HUMAN HARVEST

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WASTE AGE

THE BRIEF







The overarching theme of this year is Waste. In the context of Climate Change and Sustainability, we will challenge ourselves by designing spaces and systems that address Waste as a product of excess consumption, and speculate on how we might redeploy the mountains of waste that are emblematic of this excess.

Waste is one of the major concerns of our age - it is central to discourse around Energy, Pollution, Sustainability, and patterns of Production and Consumption - and a design challenge we need to embrace.

Waste is political. Every day we use, consume, process and discard a myriad of objects, food stuffs, and e-waste, littering our environment. We are all familiar with images of children sifting through mountains of decaying rubbish in India, sea creatures entangled in single-use plastic, and piles of rotting leftover food. These are the visible signs of over consumption, planned obsolescence and the ease with which we trash everything. We live an era that many scientists and cultural theorists have come to refer to as the Anthropocene – a new geological epoch in which human actions have overwhelmed the planet to such an extent that we have become estranged from it.

At the core of this has been our tendency as Humans to see ourselves as the pinnacle species, with scant respect for the vast array of other life forms which share this planet. This is no longer sustainable. If we are to have a future at all then we must pay attention to what the earth is telling us - climate catastrophe is the result of our own incompetence, but we still have enough agency to make amends. And so, within the context of this scenario, we ask ourselves - What can Design do?¹

Murialdo F and House N (2021) Waste Age



CONTEXT

SITE RESEARCH
SITE ILLUSTRATION
SITE PROPOSAL
ORTHOGRAPHIC DRAWINGS (AS EXISTING)



FARRINGDON & POINTS OF INTEREST

KEY:
St. Bartholomew's Hospital
Charterhouse Square
Path of the River Fleet
Farringdon Station
Fabric Nightclub

The map above shows Farringdon and personal points of interest which I researched:

St. Bartholomew's Hospital is believed to be the oldest hospital in England and dates back to 1123.

During the years of the Black Death, the area around **Charterhouse Square** was a plague pit. It has since been a monastery, manor house, school and an almshouse for "men of good character".

The River Fleet is a 'lost' river which starts within

Hampstead Heath, and travels through Camden, Kings Cross, Clerkenwell and Farringdon before joining the River Thames. The river is the largest underground river in London.

Farringdon Station opened in 1863 when the London Underground was first opened. When the Elizabeth line opens, Farringdon station will become one of the busiest stations in the UK.

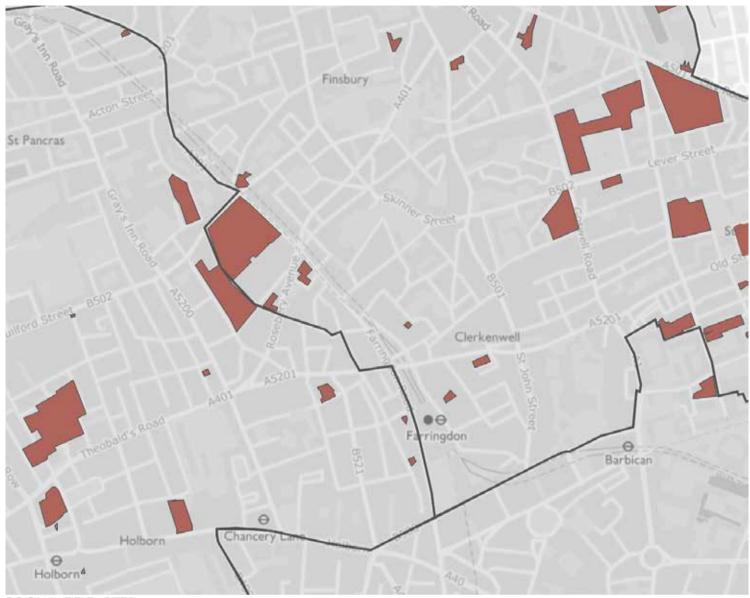
Fabric nightclub is one of the most iconic clubs in London. The nightclub opened in 1999.



The map above shows the sites from the brief in relation to key infrastructure within Farringdon (Smithfield market, Bart's hospital, Farringdon & Barbican stations) as well as the proposed site of 79-83 Charterhouse Street.

It can be seen that 79-83 Charterhouse Street has a close proximity to the hospital, Smithfield market and both stations. These, plus the famous Fabric nightclub (situated next door to 79-83 Charterhouse street), will all have an influence on the final design. Whether this is through the materiality, a connection with the occupants, heat or energy production, all

of these will create a relationship with the site which will help it to become more self-sufficient and environmentally sustainable.

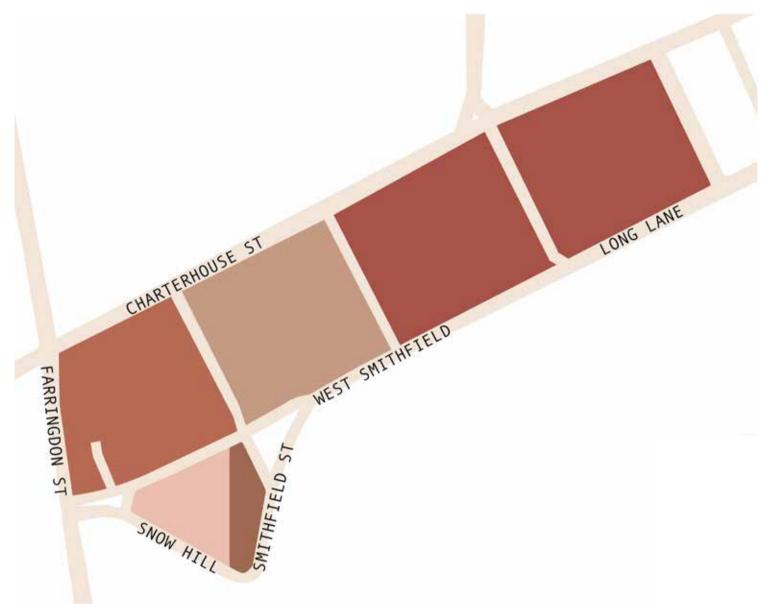


BROWNFIELD SITES

A **brownfield site** is an area of land or premises that has been previously used, but has subsequently become vacant, derelict or contaminated.

The Brownfield land registrar shows there are quite a few brownfield sites located around Farringdon.

Highlighted in red on this map you can see these sites. These are all areas of unused land which have the potential to be new construction sites.



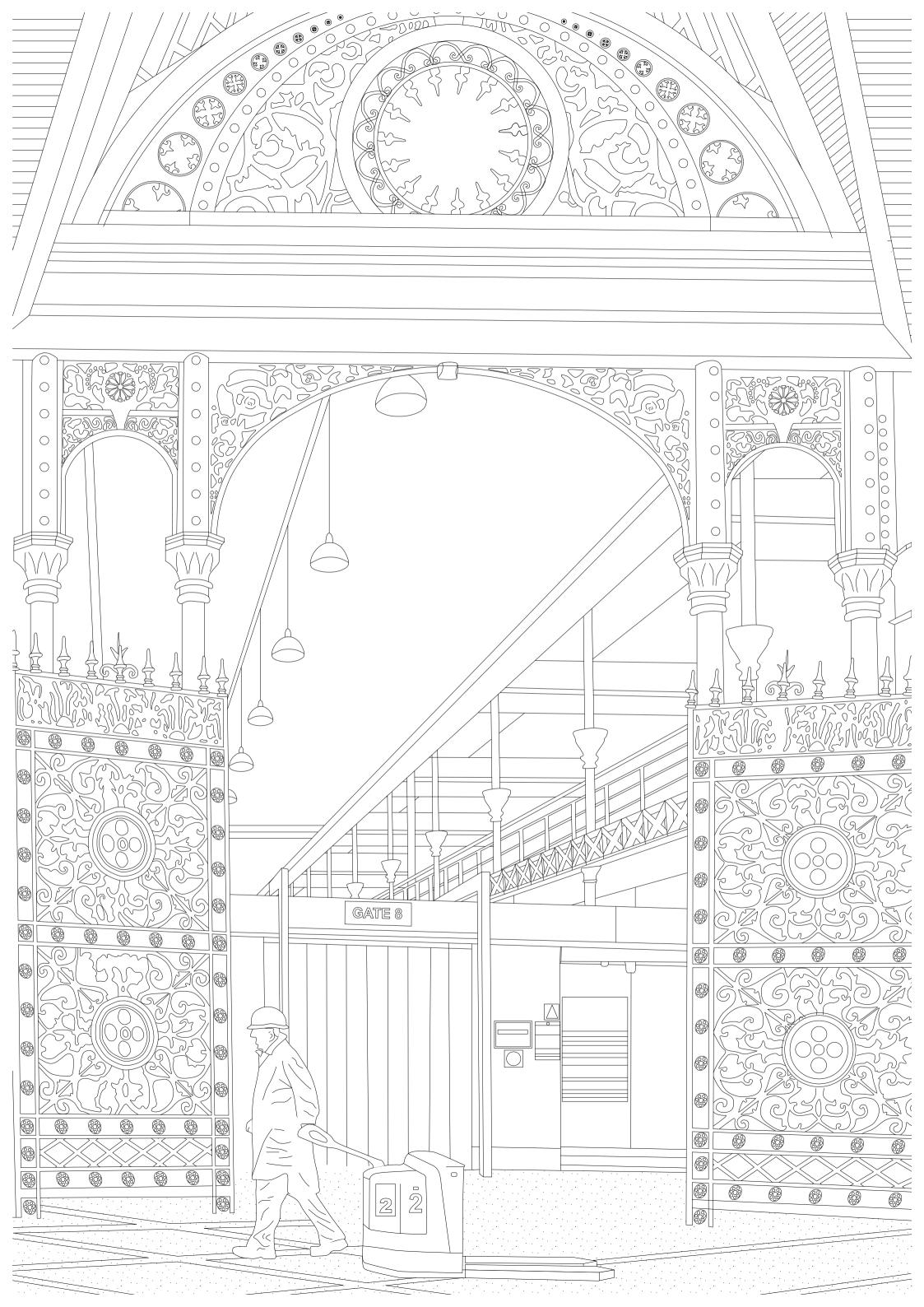
SMITHFIELD MEAT MARKET



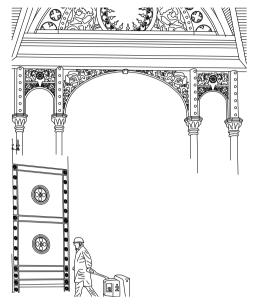
The map above shows Smithfield Market and the several meat markets it consists of.

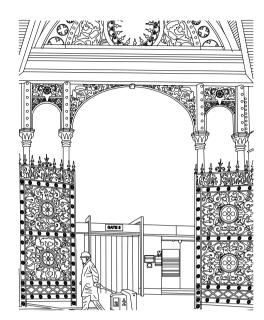
The market has 42 meat trading premises which pass more than 100,000 tonnes of meat and allied products each year. Smithfield market is the largest wholesale meat market in the UK and one of the largest of its kind in Europe.

The market is divided into four sections; the London Central Market, which is the main meat market of Smithfield Market. the Poultry Market, Smithfield General Market and The Old Fish Market. There is also a building known as the 'Red House' which was a large refrigerator for the market.















The site illustration is of one of the main entrances to Smithfield Market. I chose this image to be the basis of my site illustration as I was drawn to this site by the distinct bright colours, and intricate gates. I believe that Smithfield Market is at the heart of the Farringdon community, and as it is such a iconic part of the area it well represents the spirit of Smithfield.

Scan the QR code below to view a GIF of the site illustration.

The GIF further shows the process of adding colour to the site illustration. This allows you to view the different layers within the space, changing your focus from one thing to another.

The final colour illustration, does not feature each part with a colour as it resulted in some of the depth and detail of the image being taken away.

SITE ILLUSTRATION 1:20



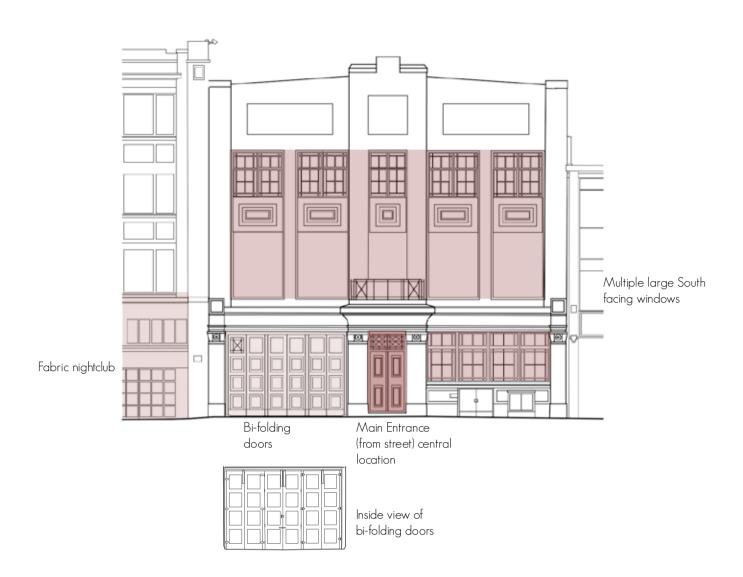
SITE ILLUSTRATION 1:20

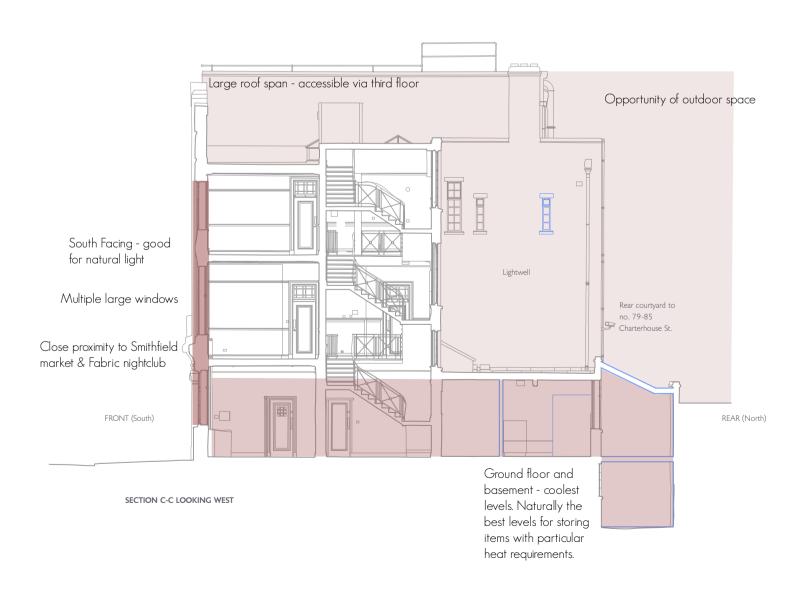


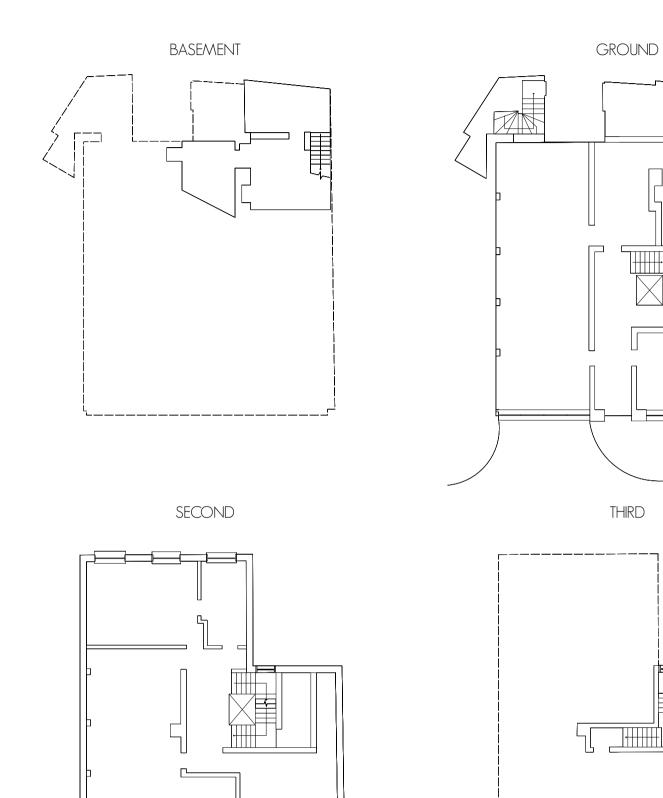
The site 79-83 Charterhouse Street was chosen due to its proximity to Smithfield meat market, as well as its history and relationship with meat.

