

*Lloyd Richards*  
**PORTFOLIO 2018**

# CONTENTS

## Mill Bay Decking

Worked closely with local lumber mills to source sustainable materials, to produce a deck that expresses its material.



**18**

**Channel's Hill Studio**  
Designed, project managed and built a 27sqm garden studio, using local materials and eco friendly products.



**10**

**Spanish Villa Garden**  
Designing and managing a garden, based on ecological systems to reduce maintenance and promote self sufficiency.



**4**

**The Bearpit Garden**  
Community engagement project, building a pathing and gardening systems in a public space in the centre of the city.



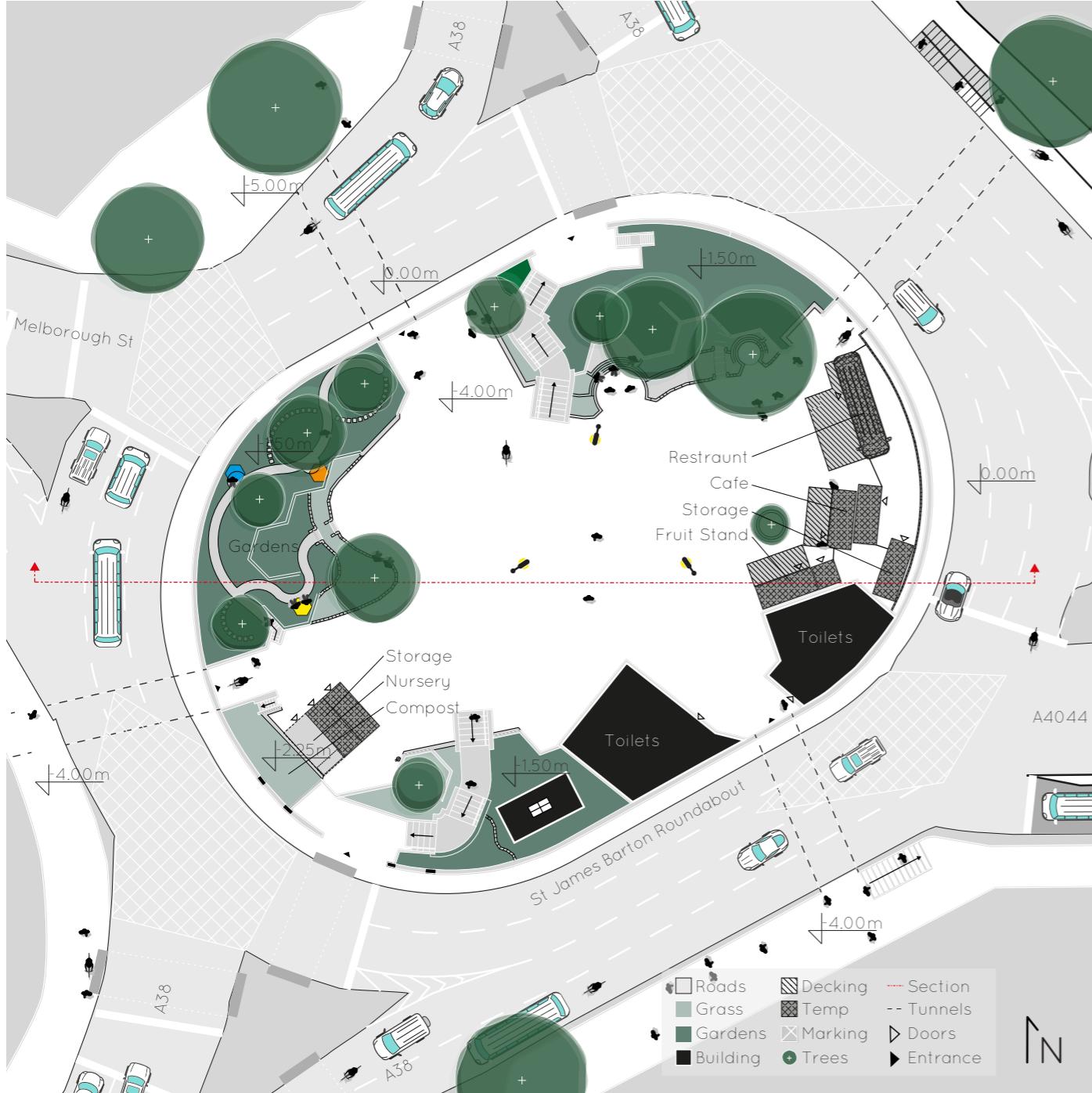
## THE BEARPIT GARDENS

*Summer 2016, Bristol, UK*

In 2016, I worked with several community groups and local businesses, to realize the creation of a large garden in the centre of the city. ‘The Bearpit’ has been the focus of a lot negative attention in recent years and as part of the Bearpit Improvement Group (BIG). I worked with Incredibile Edible and the Bristol Social CIC to design and build the hard landscaping, before volunteers could come and plant the gardens. The garden has become the central motif for the regeneration of this area, as future developments looks to build off its success, to create a food hub for the local community and simulate local business.

*Liam*





**'The Bearpit'** is the affectionate name given to the sunken St James Barton Roundabout in the centre of Bristol. The area had become quite dangerous with antisocial behaviour and drug use in recent years, yet is still a central commuting point between several cultural centres in the city. In 2011, the *Bearpit Improvement Group (BIG)* was formed to coordinate various community groups into regenerating the area.

Though BIG had conceptualized a garden in their development of the area, there was no formal plan or expertise given to its form.

