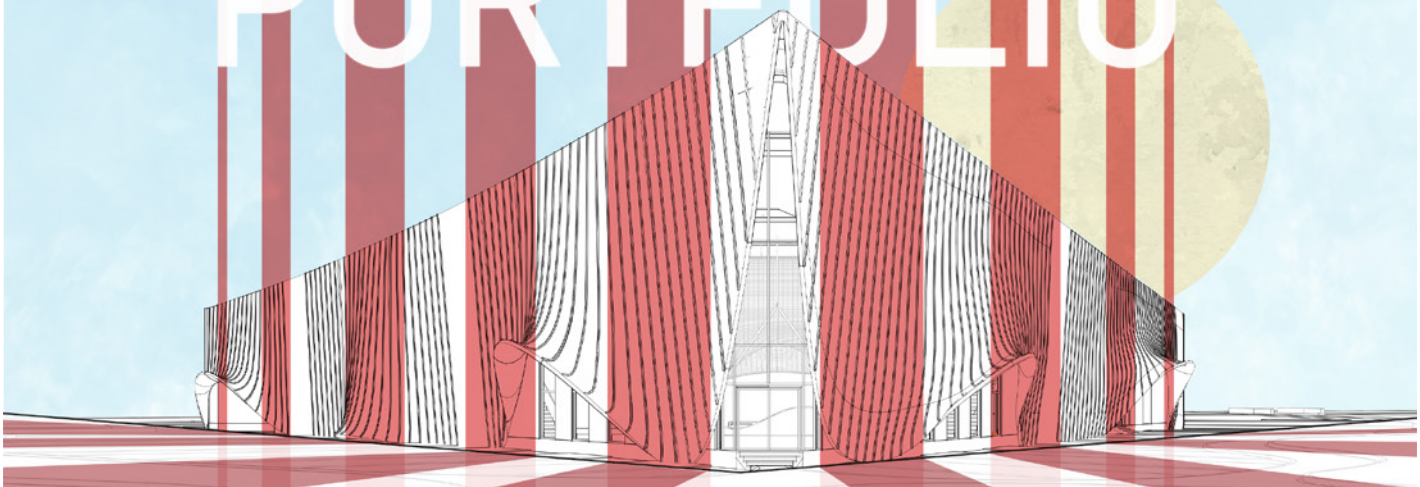
JAYESH WADHWA

ARCHITECTURE PORTFOLIO



JAYESH WADHWA

Graduate of Architecture

Software Skills

Intermediate

Sketchup
3ds Max
Grasshopper

Advanced

Photoshop
Illustrator
Indesign
AutoCAD
Rhinocerous 3D
Revit
Twinmotion
Vray

Interpersonal Skills

Communication
Teamwork
Empathy
Problem Solving
Adaptability
Time Management

Interests

Dance
Digital art
Graphic Designing
Music
Cooking

Languages

English
Hindi
Punjabi

Get in touch

0478 241 090

wadhwajayesh22@gmail.com

Profile

Multi-faceted designer, excited to contribute to team success through innovative sustainable design ideas. With excellent interpersonal skills seeking to obtain a position that broadens career scope.

As an architect, I have great attention to detail and willingness to put time and effort to accomplish it. Throughout my journey I have always strived to learn as much as I can about different architecture styles and various softwares and resources to best represent my ideas.

Carrer Objective

My career objective is to deepen my knowledge and expertise in sustainable building practices and green architecture, contributing to environmentally responsible and innovative design solutions.

Work Experience

Crown resorts / Waitsperson
May 2023 - Ongoing

Criniti's / Senior front of house staff
Dec 2023 - Ongoing

MA Architects / Architectural Intern
Jan 2022 - June 2022

As an intern in a small firm, I was able to work on variety of projects ranging from commercial to housing. This gave me exposure on how projects are executed and also the contractual side of an architecture firm. In addition, I was responsible for producing 2D drawings and 3D models alongwith rendering of specific projects.

Education

The University of Western Australia / Masters of Architecture
Feb 2023 - Dec 2024

Guru Nanak Dev University / Bachelors of Architecture
June 2017 - June 2022

Mukat Public School / Higher secondary school(Non-medical)
March 2017

Volunteering

Uni-Mentor programme / UWA
June 2023 - Dec 2023

Helping and mentoring new students settle in a new city, also helping with transition from school to university. Guiding them to relevant support services available in university.

Reference

Mrs. Gemma Hohnen / Design Studio Lecturer / UWA / gemma.hohnen@uwa.edu.au

CONTENTS

PROJECT 1 : BATH HOUSE

BRIEF

In this studio, we explored **totality**, where landscape, atmospheres, and intent converge to form a holistic architectural approach. Our focus was on a **select composite of materials** and environmental dynamics, paired with atmospheric effects to craft deeply resonant spaces.

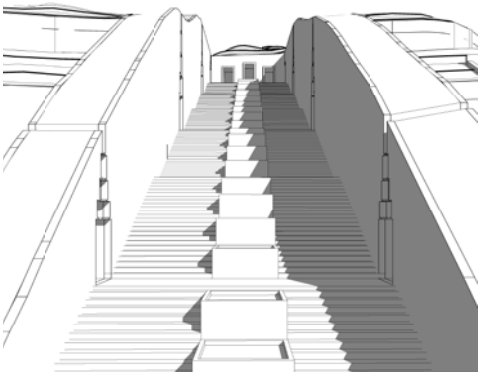
APPROACH

Candi bentar, or split gateway, is a classical **Javanese** and **Balinese gateway** entrance commonly found at the entrance of religious compounds, palaces, or cemeteries in Indonesia.It is a candi-like structure split perfectly in two to create a passage in the center for people to walk through. In contrast to the very ornate shape and decoration of the main faces, the sides of the passage are left **completely plain**. The passage is usually elevated with a flight of stairs to reach it. A candi bentar is commonly found in Java, Bali, and Lombok.

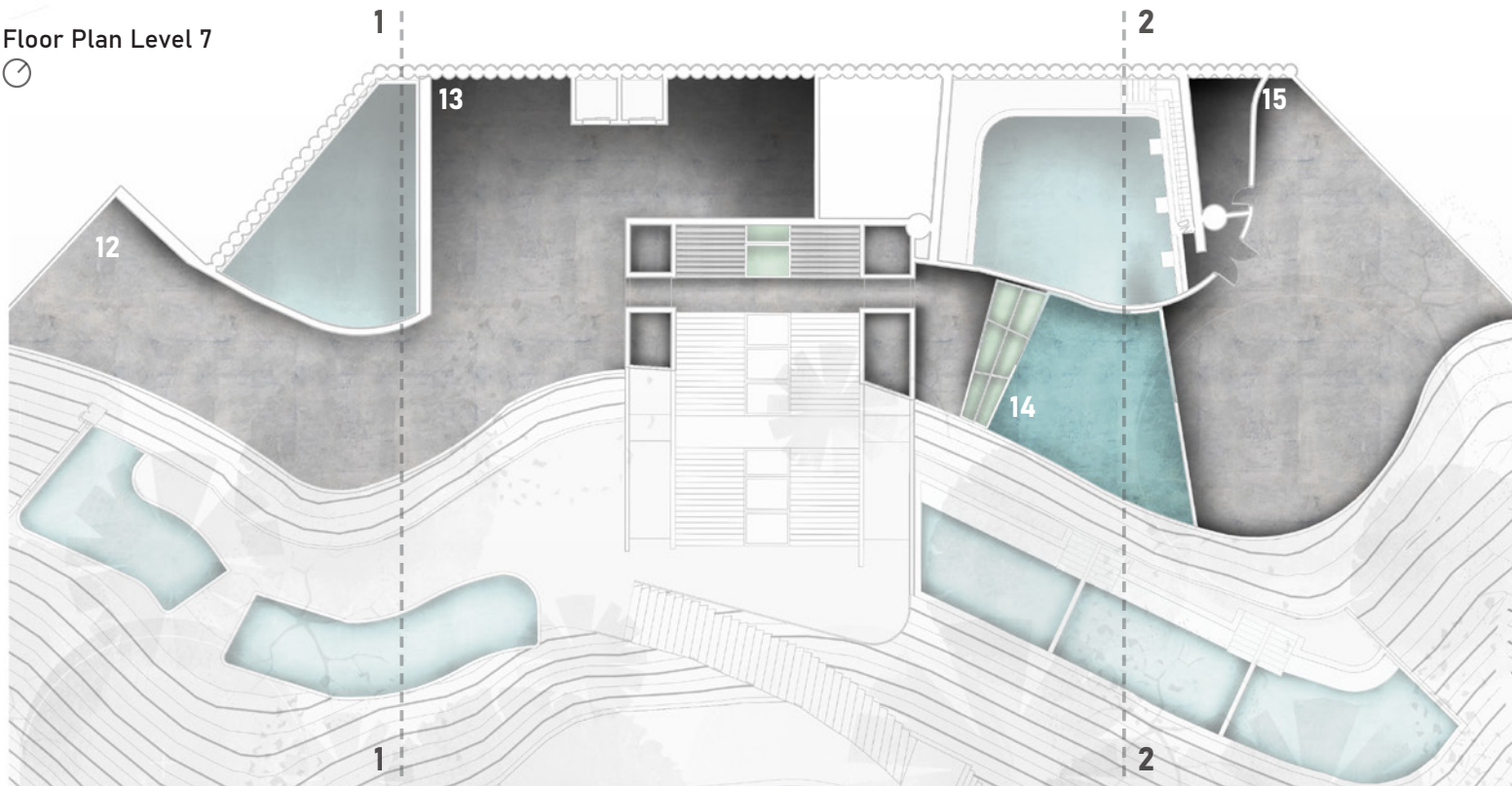
Candi bentar has a **candi-like** form but is split perfectly in two to create a symmetrical image. Candi bentar characteristically has a **stepped profile**, which can be heavily decorated in the case of Balinese candi bentar. The two inner surfaces are always left **sheer** and **unadorned** as if the structure has been split in two.

Inspired from the gateways with plain inner surfaces and all the structure flanking on its either side, the bathhouse has been designed with circulation right in the middle mimmicking the sharp plain walls. The **programmes** are divided on the **either sides** of the circulation.

Candi bentar are designed in such a way that they frame the temple with the staircase and the walls. This design reflects the same approach with the central staircase leading to the pool which is the main function of this bathhouse, keeping in mind the nothingness of the split gateways and making the entire space plain and symmetrical.

