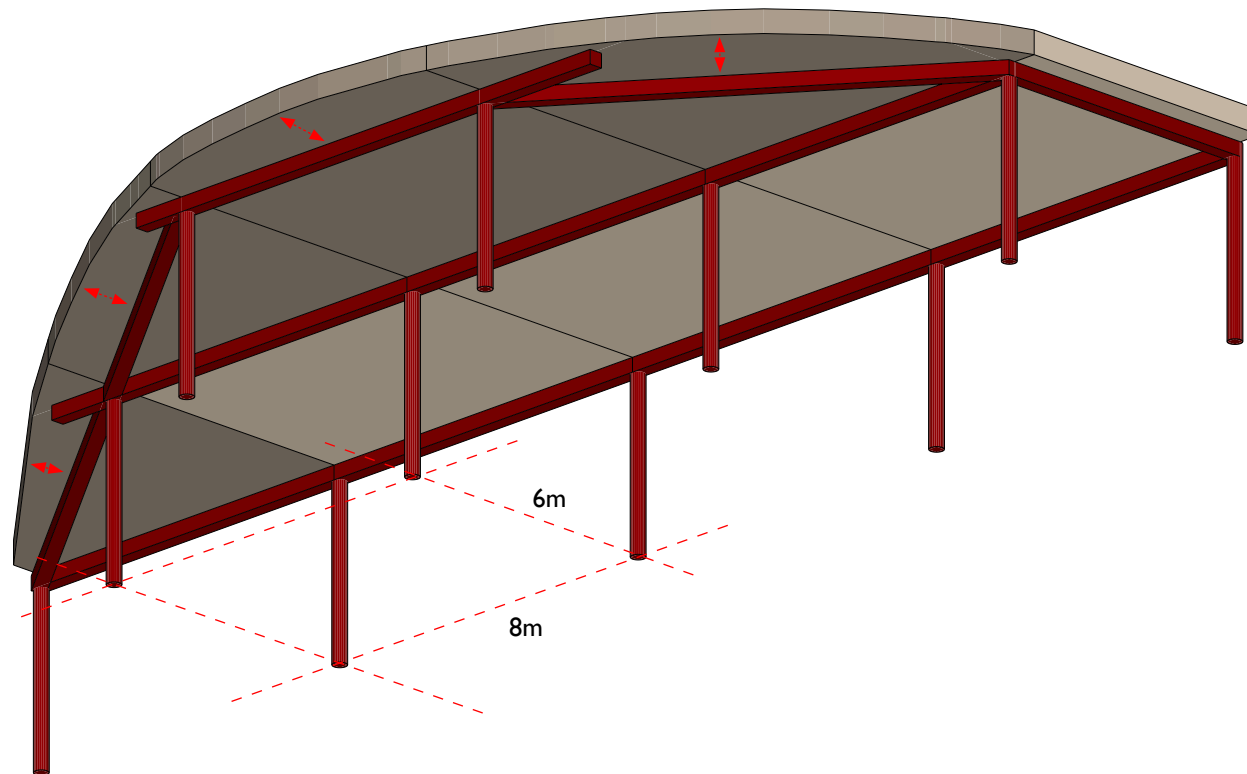
Lastly, the timber frame construction of the art academy is supported by large concrete columns. The “Periférico” by BRAG Architects served as an important reference project for this aspect, as the structure needs to be strong enough to potentially support an apartment complex in the future. The columns provide the necessary stability for the academy and allow the wooden framework to easily support the auditorium ceiling. A reference image of the auditorium ceiling can be seen at the bottom right, illustrating the design approach.



Periférico 2008 by BRAG Arquitectos, Mexico City, Mexico

The Academy CONSTRUCTION - CURVE PRINCIPLE

11.06.2024

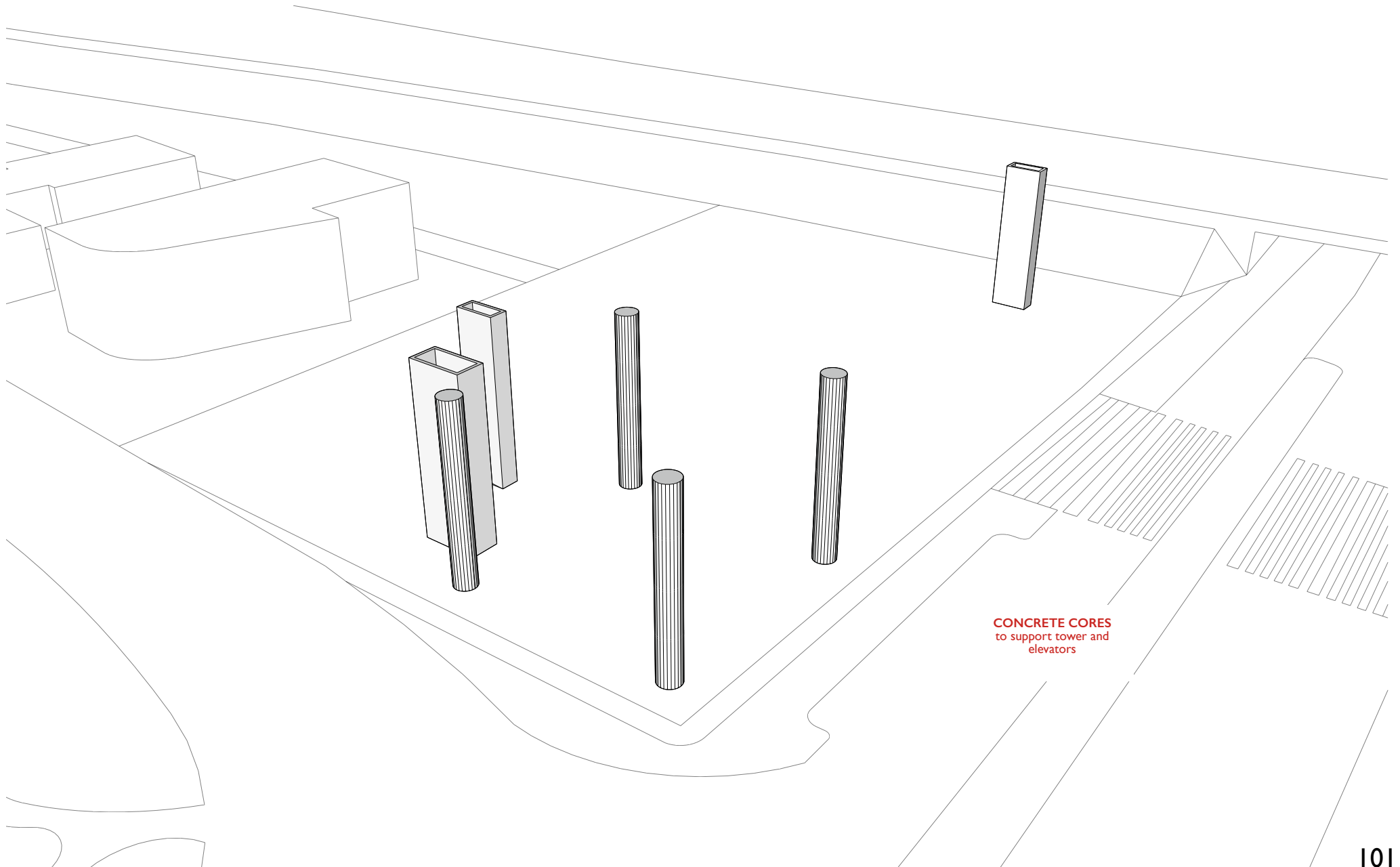


On the left, you can see a simplified representation of the wooden structure of the art academy. The wooden columns are arranged on a grid of 8m by 6m. As shown, the beams extend at certain points to support the overhang of the floor. The floor extends at least 0.5m (to allow for easy cleaning between the columns and the glass curtain wall) and up to a maximum of 1.5m, ensuring that the floor is easily supported and no additional reinforcement is needed.

