

CREATIVE SKILLS DESIGN

Examination report



N. Monsengo

17-11-2022

Student number: 4844777

Institute: NCOI

Course: Architecture

Module: Creative Design Skills

FOREWORD

This report contains information about the design process of a library and its study pavilion. The design process refers to the steps taken to turn an idea into a design.

The reason for writing this report is the assignment to design a library and study pavilion, given by a scientific research institute. By writing this report, a better picture emerges of how I have managed to turn an idea into reality. This report is written entirely by myself. This also applies to the drawings, renderings, and models that have been made.

As a student at the NCOI, I am grateful for receiving this opportunity. Given that after my studies, I will follow the master's degree in architecture and want to become an architect, this is a good exercise for me. This gives me a preview of the work of an architect.

- Nadia Monsengo The
Hague, April 4, 2023

SUMMARY

This report was commissioned by a national scientific research institute. It

The research institute asked me to create a library design and a pavilion design. The two buildings will be built on the institute's grounds. This report shows the process of the client's questions and wishes, the contractor's idea and concept, and the final design and presentation.

The report is divided into 3 chapters:

The first chapter contains an analysis of the client's wishes. This is subdivided into the Program of Requirements, Situation and Orientation, and Moodboard. The requirements, function, volume structure, and users of the two buildings are listed in a table. The mind maps and mood boards were created from this information. The mind maps and mood boards are included in the appendix.

It is important that the client's wishes and questions are understood as well as possible. This is, after all, the basis of the final design.

Chapter 2 consists of explanations and visual material of the design process. To clarify, the concept is explained in a commentary. Then the sketches are depicted. The sketches are made both digitally and manually. The handmade sketches are sketches of the floor plans and views. The digital sketches of the library, made in Adobe Illustrator, are in 2

point perspective and 2D views. The 2D views also show the water flow of the building. More information about this can be found in the commentary. Based on these sketches are reduction drawings and a sketch model made. The reduction drawing was made in SketchUp.

Finally, chapter 3 presents the final design. First of all, there is a final

site plan and floor plans made to represent the function and layout of the building and finally a Powerpoint presentation. The Powerpoint presentation reflects the design process with rendered 3D drawings. The 3D drawings also clearly show what the interior looks like without interior design and it gives a realistic picture. The floor plans and the site plan were made in Revit and the final design was made in SketchUp and rendered with Enscape.

From this assignment, I can conclude that it is extremely important to have a clear picture of the client's wishes and ideas and to collect as much information as possible at the beginning (materials, color, atmosphere, shapes, etc.). It is very easy to deviate from what is being asked. If in doubt, always ask the client!

Regarding the programs, I recommend using 1 program as much as possible. That saves time and also shows a certain relationship in terms of image. For this project, 4 programs were used: Adobe Illustrator, Revit, SketchUp and Enscape.

TABLE OF CONTENTS

FOREWORD	1
SUMMARY	2
TABLE OF CONTENTS	3
INTRODUCTION	4
ASSIGNMENT	5
CHAPTER 1: ANALYSIS OF CLIENT'S WISHES	5
CHAPTER 2: DESIGN PROCESS	8
CHAPTER 3: PRESENTATION	11
BIBLIOGRAPHY	12
APPENDICES	13

INTRODUCTION

In daily life, when you walk down the street, you encounter architecture in many shapes and colors, designed by different architects. Have you ever wondered how the design of a building comes about? This report shows how the concept of the architecture of a building comes about, using a library design plus pavilion as an example.

I have been commissioned by a scientific research institute to design a library with a study pavilion. The library and study pavilion will be located on the grounds of the institute.

The aim of designing these two buildings is to make the institute more inviting and visitors can absorb more knowledge and develop themselves. In addition, it is also the wish that the style is designed in the style of the new building and must be absolutely sustainable.

Architecture involves many different aspects: concepts, sketches, mood boards, mind maps, atmosphere, style, analysis, design process, visualization, presentation, composition, models, and so on. In addition, the architect must also take into account the client's requirements and the requirements according to the Building Decree and Dutch regulations. So there is a lot involved.

This report mainly focuses on the design process. How exactly does a design come about? The wishes of the client, the institute, are analyzed. The design process is explained and shown. The design process includes sketches, both hand-drawn and digital, reduction drawings, variants, models, and zoning plans.

The design process is presented in a specific order, making it easy to follow the creation of the concept and making it clear. Finally, a definitive design is made from the concept. This is presented in the form of a rendering and a PowerPoint presentation.

ASSIGNMENT

CHAPTER 1: ANALYSIS OF CLIENT'S WISHES

Requirements Program

The client wants to have a library built with a study pavilion as an extension/annex. The requirements and wishes for the design are as follows:

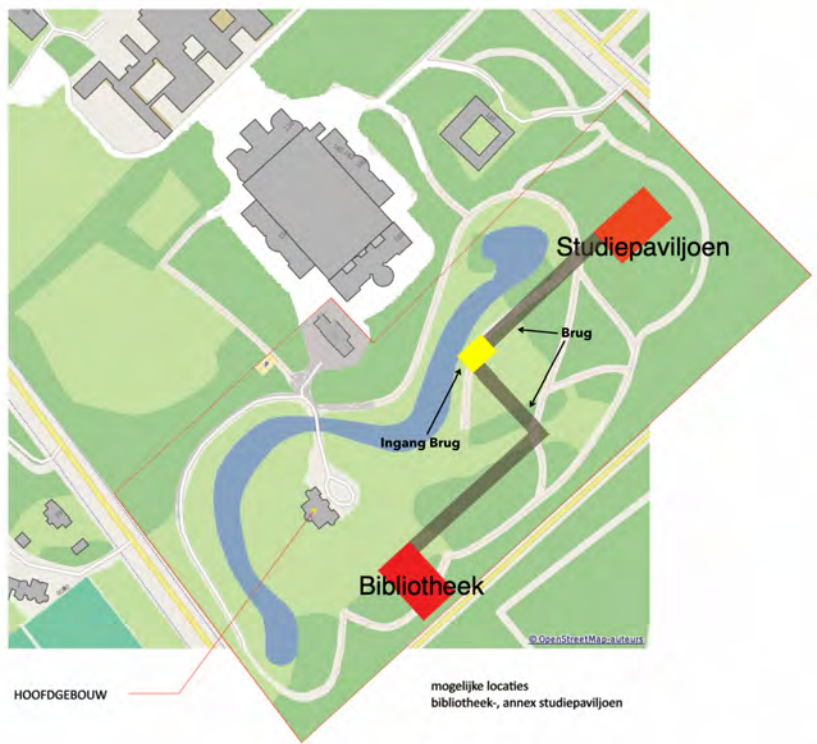
Requirements	Library	Study pavilion	Main building
The buildings are built on 2 pieces of land.	•	•	
The entire site has an area of 6.5 hectares.	•	•	•
Near the buildings are 5 parking spaces for the employees.	•		
Plot is rectangular and 25 x 40 meters, so 1000m ²	•	•	
The design must be inviting.	•	•	
The building must be easily and readily accessible.	•	•	
The design must be in the style of the New Building movement.	•	•	
The building must be sustainable.	•	•	
The library must have a space where an archive of books is kept can be.	•		
The building must have a modern reading room.	•		
The building has a soothing green style	•	•	
The library is self-sufficient and contains the following components: Toilet group, coffee corner and a pantry	•		
Has a space for guest researchers to work there.	•		
The building has a technical room		•	
The building has an area of 180 m ² and a maximum height of 5.5		•	

meter.			
The main building has the style of a monumental English country house.			•
The surface area is 225 m2			•
The building has 4 floors: A basement, a monumental raised ground floor, a first floor and a top layer.			•
Has a company restaurant.			•

Situation and Orientation

On the map on the right are 2 red areas can be seen. The library is located on the area that is closest to the main building. The study pavilion is located on the red area that is further from the main building. To make both buildings easy accessible, there is a bridge between both buildings. The bridge is connected via the first floor of each building. It middle of the bridge (the yellow area), has a two-story tower with an escalator and a staircase to the ground floor and vice versa. This is accessible via the path on the ground floor. The library and study pavilion are located on the site of the scientific research institute.

The table below shows the volume structure, function and users of each building



Afbeelding 1: Situatietekening

	Library	Study pavilion (annex)	Main building
Volume structure	3 floors: <ul style="list-style-type: none"> • Ground floor: • First floor 	2 floors: <ul style="list-style-type: none"> • Ground floor, <ul style="list-style-type: none"> ○ 2.75 m high 	3 floors: <ul style="list-style-type: none"> • Basement • Raised ground floor

	<ul style="list-style-type: none"> ● Second floor ● Third floor 	<ul style="list-style-type: none"> ● First floor <ul style="list-style-type: none"> ○ 2.75 m high 	<ul style="list-style-type: none"> ● First floor ● Wearing course
Function	<ul style="list-style-type: none"> ● Finding information ● Reading and learning ● Socializing: Meeting people and discussing with each other ● Getting acquainted (with science) ● Eating and drinking ● Shopping 	<ul style="list-style-type: none"> ● Studying ● Working in laboratories ● Shopping ● Storing things 	<ul style="list-style-type: none"> ● Eating and drinking ● Cooking ● Guests receiving ● Working (office work) ● Socializing
Users	<ul style="list-style-type: none"> ● Scientists Age: 30 - 60 years ● Students scientific studies Age: 16 - 40 years ● Lecturers scientific studies Age: 30 - 60 years ● Gender: Male and female and other 		Everyone

For each building, a mind map has also been made with floors and the functions on these floors and a mind map with ideas for the architecture and atmosphere. The mind maps are added in appendix 1. There is also a mood board made for the buildings. The mood board is added in appendix 2.

Mood board

The mood board gives a visualization of peace and nature. The concept mainly contains the colors white, light gray and green and in terms of materials white concrete and glass. In addition, water is also reflected in the mood board, because water plays an important role in the sustainability of the buildings and the generation of clean energy. Glass is an important aspect in connection with the curtain walls and the light transmission of the buildings. All three buildings have a lot of light. The mood board also contains a image of a bridge between two buildings. This is also an aspect that is reflected in the design. The library is connected to the pavilion by means of a bridge. The image of the country house is added as an example of what the main building looks like, in the style of a English country house.

Image 2: Design variants in 2D

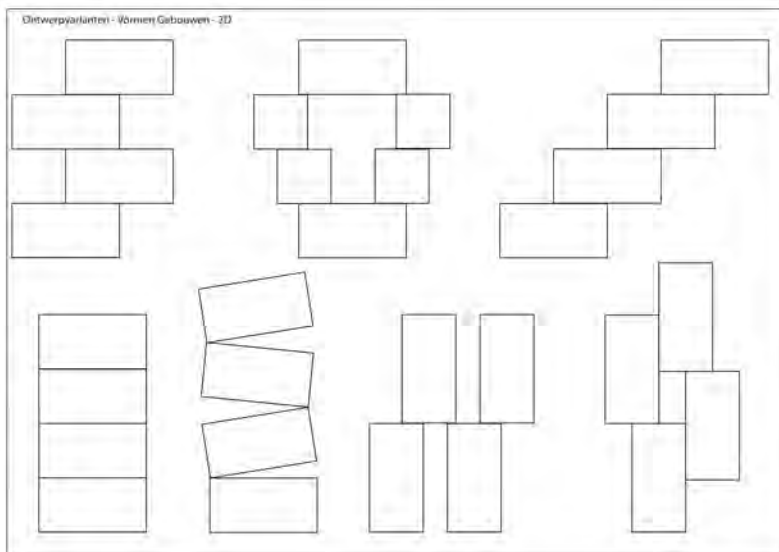
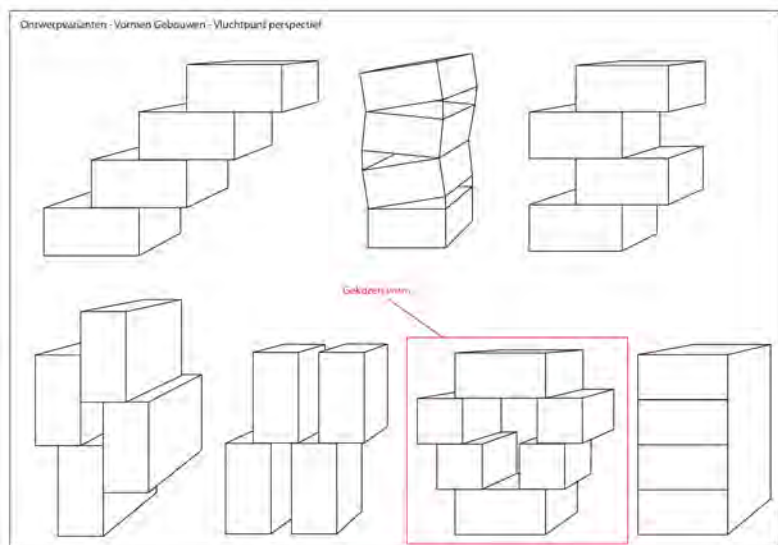


Image 3: Design variants in 3D



CHAPTER 2: DESIGN PROCESS

Explanation, Spatial concept and Sketch Ideas

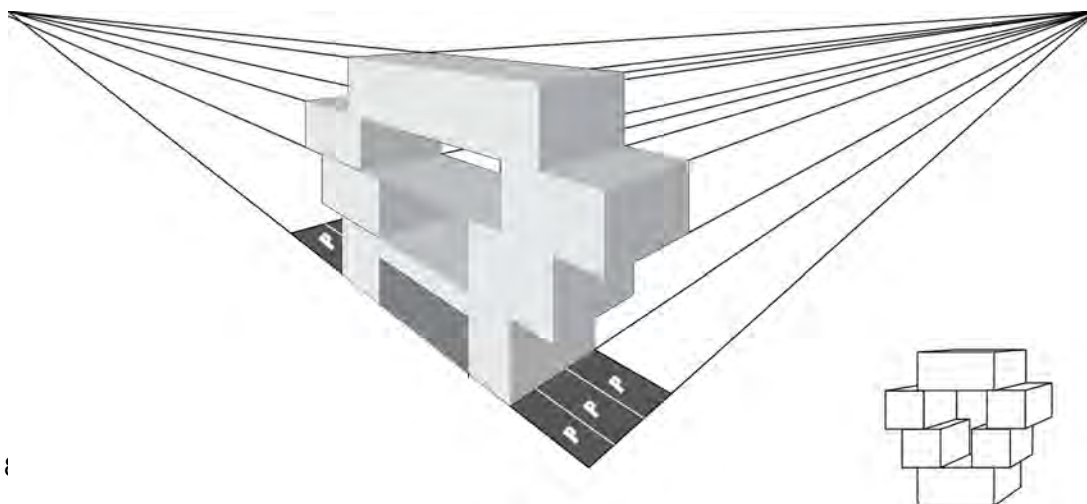
Based on the mind maps and mood boards, I started sketching design variants in the form of blocks for the library, in 2D. Because the plots are rectangular, I decided to keep the shape of the building rectangular and experiment with blocks. In the first instance, I made 7 design variants in 2D and then in 3D, see images 2 and 3 previous page. Each block represents a floor, except for the two sketches at the bottom right. Of those, the floors are mixed per block. Ultimately, I made a choice from the design variants and I am continued sketching with it, see image(s) at the bottom of the page and the next page.

The ideas from the mind maps and mood board have been applied. In addition to these ideas, I also decided to use water from the river to generate energy for the buildings. The water flows through the meter room and the bridge to the library and study pavilion. The flow is part of the design of the buildings and goes along with the building shape in concrete elongated containers, which the water is pushed up through a water pump and falls through a turbine and thereby generates energy. The concept can be seen in figure 6. The meter rooms have their own generator. Rainwater is also collected on the green roof and also ends up in the water flow via the meter box on the inside. Figure 5 shows from the side view that the library building on the back has a bridge. This continues to the tower, see yellow area in figure 1 and to the study pavilion.

In figure 7 on the left is a sketch section of the library with the staircase and the floor plans of the ground floor, first floor and the roof. The building has 2 elevators that run from the ground floor to the third floor and the staircase runs from the ground floor to the second floor. The second floor has 2 stairwells that provide access to the top floor.

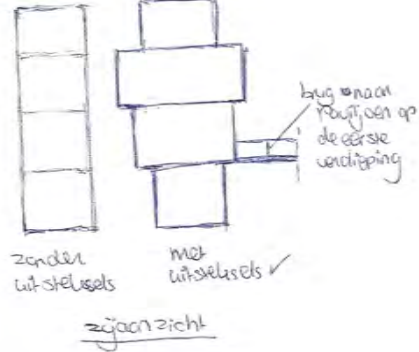
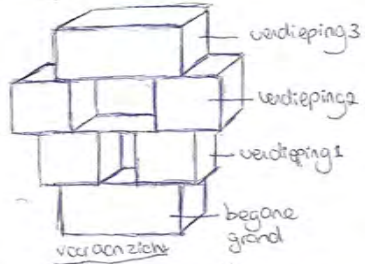
The space of each floor is precisely divided, as indicated in the mind maps. The roof consists of a green roof and there are also solar panels on the roof. The same concept applies to the pavilion used as the library building, only without the second and third floors and without the concrete elongated containers with water flow.

The library has parking spaces for employees on the ground floor.



