

Sam Roseman

2023 - 2024
University of Melbourne
Master of Architecture

2020 - 2022
Auckland University of Technology
Bachelor of Architecture and
Future Environments

w/ help from many friends

waterweighs	2	a collection of three pavilions along the Birrarung, rendering visible the relationship between Melburnians and the Birrarung, aiming to reconcile and heal through theatre, light, performance, recreation, and ecology and environment.
<i>RAWE! KUEH</i>	6	A passivhaus certified Melbourne adaptation of the vernacular Peranakan shophouse, using theatre and performance to promote kueh as a delicious dessert for residents of Carlton.
Some units, and maybe even a house...	9	A speculation on the futures and opportunities for renovation in the walk-up typology common across Melbourne. Six apartments become a house, maybe two, maybe a unit, and two apartments.
de-Descartes	12	A challenge to the Cartesian nature of architecture and drawing. A speculative proposal on highlighting the passage of time and aging using Event space at the Botany Building at the University of Melbourne.
<i>It's Bussin'</i>	13	A social food service, student accomodation, and a hawker market in Rotorua CBD, interacting and integrated with nearby proposals including a culinary school, waste removal service, and urban farms.
Black Market Lung	14	A marketplace and multigenerational living space, expanding and invigorating the Avondale Markets in West Auckland, negotiating the line between togetherness, and privacy, within a wider walkable community masterplan.

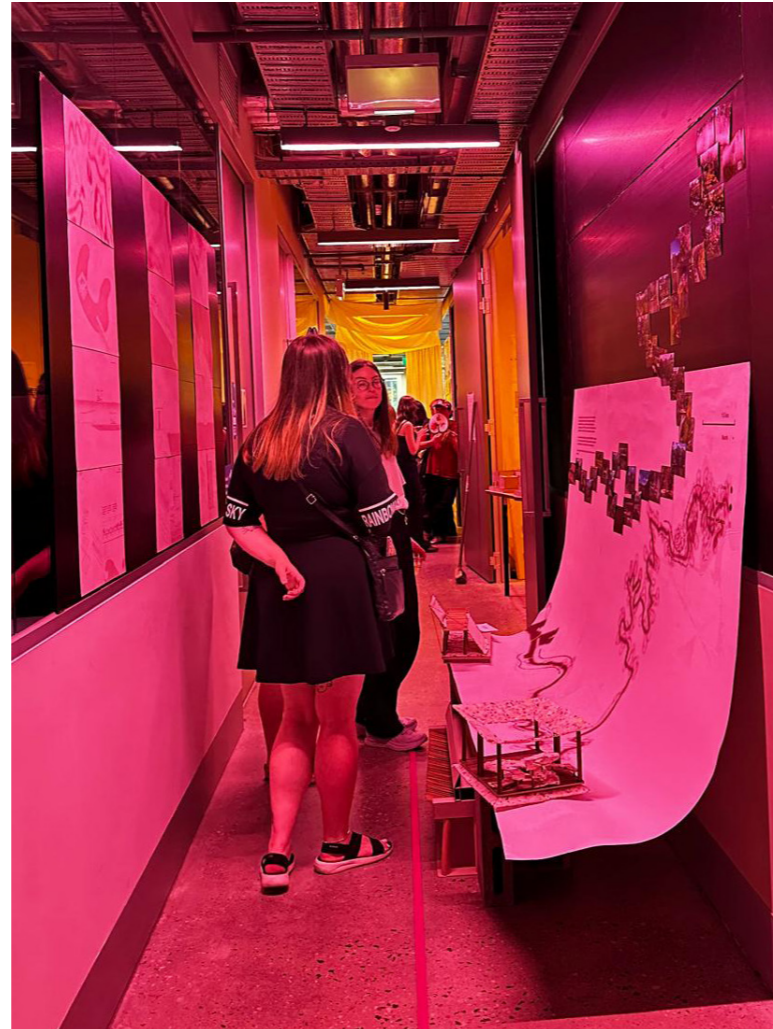
waterweighs

July - October 2024
University of Melbourne
Master of Architecture
Thesis THE06
Anthropocene
w/ Dr. Hélène Frichot and Dr.
Virginia Mannering

This project aims to utilise small scale architectural interventions, built using gleaned materials, to help recognise water's weight. Water waits while we wait, drawing up ideas to help achieve proposals such as OFFICE's aqua nullius and Regen Melbourne's Swimmable Birrarung 2030. Three interventions are proposed:

1. A microtheatre at Exhibition Landing and South Wharf Promenade
2. A camera obscura beneath the CityLink, opposite Herring Island
3. A seed dispersal, on the golf courses in Kew and Ivanhoe.

These are gifted to the Birrarung but are still only three drops in the bucket.



waterweighs

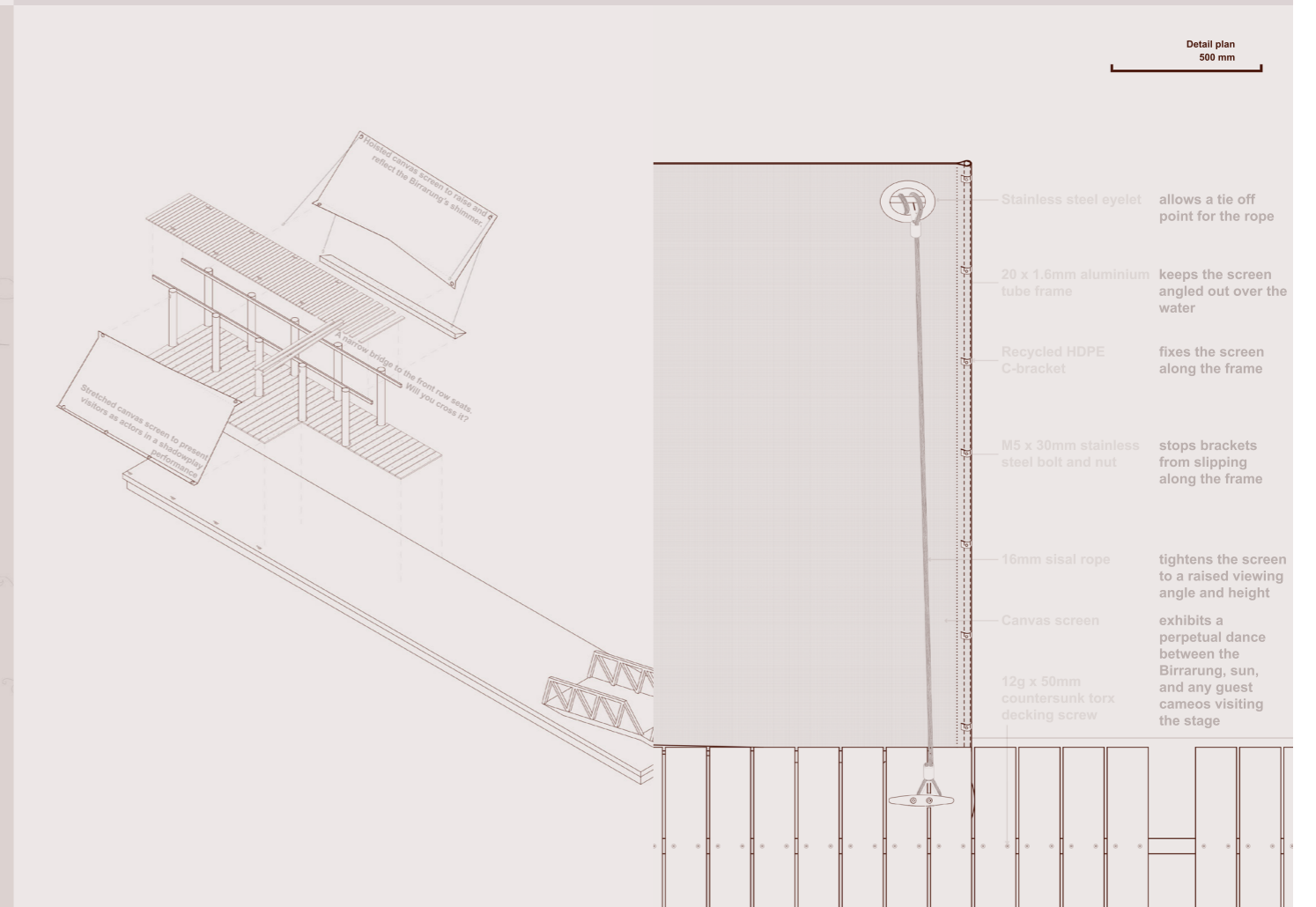
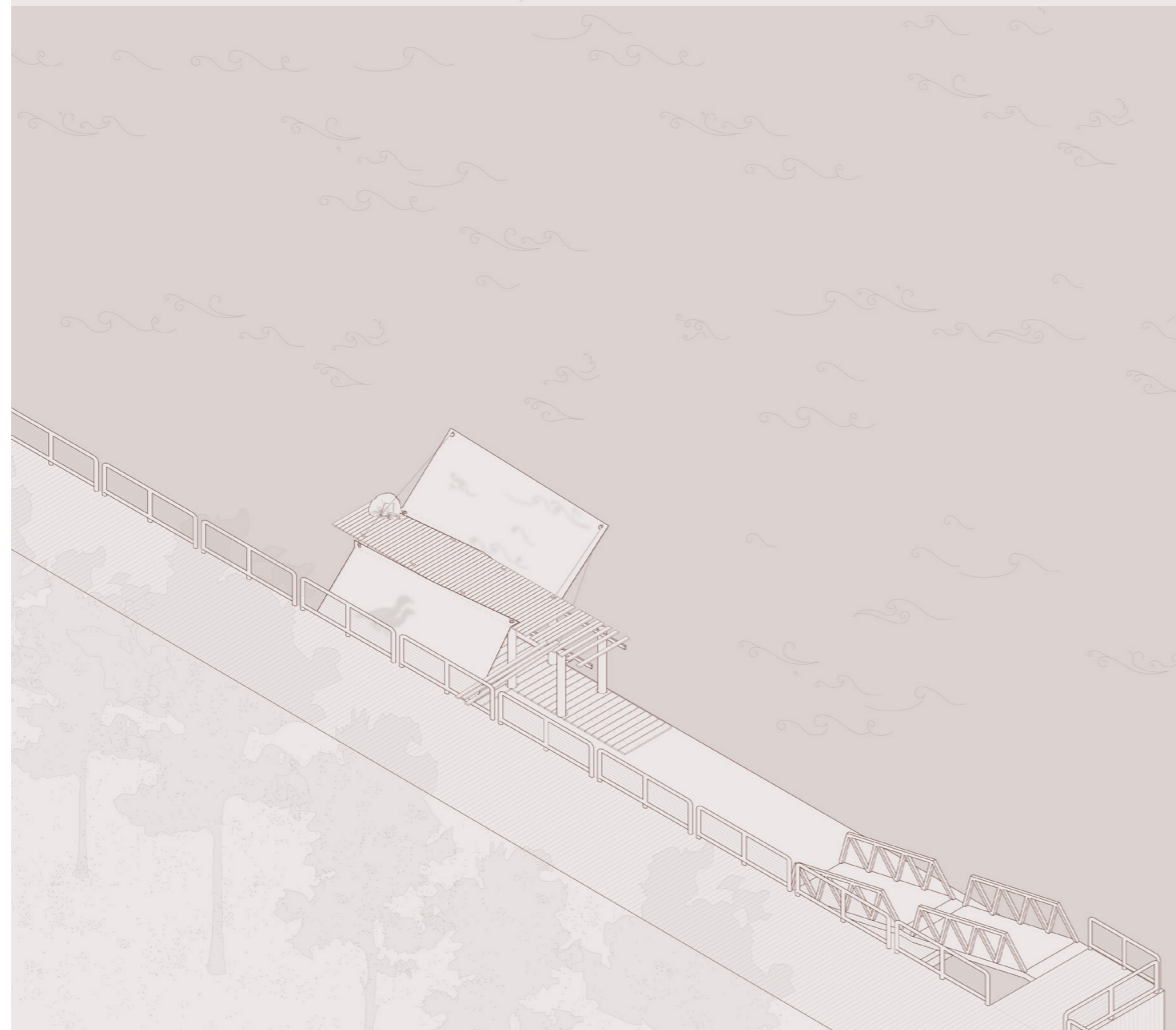
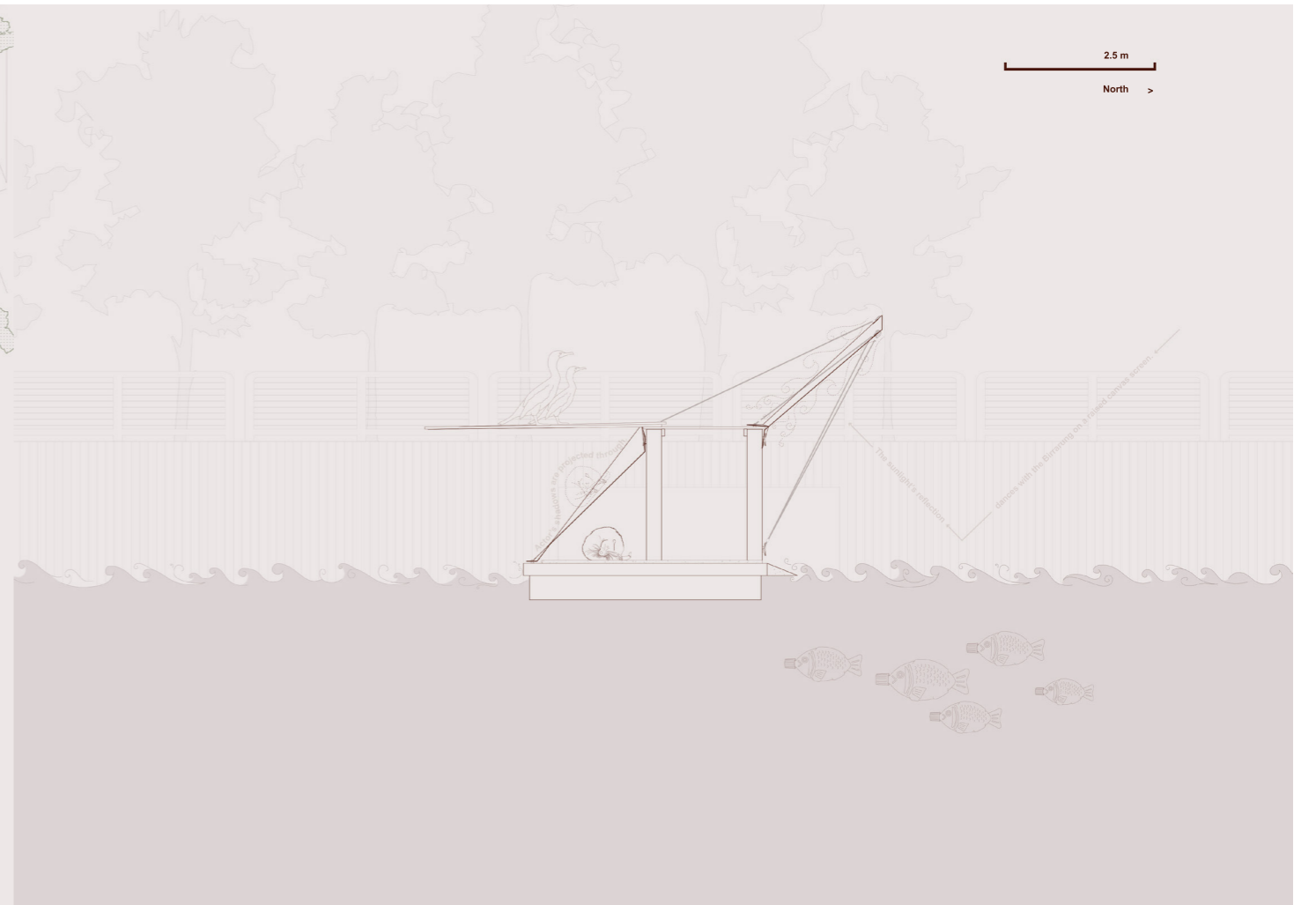
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The microtheatre at Exhibition Landing taps into the entertainment and theatrical theme of its surroundings.