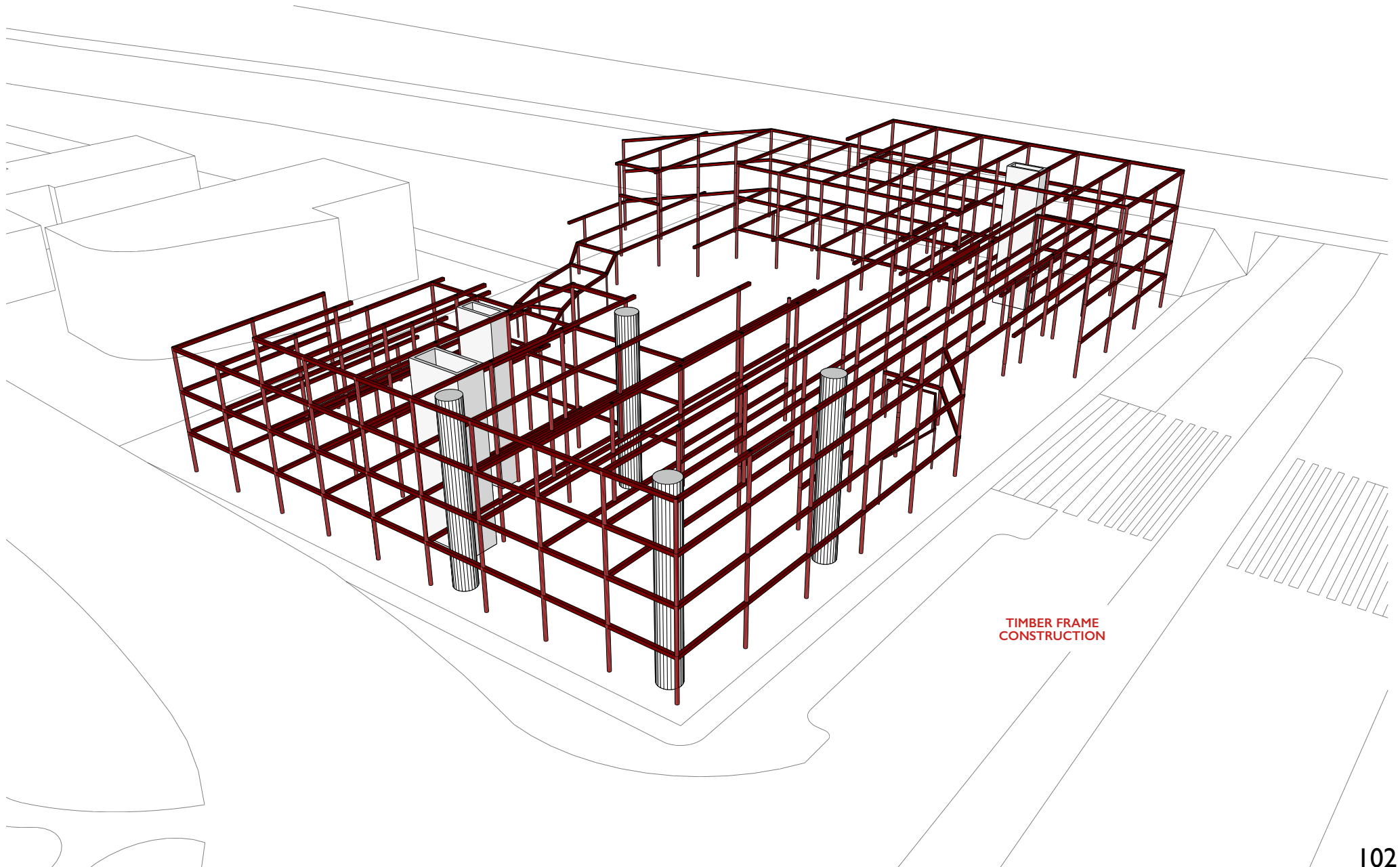
The different shades of brown indicate the two different types of floor slabs. Light brown represents Lignatur floors, and dark brown represents CLT floor slabs. The floor slabs that need to be rounded off are made of CLT because Lignatur floors cannot be easily cut into rounded shapes. However, Lignatur floors have very high acoustic value, making them particularly suitable for use in a (rectangular) building where a lot of music is played, and sound needs to be dampened and controlled for visitors who are sensitive to stimuli like people suffering from dementia.