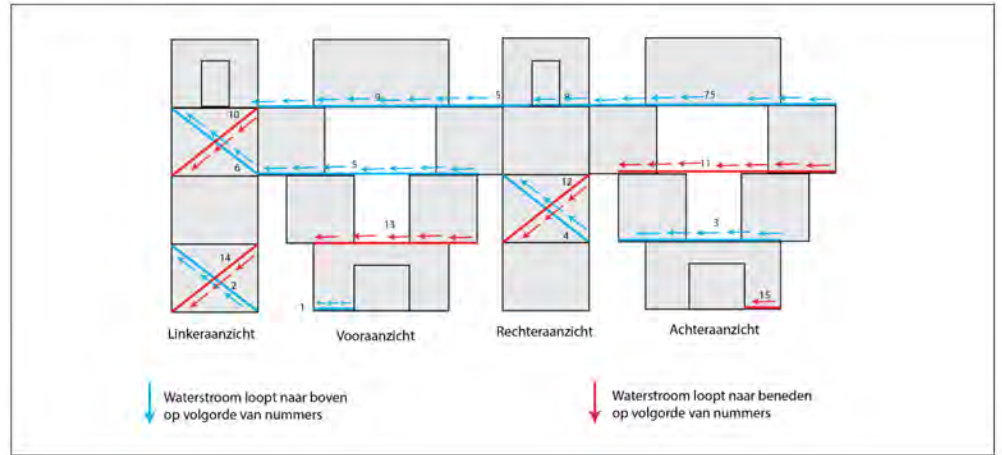
Afbeelding 4: Schets in 2 punts perspectief + parkeerplaats

✓ schets zonder vervorming - sD

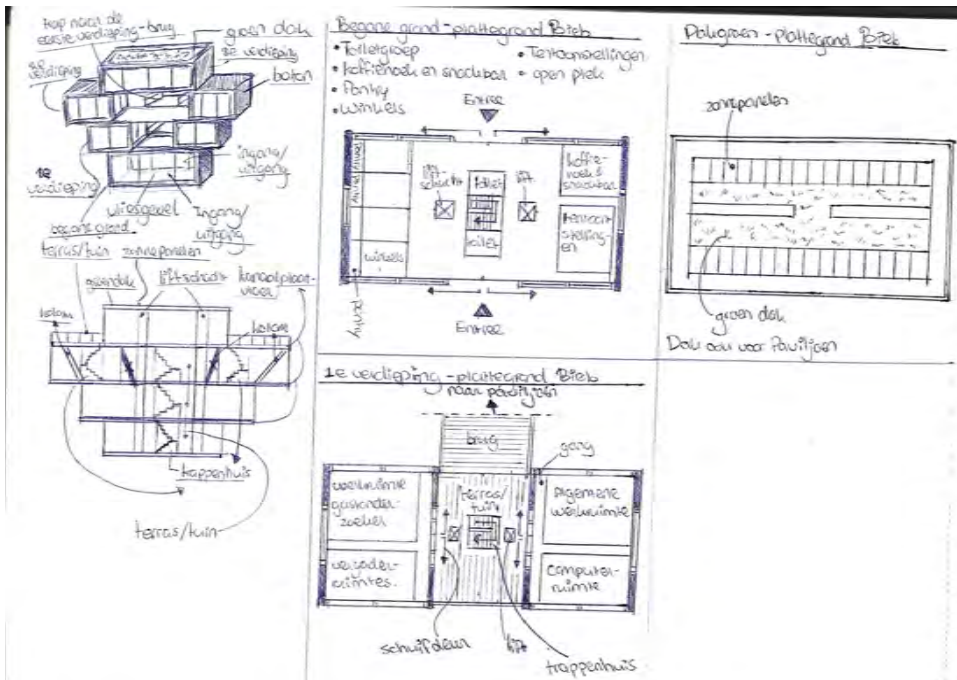


- Bouwmethode = Stapel bouw
- Materiaal = prefab beton + uitsgevel
- kolommen i.v.m. krachten

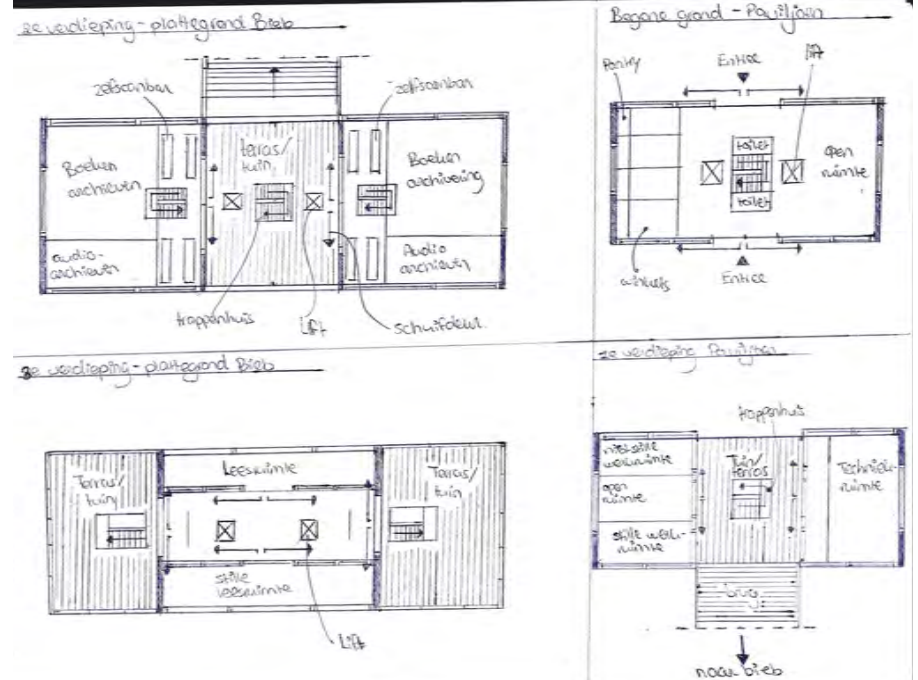
Afbeelding 5: Gekozen variant - Schets 1 & 2



Afbeelding 6: Waterverloop Bibliotheek

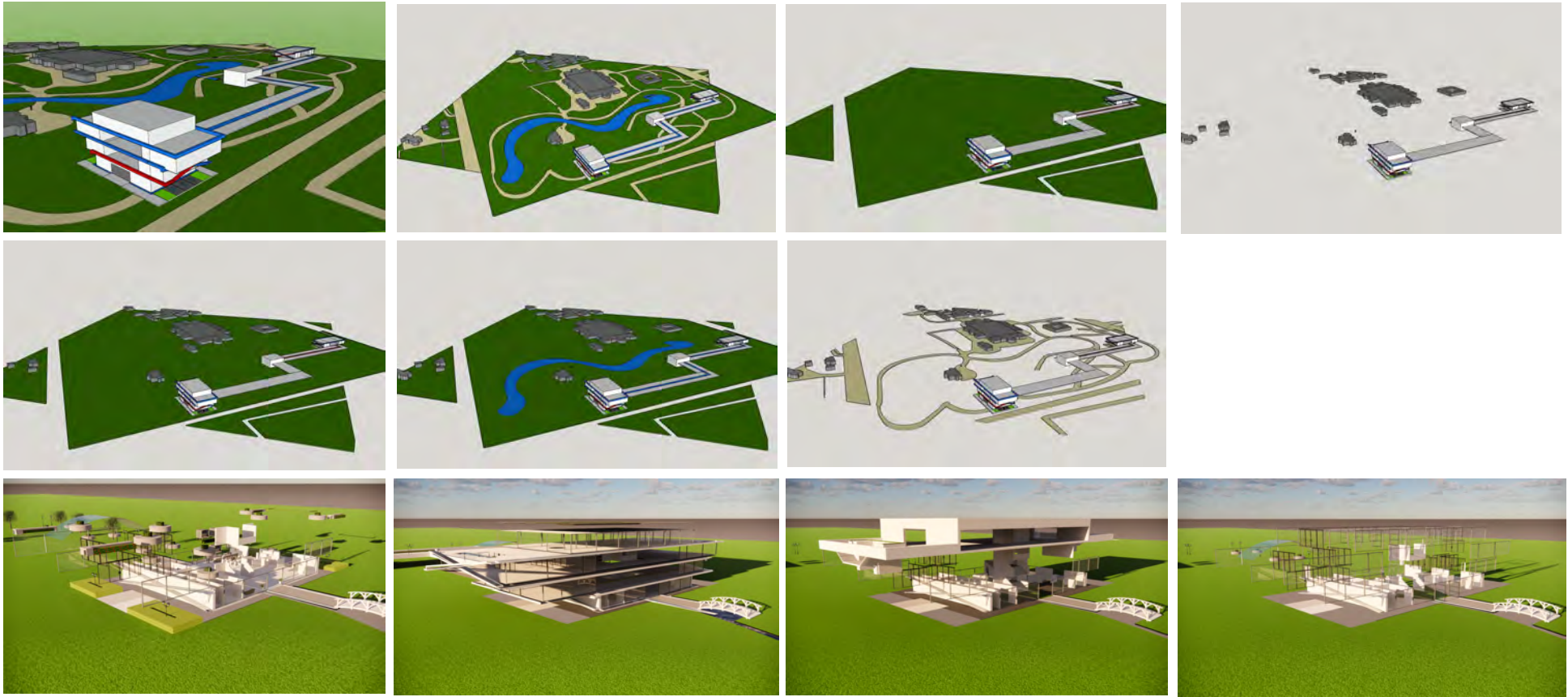


Afbeelding 7: Gekozen variant - Schets Doorsnede en plattegronden



Afbeelding 8: Gekozen variant - Schets plattegronden

Reduction drawings



Photos model/Sketch models

Above is the representation of a number of reduction drawings, both of the environment and of the building itself.

The photos of the sketch models are on the next page.

Photos model/Sketch models



CHAPTER 3: PRESENTATION Final — Spot Plan

The final spot plan is included in appendix 3.

Floor plan

The floor plans are included in appendix 5.

Photo presentation model or Rendered computer drawing

I have chosen to make rendered computer drawings. These are included in the presentation.

Presentation

The presentation is made in a Powerpoint and added in appendix 4.

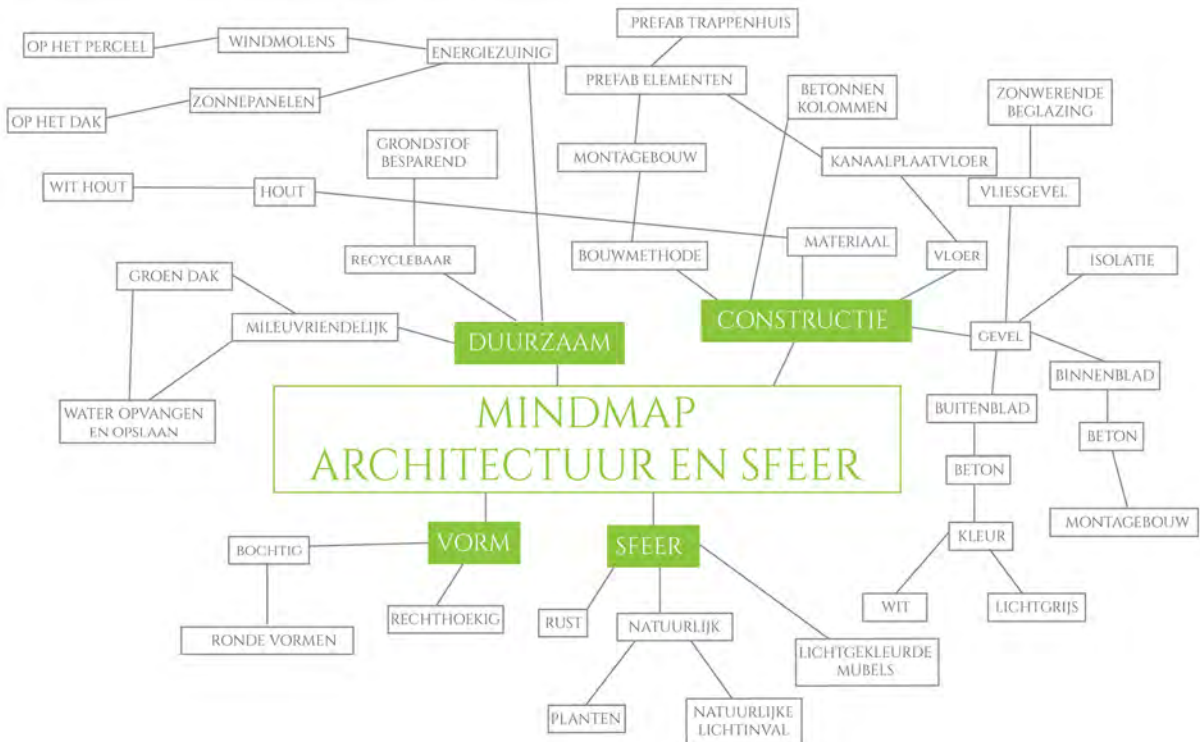
LITERATURE LIST

Basic Book of Architecture, 5th edition third edition 2021, Thieme Meulenhoff - A.H.L.G Bone

Mindmap Study Pavilion:



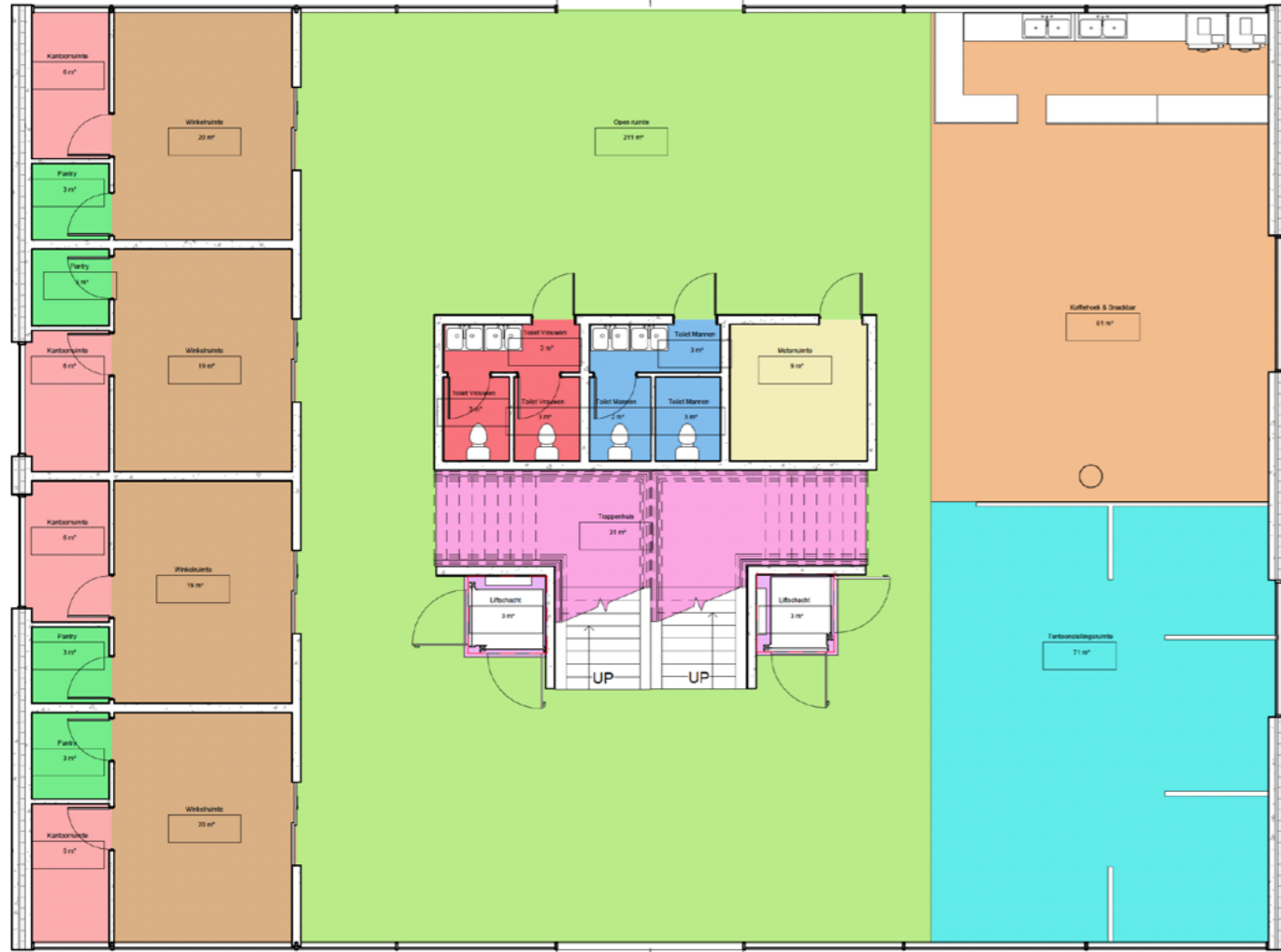
Mindmap Architecture and Atmosphere:



APPENDIX 2 - Moodboard



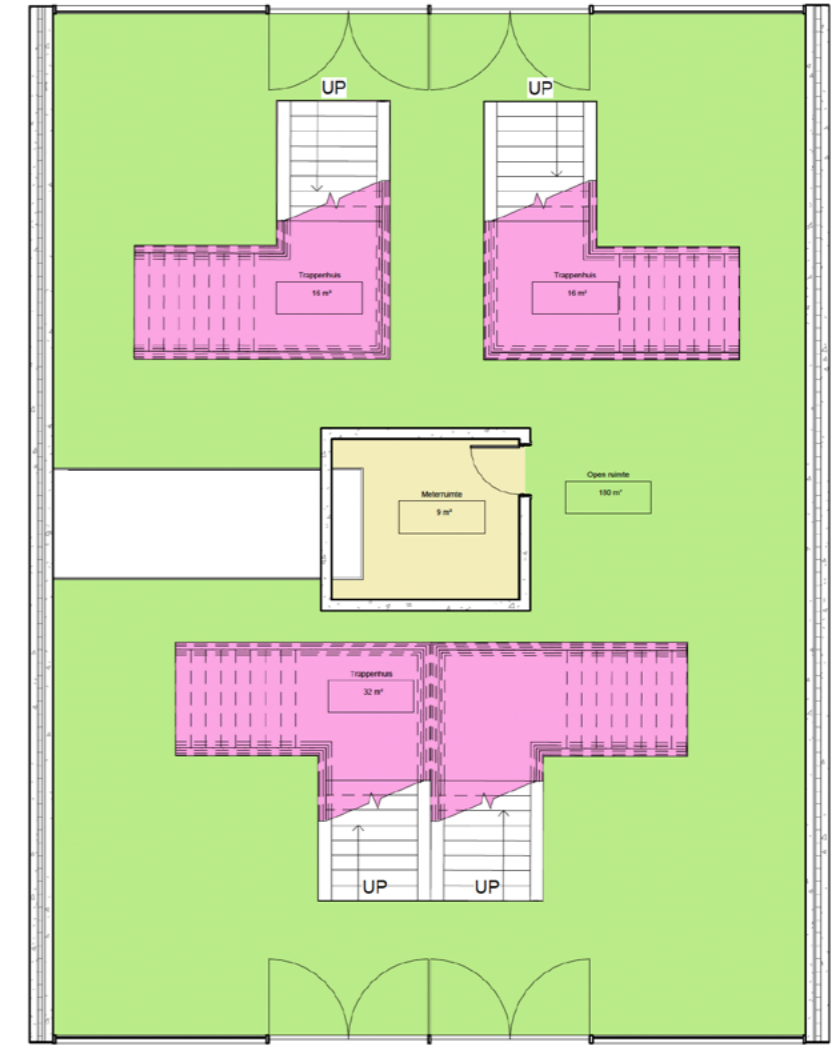
Appendix 3: Stain plan



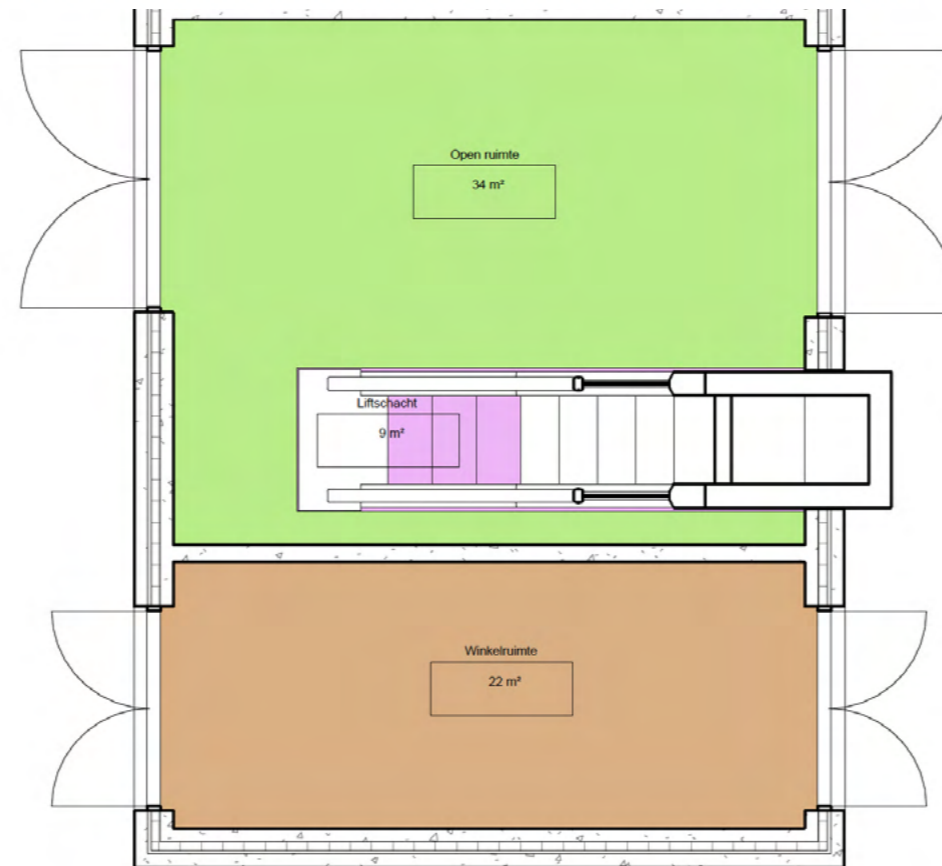
Library - Ground floor

Ruimtes

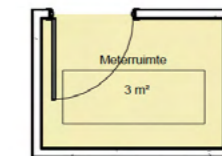
- Kantoorruimte
- Koffiehoek & Snackbar
- Liftschacht
- Meterruimte
- Open ruimte
- Pantry
- Tentoonstellingsruimte
- Toilet Mannen
- Toilet Vrouwen
- Trappenhuis
- Winkelruimte