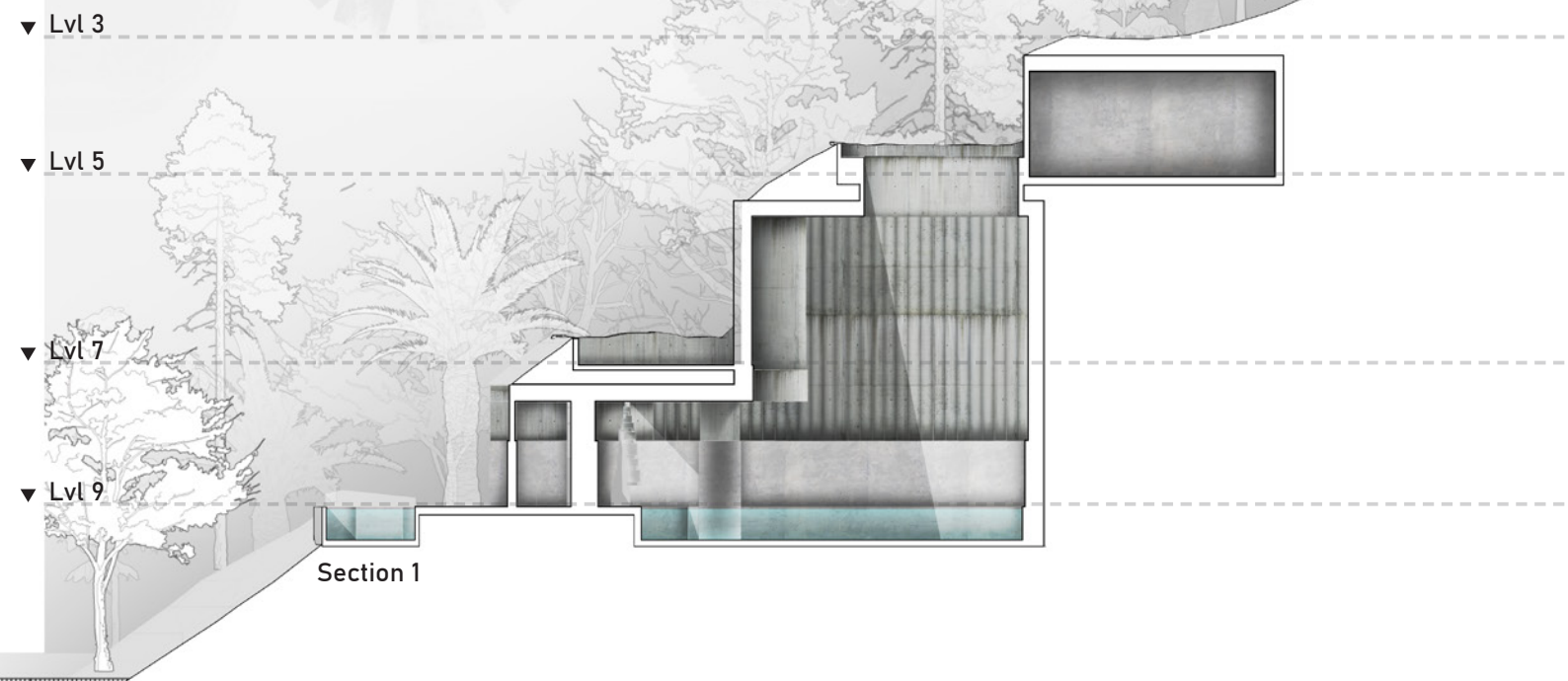


Floor Plan Level 7



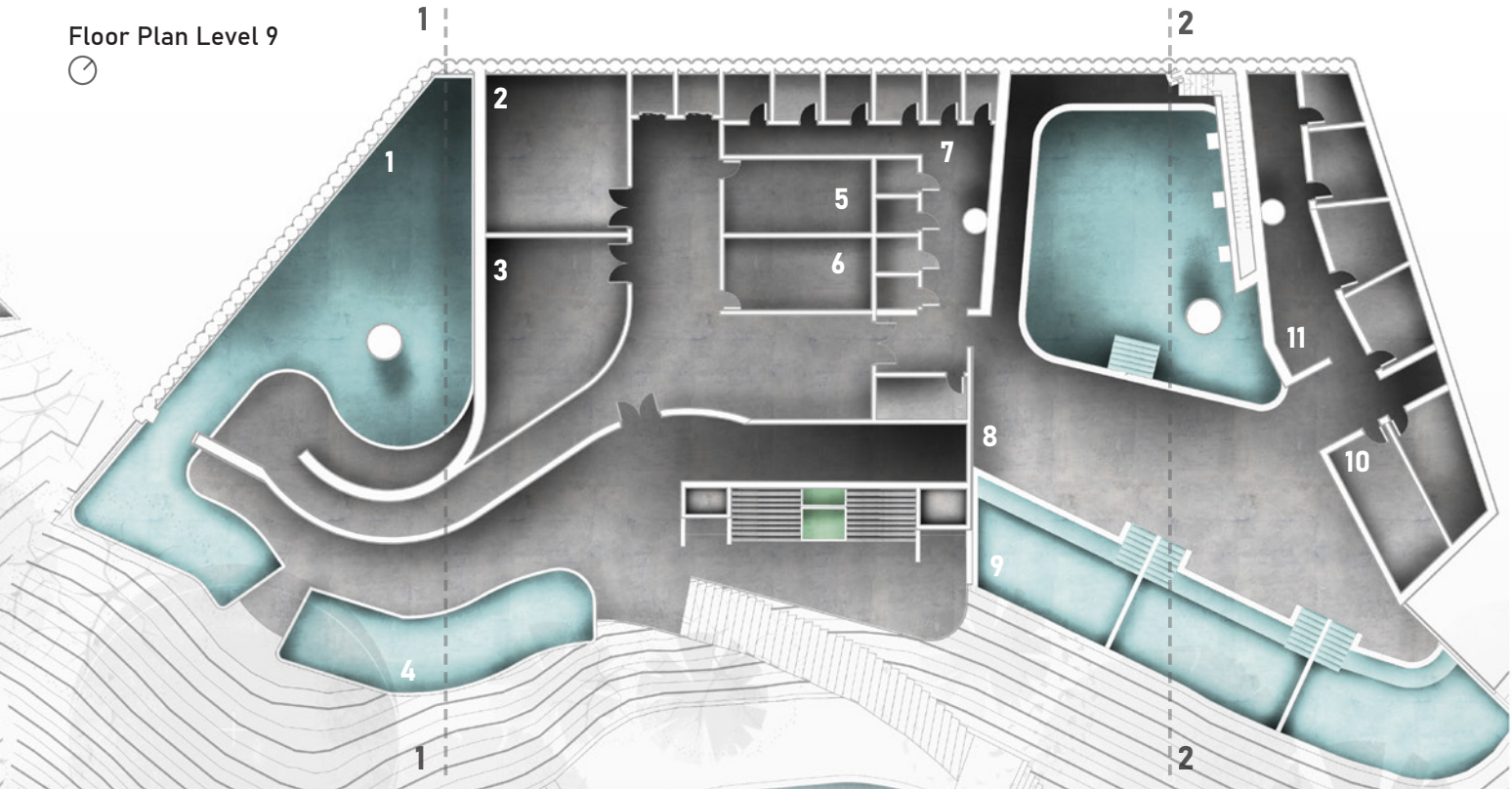
Legend

1. Public hot pool
2. Male changing rooms
3. Female changing rooms
4. Public cold pool
5. Male toilet
6. Female toilet
7. Treatment rooms(Individual/ Couple)

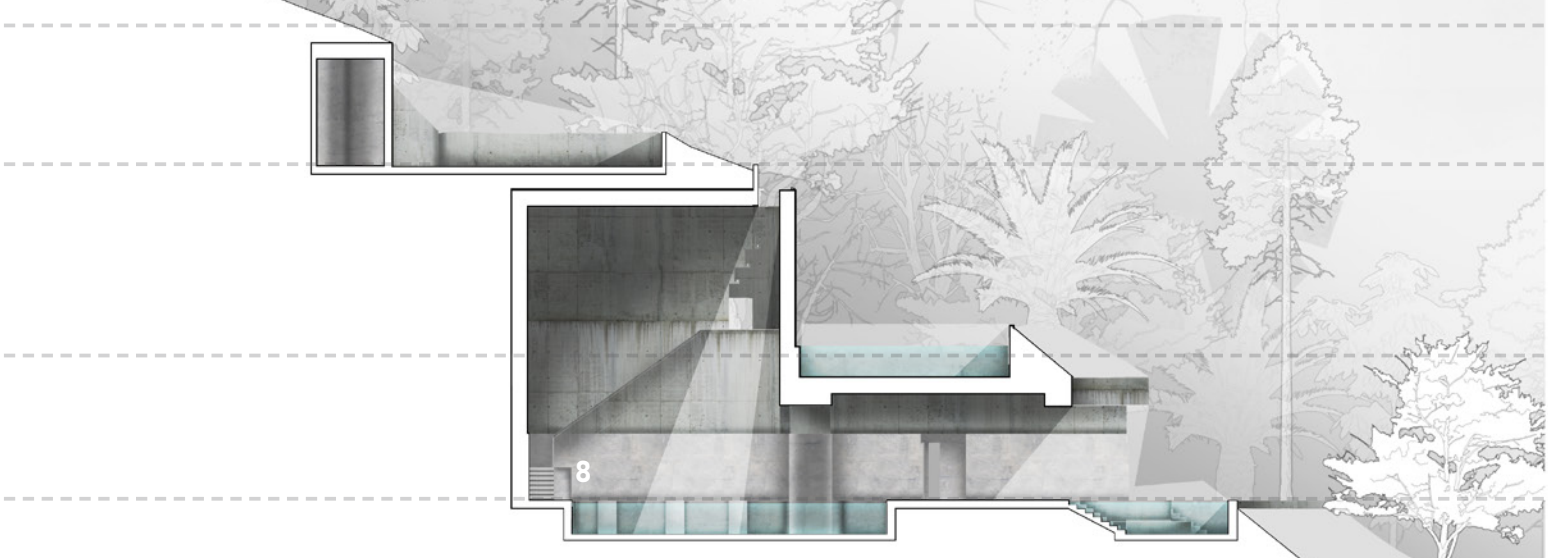


Section 1

Floor Plan Level 9



8. Private hot pool and relaxation area
9. Medicated/ Carbonated/ Cold bath
10. Saunas
11. Hammams
12. Public relaxation area
13. Lift lobby/Lounge
14. Private pool



Section 2

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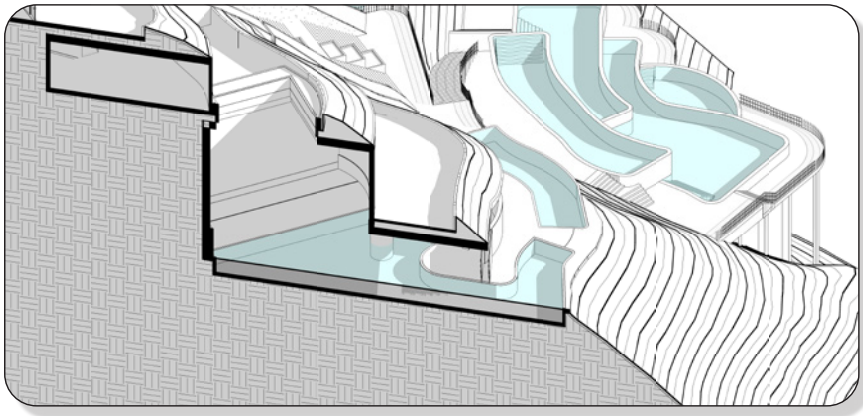
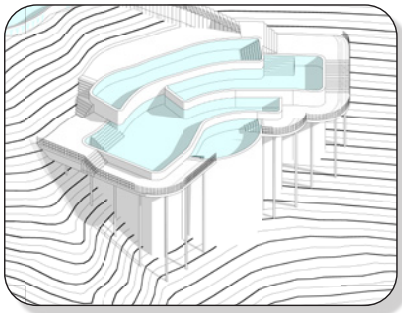


Orthographic section showing the public hot pool, dark interior, bright and lush green exterior, connected by a narrow canal.

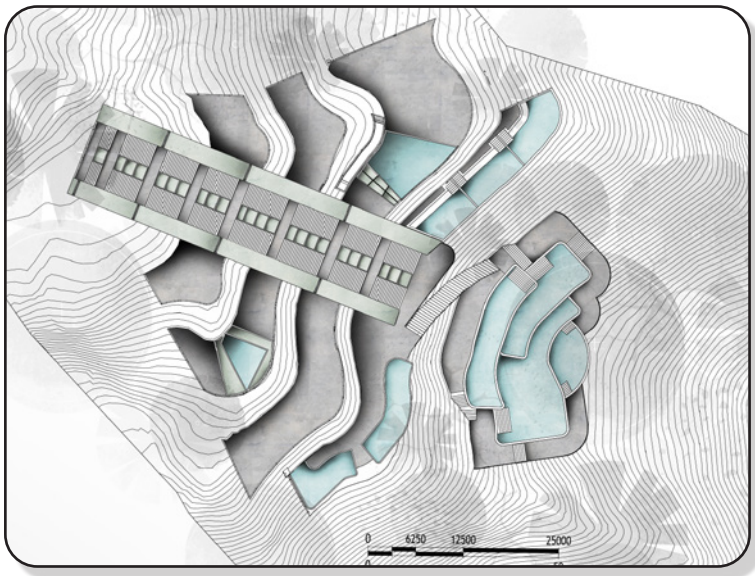
Aerial shot of the central staircase leading to the to the temples.



Common public pool

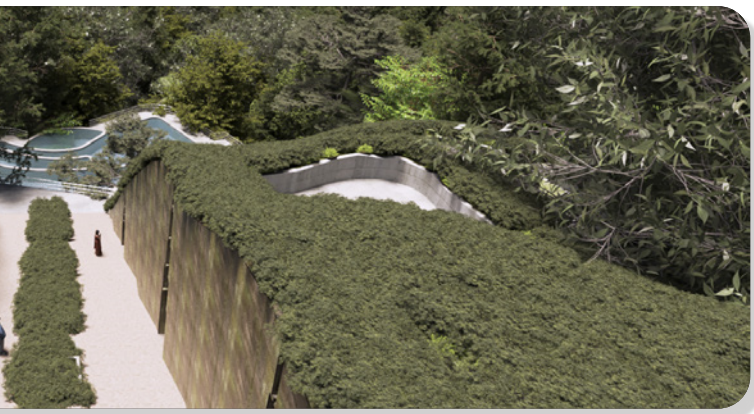
Physical Model shot of the private pool

3D elevation(View from across the valley), Highlighting the central staircase being pla ed,reflecting the conecpt of Candi Bentar. The white plain wall on the lowest floor sig given a smooth finish contrasting to the rough concrete from construction, to the heigh average human height.



Site plan(Graphical scale provided)

Physical Model shots showing key elements of the structu entrances in the central wall.



e common pools, inspired by the stairs in a candi bentar leading

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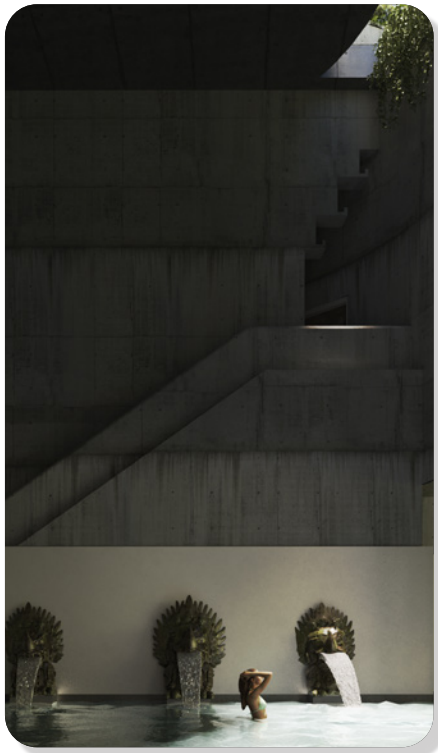
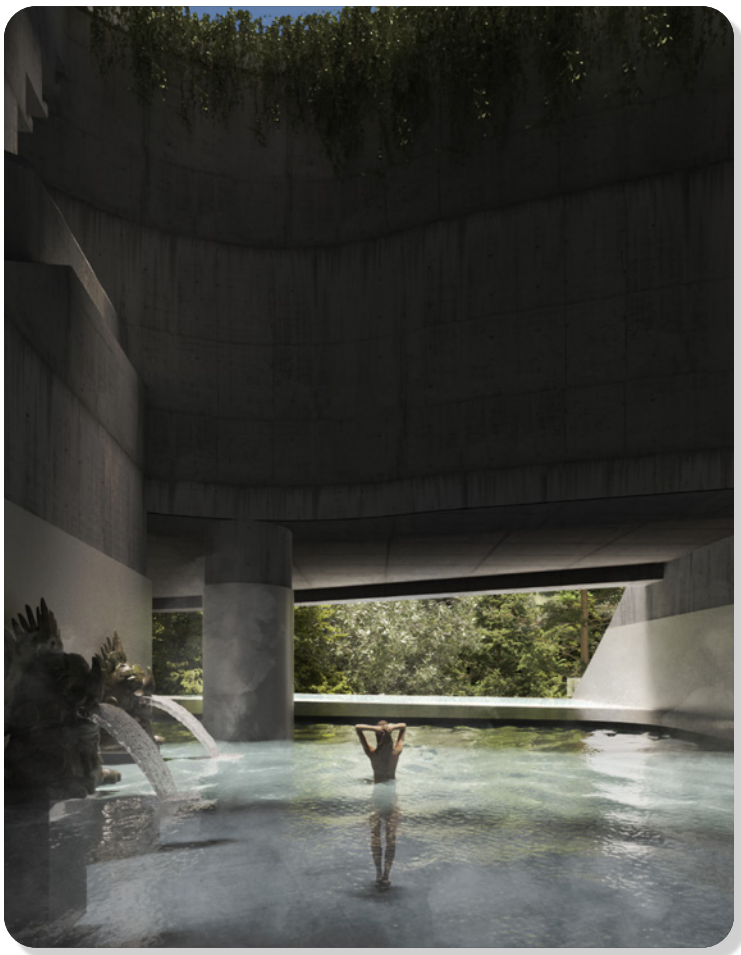