The site is a grade II listed building which is located on opposite the West Market building of Smithfield Market. The building was designed and built in the in 1930's to accommodate the department for the Meat Inspectors of Smithfield Market.

The neighbouring buildings are the famous Fabric nightclub and Tetto's restaurant.







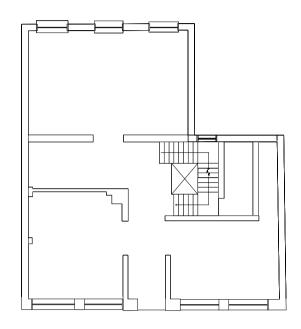
The existing basement is currently used as storage, and also features a plant room and two toilets.

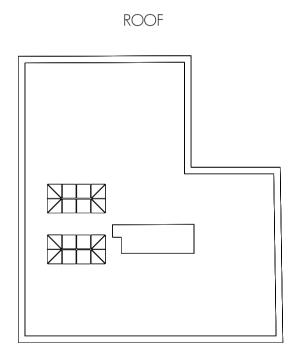
The second floor also mainly consists of office space and has some more toilets, but it also has a kitchen.

The ground floor currently has a reception, general office, various rooms associated with meat inspection and an accessible toilet.

The third floor is used to access the roof area. There is little space here so only consists of a landing and toilets.

FIRST



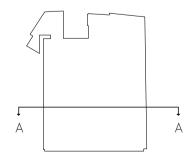


The first floor is mainly used as office space, but also has some toilets, a changing room and a shower.

Finally, the roof consists of two skylights and an exit which provides roof access from the third floor.



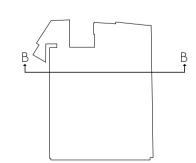




SECTION AA 1:100 (LOOKING SOUTH)

HUMAN HARVEST 22





SECTION BB 1:100 (LOOKING NORTH)

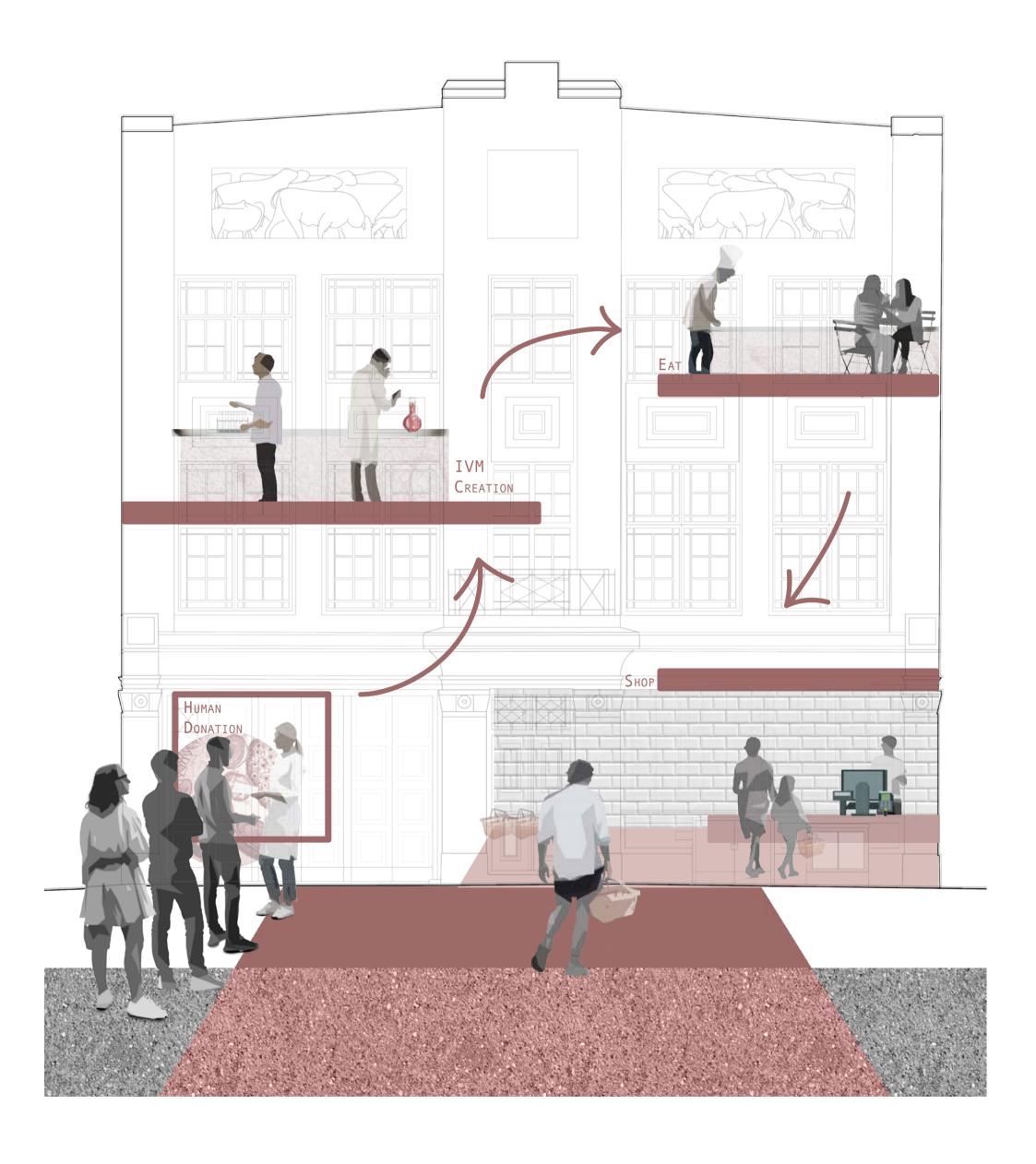


SOUTH ELEVATION 1:100



DESIGN PROPOSAL

MANIFESTO
INHABITANTS
DESIGN PROPOSAL
DESIGN PROCESS





In a near-future world, the meat market as we currently know it will become unsustainable. Livestock farms take up a lot of land, produce high emissions and use a large amount of the global fresh water supply. With the rapidly growing population, the demand for meat is high, however farms will not be able to match the supply with the demand.

Human Harvest is a new form of meat-trade which takes the cells of humans to grow in-vitro meat.
Human IVM uses considerably less space than livestock farms and uses a continuous supply of living people, who gave consent for their cells to be used as a food source. The meat source will be local therefore producing very little emissions in terms of food miles. The production is also significantly better for the environment compared to traditional meat.

As growing meat in this way involves no slaughtering and the livestock used (humans) give consent, creates the question to whether or not vegans and vegetarians would be open to the idea of trying meat. This potentially widens the market audience of the meat trade proposed.

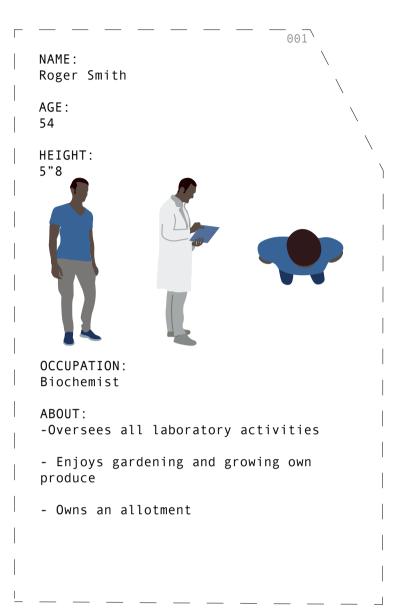
The space will include of a harvest centre to collect skin cells and blood, a laboratory to grow the meat and a bistro where the meat can be eaten to the general public. There will also be a opportunity for the meat to be sold to the public for them to create their own IVM dishes at home.

The site will have on-site scientists and market workers (who prepare and sell the meat), regular visitors will include of donors and market customers (general public and businesses such as restaurants). It is also expected to find stay animals around the site searching for scraps of meat.

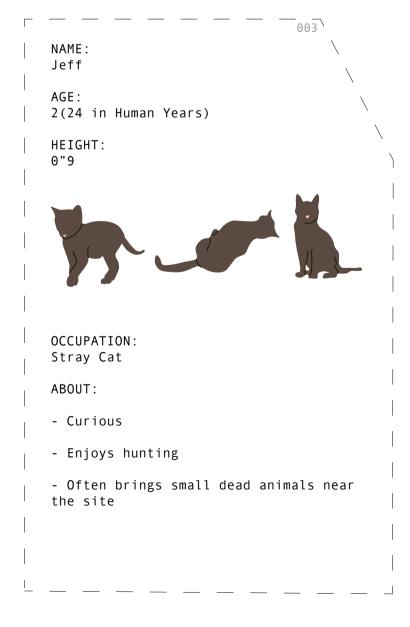
The manifesto (left) shows the proposal for my design. The pink colouration emphasises the meat aspect which is key to the design. The meat will grown in-vitro within a laboratory, which will be they key focus of the site.

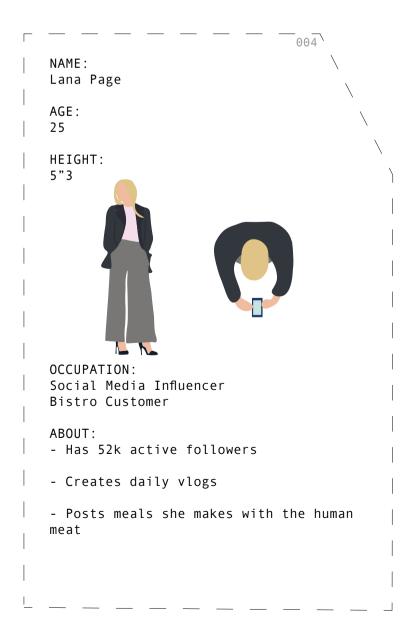
<u>Key Words</u>

- Human
- |
- Harvest
- Cells



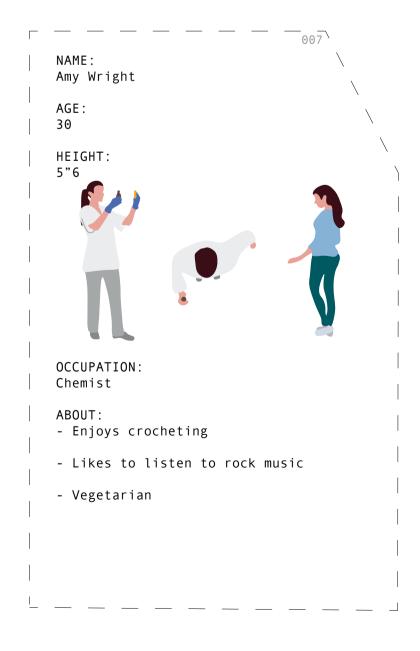








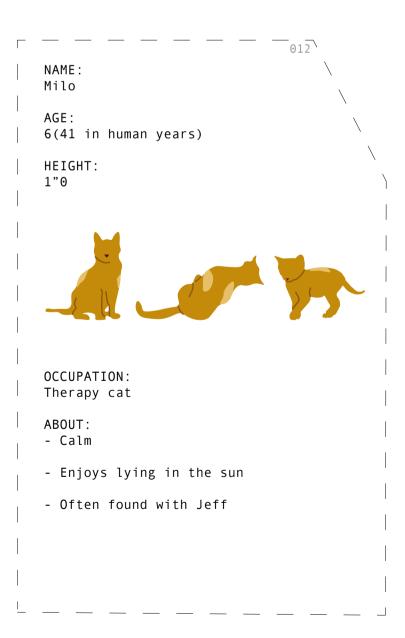


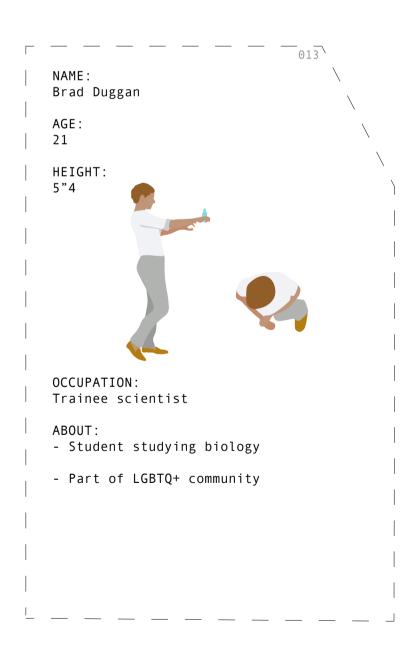












The inhabitants are all regular users of the site. Each individual is either a scientist, market worker, bistro worker, skin donor or regular customer (with the exception of the stray animals).

At the site the 'inhabitants' will undertake regular activities as listed below:

<u>Donors:</u>

- Sign up at site
- Wait at/around site until it's their turn to donate
- Cells are extracted
- Explore the site & market

Scientists:

- Go to site and sign in
- Put on protective clothing
- Collect cells
- Grow cells
- Put final product in specialised storage

<u>Bistro worker:</u>

- Collect ready IVM from storage
- Form into desired shape
- Cook the IVM for the bistro
- Sell to customers

There are also two stray cats which make appearances at the site. They go to the site searching for scraps of meat which have been thrown away. It is expected that rodents and birds (such as pigeons and seagulls) will also be found around the site due to the possibility of scrap food being around.



The space is being designed for the client Bistro In Vitro. Bistro In Vitro came from the In vitro meat cookbook written by Dr. Koert van Mensvoot. They welcome meat eaters, vegetarians and vegans to make a reservation for 2030 to eat their in vitro meat (IVM) dishes.

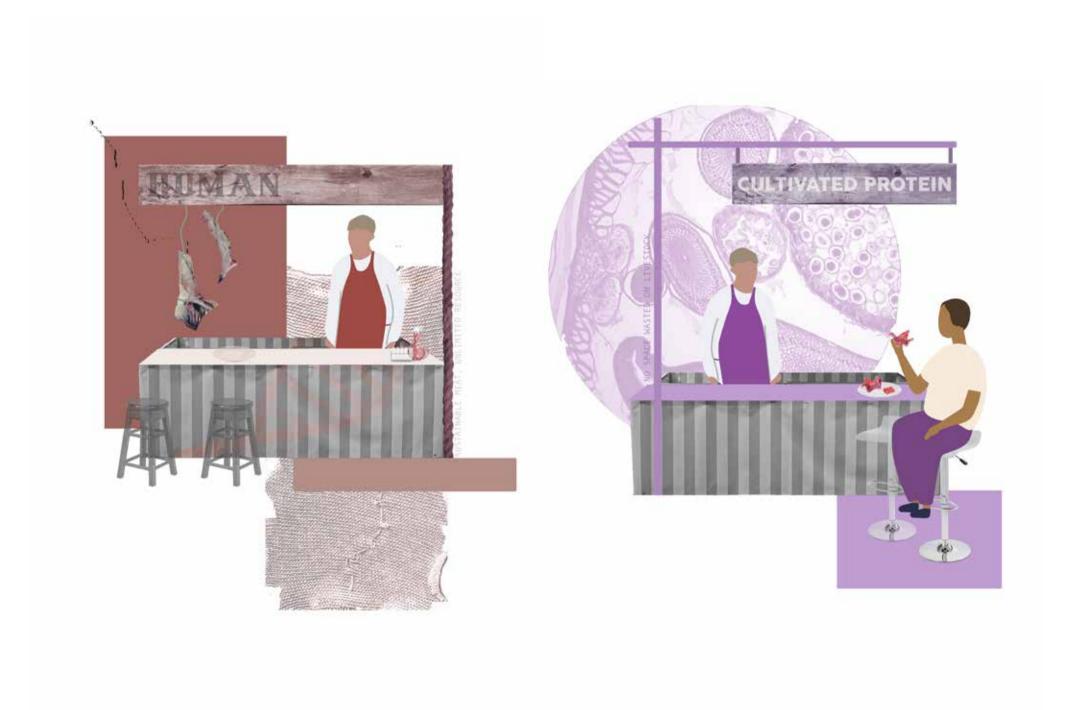
The lab grown meat industry significantly grew in 2020. Many new companies were founded and investments hit a record level. The level of new companies increased by 43%, and investments totalled to over £250,000,000. A study conducted showed that 80% of residents within the UK and US are open to eating meat which originates from a lab rather than a farm. Lab grown meat is highly likely to be accepted by society.

Human Harvest, encourages customers to get to know their meat. The locally sourced and produced meat is human which allows for customers to interact with their food and get to know their 'meat' on a personal level. They will know exactly the life the 'meat' lives and the process of how it has ended up on their plate.