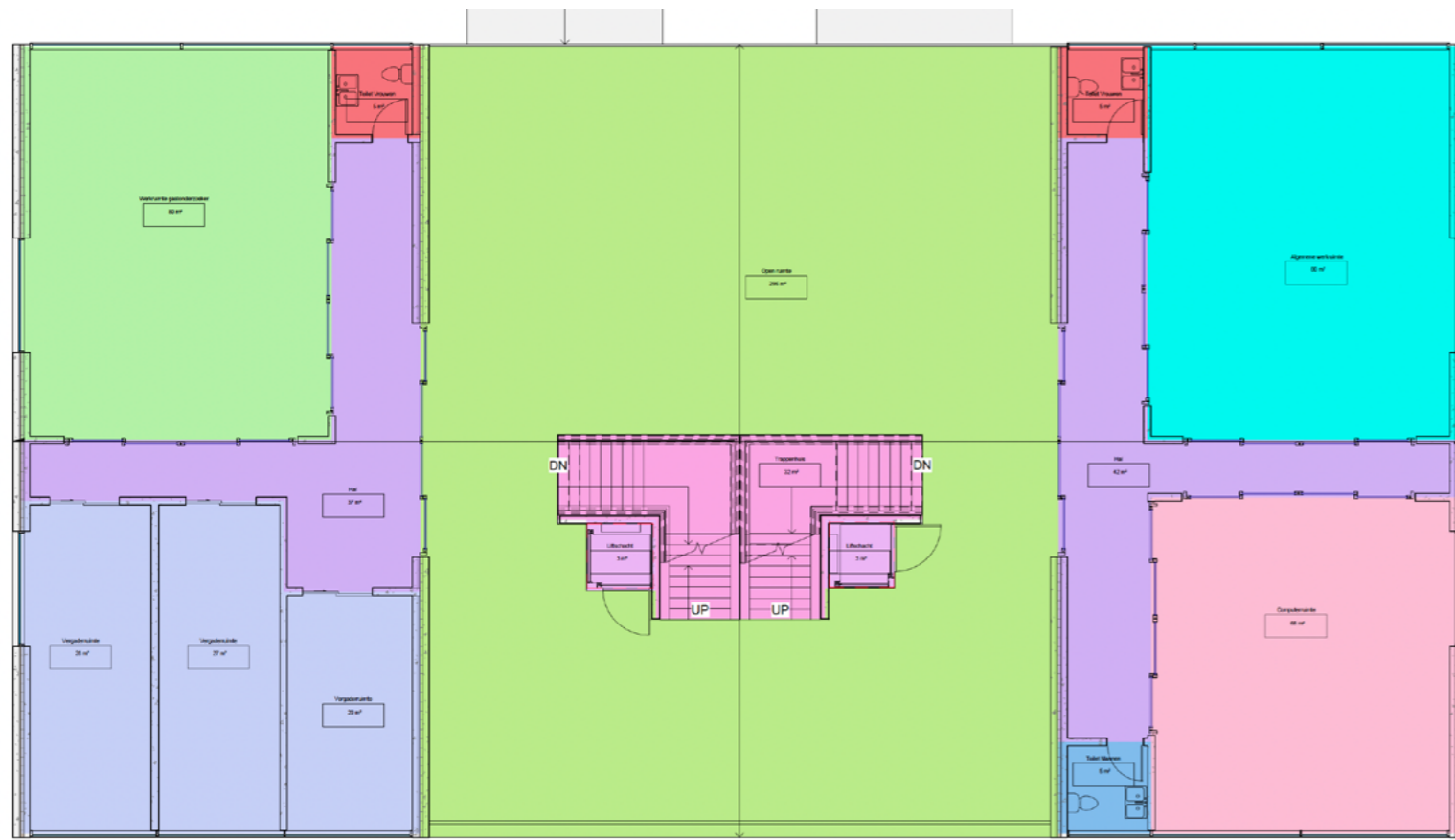
Intermediate building - Ground floor



Pavilion - Ground floor



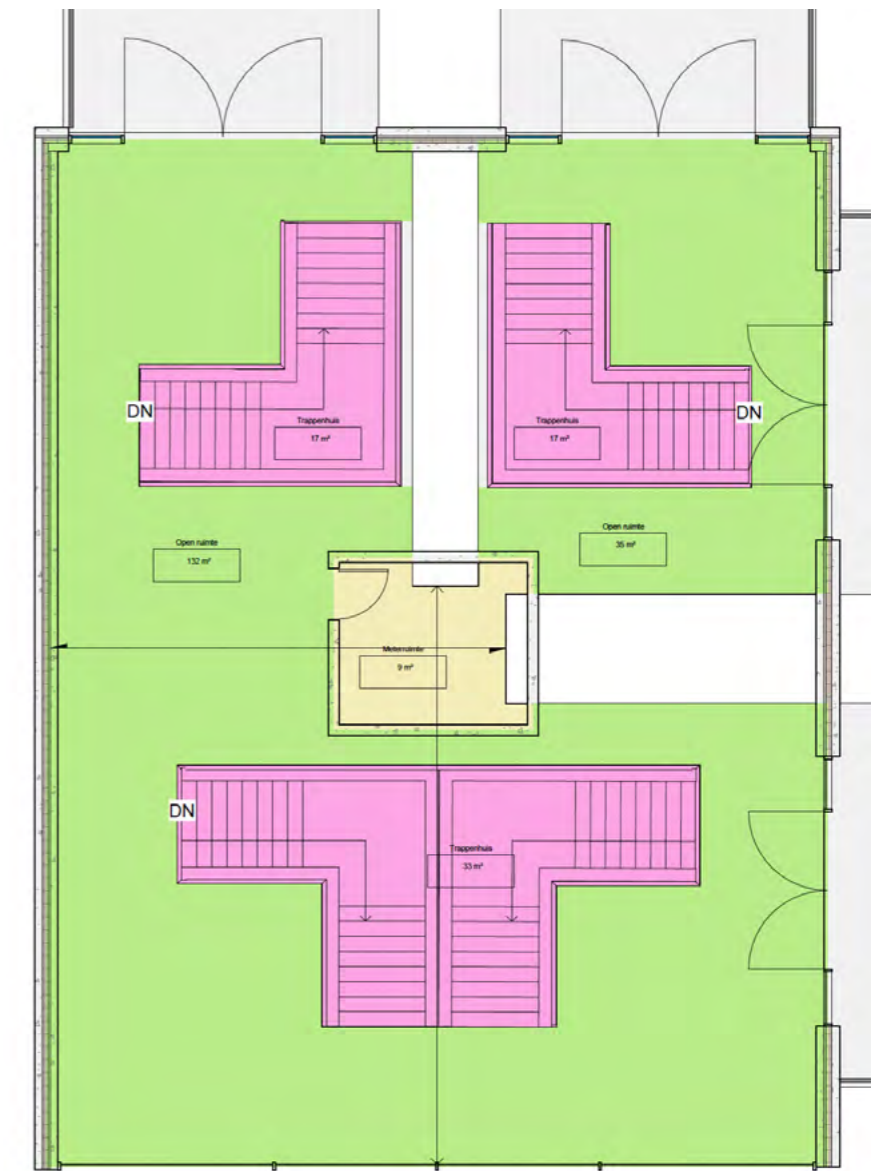
Meter room - Ground floor



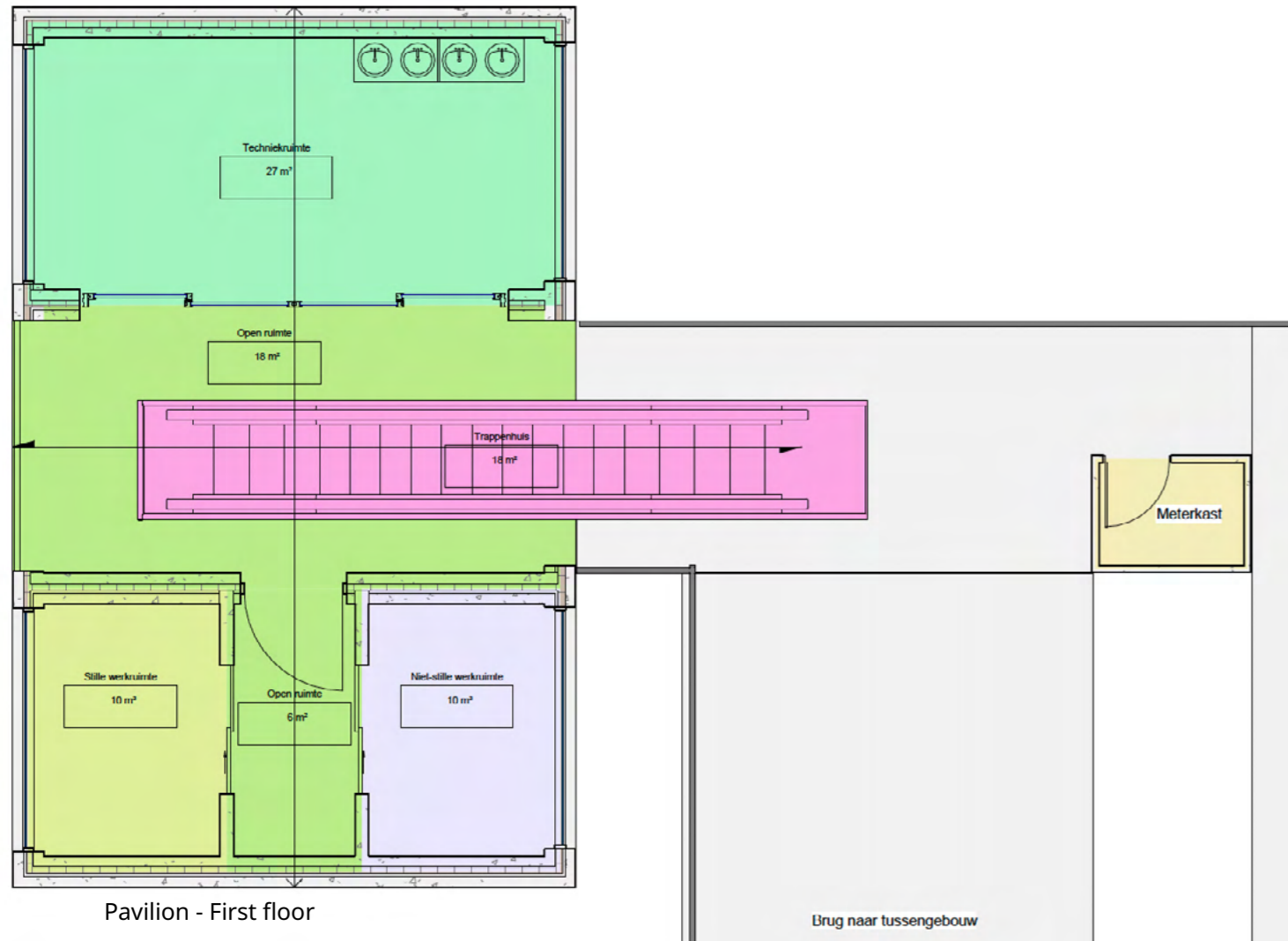
Library - First floor

Ruimtes

- Algemene werkruimte
- Computerruimte
- Hal
- Liftschacht
- Meterruimte
- Niet-stille werkruimte
- Open ruimte
- Stille werkruimte
- Techniekrimte
- Toilet Mannen
- Toilet Vrouwen
- Trappenhuis
- Vergaderruimte
- Werkruimte gastonderzoeker