Two canvas screens are positioned to play host to simultaneous performances.

Dancing ripples from the Birrarung are reflected onto the upper screen, a semi-choreographed dance between the water, light, and wind.

Shadowplay of any guest cameos who stumble across the Exhibition Landing stage appear beneath the water on the lower screen, flipping the status quo of always looking down upon the river.



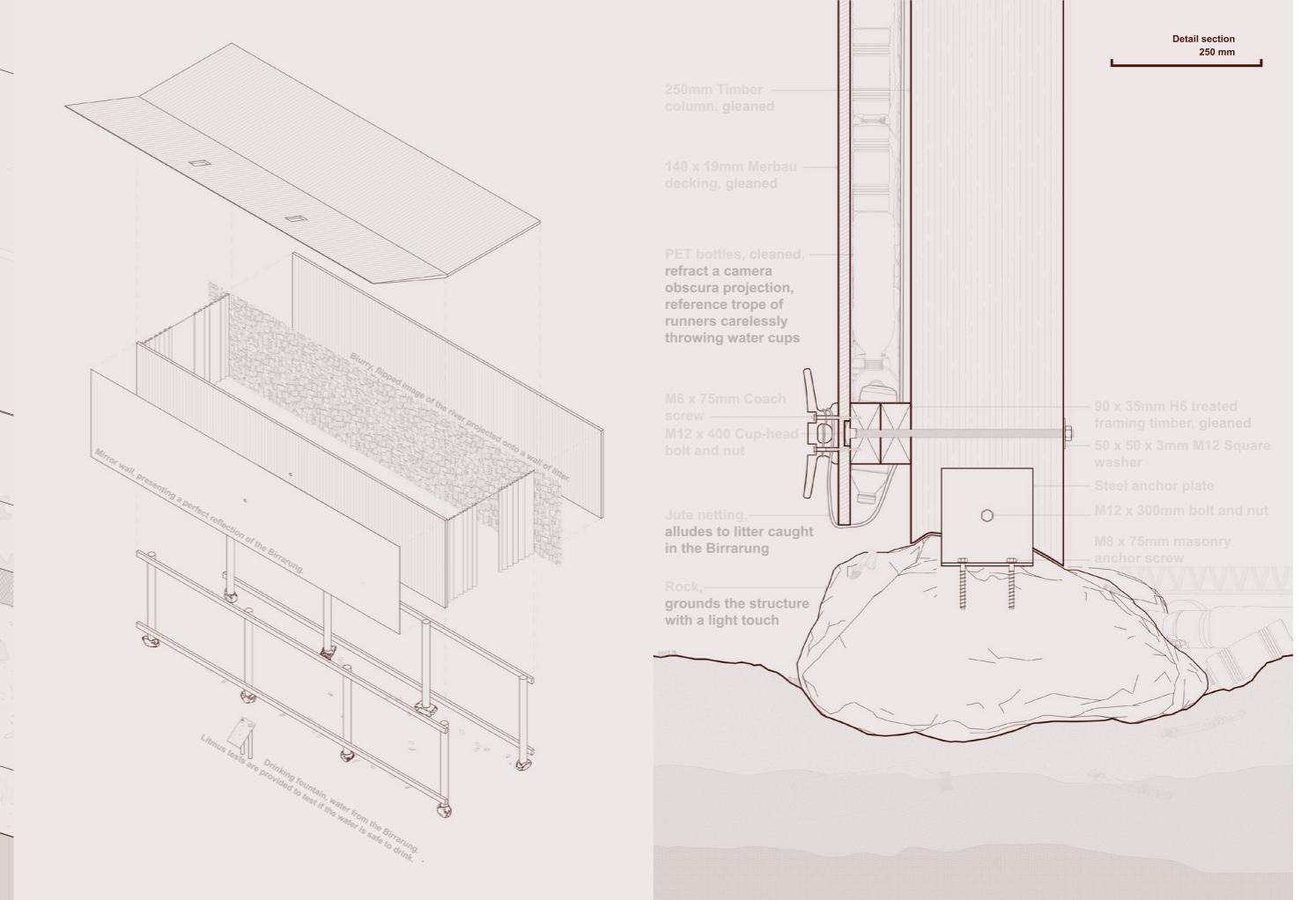
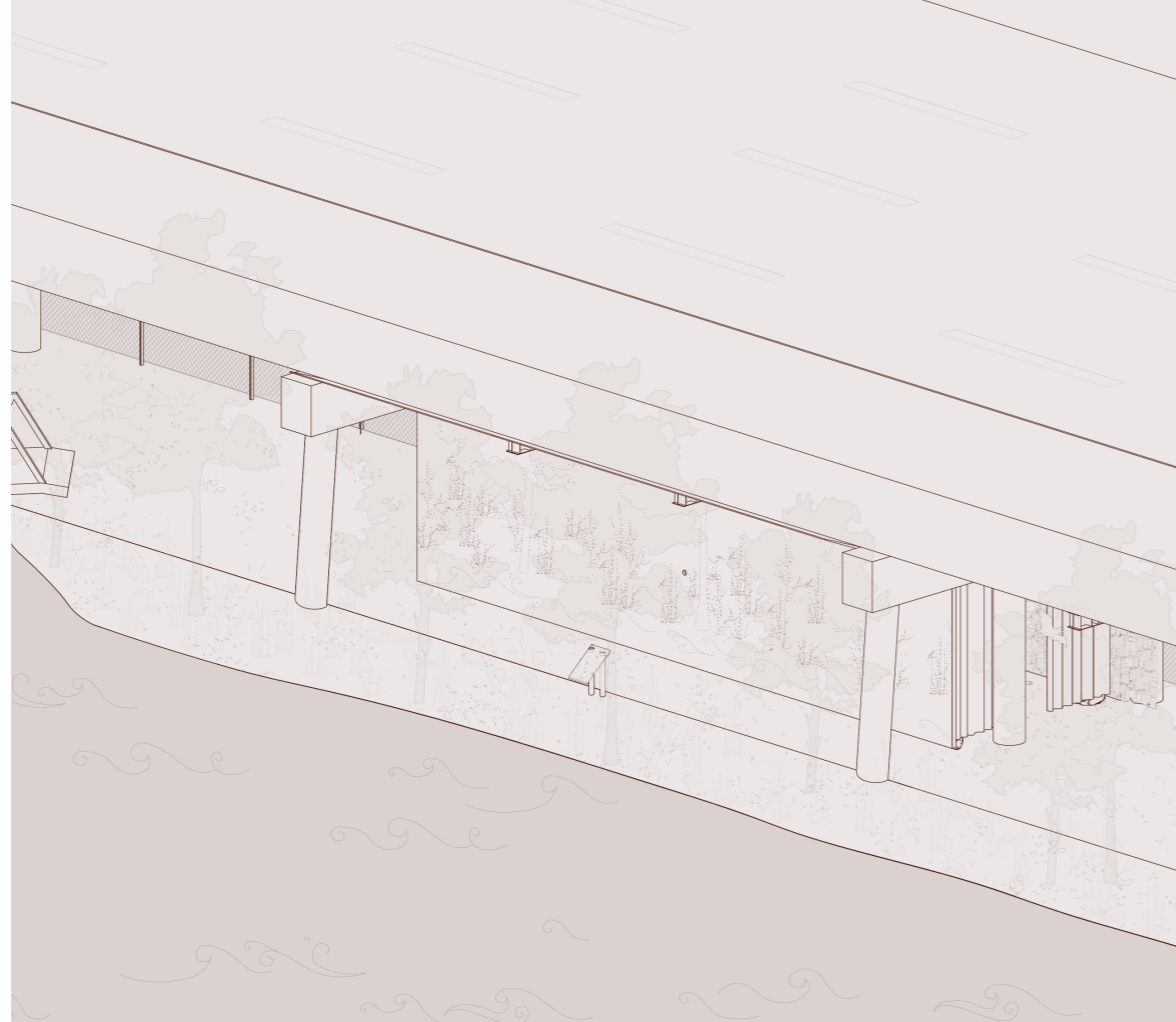
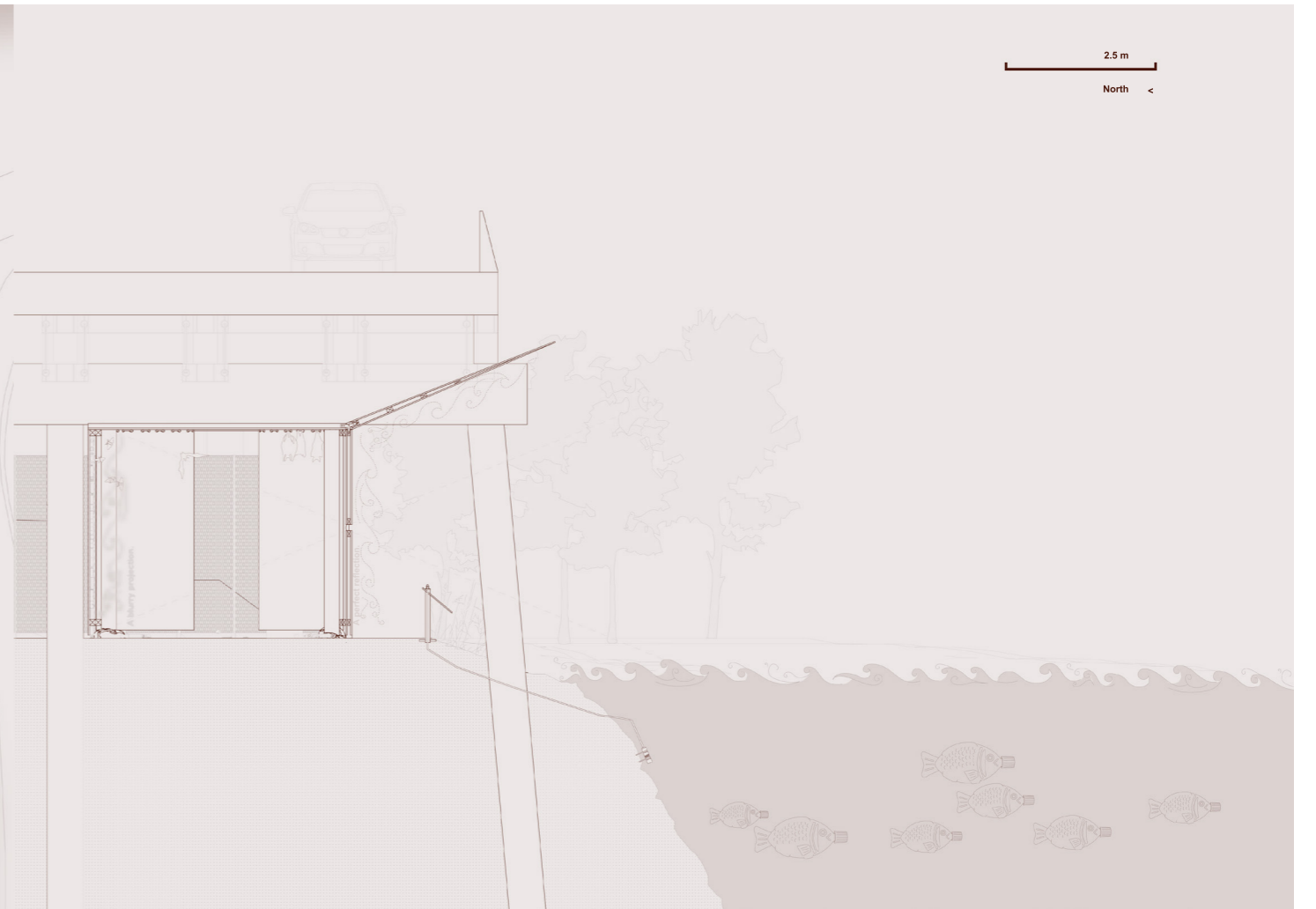
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The camera obscura located on the Main Yarra Trail opposite Herring Island splits the trail into two lanes.