When donors sign up at the site they are agreeing for their meat to be used by the bistro and to be served to customers. Each donor receives a cash incentive as well as a free sample of their meat once grown.

Bistro customers are given a menu of the human donors which shows a profile of each meat source. The profile will include the name, age, fat percentage and basic lifestyle of the donor and a summary of the meat taste, therefore the customer chooses a 'meat' to fit their taste buds.

As human meat is used to produce the food, both vegans and vegetarians will be encouraged to eat it as it is 100% consensual and does not harm any animals.



These two conceptual visuals showcase the eating side of the human meat.

The first visual (top left) emphasises on the human aspect of the meat. It takes on the form of a bloody butcher shop which typically has meat hanging on full display. Cannibalism is often portrayed as something gruesome which involves murder and death.

The second one (top right) puts a nicer spin on this form of cannibalism. All links to death have been removed by creating a more clinical and clean environment. The food has also been crafted in a unique way which makes the human meat appear to be more appetising.

My chosen client (Bistro In Vitro) likes to combine the blood aspect with the more clinical side to ensure customers know the story behind their food. To do this I will keep the deep pink/red colouration combined with unusual dishes and an on show laboratory.



Laboratory

Kitchen



Bistro

- eating space
- bar

Harvest centre

- donation
- waiting area

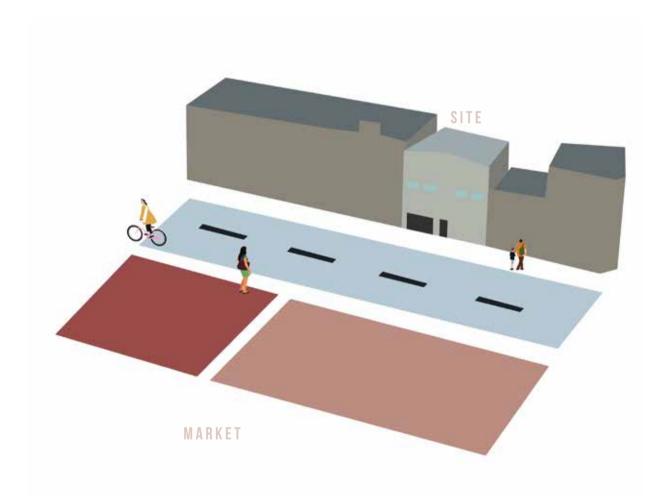


Technical room

Specialised storage

Waste facility

The requirements and activities of the site are split into private areas (a singular group of individuals e.g. scientists), public (open to occupants and the wider community) and other (technical site requirements)





This diagram shows the connection of the site with Smithfield market. The market will be a place for businesses to sell and buy the human IVM. A small, section will also house a space for specialised waste, which consists of needles, used petri-dishes etc.

1) 2)







Existing building features which benefit Bistro In Vitro

1) Large bi-folding doors:

The bi-folding doors on the front of the site would be great for extra ventilation. They could be opened up to improve the airflow during hotter months. The doors are also accompanied by a paved road which makes them great for receiving or sending deliveries. They are also useful to improve customer flow during peak times and to optimise daylight.

2) South-facing windows:

79-83 Charterhouse street faces South. The front facade has multiple large windows which help to maximise the natural light inside the site. The front facade also features decorative cow panelling which hits to its past with meat. As the site will be used for Bistro In Vitro, the cow panelling can be given a new meaning which relates to the future of meat.

3) Proximity to key businesses:

79-83 Charterhouse street neighbours Fabric nightclub, Tetto's restaurant and Smithfield Market. Fabric nightclub attracts large crowds, this makes it a great place to advertise for donors or customers

for the bistro. It also provides an opportunity to sell human meat kebabs to those who seek food after a night out.

By neighbouring a restaurant, there is potential to gaining a business partner. From the meat grown on site it can be delivered to nearby restaurants as well as Smithfield market.

2)



3)



4)



5)



1) The collection of cells from humans

Cells will be collected with the intention of growing meat. The nurse will help to harvest the cells from the volunteer humans.

2) Beginning the growth of the cells

Once collected the cells get transported to a lab where they are placed into a petri-dish and a room with the correct conditions to begin the growth.

3) The growth of in-vitro meat

The cells grow to form a mince-like appearance.

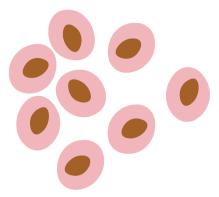
4) The cooking of in-vitro meat

The human mince can be used replace any meat dish; it can be formed into burgers, sausages, steaks etc.

5) The eating of in-vitro meat

The visitors to the site will have the opportunity to eat human IVM dishes in the bistro. Businesses and members of the public are able to visit Smithfield meat market to purchase raw IVM to cook in their own homes.



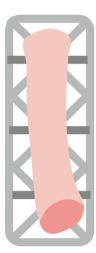


A sample is taken and cells are extracted

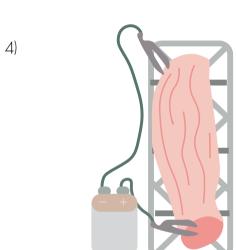


The cells are put into a specialised dish or structure where a growth serum is added





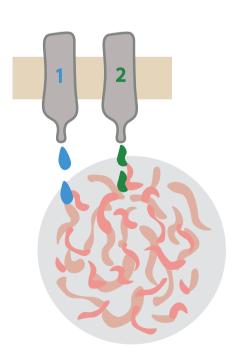
The cells grow and bind together to form muscle



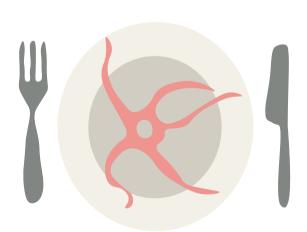
6)

The muscle is exercised to boost protein levels

5)

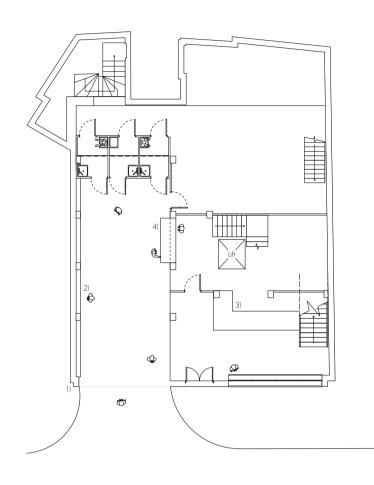


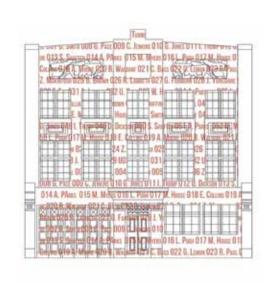
The muscle is then ground up to create thousands of muscle strips, flavourings, iron and vitamins are added



The meat is ready to be cooked & eaten

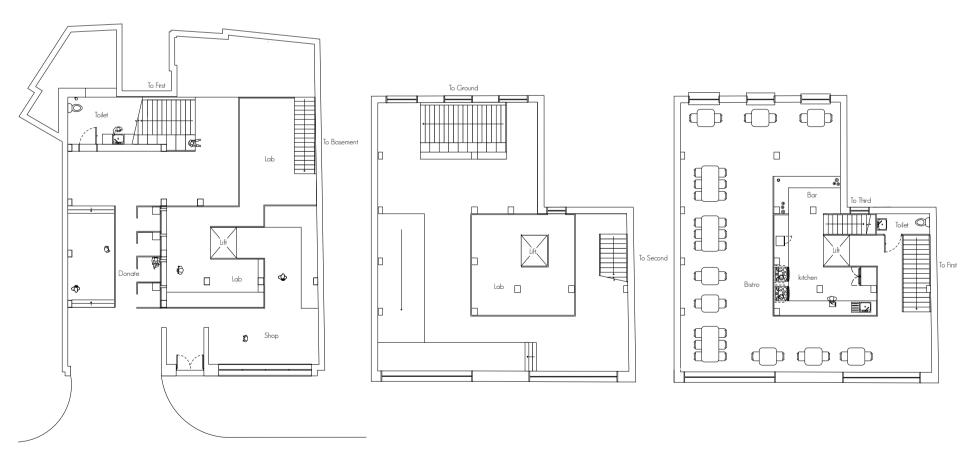
ITERATION 1





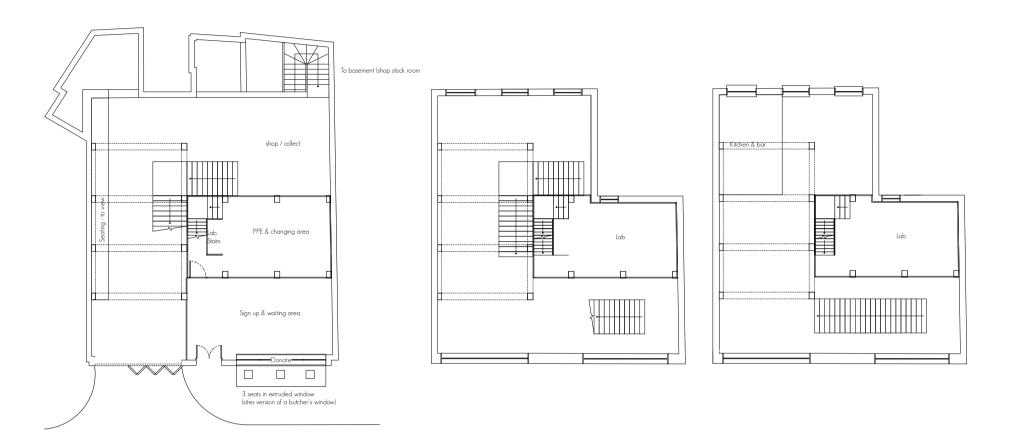


ITERATION 2



HUMAN HARVEST

ITERATION 3



Iteration 1 was exploring how donors and bistro customers can become involved with the site. The possibility of the donors separated yet being seen, this was experimented through the possibility of projecting the donors names on the outside or inside of the site. This was to emphasise the get to know your meat aspect, so the bistro customer knows exactly who they are eating.

In Iteration 2, I began to change the level of the floors to guide visitors around the site passing the key activities which were taking place in the centre. This idea was based on the term periscope "A periscope is an instrument for observation over, around or through an object, obstacle or condition that prevents direct line-of-sight observation from an observer's current position." The central lab activities would pose as an observation point for the visitors. The activities would reveal the usually hidden meat process to the public.

Iteration 3 uses the existing structure of the site to create an insertion point for the laboratory. This iteration links to my concept model which explores the use of the existing. The laboratory would be over four levels which extrude throughout the site. Visitors would be taken through a journey of discovery by passing a mystery object which is gradually revealed.











CONCEPT MODEL SCALE 1:100

This concept model took the existing site and internal structure and experimented with the insertion of object within the existing grid.

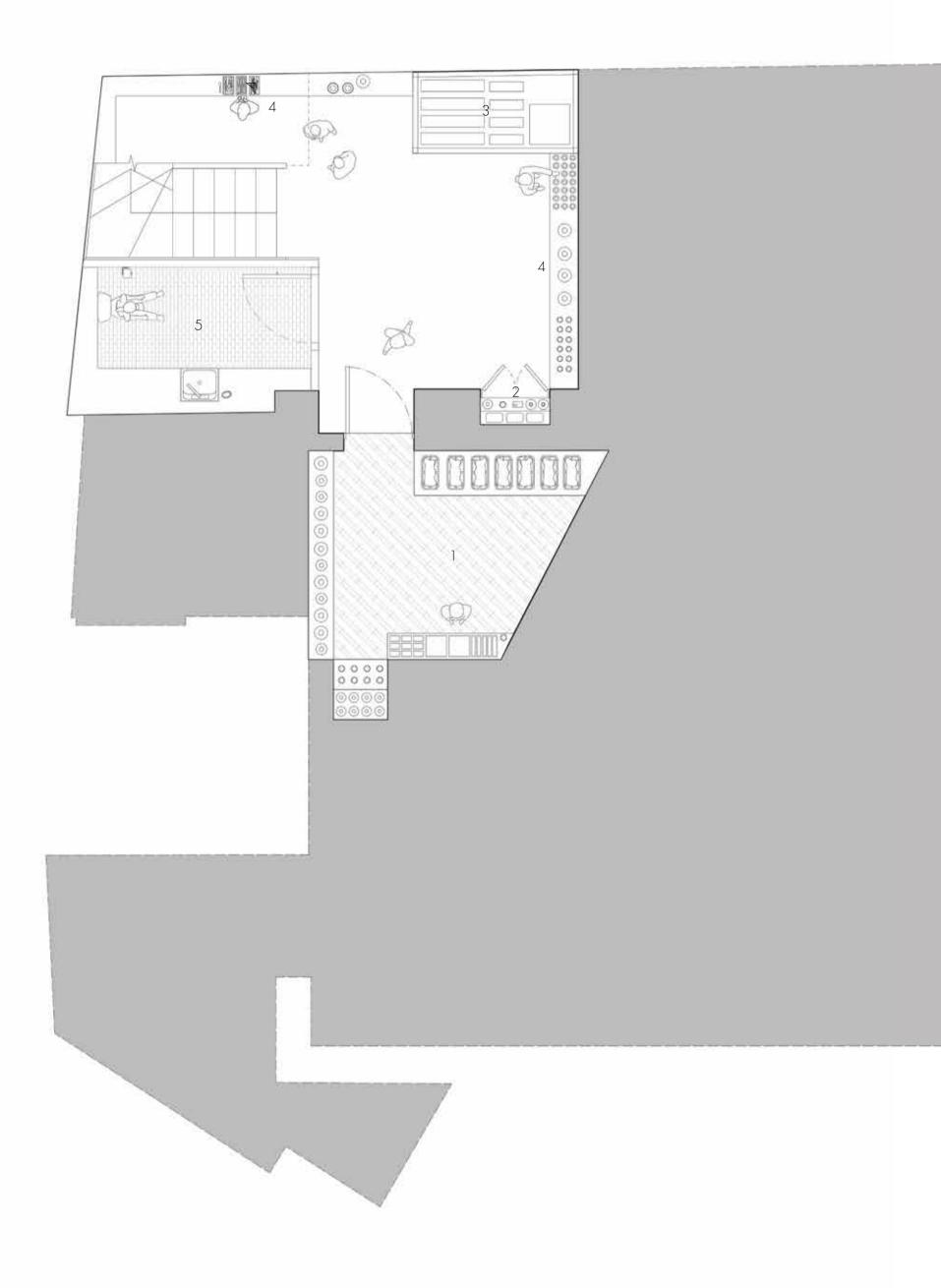
The existing site is created from paper, above ground is in white and below ground is black. The internal structure is shown through wooden sticks. The insertions are red, with the exception of the layered mesh object which experiments with the use of a gradient.

The inserted objects link to the key term periscope, where an object reveals something you can't initially see. This was created through various cut outs and layering of material.



