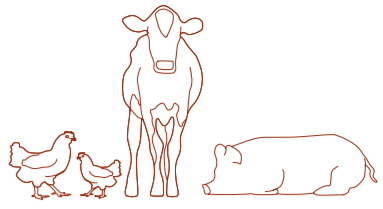


# THE MEAT LAB

## THE CONTEXT



CAMDEN CAR WASH, 128A CAMDEN ROAD, LONDON



Camden Car Wash is located on Camden Road, one of the biggest and busiest main roads of Camden. 128A Camden Road, Camden Car Wash, is surrounded by residential housings as well as a couple of shops such as a coffee shop and convenience shop.

The Car Wash is located next to a fish and chips shop and a barbers. The Car Wash is **smaller in height** compared to its neighbours. Its neighbours is towering over the Camden Car Wash.

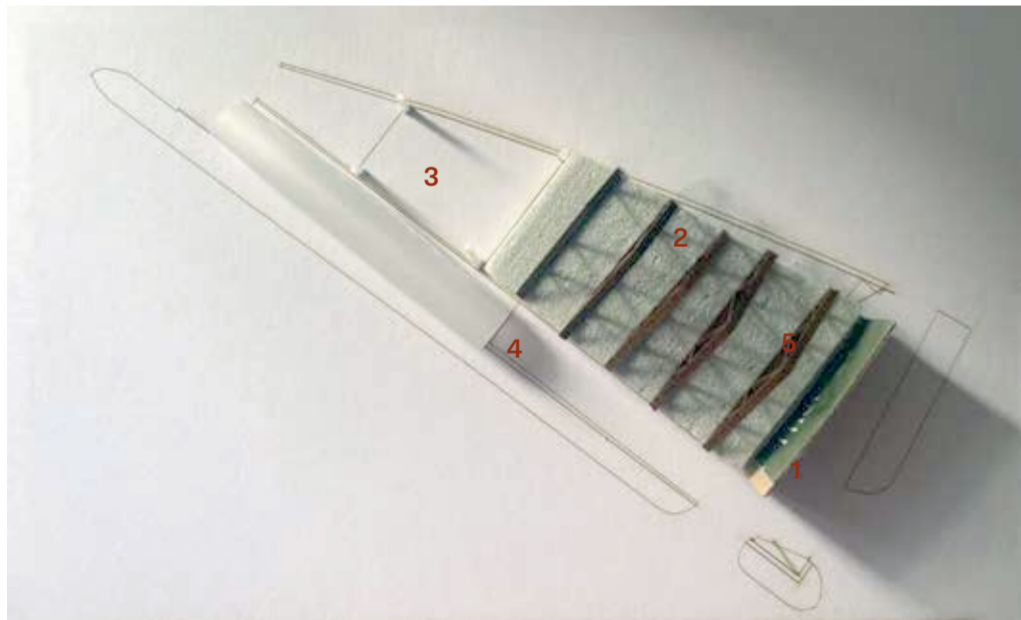
The **white paint is slowly chipping off** and yet it looks like graffiti is being added on. You can smell the different chemical cleaning agents in the air. Men are

wandering in and about the site, looking at the busy road, looking at the traffic.

It is the ideal site for the intended design idea as well as to **attract the public** to enter the space and to raise awareness to help save the planet.

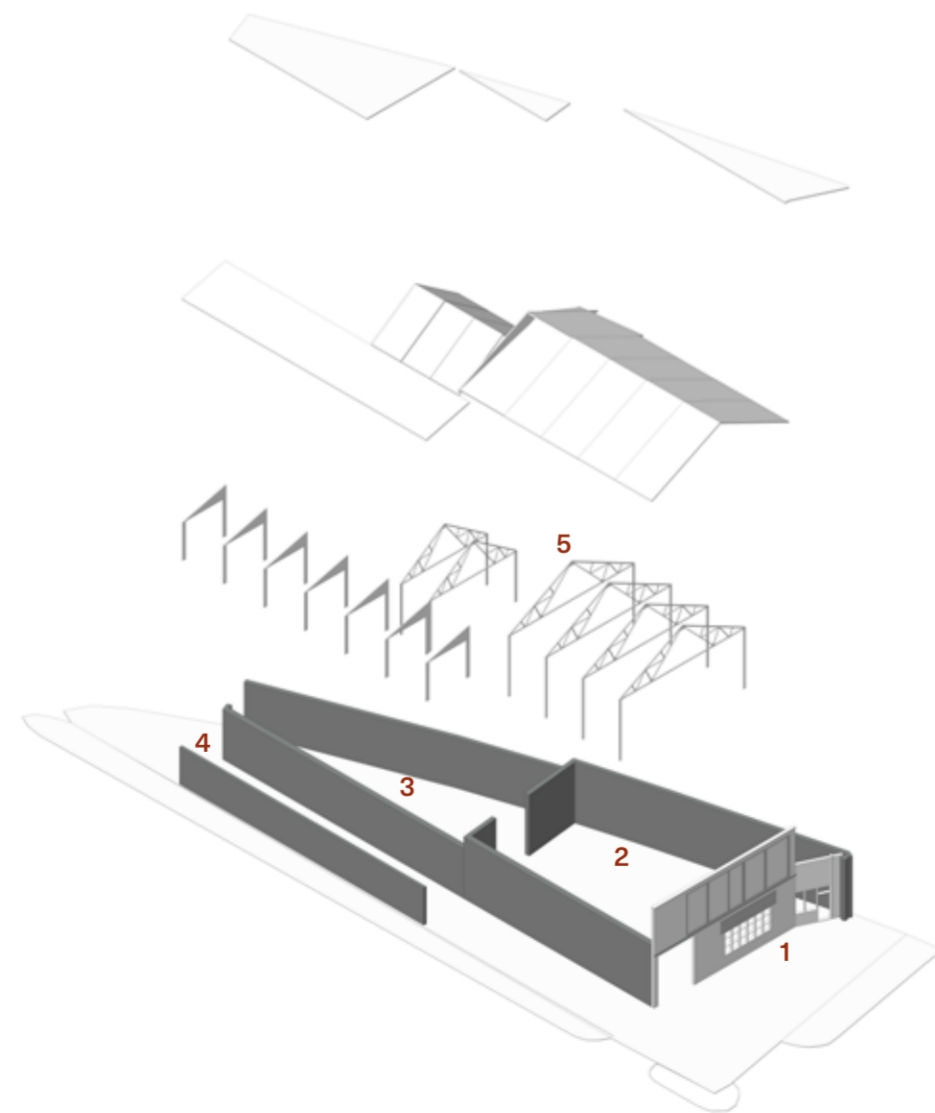
Car Wash has several points for **easy accessibility**. The structural built form is on the smaller side but however the boundary line of the site extends further so there is a **possibility for extension**. However, the structural parts of the site has been added on over the passing of time. There are five key elements of the built form.

