

# THE PLANT CLINIC

RESCUE, REUSE, RECYCLE

The Plant Clinic responds to the 'houseplant bloom' and addresses the environmental impact of the surge of houseplant popularity and sales.

It is a very personal project inspired by those struggling with invisible disabilities and seeking strength from houseplants and the love for nature. I hope to encourage people to consider the environmental impact of their choices when enjoying indoor gardening and to rescue and reuse as much as possible before recycling so that our love for nature does not cost the planet.

I also want to inspire everyone to question how 'green' designs are, even if they look 'green.' I want us to ask the question, is it Biophilic Design, or is it greenwashing?

I hope that my experience in the horticultural world and my knowledge as a spatial designer can provide a different insight into the increasingly popular Biophilic Design. I want to argue that good design, by definition, should be sustainably responsible. Biophilic design is no exception. And As designers, it is our responsibility to understand the climate emergency and incorporate that into design thinking.

I believe Spatial Design can be a driving force in reducing the waste and consumption brought about by the bloom of the houseplant industry.

## Why should we know more about houseplant care as Biophilic designers?

- Biophilic Design, which aims to reconnect the built environment with nature, is about positive and sustained interactions with nature. If the essential requirement of plants is ignored or falsely incorporated, they are not viable, and therefore the goal of biophilic Design cannot be achieved.
- Ignoring the basic needs of plants and making design choices based on aesthetics and outdated research makes the occupants an unachievable promise of a 'greener life' which requires constant replacement of plants.
- When the plants that are an essential part of the design are not viable, it adds to the throw-away plant culture. Plants should not be viewed as disposable decorations, especially considering the plastic waste, resource and energy consumption behind the production of houseplants.

## Why should we care about sustainability as Biophilic designers?

- Biophilic Design, given its definition, requires love and compassion for our planet Earth. Reconnecting nature should not cost the environment.
- Sustainable Biophilic Design has the potential to benefit planetary health, which improves human health in the process.

## How does the Plant Clinic address the environmental issues, such as the plastic waste and the carbon footprint, that come with the 'Houseplant Bloom'?

### Rescue

- Unwanted plants can be put up for adoption at the Plant Clinic where they are treated and isolated before being placed in the display area to be rehomed.
- People who struggle with plants can consult the clinic for advice.

### Reuse

- Nursery, Terracotta and decorative pots as well as other gardening accessories can be dropped-off for others to collect.
- Glass containers can be repurposed for propagation.

### Recycle

- Recyclable plastic is only transferred to recycling centres when there is an overflow of unwanted items.



The unimaginable amount of waste and carbon footprint produced in the horticulture industry is often overlooked because many assume anything plant-related is "green." However, while the bloom of the houseplant industry encouraged a better relationship with nature, it also multiplied the carbon footprint and waste produced during growing, packaging and transportation.

Most nursery pots and trays are neither recycled plastic nor recyclable. Clingfilm and plastic wrappings are also widely used for transporting and retail packaging. Even the growing substrates often contain unrenowable and unsustainable ingredients, such as peat. There is also water consumption, electricity, non-wildlife-friendly pest control, and the carbon footprint produced by importing plants from Europe and Asia. The list goes on.



## THE INSPIRATIONS

### Propagation Station

- Clear containers for easier observation of root growth
- Air-pump to encourage root growth and prevent rot



### Substrate Station

- Has the potential to be functional but at the exhibition this display was prioritised to show layers of each ingredient
- If this was a functional space, these containers do not have enough storage to be practical for large amount of plants.



### Terrariums

- Using a variety of different glass containers which allow different air-flow levels for different plants



### The Plant Clinic

- The Plant Clinic is an interactive space to enhance our understanding of supporting plants, so that they can support us.
- The Plant Clinic focuses on house plants which have seen a resurgence in popularity and are being used as disposable tools, when instead they are an important part of a group of plants that support our ecosystem.



### The Plant Rescuer

At the Another Plant Swap event in April 2023, I met Sarah Gerrard-Jones, the author of "The Plant Rescuer", who is an activist against waste in the plant industry, she writes for BBC Gardeners' World with a focus on reducing throwaway culture.

In recent years she won a RHS Gold Medal for "The Plant Clinic" which is an interactive display focused on reducing improper care thereby reducing the buying and killing cycle, which is also what I strongly believe in and hope to express through my design.