On the outside, a mirror finished running trail reflecting the Birrarung and Herring Island perfectly, with a drinking fountain drawing water directly from the Birrarung. Litmus tests are included in the drinking fountain, indicating whether the water from the river is in a drinkable state acting as incentive to keep the Birrarung clean and healthy.

On the inside, a blurry, mirrored, flipped projection of the Birrarung is cast onto a wall of old water bottles and litter collected from the river, highlighting the current mistreatment of it and pleading for a change in behaviour.



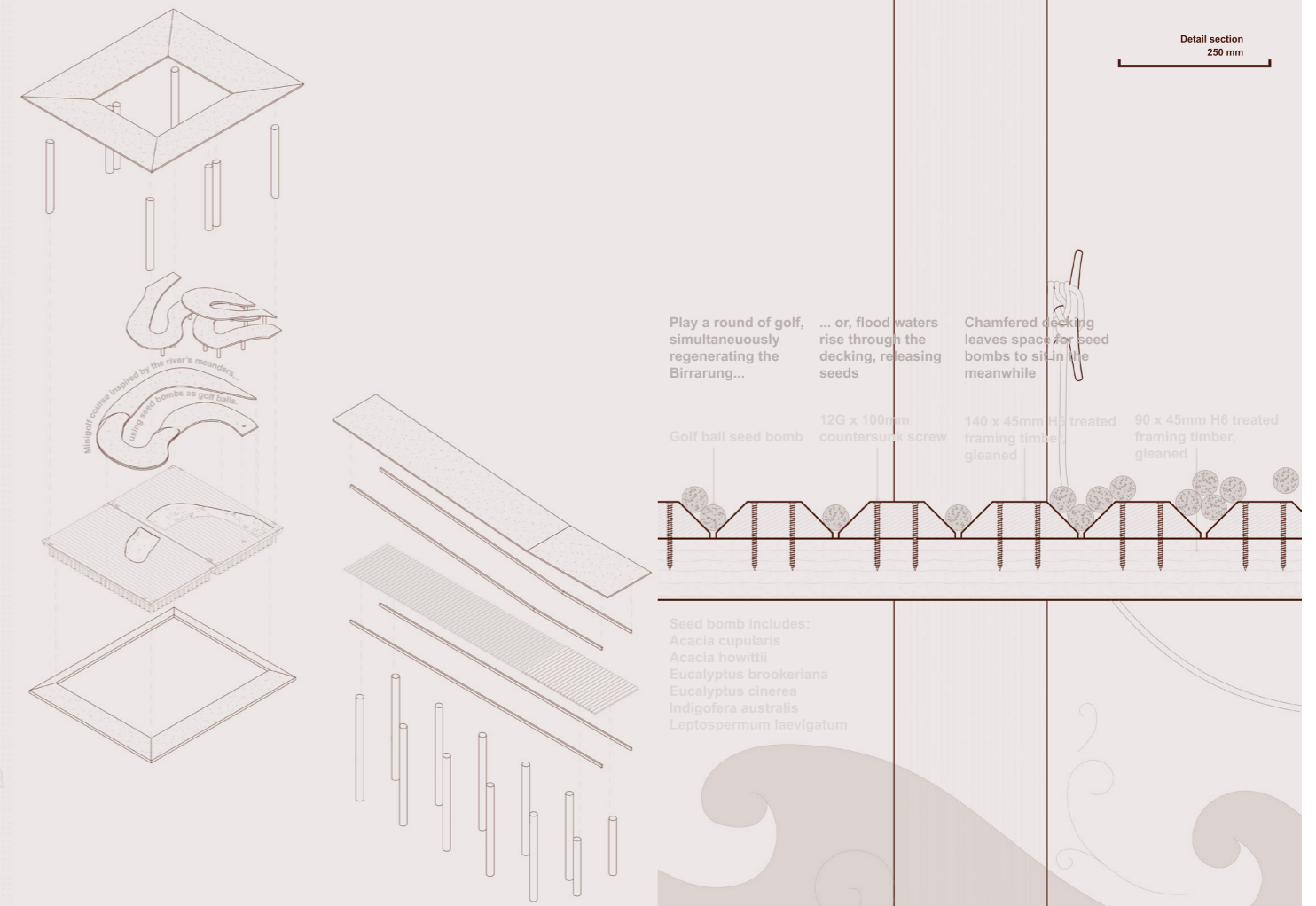
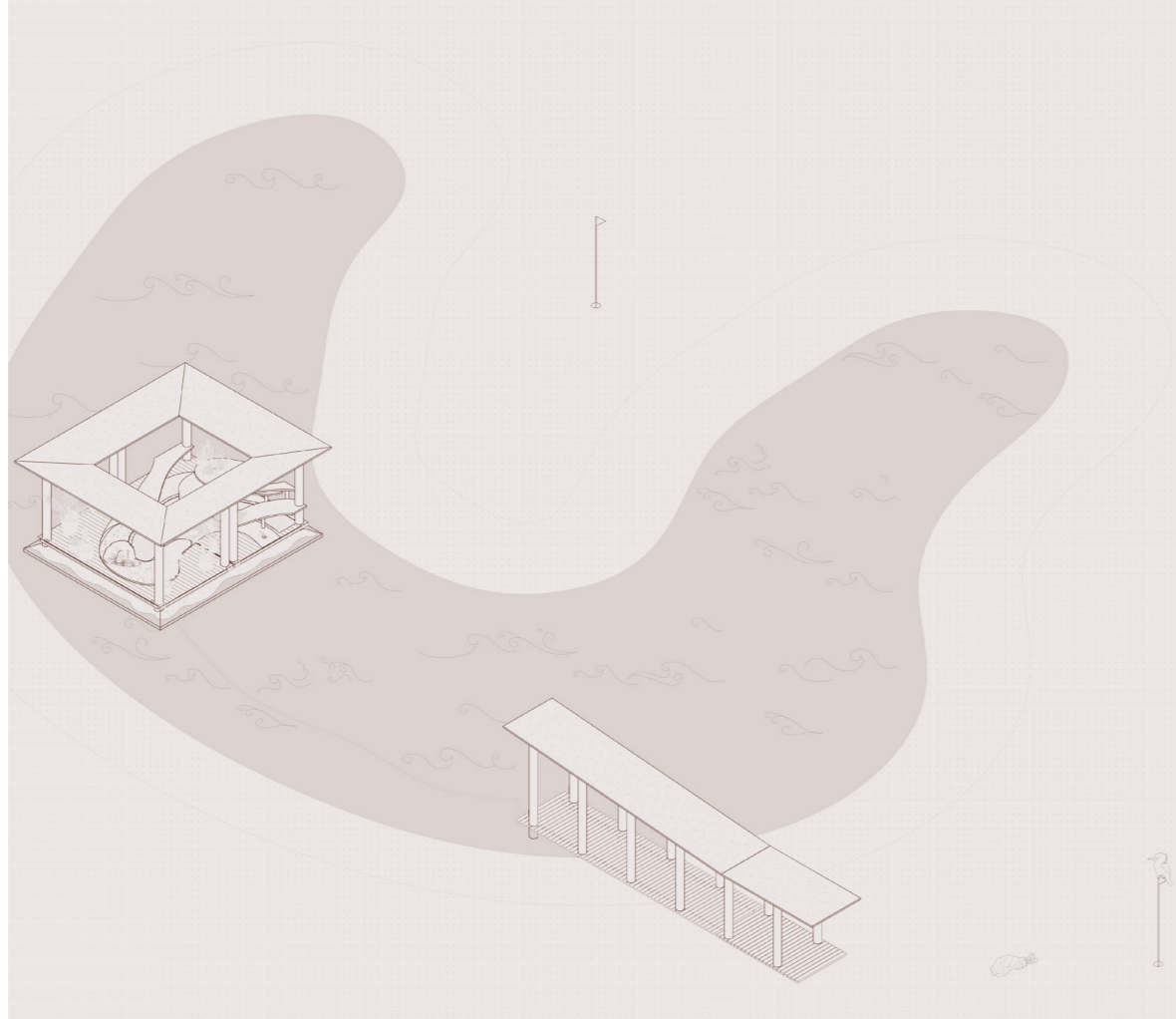
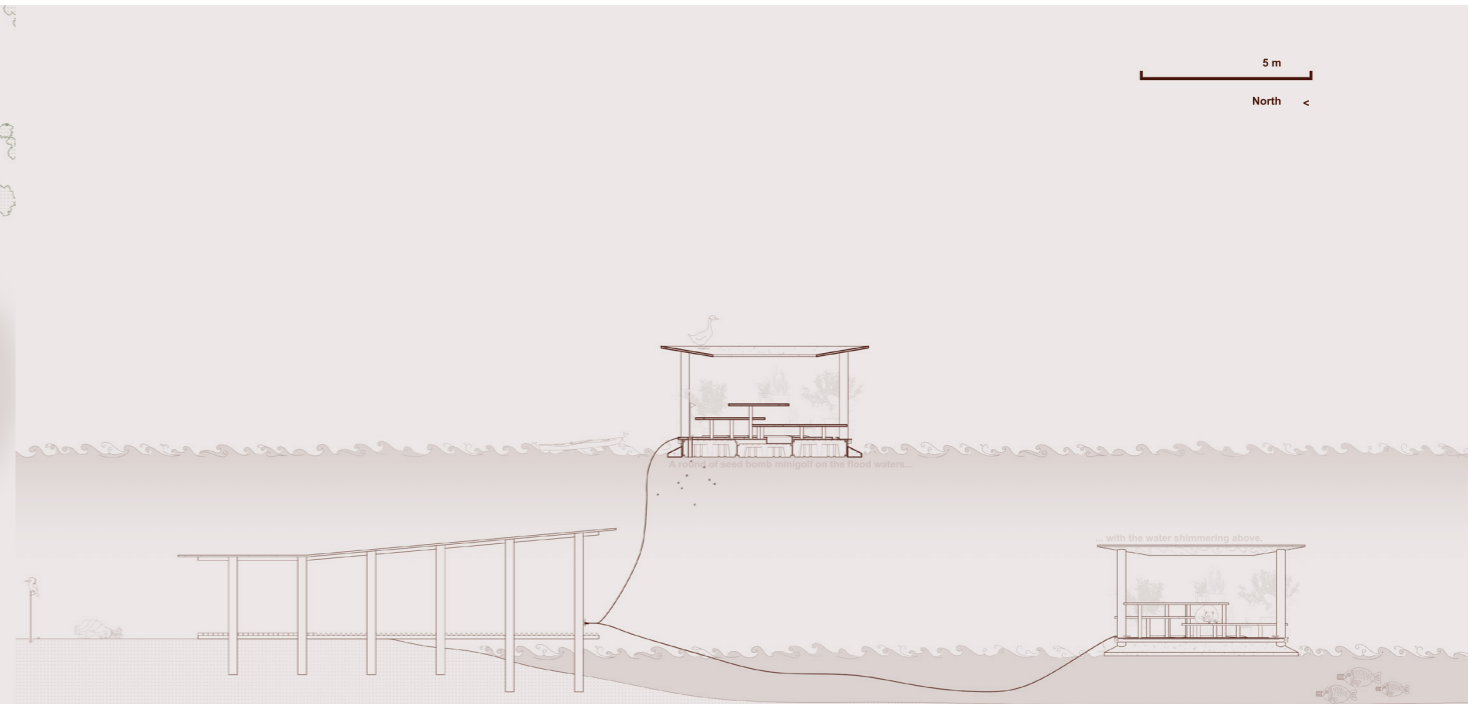
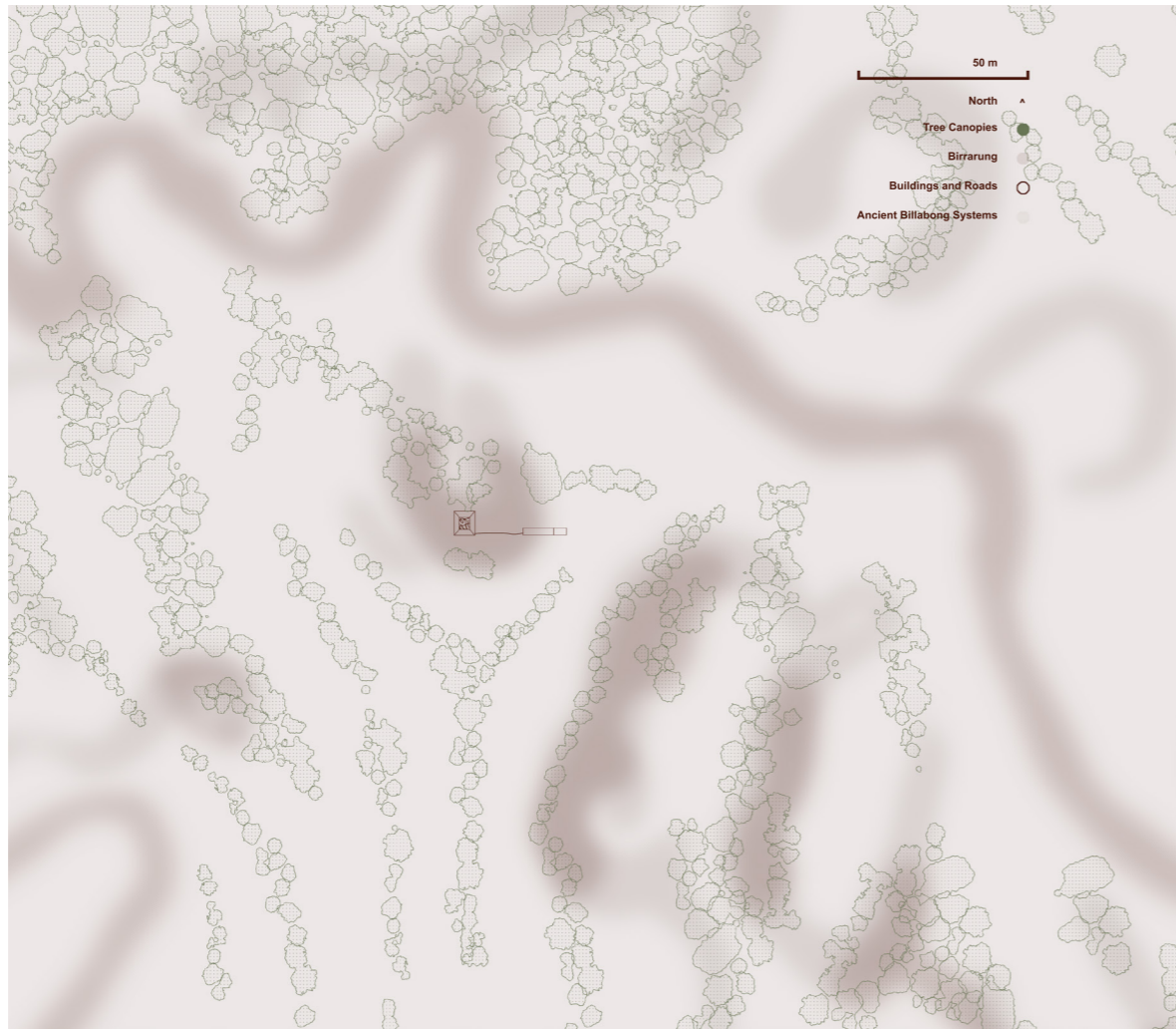
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The seed dispersal located at the four golf clubs in Kew and Ivanhoe is based upon OFFICE's *aeque-nutius*, aiming to act as a means to achieve the Greater Birrarung Parkland by utilising the ancient billabong systems (now water traps) and seasonal flooding.