### KEY ELEMENTS OF 128A CAMDEN ROAD



The principle behind these models is to explore the materiality and the necessity of the components of 128A Camden Road. In this model, I have selected the five main components that may be essential to the design.

- 1) The front façade
- 2) The main building
- 3) The shelter
- 4) The tunnel
- 5) The pitched roof



SCALE 1:500

### PROJECT NARRATIVE

'Almost a quarter of global greenhouse gas emissions comes from agriculture and other related land use, according to the United Nations.' - BBC News 12 Nov 2021<sup>1</sup>

Livestock is one of the biggest contributors to global warming.

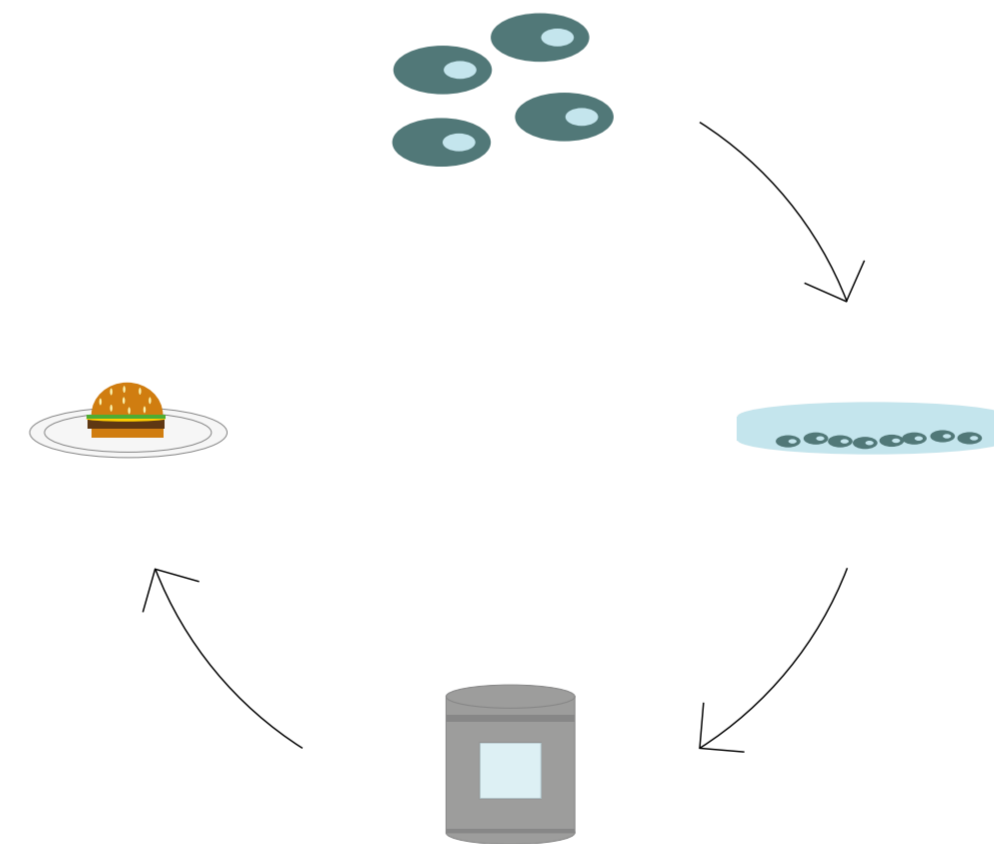
Beef produces the most greenhouse gas emissions.

'A global average of 110lb (50kg) of greenhouse gases is released per 3.5oz of protein.' - BBC News 12 Nov 2021.<sup>2</sup>

1 <https://www.bbc.co.uk/news/explainers-59232599>  
2 ibid

We, humans, have been consuming meat for many years, without realising the repercussions of our actions. We cut down trees, to **create more land** so we can raise cattle. **Damaging the environment** and further releasing more **greenhouse gas emissions** into the environment. We need to **stop eating meat** or at the very least, learn how to **reduce our meat consumption**.

### THE STAGES OF CULTURED MEAT



The **scientists** will be working and undertaking research in The Lab. **The Lab** is a scientific controlled environment where the meat is grown. The purpose of this laboratory is to **raise awareness** for the public and help save the planet. It is to show the **different ways you can be sustainable**.

The **chefs** are encouraged to **cook with the cultured meat** and are urged to be thoughtful regarding **food waste** in **The Kitchen**. This teaches the different ways you can be sustainable and help save the planet.

The public are encouraged to **try** the cultured meat food **before buying** the cultured meat packaged food. There will be a chance for **people to bond** over their experiences and thoughts and to meet new people. They can **educate** themselves about the **repercussions of using real meat** on the planet.

#### Stage 1: Collection

This is the stage where the animal specialists or veterinarians are to take **cells from the live animals**. **No harm** will be done to the animals at this stage or in fact any stage. For poultry animals, their cells can be taken from their eggs.

#### Stage 2: Storage

The storage stage is when the **live cells** are used to **establish a cell line**. This is the most **important step** in the process. If this does not go well, it can be extremely time consuming. A cell line is when the cells multiply and divide. The cell line is **grown and nurtured in a petri dish**, all cells in the line are replicates of the original cell taken from the animal.