Another Plant Swap (APS) is a community driven meetup which started during lockdown, where plant enthusiasts can share all forms of plants with each other. The event drastically reduces the cost, waste and carbon footprint associated with plant enthusiasts as it allows members of the plant swaps to acquire different plants locally, for free and without plastic.

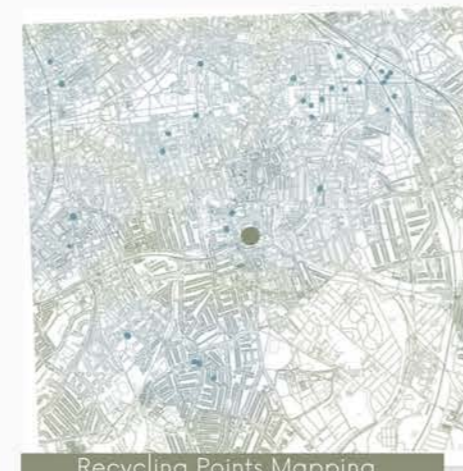
### Another Plant Swap



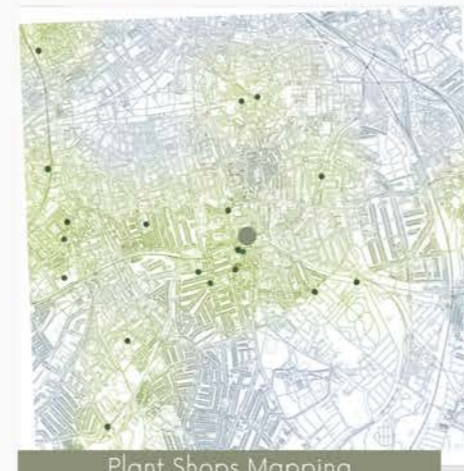
## THE DEMAND

By mapping out the plant shops and recycling places around Peckham Levels in a rough radius of 1.5 miles, I realised that, while there are a lot of plant shops nearby, most of the recycling facilities are quite far away. On top of that, the ones which are in the local area do not accept soft plastic or nursery pots and trays, most of them focuses on cosmetic recycling programmes.

It is evident that rescuing plants and reusing gardening supplies are crucial for reducing waste, and recycling is more of a last resort. There is a gap between the local need than what is being provided, which is why a plant clinic focusing on rescue and reusing to reduce waste at Peckham Levels would



Recycling Points Mapping



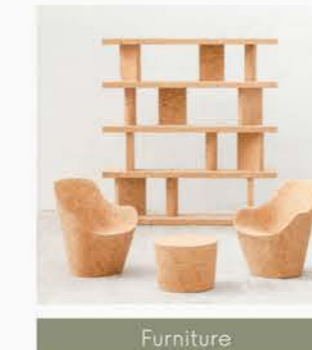
Plant Shops Mapping

## CORK

Cork is a natural material, biodegradable in compost and freely reusable material. Cork trees store 3-5 times more CO2 when harvested and are therefore beneficial to use. In terms of building materials cork can be made into many forms with its light, durable, elastic, waterproof, fire retardant and insulative properties making it an ideal building material.



Cork can be easily shaped into acoustic boards and only 6mm has a sound transmission rating of 50, "only very loud sounds are faintly heard", which will block 23db. They are also highly decorative as it can come in different shapes and colours.



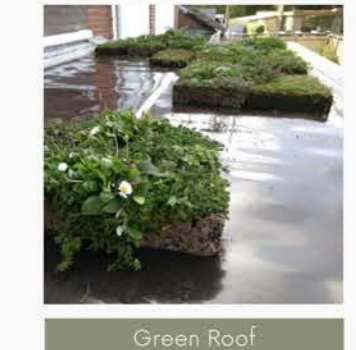
Cork furniture is considered the most popular sustainable furniture. This is due to cork being a sustainability carbon sink and entirely reusable. In terms of practicality cork is also hypoallergenic, mould, mildew and pest resistant. For visual looks cork furniture is often made with wood, metal or plastic which are used to give the cork shape and structure to give the desired look.



Cork insulation is especially effective due to its damp proof properties allowing it to be applicable to damp penetrative environments such as roofs or cavities. Additionally Cork can be used to make agglomerate which is used as a waterproofing layer in terraces.