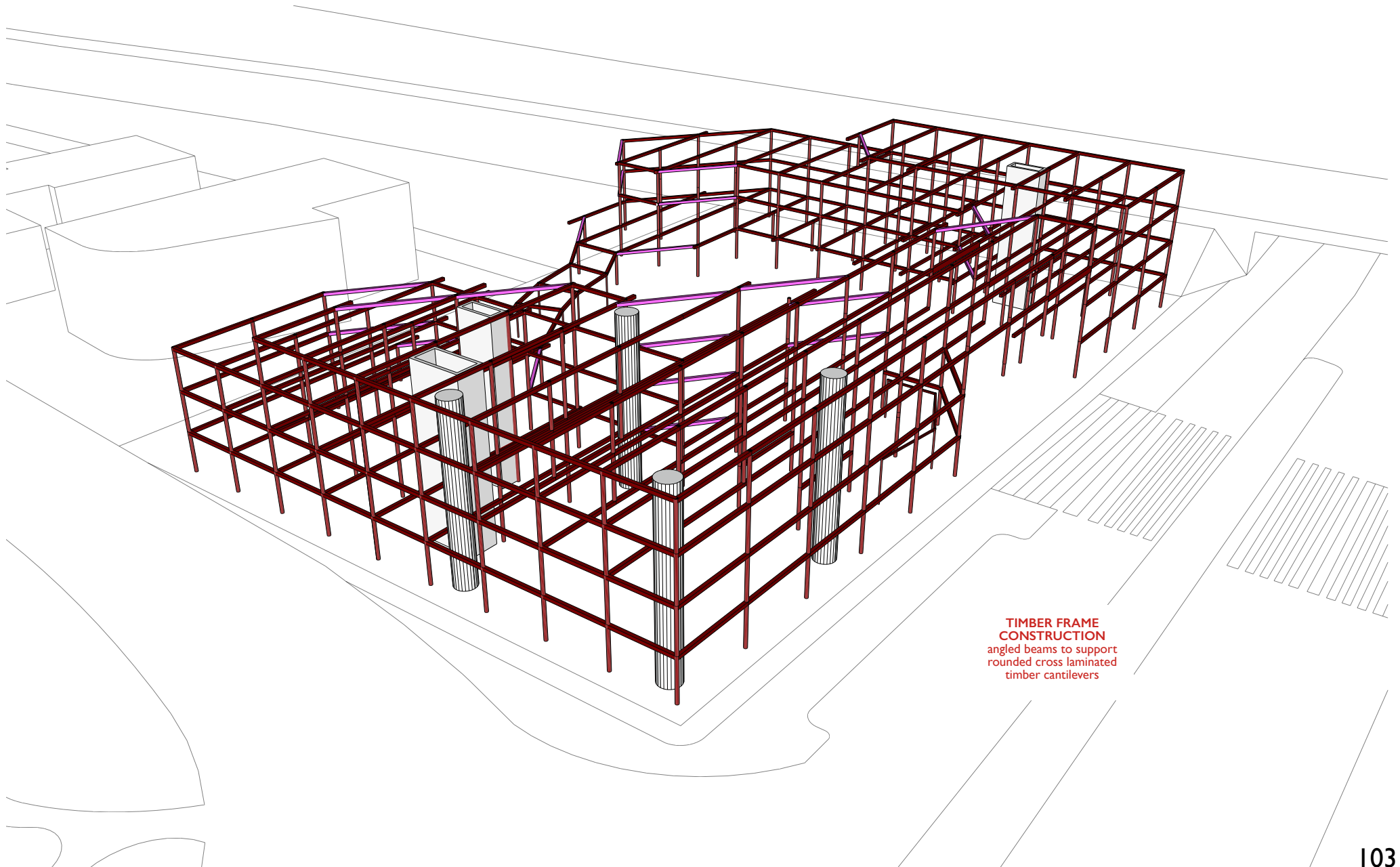
The Academy CONSTRUCTION



The Academy CONSTRUCTION

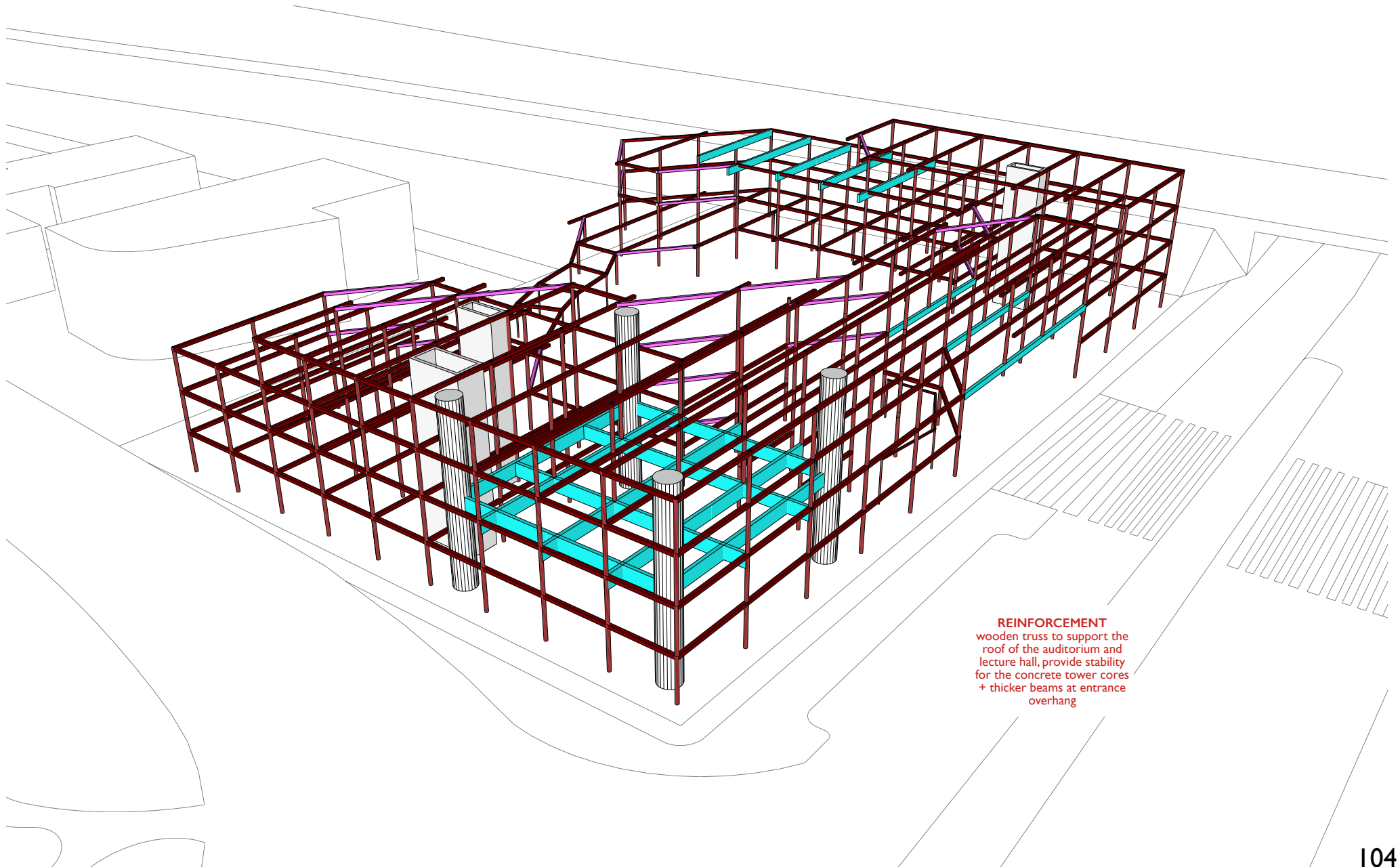


The Academy CONSTRUCTION



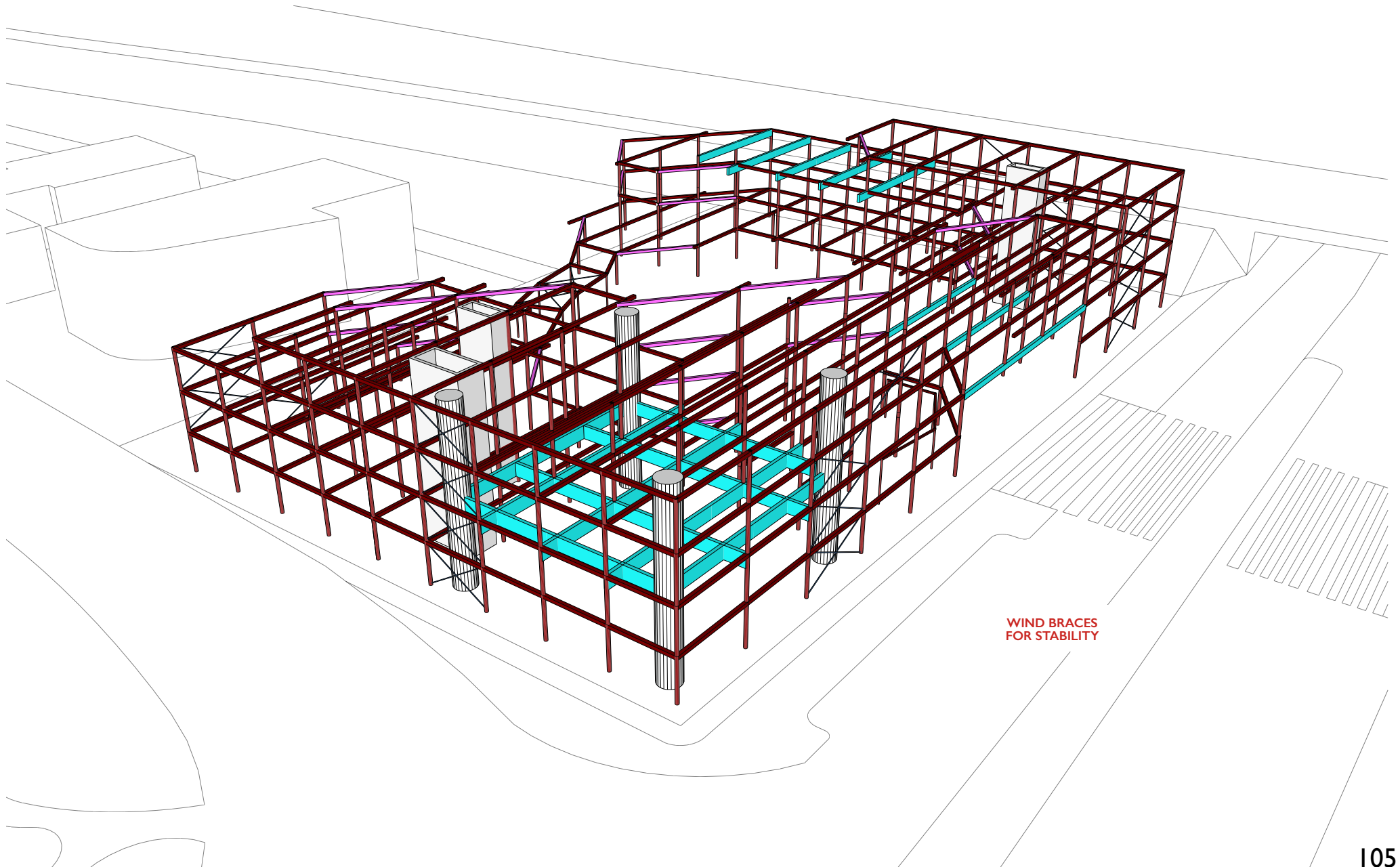
**TIMBER FRAME
CONSTRUCTION**
angled beams to support
rounded cross laminated
timber cantilevers

The Academy CONSTRUCTION

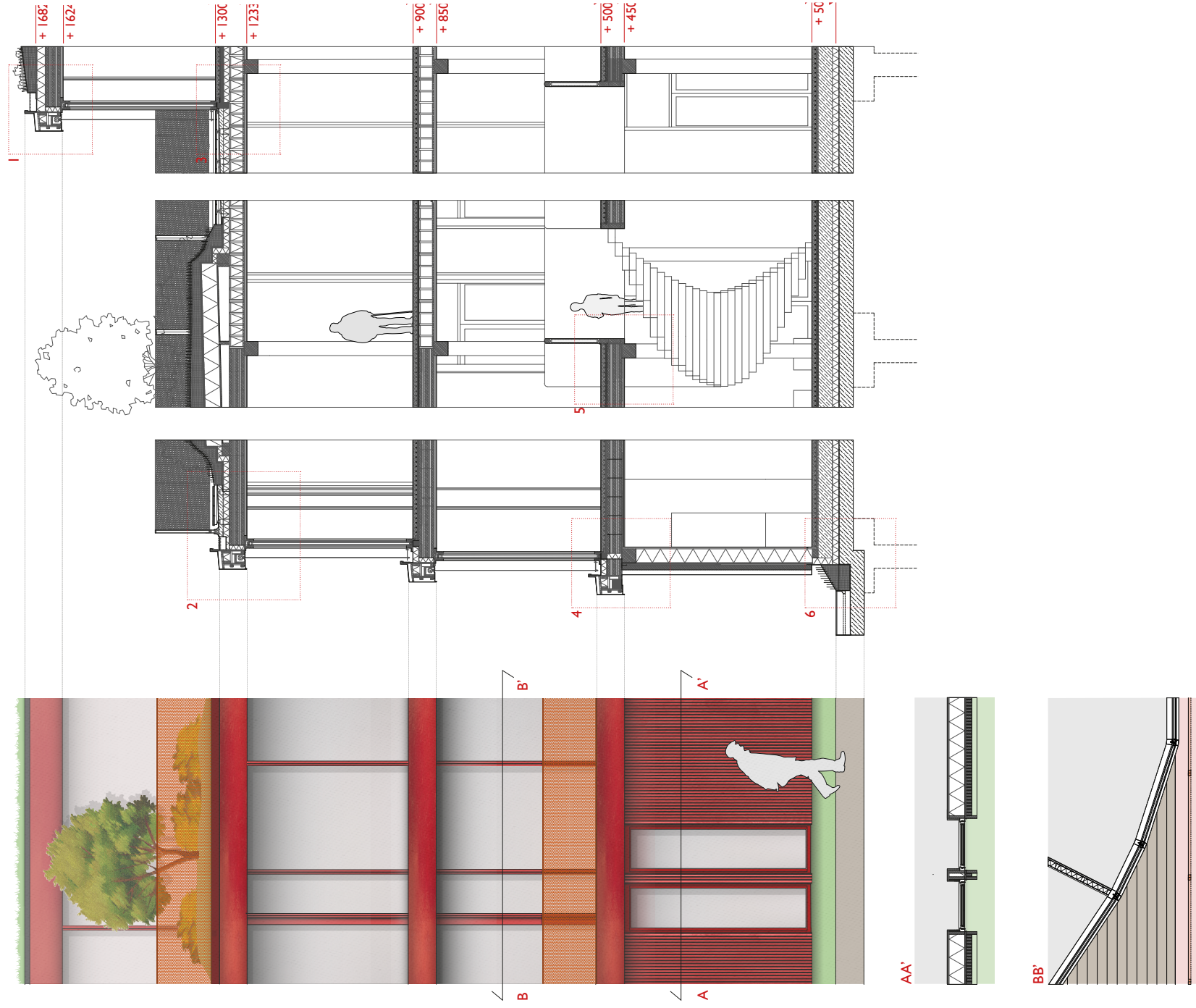


REINFORCEMENT
wooden truss to support the
roof of the auditorium and
lecture hall, provide stability
for the concrete tower cores
+ thicker beams at entrance
overhang