#### Stage 3: Production

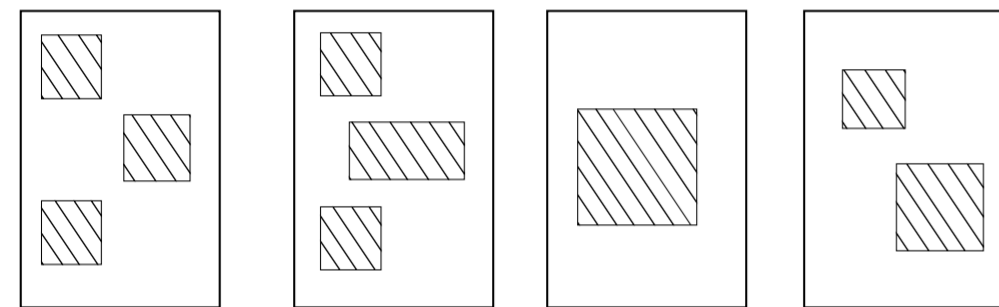
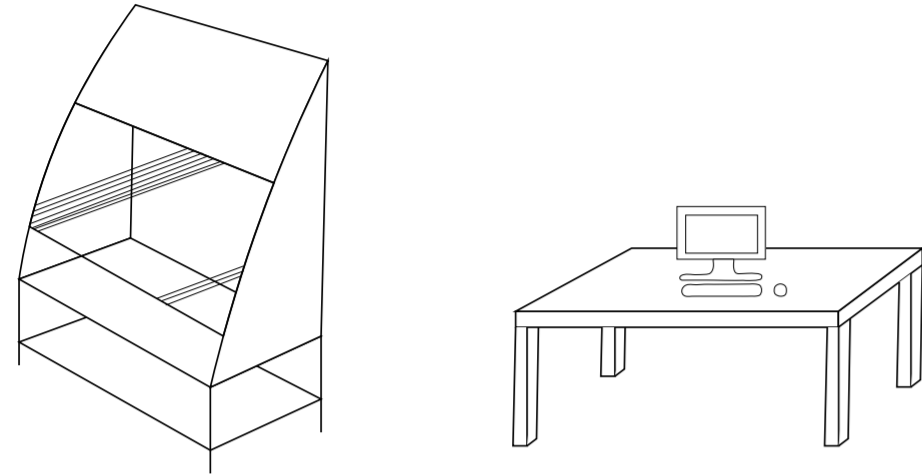
Once a good cell line has been established, it is **introduced into a bioreactor**. A bioreactor is a piece of apparatus for growing cell culture into organisms under controlled conditions such as temperature and light.

#### Stage 4: Creation

This is the stage where the cell culture is ready to be created into edible meat. It can be made into sausages, burger, steak etc.

# DESIGN CONCEPT

## WET & DRY LABS



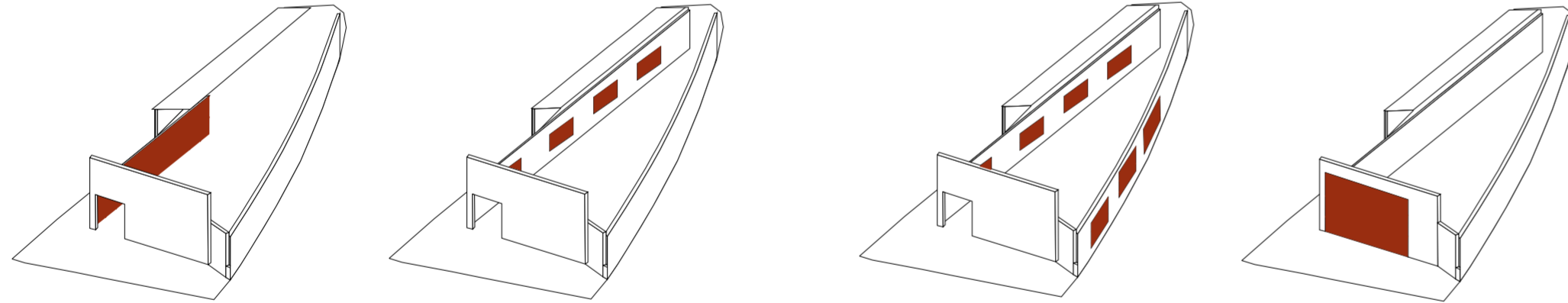
PLUG IN CITY CONCEPT

There are **two types of laboratories**: a wet lab and a dry lab. A **wet lab** is lab where **drugs, chemicals**, and other type of **biological matter** can be analysed and tested using various liquids. A wet lab is more useful if you intend to work with any type of liquids to create the product.

A **dry lab** environment focuses more on applied or **computational mathematical analyses** via the creation of **computer-generated models or simulations**. So, it is more intended for the purpose of the research and calculations that needs to be done before the creation of the product.

In industry, these laboratories are mass produced in such ways that it is **modular and flexible** so that its fit anywhere. The scientific industry has standardised the design and layout of the labs so that it is **ergonomically suitable** for the users. This allows for the labs to be literally **plugged** into the space.