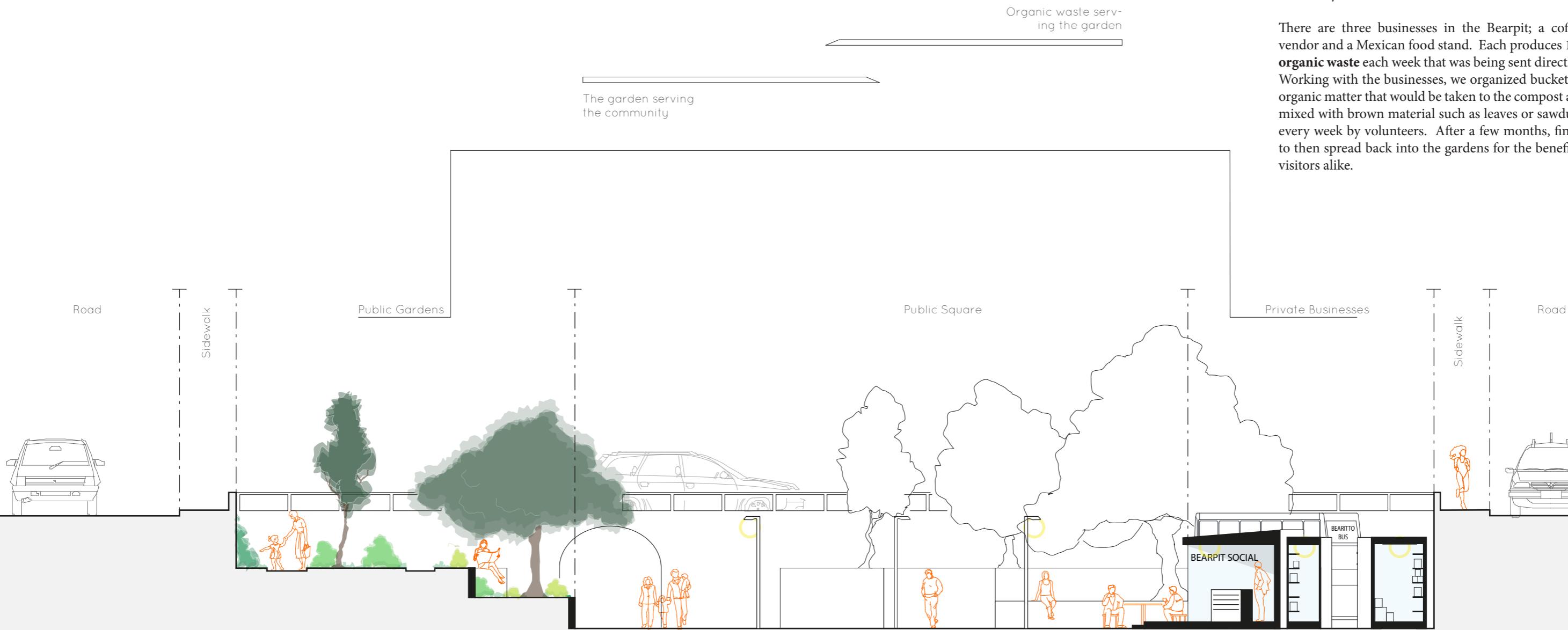
I was hired first to consult with my **knowledge of hard landscaping and construction**, and later to finish the design and build the final garden structure. In July of 2016, we broke ground on the garden area and started constructing boarded paths. These paths weaved through the garden giving structure for the planting plans and local artists' work.

For the remainder of 2016 and 2017, I **volunteered** once a week to help manage and maintain the gardens, while integrating the local businesses into a composting system to the side of the gardens.

While I was initially hired for my **landscaping** expertise, I also contributed to designing and managing a **composting system**, that recycled organic matter from the local business in the Bearpit.

While planning the design for the space, I foresaw a need for supplies of organic matter such as compost and mulch, and what better way than to create it on site.

There are three businesses in the Bearpit; a coffee shop, fruit vendor and a Mexican food stand. Each produces **10-20kg of raw organic waste** each week that was being sent directly to the dump. Working with the businesses, we organized buckets for collecting organic matter that would be taken to the compost area each week, mixed with brown material such as leaves or sawdust, and turned every week by volunteers. After a few months, finished compost to then spread back into the gardens for the benefit of plants and visitors alike.





The **central path**, winding through the garden was designed to maximize the planting areas, while allowing easy access off the path and into the garden beds. By eliminating corners, straight lines and dead ends, it encourages visitors to wander and explore the garden. Secondary pathing in the form of stepping stones, further encourages exploration

off the path and into the greenery surrounding it. **Vertical elements** of the garden such as trees, shrubs and trellises, were later added to break up lines of sight across the garden. While being conscious of security and vulnerable areas, by opening up lines of sights from other directions.



## SPANISH VILLA GARDEN

*Winter 2015, Iznajar, Spain*

Creating regenerative gardens can be multifaceted, and create solutions to many unique problems. For this property in Spain, my client managed the space for holiday rentals and was rarely around the care for the garden. By designing the garden as an ecosystem, rather than a static environment, the garden was self-sufficient and could manage its own water and nutrients, while occasional maintenance only served to adapt the system for closer human cohabitation. Four years after its initial construction, this garden is a fully self sufficient and thriving ecosystem, which continues to evolve and develop the areas around it.