The Academy CONSTRUCTION

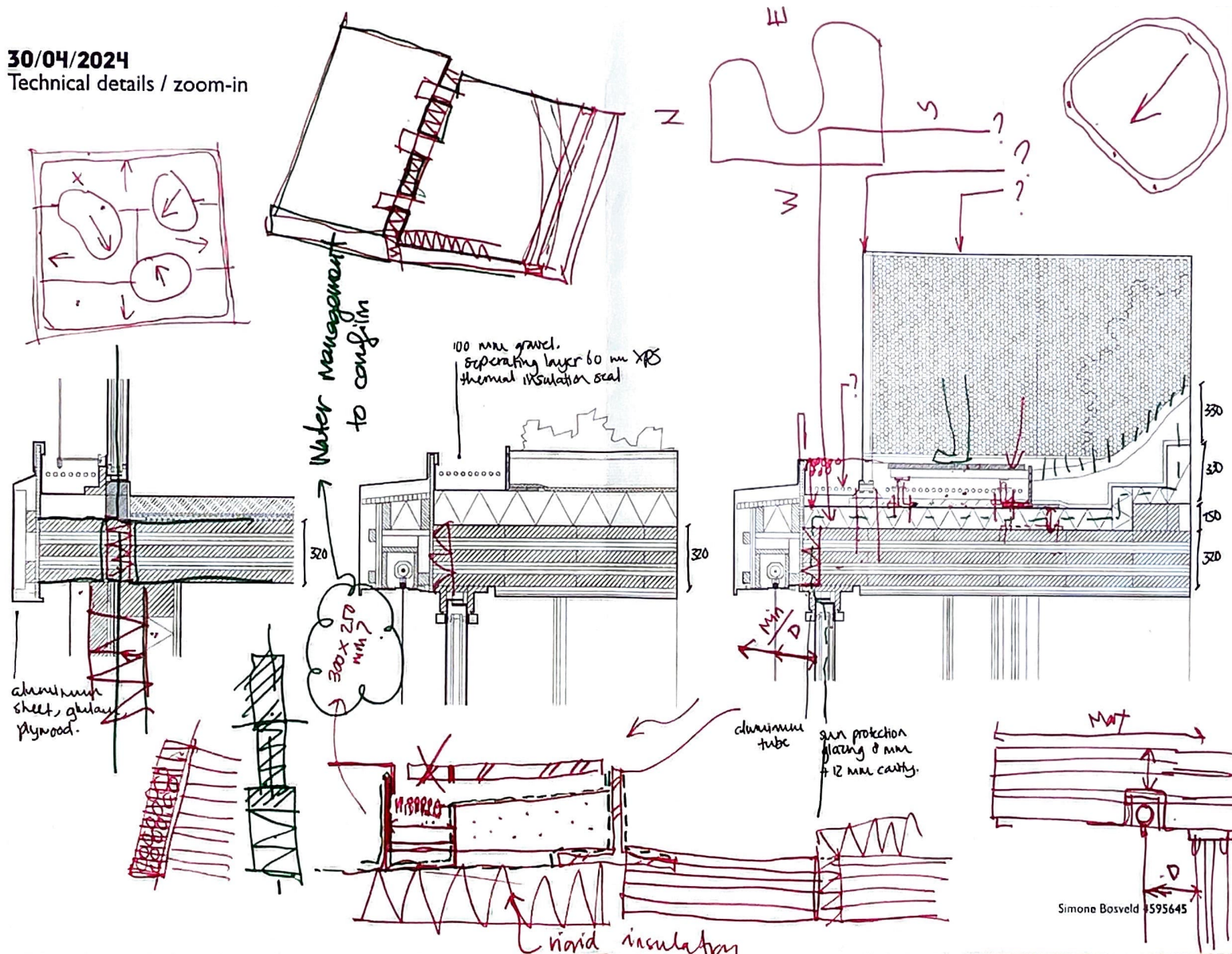


The Academy FACADE DETAIL



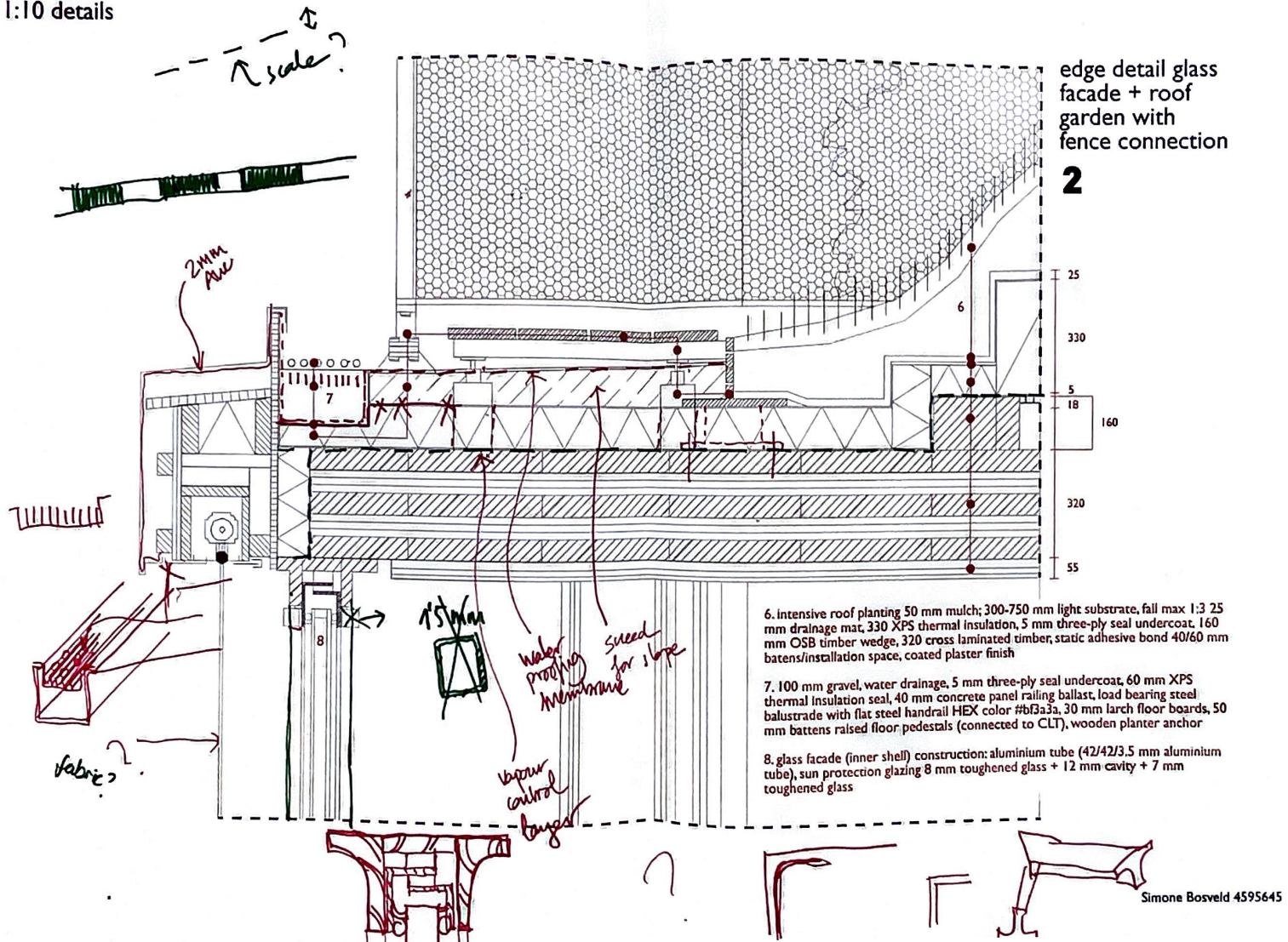
The Academy FACADE DETAILS - THE MAKING OF