## APPROACH TO DESIGN



REMOVING PARTS OF THE INTERIOR WALL

OPENING UP THE WINDOWS

OPENING UP MORE WINDOWS

A BIGGER THRESHOLD

### Re-establishing the existing:

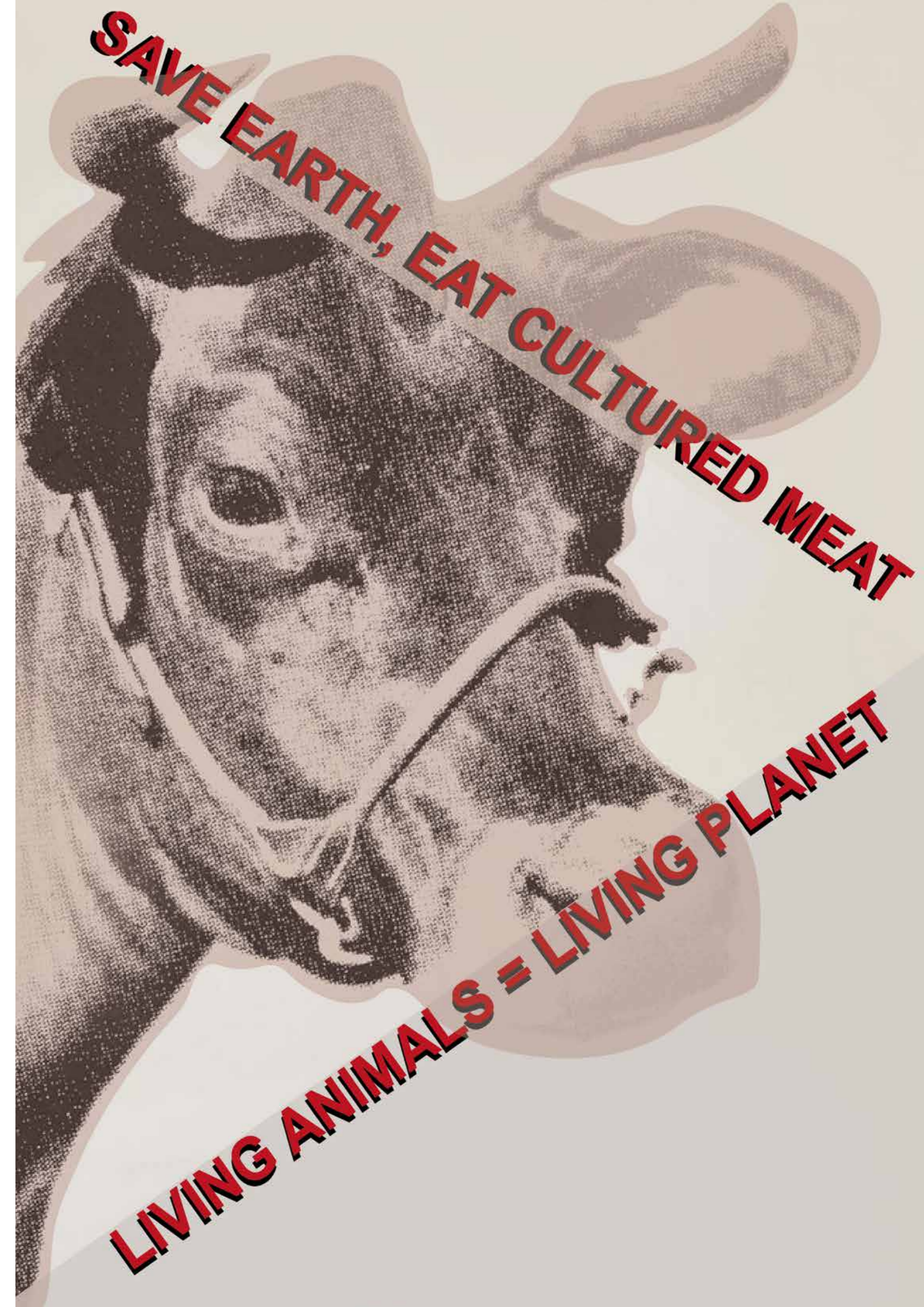
Although most of the original structure of the site will be kept as it is, there is limited natural light that flows through the site. The windows at each side of the walls are currently blocked off; this is possibly due to the function of the car wash and that natural daylight may be more of a nuisance than intended and thus creating an unwelcoming atmosphere. However, for the design of The Meat Lab, the **natural light** will play an **important factor** in the atmosphere. If there were to be natural light flowing into the space at all directions, not only will it brighten up the space but it will also give an **welcoming and open atmosphere**. Therefore, I have the decision to open up the windows to let as much as natural light into the space, thus allowing people to have glimpse inside.

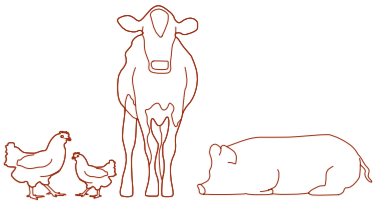
There is a possibility that some of the interior structural walls may be taken down, particularly the inner tunnel wall, to open up and create more space within the building. Not only will it achieve this but it also allows for an opportunity of a more **dynamic and fluid design** which is crucial as this site is particularly small.

### Building in the existing:

As I will be designing an interior landscape of distributed modular elements, the said elements will be prefabricated and be placed in the building. The elements will be attached to the existing structure, perhaps the roof trusses.

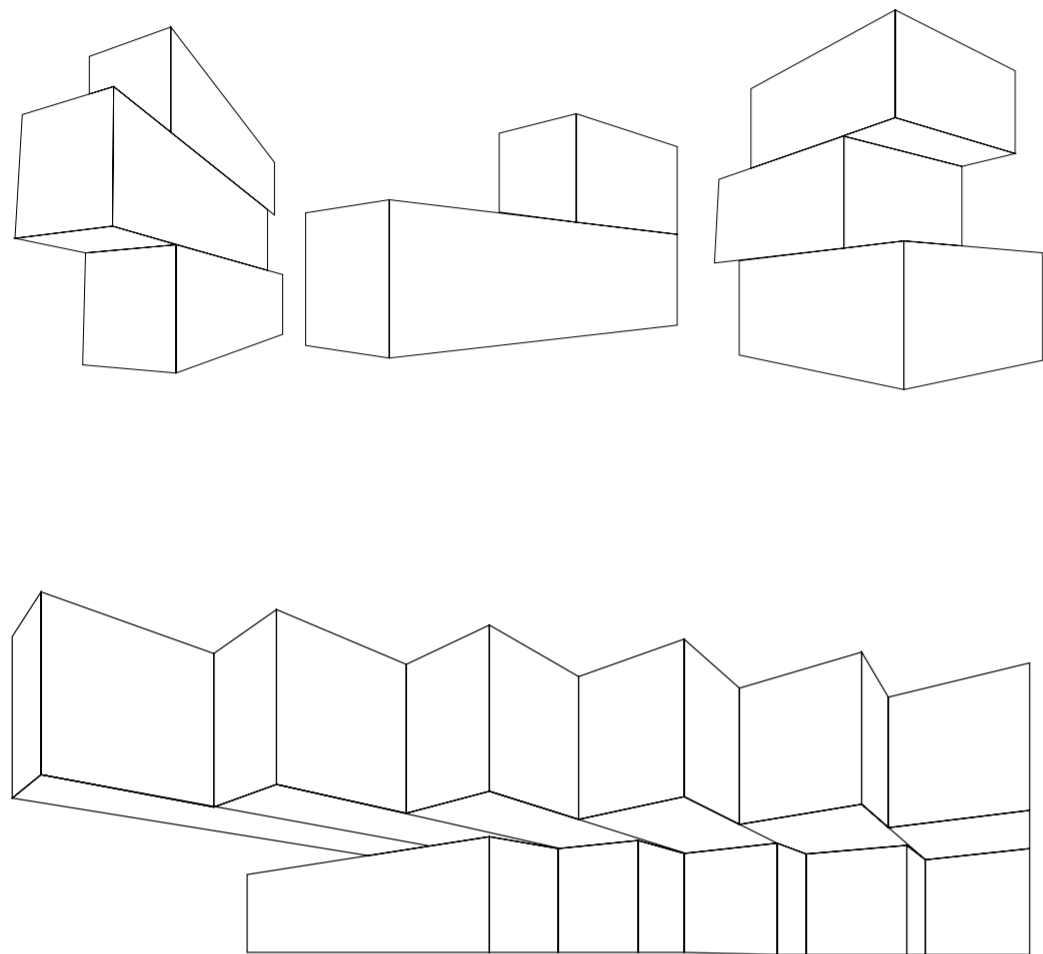
This also applies to The Lab space. Regarding the rest of the space, in particular The Kitchen, it will be built within the building according to the specifics of the building.