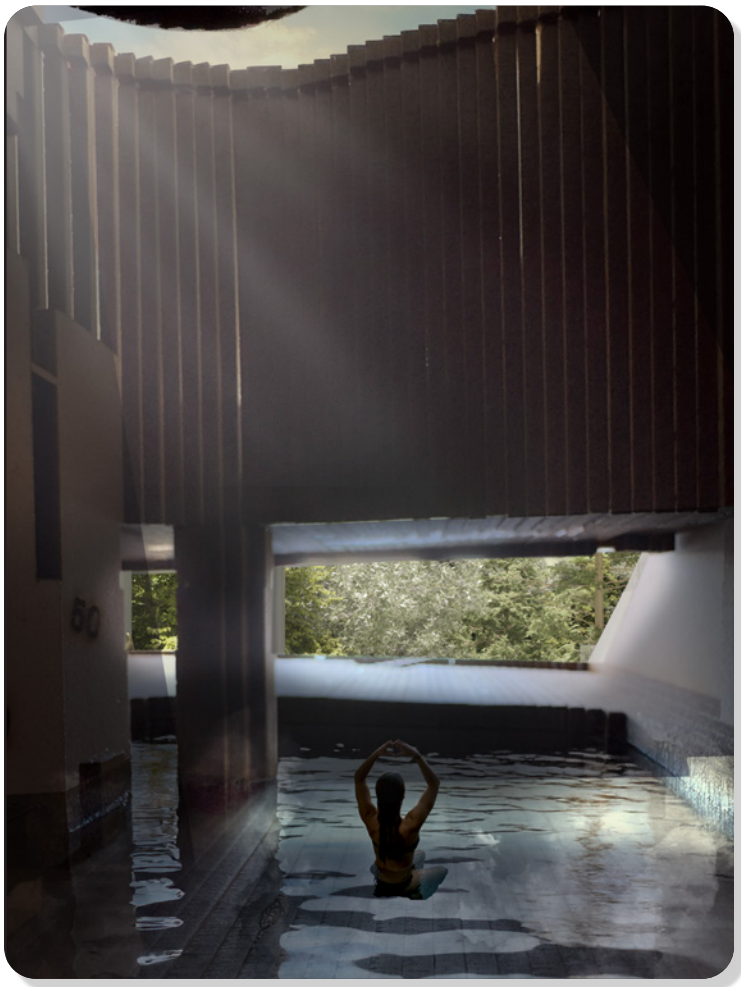
Private hot pool

re i.e staircase and

Interior view of the public hot pool. Sunlight illuminating the proposed dark interior of the pools can be seen in the render.



Interior view of the private hot pool



Photograph of a physical model edited to replicate a digital render

REFLECTIONS AND LEARNINGS

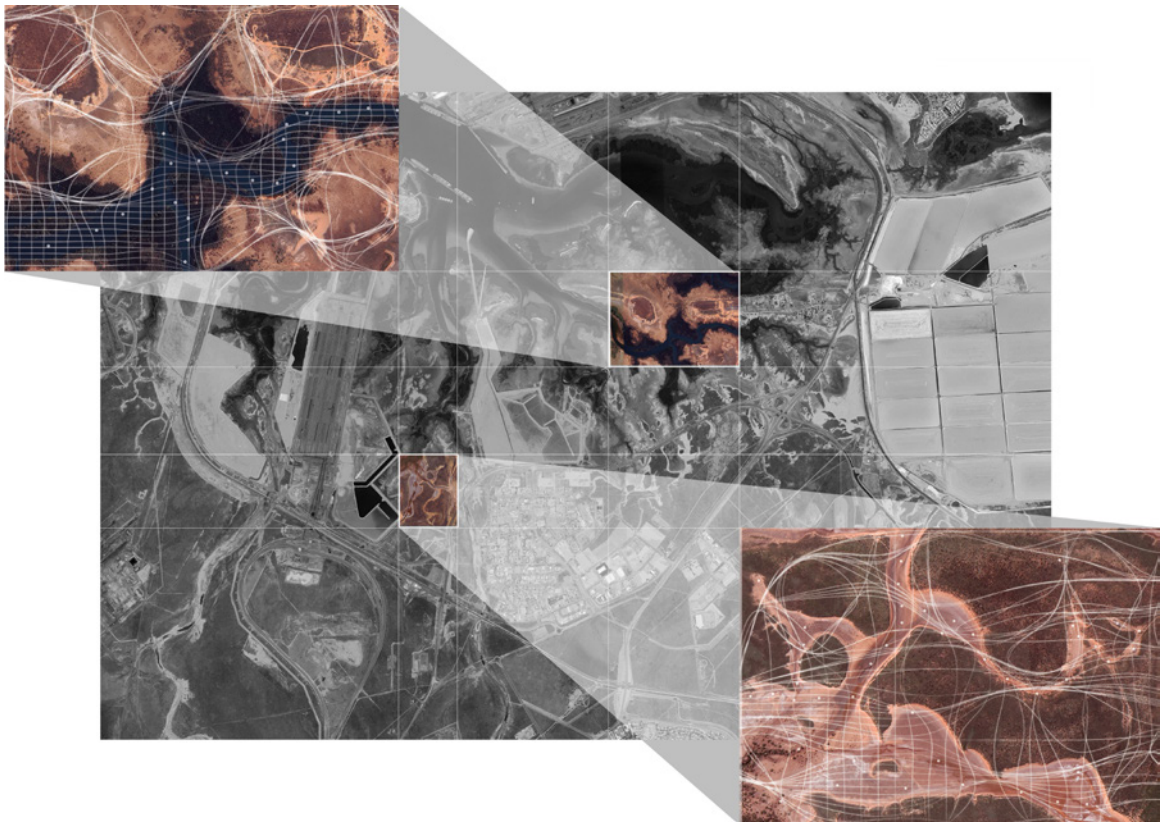
Through this project, I discovered how architecture can introduce something entirely new to an area while still resonating with its **cultural essence**, as seen in my design's subtle reference to the Candi Bentar. Additionally, the bathhouse is thoughtfully designed to welcome both locals and tourists, creating a **shared space** that celebrates **Balinese traditions** and **modern wellness**.

In the Bali bathhouse project, one of the **key learnings** was navigating the site's challenging slope. This required strategic planning to create a seamless flow between levels while maintaining accessibility. The project also emphasized **water** as a central theme, not just as a **functional** element but as an **aesthetic** one, using reflective surfaces and hydrotherapy pools to craft a serene atmosphere. This experience highlighted the importance of creating **multi-sensory spaces**, and **cave-like structures** enhanced the user's connection to the surrounding environment **through sound, texture, and light**. Together, these insights deepened my understanding of designing spaces that are contextually sensitive, immersive, and experiential.

PROJECT 2 : SOUTH HEDLAND PERFORMANCE ARTS CENTER (SHPAC)

BRIEF

The studio was the development and design of the **SHPAC** facility and masterplan. It considered in part, the technical requirements for performing arts venue design through functional planning and understand this building type and its role in the community both **historically** and in **contemporary contexts**. **Theatre** is the spectacle of illusion, a conceptual leap of faith, the **dualism** of its design – back of house vs front of house, the crude contraption vs the ethereal, technology vs culture, the real vs unreal.



APPROACH

The goal was to develop an algorithm that could recognise and replicate patterns or flow in the landsape in a unique way, producing a distinct **variant** of the **pattern**, by using a **common variable**.

In this case I found that the low points or the **drainage points** in the site and in the landscape I analyzed. Hence, I defined the drainage points and other **low points**, according to the site topography to understand or replicate the pattern of these landscapes.

The rationale behind going with a dynamic or more fluid design is that it creates **unique**, non-repetitive settings. Repeating the same error or experiencing the same problems throughout the outcome is what happens when we apply concepts like grid, radial, or radburn repeatedly; in contrast, non-repetitive and completely diverse areas present a fresh **opportunity** and challenge each time.

This script was developed in grashopper, by defining the identified points it produces a pattern with help of lines that does not replicate the landsccape pattern but can be seen to follow it and divide it into smaller regions.

Existing drainage of the city

Valley points on the site

Points of the existing natural drain

The blue dots represent the points in the site with low elevation. These points defined the pattern, as they were the input in the script that generated the line pattern.

There is an exisiting swale that passes near the site acting as a natural drain and leads straight to the ocean. This drain line and the existing drainage system of south hedland are sticthed together, by the lines produced by the algorithm, deriving the masterplan.

MAJOR ROADS

MINOR ROADS/PATHWAYS

DRAIN SWALE

PROPOSED MASTERPLAN

Location: **South Hedland**

Latitude: **-20.4087°S**
Longitude: **118.6020° E**

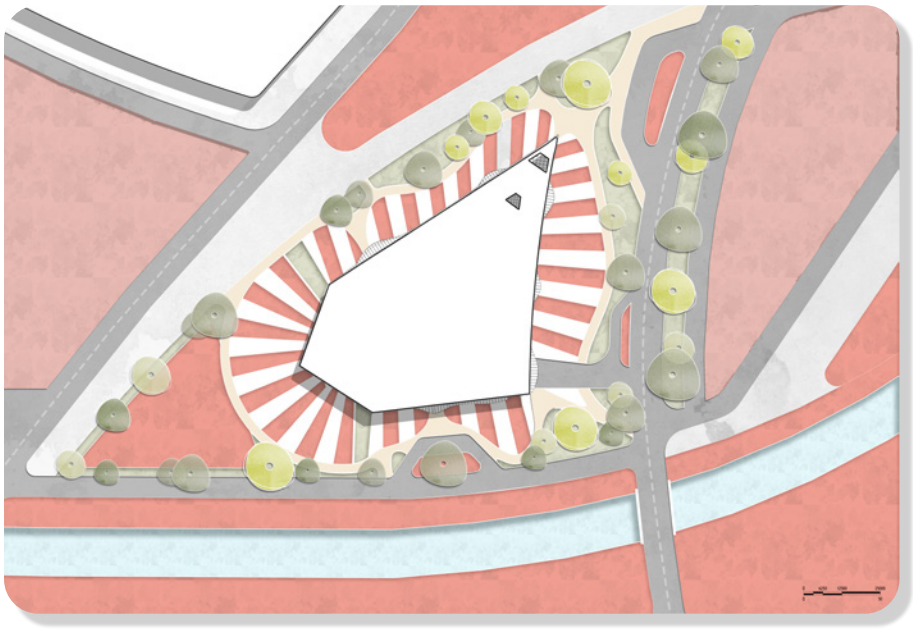
Next step was to **eliminate** the unnecessary lines and **choosing** only the most important ones and identifying what the lines represent. Some of the existing feature of the site are **retained** and used to define the building shapes or the connectivity of programmes.

The **BLUE LINES** represnt the drain connecting the city's drains to the existing drainage(marked in the illustration), connected to the ocean.

BUILDING CONCEPT

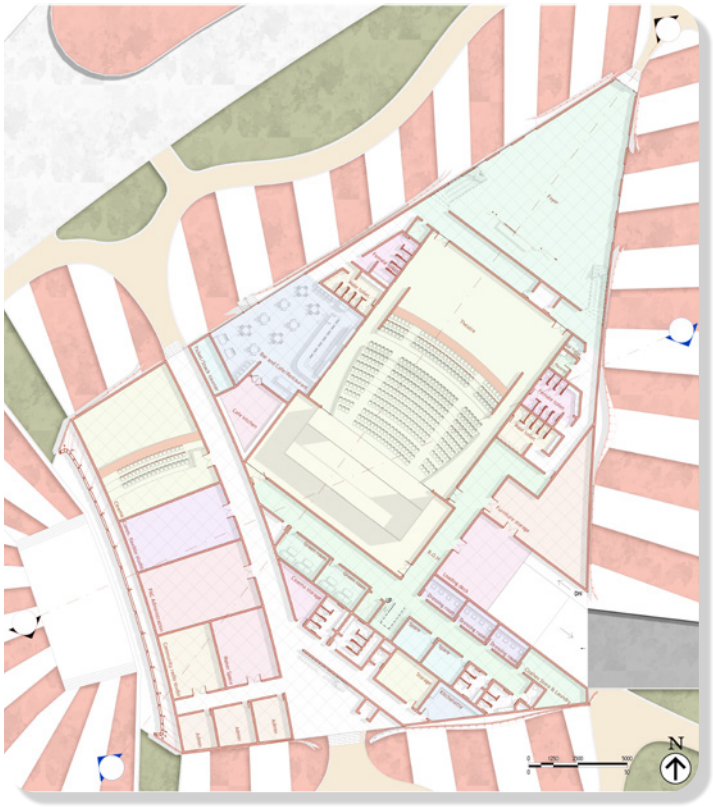
The building's architecture was influenced by the **temporary circus tents**, which are among the first known venues for performing arts. Furthermore, when someone thinks of a place like South Hedland, the first thing that comes to mind is circus tents. Thus, the concept behind my project is to **transform** these **transient tents** into something **permanent**, analogous to the **temporary industrial** or fifo buildings/structures in South Holland that are truly **permanent**. The tents are abstractly portrayed in the design.

AI softwares were to be used to inspire the building form and design. **Microsoft designer, Playground AI** and **ChatGPT** were used to produce this image.