Cork flooring is cheap, soft, sound insulating, resealable, hypoallergenic, antimicrobial, and easy to install, maintain and upgrade. However, it is also easily susceptible to damage, bends easily under significant weight, requires a water sealing and can easily fade in sunlight.

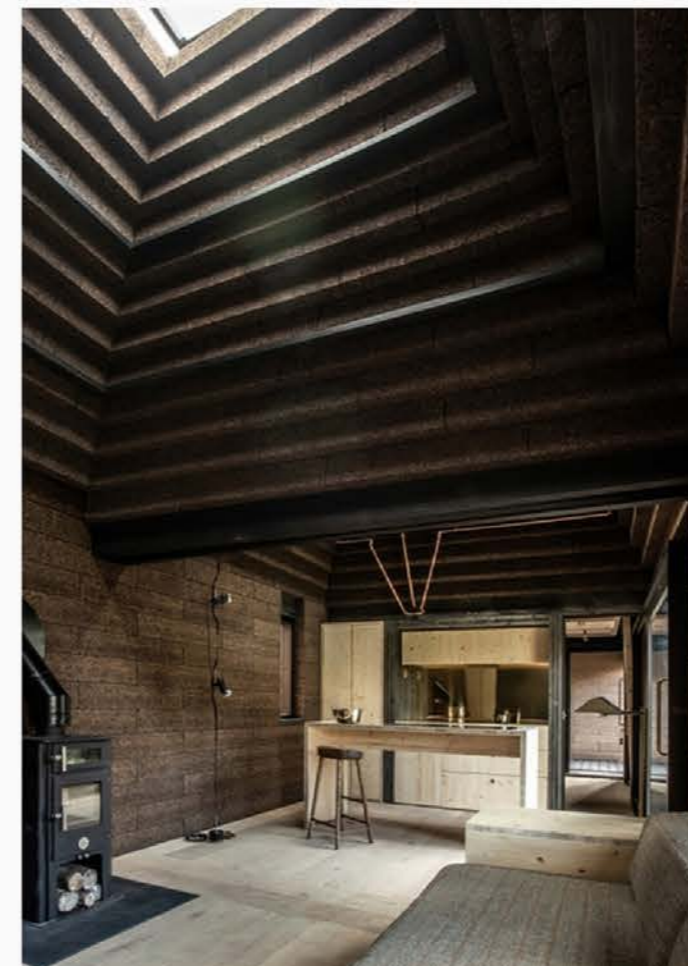


Green roofs is a relatively recent concept where rain and sunlight which would damage normal structures is instead used to grow a plant based roof extending the lifespan while finding a useful for otherwise waste water. The cork is included as a insulation, drainage and water retention material allowing the plants to grow in any weather with sufficient supply. Additionally provides significant thermal insulation and fire protection.

(Critical Concrete, 2023) (Causeway Technologies, 2023)(DesignBoom, 2023) (Amorim Cork Insulation, 2023) (Longleaf Lumber Inc, 2023) (The Exploded View, 2023) (HZCORK, 2023) (APC Cork Inc, 2019) (Lewitin, 2022)

## THE CORK HOUSE

The Cork house was designed by Matthew Barnett Howland, Dido Milne and Oliver Wilton, gaining international acclaim having received various awards such as the European union prize for Contemporary architecture. The walls and rooms are entirely made of cork where the individual parts were fabricated off site and then assembled without glue by hand as a kit.



- Requires no external tools or glues.
- The entire structure is remade and can be built up like a jigsaw by hand and disassembled to be reused. It is therefore perfectly reusable and sustainable.
- The cork used in its creation is the by-product and waste from cork forestry and stopper industries, which can also be further recycled or biodegraded at the end of its use in this project.
- High level of insulation, and the utilisation of natural lighting in the long term reduce energy consumption and carbon footprint.