A floating mini golf course in the water trap, where seed bombs replace golf balls. This rises and falls with the water level, so during seasonal floods it doubles also as a rest stop for those punting around on the flood waters.

A land based boardwalk utilises chamfered decking, holding more seed bombs for golfers to use, and are released and spread across the course during the floods.

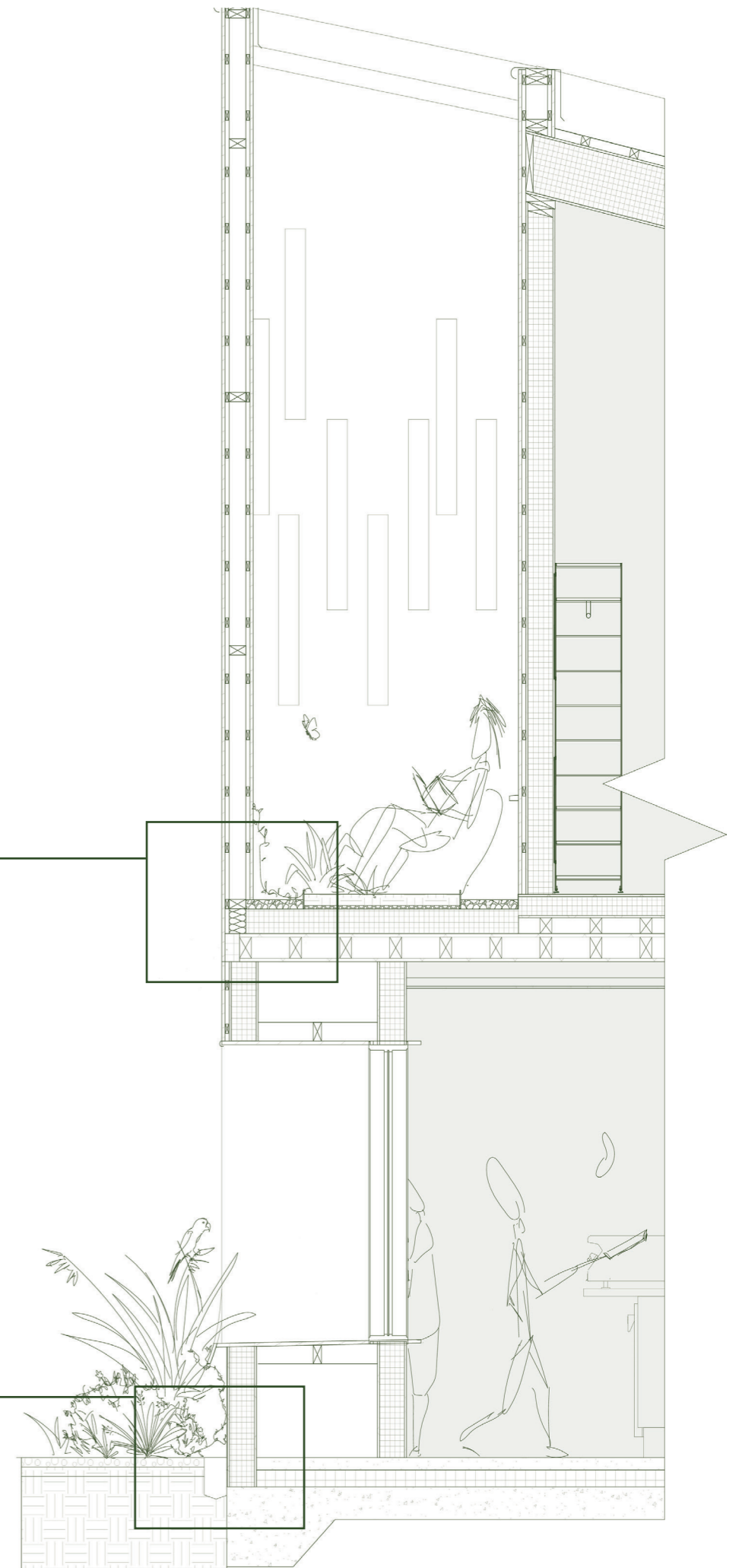
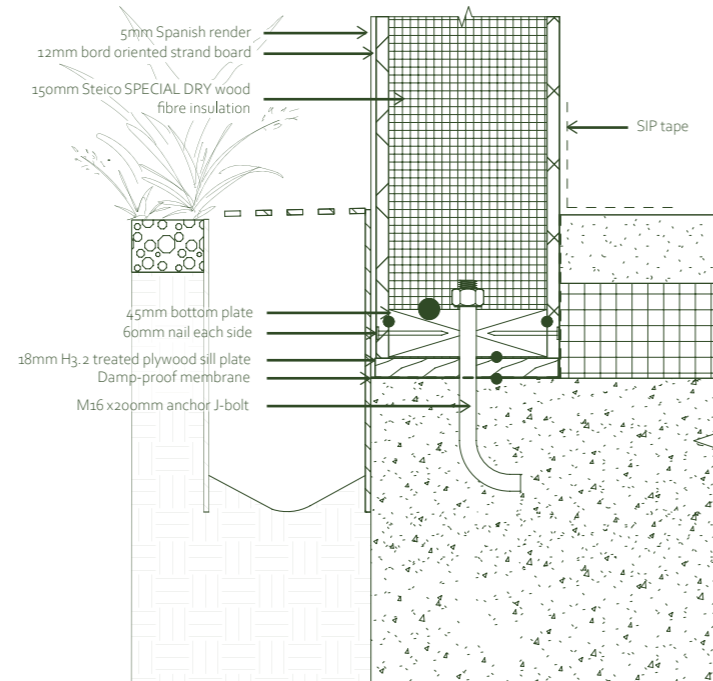
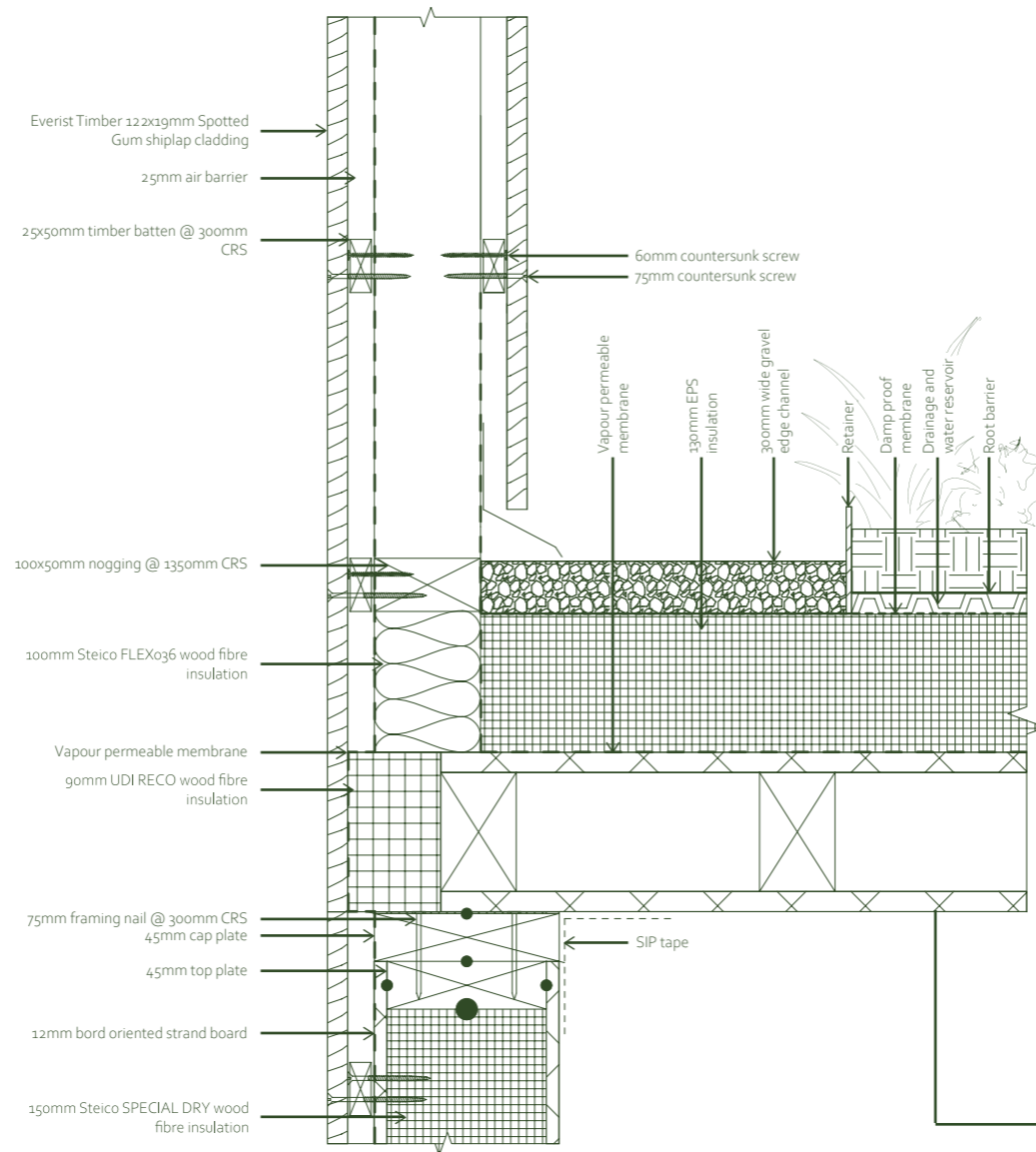


RAWE! KUEH

January - February 2024
University of Melbourne
Master of Architecture
Studio E/03
passive-aggressive: re-made
w/ Kate Skillington

RAWE! KUEH is passivhaus certified, constructed using structural insulated panels, where the traditional EPS insulation is replaced with rigid wood fibre boards, dramatically reducing the embodied carbon of the build.