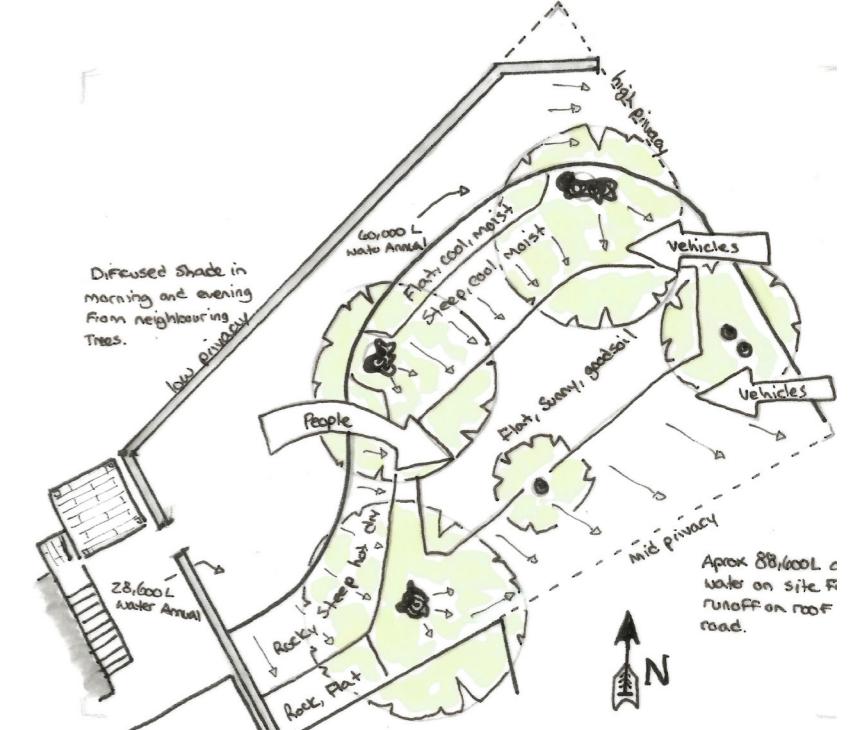
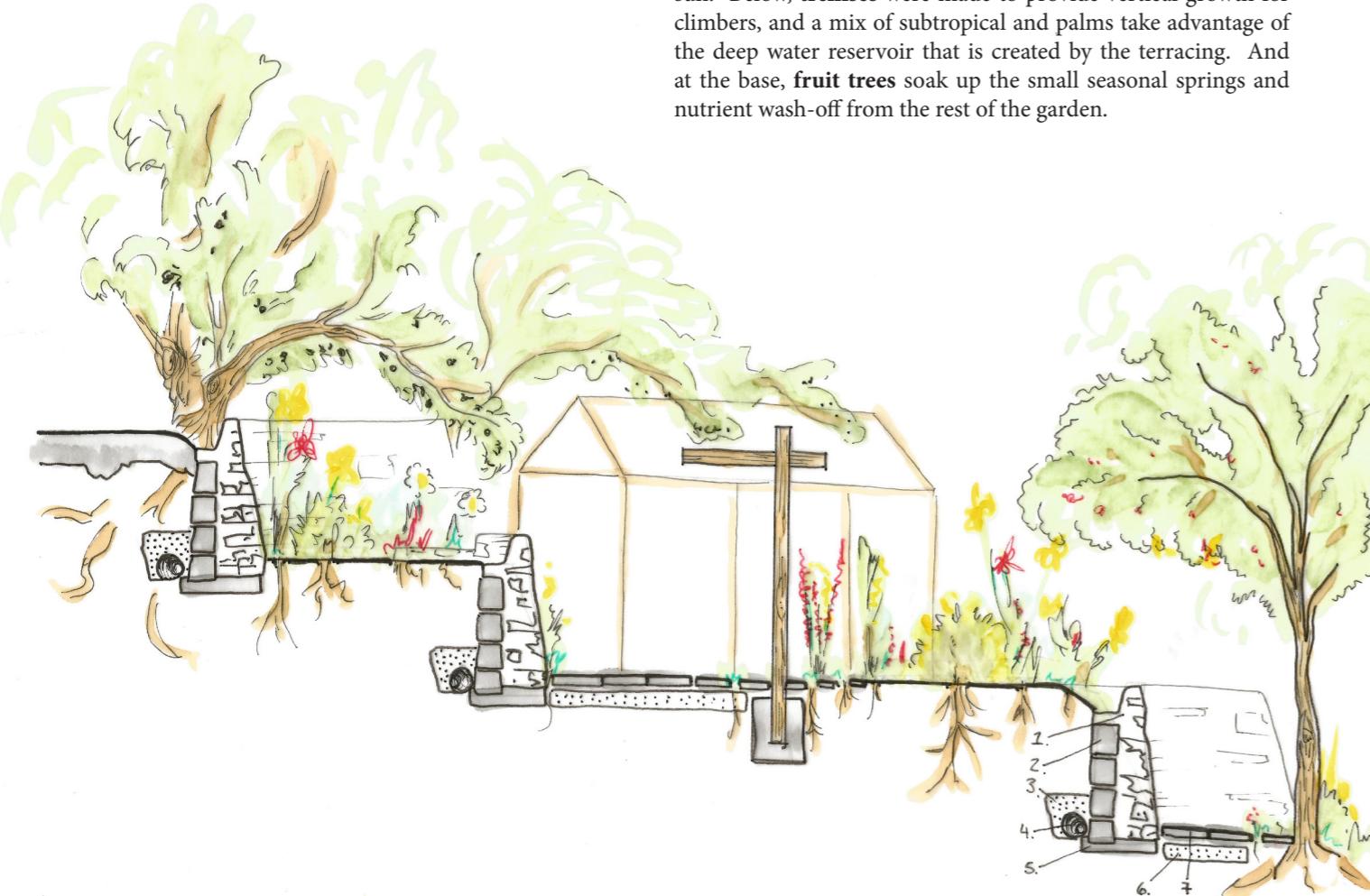
*Ltin*