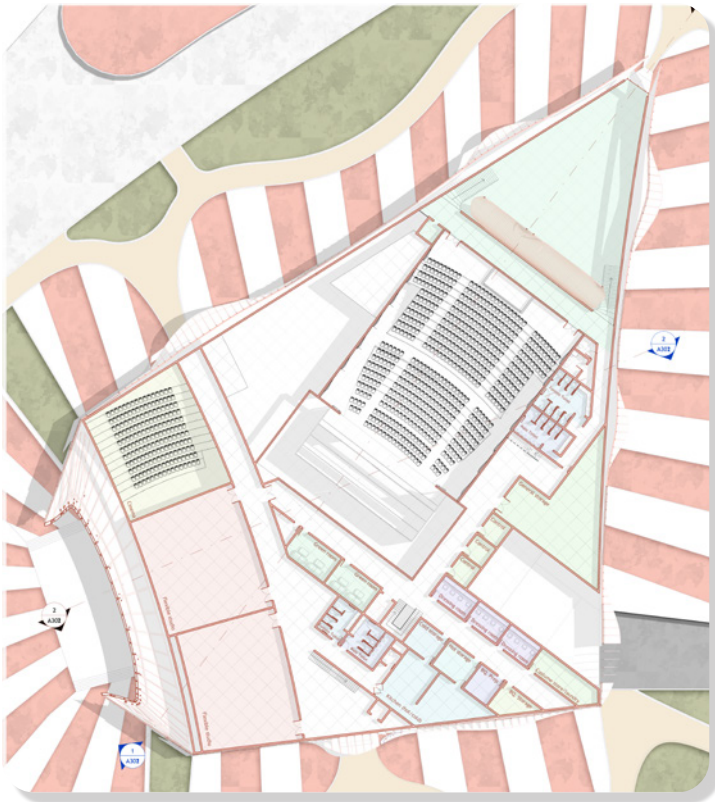


Site Plan(Graphical scale provided)

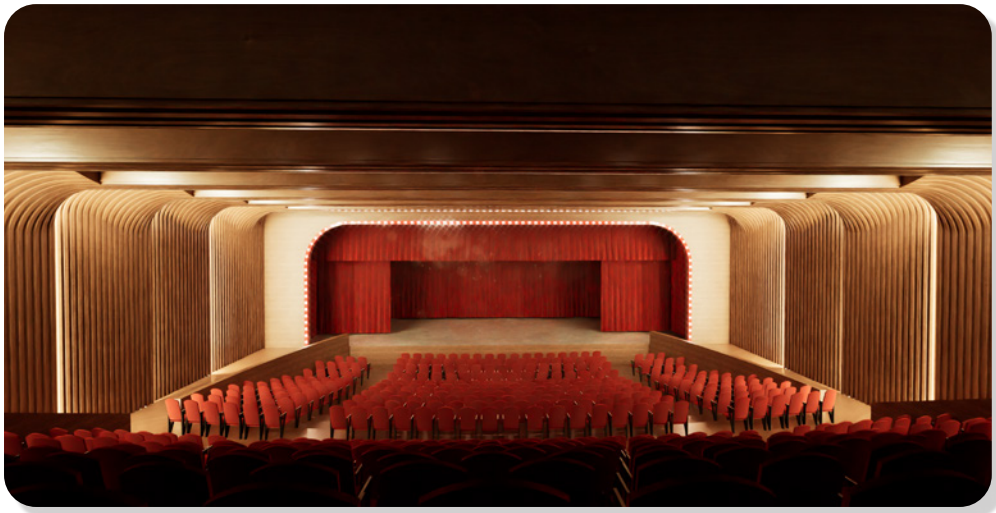
Perspective of the front elevation

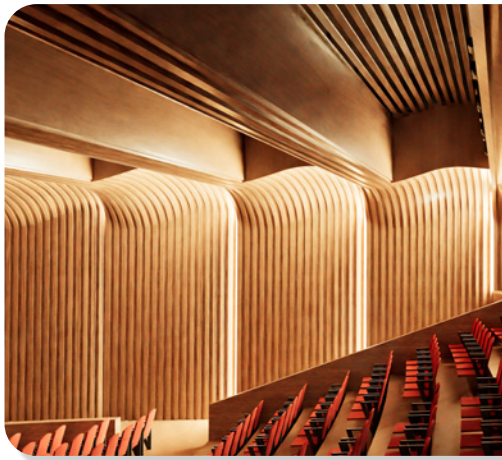


Ground floor plan (Scale provided for both the plans)

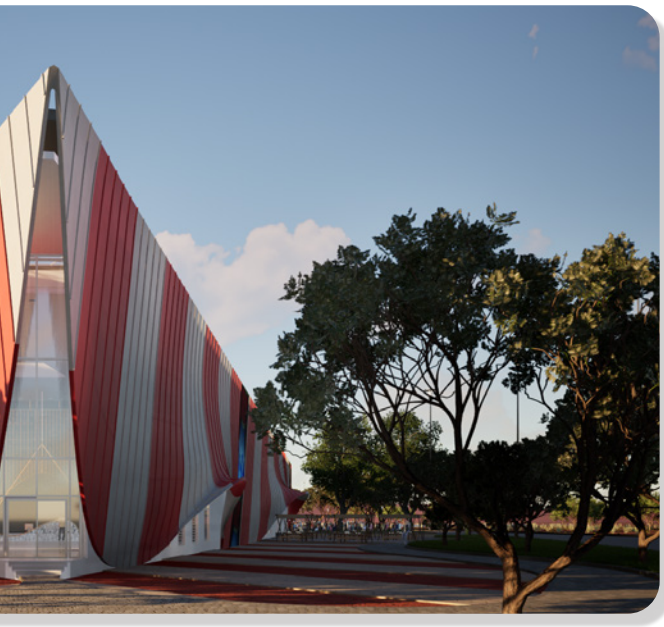


First floor plan



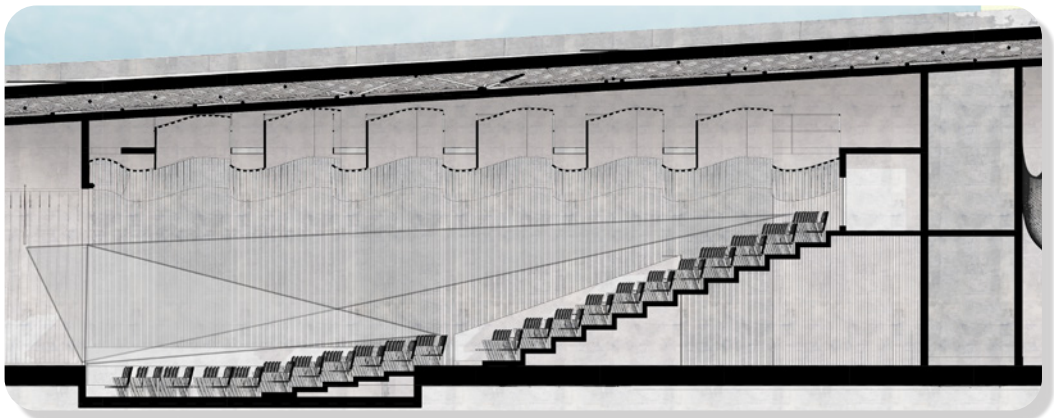


Interior view of the auditorium

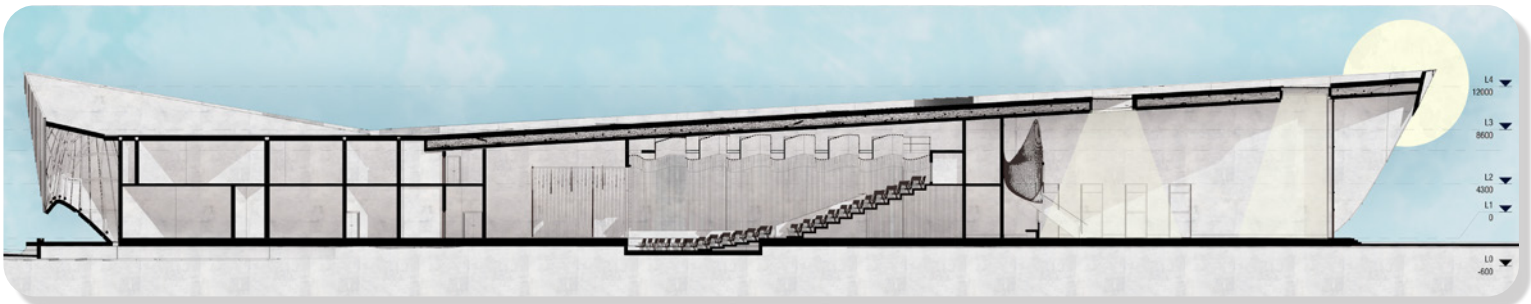


Exterior view of the outdoor live music venue & events space.

Auditorium Catwalk plan



Auditorium section



Section

Interior view of the entrance lobby

REFLECTIONS AND LEARNINGS

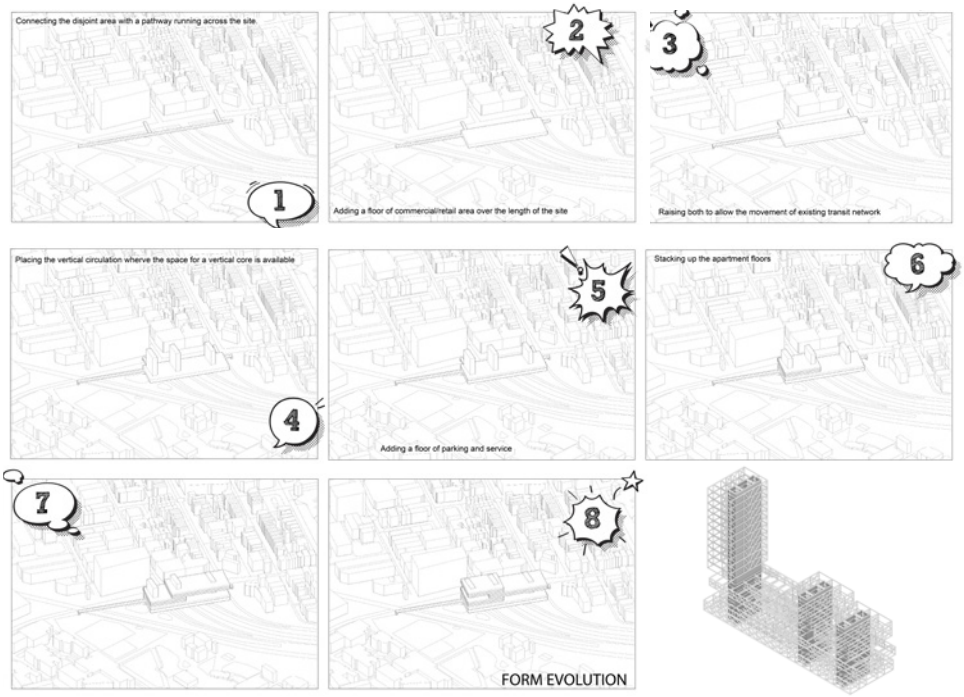
In this project, utilizing **AI** was instrumental in **developing** and **refining** the concept. I learned how to effectively use AI to translate abstract ideas into visual representations, allowing to articulate my **vision** more clearly. By prompting AI to generate designs inspired by circus tents, I explored unique forms and unconventional structures, demonstrating how AI can **expand creative possibilities** in architecture. Additionally, AI significantly streamlined the ideation process, providing diverse design options that could refine further, ultimately saving time and enhancing creativity. This experience highlighted **AI's potential** as both a conceptual tool and a source of inspiration in architectural design.

PROJECT 3 : AFFORDABLE HOUSING (MIXED-USE DEVELOPMENT)