30/04/2024
Technical details / zoom-in



The Academy FACADE DETAILS - THE MAKING OF

30/04/2024
1:10 details



Technical details
REFERENCES



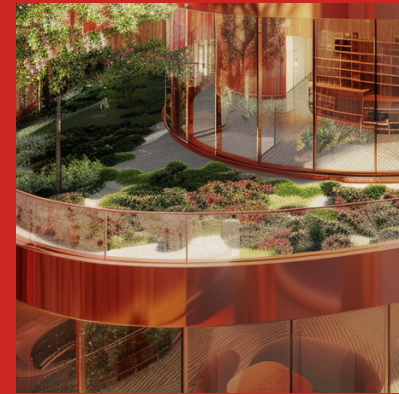
falu röd



curtain facade



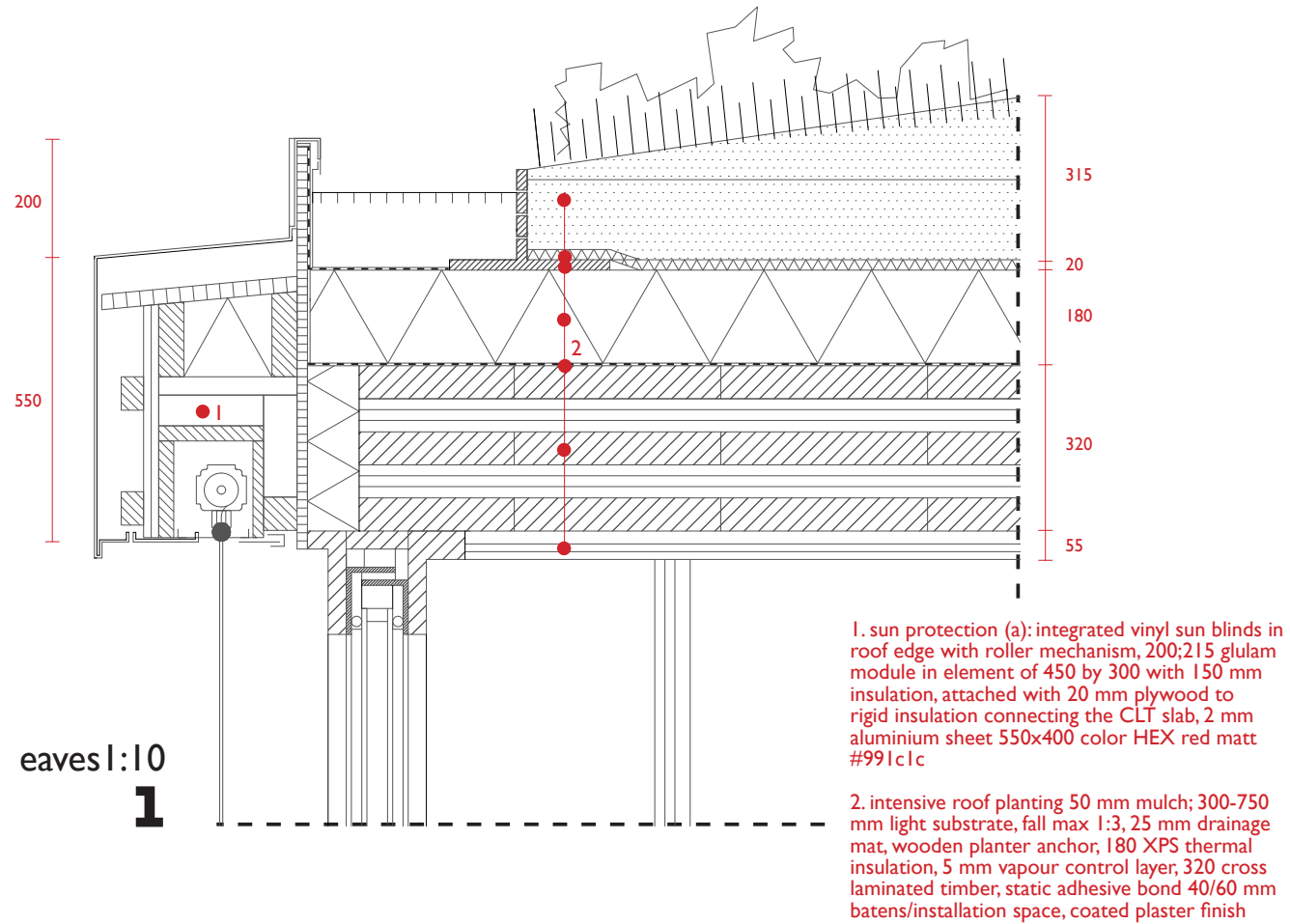
steel balustrades



rooftop gardens

The Academy

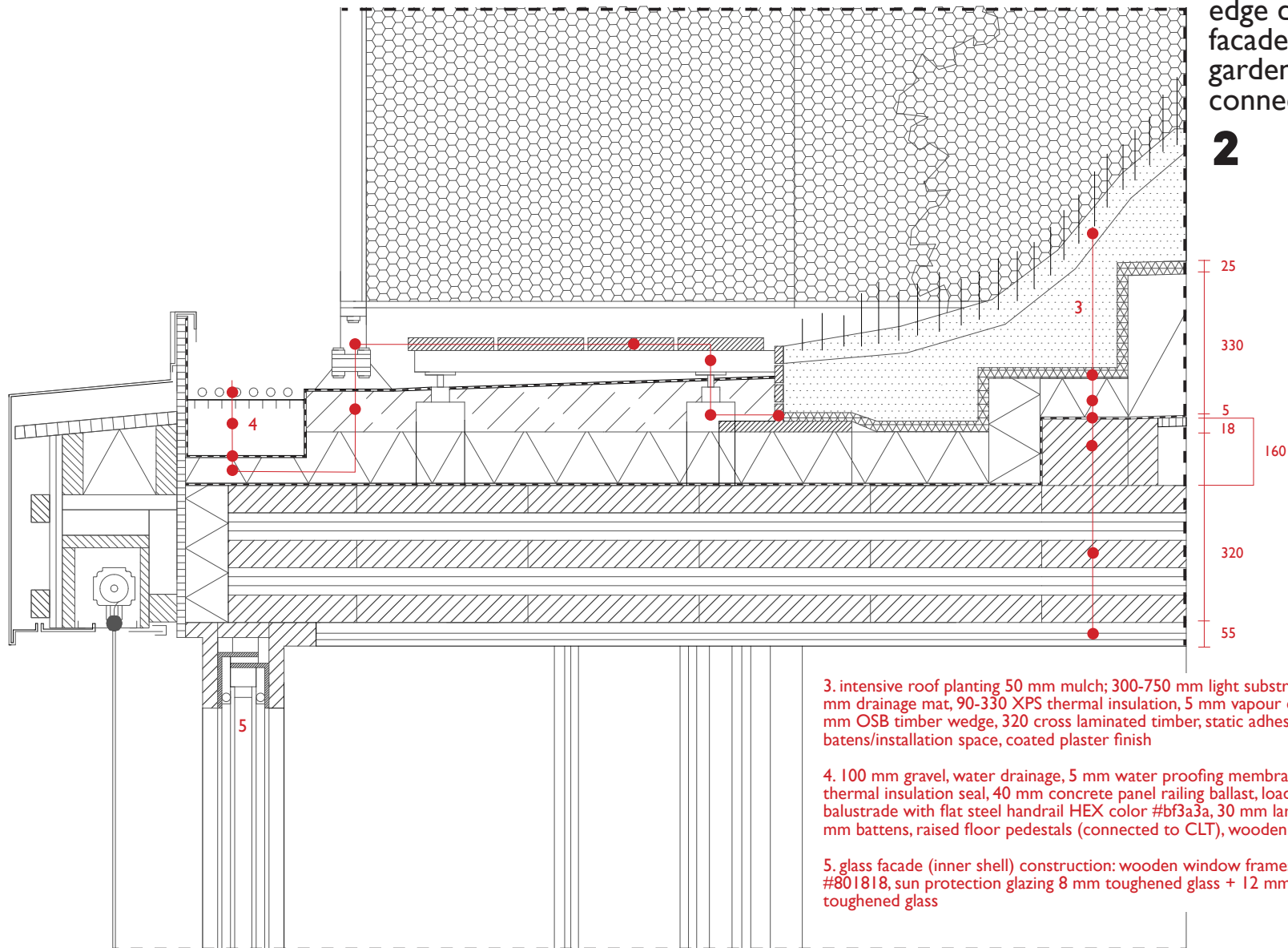
TECHNICAL DETAIL 1:10



The Academy TECHNICAL DETAIL 1:10

edge detail glass
facade + roof
garden with fence
connection 1:10

2

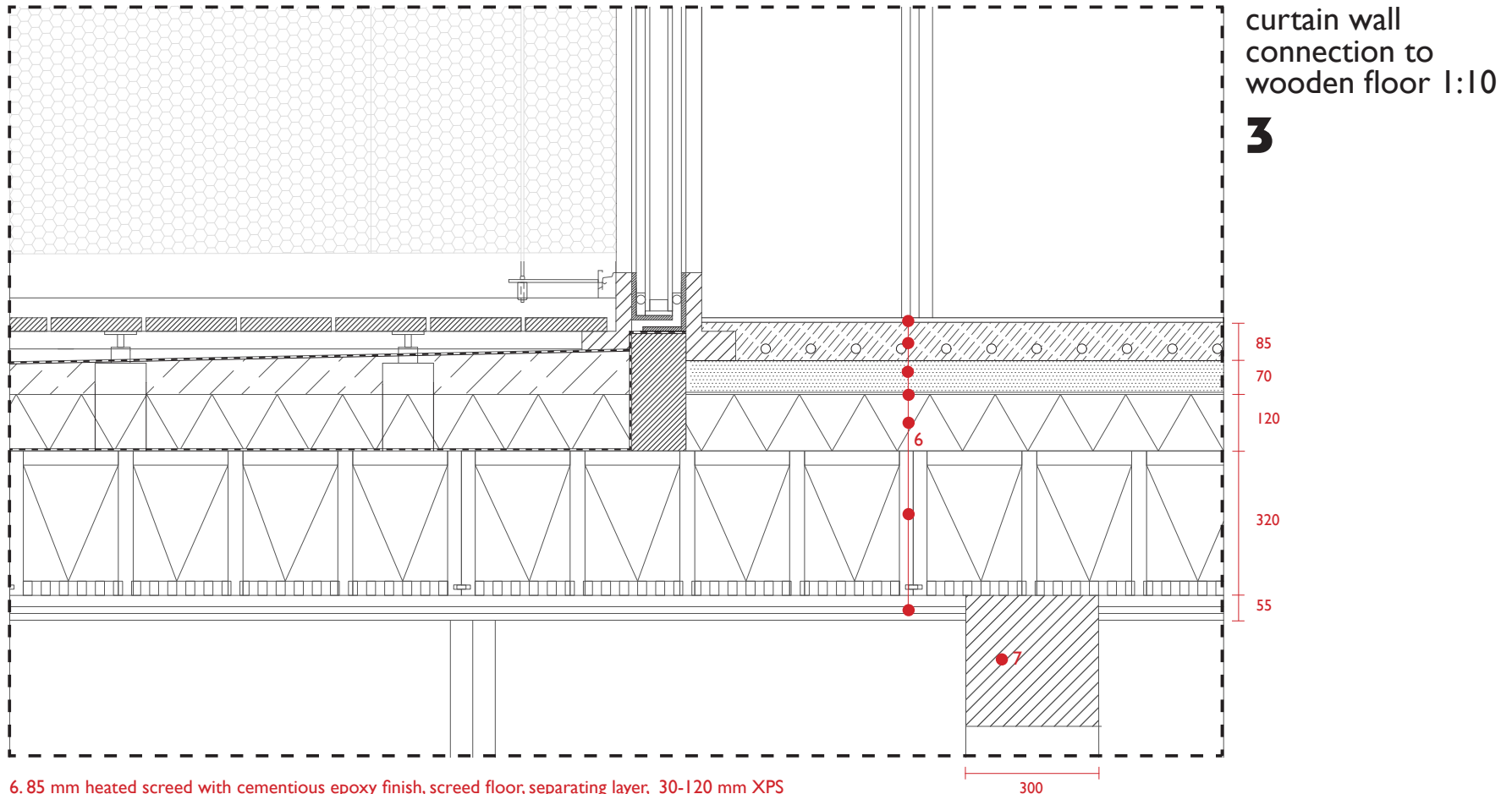


3. intensive roof planting 50 mm mulch; 300-750 mm light substrate fall max 1:3, 25 mm drainage mat, 90-330 XPS thermal insulation, 5 mm vapour control layer; 160 mm OSB timber wedge, 320 cross laminated timber, static adhesive bond 40/60 mm batens/installation space, coated plaster finish