H U M A N H A R V E S T

ORTHOGRAPHIC DRAWINGS
BUILDING SERVICES
DETAILS
AXONOMETRIC
MATERIALITY
MODEL MAKING
VISUALS



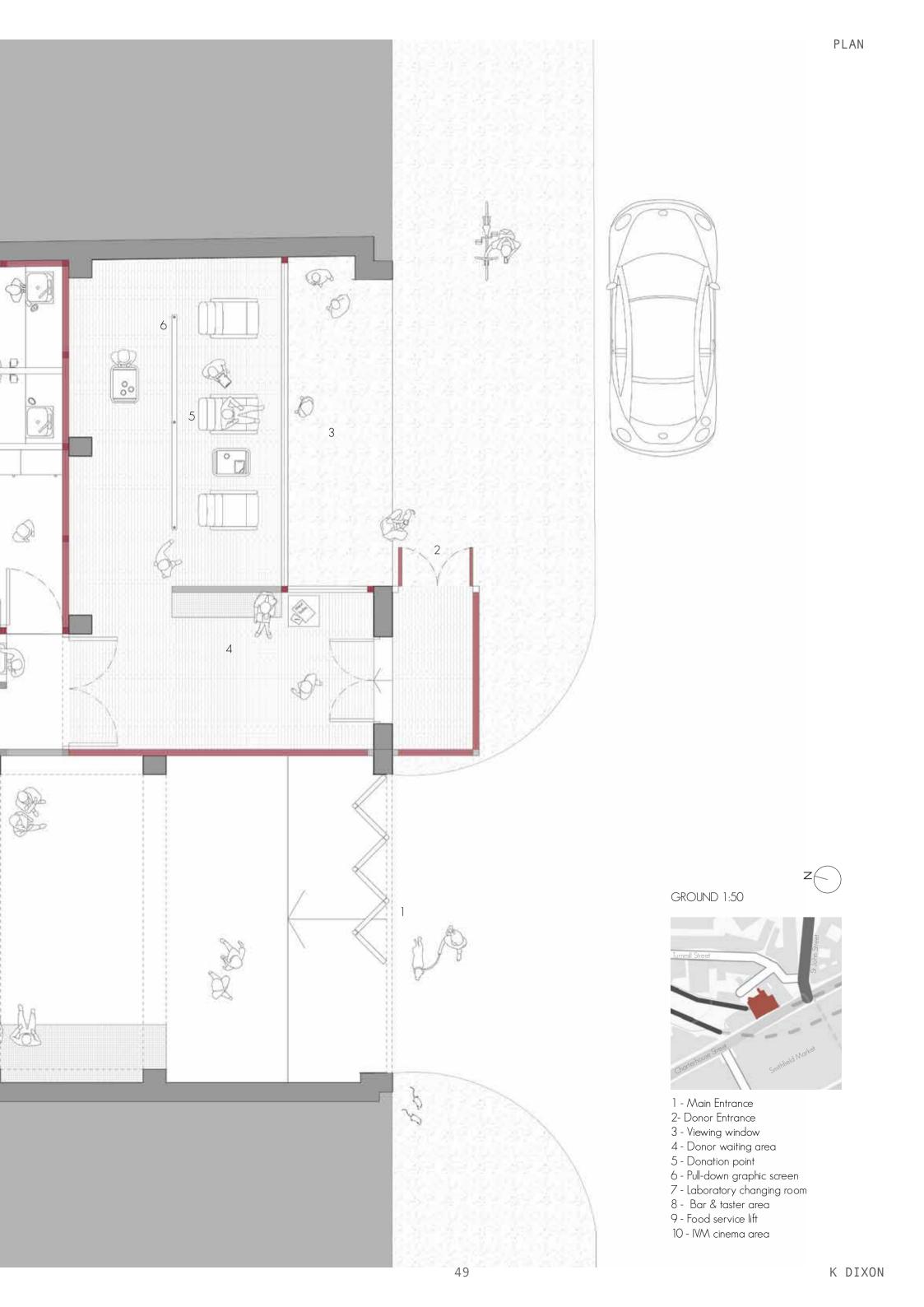


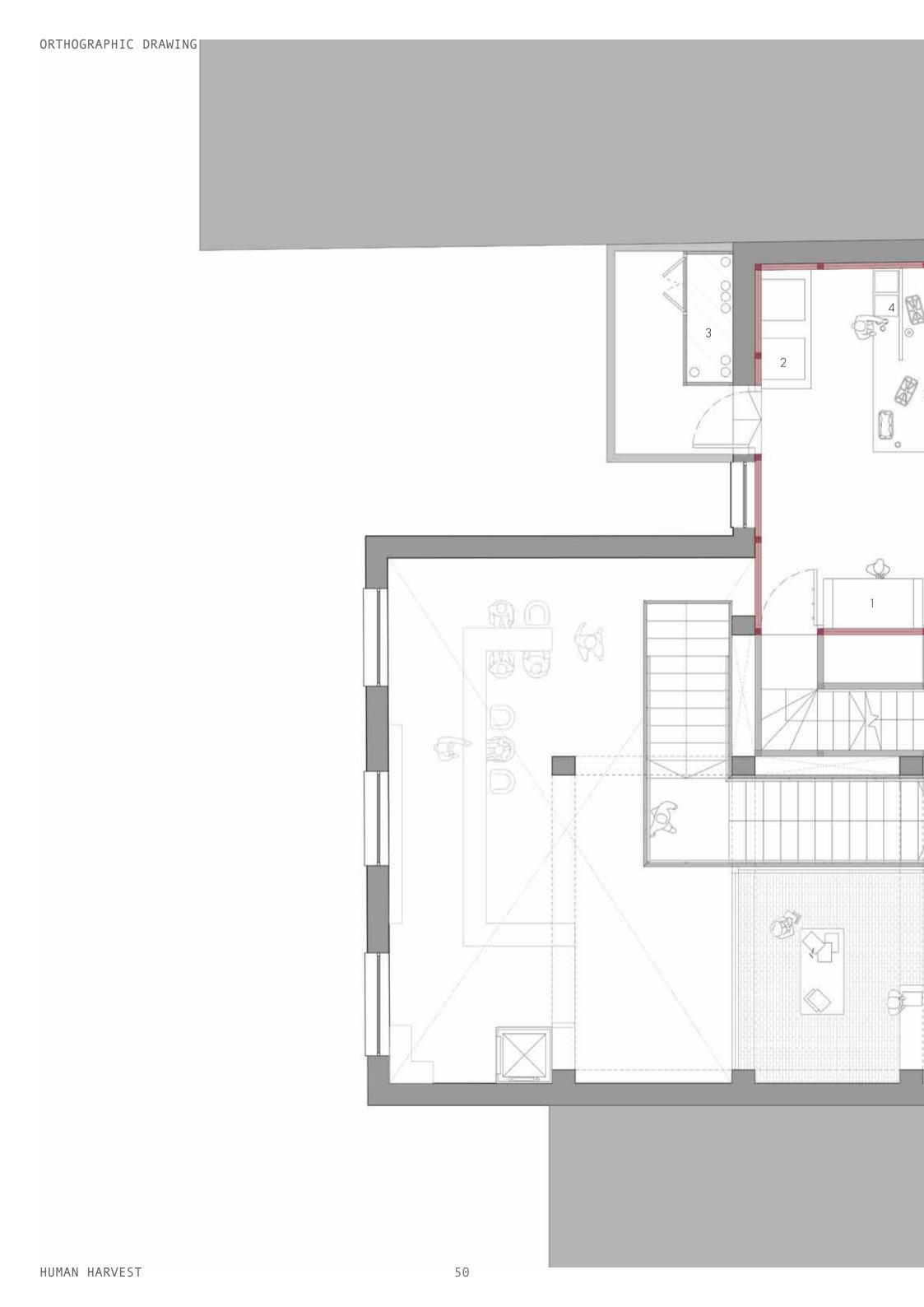
BASEMENT 1:50

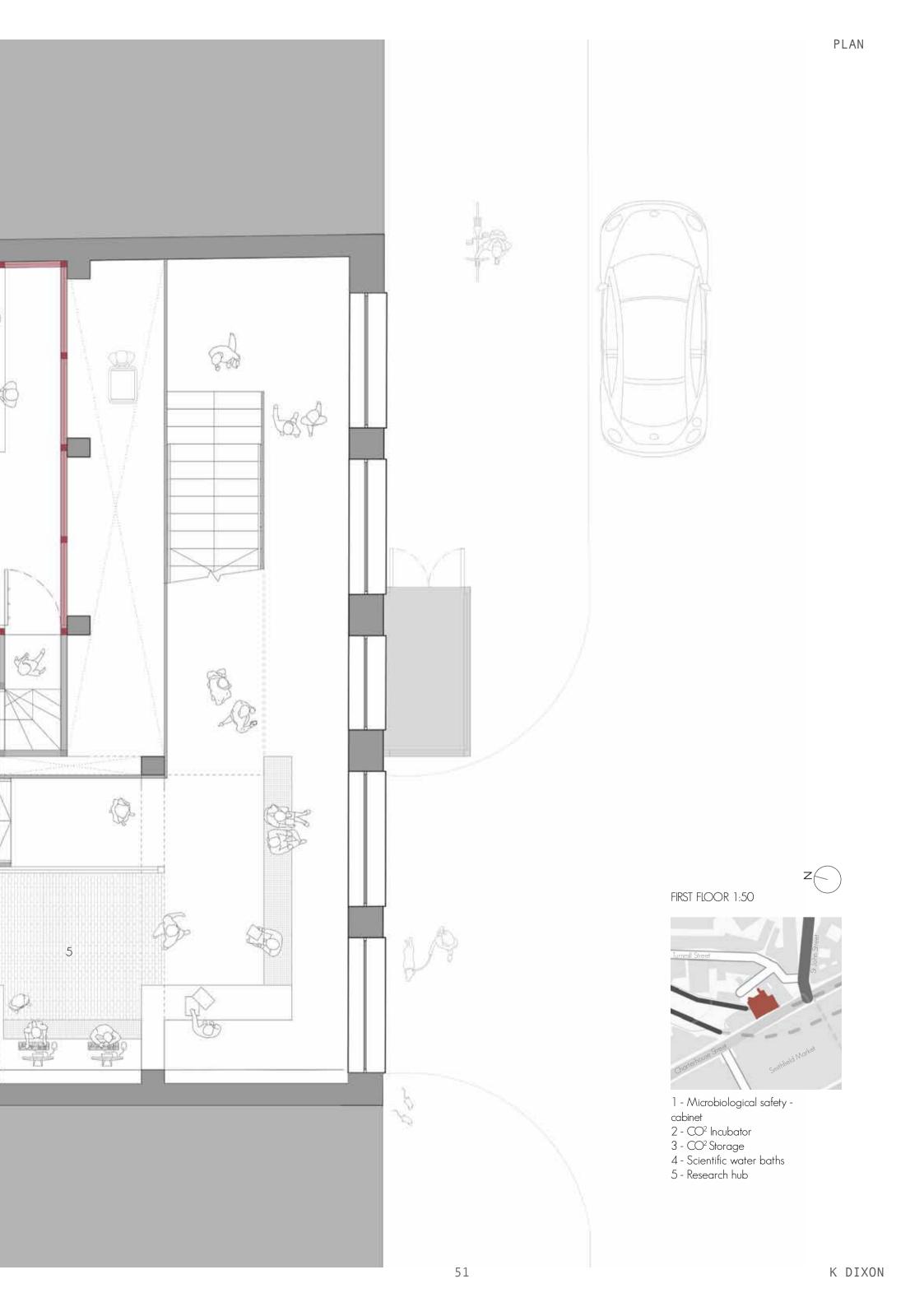


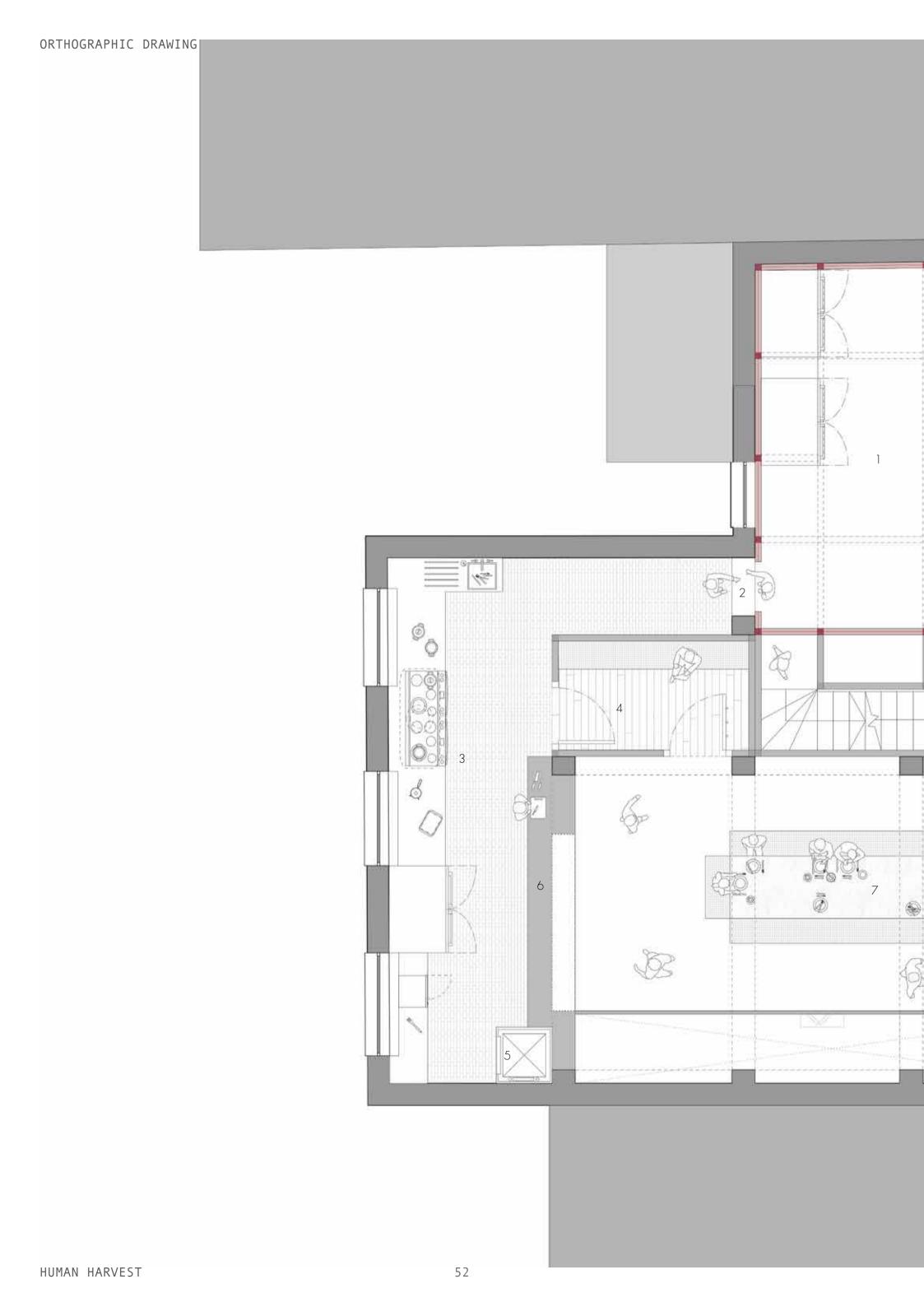
- 1 Refrigerated room2 Storage cupboard3 large shelved storage (multiple levels)4 Worktop space5 Toilet