The west facade has minimal glazing, reducing solar heat gain in the late afternoon, and the glazing which is present is well shaded or screened.



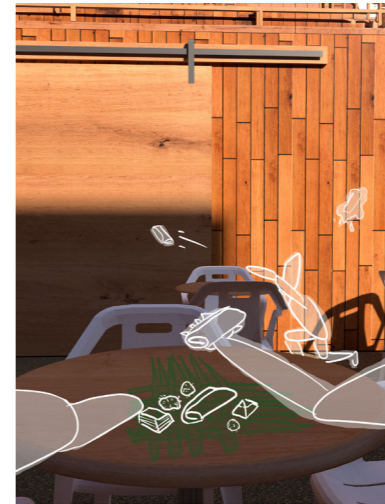
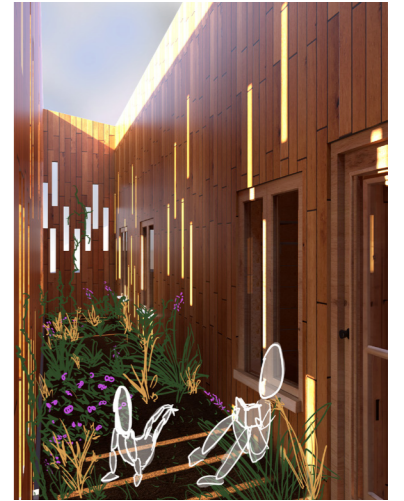
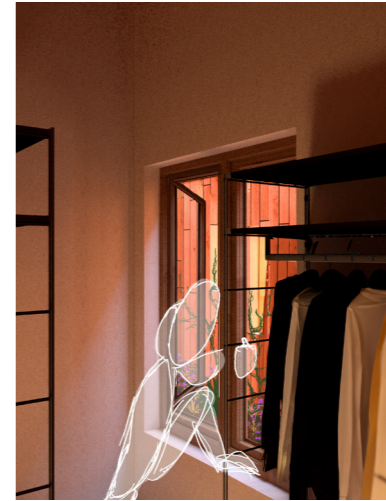
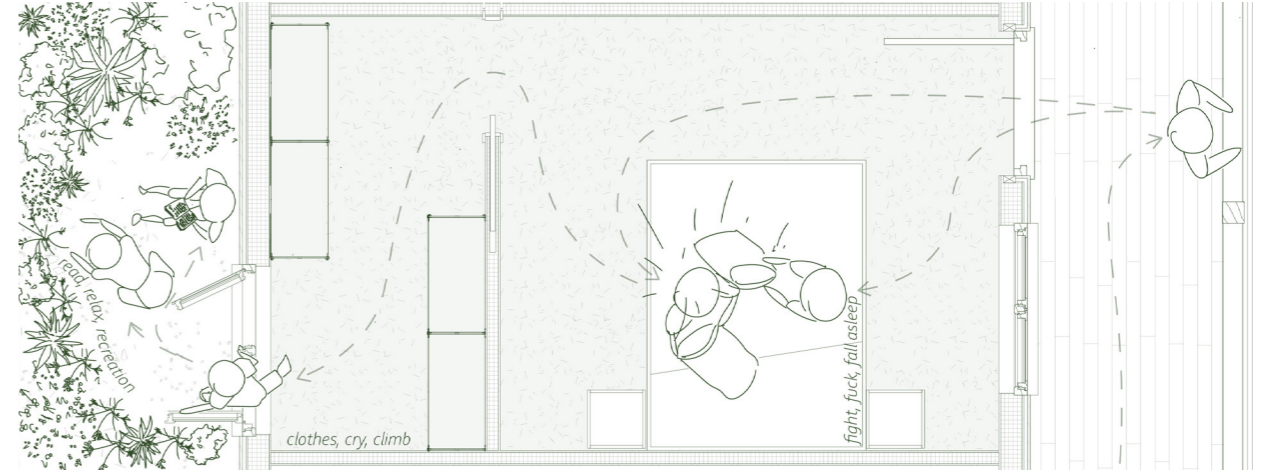
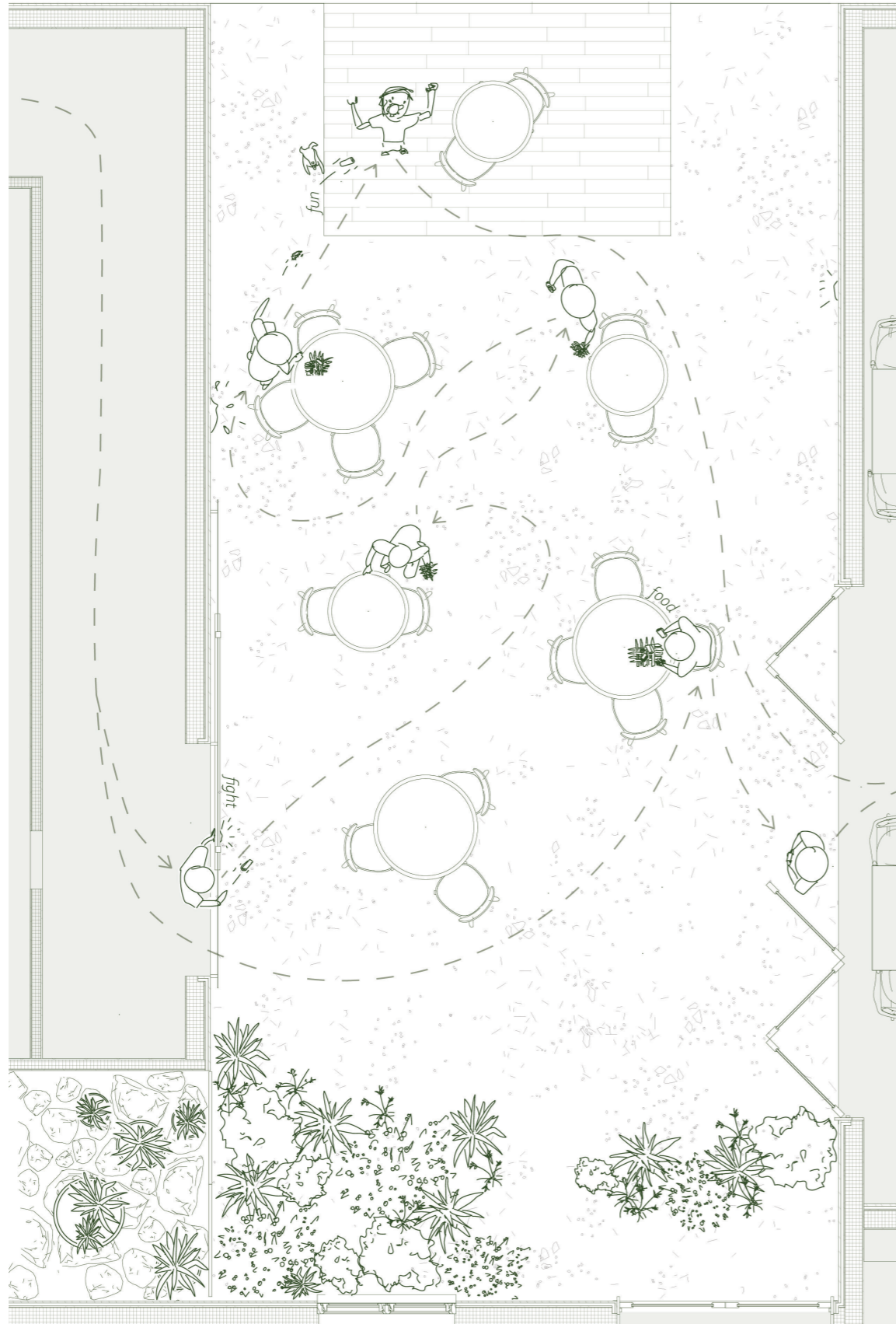
RAWE! KUEH

January - February 2024
University of Melbourne
Master of Architecture
Studio E/03
passive-aggressive: re-made
w/ Kate Skillington

Microplans of the courtyard and bedrooms respectively are illustrated with unchoreographed performances.

The courtyard becomes gladiatorial ring to a foodfight - a colosseum where the hosts may watch from their balconies above. Kueh is flung everywhere, ending in sweet, sticky, delicious victory (or defeat).

The fighting theme continues into the bedrooms. A playful pillowfight, soft sheets and supple skin, relaxing and romantic rest.



Some units... and maybe even a house

July - October 2023
 University of Melbourne
 Master of Architecture
 Studio D/01
Just a house, an apartment... and maybe even some units
 w/ Colby Vexler

A group project, completed with Elsa Measday, Shreyal Patel, and Joel Tito.

An I shaped building on the eastern edge of a narrow rectangular lot. To the north, five single-detached houses share the title boundary. To the south, six commercial and residential apartment buildings, nine businesses.

Three existing identical floors of 959 square metres, yet the site proper, two levels, each 224 square metres.

Existing 24 single-bedroom apartments, and three two-bedroom apartments, divided into three sections. A long central apartment block, a set of semi-detached units adjoin either end. A partially enclosed single loaded corridor, mostly open to the south, to access each apartment. The existing site proper, six apartments: the three easternmost apartments on the lower two floors.

Proposed, a house ... and maybe even some units. Three units now a house, two units in one loop, one unit an enfilade.

Timber fences bound most of the north, south and west. Nearer the street, brick walls instead, and a partially bounding existing block wall abuts the footpath. This, demolished for long grasses and an addition, a concrete slab path for the site proper.

Existing native trees as tall as the building itself bound the east, retained. To the south an existing concrete driveway with carparks, demolished, now gravel.



Some units... and maybe even a house

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The House

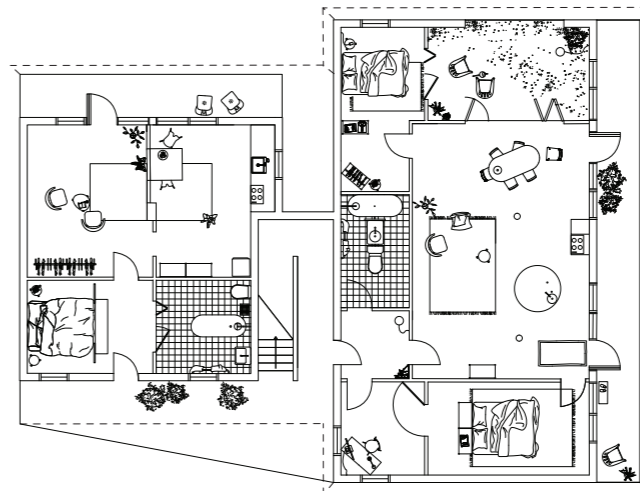
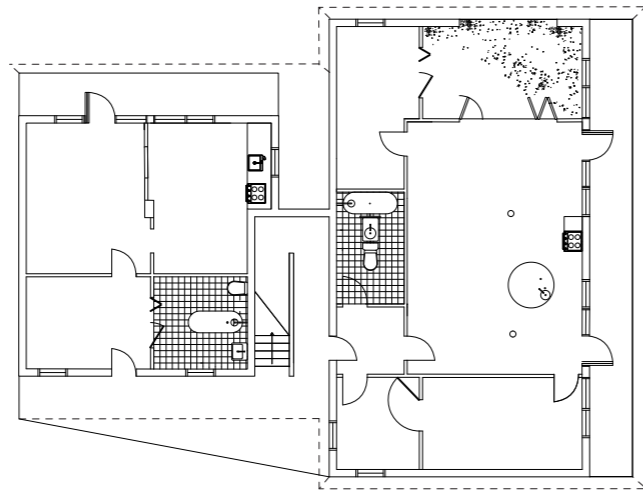
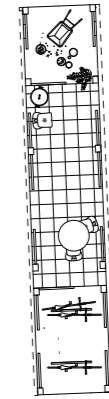
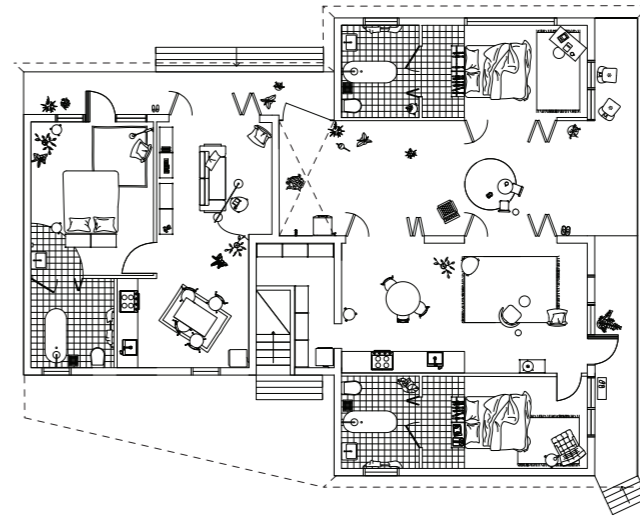
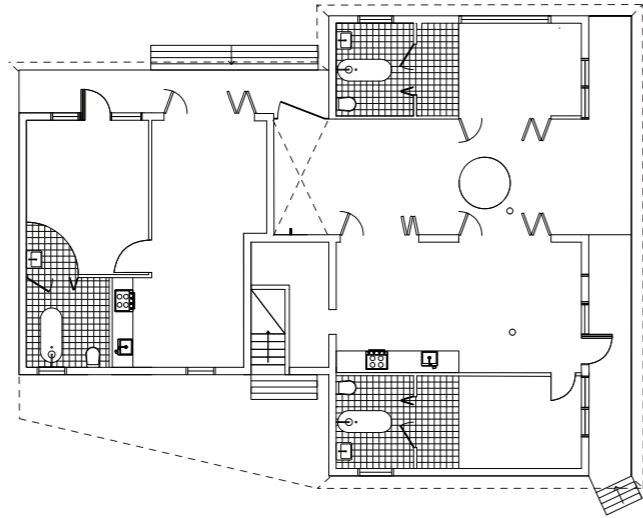
Three existing units, each with five enclosed rooms and a balcony, the attached barely enclosed room. Three units to now one, fifteen existing enclosed rooms to now seven-ish. All walls existing, some with an extension and an addition, the patio aligned to eaves edge.