4. 100 mm gravel, water drainage, 5 mm water proofing membrane, 60 mm XPS thermal insulation seal, 40 mm concrete panel railing ballast, load bearing steel balustrade with flat steel handrail HEX color #bf3a3a, 30 mm larch floor boards, 50 mm battens, raised floor pedestals (connected to CLT), wooden planter anchor

5. glass facade (inner shell) construction: wooden window frames color HEX #801818, sun protection glazing 8 mm toughened glass + 12 mm cavity + 7 mm toughened glass

The Academy TECHNICAL DETAIL 1:10

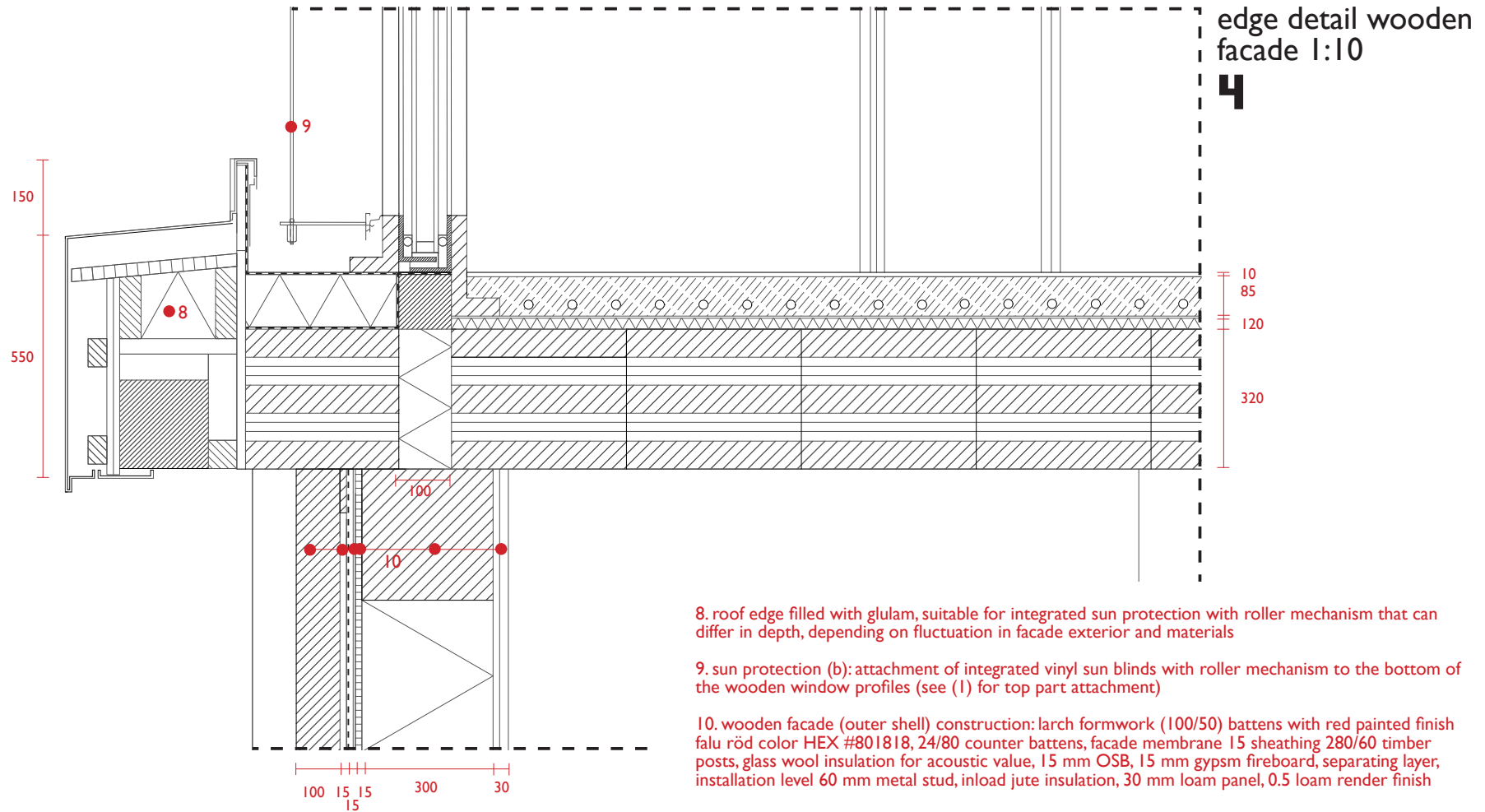


6. 85 mm heated screed with cementitious epoxy finish, screed floor; separating layer, 30-120 mm XPS thermal insulation floor element, 320 mm Lignatur wooden flooring combined with insulation, static adhesive bond 40/60 mm batens/installation space, coated plaster finish

