

Architecture Portfolio

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# JOSHUA THANDI

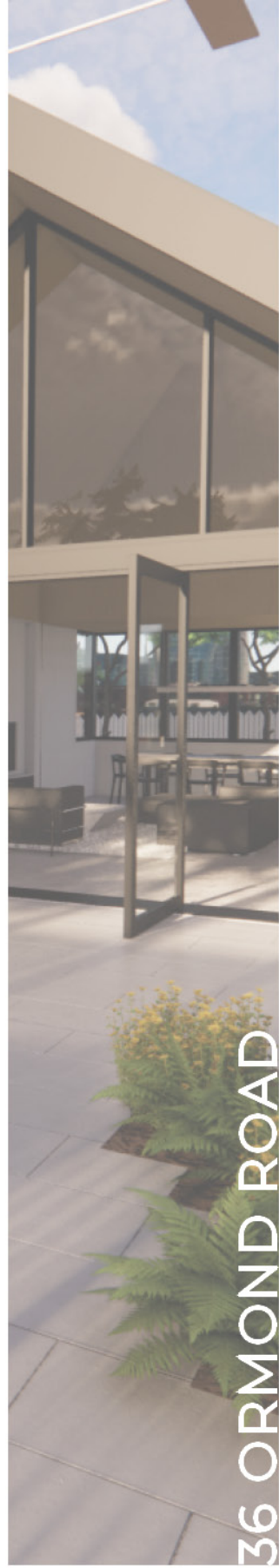
Selected Works 2022







92 VALE STREET



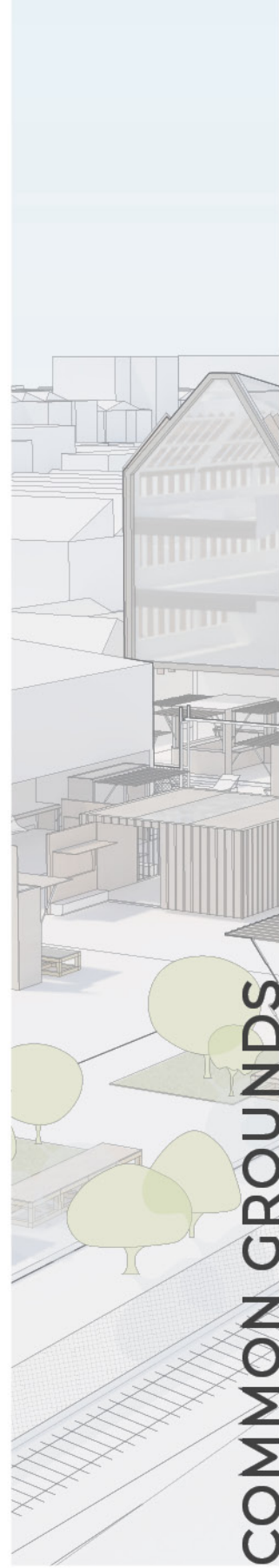
36 ORMOND ROAD



DOCKLANDS PRIMARY SCHOOL



CROSSING THE VEIL



COMMON GROUNDS



RIDDEL HOUSE

# Introduction

Hi, I'm Joshua Thandi, I am an aspiring architect looking to get registered but to also learn and design new and different spaces. I am highly interested in learning how different architectural typologies work and the design process that goes with them.

My career goal is to eventually become a full project architect and to develop leadership qualities.

This portfolio of works demonstrates my creative and project management qualities as well as the ability to collaborate with different disciplines of varying scale teams such as engineers, city planners and educators.

*Cover: 2020 Research class looking at Green Square Library, Green Square, NSW by Studio Hollenstein. The study was to understand the urban grain and how the public project had been inserted and affects the local context for future developments.*

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# About Me

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## Experiences

- Graduate of Architecture | Trethowan Architecture | Feb 2021 - Present
- Teaching associate | Monash University | July 2022 - Present
- Architectural Lead | Monash Solar Decathlon Team | July 2020 - June 2021
- Student of Architecture | Trethowan Architecture | July 2018 - Feb 2021
- Student Advisor | Monash University | Feb 2017 - July 2017

## Education

- Masters of Architecture | Monash University | Feb 2019 - Dec 2020
- Bachelors of Architecture | Monash University | Feb 2016 - Dec 2018
- GCE (A Levels) UK | Foxford Secondary School | Sept 2014 - July 2015

## Software

### CAD

Revit (intermediate - Advanced) | AutoCAD (intermediate) | Rhino (intermediate)

### Rendering Software

Vray (intermediate - Advanced) | Enscape (intermediate)

### Adobe Creative Suite

Illustrator (intermediate - Advanced) | Photoshop (intermediate) | Indesign (intermediate) | Premier Pro (Beginner - Intermediate)



## Professional Skills

### Communication

- Communication was a key element when collaborating for the US Solar Decathlon competition. MSDT comprises over a dozen different faculties and specialist students and combines their systems within the design, with myself acting as a mediator.

### Teamwork

- Working with 2 architects at Trethowan Architecture to draft and conduct CAD work for our projects, as well as preparing documentation for town planning and building permits and other required documentation. Together we have workshopped ideas, designs and solutions to meet the relative briefs.

### Problem Solving

- Whilst on my Duke of Edinburgh expedition, my team got lost. Together we triangulated our position concerning elements we could see or have seen, and still made it to camp by our deadline. This was therefore methodical thinking, team collaboration, and coordination.

### Technical Skills

- Illustration and graphics layout
- CAD, developing my own skills as well as teaching
- Physical and digital model making





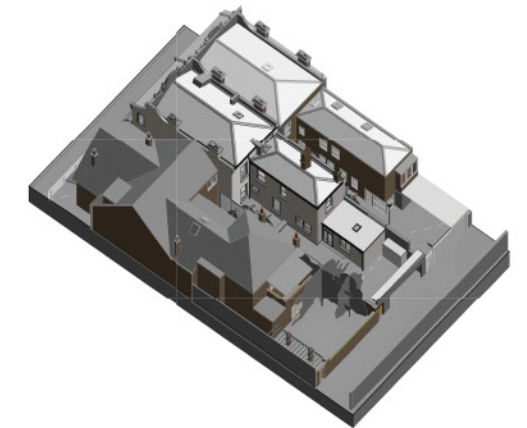
## 92 VALE ST

- Project Date: Feb 2020 - Present (Contract Admin)
- Address: 92 Vale Street, East Melbourne
- Project Cost: \$2.2m
- Clients: Husband and Wife

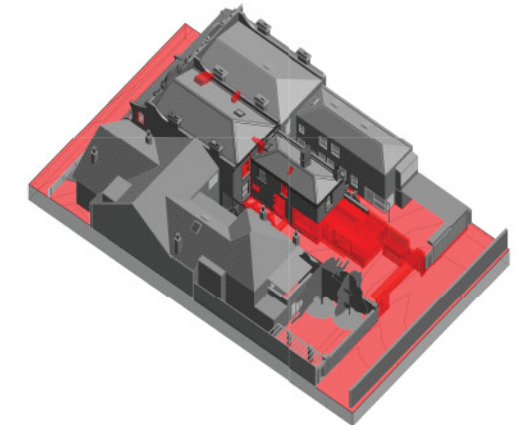
92 Vale Street is a Victorian terrace house that has been renovated to update the internal finishes and fixtures but to also add an extension in the form of a kitchen, garage and cellar. The house is sited in East Melbourne overlooking MCG and Yarra Park.

The clients who currently live in Hawthorn have had all but one child move out. The last child is expected to move out in the next few years and therefore the couple has looked to downsize their current home into this property. They own this property, which was rented out but since the beginning of this project sits empty.

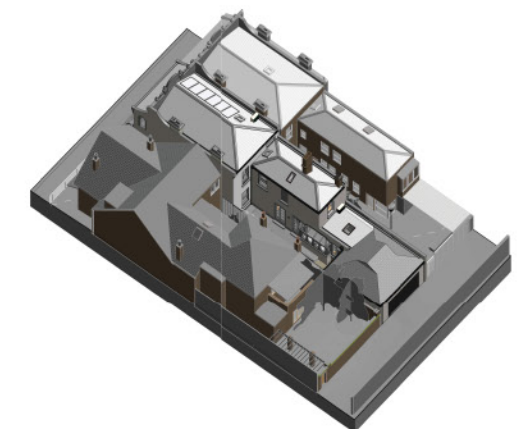
Our brief, therefore, meant understanding their current home and aesthetic and transferring the design language to this property. Since 92 Vale street was a lot smaller (roughly 50% smaller) scale and proportions as well as human interactions were very important. The second challenge was the cellar, and this meant collaborating with engineers and builders (sometimes simultaneously) and facilitating conversations concerning the construction, material use, waterproofing methods and construction schedule.



1 3D View  
Existing Asymmetric

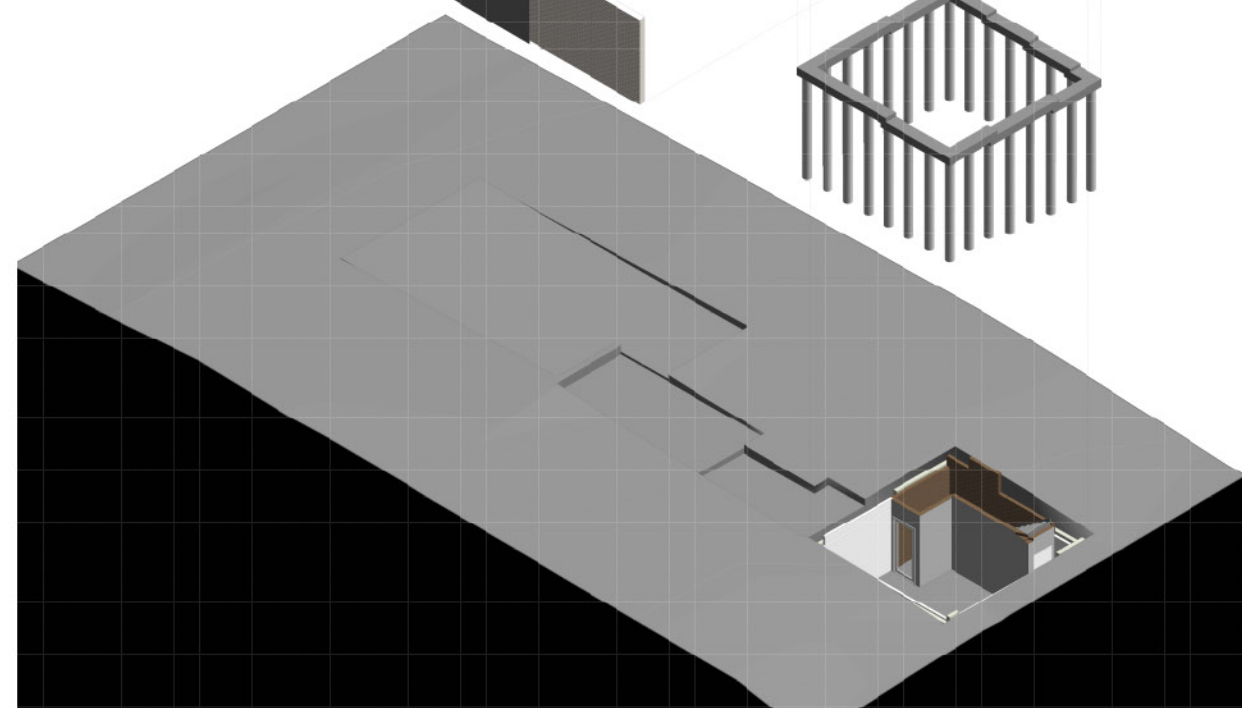
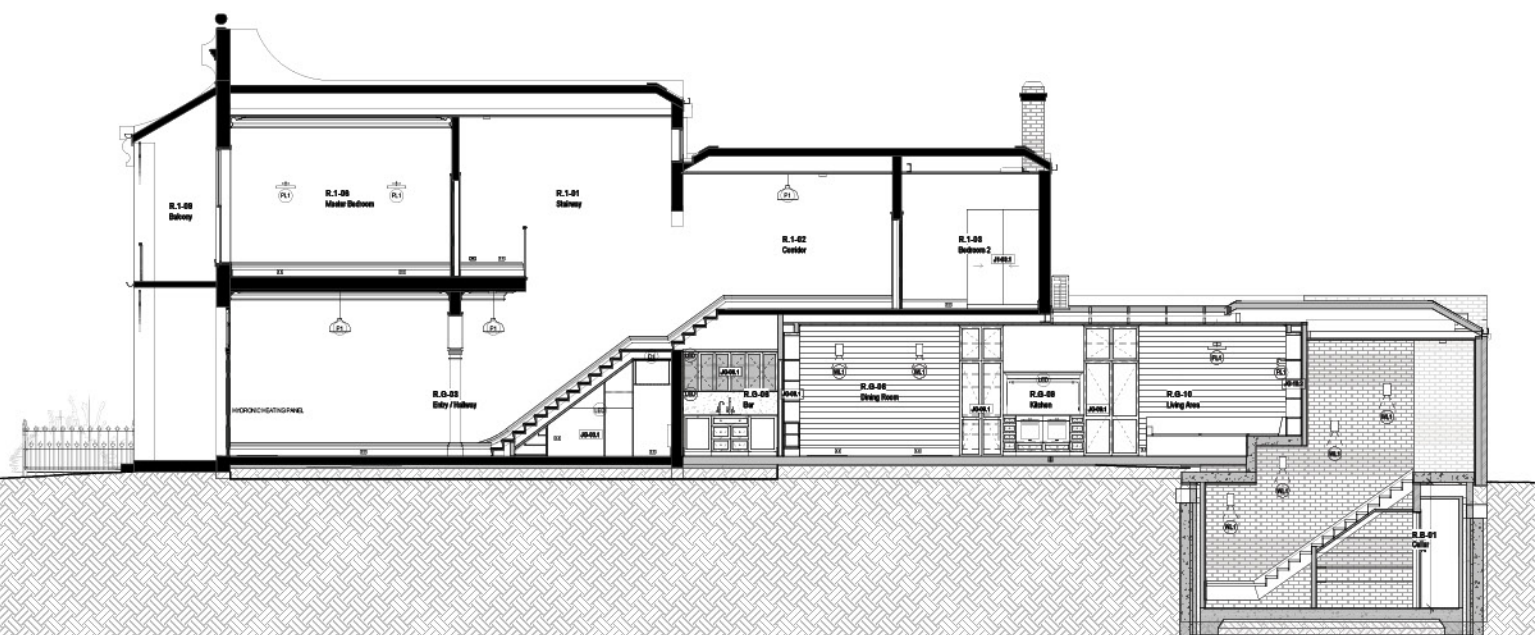
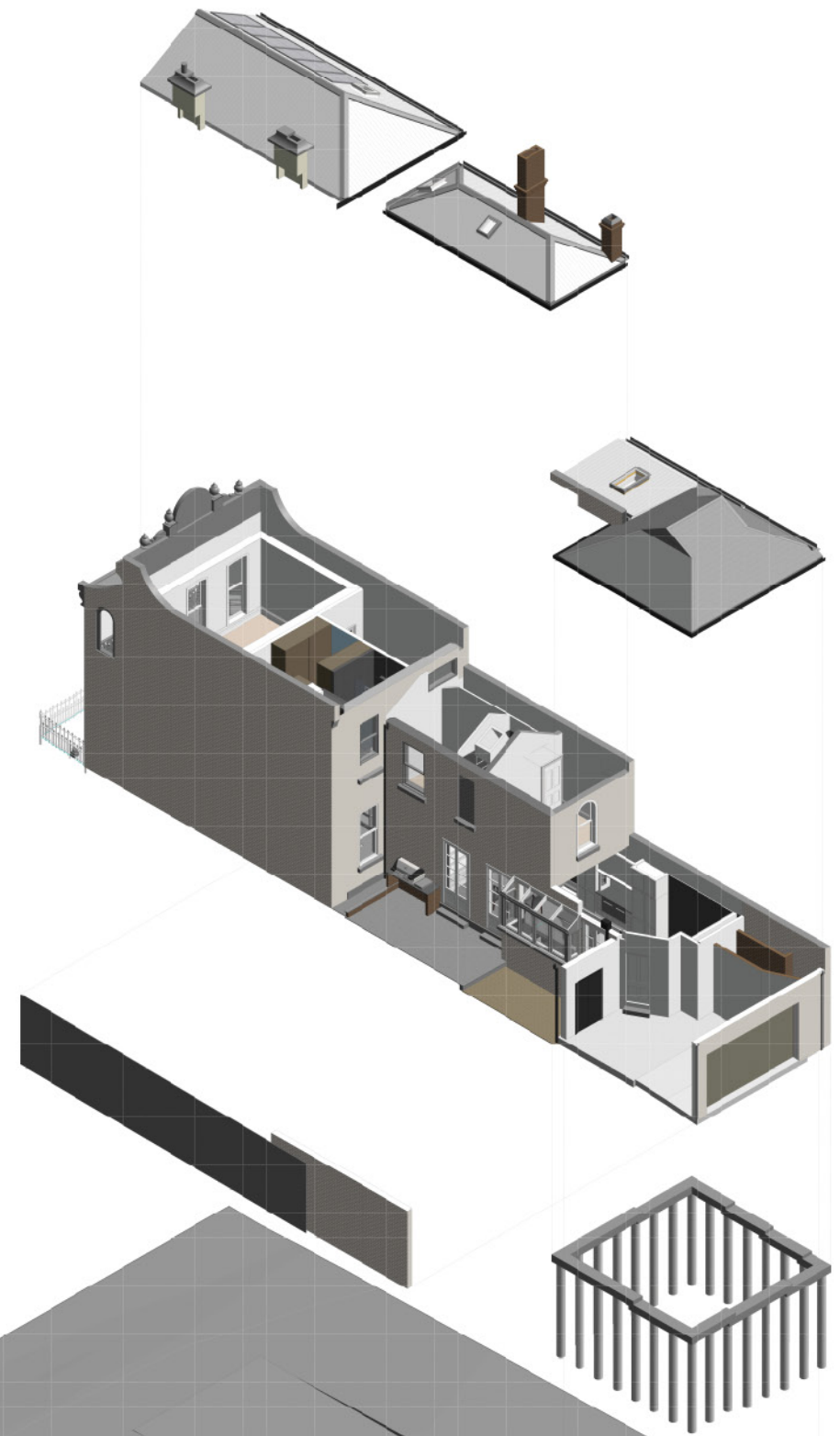