# DESIGN DEVELOPMENT

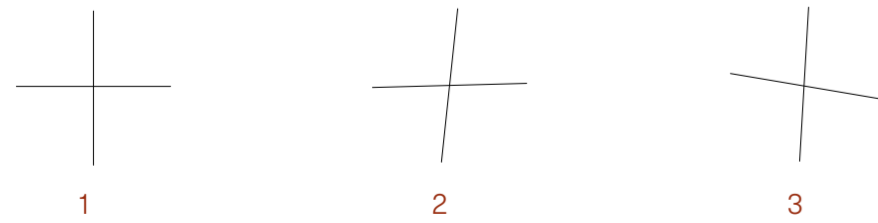
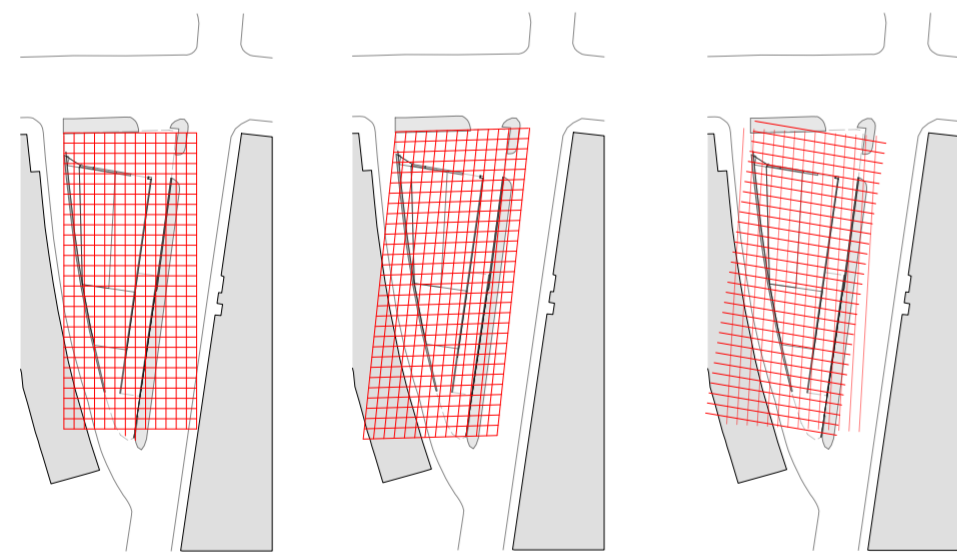
## SHIPPING CONTAINERS



Shipping containers are **modular** and fairly easy to transport. Using this quality, it makes sense that the plug in blocks of The Meat Lab may replicate the dimensions of shipping containers. Shipping containers come in standard sizes as the width and the height are the same but the length of the containers varies.

Whilst the plug in blocks' dimension may replicate the shipping containers', the idea is that the **containers are used to transport the blocks** from where it is being manufactured to where it would be plugged in. So, this means the plug in blocks should fit inside the containers for easy transportability.