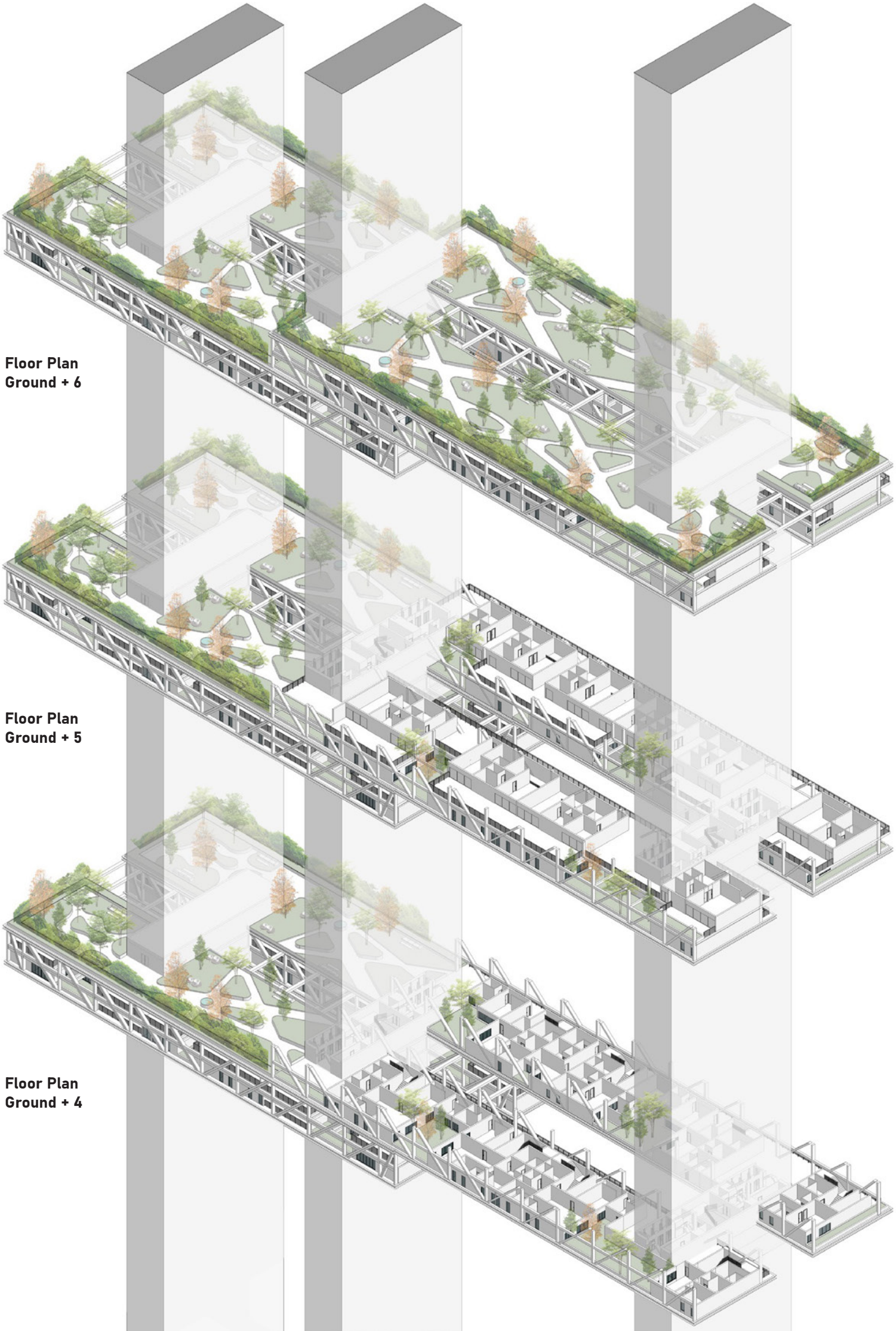
BRIEF

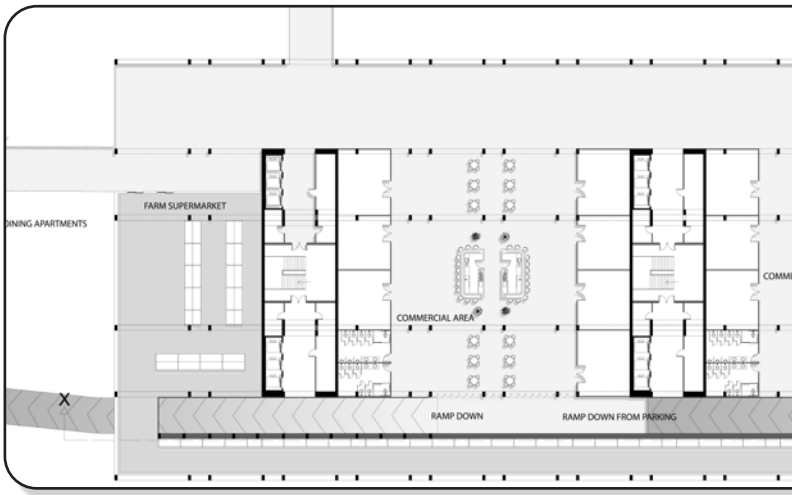
Affordable housing for individuals, couples, and families. Project may restrict itself to this size, or add additional housing, whether **subsidised** or for **sale**. Provision of resident parking is optional but not essential. The project is also to include one or more **public spaces**- court, passage, garden etc. The project is to include one or more additional programs of a community nature- cafe, clinic, childcare centre, etc. The pupose is to address the **issue** of housing affordability in the context of the reconstruction of the city as a democratic space.

APPROACH

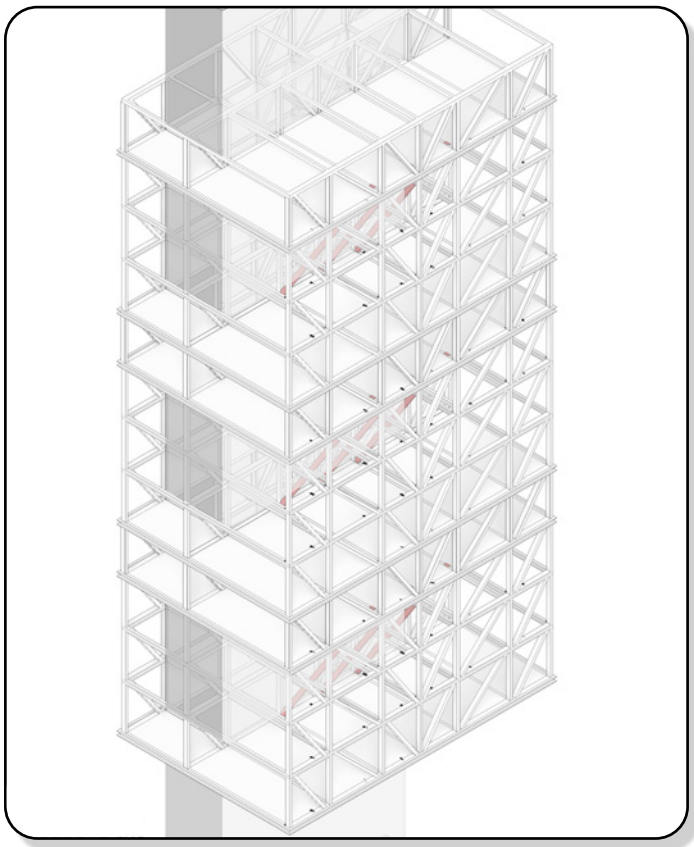


The proposed site has been selected because a real **opportunity** can be seen there. It was observed that the Graham farmer freeway, Lord street and the train line seperated some important buildings/zones and segregates them, where a **connection** is **needed**. Hence, the proposed building will not act just as a housing but a **connection** connecting the surroundings. The site currently is not being used for any purpose and is available. The proposed building has its own ground level means not much land on site will be occupied

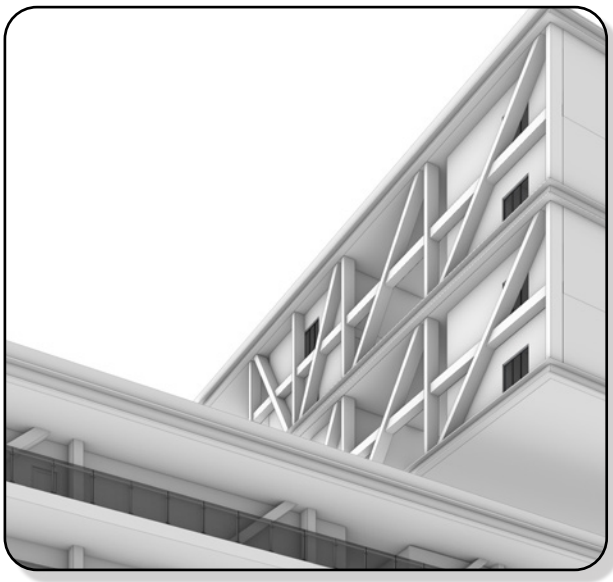

Floor Plan
Ground + 6
Floor Plan
Ground + 5
Floor Plan
Ground + 4



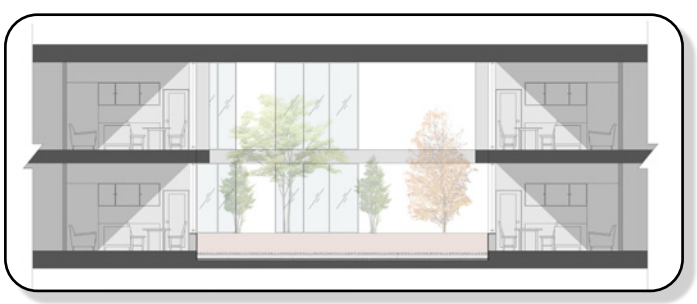
Ground Floor houses the communal spaces including shops,



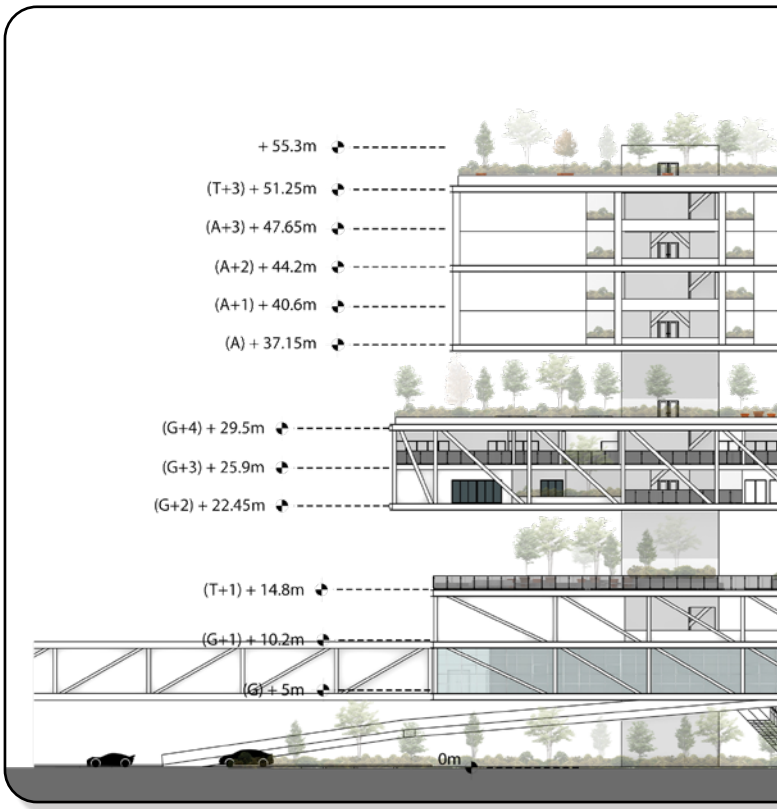
Truss structure of the penthouse floors(highlighting the diagonal bracing in red). The project costs exceeded the budget for affordable housing, so luxury penthouses were added in the upper levels to help cover expenses. These high-rise units are expected to sell at high prices due to their central location, stunning views, and premium amenities.



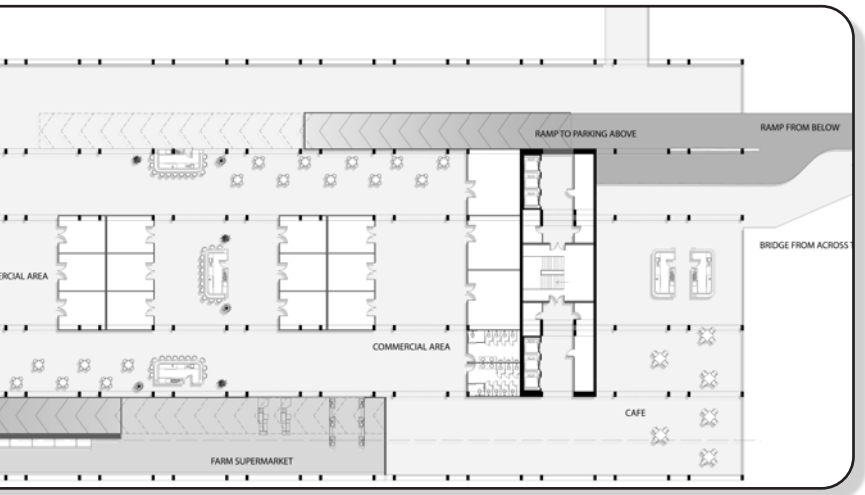
Perspect



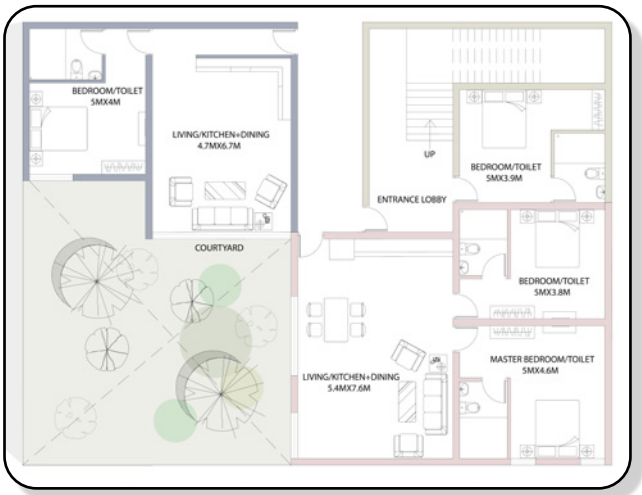
Section of floors A. Illustrates the sunlight access to all the floors and the garden also provides privacy.



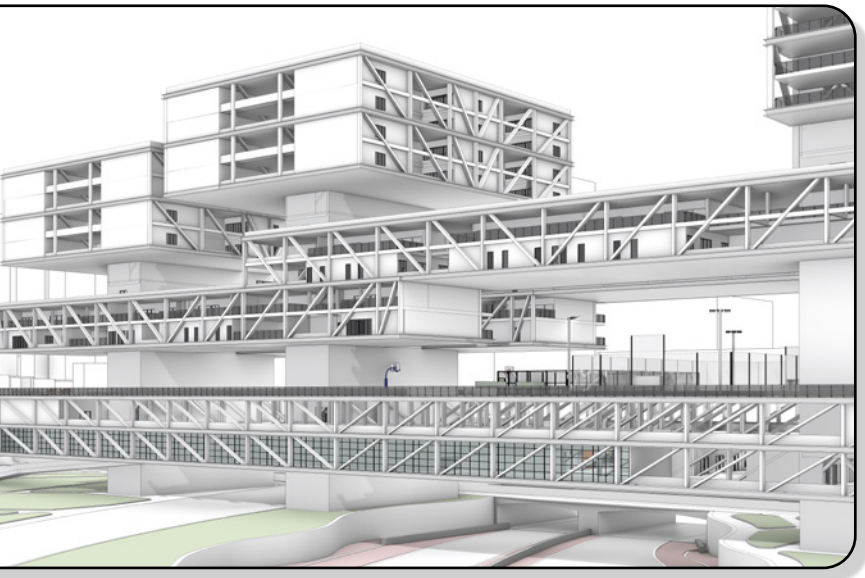
Elevation. The lower two floors are the communal spaces, G+



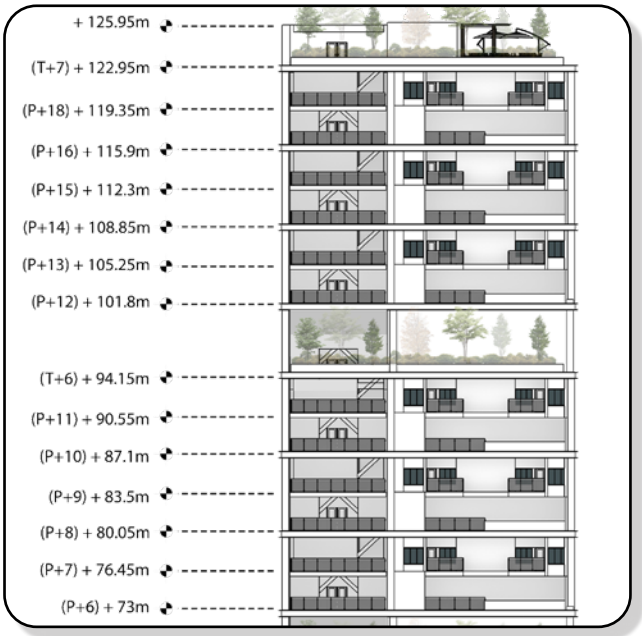
restaurants and supermarket.