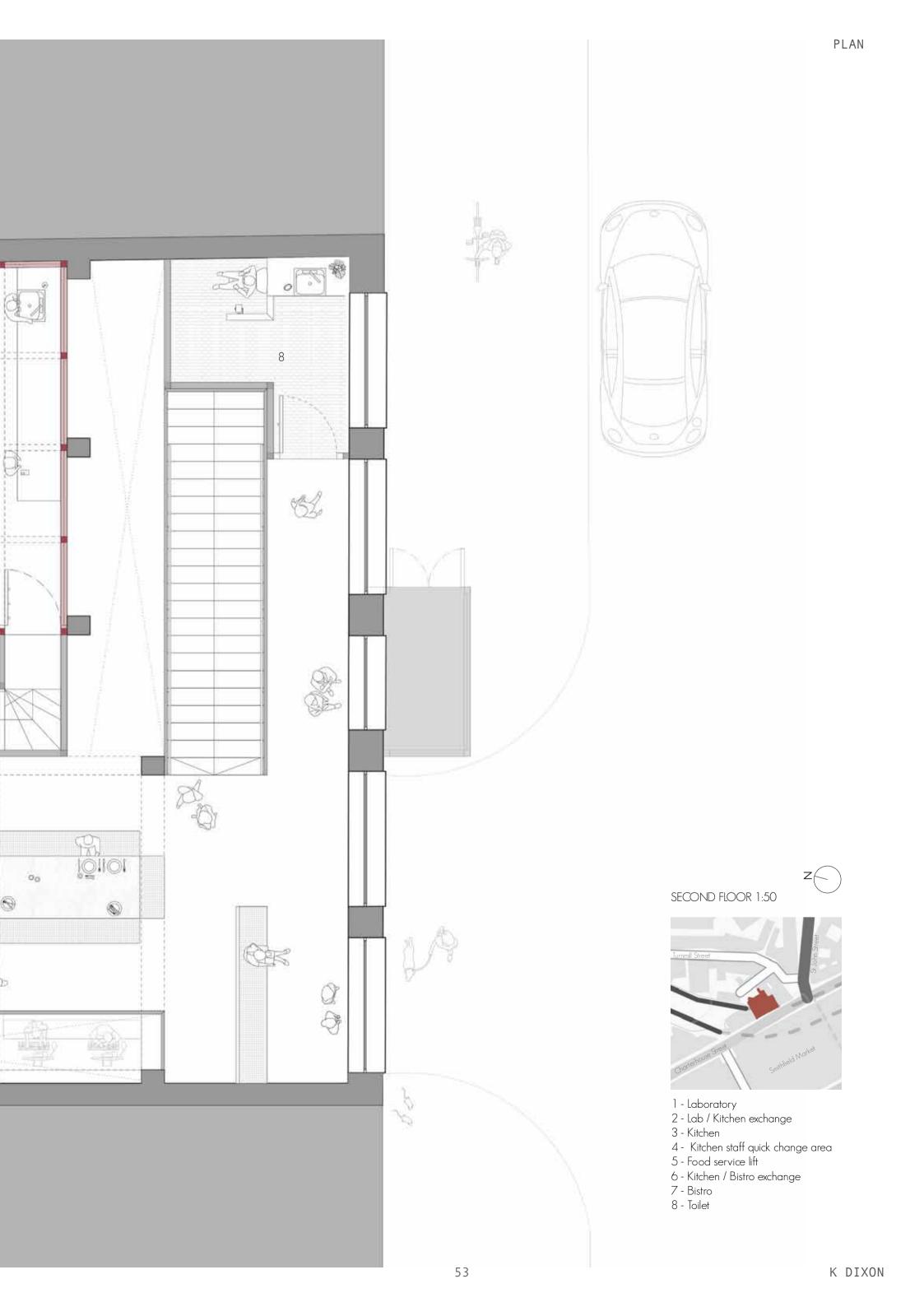


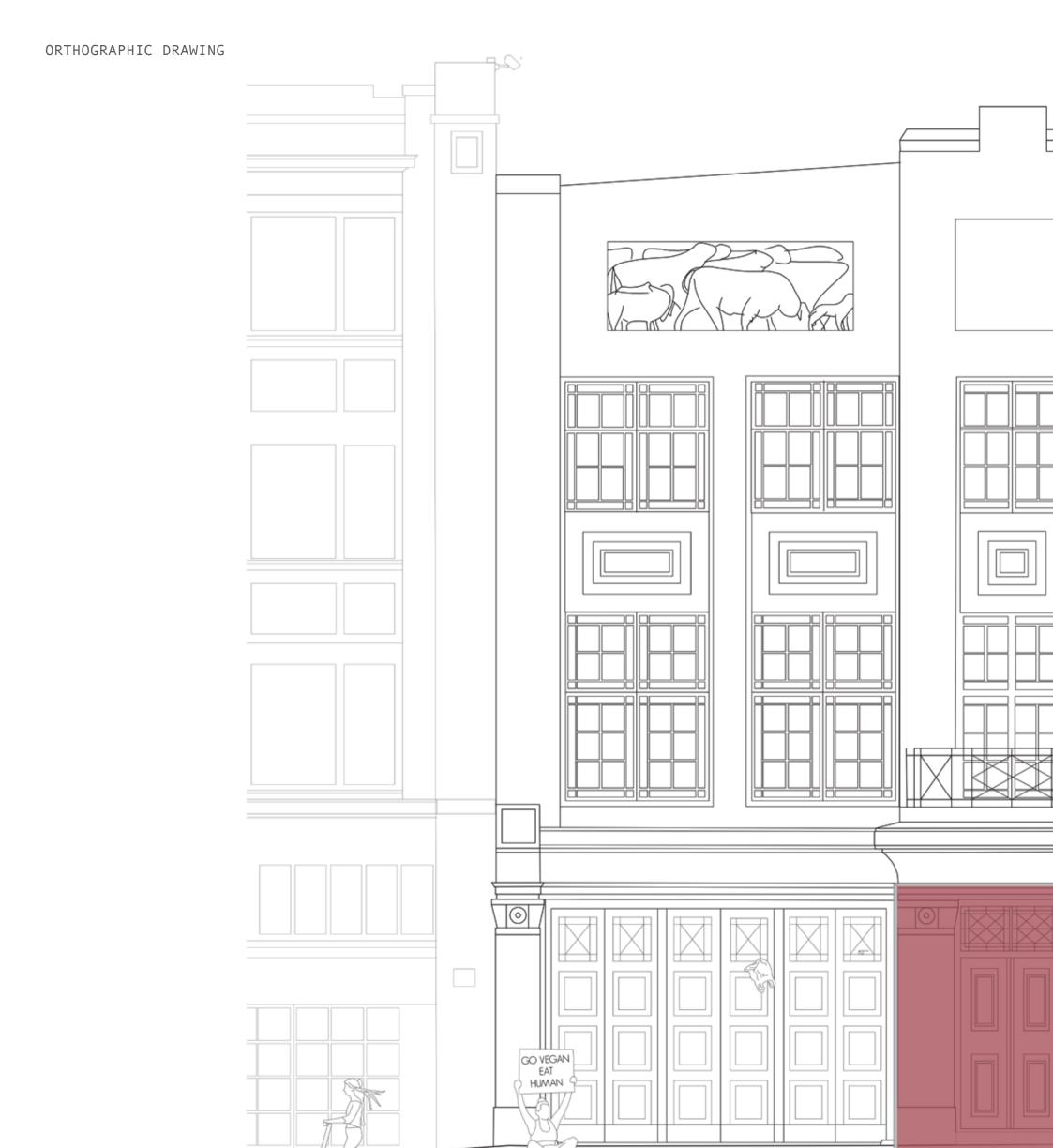


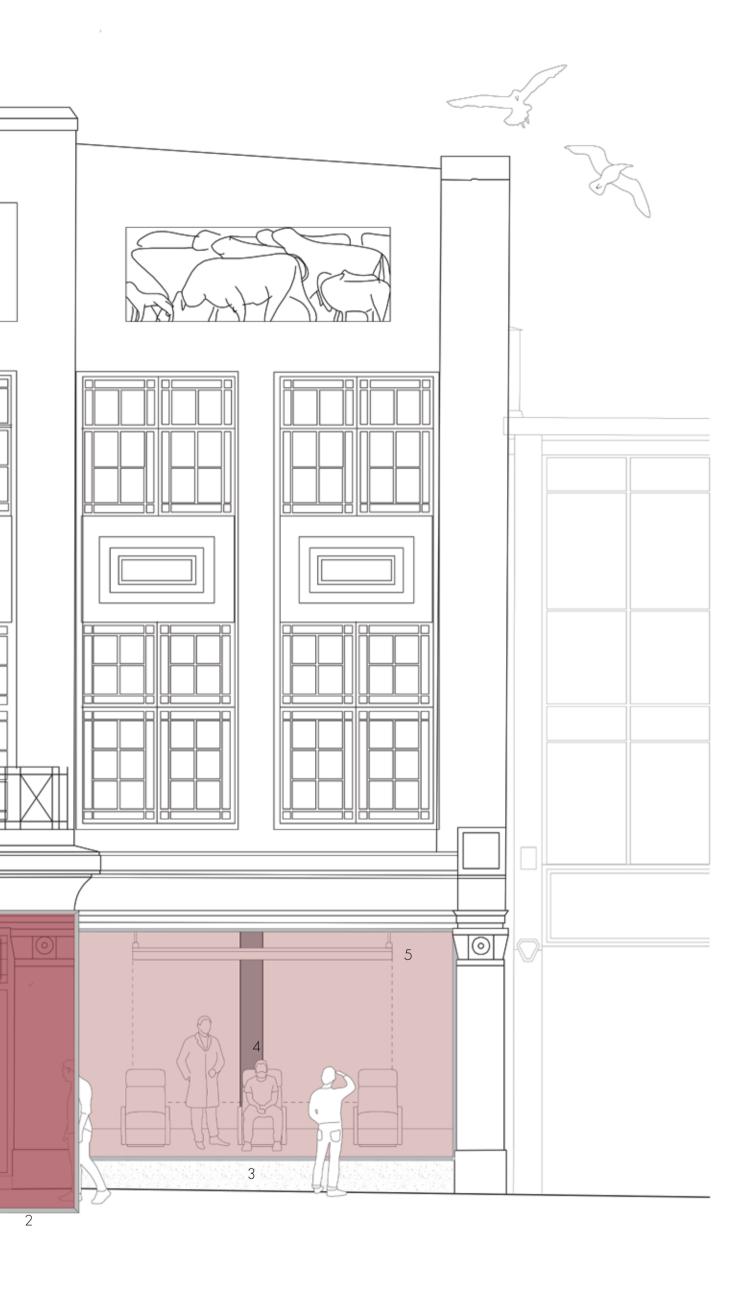






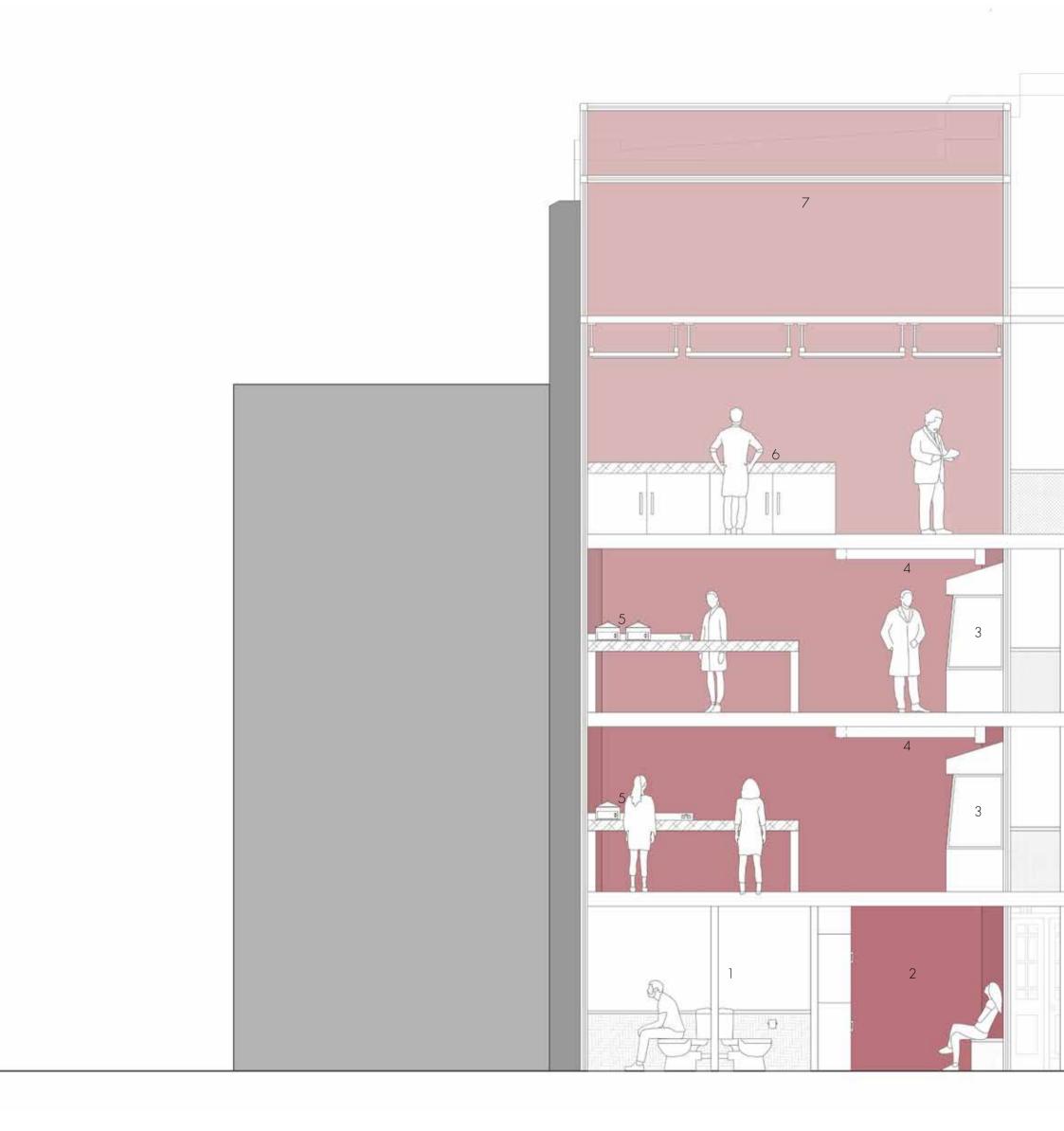


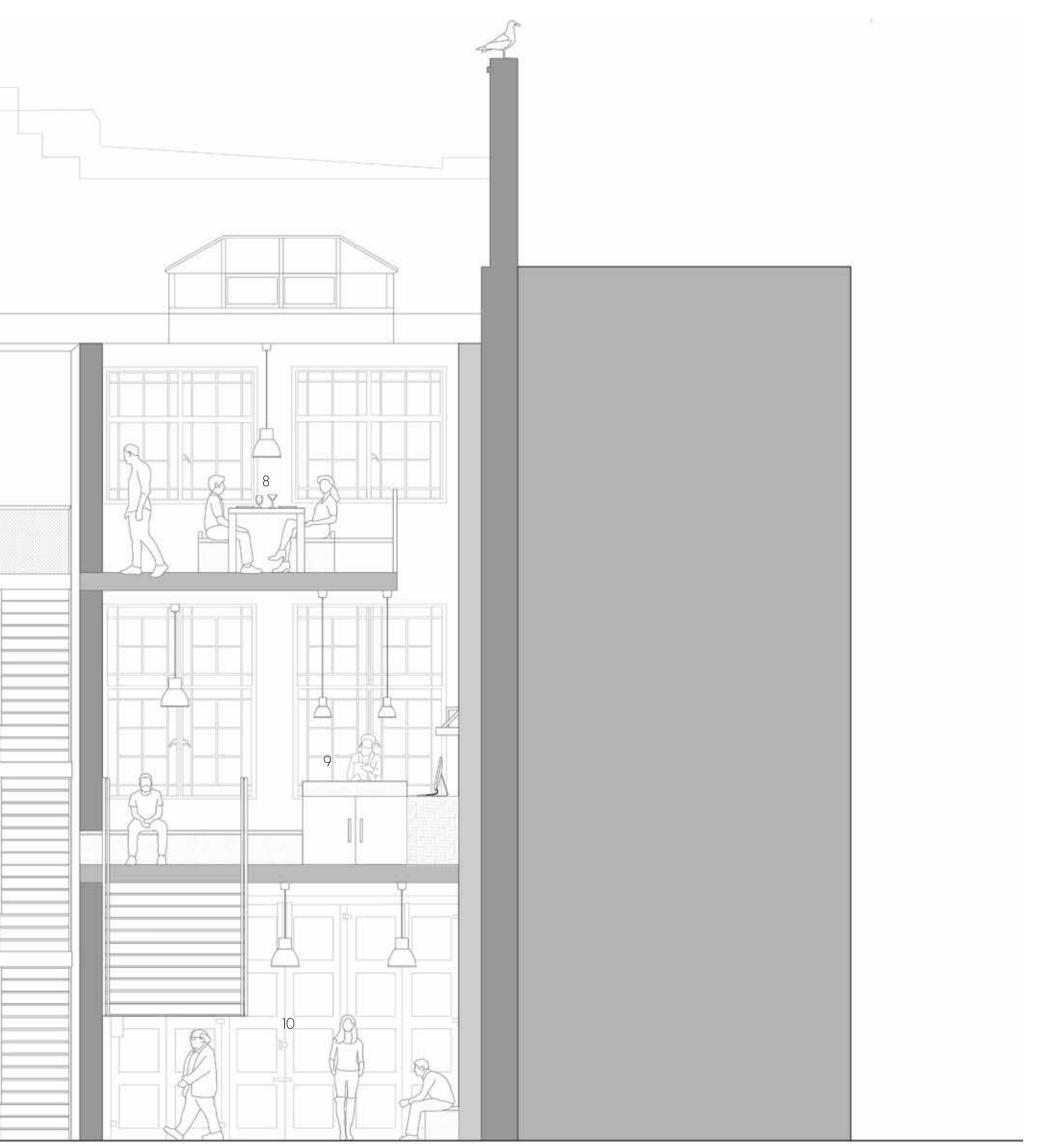






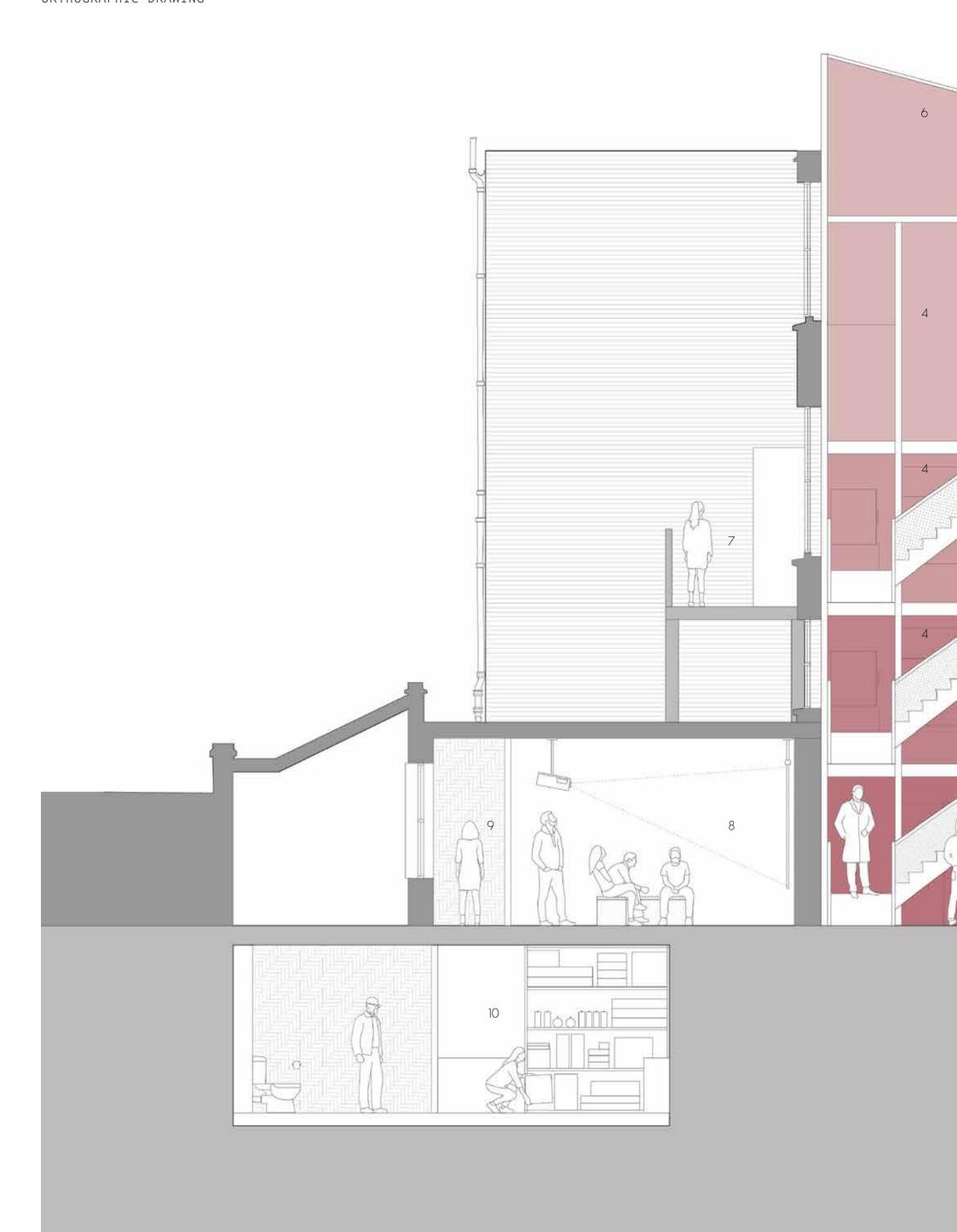
- 1 Visitor entrance
- 2 Donor entrance
- 3 Public viewing window