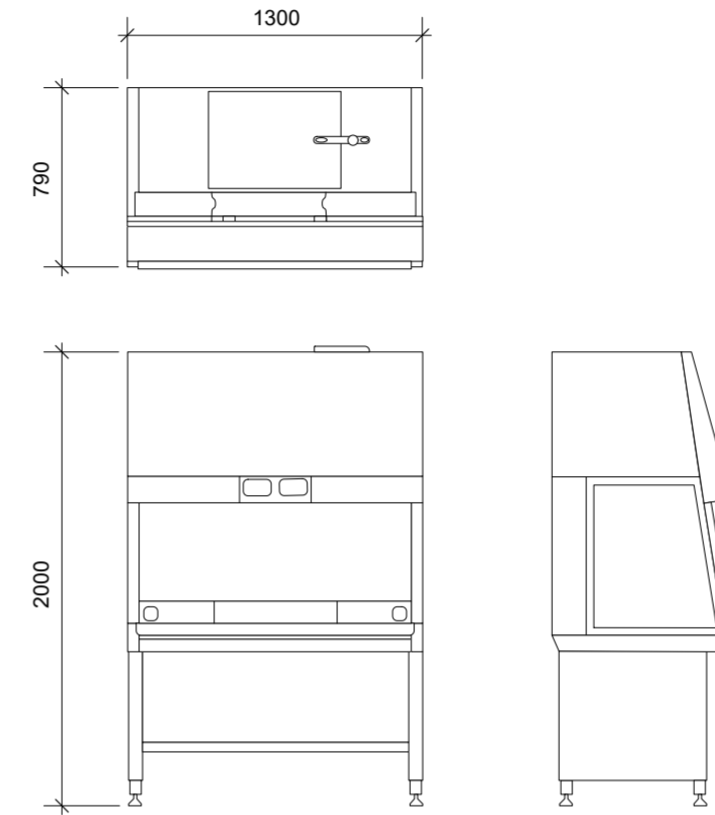
## EXPLORING GRIDS



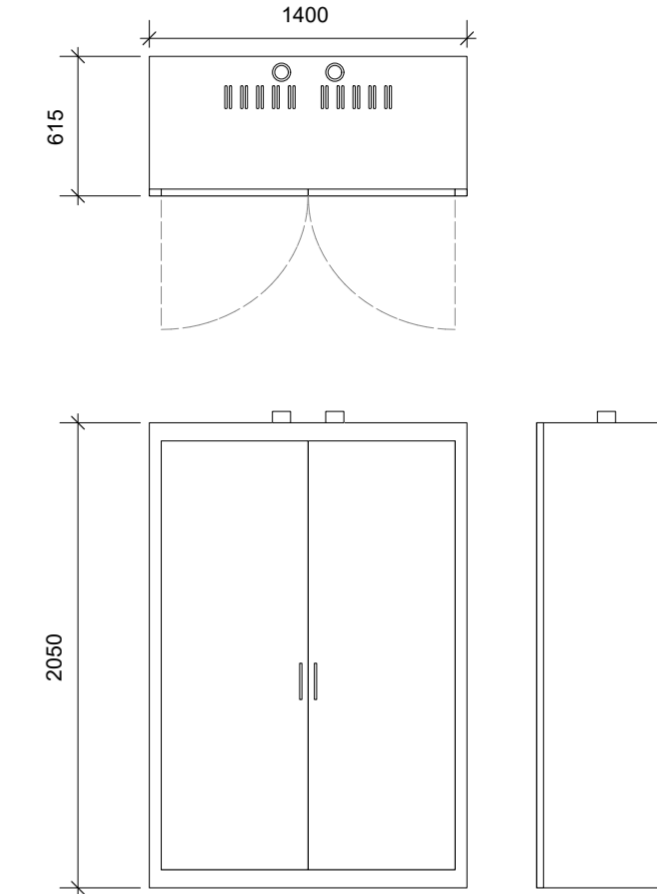
- 1 - grid following the lines of 90 degrees, perpendicular and parallel
- 2 - grid following the boundary line of site
- 3 - grid following the lines of the pitched roof and front façade