(RIBA Architecture, 2023)

**EXPIRAMENTAL VISUALISATION**

Reused polycarbonate sheets from the existing site  
Cork flooring

Plywood shelves wrapped in cork sheets with built-in handrail  
Storage, drop-off and collection for terracotta pots and saucers

Cork flooring

Ceiling covered in cork sheets

Monstera delisiosa  
Reused polycarbonate sheets  
Folding door  
Dracaena (Sansevieria) trifaciata  
Epipremnum aureum

Dracaena (Sansevieria) trifaciata

Plywood shelves wrapped in cork sheets

Cork flooring



Display and collection area for plants that have been treated and isolated

storage, drop-off and collection for decorative pots

plywood shelves wrapped in cork sheets

round corners

Sitting height in case someone feels unwell and needs to sit down

Railings for hanging plants

Epipremnum aureum

Monstera adansonii

Reused containers for propagation

Zamioculcas zamiifolia

Spathiphyllum wallisii

Ficus elastica

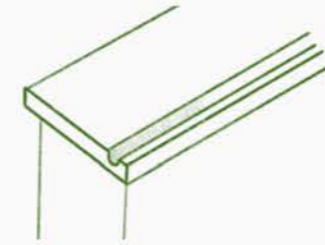
Aloe vera

Sedum x rubrotinctum

Handrail

- Cork for thermal and acoustic insulation as well as shock absorption for people with HSD/hEDS and neurodivergence.
- Reused polycarbonate sheets to provide separation for the isolation area without blocking too much natural light.
- Plywood shelves for durability and structural support.
- Plants are placed based on their range of light requirements and tolerance as an example, and not an indicator to where they have to be positioned.
- Thicker plywood and cork shelving comparing to the previous visualisation, for better structural security.

• shrap edges



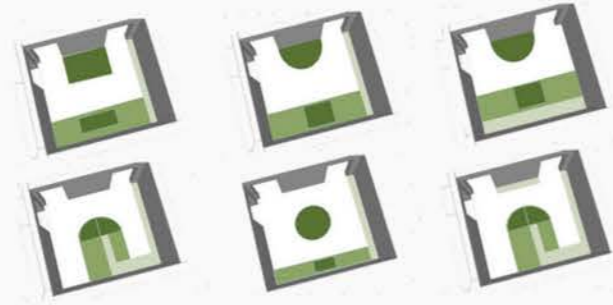
• difficult to grab



• round surface and easy to grab



Wash, soak and spray area



Worktop surfaces with storage underneath

Storage

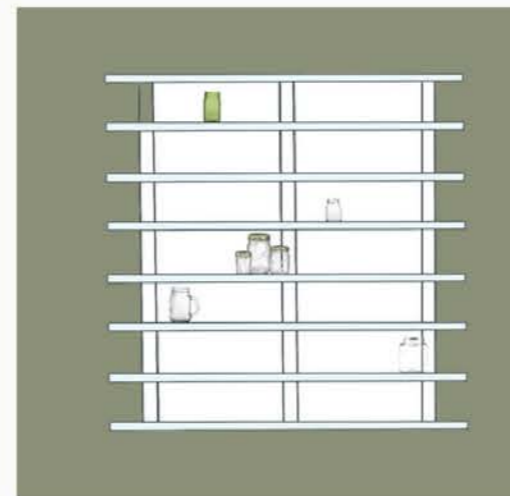
- Because of the amount of work involving liquid, the surfaces, including the floor and walls should be waterproofed. The floor in particular should be non-slip for safety reasons.
- Sanitasionn is prioritised in the treatment room, and given it is not open to the public, it does not need to use the same materials as the rest of the space. Instead of plywood and cork, the treatment room consists of heavy duty, non-slip rubber and stainless-steel.
- I chose rubber as it is heavy duty, has the potential to be sustainable depending on the source.
- My choice of stainless-steel was inspired by cat water bowls - it is recommended to use either ceramic, glass or stainless steel water bowls for cats, as their tongue can make micro scratches on the surface of wood or plastic, where it can be very challenging to clean and harbour bacteria. Similarly, the worktops can also benefit from using a hardier, easier to clean material.



- A very deep sink with a built-in tray that can be taken out or put back in depending on the need
- For washing and spraying small plants, the tray can be used
- For soaking or washing larger plants, the tray can be removed
- A regular tap and a pull-out spray tap



- A shower enclosure with enough space to allow bigger sized plants to be sprayed thoroughly



- Storage shelves for containers, solutions, powders...



- Worktop with storage underneath
- Fits large containers
- The containers should be at the right height in relation to the size of spray bottles for easy access