2 3D View  
Demo Asymmetric



3 3D View  
Proposed Asymmetric

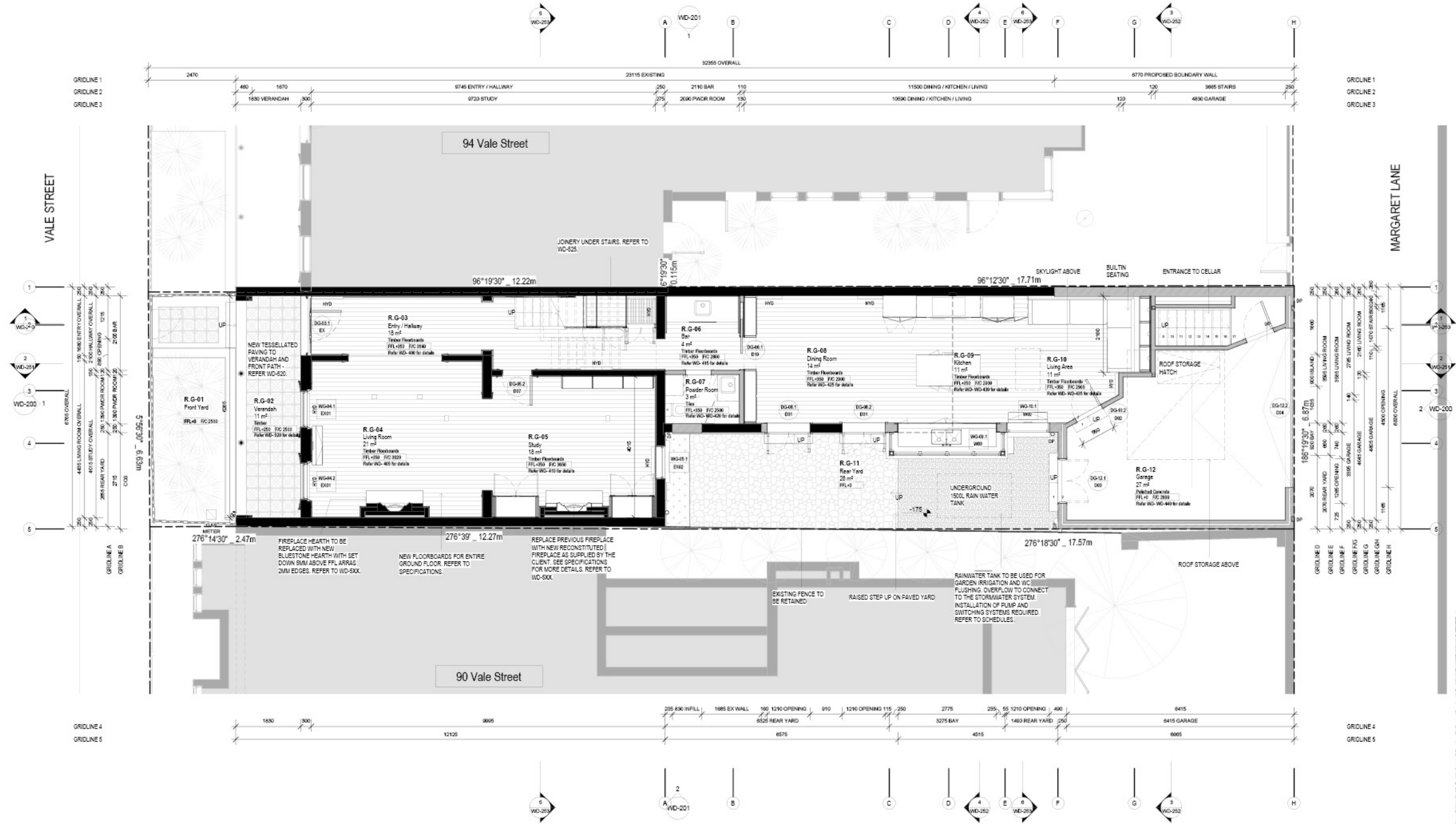




Elevations and sections were crucial for Trethowan for both architectural and heritage scopes. The heritage scope needed to understand the extent of the original heritage feature that lends itself to be a satisfactory heritage home within East Melbourne. This came back as only having external controls, mainly the facade and the retention of the chimneys.

As for the architectural side of things, since we were redoing the rear extension we needed the change some of the ceiling heights to make the internal proportions for the rear more reasonable compared to being either super tall or compact. Secondly, there was a needed understanding of how to traverse vertically as well as the impact of the cellar on the ground plane and renovating the secluded private open space.





When it came to planning (and even documentation) the neighbouring boundaries were concerning. Extensive protection works are put in place to preserve the boundary wall where possible except for the rear garage wall and north boundary wall, both of which were temporary hoarding put in place and prioritised due to protect the property from illegal access etc. When it came to overlooking the planning and design were done so that 90 Vale street didn't exceed the 40% overlooking limits and similar when it came to 92 Vale Street overshadowing 90 Vale Street SPOS.



FIGURE 1: Final 3D CGA Building Model (Copyright © Joshua Tahdni)





## 36 ORMOND ROAD

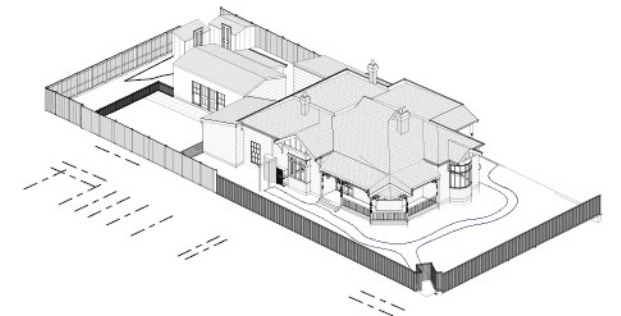
- Project Date: 2018 - Present (Staging / Redesign)
- Address: 36 Ormond Road, Elwood
- Project Cost: \$2.2m
- Clients: Family of 4

36 Ormond Road is a project that has undergone heritage restoration and minor works during 2018-2020. However, at the end of 2019, the clients were deterred from selling and showing opportunities to expand the house with extensive renovation and additions.

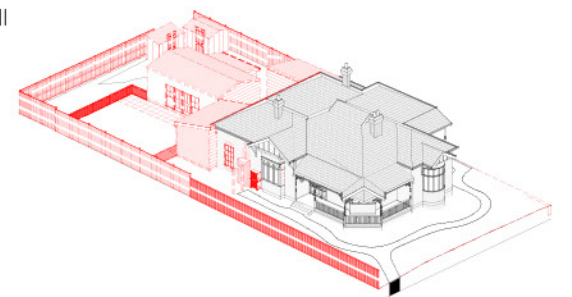
The house has a large extension that redevelops an open floor space under a large gable roof containing a kitchen, living space and dining area. In addition to this, there is a small pantry room, mud room and garage as well as a guest bedroom and bathroom shooting off around the pool area.

The clients, a family of four, want to add to the property value as well as provide an environment for their young children to grow up in. Furthermore, their brief included a pool and spa as well as an outdoor garden area, which the planting and design of green space fell to an external landscape architect.

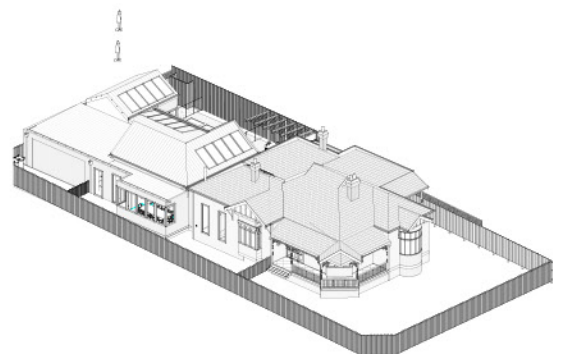
Currently, the house has gone through a tender period however due to the market, the tenders exceeded the budget too far. Therefore the design has undergone a redesign to stage the build to be done in 2 components.