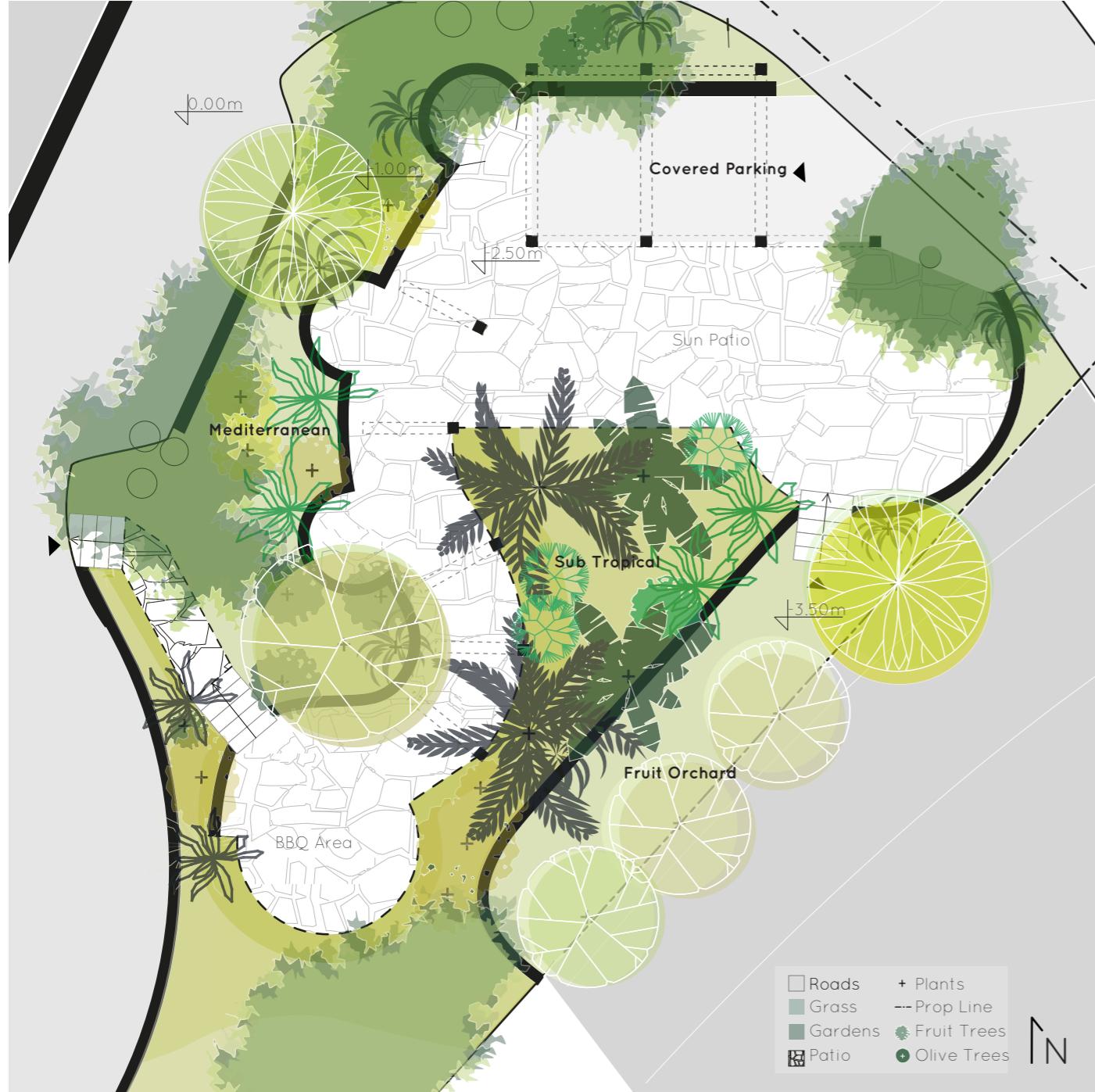


The original designation for the area for the garden was a patch of sloped grassland between the olive trees, that bordered the entrance. As we wanted to create a **self sufficient** garden and with such an extreme climate, it was first very important that we stored as much water as possible on site.

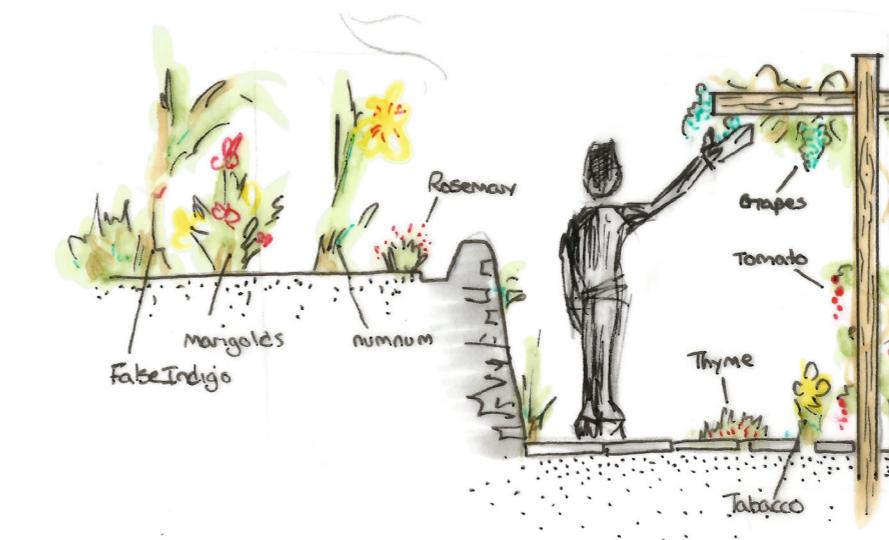
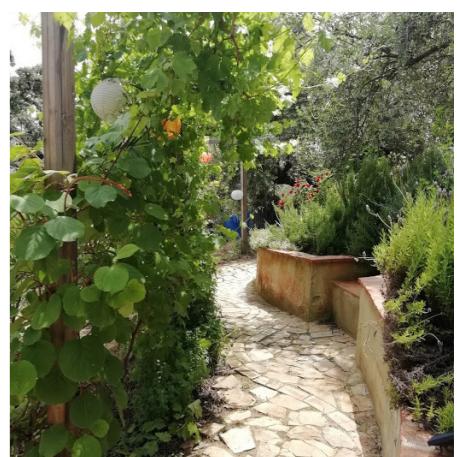
Working with a local excavator, the site was first terraced, making sure to save precious topsoil to be spread in the garden areas. **Retainer walls** were then built to shape the garden, and respond to the shadows cast by the olive trees. This creates several microclimate areas around the garden, for various plant ecosystems and communities.

**Mediterranean herbs and mixed succulents** cover the top part of the garden, where it is most dry and shaded from afternoon sun. Below, **trellises** were made to provide vertical growth for climbers, and a mix of subtropical and palms take advantage of the deep water reservoir that is created by the terracing. And at the base, **fruit trees** soak up the small seasonal springs and nutrient wash-off from the rest of the garden.





16



17

In order to have a **productive and stable ecosystem**, it is important to design the system similar to nature. In nature, succession occurs in stages between support and production species. At first the support species\* occupy 90% of the biomass but by the climax of the system this ratio is reversed. (see Table 1 and 2)

We have sped up this transition by managing the decomposition and health of the support species. Through various techniques, there is quick transform the biomatter of the fast growing, nitrogen fixing plants into top quality soil and microrganisms.

An important technique for the implementation of this plan, has been a process of **Action-Observe-Action**. As a result we have introduced new elements and forces into the site, for example the increased water retention with the terraces, and the observed the changes this has had on the system. Once we understood what new resources were available, we were able to introduce new elements and observe their impact.