A Loop

Three existing units to two, the first all walls existing, three demolished, one partially demolished. Ten enclosed rooms to become six. A vestibule at entry existing door positions. These single hinge doors through to the middle room and again to the boundary at the existing yet repaired windows and altered door to the patio front. More strictly resembling a loop plan, corridor-less.

An Enfilade

Existing walkway adjoining the unit to now almost like a portico entry from stairs, fully covered, floored yet barely-enclosed. Potted plants congregate at this entry, to demarcate from the one verandah for all. All walls existing, one demolished. Five enclosed rooms to three-ish, as one mostly enclosed.

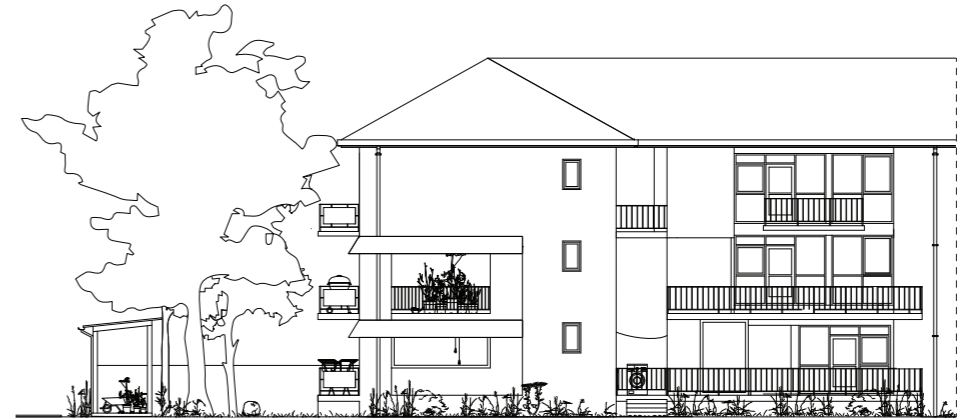
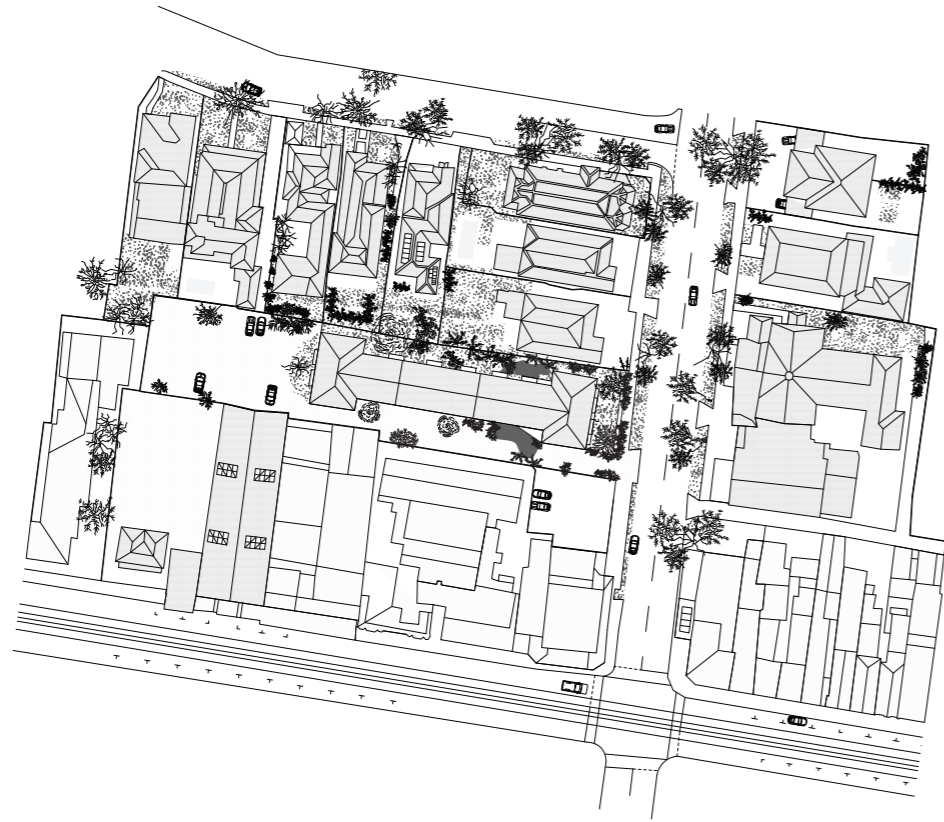


Some units... and maybe even a house

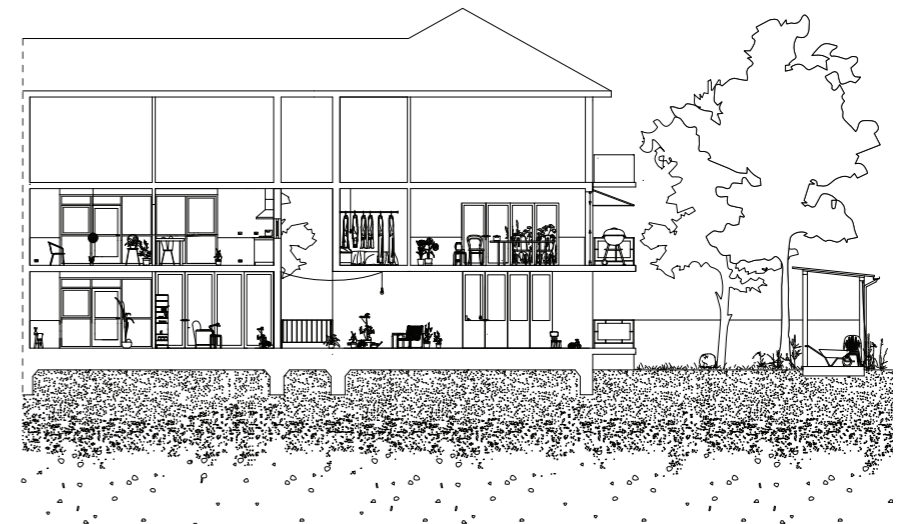
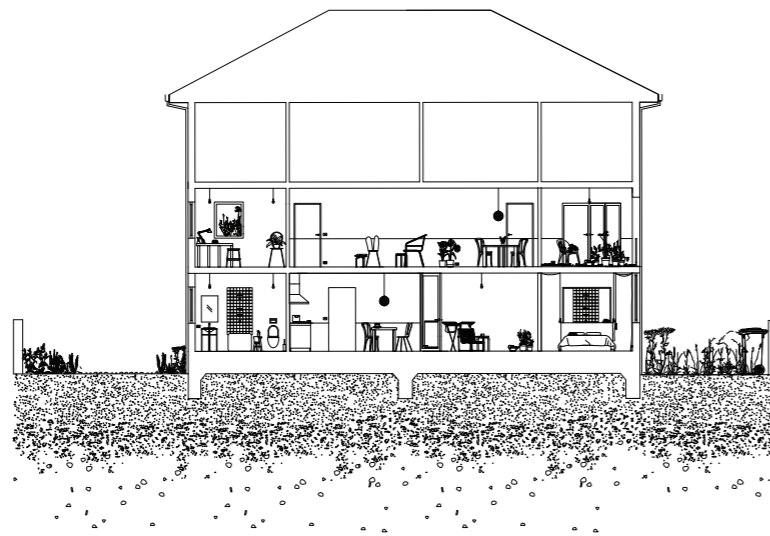
July - October 2023
 University of Melbourne
 Master of Architecture
 Studio D/01
Just a house, an apartment... and maybe even some units
 w/ Colby Vexler

Side-ness
 An ordinary side, split into two parts by the public staircase. The eastern half, similar to the north elevation, less the semi enclosed room and window. The western half, two swing doors, three windows, all aligned with each other.

Interiority
 No longer two existing enclosed volumes with six identical units stacked. The site proper, first and second floors, now with partial floor demolished.
 On first floor an existing wall, glazed, in bi-fold, for entry to a hall-like room. On second floor this wall demolished for the casual centre room with central island bench of its own.
 Both floors with interior datum aligned to the exterior balconies. To the east a column aside in the room from first to second floor aligned to this balcony door jamb.