2 3D View  
Existing Isometric View  
@ A1



3 3D View  
Demolition Isometric View  
@ A1



4 3D View  
Proposed Isometric View  
@ A1

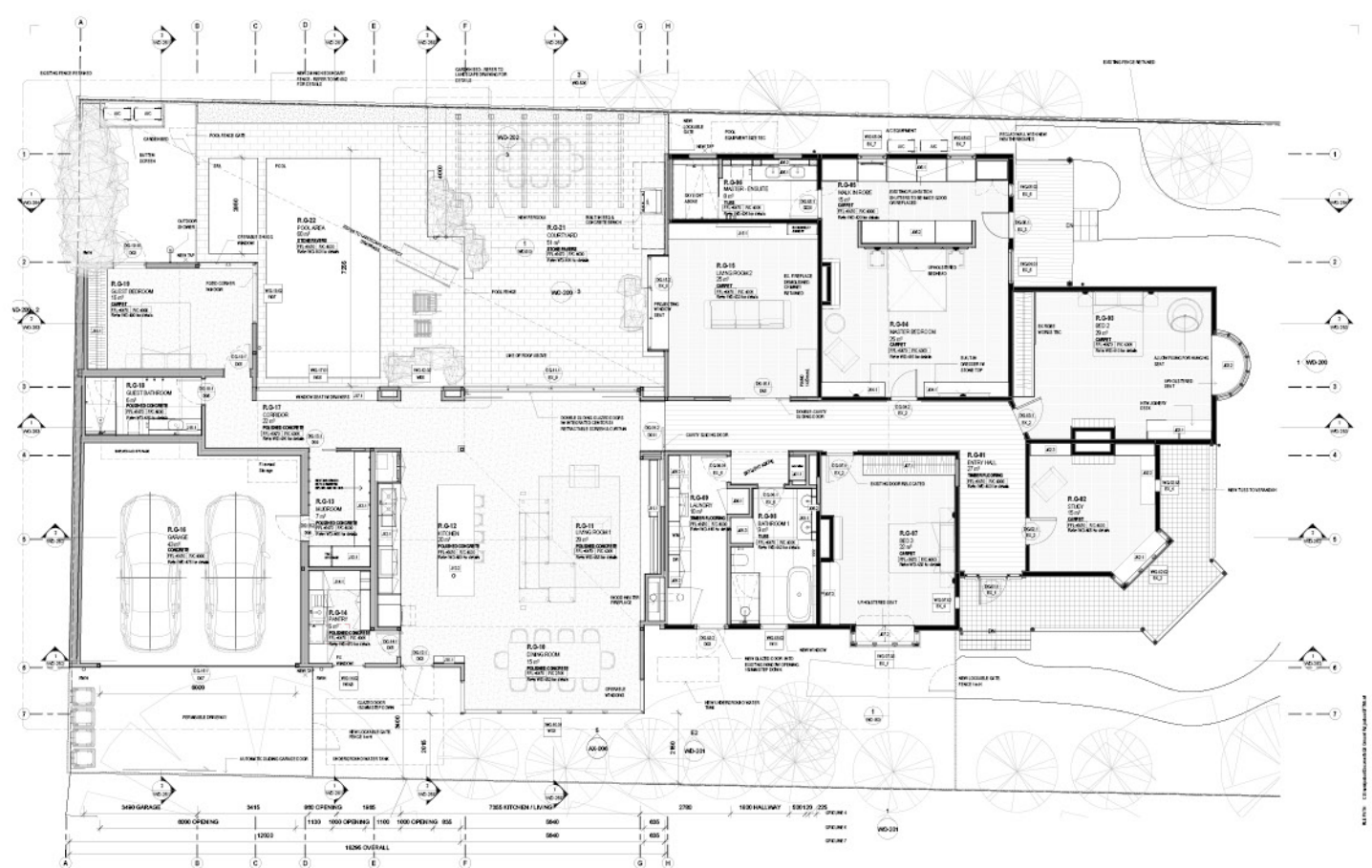
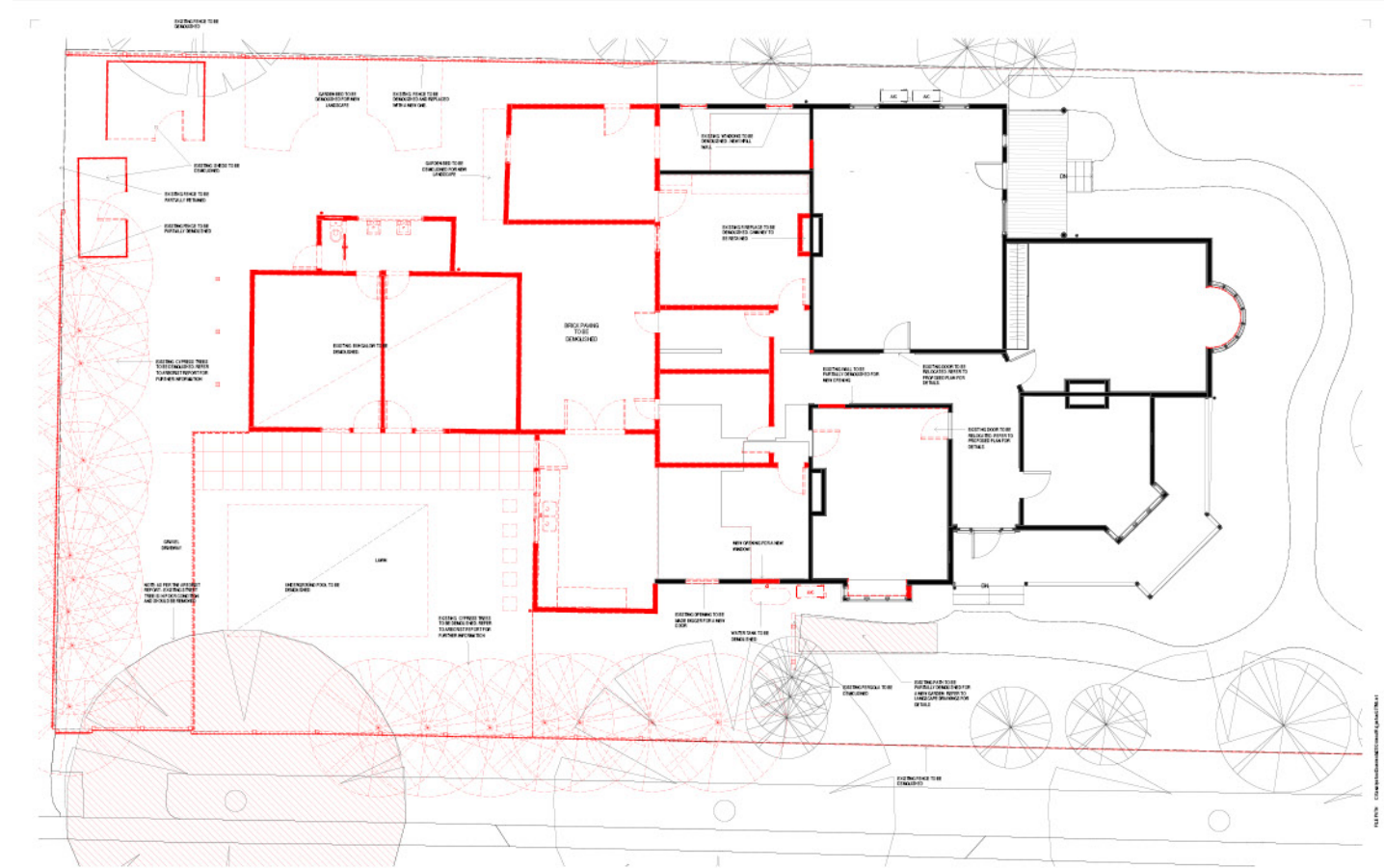


# Spatial Arrangement and Engagement

To differentiate the old and the new, the existing house (which has heritage external controls) is maintained using off-white weatherboard panels. The new proposal would be contrasting this using charred timber panelling.

The current house has a room block outside the current house which would be demolished and replaced with the new proposed. This block has no heritage significance and impacts the garden space shadowing the grass area to the south and disconnecting the gardens from each other.

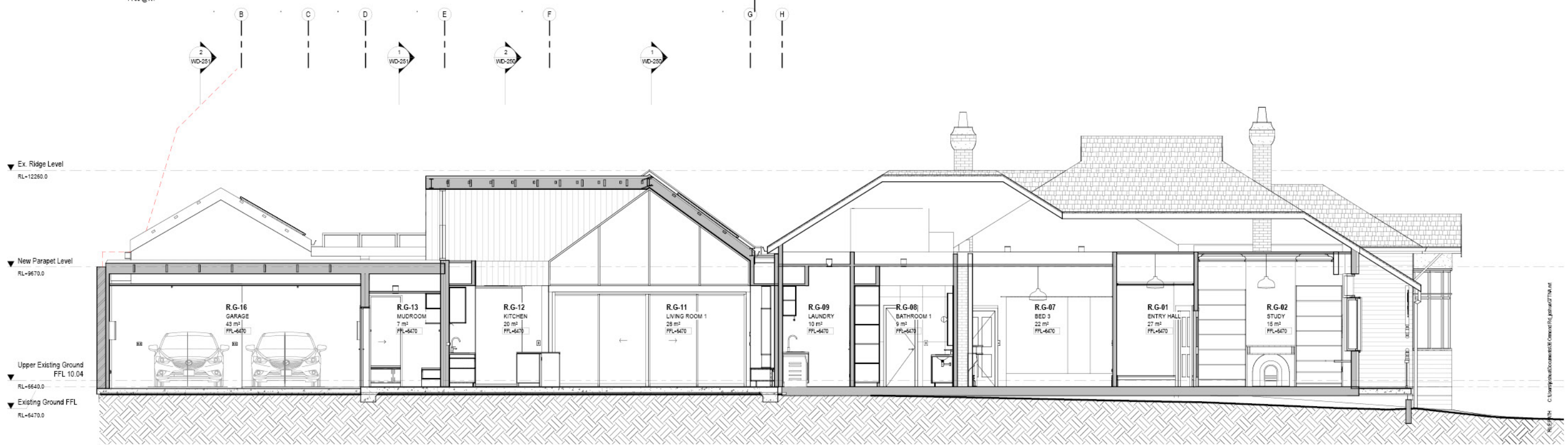
The proposed extension uses a gable roof that cranks at a right angle and provides natural east-to-west lighting into the open living space. Furthermore, the gable provides a direct visible and physical connection to the courtyard with pivot doors providing flexibility in functions and events for the family to host.







1 Building Section  
Section 5  
1:50 @ A1

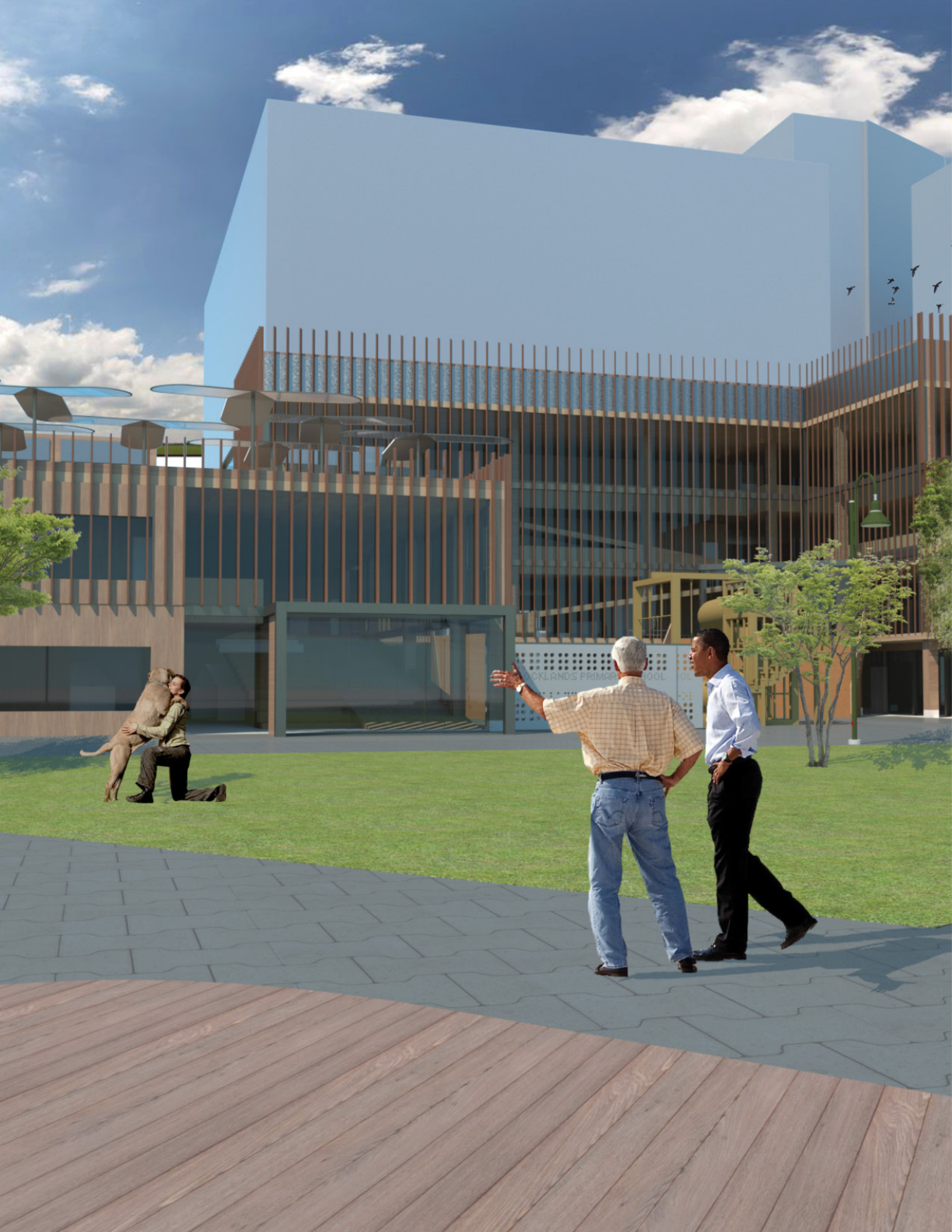


2 Building Section

The Trethowan Heritage team worked to preserve the heritage components of the house as well as getting the property heritagelisted and providing enough external controls to preserve the character as well as giving the clients opportunities for renovations of various scales, both internally and externally.

The sections illustrate the complexity and difference in scales between the different spaces of the existing and proposed. We had to ensure that section clearly showed the intersection of structure and surface finishes as well as the showing a understanding of how the existing and proposed interact between each other.



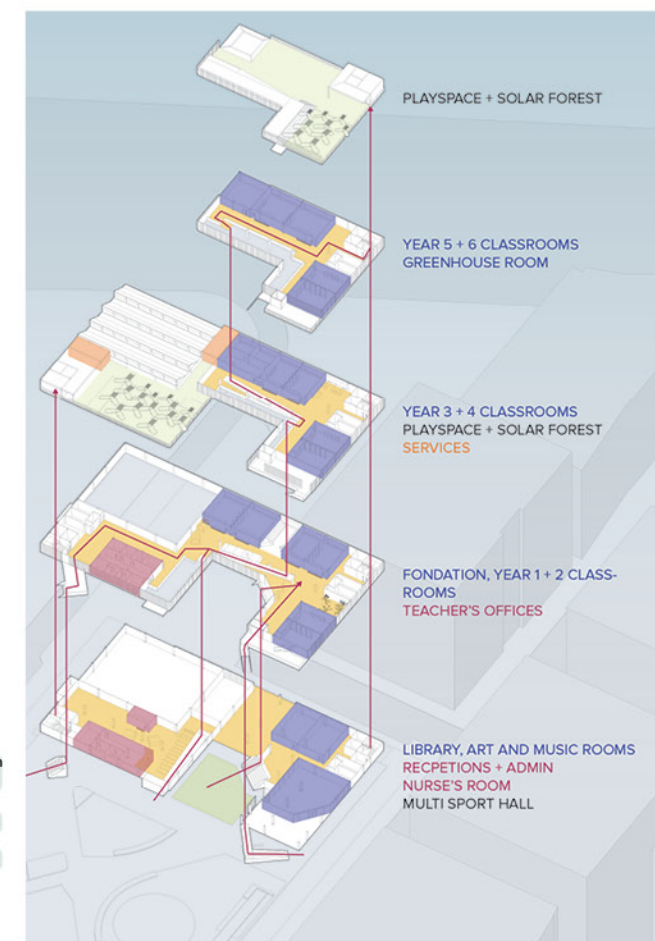
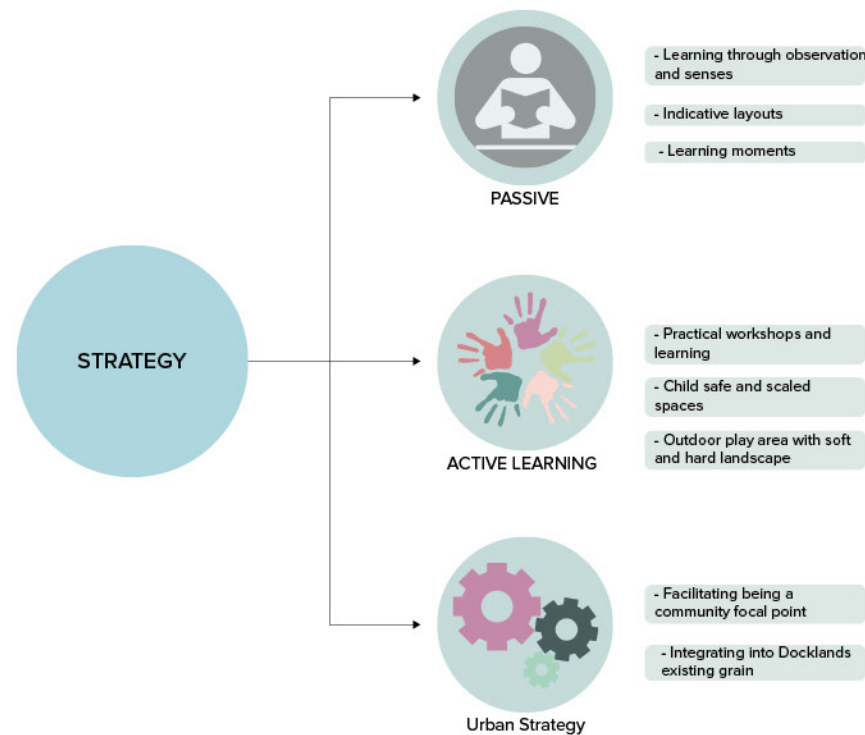


# DOCKLANDS PRIMARY SCHOOL

- Project Date: 2020-21
- Organisation: Monash Solar Decathlon Team
- Role: Architectural Lead
- Website: <https://www.monashsolardecathlon.com/elementary-school-2021>

The project aims to create a net zero energy primary school that caters for children with different disabilities. The design intends to be vertical to fit within its surrounding context without disturbing the city planning scheme of Docklands. This is a response to the disabilities and education crisis Victoria (and Australia as a whole) is facing. The lack of facilities, care and special needs education isn't being catered for. Disabilities can include physical, mental, learning, and psychological.