- 4 Donation point 5 Pull-down graphic screen



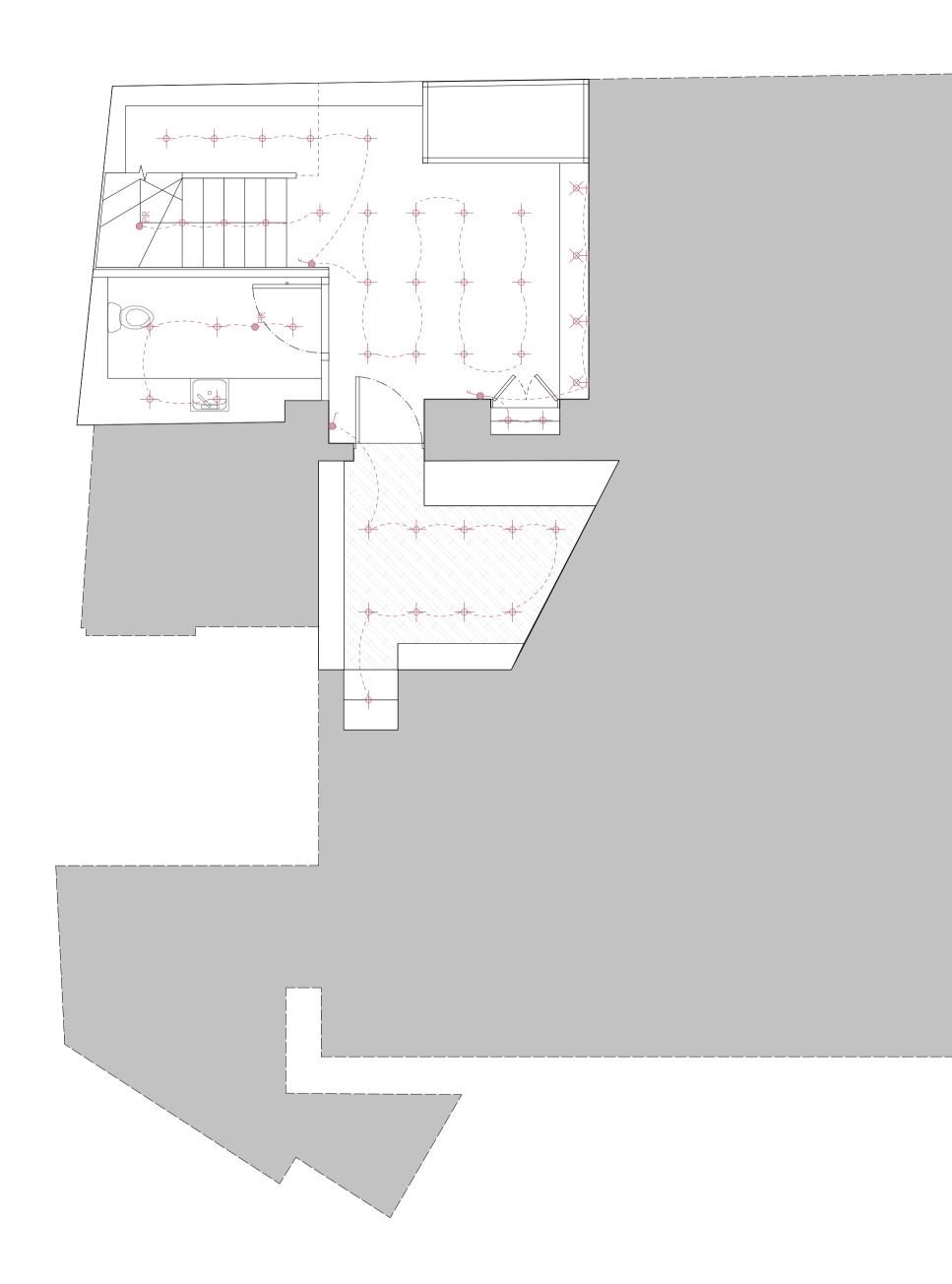


SECTION AA 1:50

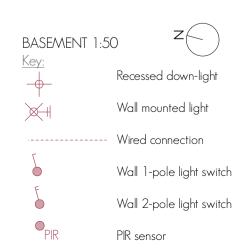
- 1 Laboratory changing room2 Laboratory toilets3 Micro biological safety cabinet4 Scientific water baths
- 5 Ventilation
- 6 Worktop 7 Extruded laboratory window
- 8 Bistro
- 9 Research hub
- 10 Visitor entrance