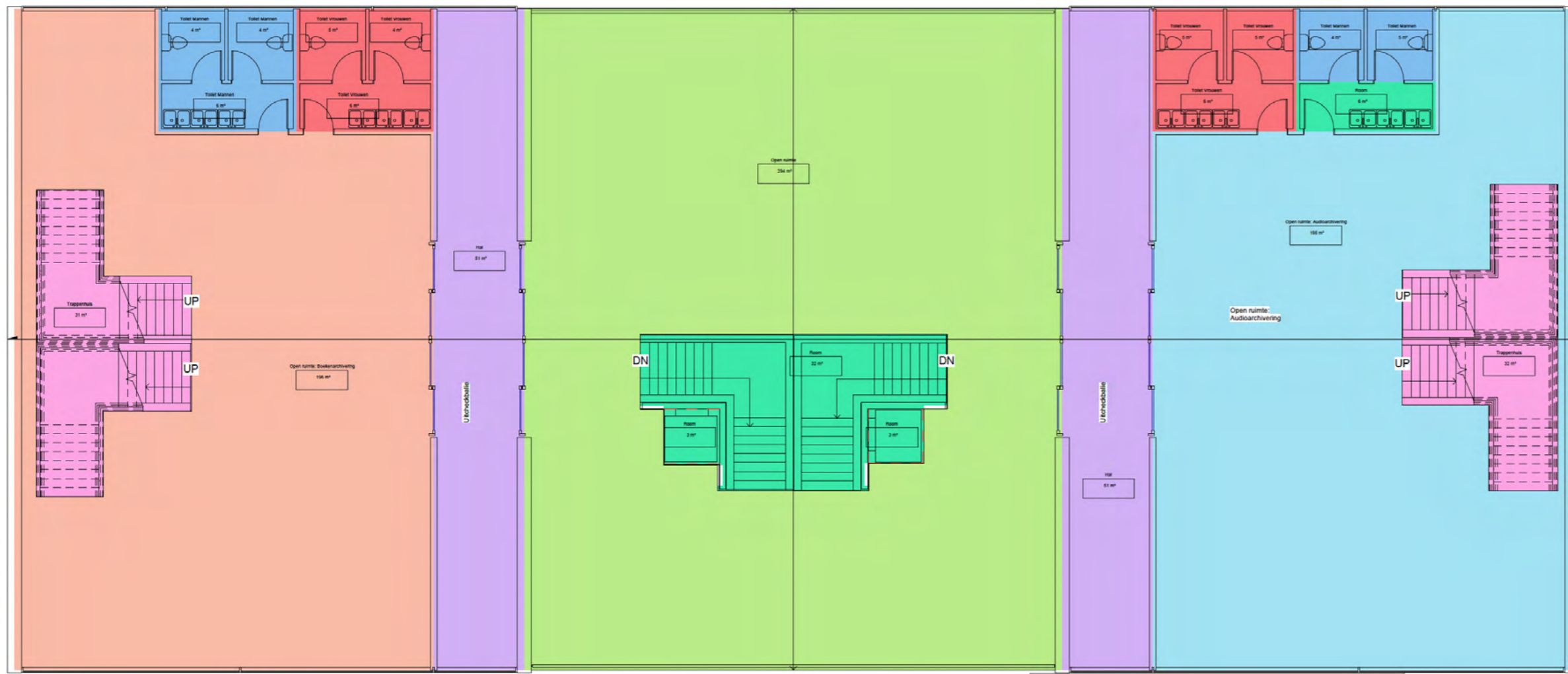


Interbuilding - First floor



Pavilion - First floor

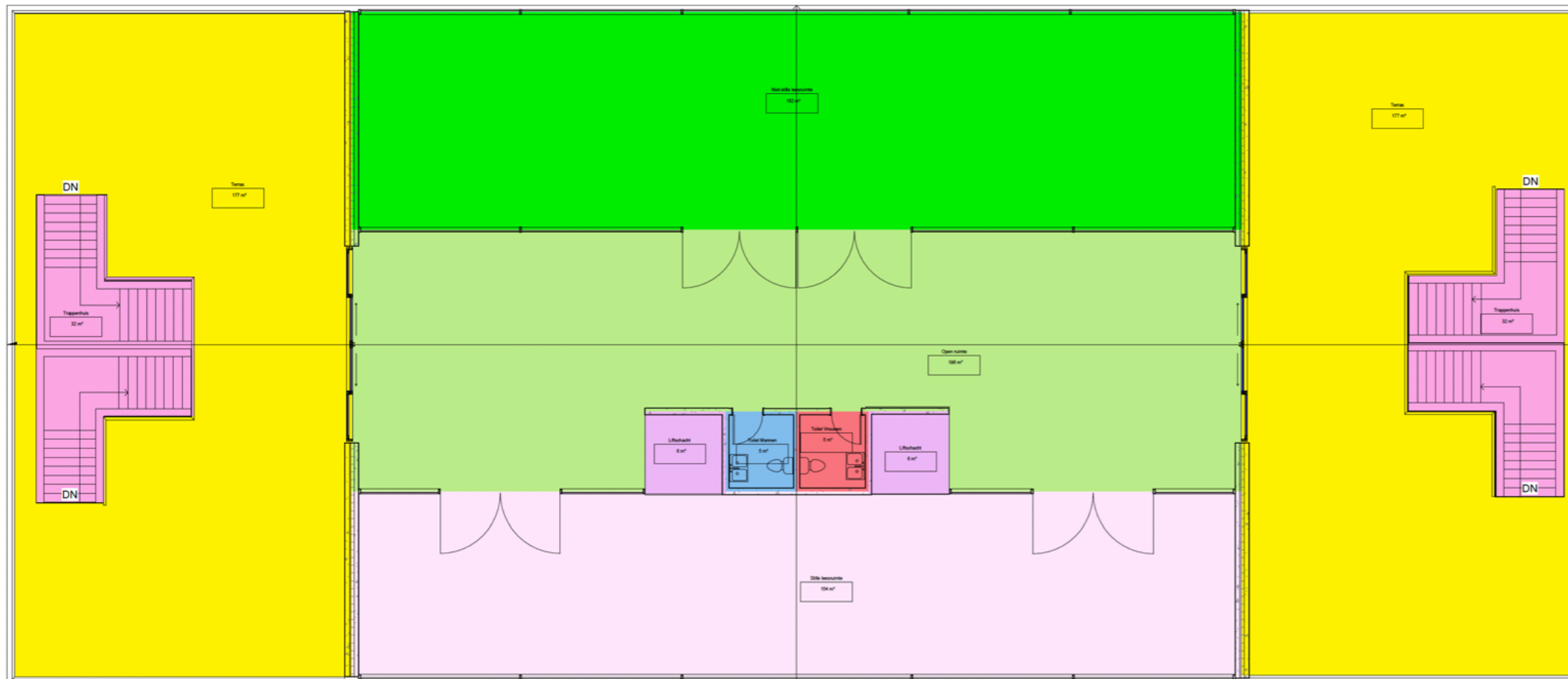
Brug naar tussengebouw



Library - Second floor

Ruimtes

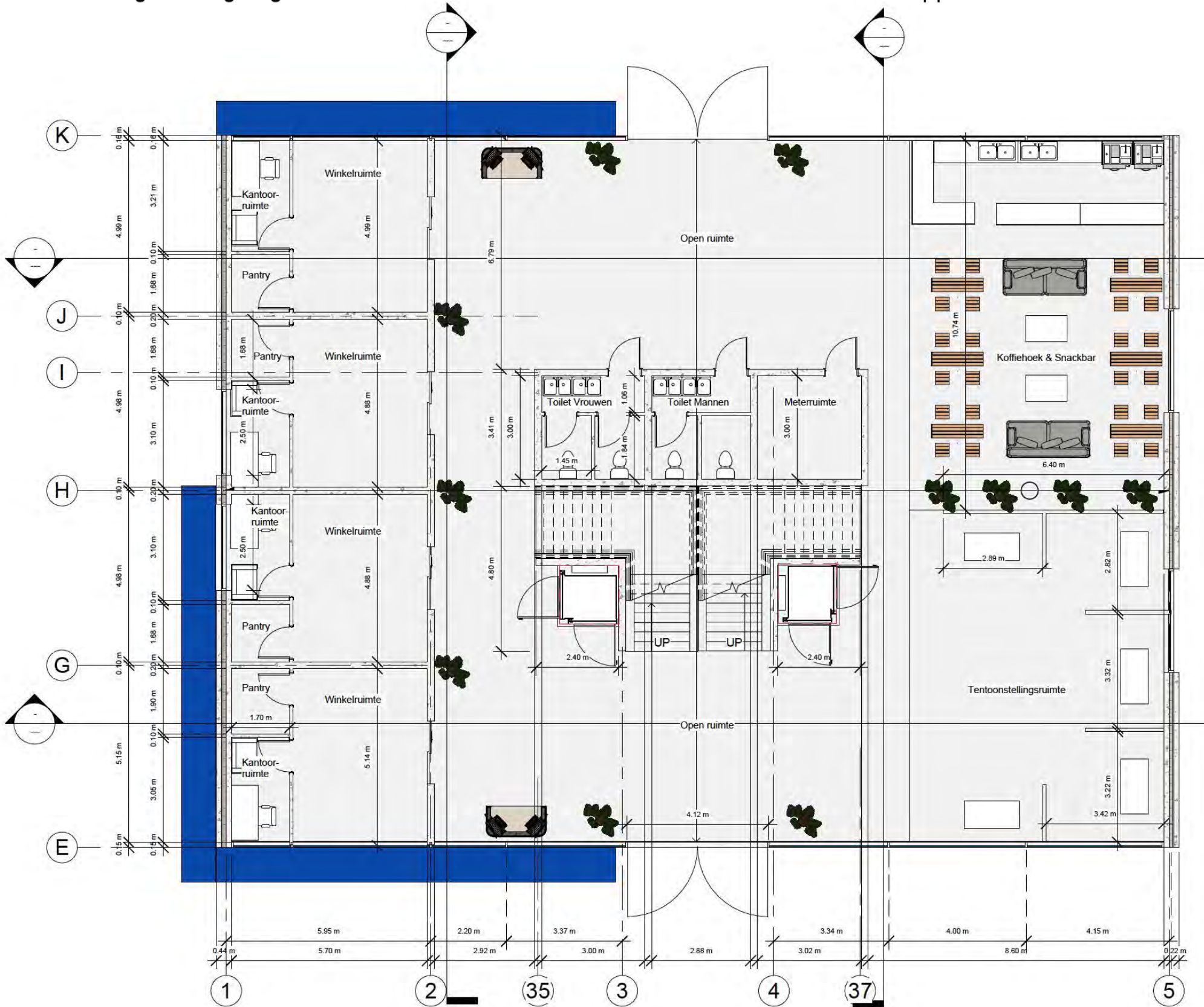
- Hal
- Meterruimte
- Niet-stille werkruimte
- Open ruimte
- Open ruimte: Audioarchivering
- Open ruimte: Boekenarchivering
- Room
- Stille werkruimte
- Techniekruimte
- Toilet Mannen
- Toilet Vrouwen
- Trappenhuis



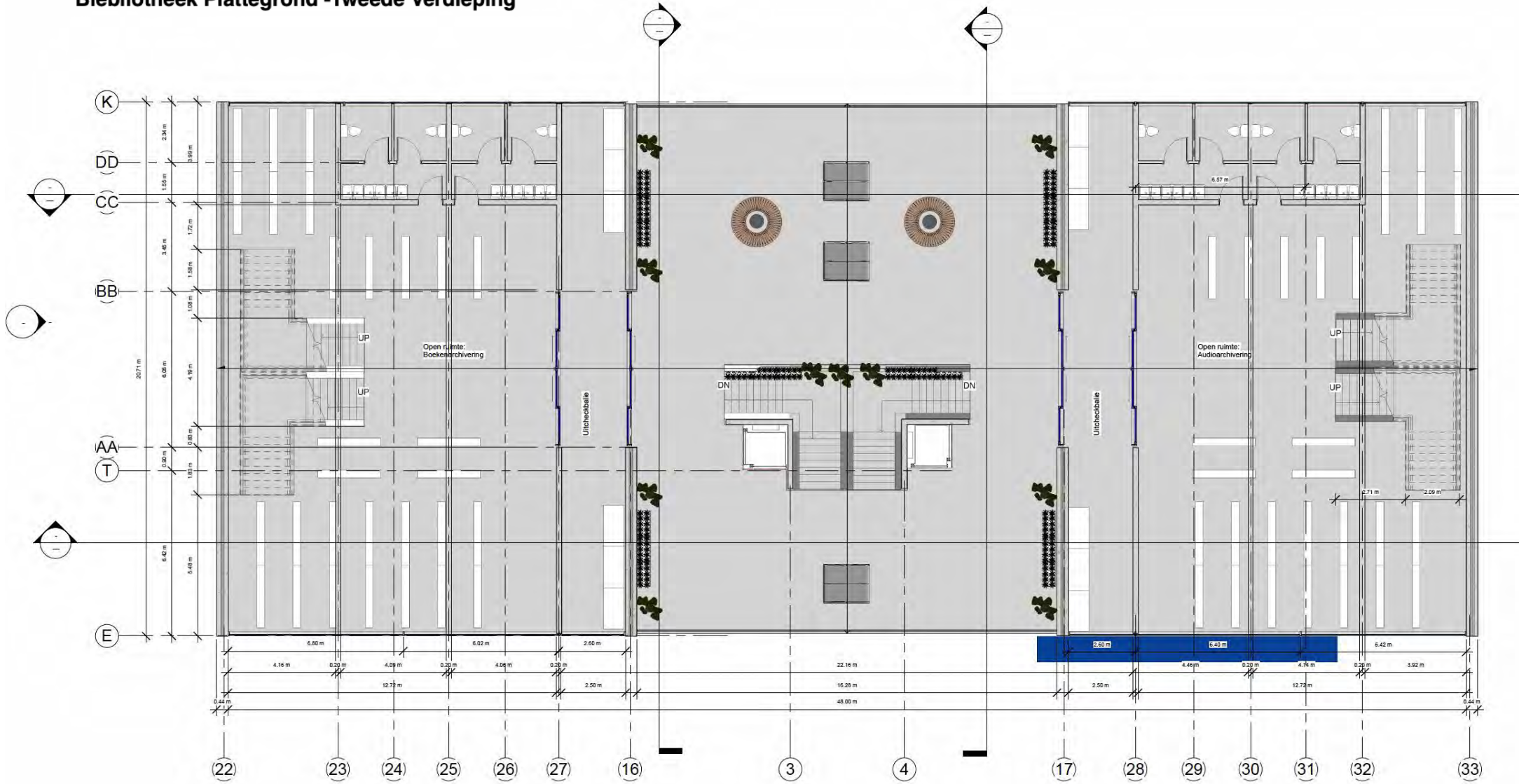
Library - Third floor

Ruimtes

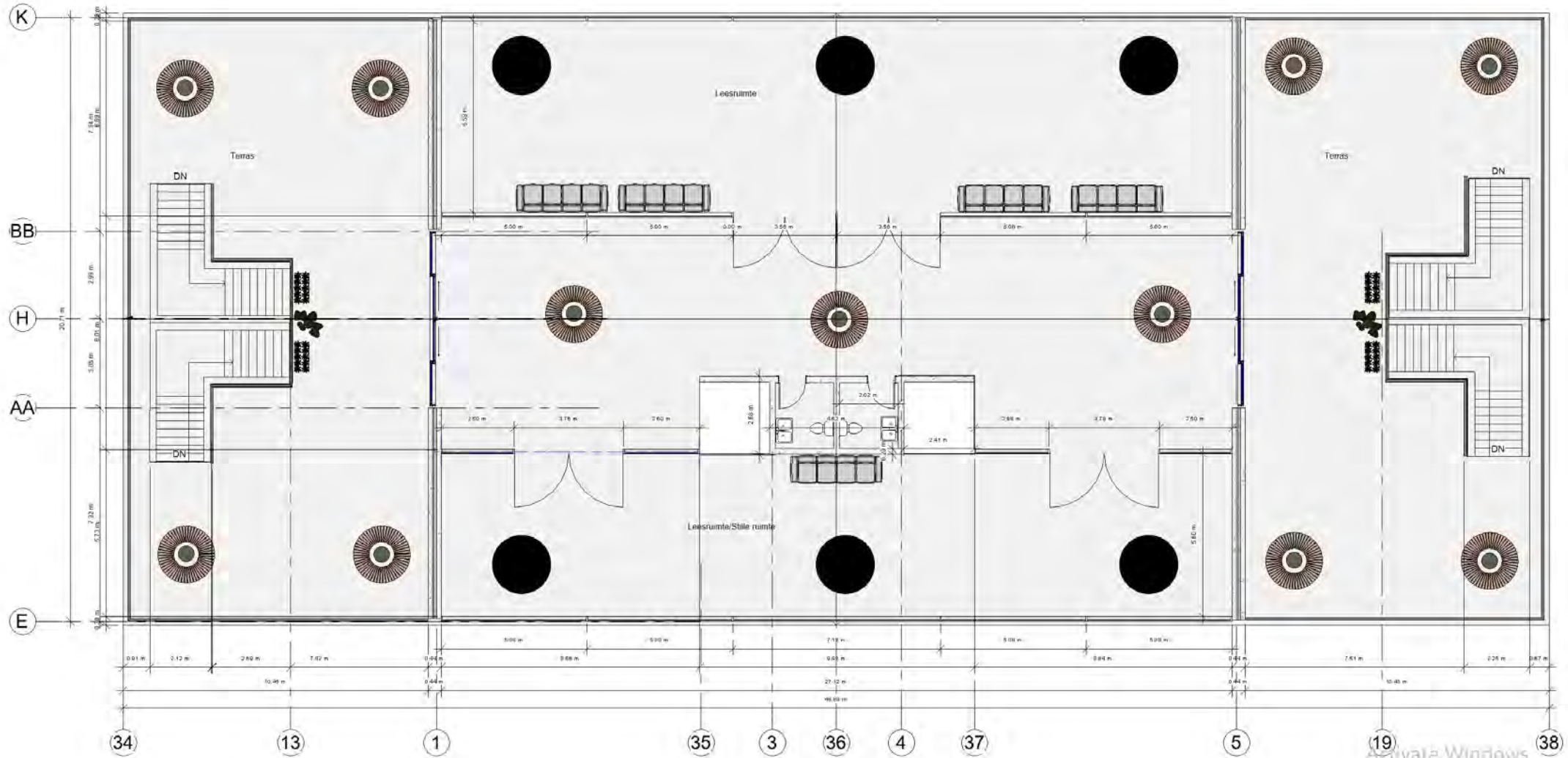
- Liftschacht
- Niet-stille leesruimte
- Open ruimte
- Stille leesruimte
- Terras
- Toilet Mannen
- Toilet Vrouwen
- Trappenhuis



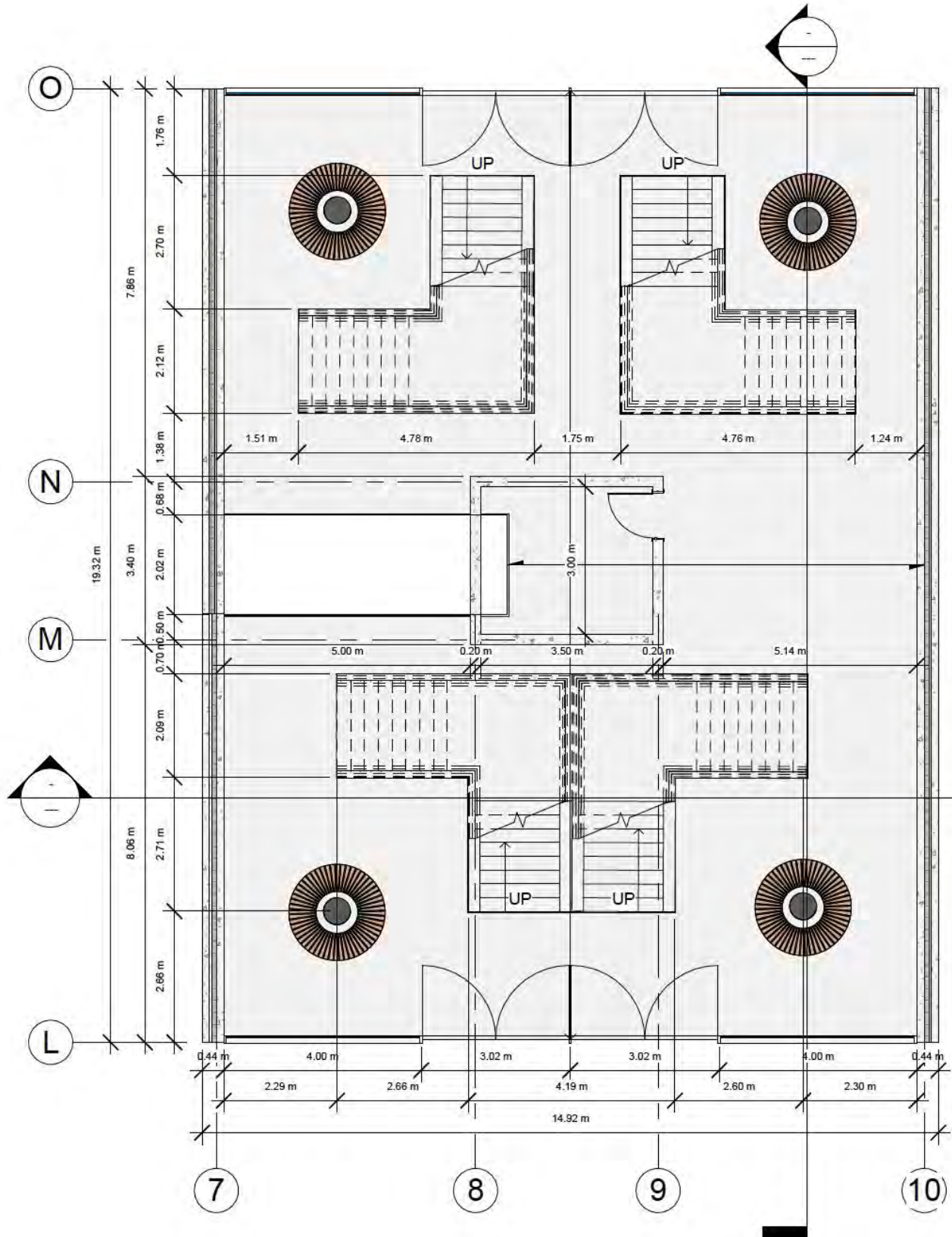
Bibliotheek Plattegrond - Tweede Verdieping



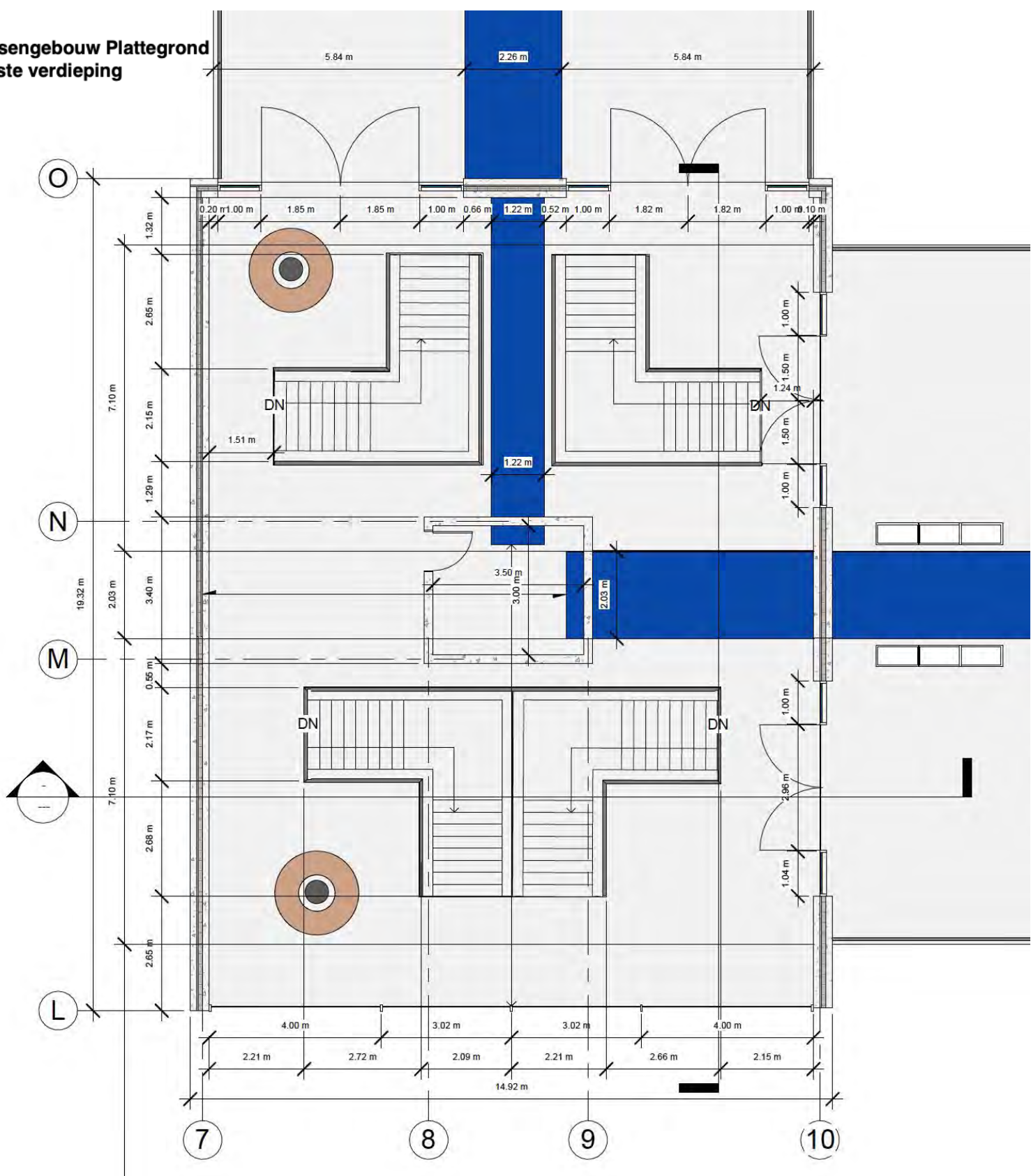
Bibliotheek Plattegrond - Derde Verdieping