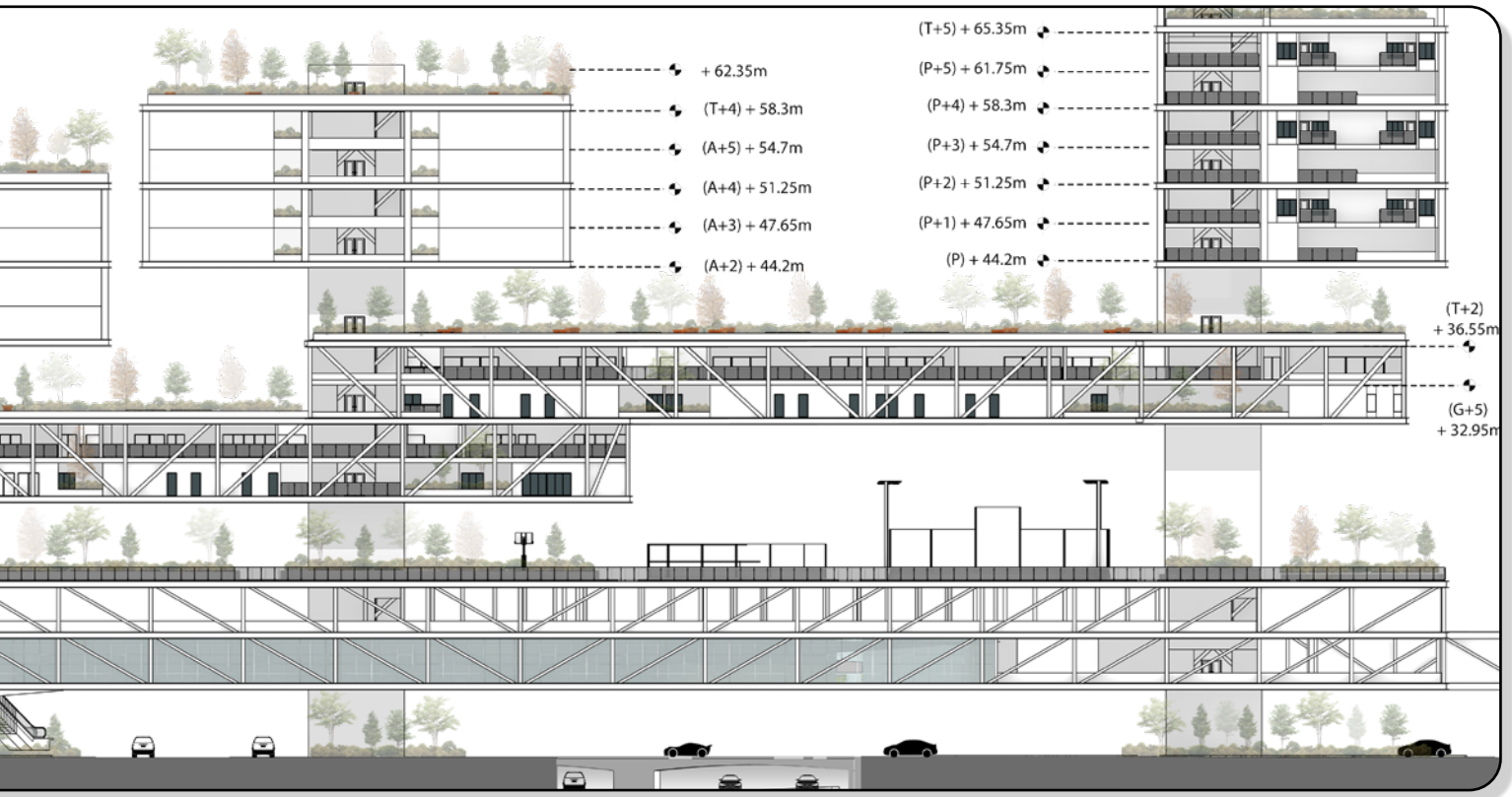


1,2 and 3 BHK module floor plan



tive view of the communal floors from the street.





2-A+5 are the subsidised or low cost housing and rest are the penthouses. The entire project stands over a busy highway.

REFLECTIONS AND LEARNINGS

The primary lesson from this project was addressing the pressing issue of **affordable housing in a densly populated area**, while overcoming the challenges of a complex site. The location, consisting of three narrow spaces along a highway with a road passing underneath, demanded **strategic planning** and **innovative structural solutions**. Incorporating diverse housing typologies posed a significant challenge, particularly ensuring adequate ventilation and sunlight access for all apartments.

Inspired by Le Corbusier's **Unité d'Habitation**, it explores how housing can be both functional and self-sustaining. Additionally, Norman Foster's **Hong Kong Bank** served as a key reference for the structural design.

PROJECT 4 : ADAPTIVE RESIDENTIAL (MIDLAND, WA)

BRIEF

The difference between **1.5°C and 2°C** warming is a **critical issue** for the planet. The degree to which architects are aware of, or motivated by this difference, is an open question. In any case, given the climate science of the IPCC, what does that say about the way that architects create climate imaginaries and deploy spatial practices? Are the good intentions of the architectural imagination enough? As architects our carbon impact is far greater at work than at home, and the immediate savings are deceptively simple to achieve.

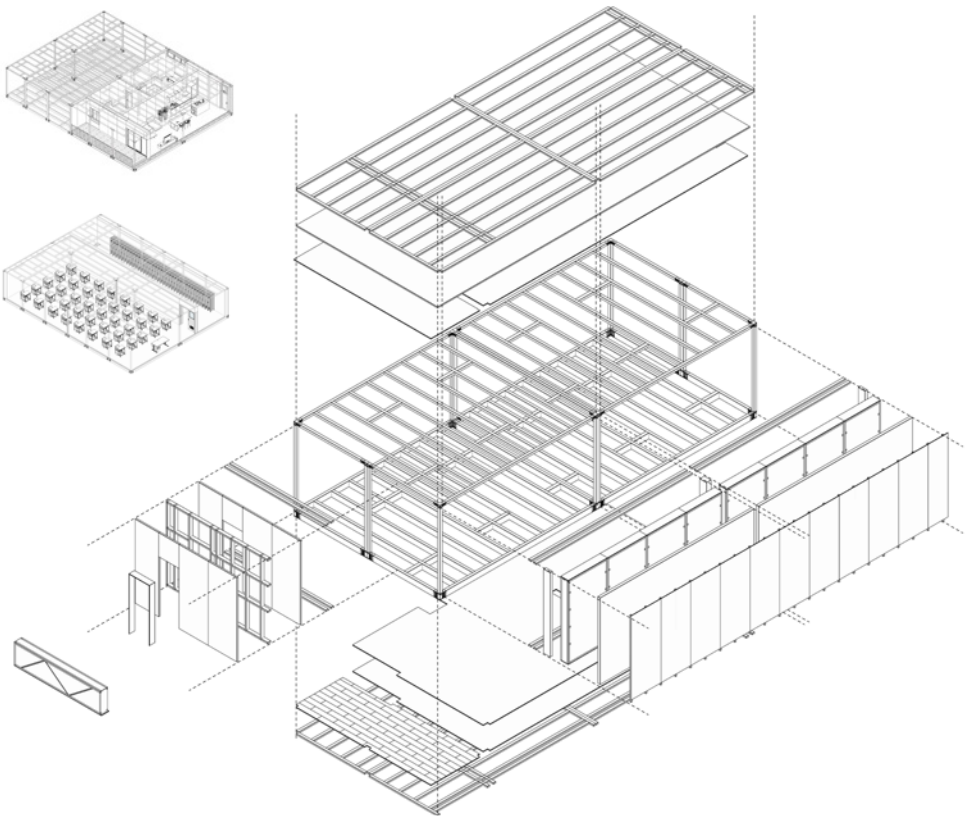
APPROACH

The idea behind this proposal is to construct **adaptable** and **sustainable buildings** by utilising **strawbale panels** and **green steel** to create modular structures. Because of its modular architecture, areas may be easily expanded or reconfigured to meet a variety of demands.

Green steel is an environmentally friendly substitute for traditional steel since it is not only stronger than any other structural material but also extremely durable with a reduced embodied carbon.

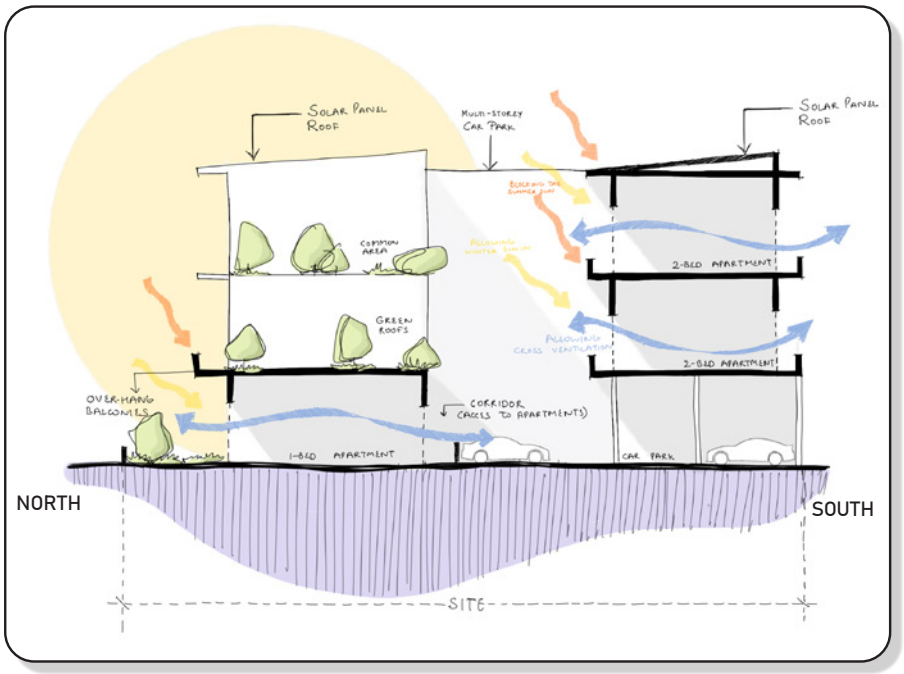
Strawbale balances this off with superior insulation and a lower carbon impact because of its natural nature. The building approach guarantees environmental responsibility and flexibility by mixing these elements.

In this approach, the use of **Z modular connections** plays a key role in enhancing the flexibility and efficiency of the modular building system. Z modular connections allow the individual modules to seamlessly **interlock**, ensuring a secure and stable assembly while also facilitating easy disassembly or reconfiguration when needed. This type of connection provides precision alignment between the units, ensuring structural integrity and simplifying the construction process.