It was designed by a multi-disciplinary student team, Monash Solar Decathlon (MSDT), and entered the US Solar Decathlon 2021. The project strategy aims to have passive and active elements, adapted from a Montessori learning environment (learning from sight).



Above: Overall layout and composition of spaces using each level for different year groups.

Left: Strategy MSDT decides upon, thinking about passive, active and urban stratagems to create a design approach to the issue.

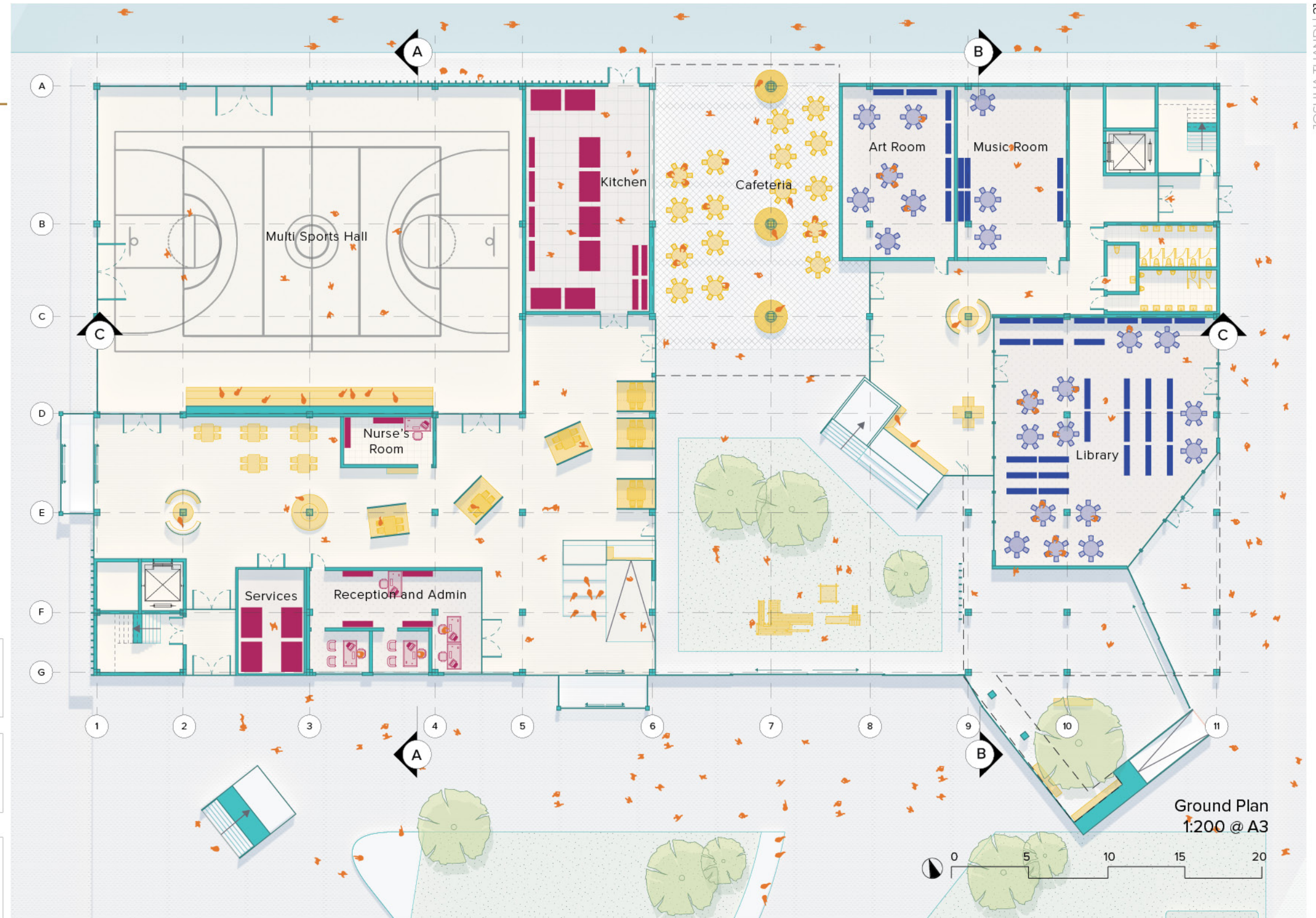
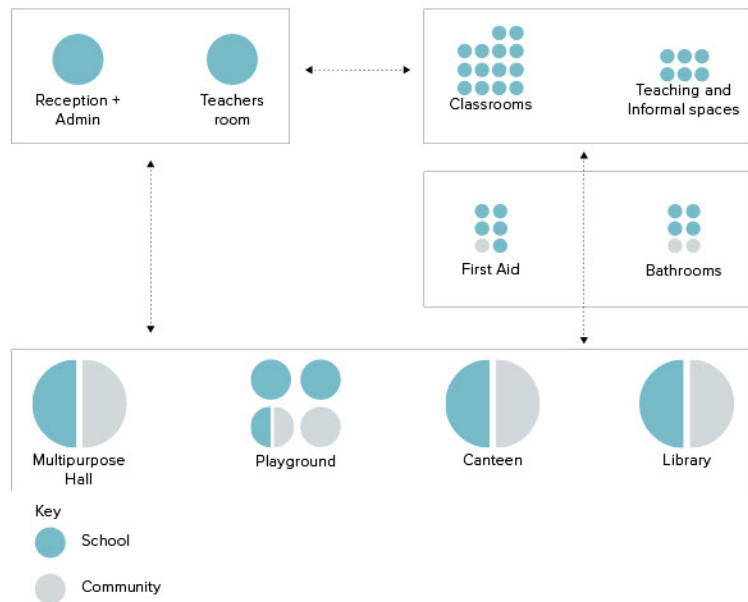


# Spatial Arrangement

The spatial arrangement was crucial to how we organised our spaces. The project had to cater to three groups: staff, students and community.

The school had to be designed with the local community in mind to further integrate it into the local context, therefore Melbourne Educational Departments requires new schools to have basic facilities that can be used outside school hours. Our engineering team and architecture teams engage with security consultants and brainstorm ideas to protect the school and still allow community access.

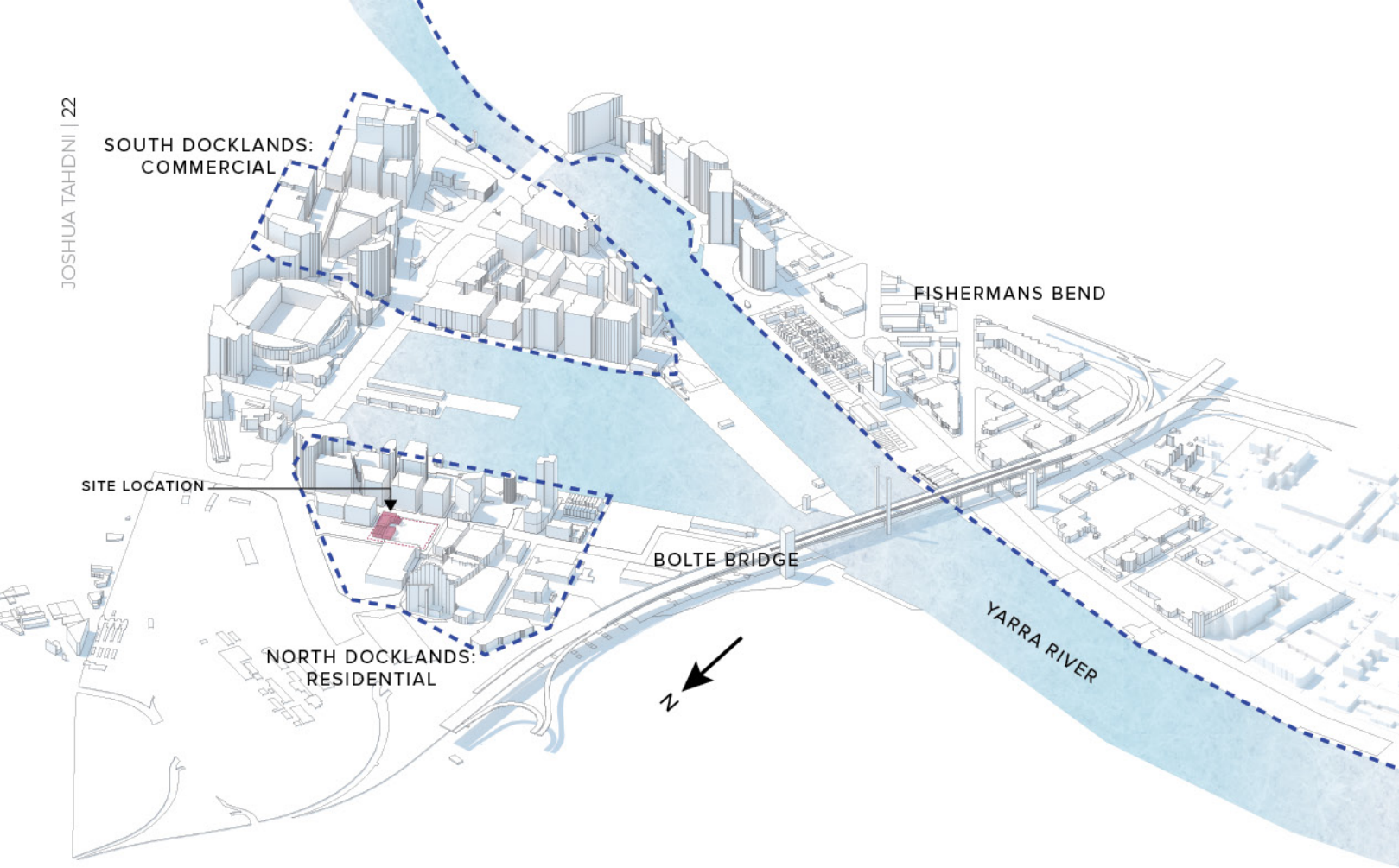
With our spaces, we decided that there should be informal learning spaces (yellow) placed in between classrooms and library spaces (blue) to create thematic areas of play and to provide alternative spaces to teach. Each informal space is thematic.



Above: The ground plan show casing how the team organised the different spaces between the school and local community facilities.

Above to the left: Spatial arrangement strategy, we decided to do, thinking about spaces that could be used by the school and community.

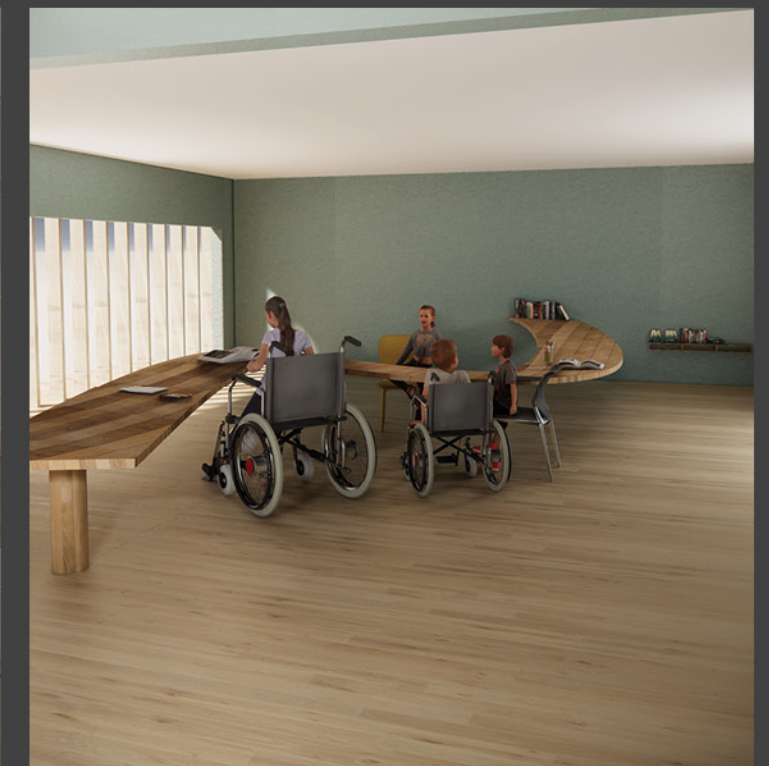
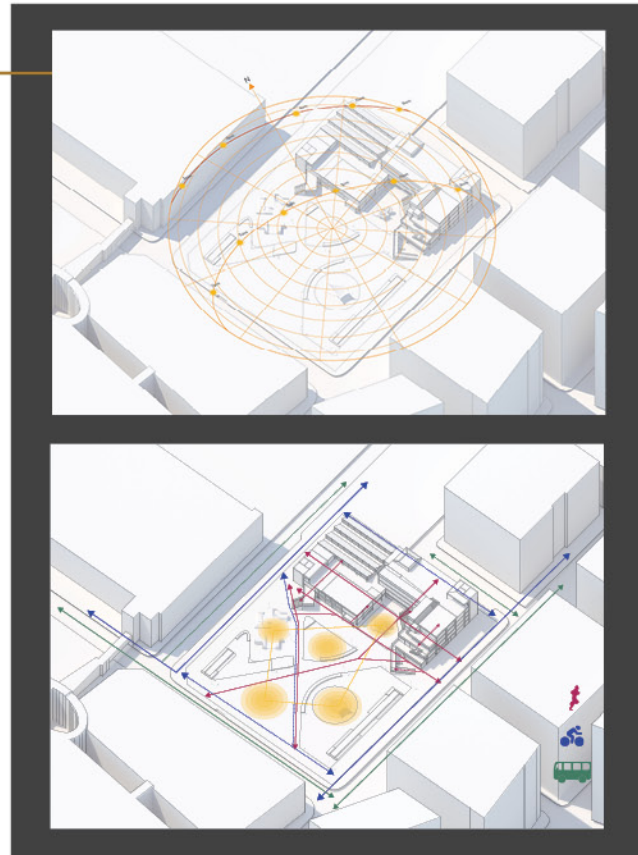




## Urban Design

Our team chose Docklands based on metric data available to us and the need for disability schools within the inner suburbs and CBD. Furthermore our financial team identified new upcoming homes as well as predicted increase in families, domestic and international, intending to move closer to the city.

In addition to meet our sustainable objectives, we had to design for natural sunlight, sun paths and sunlight contact. The design itself couldn't exceed more than 35% of the lot therefore we terraced the design down, to remove the sense of verticality of the school, but to also integrate the design into the local context. Furthermore working with our Lifecycle team we designed the vertical building to be a timber structure that would be disassembled, as an attempt to leave little impact of the local environment and reuse the materials elsewhere in the future.



The classrooms were designed to have different learning methods for different disabilities such as parametric tables, hands on learning, universal symbols etc. Natural light was important to us to remove reliance on lighting and to create a more inviting space for learning.