Table 1 Support Species

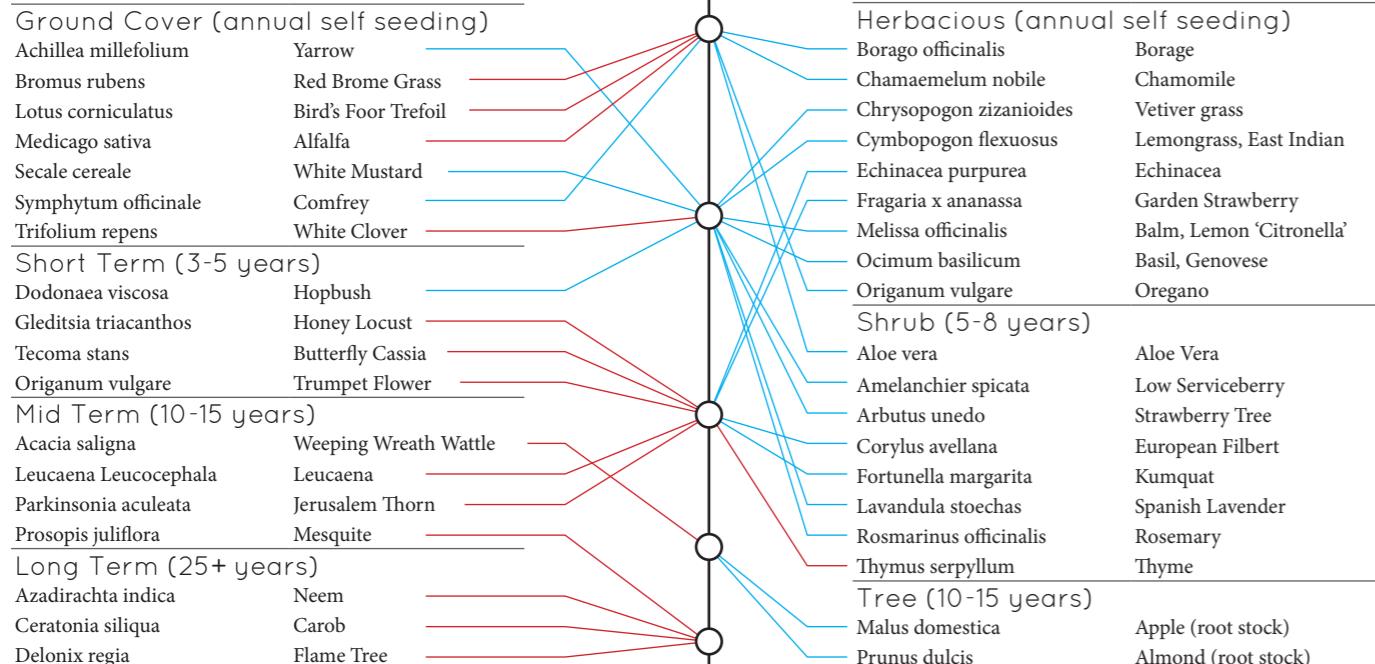


Table 3 Master Plant Catalogue

Taxonomy		Tolerance			Architecture			Functions																		
Latin	Common	Hardy Zone	Size (m)	Light	Water	Soil	Form	Habit	Root	Fruit	Nuts	Green	Root	Culinary	Tea	Other	Medical	N Fixer	Dyn. Accum.	Wildlife	Invert. Shelter	Nectary	Support	Ground Cover	Other	Nuisance
<b>Herbacious</b>																										
Artemisia dracunculus	Tarragon, Russian	5	1.2x1.2	++	++	Gard - Alk	Herb L	clmp	R							G	F		Y G		D					
Baptisia australis	False Indigo	4-8	1.2x1.5	++	++	S Acid - Gard	Herb L	clmp	T, Fb			E				G		Y S	A H P							
Borago officinalis	Borage	3	0.6x0.3	++	++	Acid - Gard	Herb A	a clmp								Y	Y G			P						
Chamaemelum nobile	Chamomile	5-8	0.2x0.2	++	++	Acid - Alk	Herb P	Cmat				E O			E			Y A								
Chrysopogon zizanioides	Vetiver grass	7-10	1.2x1.2	+++	++	Acid - Alk	Herb L	clmp	Fb, T			E G						A								
Cymbopogon flexuosus	Lemongrass	9-11	1.8x1.8	+++	++	Acid - Alk	Herb L					E			E			E								
Echinacea purpurea	Echinacea	3-10	1.2x0.5	++	++	Acid - Alk	Herb L	clmp	Fb			G			G	Y	G	A P								
Fragaria x ananassa	Garden Strawberry	3-10	0.3x indef	++	++	Acid - Gard	Herb S	E run	Fb, St	E		E E	E		Y	Y G	Y A D									
Melissa officinalis	Balm, Lemon	5	0.5x0.5	+++	++	Gard - Alk	Herb M	clmp	Fb, St			E	E					A								
Ocimum basilicum	Basil, Genovese	9-11	0.5x0.3	++	++	Acid - Alk	Herb M	r				G G	G	F	Y F	G	Y									
Origanum vulgare	Oregano	4-10	0.6x0.8	+++	+	Acid - Alk	Herb S	clmp				G	E G	E				A								
<b>Vines</b>																										
Actinidia arguta	Hardy Kiwi	4-8	5x5	++	++	Acid - Alk	Vine H	w vine	H	E					S			S								
Jasminum officinale	Jasmine	6-9	0.5x10	+++	++	Acid - Alk	Vine H	run				E	G			G										
<b>Shrub</b>																										
Aloe vera	Aloe Vera	9-11	1x1	+++	+	Acid - Alk	Shrub S									S	F	G	P							
Amelanchier spicata	Low Serviceberry	2	4x4	++	++	Acid - Alk	Shrub L	ms	St	E			G				A									
Arbutus unedo	Strawberry Tree	8	6x3	++	+	Gard	Shrub	ms		G		S	S	G	C H											
Corylus avellana	European Filbert	4	6x6	++	++	Acid - Alk	Shrub L	Ckt	Sk	G			F													
Fortunella margarita	Kumquat	7-10	3x3	++	++	Acid - Alk	Shrub L	E		E																
Lavandula stoechas	Spanish Lavender	7-10	0.8x0.8	++	+	Acid - Alk	Shrub S	E, Ckt			E	E		G	A											
Rosmarinus officinalis	Rosemary	7-9	1.2x1.2	++	+	Acid - Alk	Shrub S	E ms			E G	E	F Y G	A												
Thymus serpyllum	Thyme	4-10	0.5x1.2	++	++	Gard - Alk	Shrub S	Cmat	T		E G	E	Y G	Y A D												
<b>Tree</b>																										
Laurus nobilis	Laurel	8-10	12x10	+++	++	Acid - Alk	Tree S	E, std			G	E E	S		G			P								
Malus domestica	Apple	4-9	3x3	++	++	Gard	Tree D	std	F	E		F	Y F	G	C D P											
Moringa oleifera	Moringa Tree	8-11	8x8	++	+	Acid - Gard	Tree M	std	T	E E E		E			C											
Prunus dulcis	Almond, Dwarf	6-9	3x3	++	++	Gard	Tree D	std			G			G	A											
Olea europaea	Olive	8-10	10x8	++	++	Acid - Alk	Tree D	E		E G		E			C											
Pistacia vera	Pistacio	7-10	10x10	++	++	Acid - Alk	Tree M			E		G			A											
<b>Canopy</b>																										
Castanea spp.	Chestnut	4	30x25	+++	++	S Acid - Acid	Tree L	std		E		S		G	C											
Allocasuarina torulosa	Forest Oak	7-10	15x15	++	+	S Acid - Gard	Tree M	E				Y Y		L												
Tilia spp.	Linden	4	30x10	+++	+	Gard - Alk	Tree L	spr	Sk	E	E	E	G	Y	G	C D										

## CHANNELL'S HILL STUDIO

*Fall 2017 - Summer 2018, Bristol, UK*

For some projects, the scope of my involvement moves past just designer or builder, and expands to include project manager. For this 27 sqm garden studio and surrounding garden, i subcontracted several building professionals so that it would meet planning permission and building code. We sources local, renewable materials sourced from the surrounding countryside, and the latest building science to create a highly efficient and sustainable building to compliments the garden and the clients aesthetics.