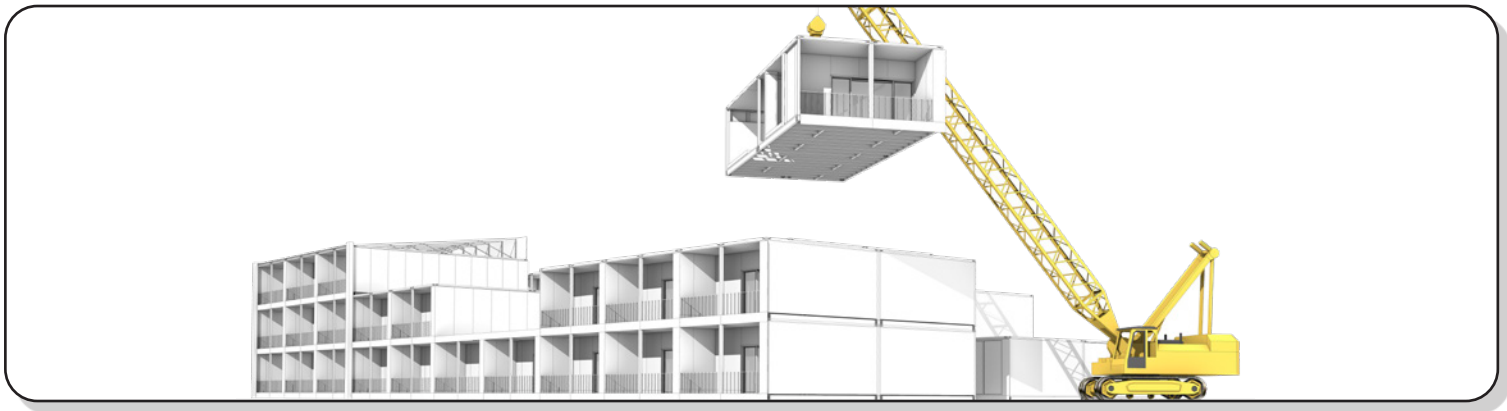
Foundation detail

Z modular connection detail

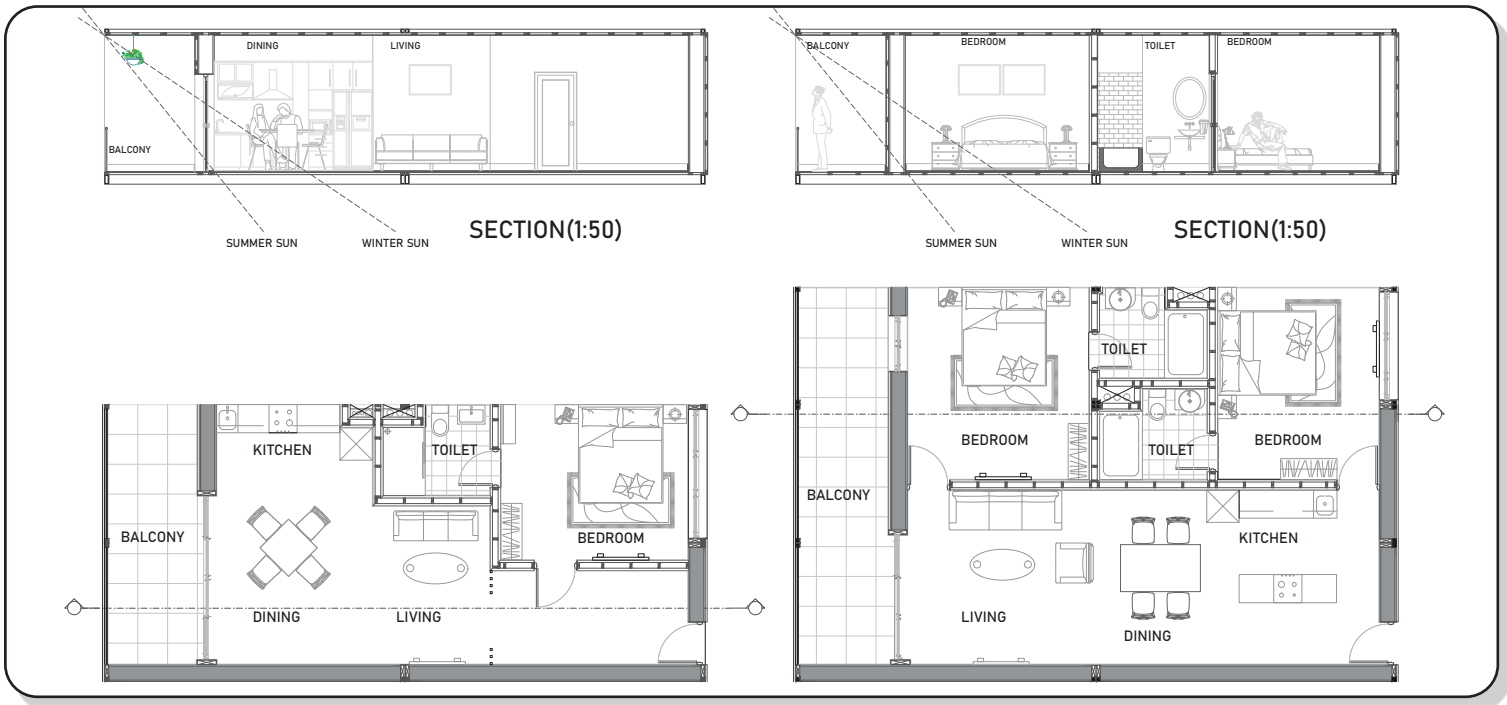


Coneptual Section. The modules are arranged to ensure that all inhabited apartments in the south block receive ample sunlight, while those that receive little to no sunlight are designated for parking. The design prioritizes passive solar principles to enhance efficiency and reduce operational carbon.

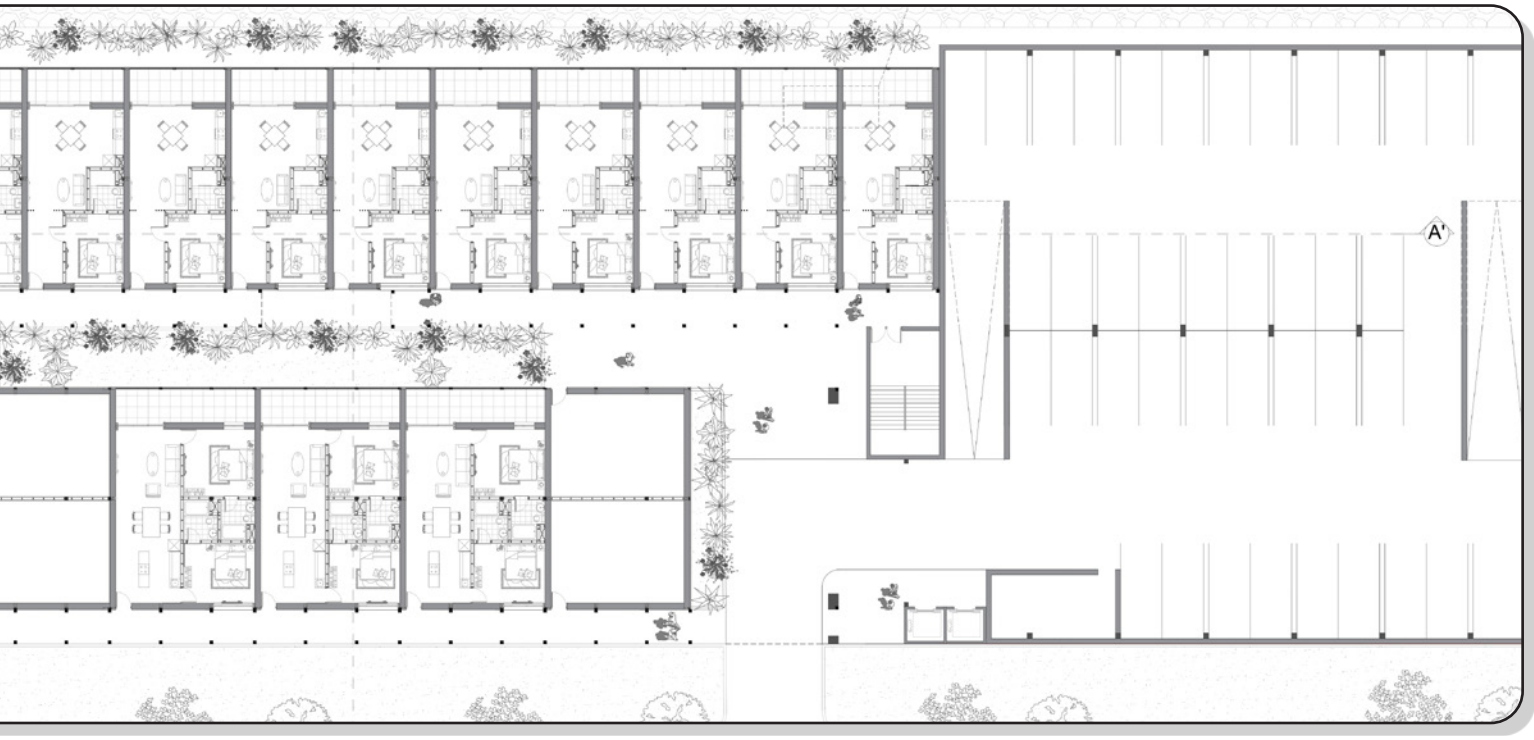
Ground floor plan

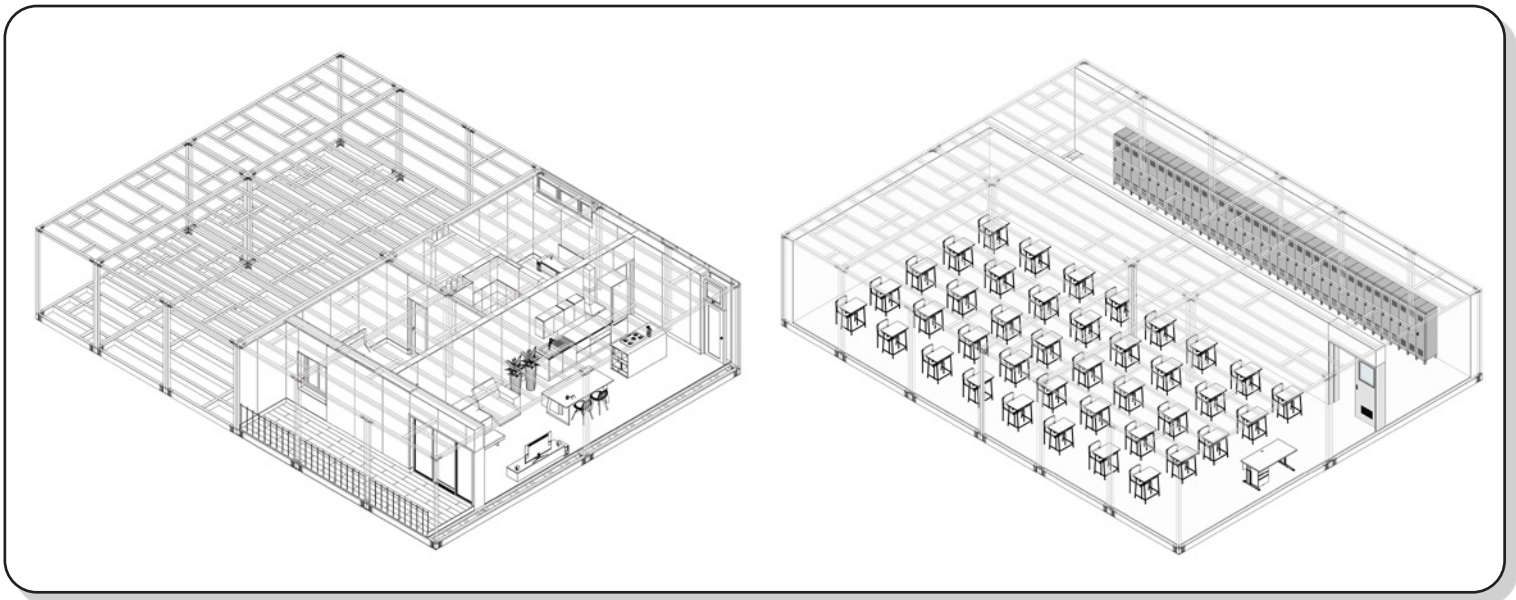


Modules are prefabricated and can be assembled at the site and the building can be completed in very less time as compared to the traditional construction.

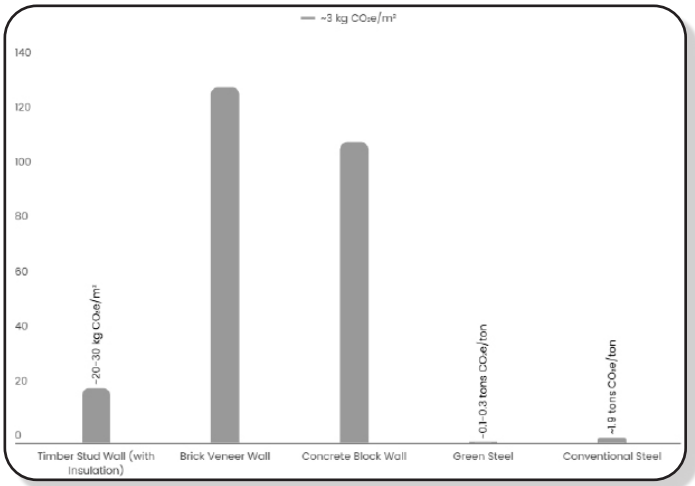


Floor Plans and Sections of 1BHK and 2BHK apartments. The walls seperating the tooms are strawbale panel walls, which can be diassembled and open the spaces into a bigger space for future adaptibility.

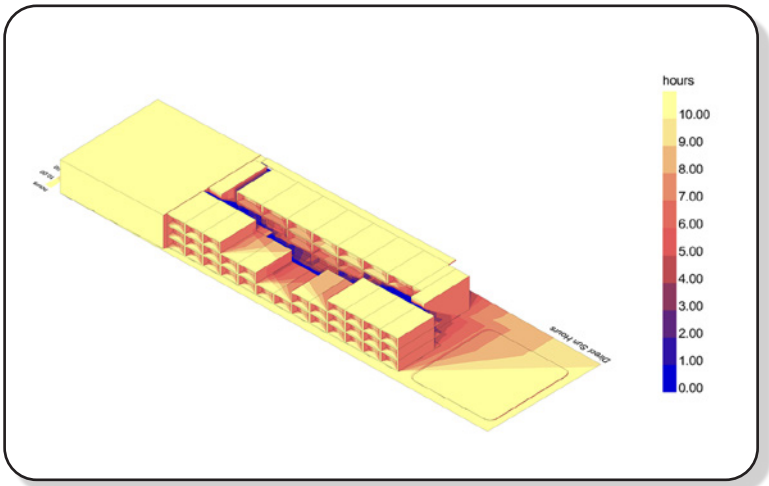




Proposal for future adaptability is turning the apartment complex into a school. Two or more modules can be joined together to form a bigger room such as a classroom. The strawbale panel walls between the modules can be easily removed and the spaces can be combined.



Graph compairing embodied carbon of strawbale and green steel to conventional building materials.