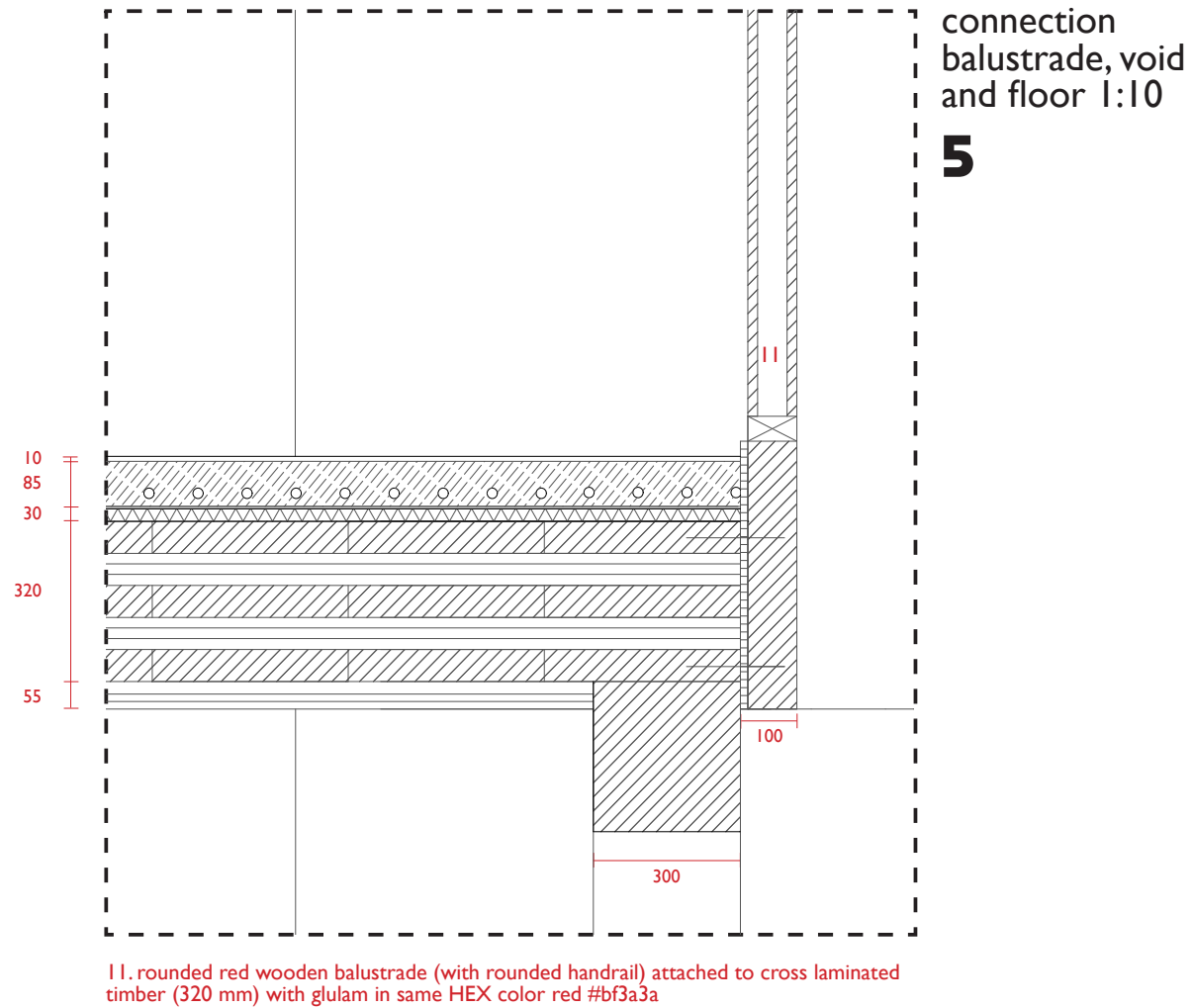
7. wooden beam (Robinia) 300x300

The Academy

TECHNICAL DETAIL 1:10



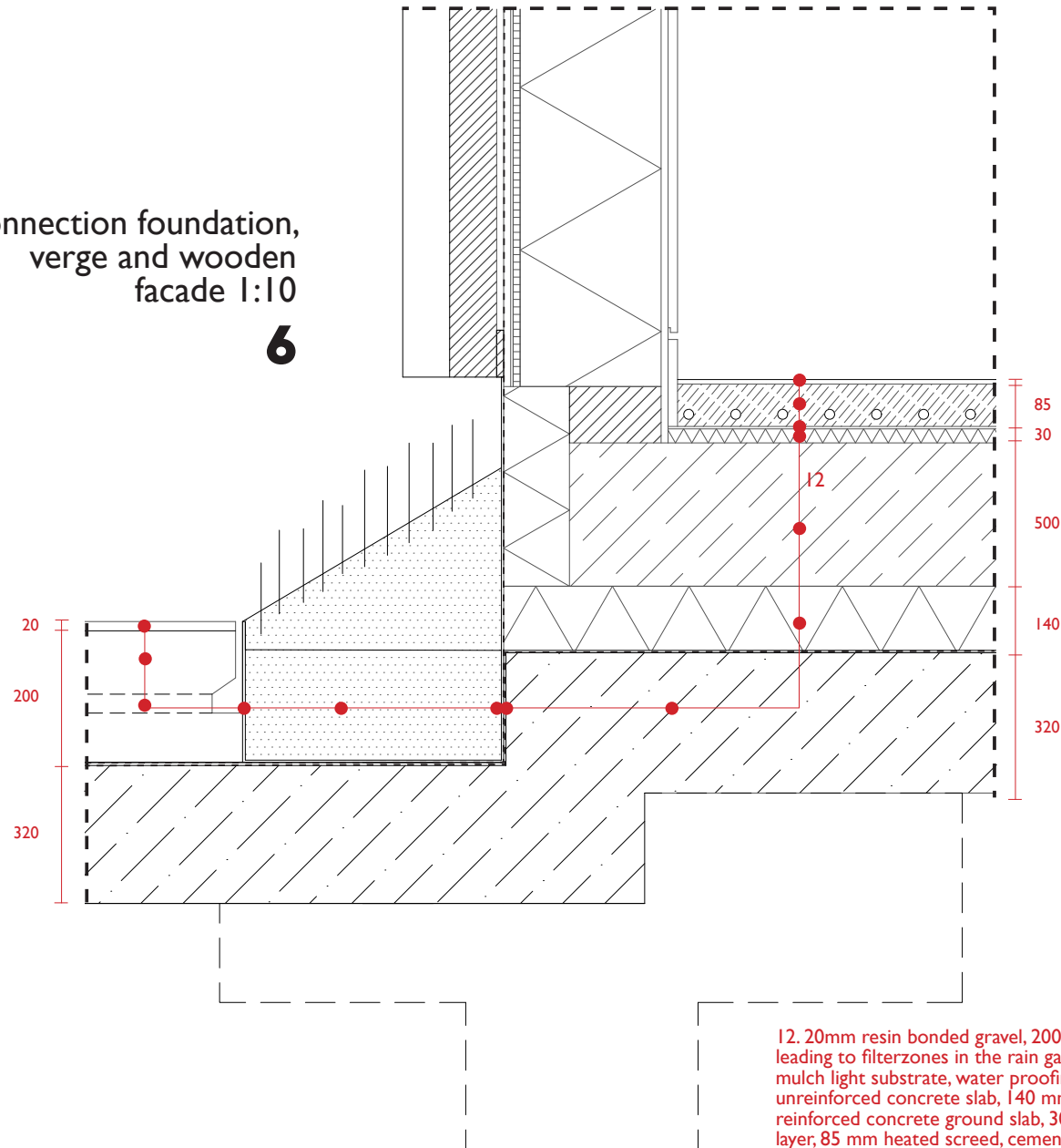
The Academy
TECHNICAL DETAIL 1:10



The Academy TECHNICAL DETAIL 1:10

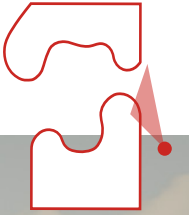
connection foundation,
verge and wooden
facade 1:10

6

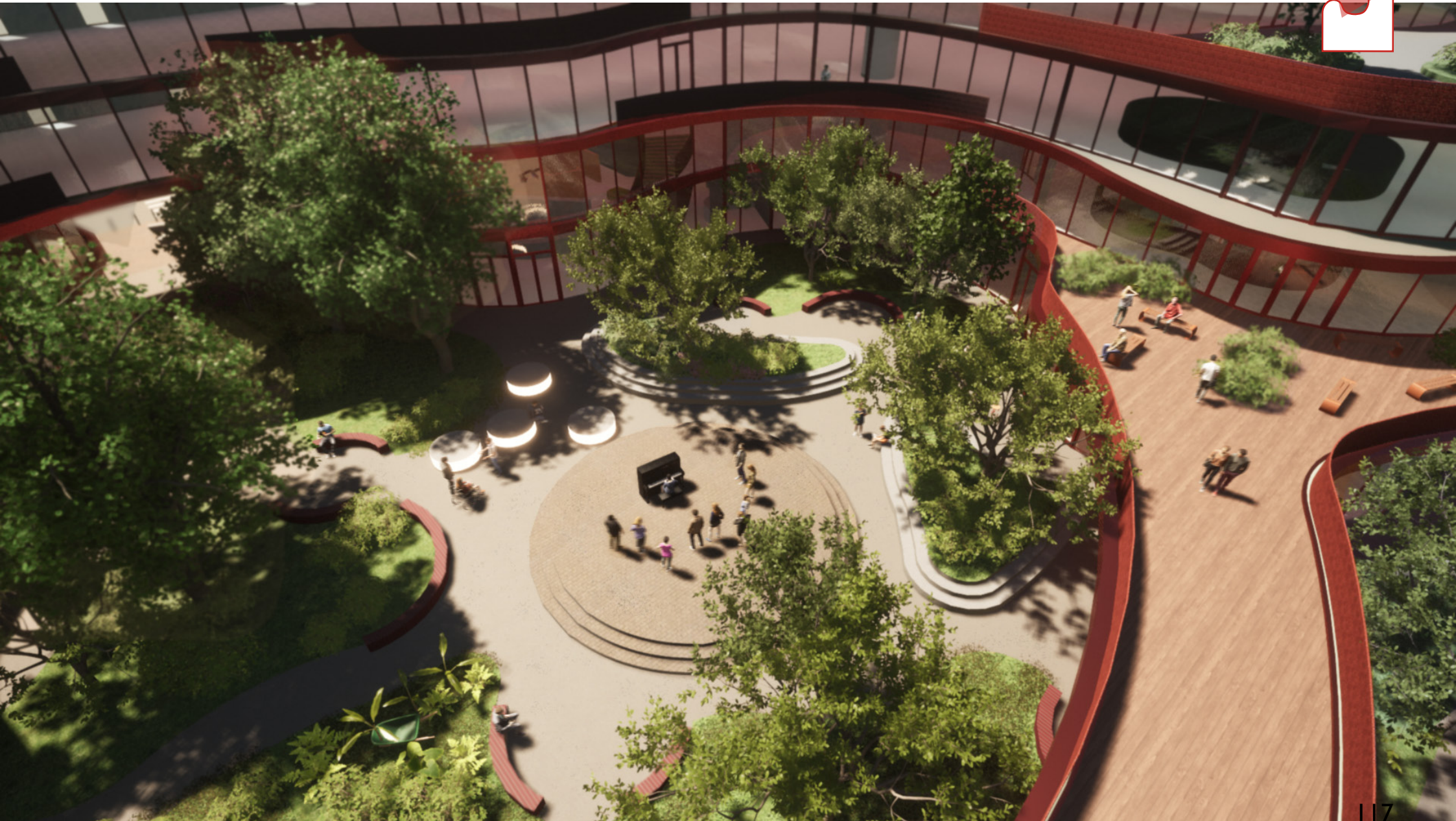


12. 20mm resin bonded gravel, 200 mm reinforced concrete slab, water drain leading to filterzones in the rain garden, steel planter 3mm, 500x800 mm mulch light substrate, water proofing membrane, vapour control layer 320 unreinforced concrete slab, 140 mm XPS thermal insulation, 500 mm reinforced concrete ground slab, 30 mm XPS thermal insulation, separating layer, 85 mm heated screed, cementious epoxy finish