# CROSSING THE VEIL

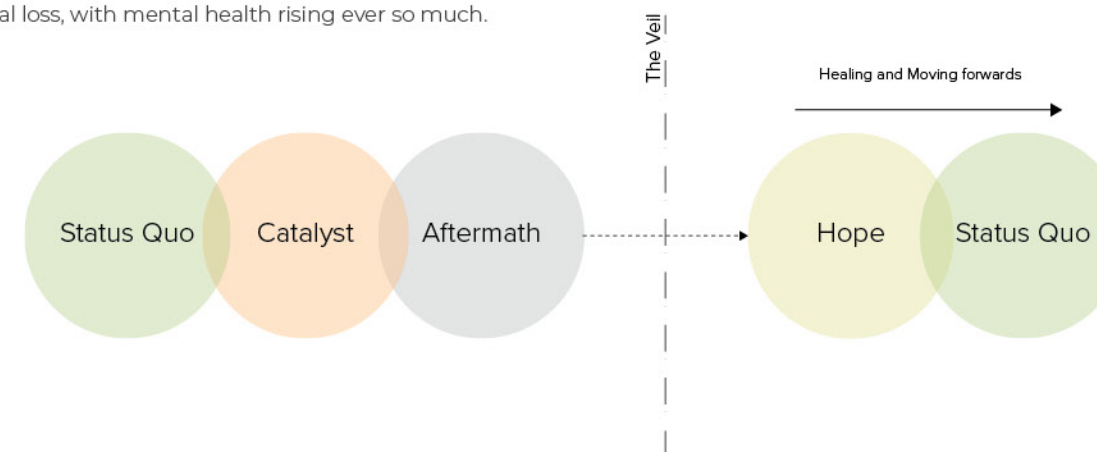
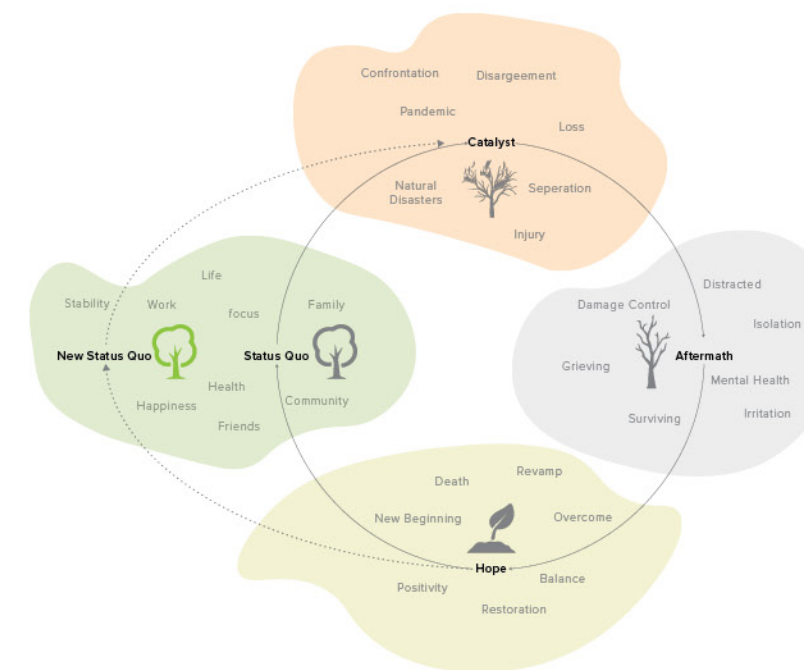
- Project Date: 2021
- Organisation: Trethowan Architecture
- Role: Architectural Lead

The proposed project engages with mental health and people going through change. We identified bushfire cycles to represent this cycle of change (right).

The pavilion takes the audience on an emotional journey to feel this emotional journey, to spark discourse and memories of the past. The pavilion takes the form and weight of the issue, something unavoidable. The name "Crossing the Veil" represents the person reaching the catalyst moment - the catalyst moment where they either cross into the pavilion into the shadows.

The pavilion takes a sculptural form, made from corten steel, to limit light and feel enclosed to create an uncomfortable environment. This is to recreate the sense of change: something that is uncomfortable and scary yet provides light at the end of the tunnel.

Trethowan Architecture wanted this pavilion to be a place for discourse considering the amount of change in the last fews for people including but not limited to: Covid-19, bushfires, floods and personal loss, with mental health rising ever so much.





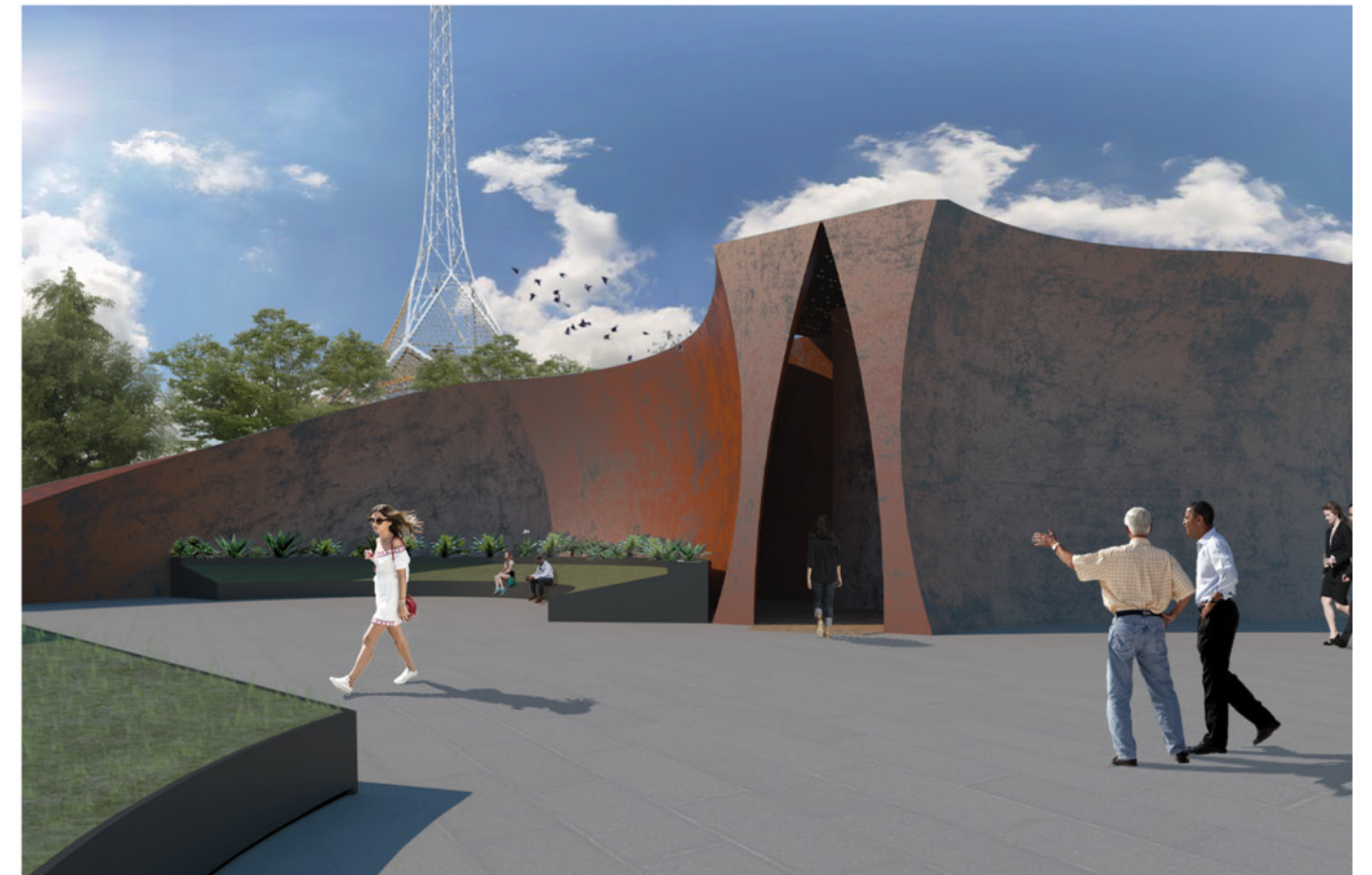
## Spatial Arrangement and Engagement

The pavilion was arranged as if one approached a challenge/change that appears to be overwhelming. This meant scale, intensity and the human perspective were key. As one "crosses the veil" inside they are faced with their first obstacle. Which way to go? As if they're blind to what they need to do. If the participant goes right they hit a dead end: a false start which provides a small opening to where they should be going mimicking a rock bottom, but rekindling hope.

Once they traverse the journey they hit the inner atrium: relief, a moment of respite after facing the darkness. This is a chance to breathe and to feel less suffocated and more open.

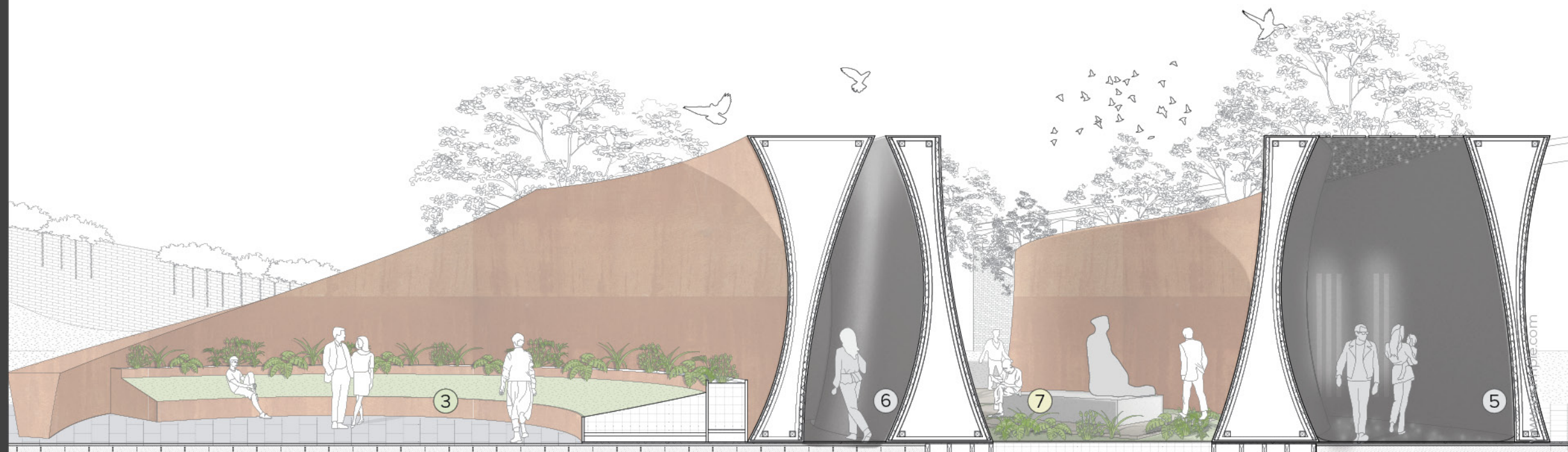


When one approaches the pavilion one sees an ageing entity, one that won't go away with time and becomes more prominent to the audience. How they engage the pavilion is their choice. Avoidance means sitting with your back to the issue as it looms over you...



The pavilion was designed with sculptural walls in mind, meaning that we had to think about how it could be constructed. Laminated timbers and bolts were the core elements to create frames that are arrayed in curving motions with corten steel panelling. The second component was the ground material: dry sand and mulch to help further reinforce a sensory journey whilst traversing the journey and pavilion. The finishes chosen were a representation of change, a natural and evolving thing that changes every time you visit.

Every individual is meant to experience the pavilion differently from another. This is an attempt to create discussion and spark memories of the past. This emotional response is what is supposed to connect people to the design.







# COMMON GROUNDS

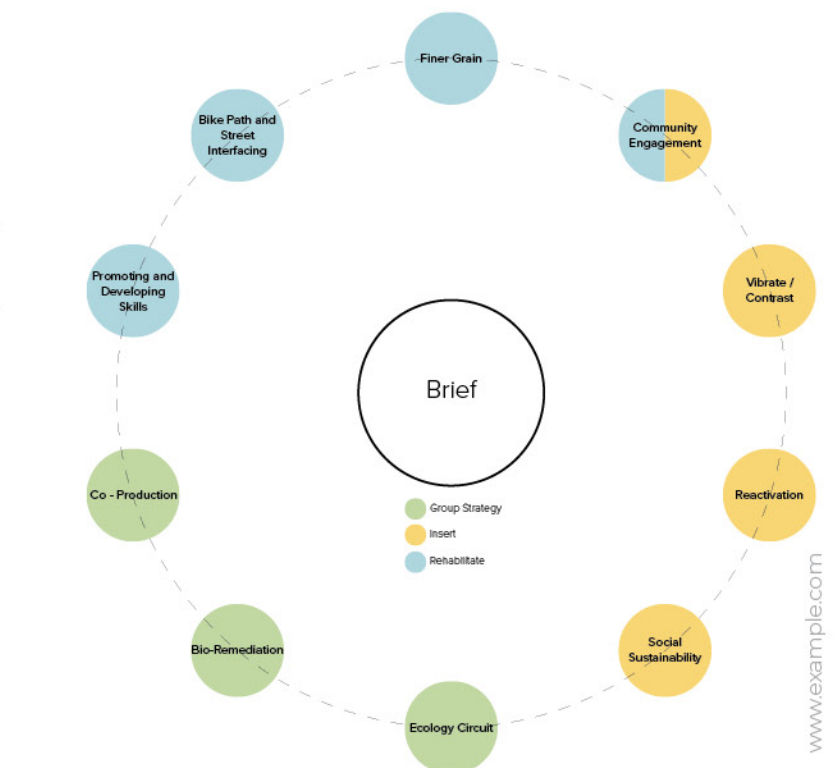
- Project Date: 2020
- Organisation: Monash University (Final Project)
- Studio: Insert, Augment, Rehabilitate
- Role: Student

Common Grounds is a community centre that rehabilitates excess car parking space and industrial space into a public space that allows the growth of a green circuit the studio had proposed. The project would reinforce the already existing public space off Sydney Road and the newly proposed Fieldworks residential precinct.

Important considerations for the project include bioremediation of the site and the inclusion of ecological corridors and co-production spaces as determined by the group strategy but also provide essential spaces for displaced community groups, including dance, art, and reading groups, as well as the variety of cultural groups within the suburb. With this, a key component was the insertion of the landscape and pavilions which help create spaces at a more human scale.

The community centre achieves to become a centre for social and cultural groups to convene in a centralised location. Currently, Brunswick hosts a multitude of social and cultural groups, mostly dance and theatre, however, there is no dedicated space nor a centre for them to gather. Furthermore, the Brunswick Community Centre is designed to reduce its carbon footprint to become thermally self-dependent and reuses the majority of its water. By doing this, the centre becomes more viable and attractive for the local council to accept and integrate within the local context.

The second element is an insertion project containing a series of temporary pavilions including a reading pavilion, mobile restaurants and a basketball court. These can be moved and organised into different variations, however this project works in tandem with the community centre.