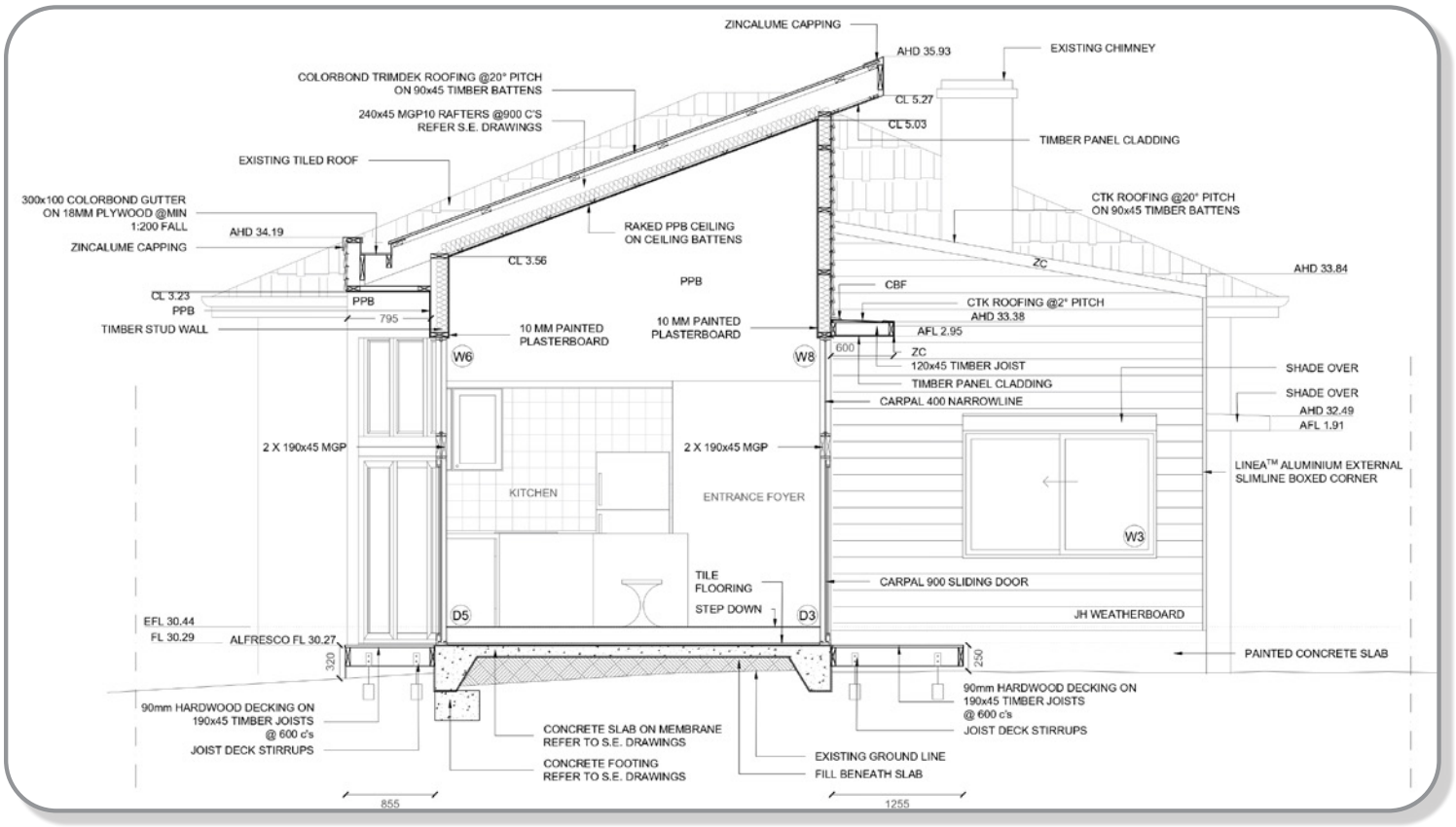


Massing and Sunstudy(using Ladybug for Grasshopper in Rhinocerous 7.0).

REFLECTIONS AND LEARNINGS

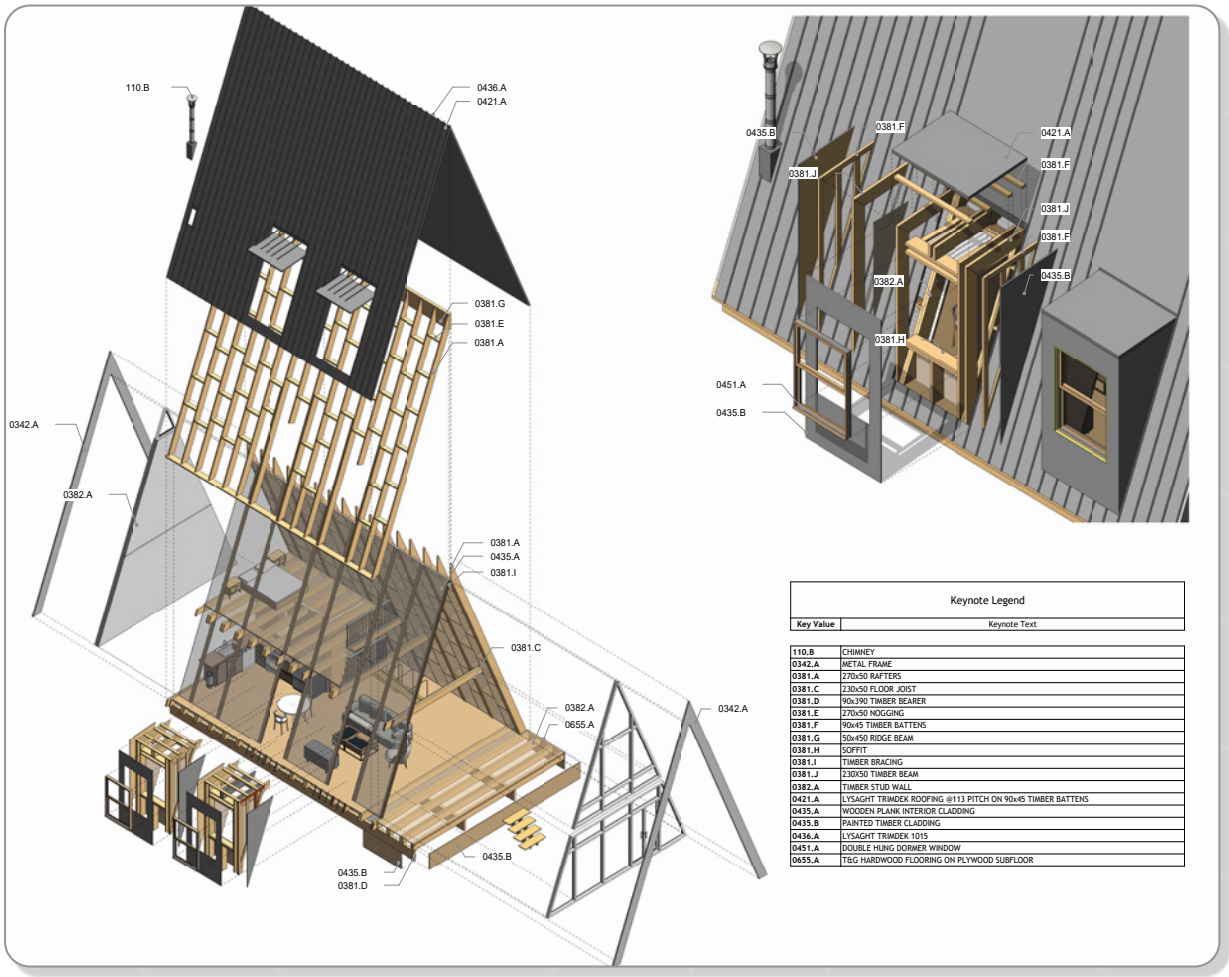
This project focused on exploring **alternative materials** to replace those with **high embodied carbon**. It was an eye-opener in understanding the impact of both **embodied and operational carbon**, and how reducing these can make buildings more **energy-efficient with a smaller carbon footprint**. The Residential Housing Project **(EcoCocon)** in Eindhoven (Netherlands) was a big inspiration in understanding and planning for **modular** buildings.

This project not only deepened my understanding of **embodied carbon** and its impact but also introduced me to innovative materials in the industry that serve as excellent **replacements** for conventional ones. It expanded my knowledge of s**ustainable practices**, increasing my awareness of the ongoing **fight** against climate change and highlighting practical ways to contribute to this critical global effort through architectural design.



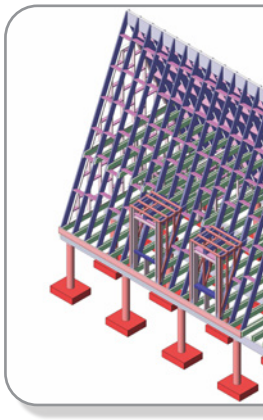
Unit - **Project Implimentation and Documentation (Sem 2,2023)**

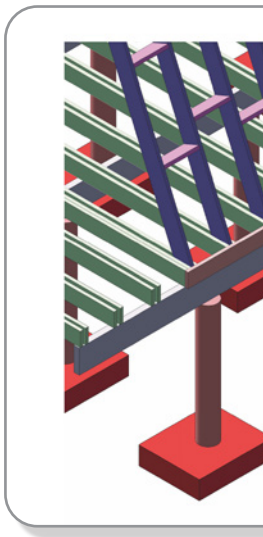
This project aimed at learning and producing drawings sent for DA for a residence. The task was to submit a proposal for alterations and additions to the existing building.



Keynote Legend

Key Value	Keynote Text
110.B	CHIMNEY
0342.A	METAL FRAME
0381.A	270x50 RAFTERS
0381.C	230x50 FLOOR JOIST
0381.D	90x390 TIMBER BEARER
0381.E	270x50 NOGGING
0381.F	90x45 TIMBER BATTENS
0381.G	50x450 RIDGE BEAM
0381.H	SOFFIT
0381.I	TIMBER BRACING
0381.J	230X50 TIMBER BEAM
0382.A	TIMBER STUD WALL
0421.A	LYSAGHT TRIMDEK ROOFING @113 PITCH ON 90x45 TIMBER BATTENS
0435.A	WOODEN PLANK INTERIOR CLADDING
0435.B	PAINTED TIMBER CLADDING
0436.A	LYSAGHT TRIMDEK 1015
0451.A	DOUBLE HUNG DORMER WINDOW
0655.A	T&G HARDWOOD FLOORING ON PLYWOOD SUBFLOOR





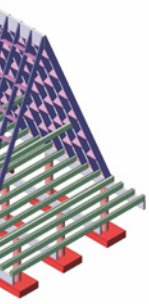
Unit - **Building Information Modelling (Sem 1,2024)**

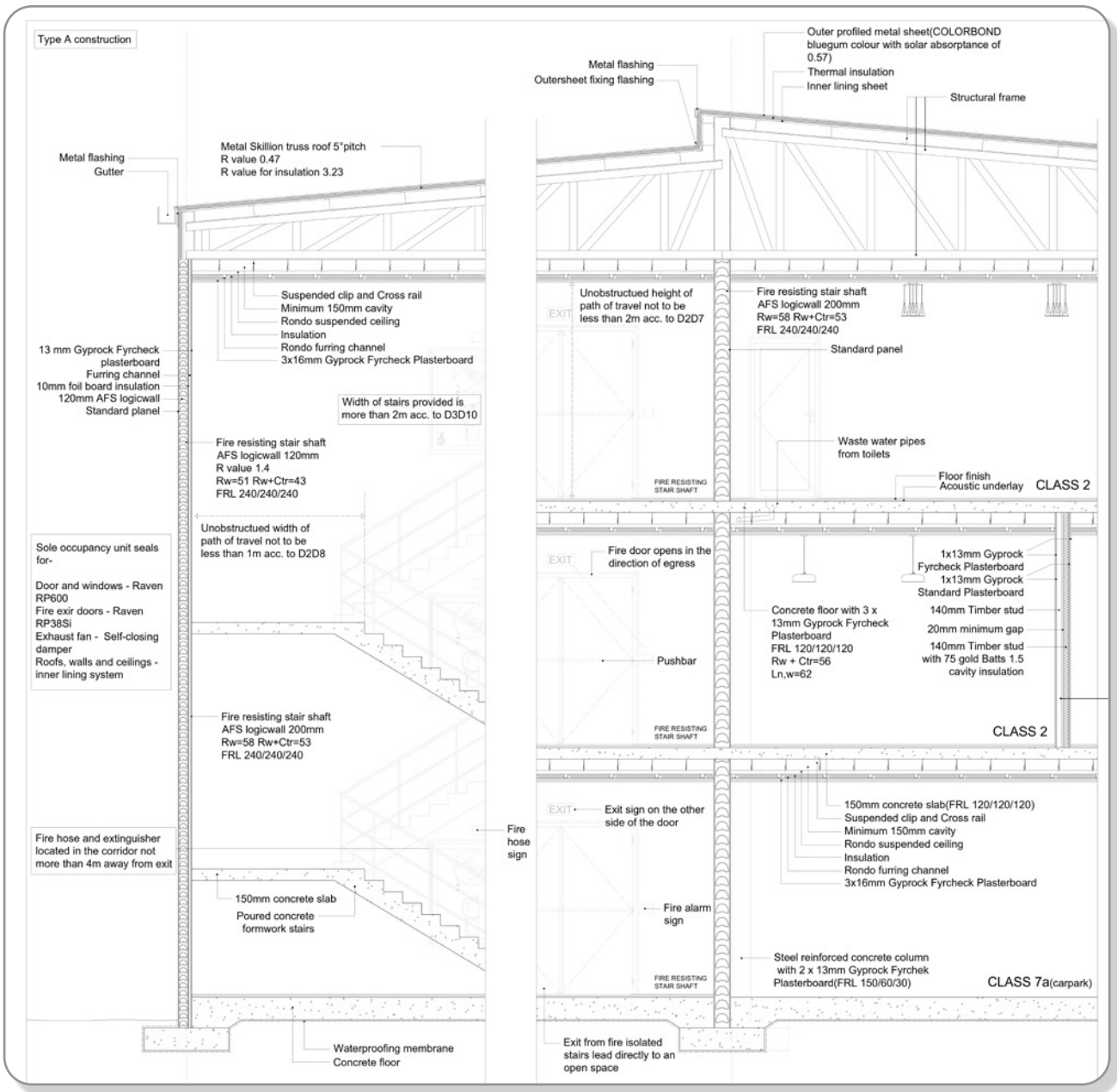
This project focused on mastering Revit—from 3D modeling and 2D drafting to keynoting and complete project documentation. Dynamo was also used to model some of the components of the structure.



Unit - **Photo Real Rendering (Sem 2,2023)**

This focus of this project was to learn modelling environments in 3ds max and produce photo real renders using Vray in 3ds max , inspired by photography style of acclaimed photographer of choice(BOYSPLAYNICE).





Unit - **Architectural Technology, Services and Services (Sem 1, 2023)**

Aim of the project was to firstly identify the project based on NCC, and check for compliance. Next step was to modify a section of the project to ensure compliance with the NCC standards.

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