The studio functions as a meditation and work studio. From the interior, the client can enjoy the small stream that runs along the edge of their property while having privacy and peace from the surrounding city.

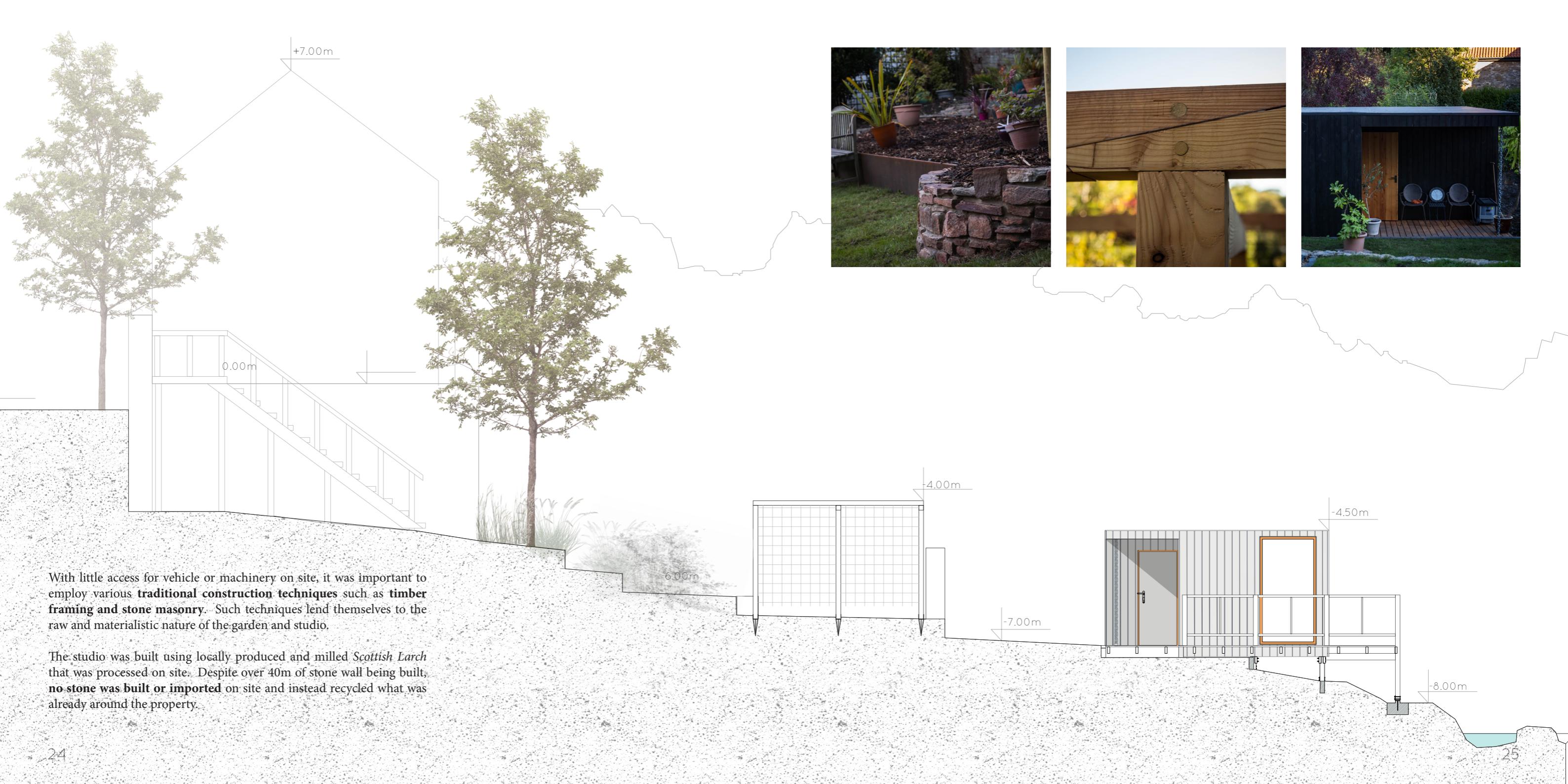


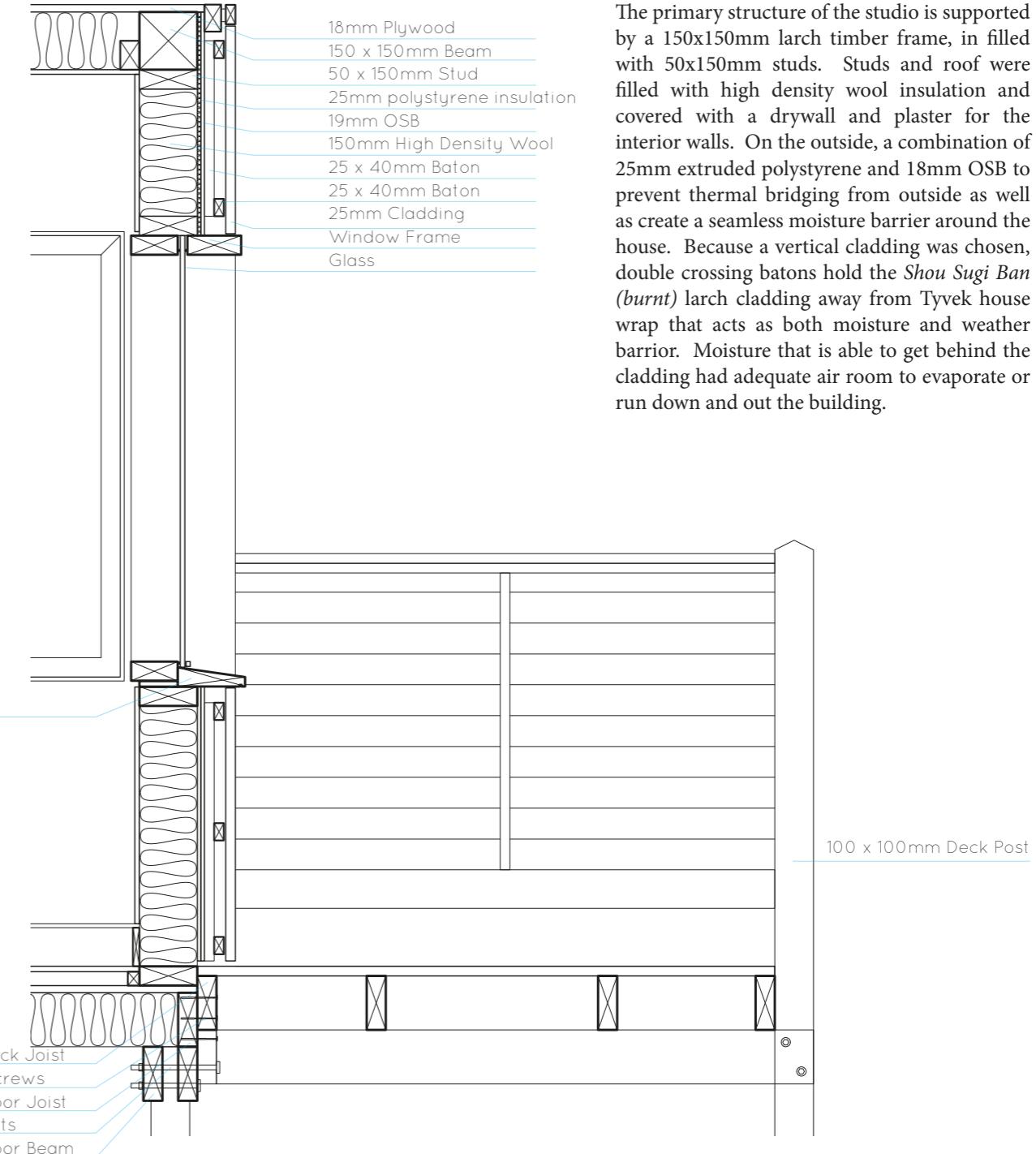


While it may not feel like it inside, the property and garden are in a very urban setting and thus come with a plethora of noises and urban qualities. In order for my client to fully appreciate the garden, I designed a **garden studio**. The space is equipped with a small kitchen area, triple sliding windows and a sedum roof (soon to be installed) that would blend into their garden while allowing the ample **privacy and comfort**.

Continuing the shape of the new studio as well as existing context, the garden looked to maximize usability in the sloped garden by creating several layers to it for both vegetation and use. **Mimicking the materiality** of the studio as well as introducing new materials, such as corten steel, the gardens aesthetics closely tie in the clients house with the local environment.







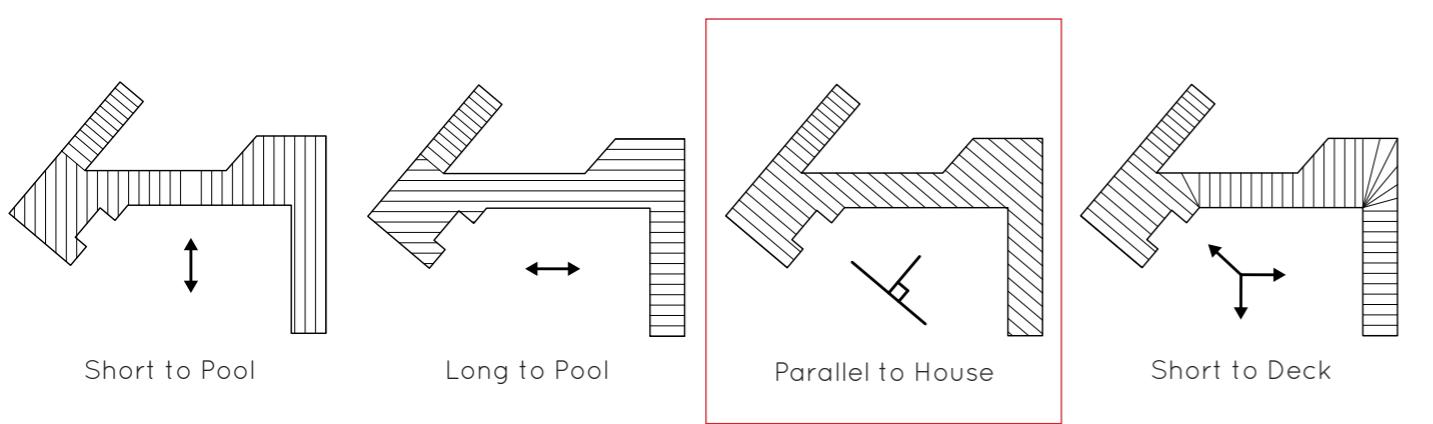
The primary structure of the studio is supported by a 150x150mm larch timber frame, in filled with 50x150mm studs. Studs and roof were filled with high density wool insulation and covered with a drywall and plaster for the interior walls. On the outside, a combination of 25mm extruded polystyrene and 18mm OSB to prevent thermal bridging from outside as well as create a seamless moisture barrier around the house. Because a vertical cladding was chosen, double crossing batons hold the *Shou Sugi Ban* (*burnt*) larch cladding away from Tyvek house wrap that acts as both moisture and weather barrier. Moisture that is able to get behind the cladding had adequate air room to evaporate or run down and out the building.

## MILL BAY DECKING

*Summer 2017, Mill Bay, Canada*

Working with local and sustainable materials is central to my practise and of great importance to me. Understanding where these materials come from and the best way to translate their beauty is critical in their ongoing care and awareness. While working on the construction of an outdoor patio in Canada in 2017, I was at the heart of Red Cedar logging industry and was thus able to work closely with local mills to source the materials for the job. Paying close attention to material tectonics, these two decks express the cedar without distraction of visible nails, screws or oils and allow it to patina naturally to a beautiful silver.