The Academy
VISUAL MAIN ENTRANCE - STREET VIEW



The Academy
VISUAL BIRD'S EYE VIEW



The Academy
VISUAL VEGETABLE GARDEN



The Academy
VISUAL OUTSIDE ART



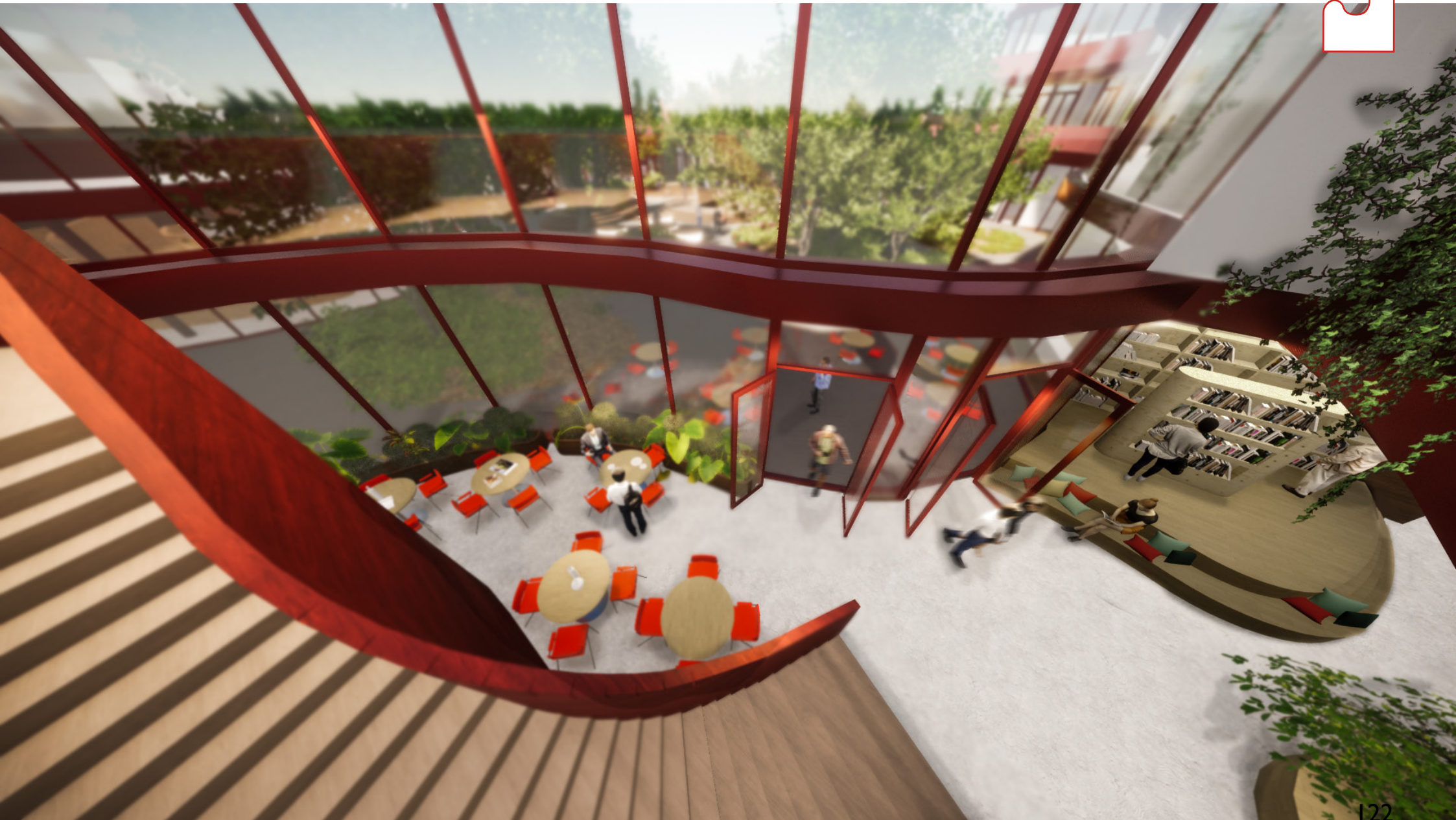
The Academy
VISUAL MAIN ENTRANCE - INTERIOR VIEW



The Academy
VISUAL MAIN ENTRANCE - INTERIOR VIEW 2



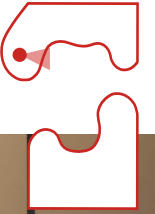
The Academy
VISUAL LIBRARY & CAFÉ



The Academy
VISUAL EXPOSITION 2



The Academy
VISUAL DEMENTIA WING



P6 **1. DESIGN BRIEF**

P17 **2. SITE**

P25 **3. CONCEPT**

P39 **4. THE ACADEMY**

P126 **5. REFLECTION**



GRADUATION PROJECT REFLECTION

INTRODUCTION

This graduation research was conducted on behalf of the studio 'Designing for Health and Care in an Inclusive Environment', and focuses on the effect of art on the well-being of people living with dementia and subsequently, how this translates into the built environment. The studio encouraged us to investigate a human subject that is socially relevant in order to create a better and more inclusive living environment for the future. For me, this studio was a logical choice because I wanted to design on a human scale with attention to detail, while contributing to a societal issue through my research and design solutions.

01 RELATION BETWEEN RESEARCH & DESIGN

"If art has the capacity to promote well-being among people suffering from dementia, what does this mean for architecture?", is the main question of the research. Through five sub-questions, the study first delves into the disease of dementia and the complications it brings. Subsequently, it investigates how various art forms can affect the illness and explores existing initiatives. Then, it examines how architecture can support individuals with dementia and identifies desirable elements in architecture when incorporating art and dementia into a building's design. Finally, it explores how these elements can be implemented to enhance the physical and emotional environment of people suffering from dementia.

The research demonstrates that art can have a significant positive impact on people with dementia. Multiple art forms were considered, taking into account the personal preferences of different individuals. However, all six researched art forms (music, visual arts & crafts, cooking & gardening, activity therapy, drama & theatre, and poetry) proved to have a significant positive effect, although to varying degrees. Therefore, the aim was to design architecture for a day care center fit for activities encompassing various art forms.

However, the research also revealed that an increasing number of people are diagnosed with the disease, and current dementia care often does not meet its specific requirements. Moreover, relocation to a care facility is often a traumatic event for people with dementia, affecting their mental well-being. Since there aren't many facilities in the Netherlands where individuals with dementia can be temporarily accommodated along with day activities, this would serve as the cornerstone for the design. A place to temporarily accommodate people with dementia, thereby relieving caregivers at home and enabling them to sustain informal care for a longer period.

Finally, through literary research, fieldwork, and interviews, it became apparent that many care facilities (unintendedly) employ incorrect methods when it comes to caring for people living with dementia, due to insufficient knowledge about the disease.

The ultimate design encompasses a day care center, temporary accommodations, and an educational facility, all housed within an art academy designed for people with dementia. A place where students, local residents, artists, and individuals with dementia can learn from, with, and alongside each other. A place where people can stay to temporarily

provide relief to their partners or caregivers at home. A place where they are integrated into society and experience a sense of independence and autonomy. A place where they can engage in art practices throughout the day that promote their overall well-being.

02 RELATION BETWEEN GRADUATION TOPIC AND RESEARCH TOPIC

The relationship between the graduation topic *Designing for Health and Care in an Inclusive Environment* and the subject of “the influence of art on the well-being of people with dementia” is indispensable in this research. Unfortunately, current care facilities, due to a lack of knowledge and financial considerations, result in individuals with dementia being isolated from society.

Research shows that confining people with dementia, depriving them of their free will and a significant portion of their daily activities, denying them autonomy, and subjecting them to strict routines lead to increased medication use, more people in wheelchairs, and ultimately higher mortality rates. Through fieldwork, we have unfortunately experienced that an inclusive environment does not always exist for people with dementia, and many individuals struggle with unhappiness, stress and loneliness. We witnessed many residents in distress or displaying apathetic traits. This demonstrates the relevance of research into the well-being of people with dementia. They are still people, and with well educated care staff and the right environment, the symptoms of the disease can be mitigated and overall well-being can be positively impacted. This research shows that various art forms can have a significant positive effect on the well-being of people with dementia. Additionally, art is a relatively accessible, easy to integrate, and inexpensive tool to use in care facilities and day programs, serving as a good and easy starting point to improve dementia care and make it more inclusive.

03 RESEARCH METHOD AND APPROACH IN RELATION TO THE GRADUATION STUDIO

The research methods of this study existed of a literature study, interviews, fieldwork, observations, case studies, and workshops. The studio encouraged us to explore a socially relevant human subject to create a better and more inclusive living environment for the future. While the literature study provided us with a solid foundational knowledge, it couldn't compare to the experiences we gained from staying overnight in dementia care facilities. Alongside fellow students, I spent a week in two dementia care institutions, including a small-scale care farm and a large-scale closed facility.

The extent to which we could conduct interviews and workshops with the residents was limited. We were advised to let the day unfold naturally, which complicated the research on well-being for individuals with dementia, but highlighted the difficulties and sensitivity of the subject. Practical experience taught us the differences in experience among different individuals suffering from dementia; what one person perceives as relaxing might be bothersome to another. In conducting comprehensive research, hands-on experience proved essential, but the development of workshops

and interviews is most effective when it is collaboratively devised on-site with the staff, ensuring a tailored approach for each individual.

Engaging in fieldwork and conducting interviews brought us much closer to our target group and provided a human scale to our research. It became clear how urgent research, improvements and intervention in this specific care domain are.

04 THE PROJECT'S WIDER SOCIAL PROFESSIONAL AND SCIENTIFIC RELEVANCE

After conducting literature research, I was positively impressed by the variety of initiatives already in place across the world regarding the application of art in the lives of people with dementia. While my research strongly indicates that numerous therapies and practices can enhance the lives of people living with dementia, if one is well-informed and willing to make the effort, almost no similar or equal practice was applied at Dutch facilities we visited during this research.

One of the facilities we visited was founded by someone deeply passionate about the cause: she had completed a PhD on the topic of dementia and established a vast amount of knowledge. In her practice, a different approach was used: freedom, animals, nature, everything is allowed until it proves not to work out, caregivers visit the individuals with dementia in *their* home, the answer is always yes, and there are no locks on any of the doors. Initially met with skepticism, this new theory has proven its worth in practice: at facility like this, very few individuals are confined to wheelchairs, sedatives are rarely needed, and the mortality rate is lower compared to more 'traditional' dementia care homes.

It is of great importance that more initiatives like these are established, and that accurate information about the treatment of dementia is spread. After all, it can make the difference between life and death.

05 ETHICAL ISSUES AND DILEMMAS

My research has shown that art can have a positive influence on the well-being of people with dementia but unfortunately, in healthcare, financial considerations play a significant role. If it could be scientifically proven that art contributes to improved cognitive abilities and therefore reduced challenging behaviour, this could potentially lower the level of care indications and medication usage, resulting in lower care costs for the government. Individuals might be able to stay at home longer, reducing admissions to nursing homes, and the requirement of fewer sedatives or wheelchairs, cutting costs.

Only if it could be proven that applying art in the lives of people with dementia contributes to lower healthcare costs, a real change in the current treatment of dementia and the Dutch healthcare system would truly commence. However, this would require additional research, invested time and resources, which unfortunately was not possible during this graduation project, but offer an intriguing perspective for future research.