## SCIENTIFIC EQUIPMENT

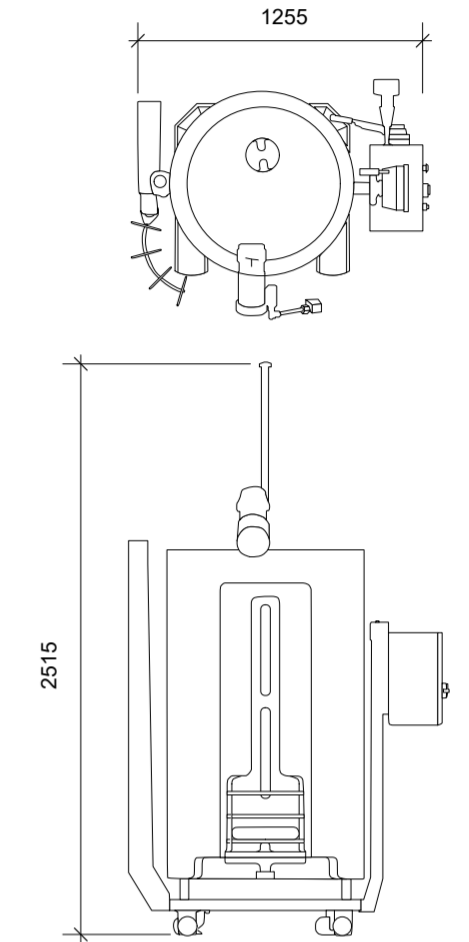
### Microbiological Safety Cabinet



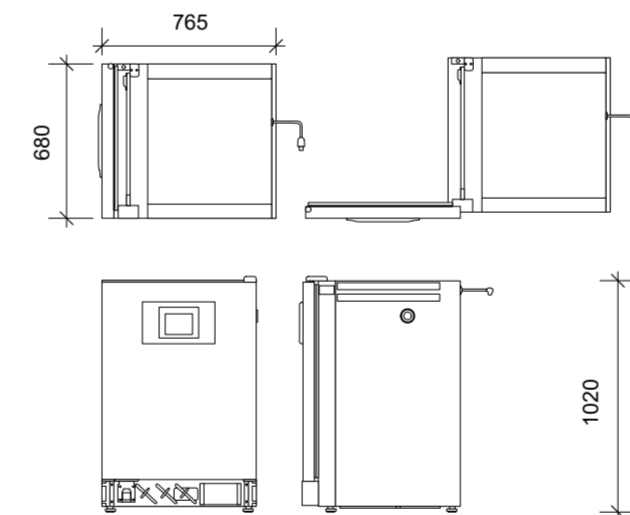
### Gas Cylinder Storage



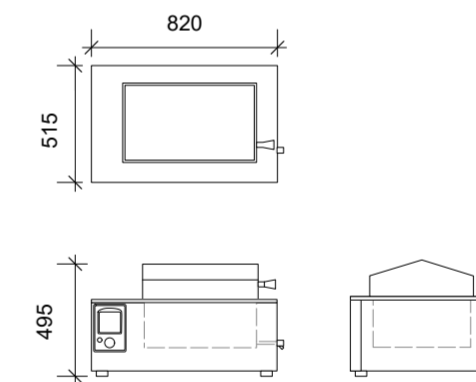
### Bioreactor



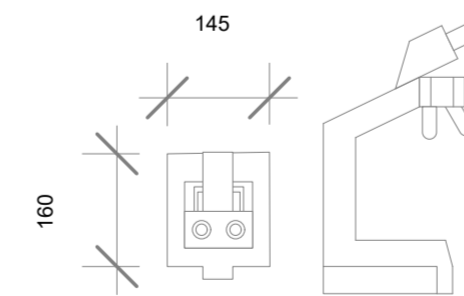
### CO<sub>2</sub> Incubator



### Water Bath

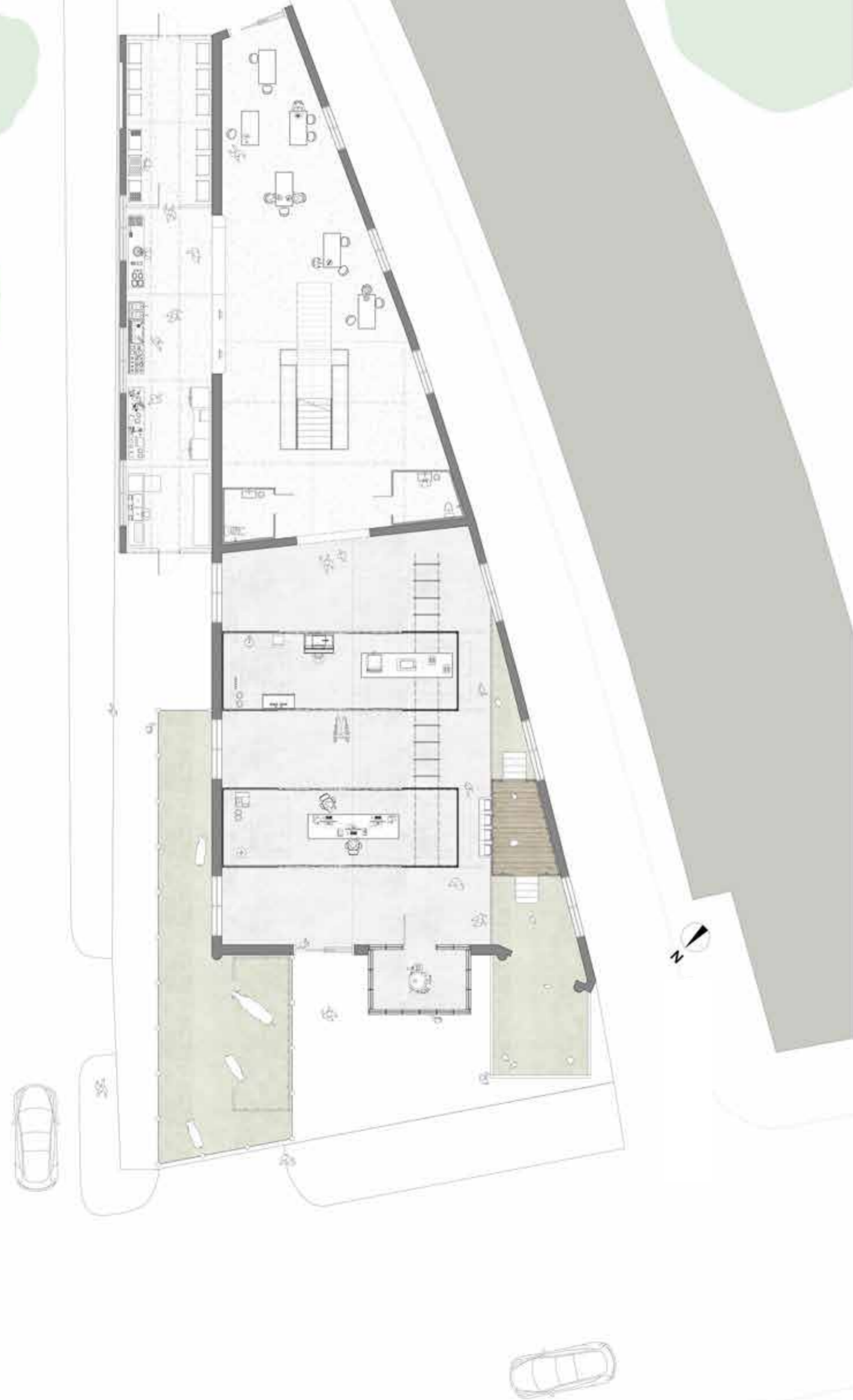


### Mircoscope

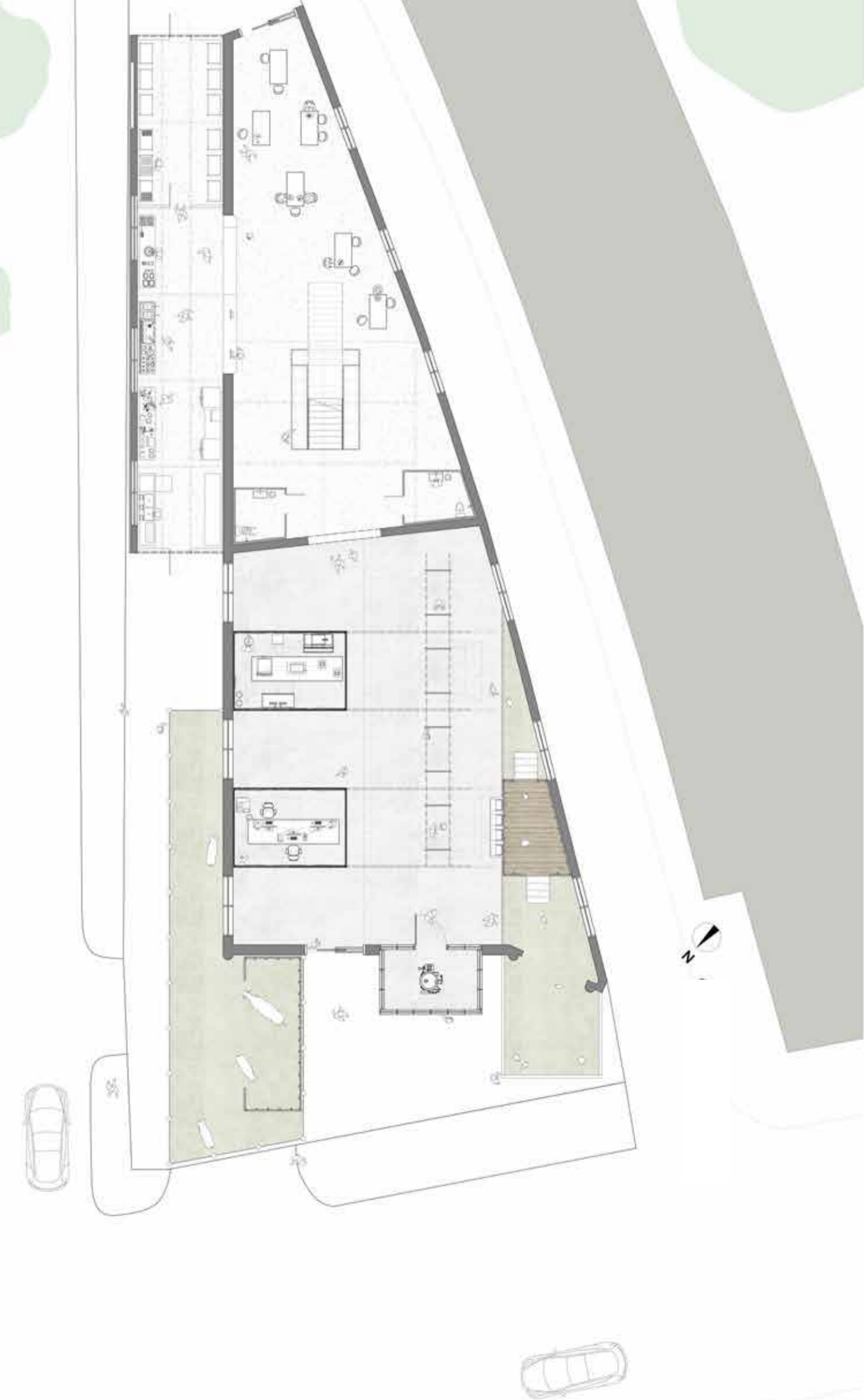


A descriptive information sheet of the crucial scientific equipments that is required to create cultured meat in a wet lab.