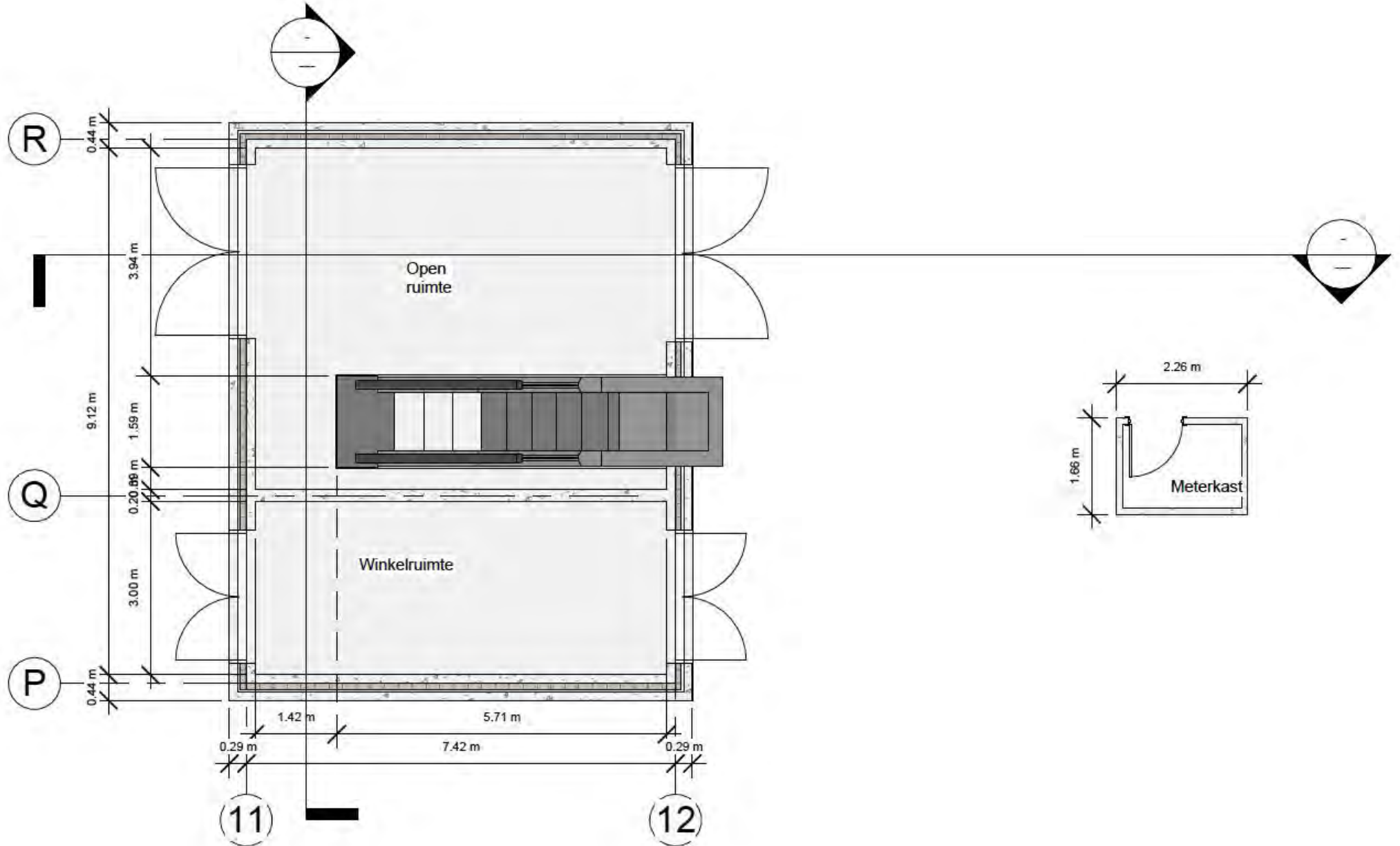
Tussengebouw Plattegrond - Begane grond



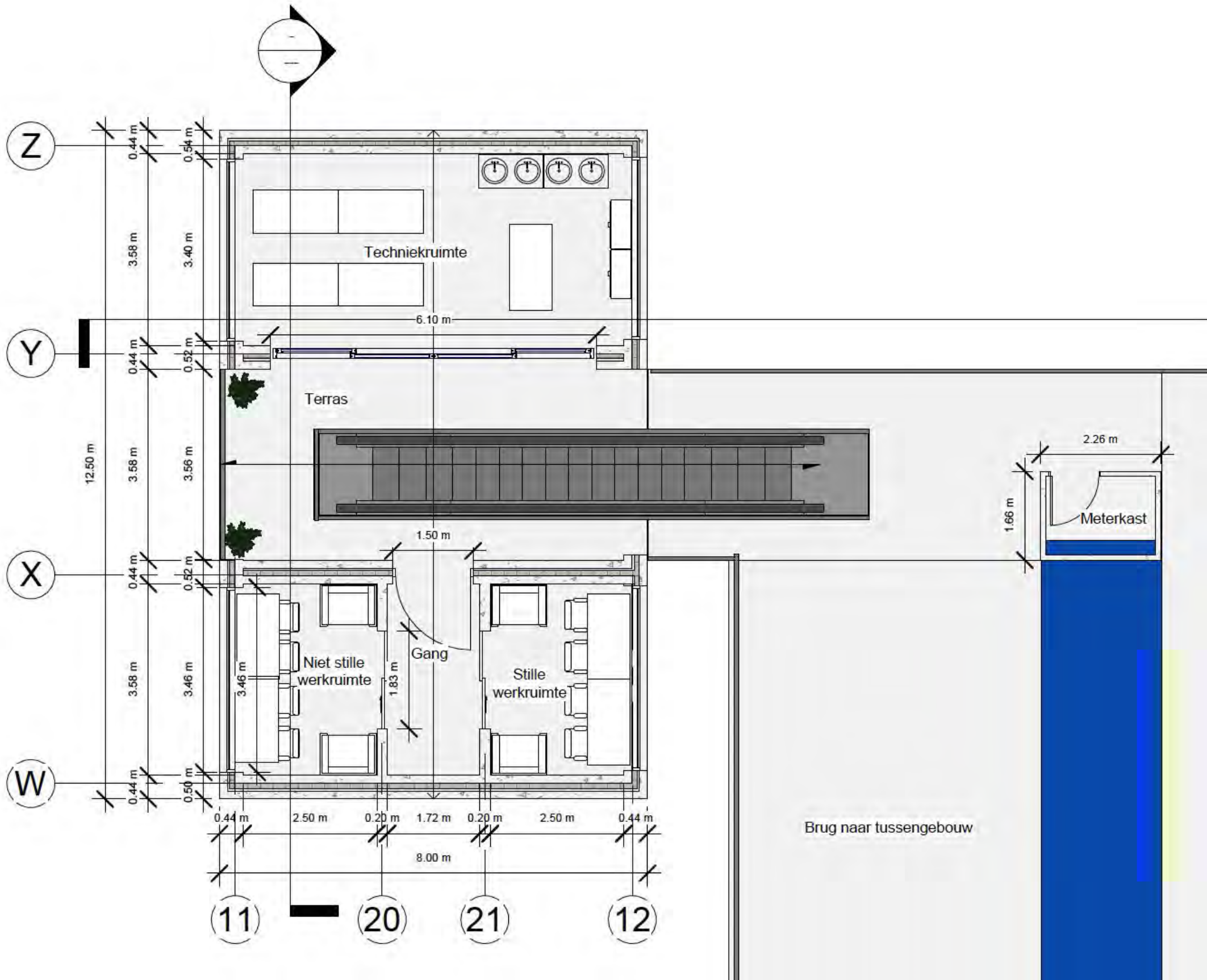
Tussengebouw Plattegrond Eerste verdieping



Paviljoen Plattegrond - Begane grond



Paviljoen Plattegrond - Eerste verdieping



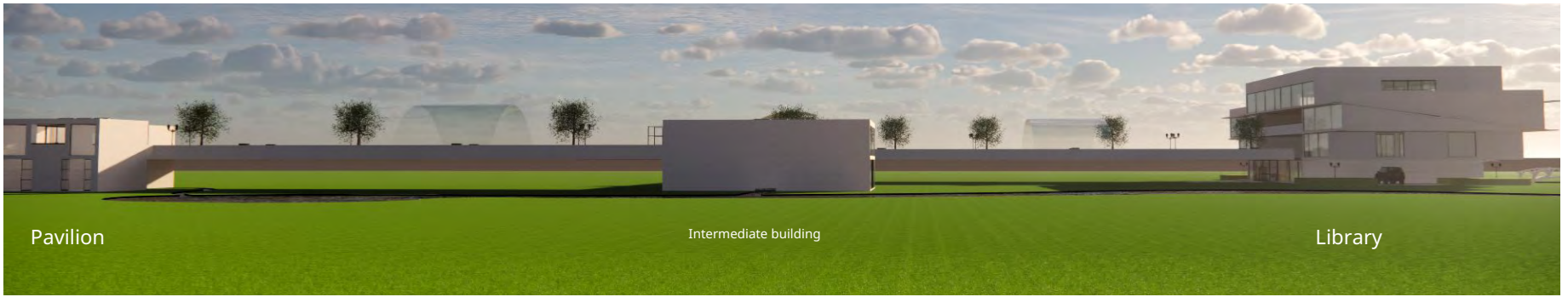


FINAL DESIGN PRESENTATION

Library & Study Pavilion

CONTENT

- Concept:
 - Mindmaps
 - Moodboard
 - Colors
 - Materials
 - Sketches (by hand and digital)
- Final Floor Plans & 3D-rendered computer drawings

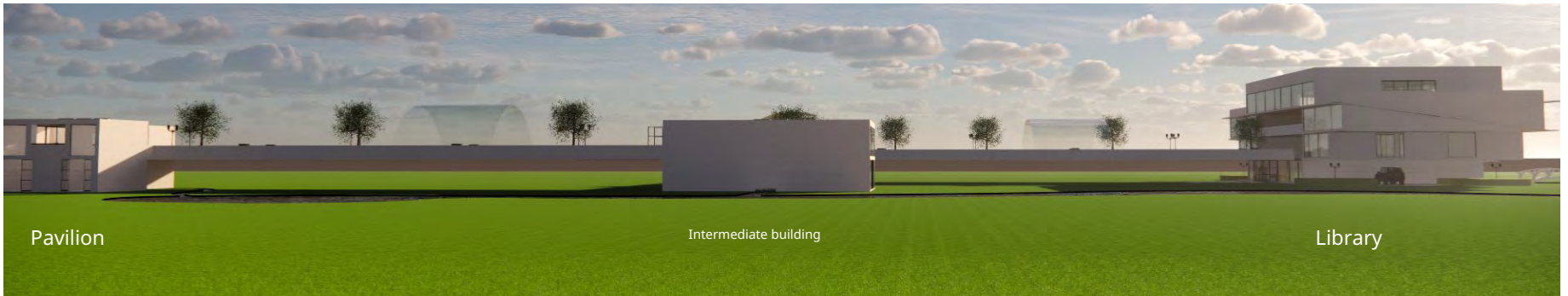


Pavilion

Intermediate building

Library

CONCEPT



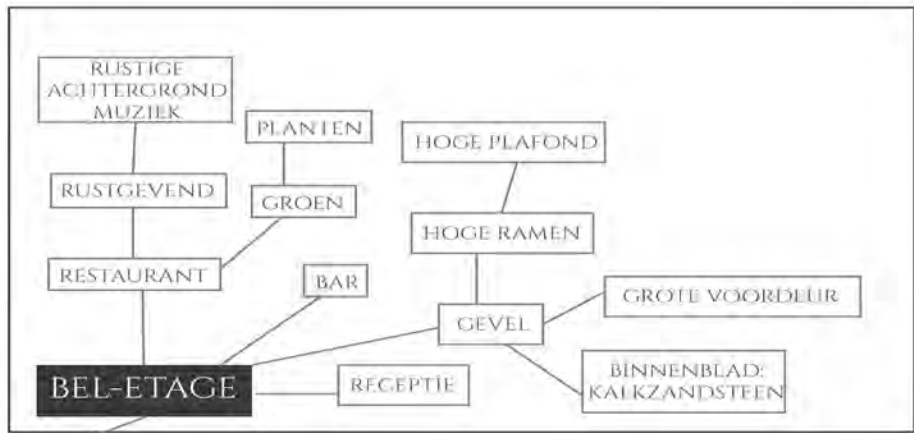
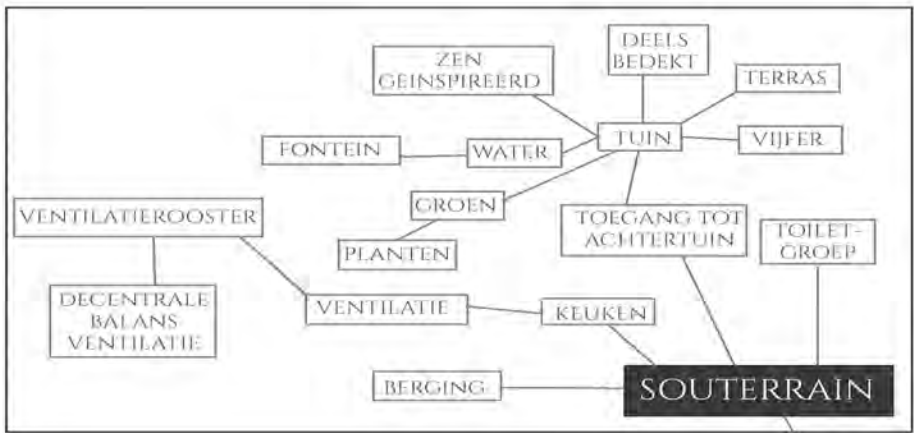
Pavilion

Intermediate building

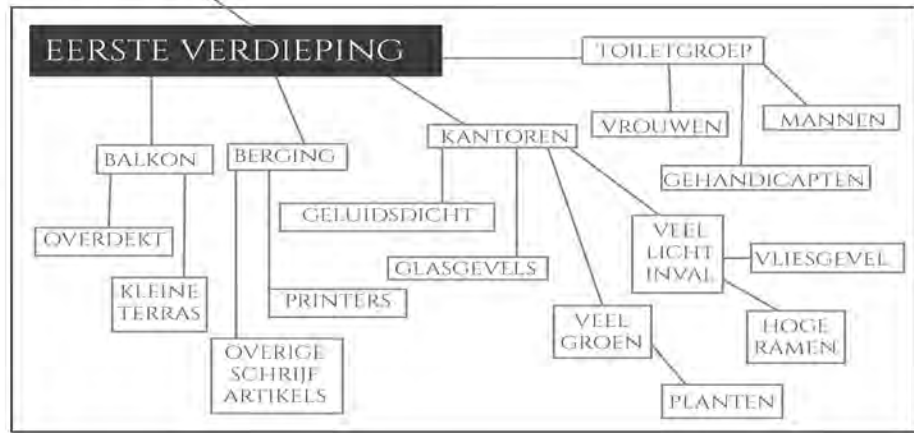
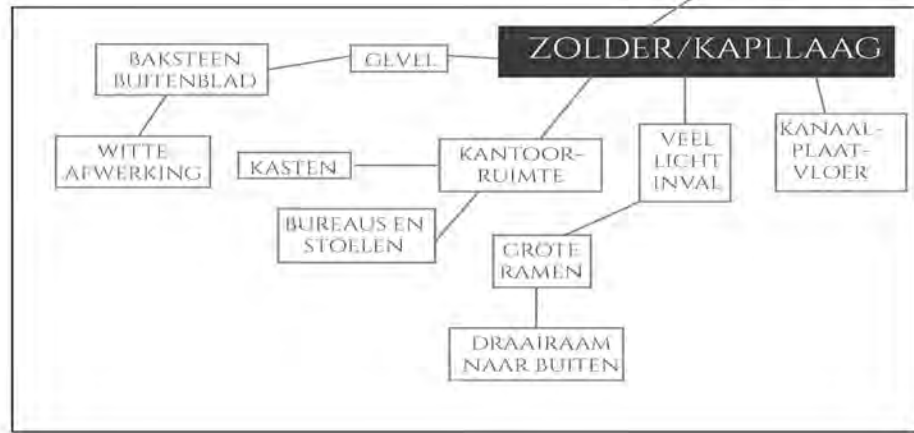
Library

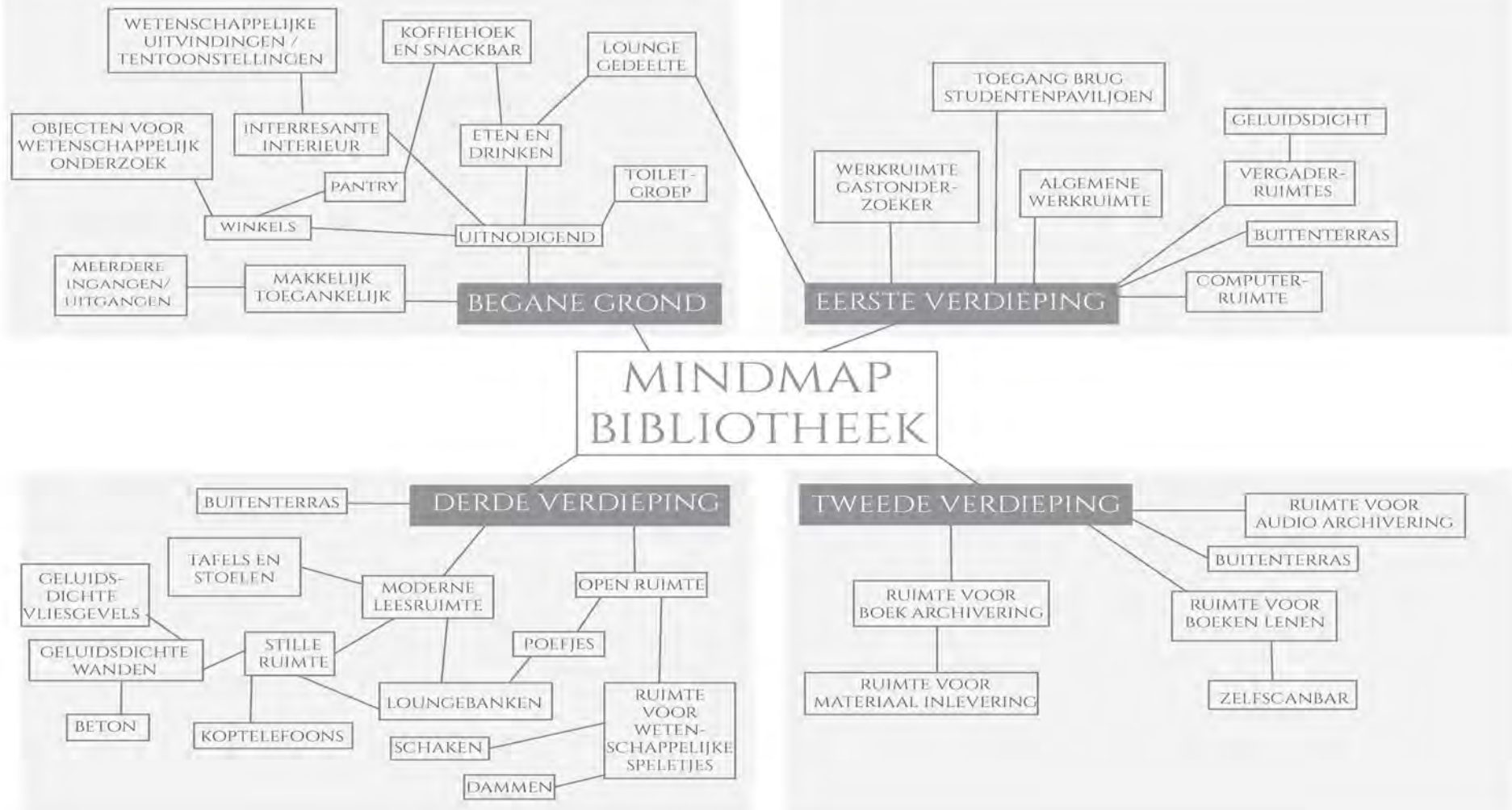
Buildings:

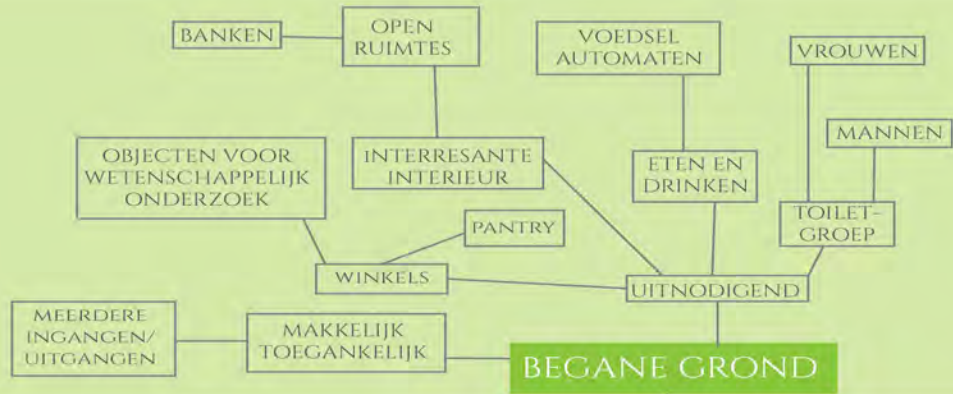
- Library
 - Intermediate building
 - Study pavilion
 - ** Main building is not added as a design!!
- 1-3 Floors + Ground floor
 - 5 parking spaces
 - Surface area of plots: 25 x 40 m (1000m²)
 - Style: The New Building
 - Sustainable and self-sufficient.
 - The buildings generate their own energy by means of solar panels on the roof and running water from the river and rainwater.
 - The roof is a green roof
 - Restful green style
 - Good and easily accessible



MINDMAP HOOFDGEBOUW







MINDMAP STUDIEPAVILJOEN



Colors:

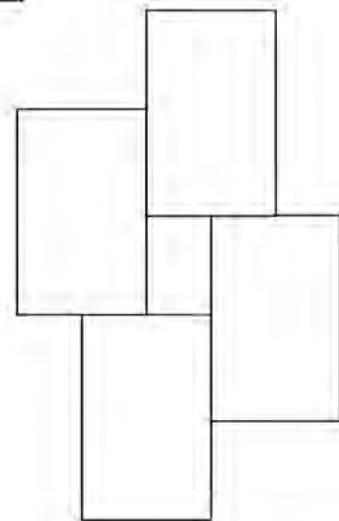
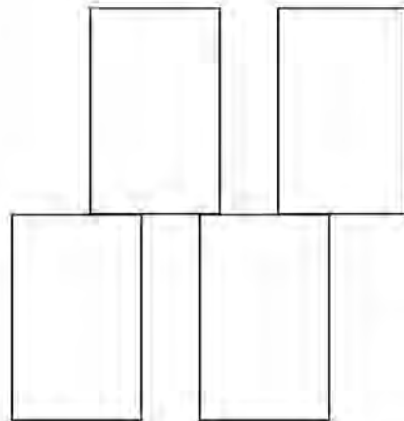
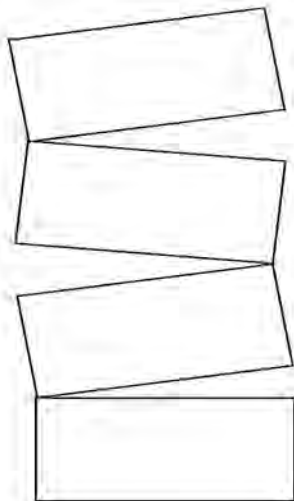
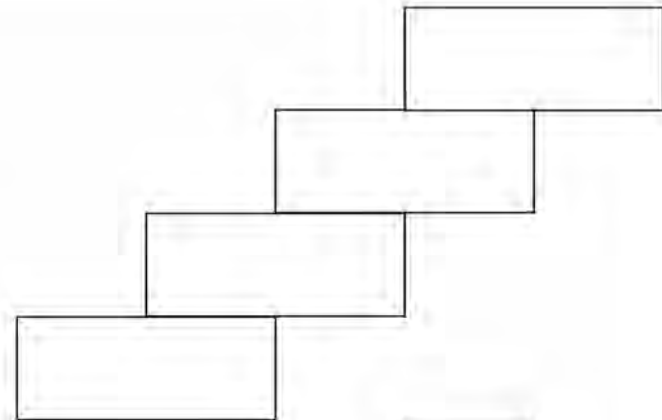
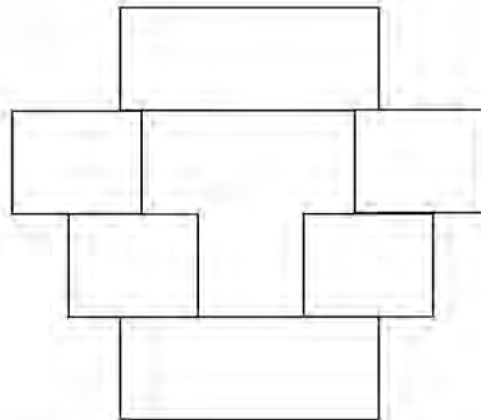
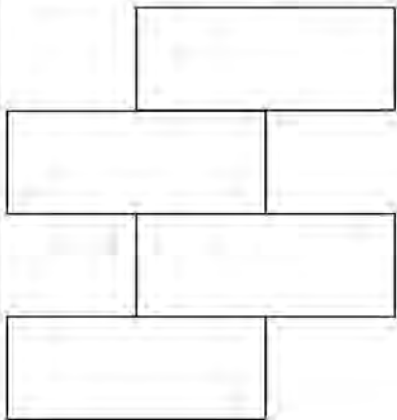
- White
- Light gray shades
- Light blue
- Green

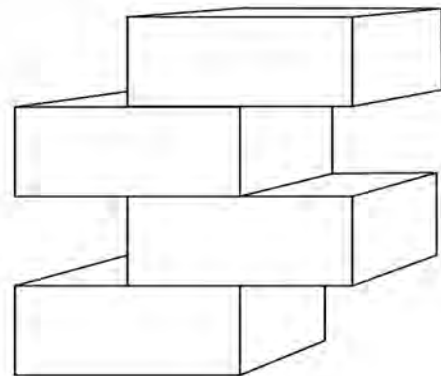
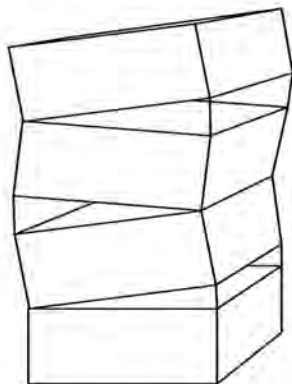
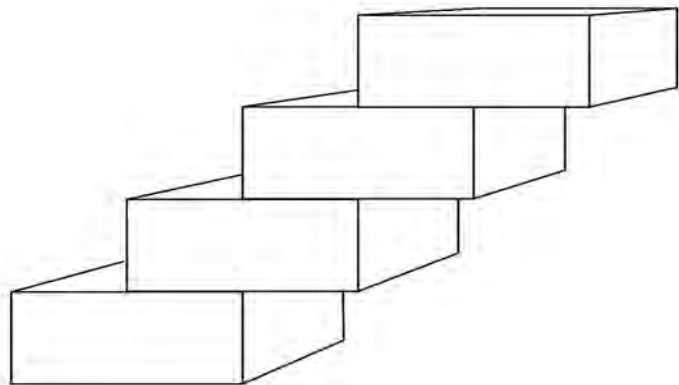
Materials:

- Floor:
 - Hollow core slab floor (upper floor)
 - Insulation board floor (ground floor)
 - Screed: Cast floor (anhydrite floor)
- Walls:
 - Prefab white concrete sandwich elements consisting of an inner leaf, insulation, cavity and outer leaf.
 - Curtain wall with solar control glazing.
- Roof:
 - Green roof

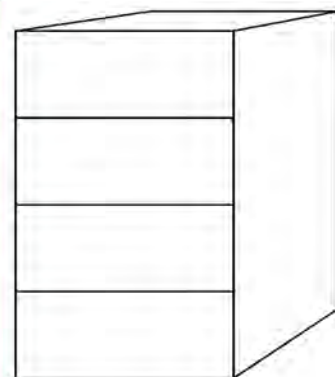
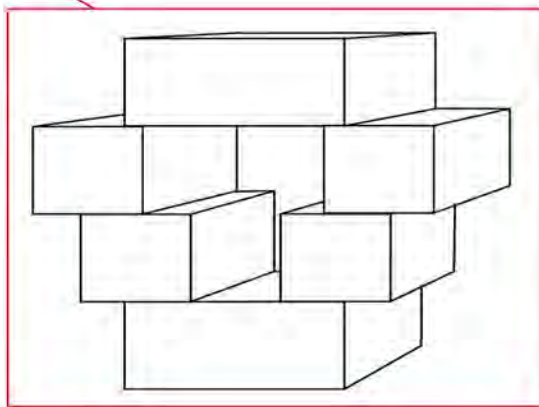
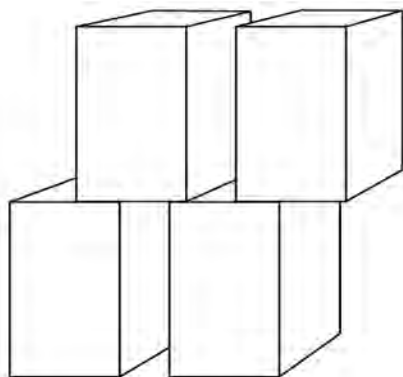
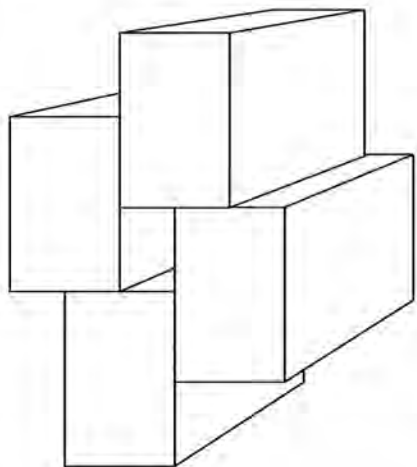


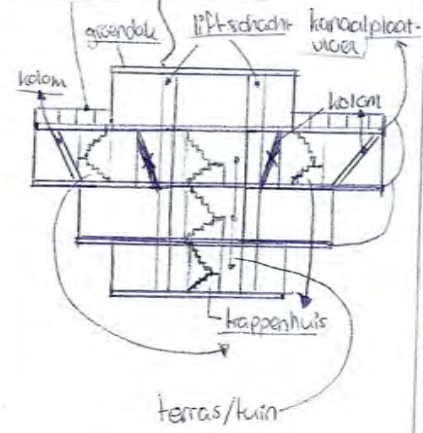
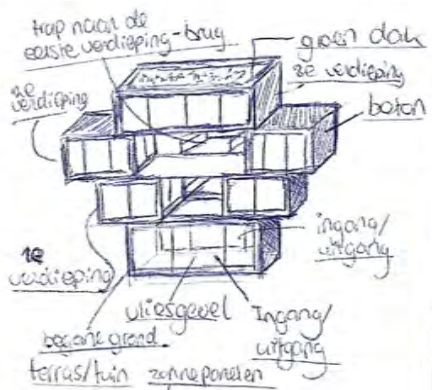
Moodboard





Gekozen vorm

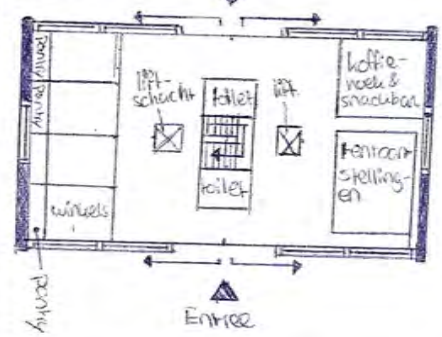




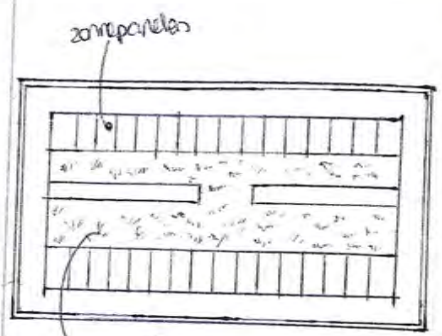
terras/tuin

Beginne grond-plattegrond Bieb

- Toiletgroep
- koffienvoel en snackbar
- Ponthy
- Winkels
- Terraanstellingen
- open plek.

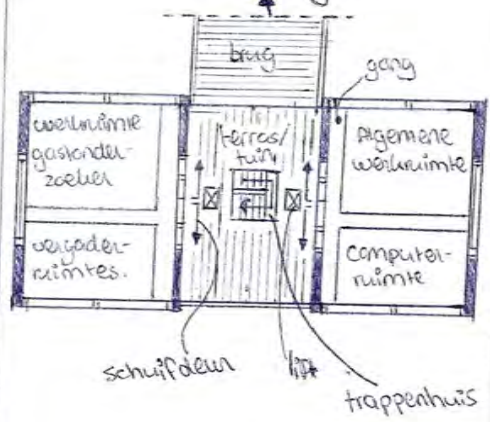


Polygonen - plattegrond Bieb

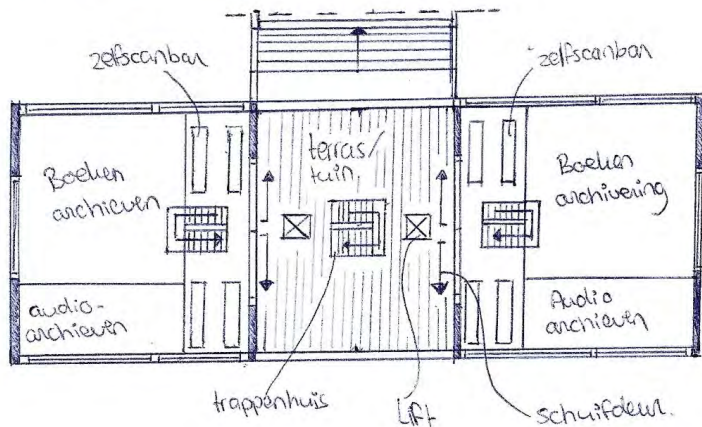


groen dak
Dak ook voor Paviljoen

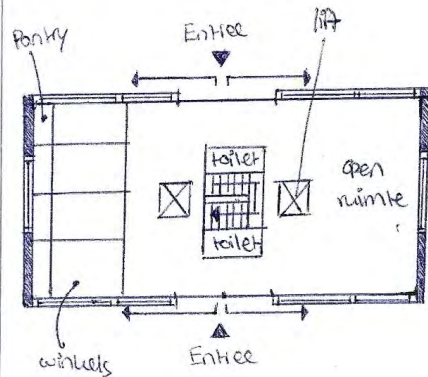
1e verdieping - plattegrond Bieb naar paviljoen