0M 1M 5M



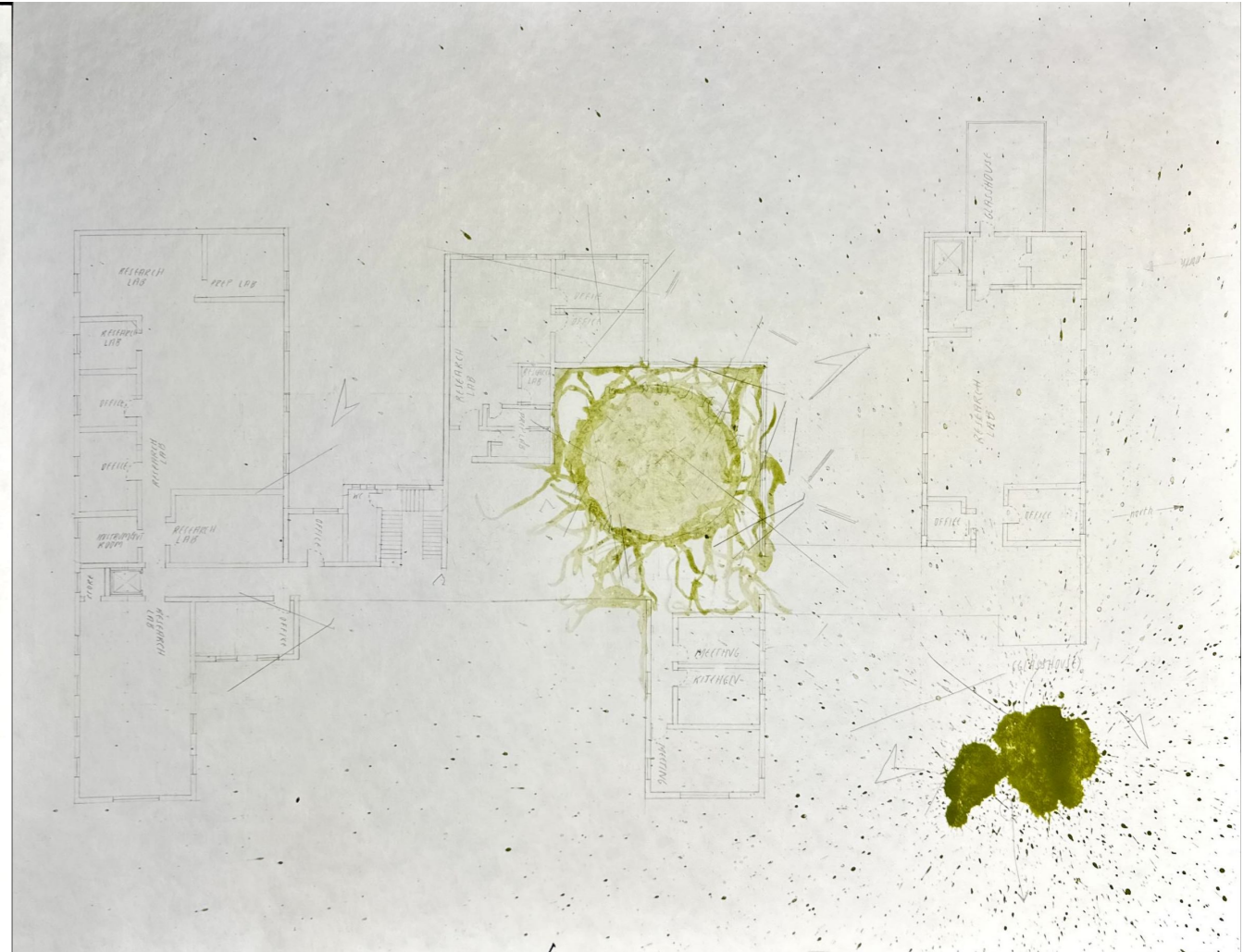
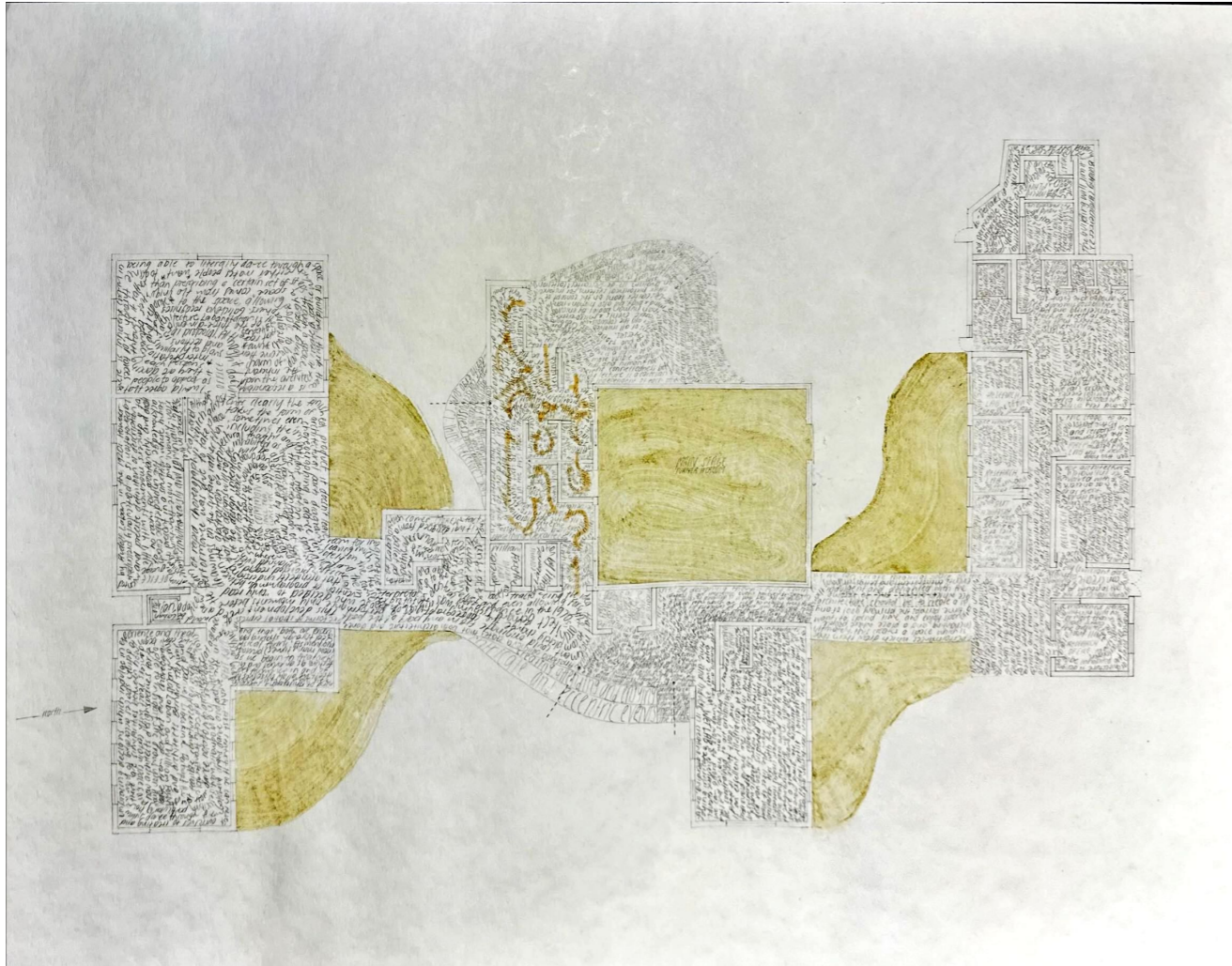
de-Descartes

March - June 2023
 University of Melbourne
 Master of Architecture
 Studio C/07
 As We Encounter
 w/ Ripeka Walker, Ngāti Porou,
 Te Whakatōhea

The evolution (or perhaps devolution) of de-Descartes is arguably the most important performance in this project. The gradual deterioration, destruction and collapse of a building which is well over one-hundred years old (by the time it collapses) is an immense event, however de-Descartes is unique in the fact that it is designed to collapse.

Each of the aspects of disintegration of the building is tied (literally or metaphorically) to the non-human residents. The new glasshouse on the northeast corner of the building is suspended on ropes which are tied to surrounding trees. As the trees grow and stretch the rope, the rope will either end up constricting and killing the tree, or the rope will snap causing the glasshouse to fall to the ground and smash.

At a greater scale, the surrounding trees (planted in the atrium and surrounding the building) will eventually break through to disrupt and destroy the foundations, ultimately causing the building to collapse. Incidentally, this causes two more significant events. The first event is one which perpetually exists as humans are inhabiting the building. Naturally, there would be hesitancy and suspense as people are using and spending time in a building designed to collapse, which might affect how they treat the space. Then when the point in time arrives where the building is deemed no longer habitable or usable by humans, the second event takes place. There is a handover of the site, from being shared between non-human, more-than-human, and human residents, to only being shared between non-human and more-than human residents.



Material	Application	Quantity	Unit	Source
Cornstarch	Drawings	2 g		Golden Dragon Asian Grocery, Stall 80-81, South Melbourne Market, 322-326 Coventry Street, South Melbourne, VIC 3205
Da Hong Pao Oolong Tea	Drawings	3 g		Tea Drop, Shop 34, South Melbourne Market, 322-326 Coventry Street, South Melbourne, VIC 3205
Matcha	Drawings	5 g		Tea Drop, Shop 34, South Melbourne Market, 322-326 Coventry Street, South Melbourne, VIC 3205
Pencil Leads	Drawings	3 ea		Officeworks Elizabeth St, 107 Elizabeth Street, Melbourne, VIC 3000
Water (Paint)	Drawings	80 mL		Birrarung at Yering Gorge/Maronndah Aqueduct via Winneke Water Treatment Plant (WTP) of South East Water
Watercolour Paper - Rough	Drawings	3 560x760 mm sheets		Eckersley's, 463 Swanston Street, Melbourne, VIC 3000
Baking Soda	Glue	15 g		Woolworths Metro Southbank, Ground Floor, 245/263 City Road, Southbank, VIC 3006
Milk	Glue	375 mL		Woolworths Metro Southbank, Ground Floor, 245/263 City Road, Southbank, VIC 3006
Vinegar	Glue	15 mL		Woolworths South Melbourne, 113 Cecil Street, South Melbourne, VIC 3205
Water	Glue	15 mL		Birrarung at Yering Gorge/Maronndah Aqueduct via Winneke Water Treatment Plant (WTP) of South East Water
Assorted Twigs and sticks	Model	12 ea		Street tree, 198 Clarendon Street, South Melbourne, VIC 3205
Cinnamon Quill	Model	6 ea		Asian Grocery, Stall 38, South Melbourne Market, 322-326 Coventry Street, South Melbourne, VIC 3205
Core Board	Model	3 510x760 mm sheets		Eckersley's, 463 Swanston Street, Melbourne, VIC 3000
Double Lined Case Board	Model	5 A2 sheets		Gordon Harris, 4 Gillies Avenue, Newmarket, Auckland 1023, Aotearoa New Zealand
Gelatin	Model	48 g		Woolworths South Melbourne, 113 Cecil Street, South Melbourne, VIC 3205
Knife Blades	Model	2 ea		Gordon Harris, 39 Symonds Street, Auckland CBD, Auckland 1010, Aotearoa New Zealand
Manila Card	Model	1 840x595 mm sheets		Eckersley's, 463 Swanston Street, Melbourne, VIC 3000
Mild Orange Rooibos Tea	Model	30 g		Mild Orange, mildorange.com
Peony King Loose Leaf White Tea	Model	5 g		Tea Drop, Shop 34, South Melbourne Market, 322-326 Coventry Street, South Melbourne, VIC 3205
Spirulina	Model	15 g		Chemist Warehouse Melbourne - Flinders Street, Part of, Level 1, Tenancy 2/276 Flinders Street, Melbourne, VIC 3000
Water (Bioplastic)	Model	260 mL		Birrarung at Yering Gorge/Maronndah Aqueduct via Winneke Water Treatment Plant (WTP) of South East Water
White Jelly Fungus	Model	5 g		Golden Dragon Asian Grocery, Stall 80-81, South Melbourne Market, 322-326 Coventry Street, South Melbourne, VIC 3205

It's Bussin'

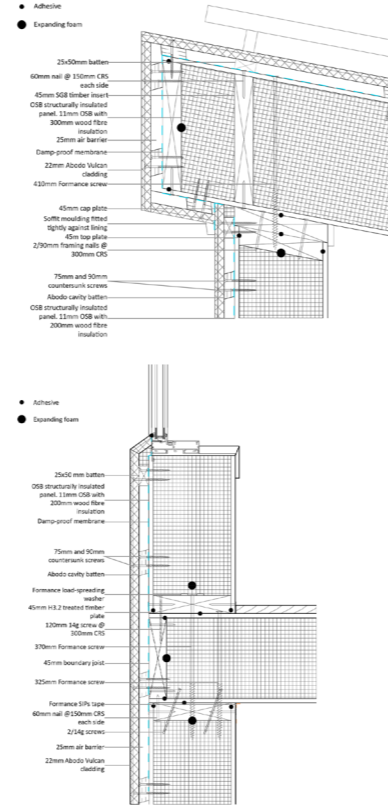
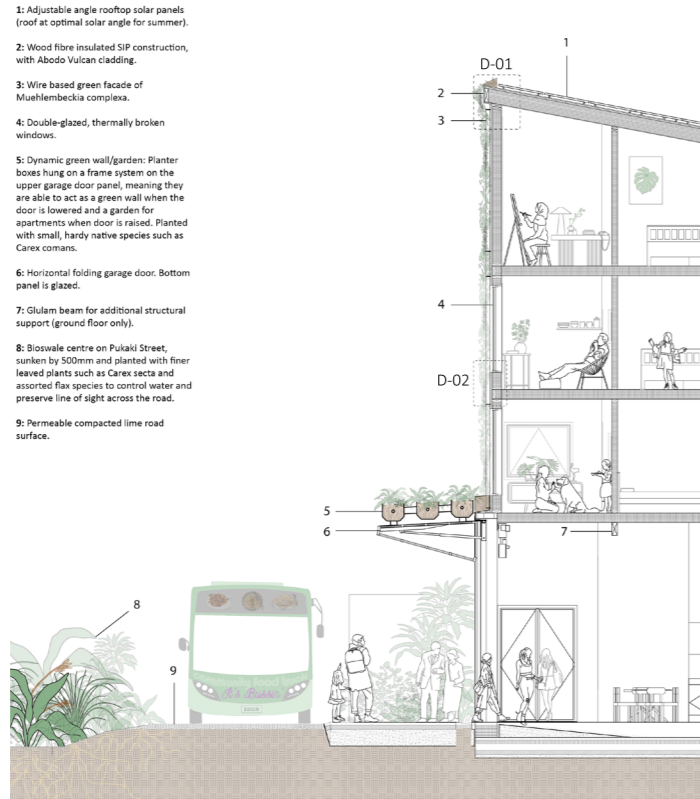
July - October 2022
Auckland University of Technology
Bachelor of Architecture and Future Environments
ARCH701
w/ Katie Braatvedt

It's Bussin' is a community food service in the heart of Rotorua CBD, providing Eat Street with a cafe, access to street food, culinary teaching spaces and amenities including accomodation for culinary students, and most importantly, a social food service.

The Bussin' Bus is a food truck which rotates across the many emergency housing units in Rotorua. As part of their education, the culinary students collect seasonal ingredients and design a menu for the Bussin' Bus, before travelling out to the emergency housing units to cook for the residents. Allowing the culinary students to cook and live upon Eat Street also provides the access and exposure to the numerous restaurants and chefs nearby, and may lead to job opportunities for them.

It's Bussin' is designed to work in tandem with proposals from other students. For instance, produce is sourced from Sappy's urban farm project (as well as some small gardens included in It's Bussin'), Japinder's waste management project collects waste in exchange for compost for the gardens, Kasia's culinary school provides students to run the Bussin' Bus as part of their course, and water treatment happens across the road at Azra's bathhouse and water centre.