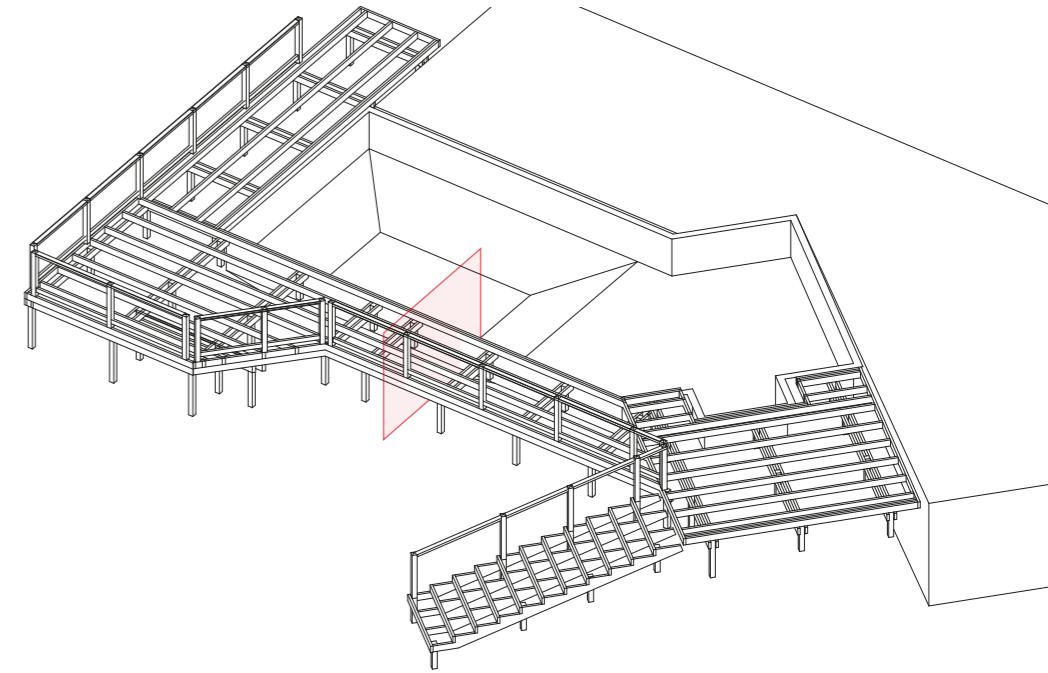
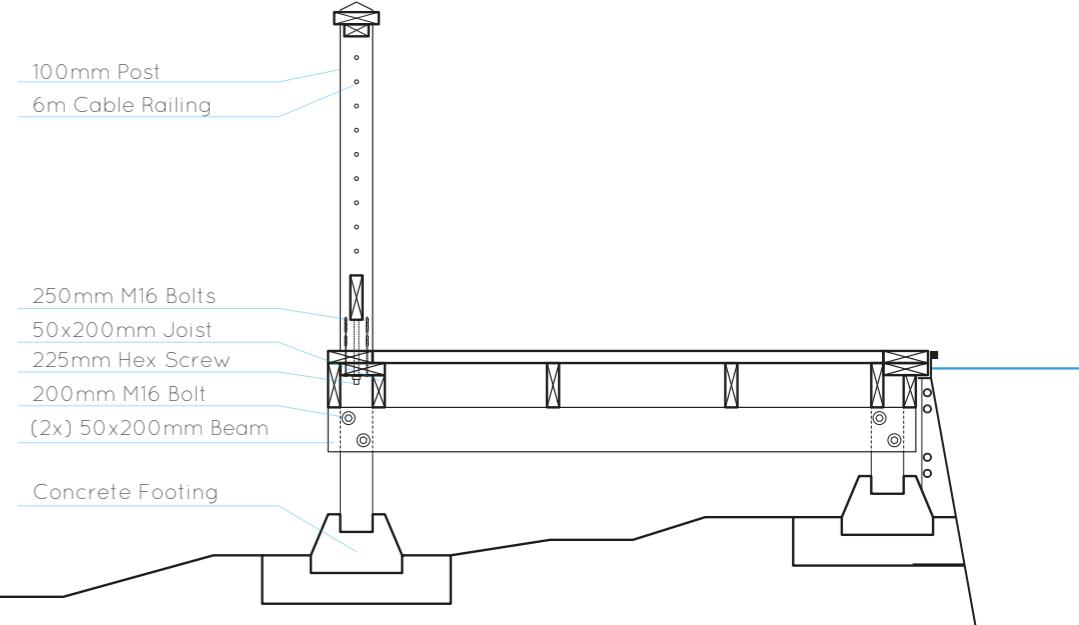
By running the planks parallel to the house and at an angle to the pool, I eliminate the need for any decking boards longer than 20', resulting in **single boards for the entire surface**. While more time will be spent cutting all the angled pieces around the deck, the resulting cohesiveness between the deck and its context pays off in the end.

The existing decks had long since rotted away, and thus **entirely new structures** were required to be built. Unlike the previous decks, that had succumbed to moisture becoming trapped in the joints and connection, it was decided to go with a post and beam construction to reduce the need for metal bracketing and possible trap points.

Both structures were also built to be **free standing**, to ensure that any shift in ground or pool construction did not result

in unnecessary strains on the decking. Using concrete footings, as well as lap joint over the existing brackets, the decks lay flush and tight with the pool resulting in them appearing to be attached.

Careful planning of how the structure would come together, allowed the design to hide or **mask nearly all joints and screws**. This design created a flawless surface while reducing possible locations for future water damage.





Locally produced and milled *Canadian Red Cedar* was used for the majority of the deck, including all the railings and detailing features. Working closely with a **local mill**, the wood was cut to 20' lengths that allowed for the seamless diagonal decking to not require any lap joints.



The wood was not oiled or stained so that a **natural silver patina** could develop over time. The cedar is naturally resistant to insects and trapped moisture, and due to the nature of the silica fibres in it creates an effective slip free surface, perfect for beside the pool.

To finish off the deck, high quality **steel wire railings** were sourced from a local company in Vancouver. Normally used in luxury residential developments, the wire railings lent themselves perfectly to **lightening up the structure** of the railings as to open up the view off the deck while at the same time finishing off the deck tectonics with a clean and unique aesthetic.





Complimenting the morning sun at the back of the house, the deck at the front is excellent for use in the afternoon and evening, when the sun moves around to the west of the house. In order to create a **sense of semi privacy**, the deck was split into two levels: one level with the driveway and public area, and one level with the house floor that extends the living room outside.



The lower part of the deck was proportioned so that it could be used in the evening for eating, while allowing the top area for plants and relaxing. Railings were installed where appropriate to allow for **easy access around the house** to the back pool.