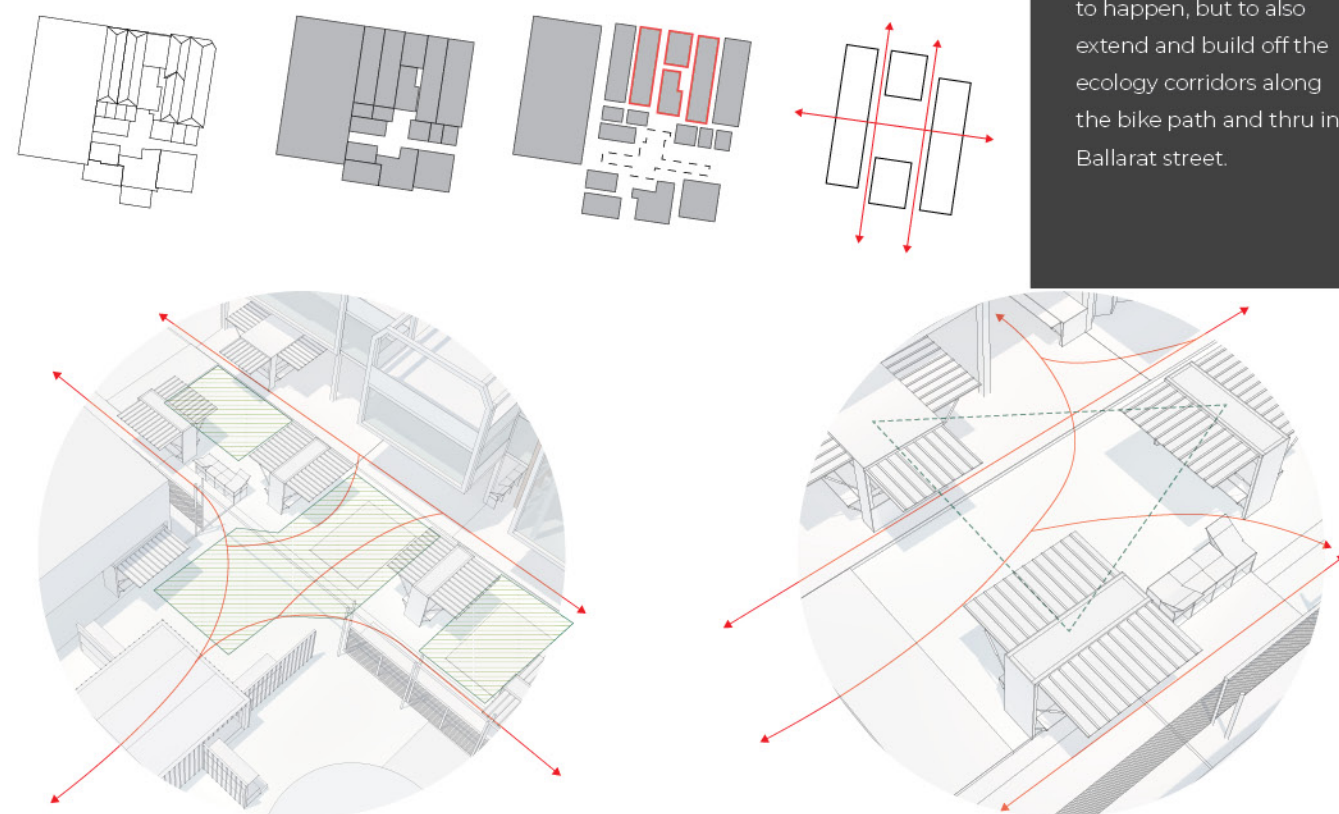
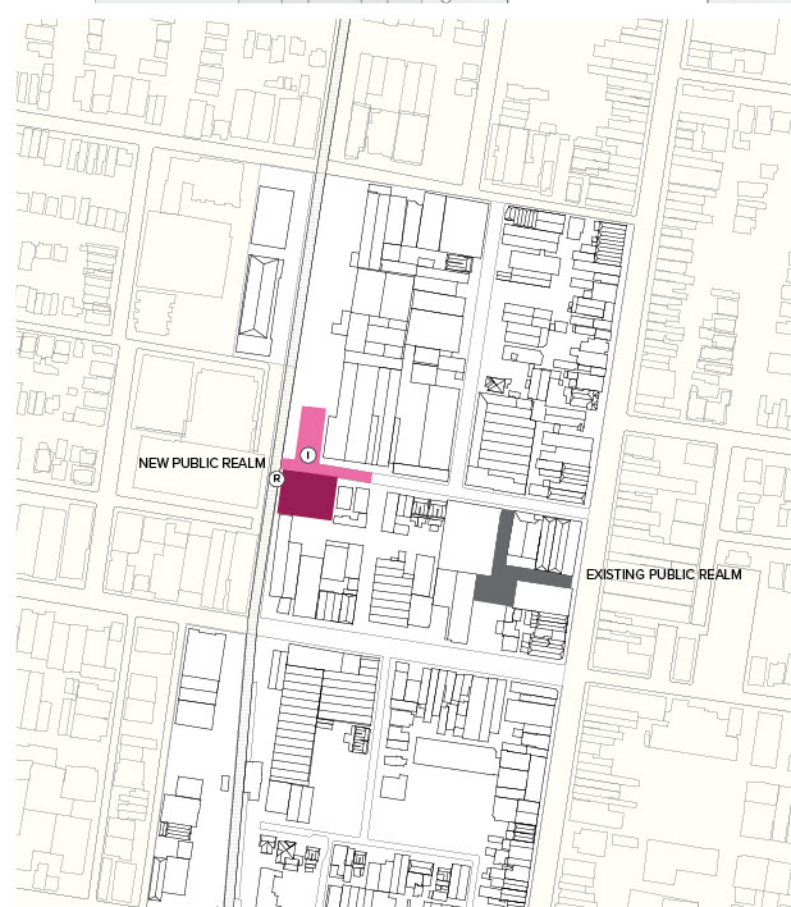
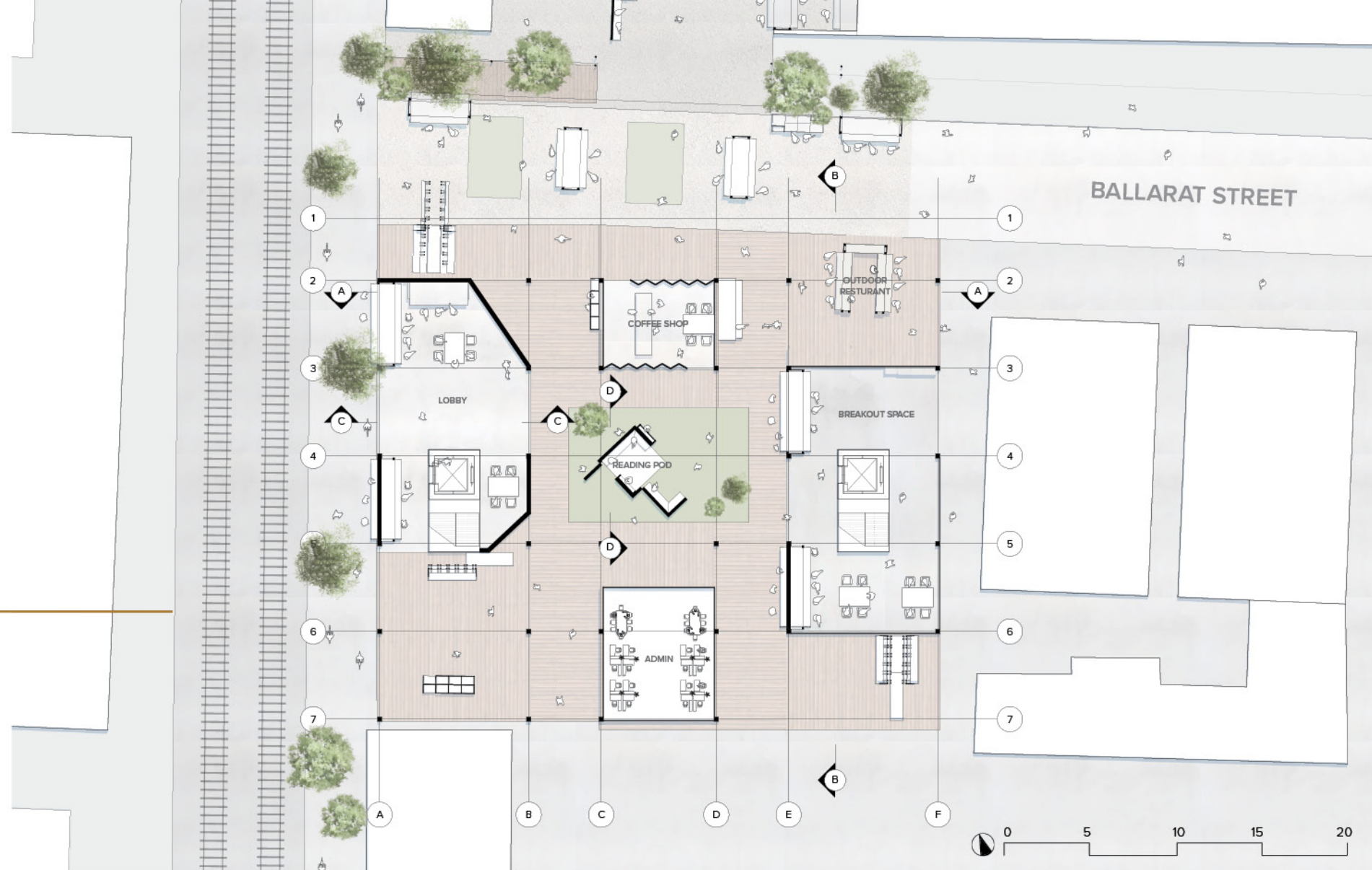
# Brunswick Community Centre

The design of the community centre has two core programs as well as the flexibility of a civic building. These two core programs are Art and Dance studios and Workshop spaces for book clubs and studying. Breakout spaces are also introduced on the ground floor and second floor, with the latter providing an overlooking view of the public space and generally a tad quieter than the ground floor. The inclusion of garden spaces on top was to align the project with the urban strategy was to play a key role in the internal passive climate system.

The tectonics and ideas were derived from Kengo Kuma's use of louvres from One Omotesnado and Kiroshige Museum, about linear aspects with clean detailing and form creation but also Council House 2 innovative thinking about passive design and reusing thermal energy from operations that create energy and climate conditions that can affect it too.

David Chipperfield's Rowing Museum has also been considered due to its sculptural qualities but also because of the internal arrangement and thought process of the spaces and how they worked together.

Lastly, Spare Space by Jack Brandsma was used to consider the design of the streetscape interfaces and yatai-style dining and restaurants as well as reading and working pavilions.

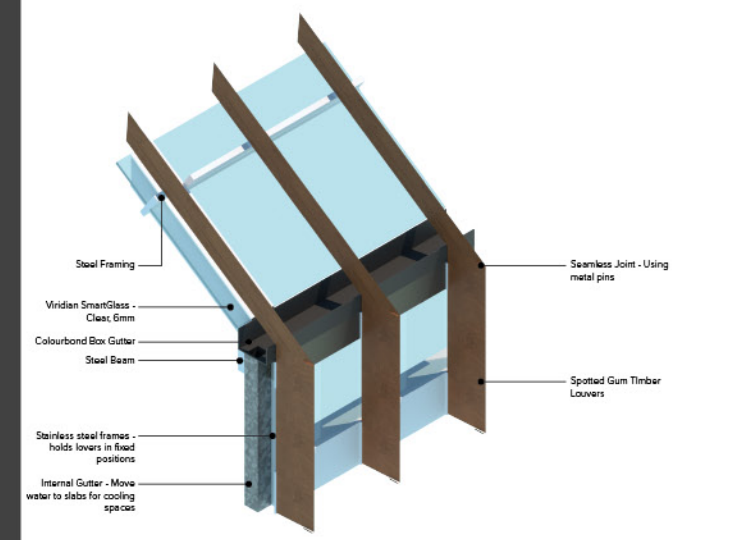
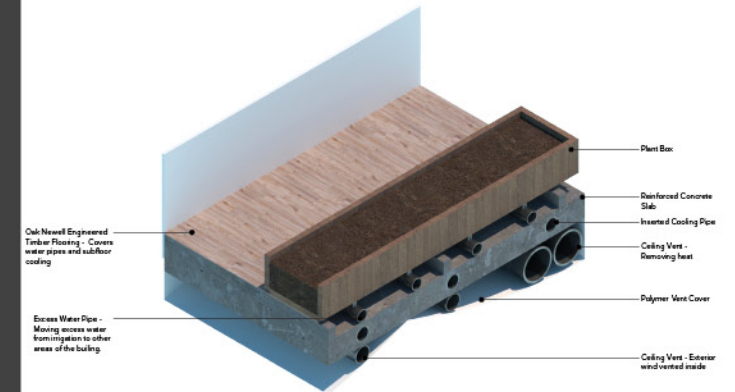
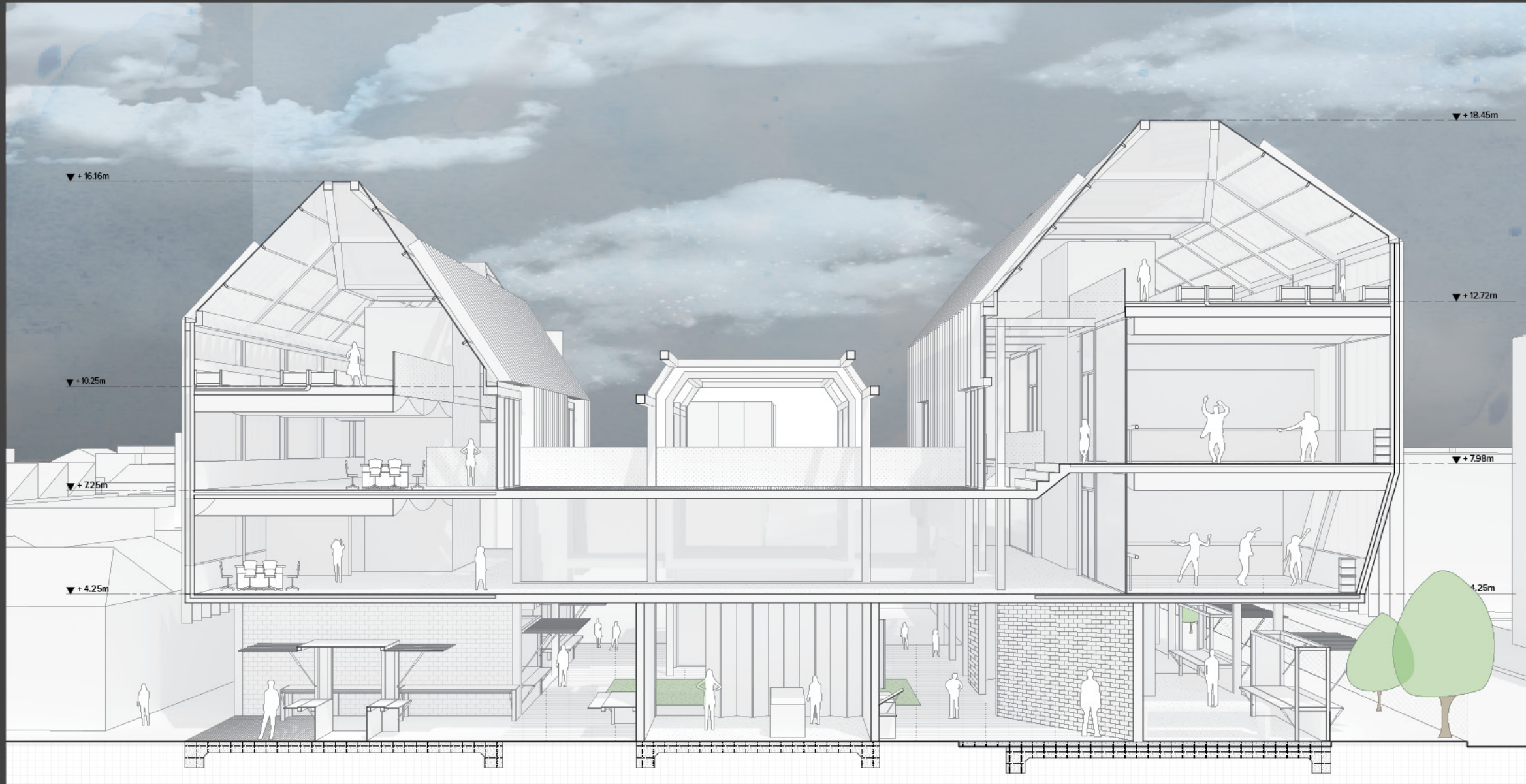


The community centre is connecting itself to the landscape, the adjoining roads and the bike path. To help bring the bike path in arterial pathways and viewpoints were created, as well as creating low wall spaces, breakout areas, and placing bike racks on the peripheral edges of the building.