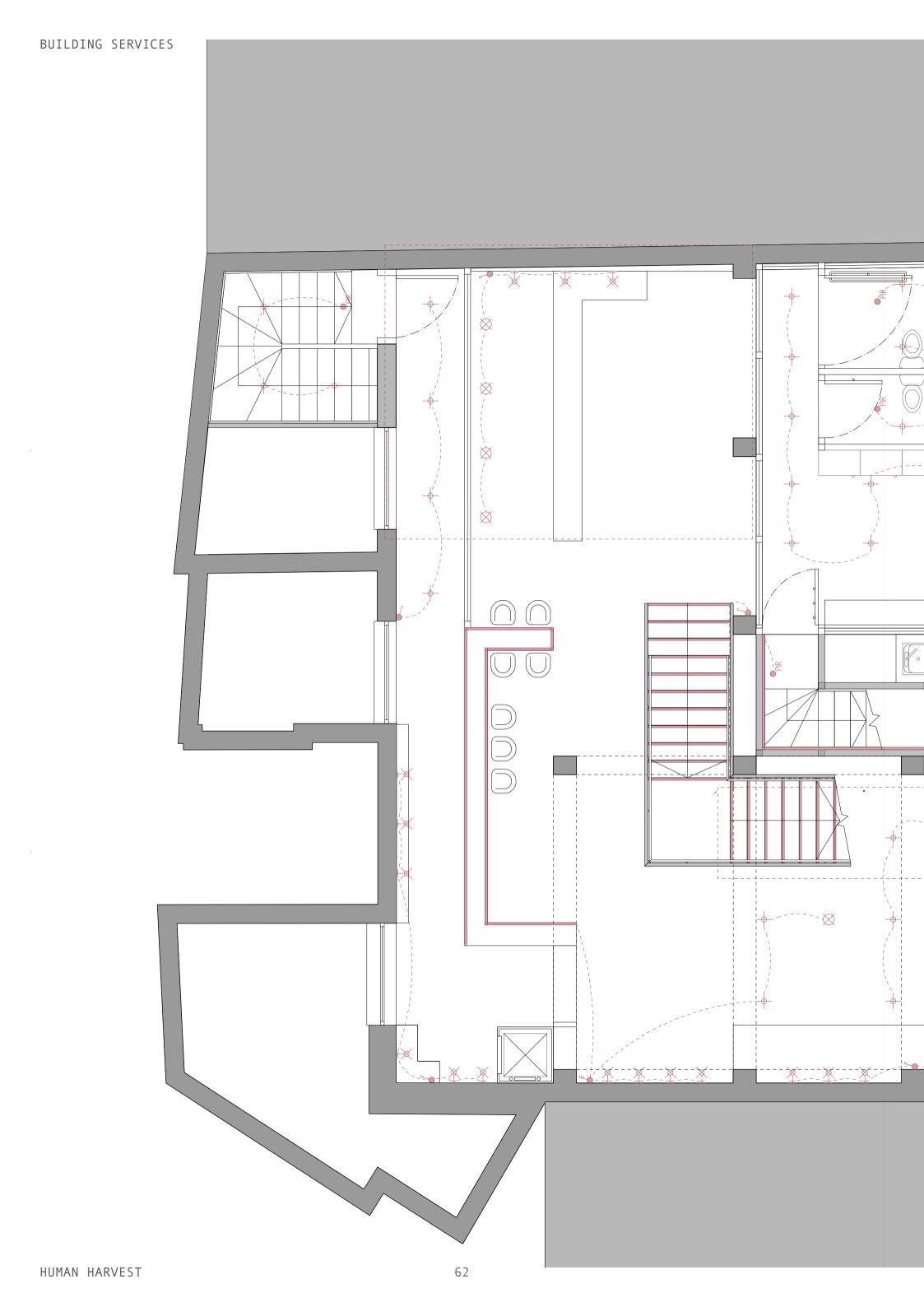


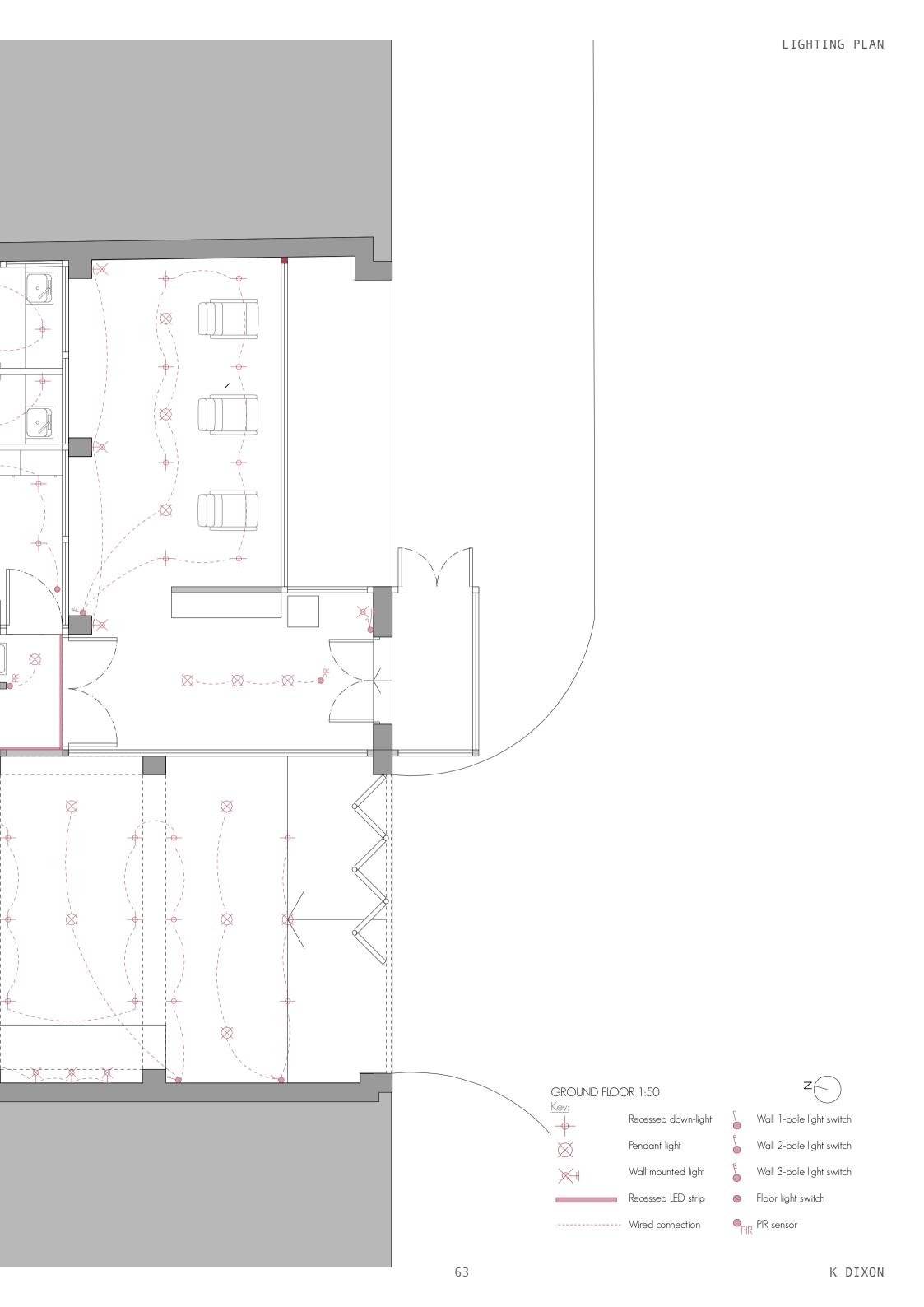




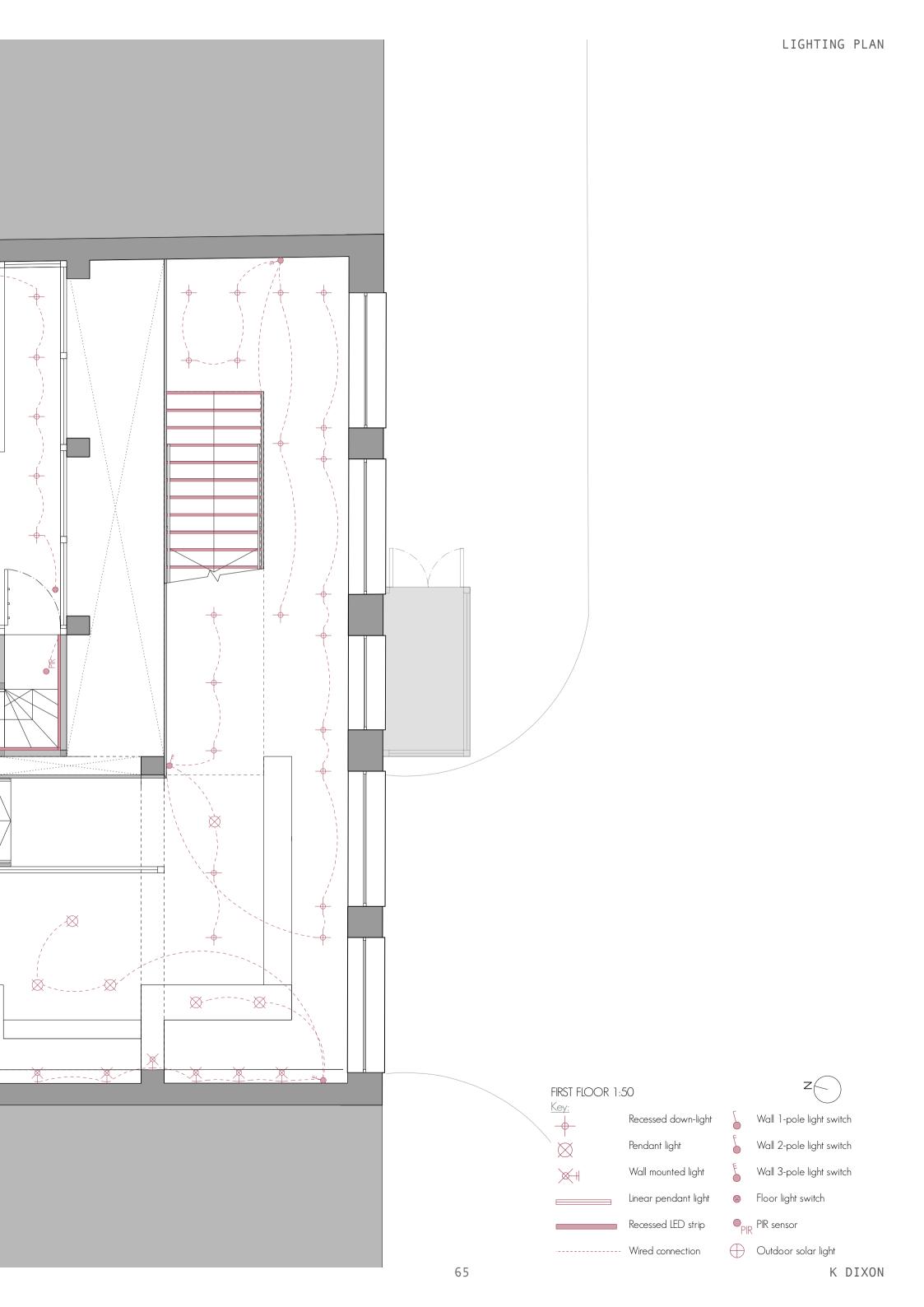
The lighting of the site is split into linear and structured. The working areas are linear and grid-like whereas the public domains are more scattered. Areas which have overhead voids feature more wall lighting, the voids should provide additional light which diffuses from the floor(s) above.

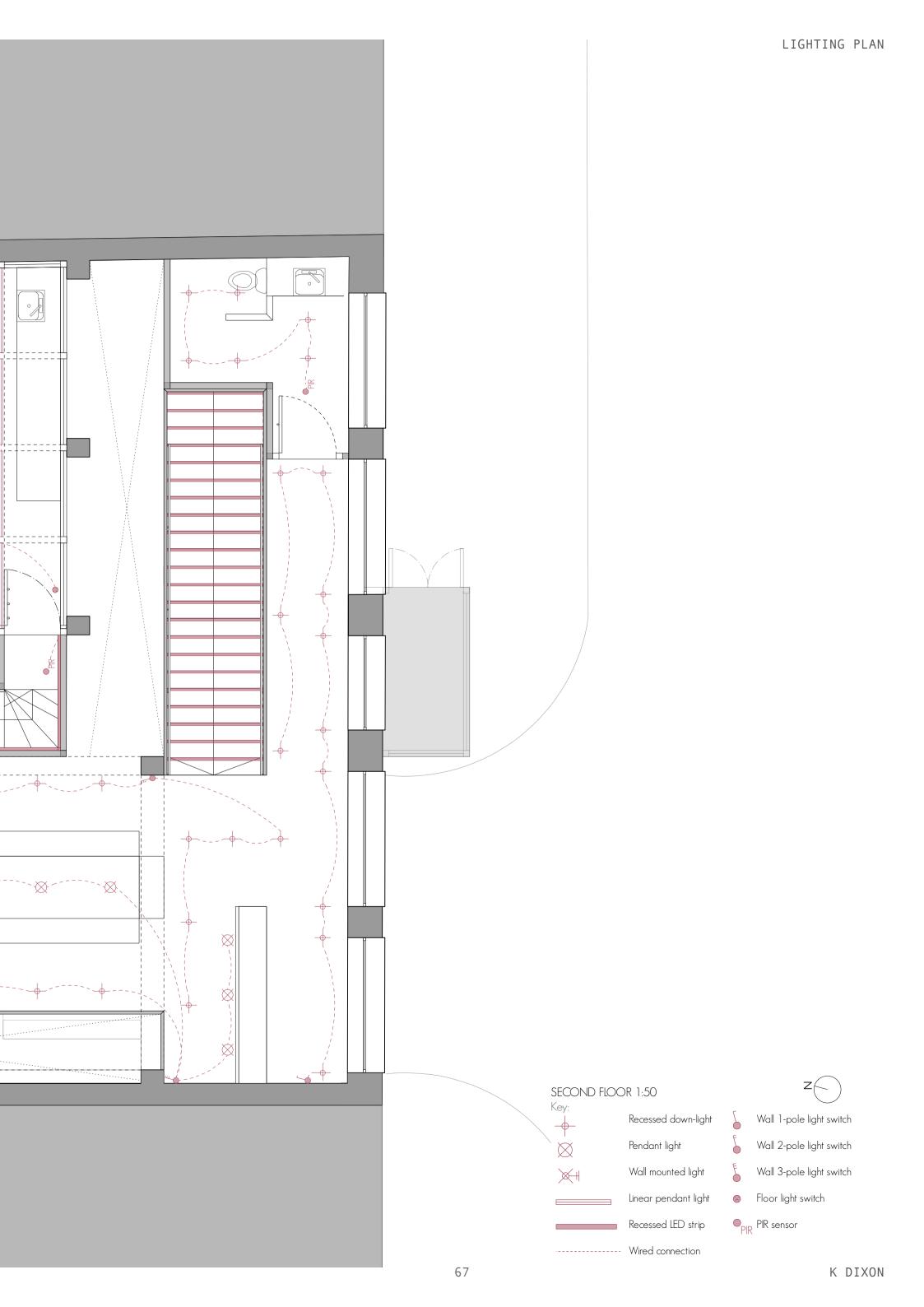


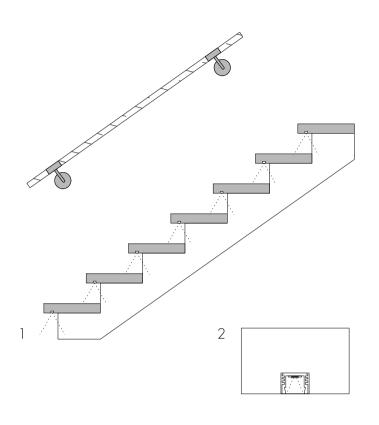




HUMAN HARVEST



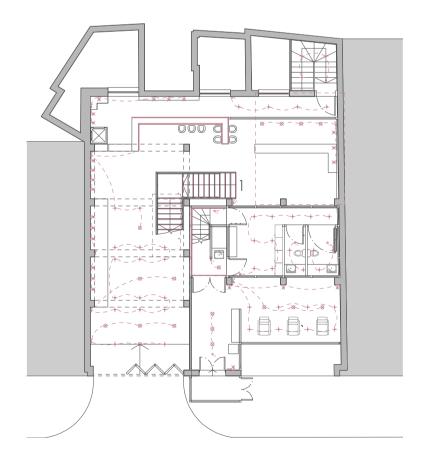






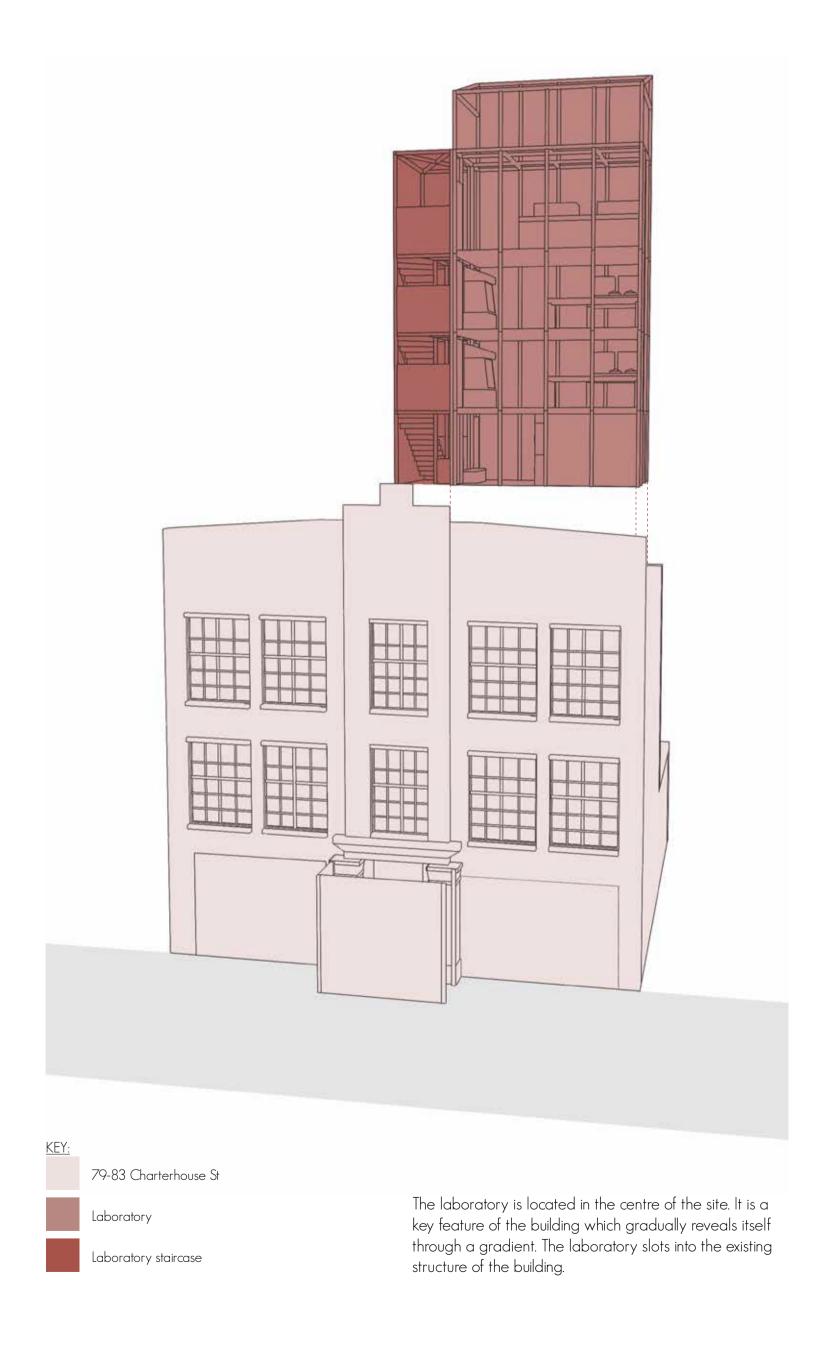
- 1 STAIR DETAIL 1:20
- 2 LED DETAIL 1:2

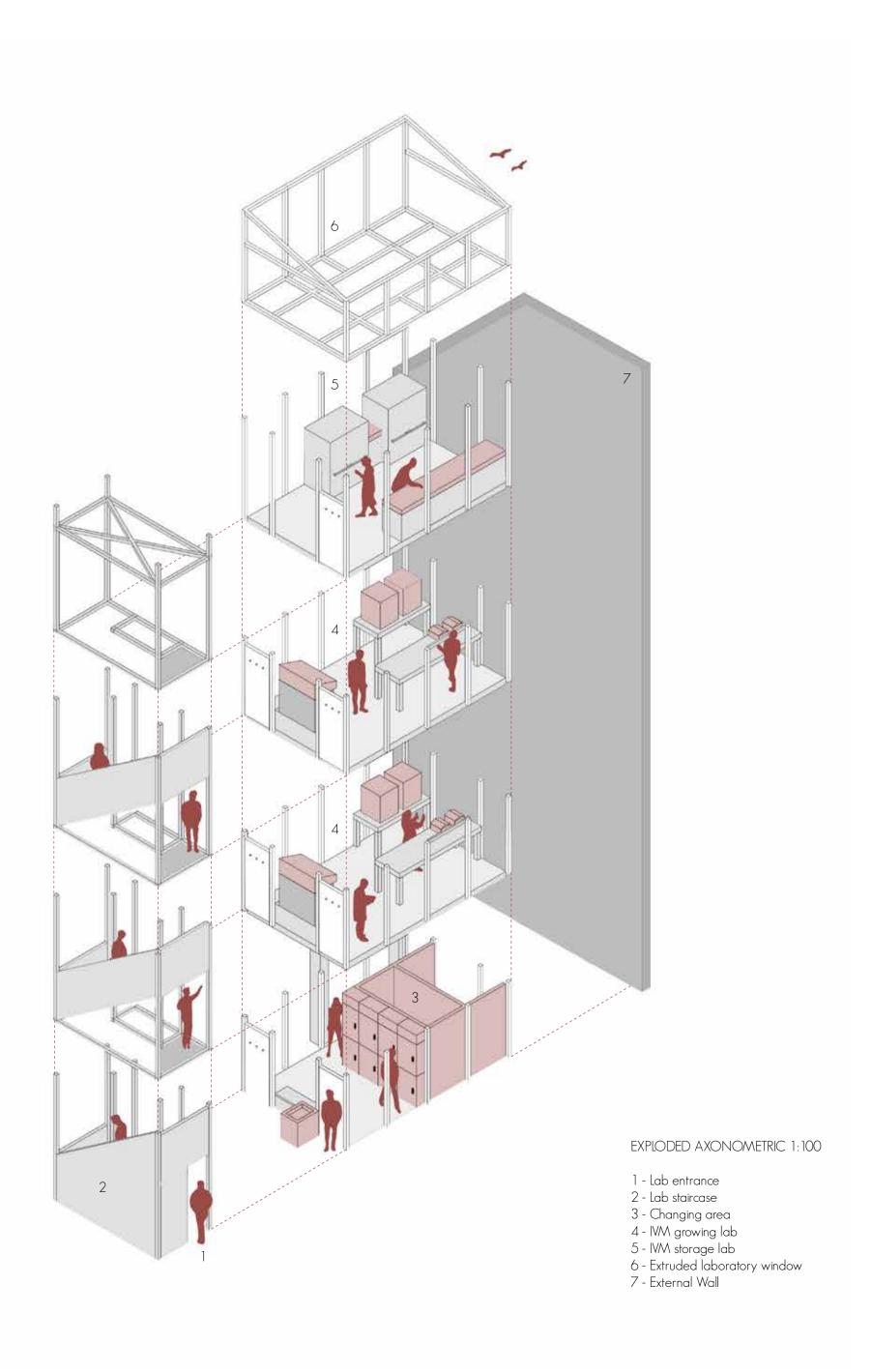
MATERIALITY RENDER 1:20

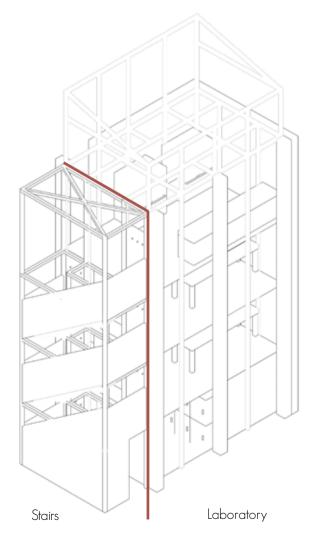


GROUND 1:200 1 - Stair detail placement The stairs used by visitors of the site all involve the usage of recessed LED strip lights. The stairs have an LED on the underside of each step to help guide users up them. It was key for the ground floor stairs to have additional light as they lead up from the dark screening area, without the LED strip it would have been difficult for some users to safely navigate their way to the next floor.

The lighting detail shows the placement of the LED strip light within a section of the staircase. The stairs are made from steel (to link to the materiality of the lab staircase) with a wooden top (which is found throughout the public areas of the site). To link with research into butcher shops, the handrail is formed from brass. Brass, which has a high copper value, has antimicrobial properties which makes it perfect for aspects which are regularly touched. The handrail will be attached to a perforated metal and steel frame which will powder coated white. The render above visualises the appearance of the stairs.