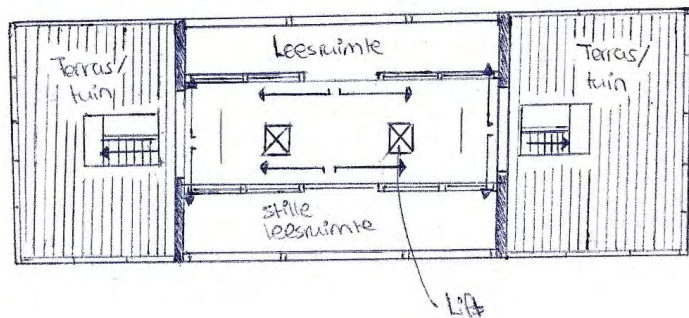
2e verdieping - plattegrond Bieb



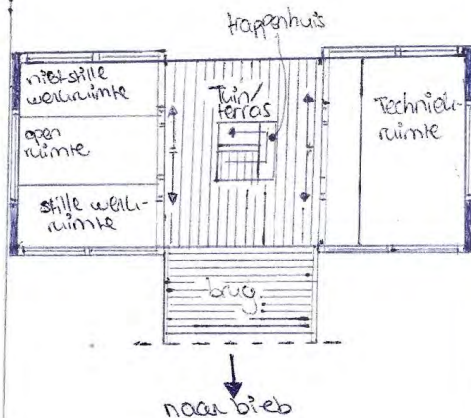
Begane grond - Paulijnen



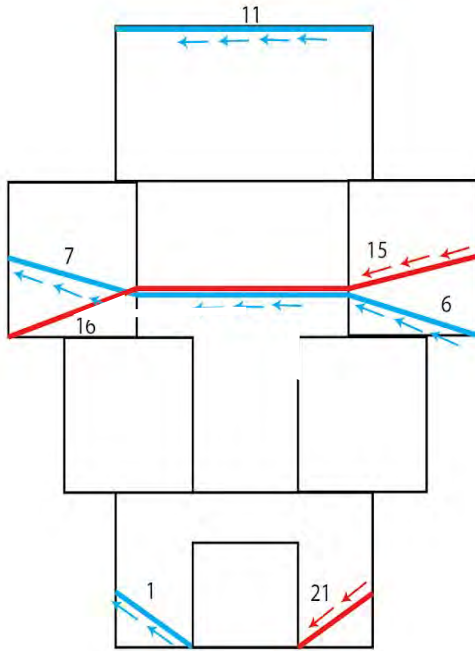
2e verdieping - plattegrond Bieb



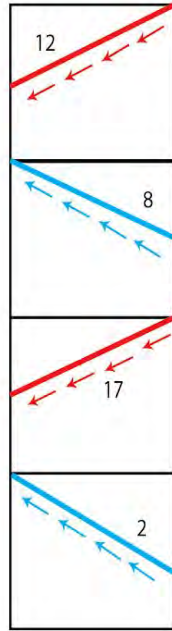
2e verdieping Paulijnen



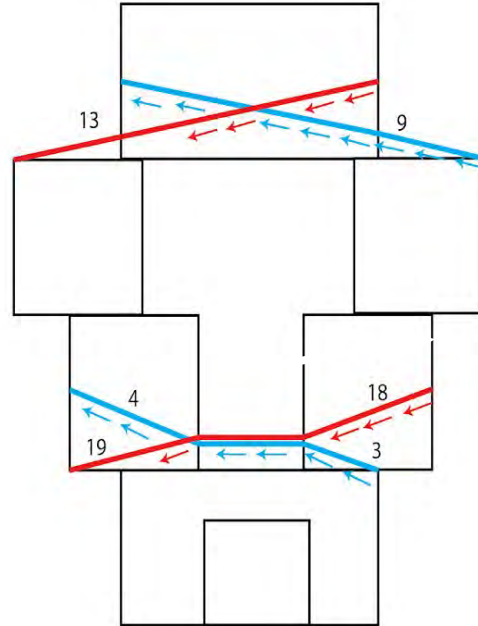
CONCEPT WATER FLOW



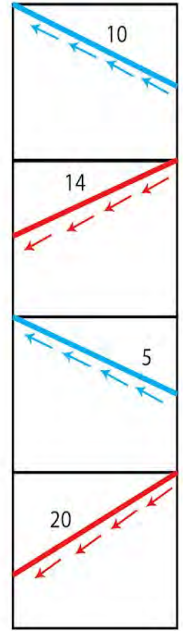
Voorraanzicht



Linkeraanzicht



Achteraanzicht



Rechteraanzicht



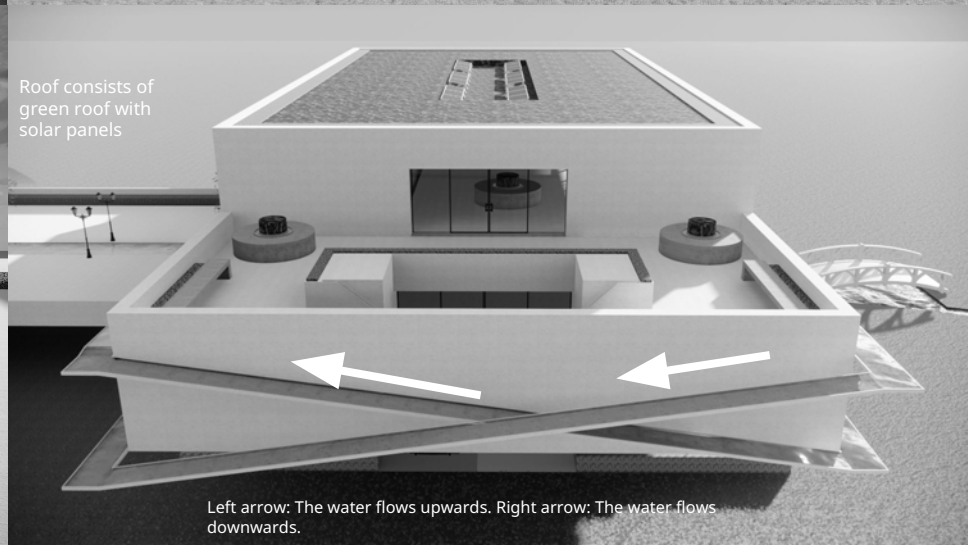
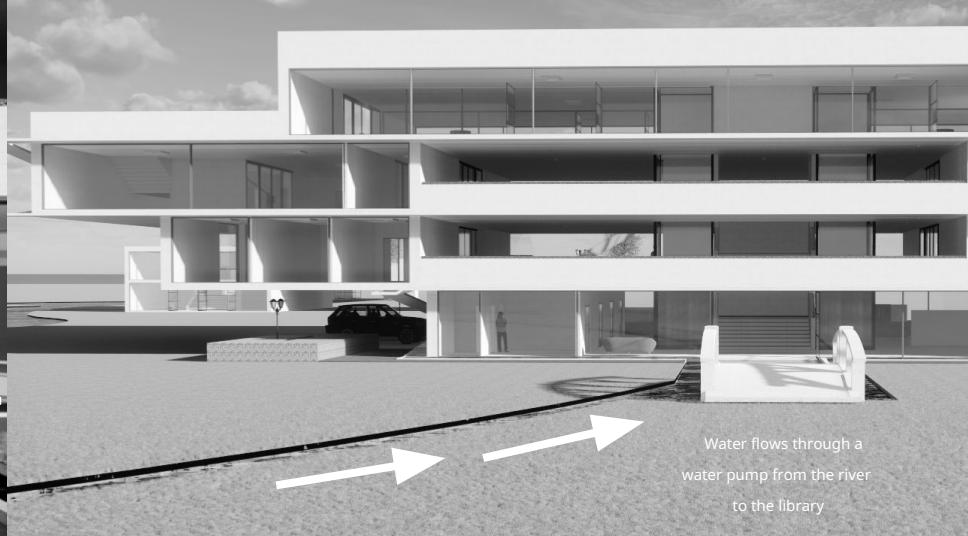
Waterstroom loopt naar boven
op volgorde van nummers

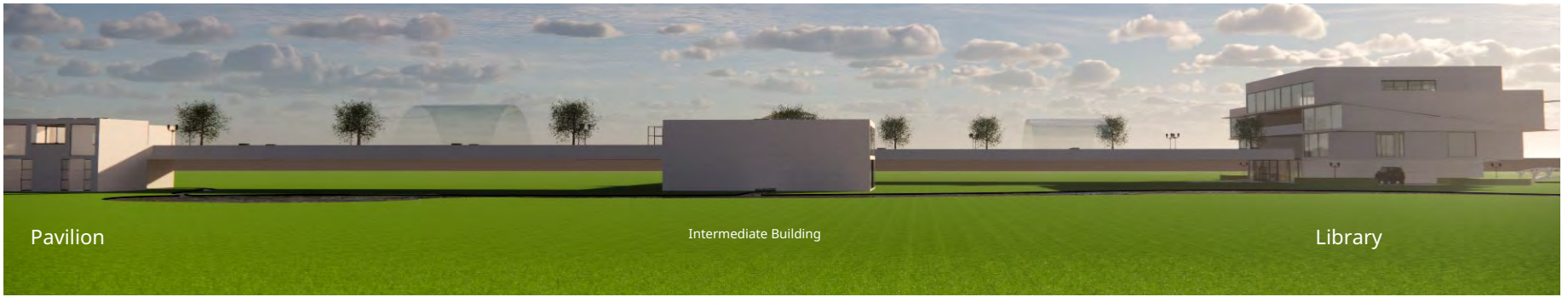
Rainwater is also
collected here



Waterstroom loopt naar beneden
op volgorde van nummers

CONCEPT WATER FLOW





Pavilion

Intermediate Building

Library

Final Floor Plans

&

3D Rendered Computer Drawings

LIBRARY; GROUND FLOOR

- 2 parking spaces (not visible on this map:
 - 3 parking spaces on the east side
 - 2 parking spaces on the west side.
- Entrance and exit at the front and back of the building.
- Right side of the ground floor:
 - Coffee corner & Snack bar area
 - Space for exhibitions
- Left side of the ground floor:
 - Shops each with their own pantry and small office space
- In the middle of the ground floor:
 - Stairs to the first floor
 - Elevators to the above floors
 - Meter room
 - Toilet group: Toilet for ladies and gentlemen separately.



Floor plan



Entrance Library Noordzij the



Parking East and West side



West side parking lot

Coffee corner and
snack bar area



Elevator 2



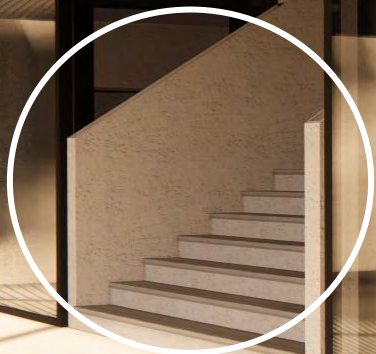
Exhibition space





Coffee corner and snack bar area

Stairs to the first
floor



Lift 2

Shops

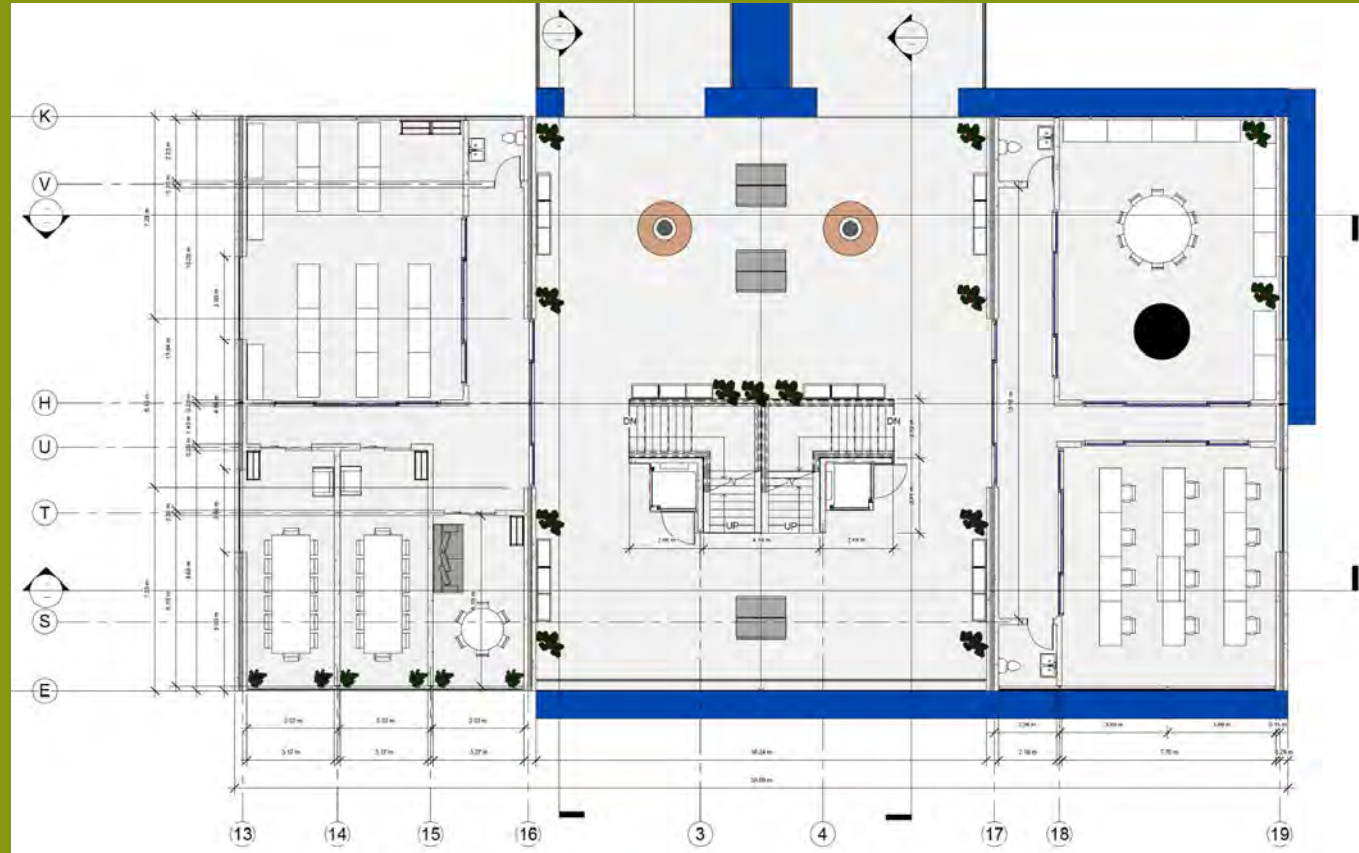


Lift 1



LIBRARY; FIRST FLOOR

- Right side:
 - Computer room
 - General workspace
 - Men's Toilet
 - Women's Toilet
 - Hall
- Middle:
 - Open space
 - Elevator 1 and 2 to the ground floor and other floors
 - Stairs to the ground floor and second floor
 - Bridge to intermediate building
- Left side:
 - Hall
 - 3 meeting rooms
 - Ladies toilet
 - Workspace for visiting researchers





Bridge to intermediate building

Stairs to the ground floor

Elevator 1

Stairs to the second floor

Seating area

Entrance left side first floor



Seating area





Stairs to ground floor

Hall

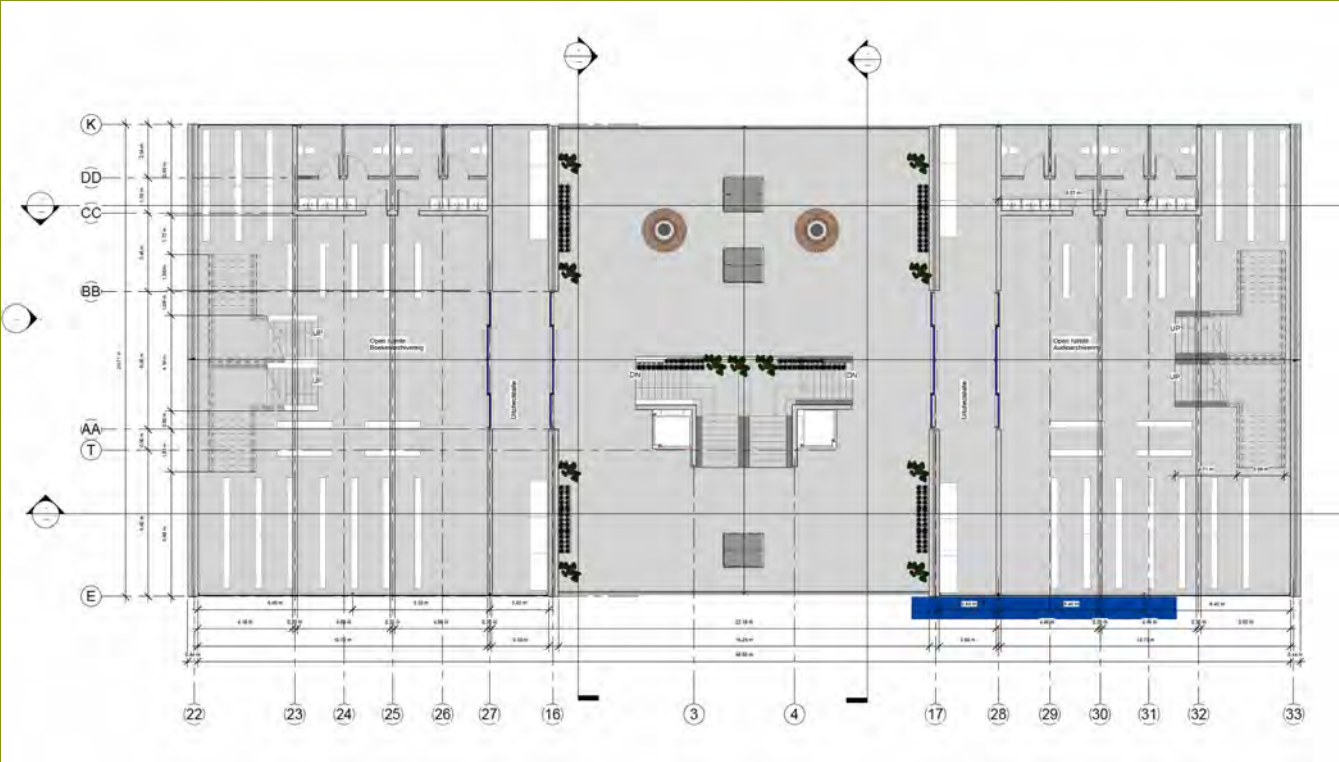
Meeting room

Hall

Workspace visiting researchers

LIBRARY; SECOND FLOOR

- Right side:
 - Hall with checkout desk
 - Open space for audio archiving
 - Men's Toilet
 - Women's Toilet
 - Stairs to terrace on the third floor
- Middle:
 - Open space
 - Elevators 1 and 2 to the other floors and ground floor
 - Stairs to the first floor
- Left side
 - Hall with checkout desk
 - Open space for book archiving
 - Men's Toilet
 - Women's Toilet
 - Stairs to terrace on the third floor