Its urban integration was derived from the existing grain which was designed through iterative design to understand the urban grain and porosity.

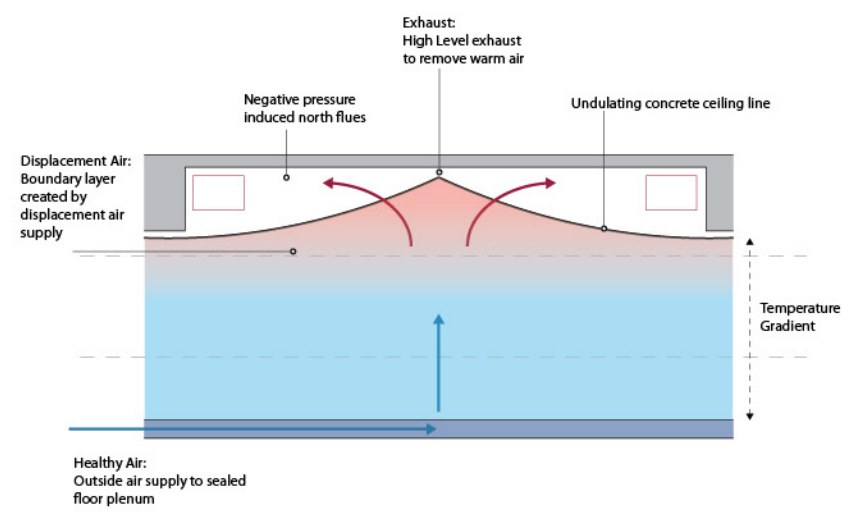
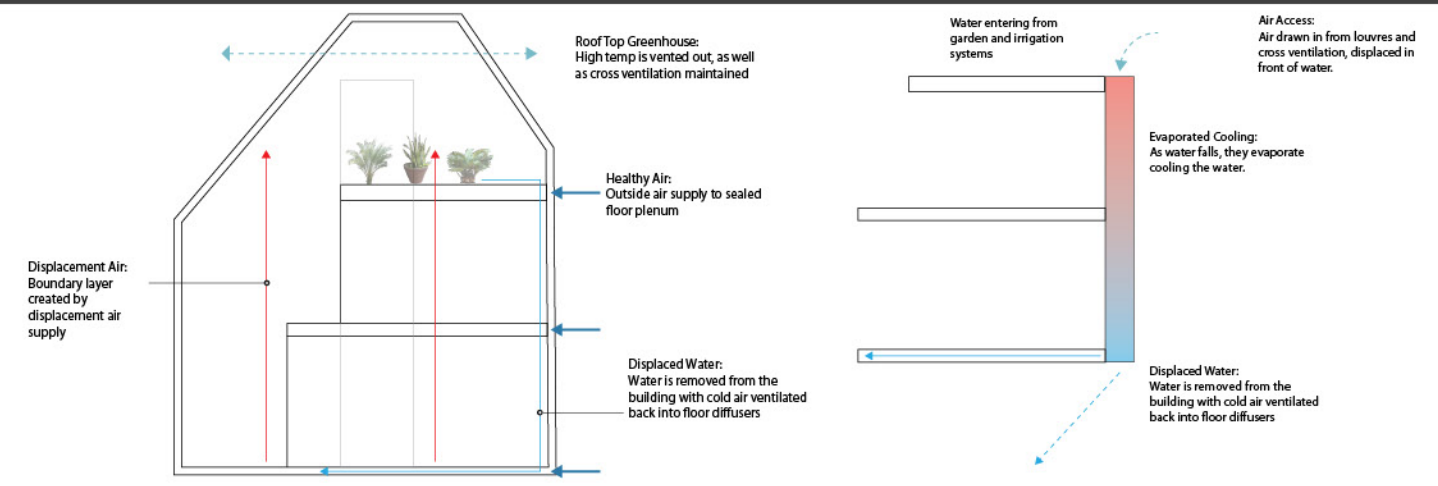
Pavilions have been placed within and around the ground floor as an extension of the landscape, as well as a reading pavilion in the centre that uses the take a book leave a book idea. The extension of the landscape allows for this important bioremediation to happen, but to also extend and build off the ecology corridors along the bike path and thru into Ballarat street.





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The passive cooling system is based off form council house 2 and uses outside air, cross ventilation and water cooling to refresh the temperature within a room through displacement. The heat rises and creates condensation from the water of the plants and irrigation systems, which that excess water to recycled through to building to provide that water cooling. The passive system was inspired by Council house 2, however with some changes to the system. Firstly the need for cross ventilation was important and played an additional role in cooling the spaces, the water and displacement vents. Furthermore, the excess water from plant irrigation and condensation is reused to cool the building through the under-slab venting system.

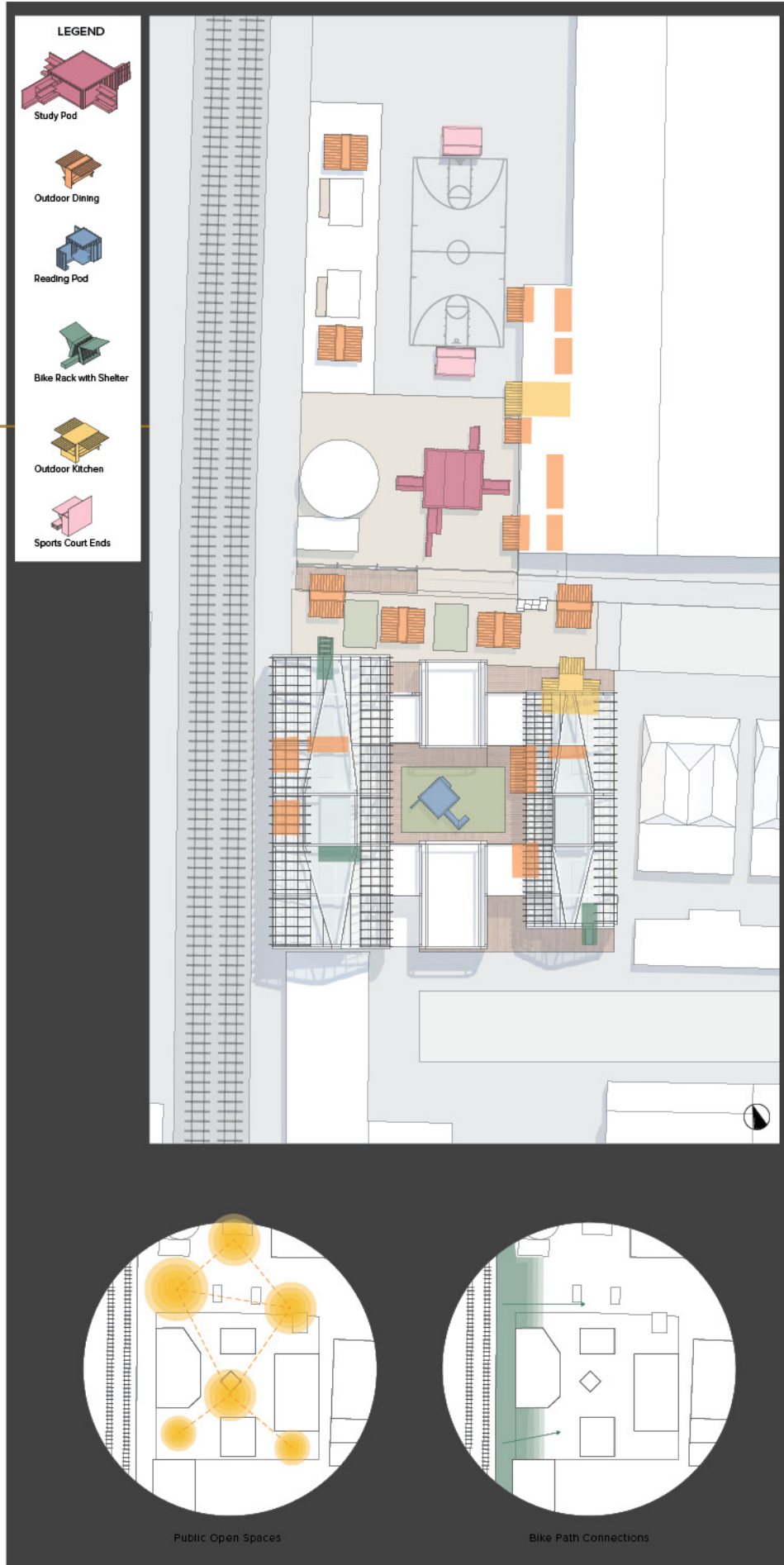


# PAVILLIONS

The pavilions themselves are arrayed throughout the community centre and landscape and create smaller open spaces which feed off from the bike path connection that starts to bleed in through the use of the ecology corridor.

The pavilions themselves are inspired by yatai style restaurant in Japan and Spare space projects, a series of a box that opens up to become desks, shops and tables.

These pavilions are more human-scaled and look to be very simple in their nature, and are a series of ideas that make up a public space, such as reading and study pavilions, yatai kitchen and bars, bike racks and Basketball nets.



There are amenities which the site does not provide and in a public space some of these aspects should be present in my point of view.

Keeping them more human-scaled was also an idea of reviving community engagement and creating a chance for people to talk to others and smaller interactions in between.

They use gas struts to open and lift the panels and create shelter. The pavilions also get their material from the timbers and soft use of materials from the community centre, as well as the vertical lines being a mimic of the louvers themselves.





# RIDDEL HOUSE

- Project Date: 2021
- Organisation: Independent (in a team of three)
- Role: Architectural Lead

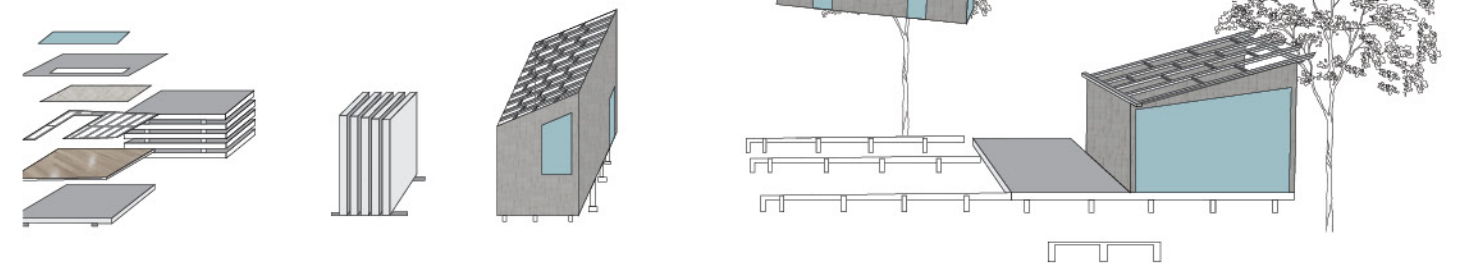
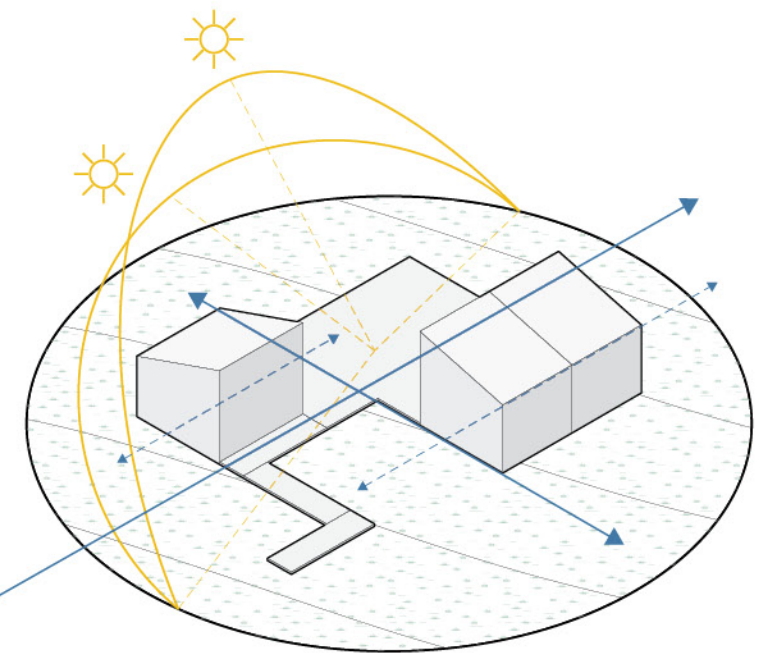
The Riddell house is a modular construction that combines home, garden and a small kitchen workspace designed to cater for industries not typically able to work from home.

Our proposal provides those in this situation an affordable and quickly assembled place to live and work, without needing to be in contact with others during times of high Covid risk.

We demonstrated this housing model at the base of Mount Riddell, close to the urban-center of Healesville in Victoria, Australia. The proposal is expressed across two modules, one for living, one for work, with a garden and open deck positioned to provide for both.

The workspace being organised to accommodate an occupant from the alcoholic beverage production industry - Which Census data shows a high proportion of the Healesville population works within.

This project was a competition entry into the Volume Zero Magazine 2021 Treehouse Competition, containing myself and two others.