1:20 Section and Details



Detail D-01

Detail D-02

In future, we would expect the emergency housing units to become obsolete. Once this point is reached, the Bussin' Bus obviously would not need to be used to feed the emergency houses. It would remain as a kitchen bus, however the route would change from rotating between emergency housing units to rotating between some of the many tourist attractions further out of town. It would also be able to be more present at It's Bussin', helping to create a more intense and interesting atmosphere, particularly when there are live events on. For instance, it could be used to create an amphitheatre for some live music, resulting in a unique and exciting experience.

Map highlighting some proposed new locations for the Bussin' Bus.



Future Scenario: Phase 3, 2032



Life Cycle Assessment

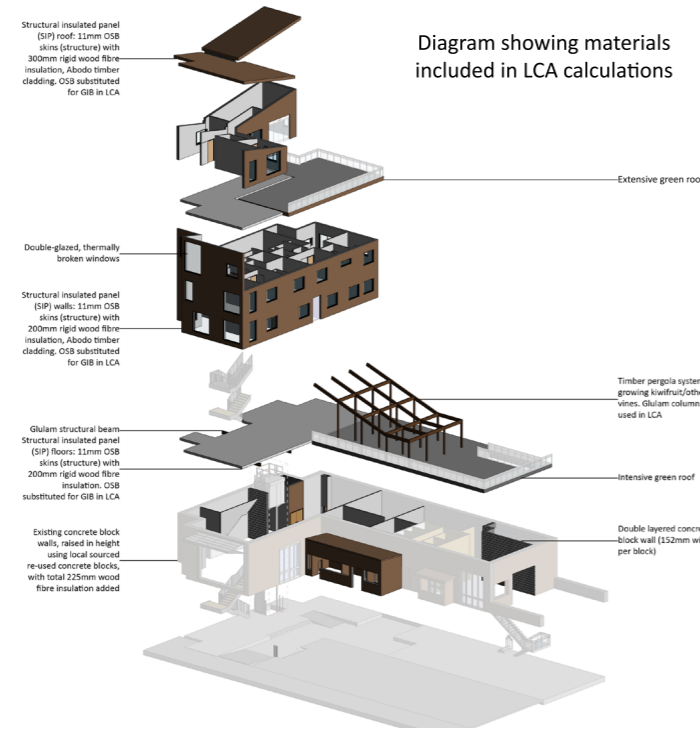
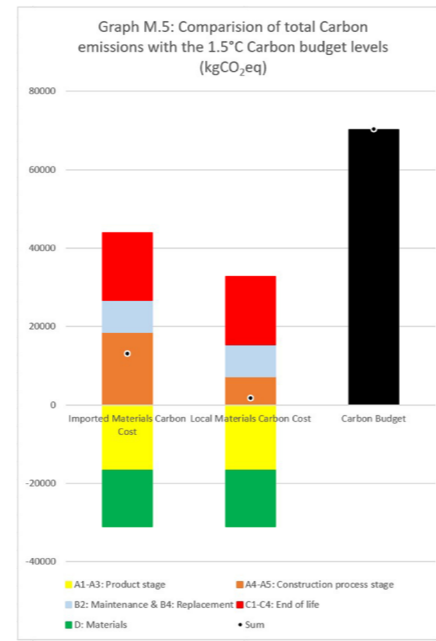
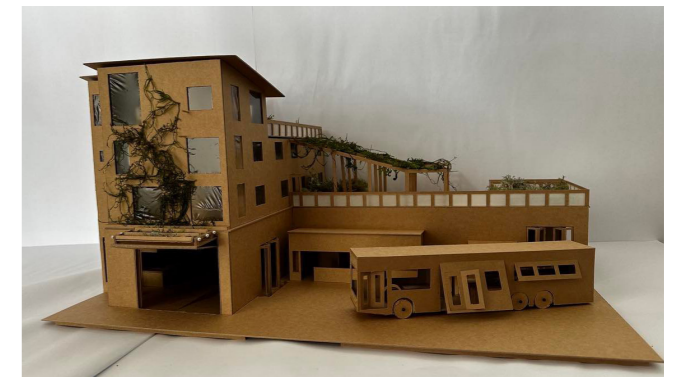


Diagram showing materials included in LCA calculations



Life Cycle Stage	Imported Materials Carbon Cost	Local Materials Carbon Cost	Carbon Budget
A1-A3: Product stage	-16646	-16646	70284
A4-A5: Construction process stage	18408	7135.498495	



Black Market Lung

March - June 2022
 Auckland University of Technology
 Bachelor of Architecture and Future Environments
 ARCH700
 w/ Dr. Kathy Waghorn

Black Market Lung is a multigenerational living space designed upon the Avondale Racecourse in Auckland. The ground floor is host to a marketplace, a permanent edition of the Sunday Avondale Markets, allowing vendors and families more opportunity to sell their goods, and allowing the community an inclusive and vibrant space to gather.

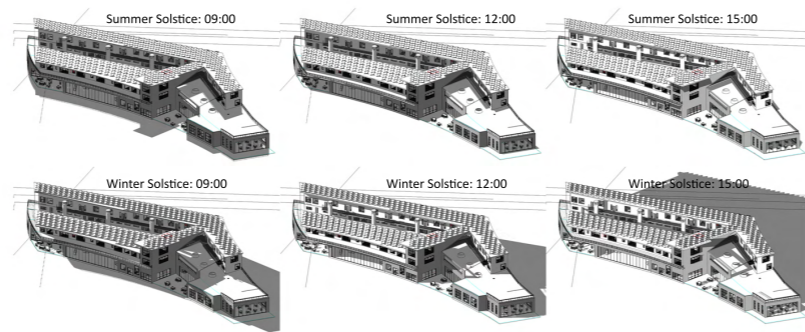
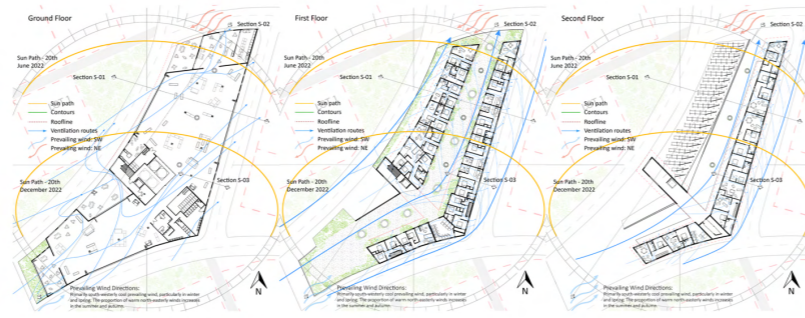
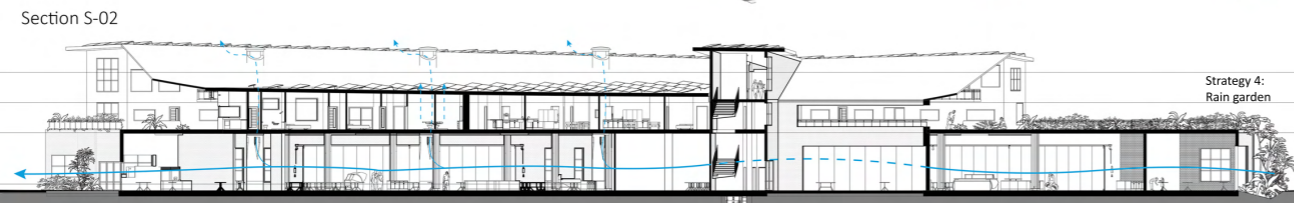
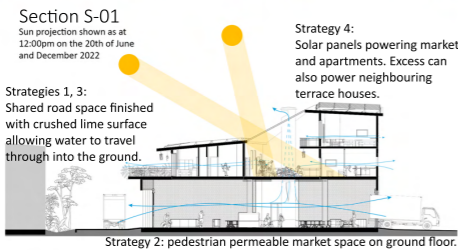
Upstairs is a multigenerational living arrangement. Multigenerational families are the norm in Avondale, however it is important to be able to provide a space in which all members of the family are close, yet privacy is protected. Housing units are split into two rows on either side of a green pathway, with smaller granny flat like units on one side, and a matching larger unit, more like a house, on the other. Families can share meals together, and treat the space between the two units as a shared garden, but also have their own distinct private spaces for when they'd like some alone time.



Energy and Comfort

Shading and natural ventilation has been carefully designed. The roof hosts solar panels which are tilted north on adjustable mounts to match the sun. The roof faces are not flat or north tilting. The west roof leans slightly to the west, allowing it to pick up more evening sun, since early in the day it is shaded by the taller roof on the east. The east roof also tilts slightly towards the east. Unfortunately this is not optimal for power generation, however I believe the roof form outweighs the slight power generation disadvantage in this case.

Material	Thickness (m)	Thermal Conductivity (W/mK)	U-value (W/m²K)	Thermal Resistance (m²K/W)
Concrete Floor	0.15	1.7	11.3	0.088
Walls	0.2	0.12	0.6	1.667
Roof	0.2	0.04	0.2	5.000

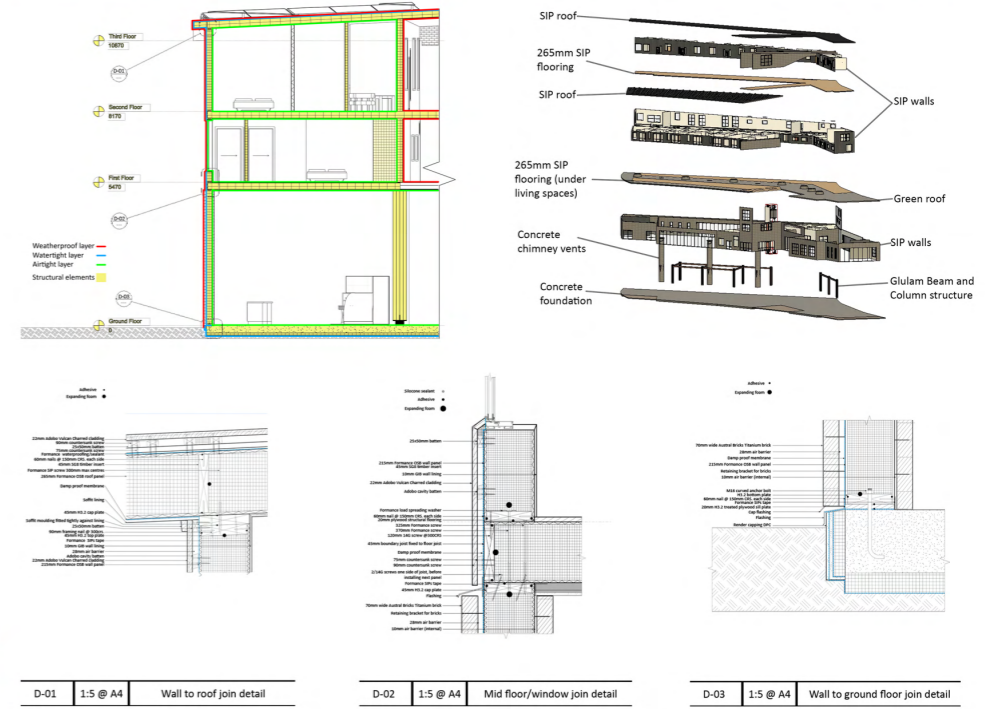


Structure and Detailing

Black Market Lung uses structural insulated panels as it's main structure, as well as glulam beams and columns and a reinforced concrete floor on the ground floor. The concrete chimney vents used to vent smells from the market also form part of the structure.

The SIPs ensure strong insulation for the apartments, and help to keep the market insulated where possible, however the industrial glass doors on the market will detract from that. Through a typical section of roof for a second floor apartment, we get an R-value of 8.734, and through a typical section of wall (disregarding windows) the R-value is 7.188 (note that this is different than what is shown in my calculation table because an apartment has different wall finishings compared to the market wall which was calculated in the table).

Product	Application	Lifespan	End of Life	Local/Overseas	R-Value	Red List Materials
Albedo Vulcan Charred Cladding	Roof/Wall Cladding	50y	Entirely Salvageable/Reusable	Local (Wangmoo, Chonchong)	0.222	LBC Red List Free
Formance SIP	Roof Structure	50y	Recyclable 100%	Complete panels are local, materials are mixed - OSB from America/Europe, Adhesive from UK/Aus, Insulation local	7.200	LBC Red List Free
Formance SIP	Wall Structure	50y	Recyclable 100%	Complete panels are local, materials are mixed - OSB from America/Europe, Adhesive from UK/Aus, Insulation local	5.700	LBC Red List Free
GIB Gypsum	Ceiling	50y	Recyclable 100%	Local (Auckland)	0.052	LBC Red List Free
Austral Bricks - Titanium by Austral Bricks	Wall Cladding	100y	Salvageable/Reusable, Recyclable	Overseas (Western Australia, fired in kilns using sawdust from local sawmills)	0.093	LBC Red List Free
Tectum Glulam Columns/Beams	Structural	50y	Salvageable/Reusable	Local (Lynn)	-	LBC Red List Free



Physical Model: 1:200