Floor plan

Book archiving



Elevator 2

Stairs down



Elevator 1



Audio archiving



Workspace visiting researchers





Stairs to 3rd floor



Audio archiving

Hall

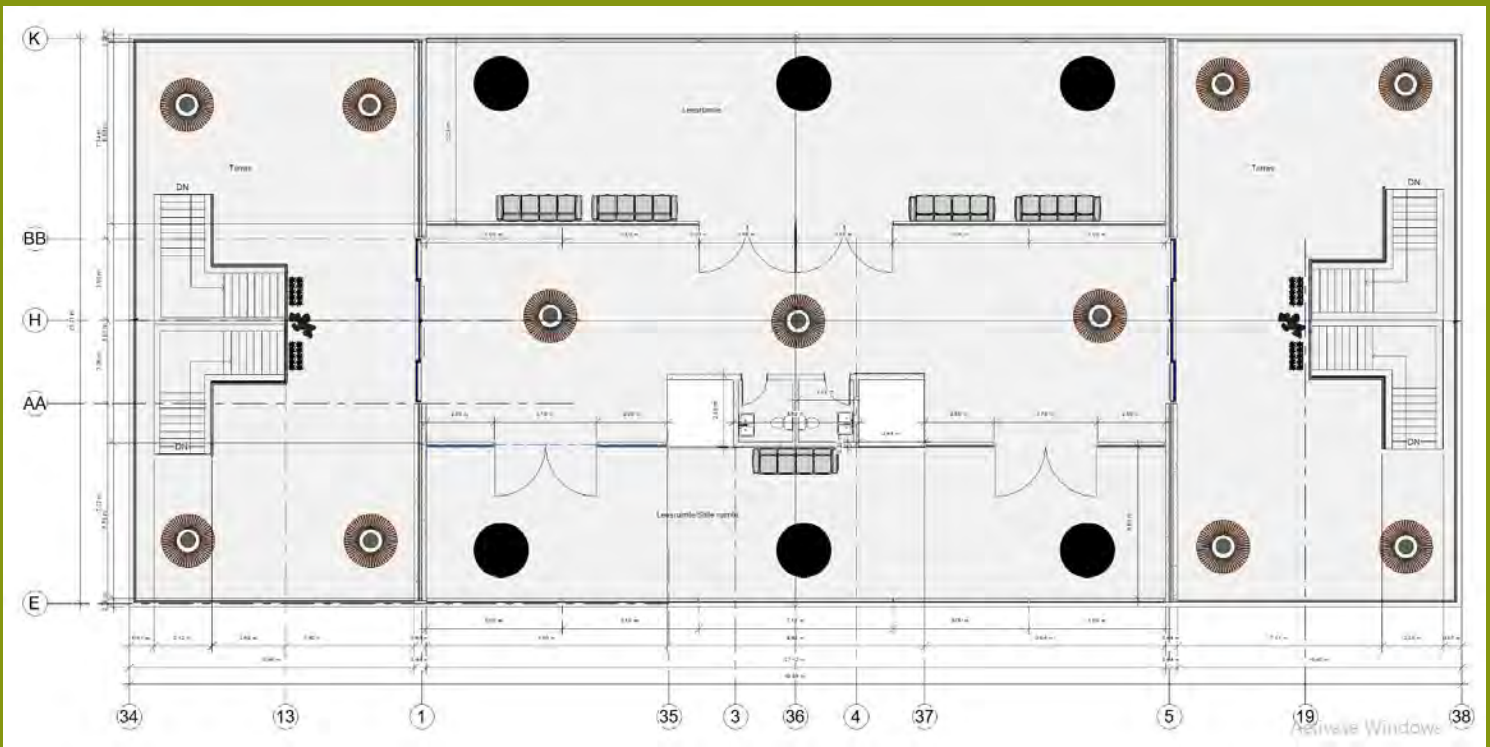


Hall

Outdoor seating area

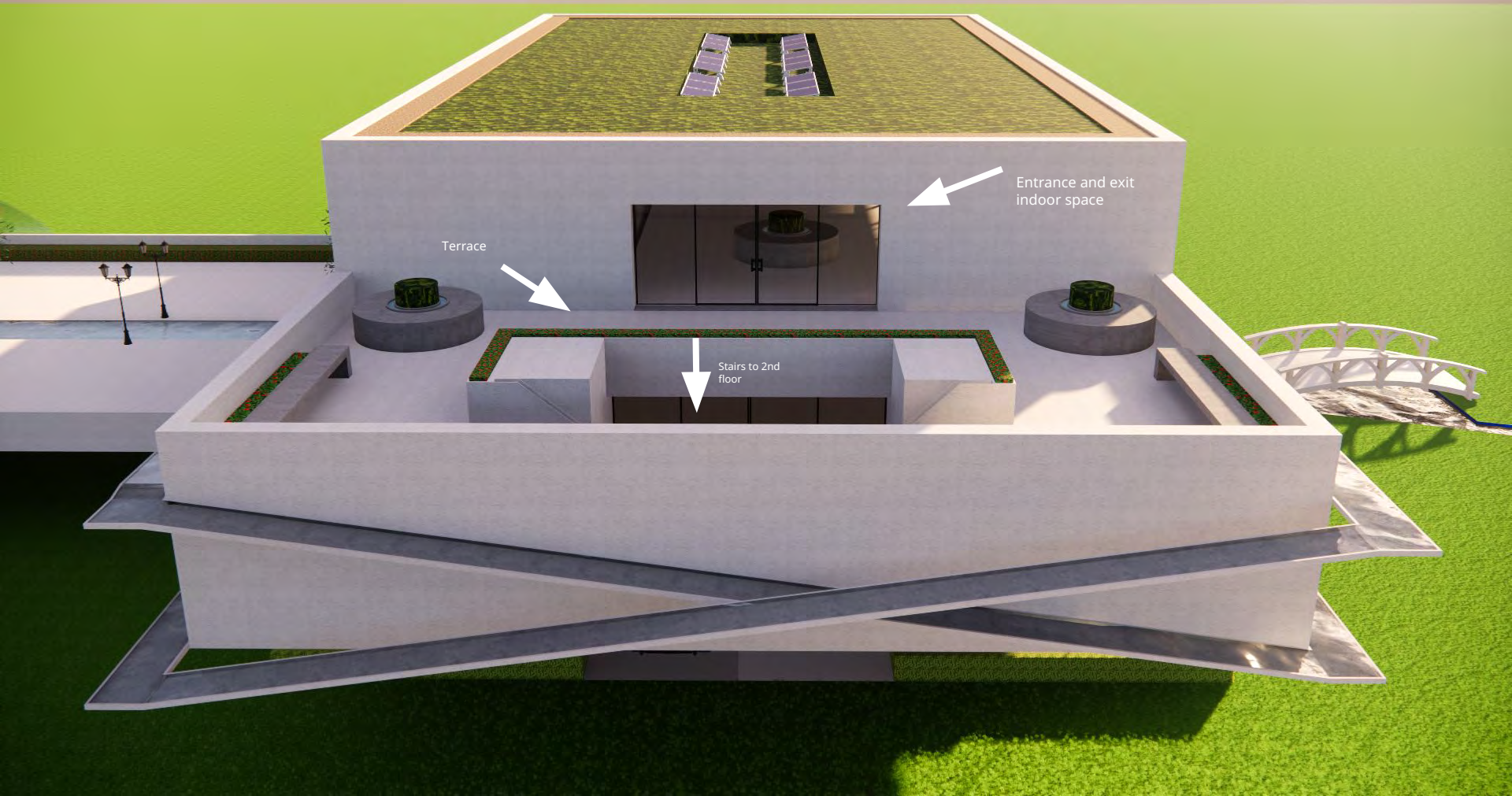
LIBRARY; THIRD FLOOR

- Right side:
 - Terrace
 - Stairs to the second floor
- Middle:
 - Quiet workspace
 - Non-quiet work space
 - Elevators 1 and 2 to the floors below + floors below + ground floor
 - Men's toilet & Women's toilet
- Left side
 - Terrace
 - Stairs to the second floor



Floor plan


The east side of the third floor of the building has the same layout



Terrace

Stairs to 2nd floor

Entrance and exit indoor space



Entrance 2nd floor from
terrace 3rd floor. You will
arrive here at the open space
book archiving. On the east
side of the building you will
arrive at the open space
audio archiving.



Non-quiet reading area

Quiet reading area

Toilets

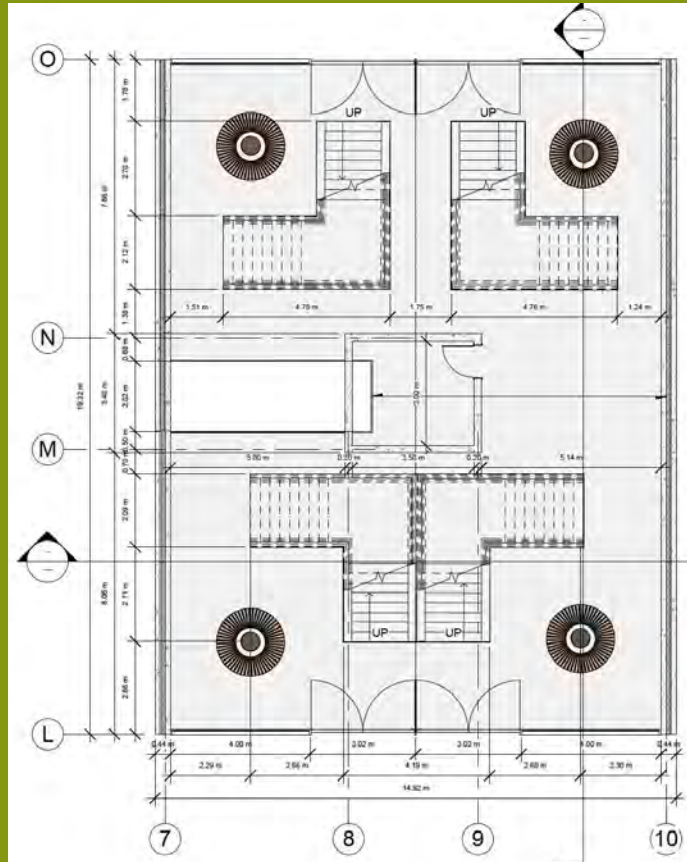
Indoor entrance/exit



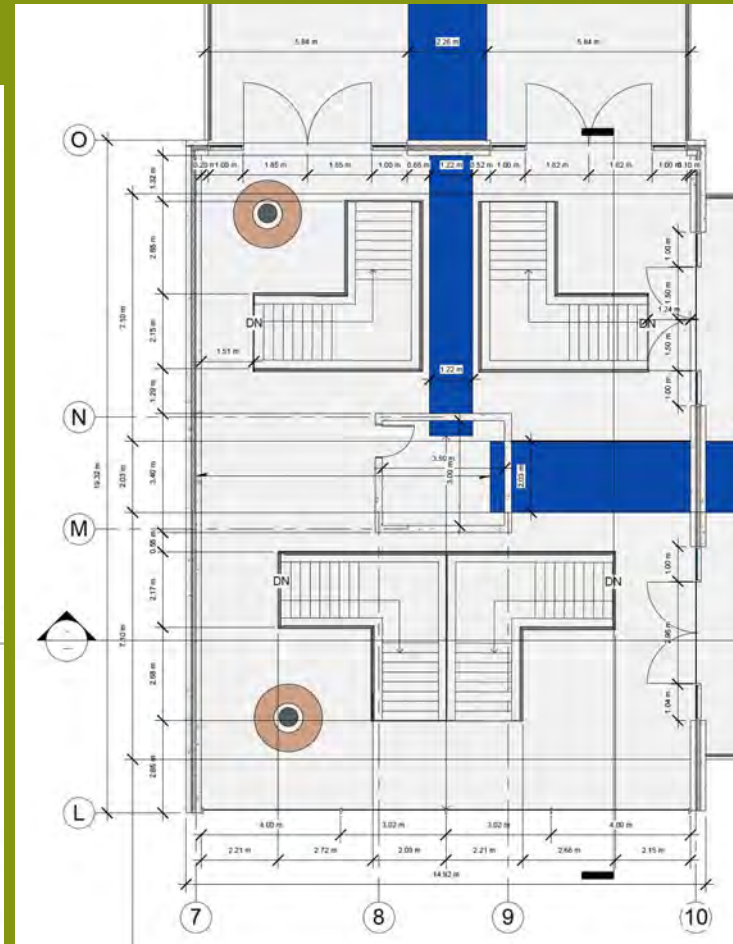
Seating area

INTERMEDIATE BUILDING

- Ground floor:
 - Open space
 - Stairwell
 - Meter room
 - Entrance and exit on the front facade and rear facade
- First floor:
 - Open space
 - Stairwell
 - Meter room
 - Entrance and exit on the right facade and rear facade
 - Connection with bridge via right facade



Ground Floor Plan



First Floor Plan

An open dome, in case it rains.



Library

Bridge to intermediate building

Seating area



Entrance/exit intermediate building

Water flow to the meter
room



Stairs to the
ground floor





River

Open dome
against rain

Green roof with
solar panels

Bridge to pavilion

Entrance/exit
intermediate building

Entrance/exit from
ground floor

Back to
library



First floor

Water flows from river
to meter room in the
building

Stairs to the first floor

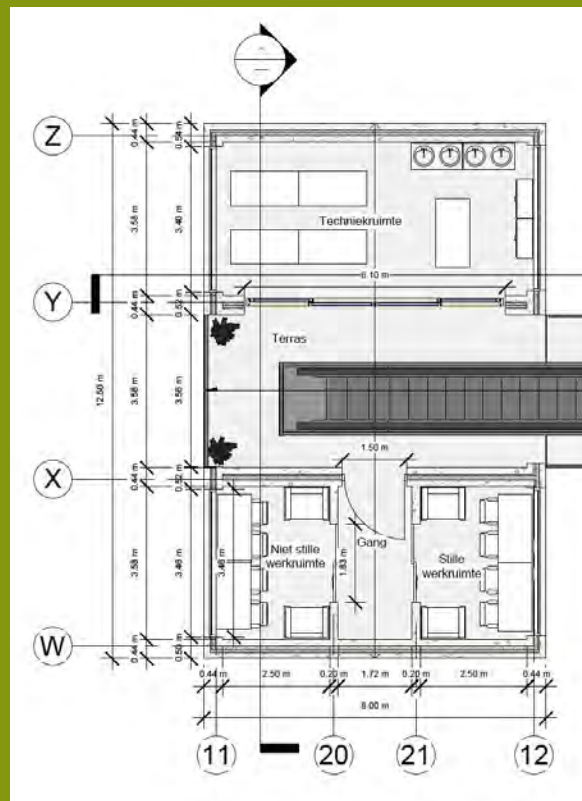
Ground floor

Bridge

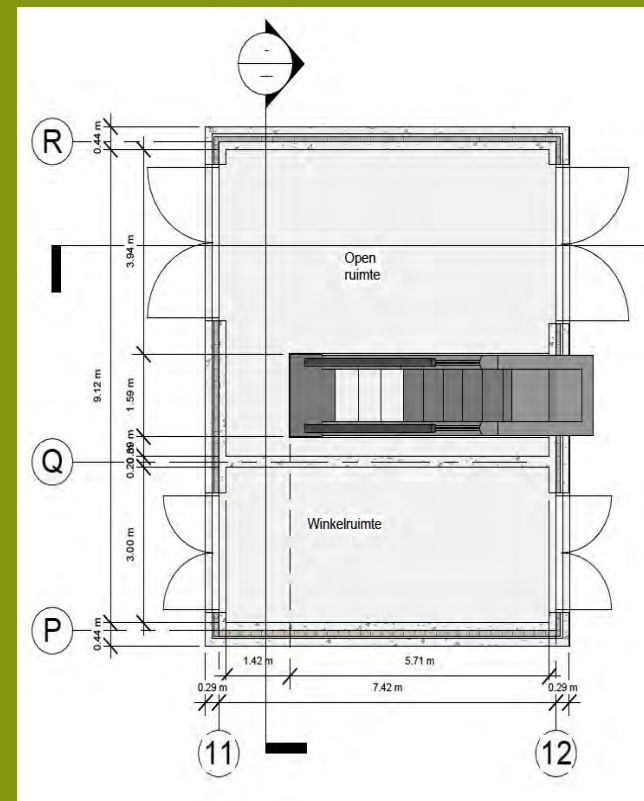
Transition building:
Entrance/exit

PAVILION

- Ground floor
 - Open space
 - Escalator to the first floor/bridge
 - Retail space
 - Entrance and exit on the right and left facades.
- First floor:
 - Technical room
 - Open space/hall
 - Quiet workspace
 - Non-quiet workspace
 - Access:
 - Via bridge
 - Via escalator from the ground floor
 - **Meter room: Located on the bridge, a few meters from the escalator.



Ground Floor Plan



First Floor Plan

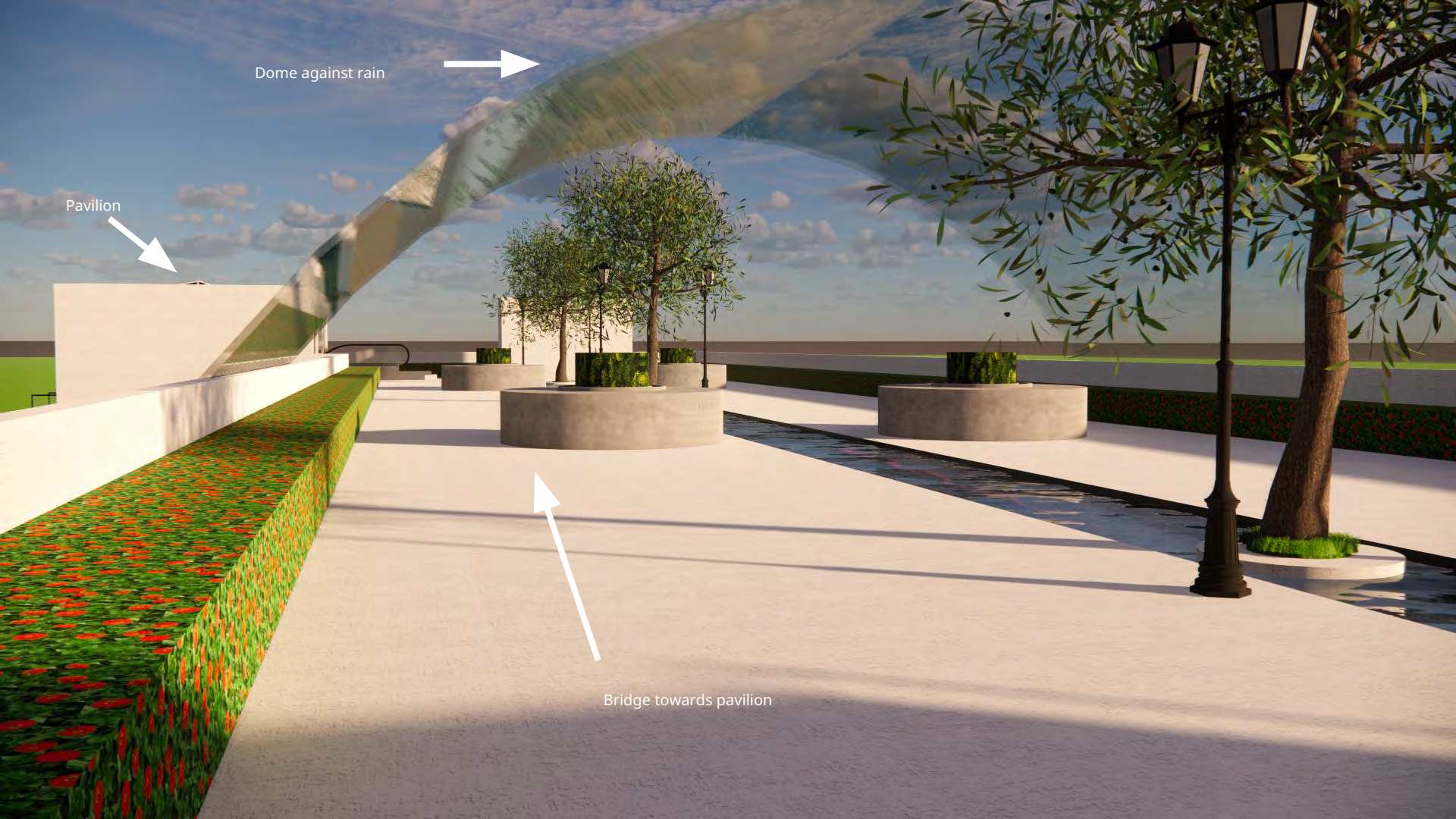
Dome against rain



Pavilion



Bridge towards pavilion





Meter Room



Escalator to the ground floor



Water flows to meter room



Access to workspace and technical room





Meter room, first floor

Meter room, ground floor

Entrance/exit shop

Entrance/exit Open space

Water flows from the river to meter room



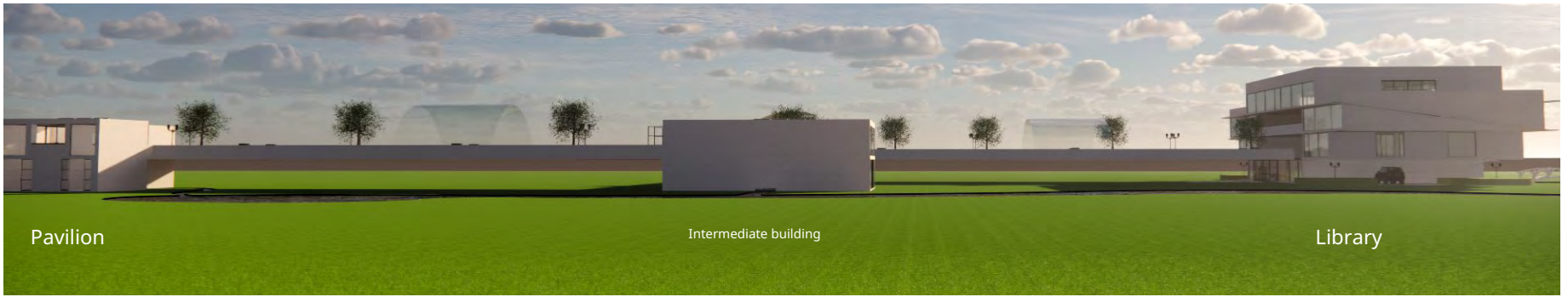
Technical room

Workspace

Bridge to connecting building

Open space
entrance/exit

Shop entrance/exit



Pavilion

Intermediate building

Library

Thank you for your attention!