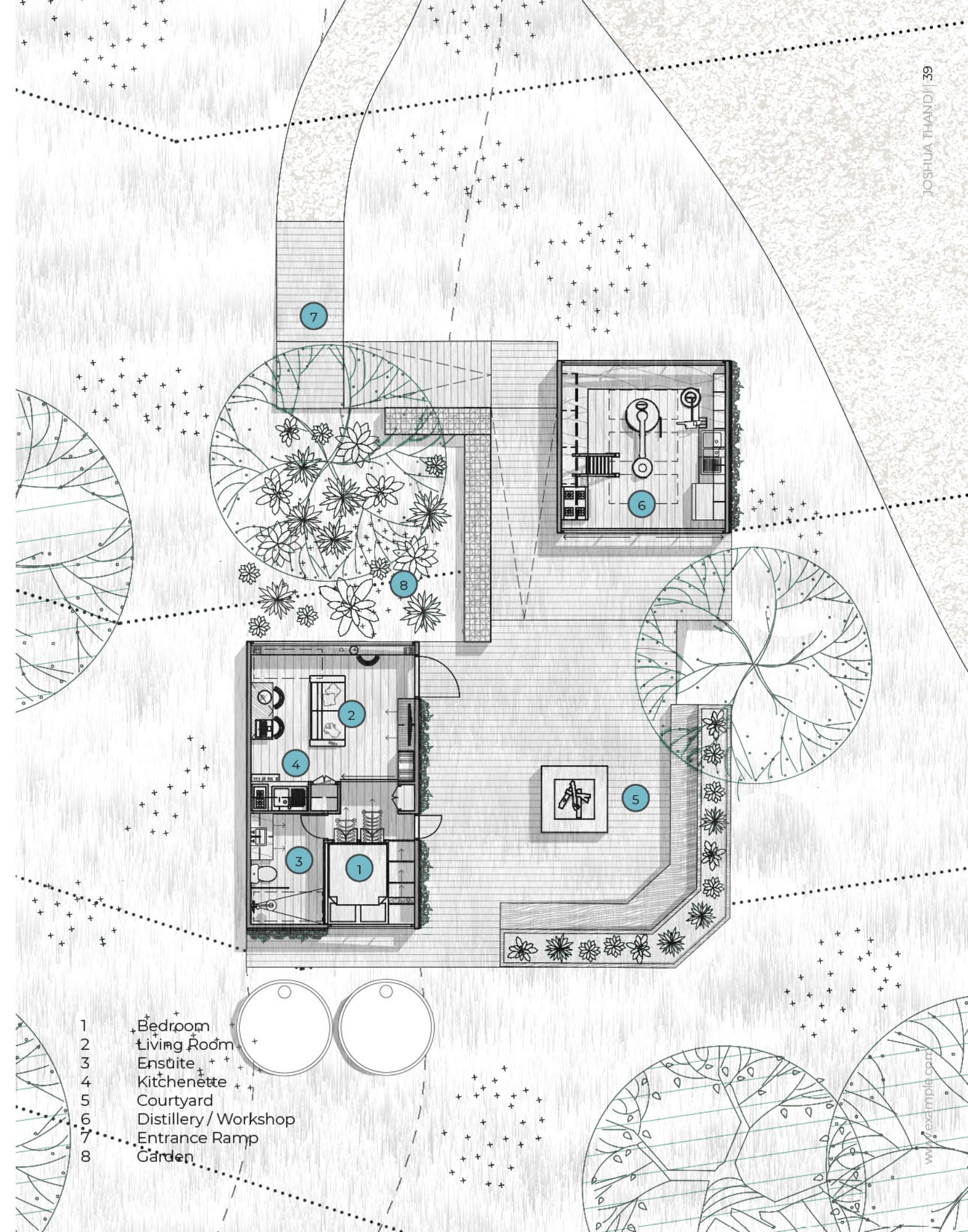
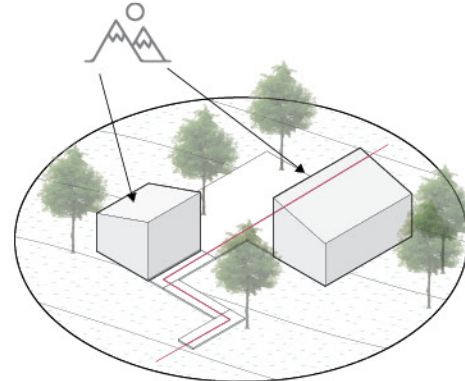
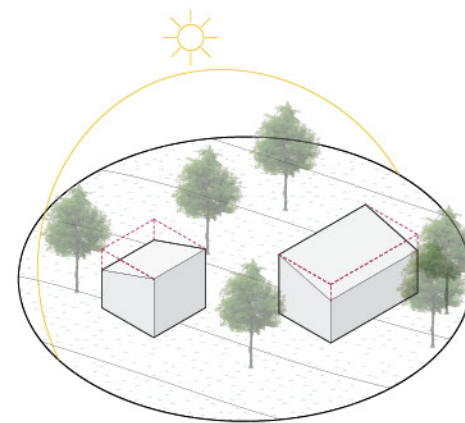
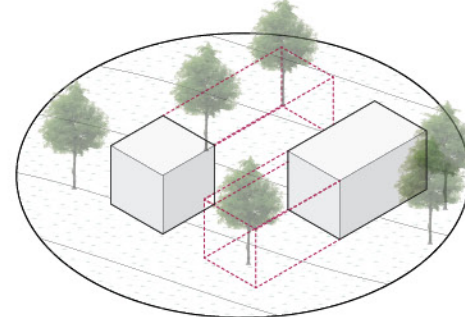
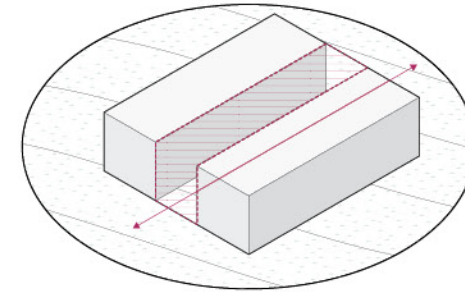
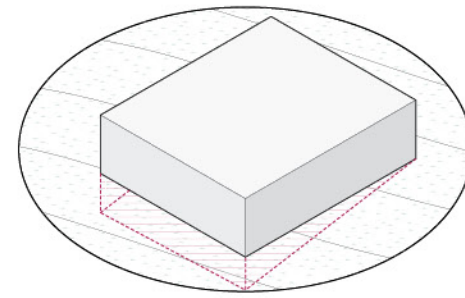


## Spatial Arrangement and Engagement

The modules are designed to be constructed in 2-stages. Being built off-site before being transported by truck or helicopter to site: Where smaller details, including decking and joinery are completed by unpacking their respective components from the module structures.

Designed in a courtyard typology was favoured over a single joined unit to connect the residents to nature and create a connection with their environment. This space is multi-purposed to be able to hold small events and functions for the distillery.

Architecturally the Riddell House aims to invite the occupant on a journey to reconnect with nature, respecting the land whilst reclaiming and extending on the old Riddell track in the area.

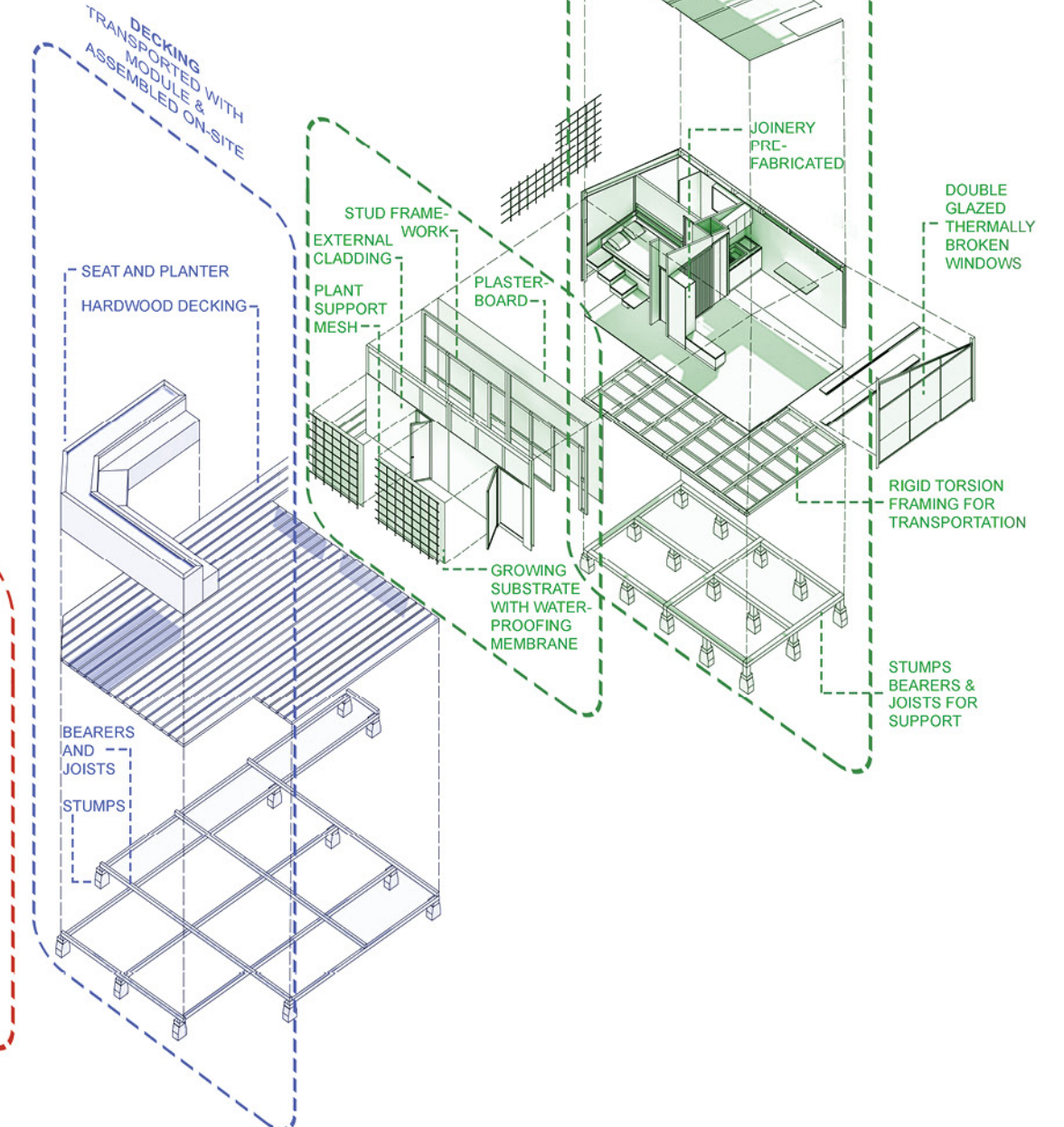
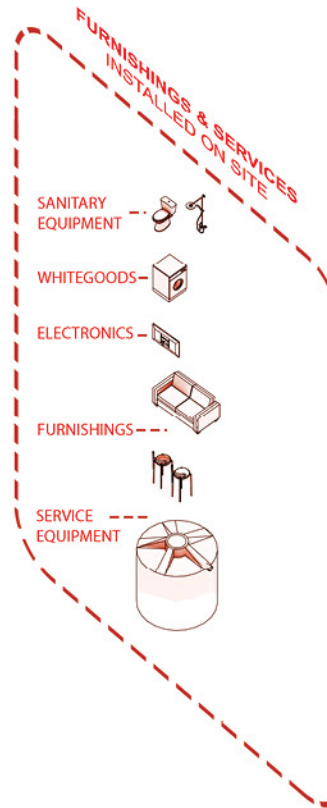
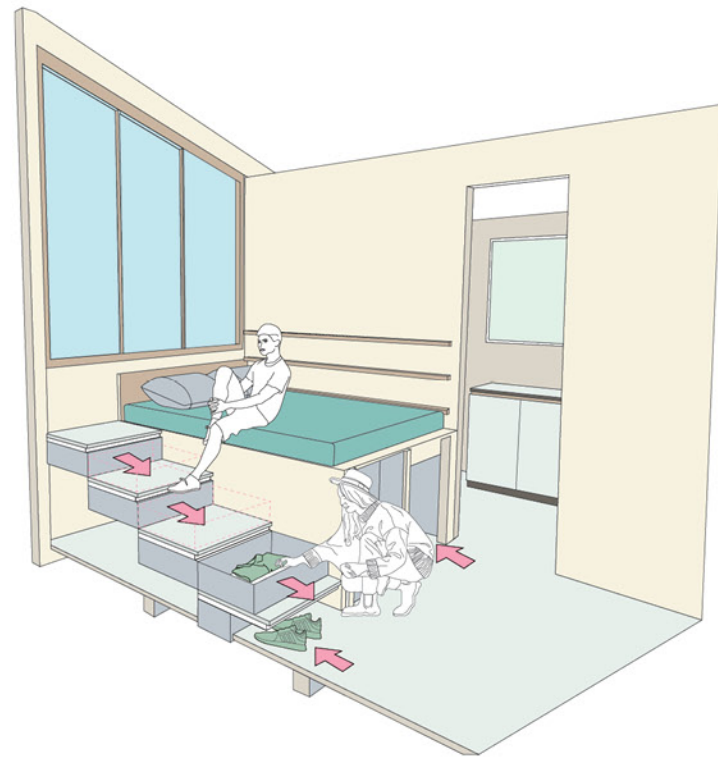
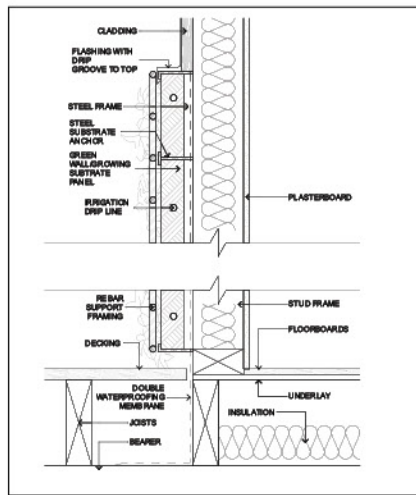
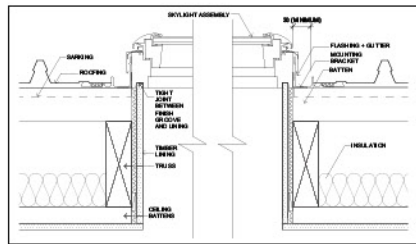


- 1 Bedroom
- 2 Living Room
- 3 Ensuite
- 4 Kitchenette
- 5 Courtyard
- 6 Distillery / Workshop
- 7 Entrance Ramp
- 8 Garden



# Detailing and Construction

When it showing the construction of the modules, detailing was core to explaining the project. The modules th timber cladding with some portions holding rebar steel framing for vegetation to grow. This si to embed the home within the context further and provide a more organic feel tying in with the gin distillery and experimentation. For us it was understanding how these modules could work in most contexts as well as reducing water penetration. Furthermore we have designed a skylight with colourbond sheting for light weiht construction and durability. When we looked at the interior small space design was needed and therefore we made the most out of the stairs next to bed were turned into drawers, with the underside of the bed turned into a pull out clothes rack, providng ample storage for two. Where expressed this further eith cladding to hide the kitchenette and fold out table for eating and studing as well as a daybed shelving.



Construction was an important aspect and how it connect different systems togethr such as hot water, modules, the distillery and energy/sustainability as well as siting. When siting became more specific structure was even more important due to stability, local context movement and incoming foot traffic due to the home distillery.





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