# DESIGN PROPOSAL

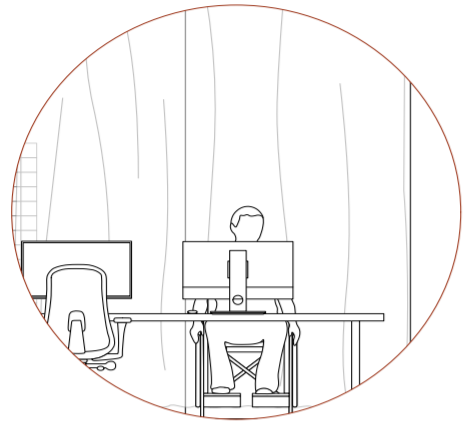
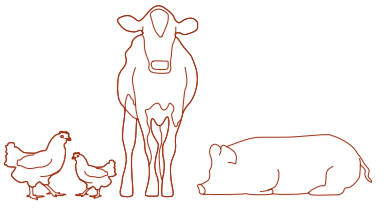


PROPOSED GROUND FLOOR (9am - 5pm) SCALE: 1:200

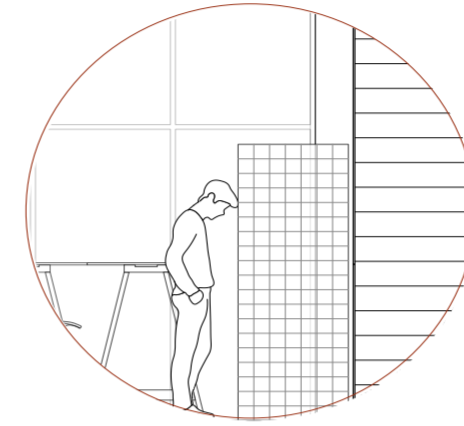


PROPOSED GROUND FLOOR (5pm - 11pm) SCALE: 1:200

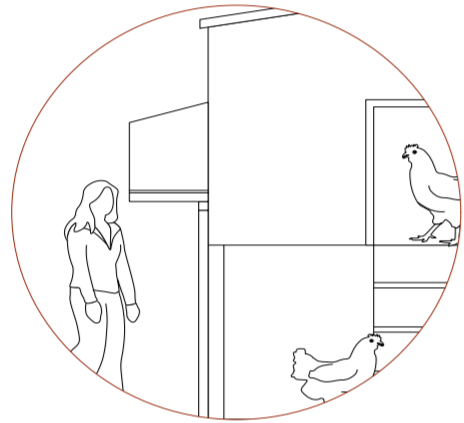
# DESIGN PROPOSAL



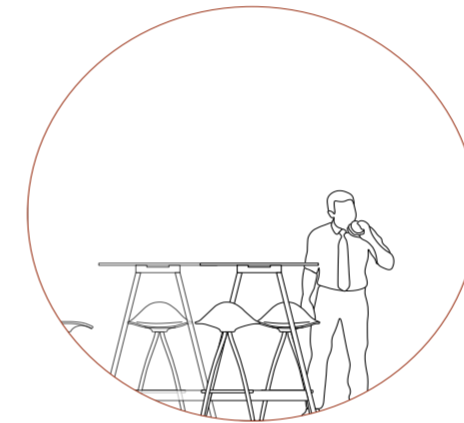
Jimi is working in the dry lab, doing some mathematical calculations for his research in the growth of cell culture, particularly the cell culture of animal tissue.



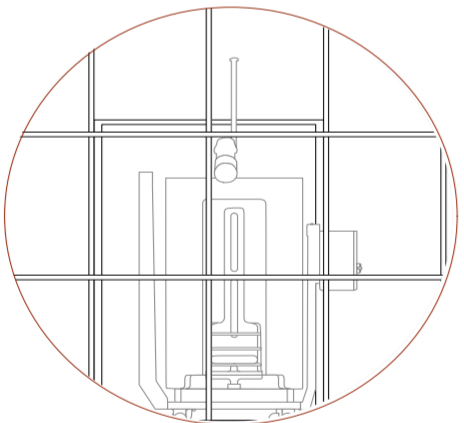
James Williams is checking the retail shelving is up to the stock and performing his retail duties. If there is a lack of stock, then he will do replenishment to ensure that the current and future customers are happy with the service they are receiving.



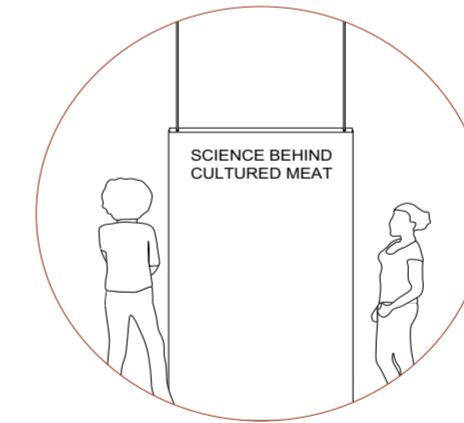
Ji-Hyun is checking up on the chickens, making sure they are happy and healthy and that they are provided with everything they need, such as food and water.



Owen Smith is on his lunch break, enjoying a delicious bacon and cheese burger, which he ordered off The Meat Lab menu.



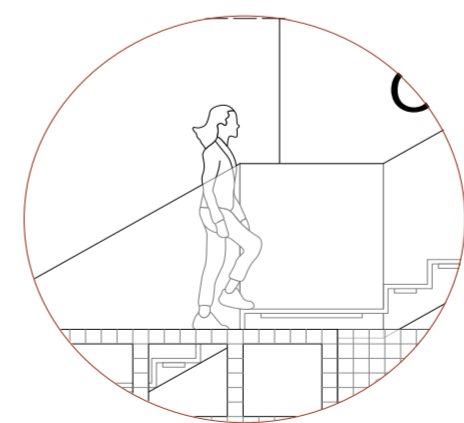
The bioreactor, in which the cultured meat is harvested is out in the front of the front, beckoning viewers to come in.



Flora Winters and her close friend are reading the exhibition sign called 'Science Behind Cultured Meat'. They are educating themselves.



Luka is paying close attention to the two guest chefs, making sure that they cook his dishes correctly. He does not want them to make any mistakes and therefore ruining his delicious meals.



Charlotte Richards is walking up the staircase to enjoy her meal on the rooftop, surrounded by the capturing views of Camden.