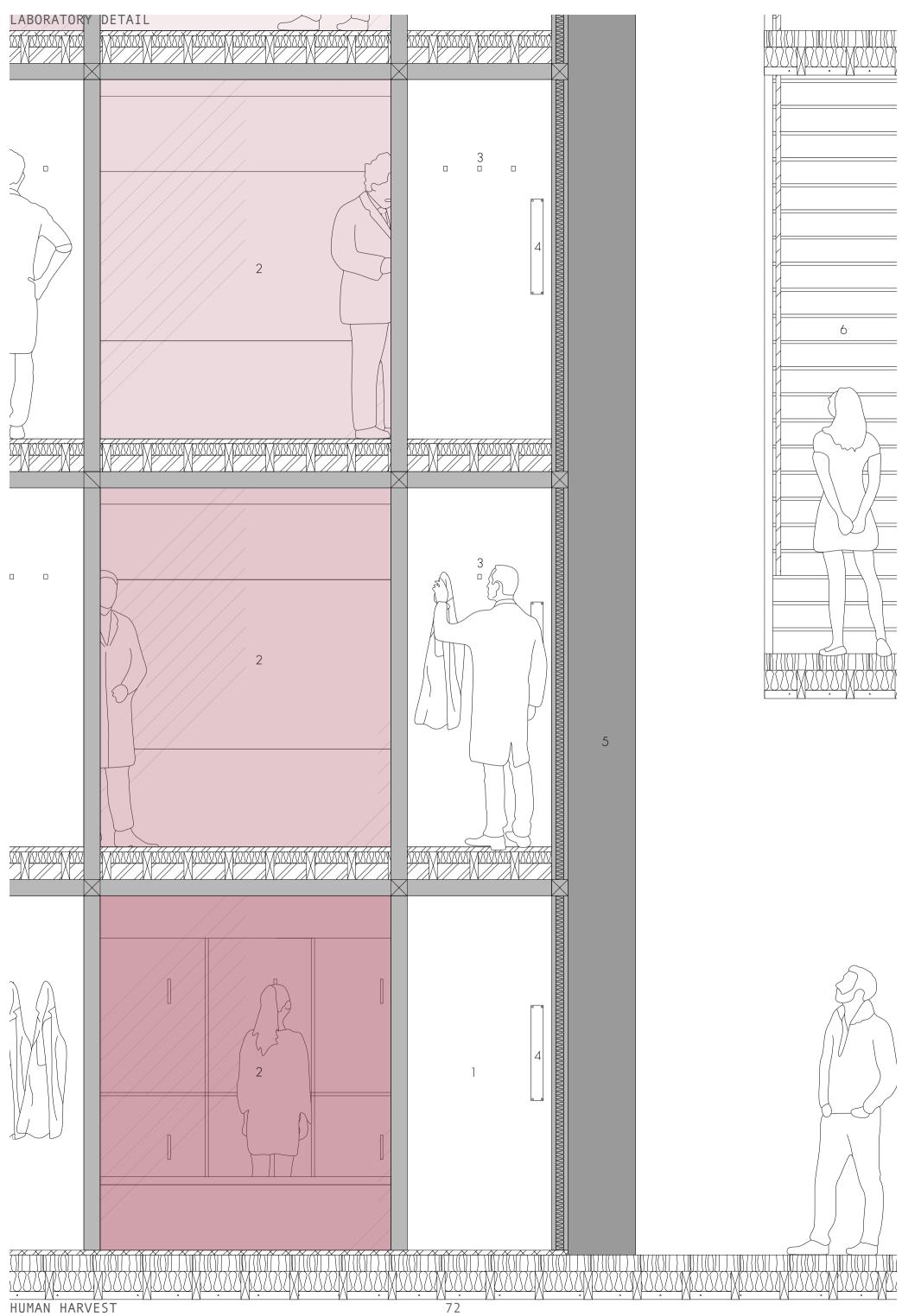




The exploded axonometric shows the laboratory and the activities occurring within it.

Located at the heart of the site, the laboratory is its own object which inserts between the existing columns of 79-83 Charterhouse St. The staircase is also an individual object which connects to each floor of the laboratory.

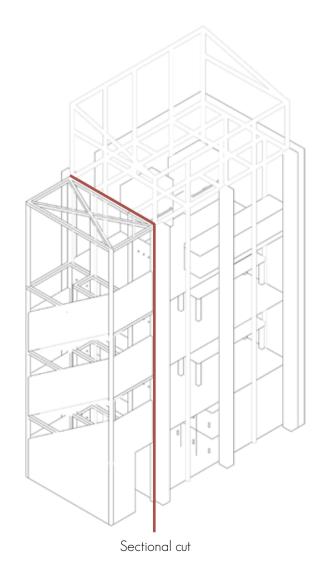
The primary activity is the growing of the meat. Once stem cells have been extracted from the donor point, they are taken to the laboratory to undergo the growth process. On the third floor of the laboratory, the human meat is passed over to the kitchen. This level lines up with the second floor of the site where the kitchen and bistro are located, allowing for an easy exchange of goods.



LABORATORY DETAIL 1:20

- 1 Lab entrance
- 2 Bio-wall
- 3 Lab coat hooks

- 4 Brass push door handles
 5 Existing column
 6 Visitor staircase (first to second floor)





- 1 Human hair fabric
- 2 Stained oak flooring
- 3 Brass
- 4 Red tile
- 5 White tile
- 6 Blood
- 7 Bio-plastic
- 8 Glass\
- 9 Vinyl flooring
- 10 Stainless steel frame
- 11 Perforated metal

A fabric made from human hair will be used as a cushion cover for all seats on the site. Human hair was chosen to further the aspect of the human harvest.

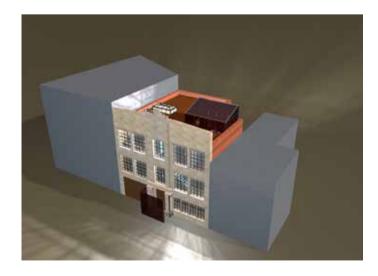
Brass which has a high copper value will be used in both the labs and public areas. Brass (which is high in copper) has antimicrobial properties so microbes cannot survive on the surface, and die within 2 hours. The brass will be used for surfaces which get touched often, for example, door handles and hand rails. Brass was chosen rather than copper to link back to the materiality of a butcher shop.

Ceramic tiles will be featured across the site. They will be found in deep pink-red and white. All of the walls will be tiled, some areas will also have tiled flooring. The ceramic tiles will further bring a butcher shop element to the site.

Bio-plastic will be used in the walls surrounding the lab. This will be the key focus of the site and will be visible from all levels. Its translucent properties are ideal to create a gradient appearance for lab reveal, this will be created by layering the material. The bio-plastic will be sandwiched between glass for extra stability. The bio-plastic will have a deep pink-red colouration.

Perforated metal will be used for the laboratory stairs. Various hole diameters will be featured to coincide with the gradient caused by the layered bio-plastic. The perforated metal will be powder coated in a deep pink/red colour.





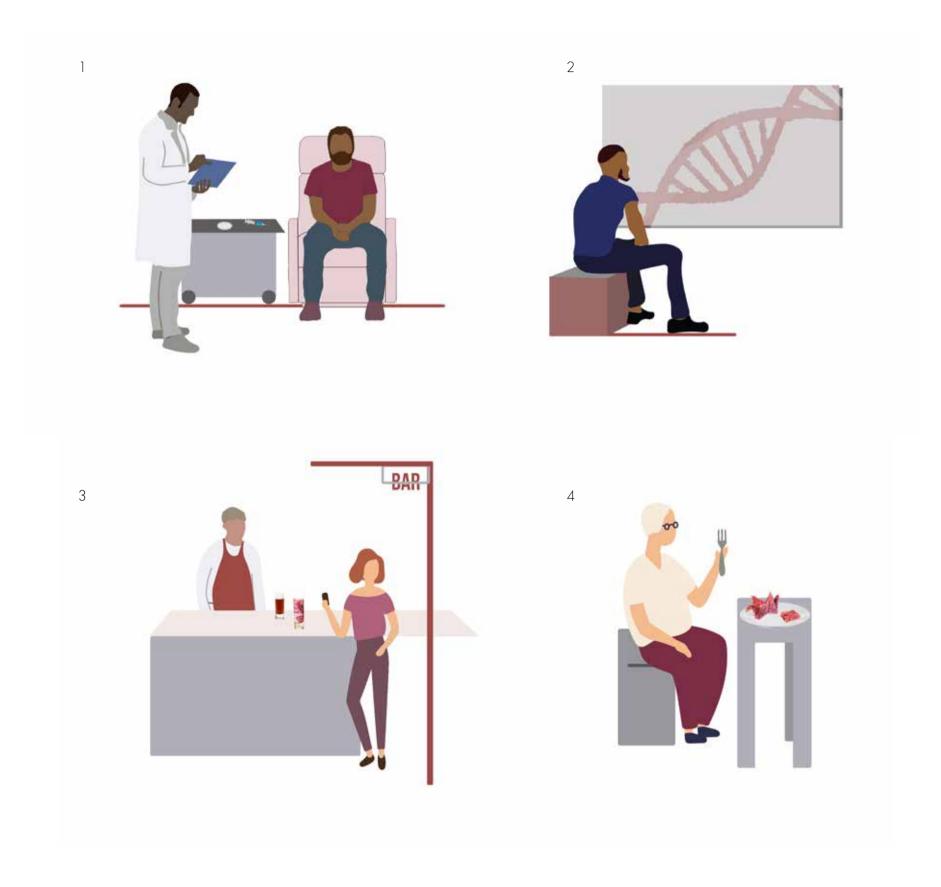
DIGITAL MODEL

The Cinema 4D model shows the placement of the furniture and staircases surrounding the laboratory. The model emphasises how the laboratory is the key feature of the site, this is highlighted to users by the materiality used. All of the other site activities branch off of the lab, without the lab they would not function.



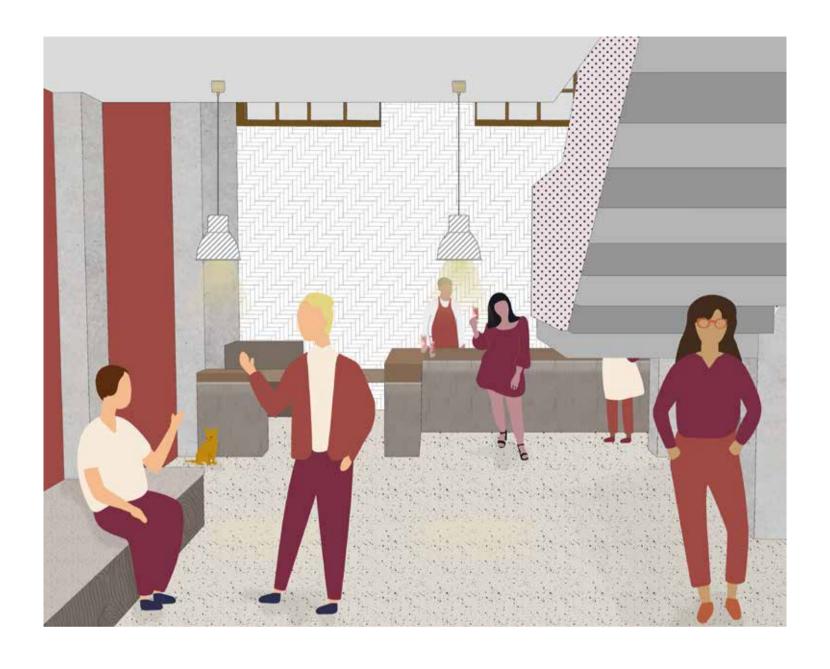
HUMAN HARVEST MODEL 1:50

As the laboratory is the main focus of Human Harvest the model shows the key feature and the activities occurring within it. The existing columns show how the laboratory inserts within the existing.

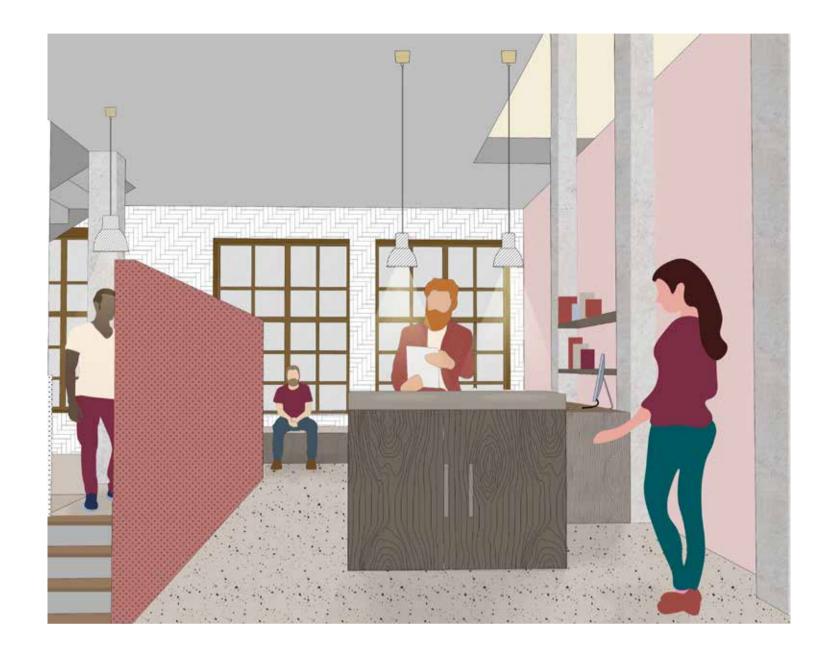


These visuals further explore the key activities on site.

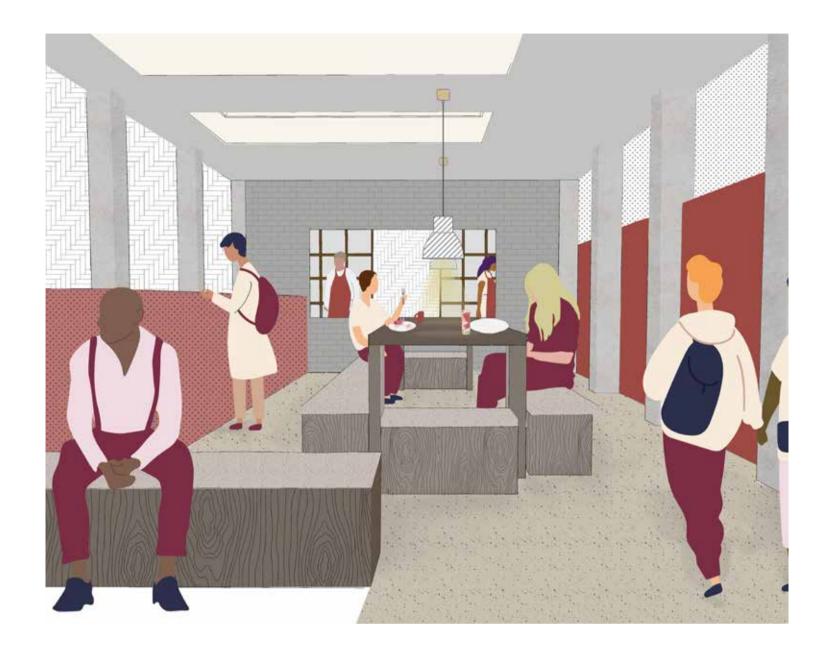
- 1 Donation. The donation point is within an extruded window which allows members of the public to view the extraction of stem cells. This is the sites version of a butchers window.
- 2 IVM screening. To allow visitors to learn more about human IVM, a short film will be played to explain the process as well as the on site activities.
- 3 Bar & taster area. This is the first point in which visitors can eat or drink IVM. The taster menu consists of drinks and small dishes for customers to enjoy.
- 4 Bistro. The bistro provides the whole human IVM dining experience. Here customers can have a three-course sit down meal and try a wide range of dishes.



This visual shows the ground floor. When visitors enter the site they will find a taster area and bar. Here they get a first taste of human in-vitro meat (IVM) and gain an insight into what the site is all about.



As visitors ascend to second floor they will find the research hub. The scientific research relating to the human (IVM) is stored here, if interested visitors may examine the data to discover more about IVM.



The third floor is where the bistro dining area is located. It is also the level where the laboratory is fully revealed . Visitors to the site can enjoy a three-course dining experience trying IVM cooked in new unique ways.



ADVERTISING

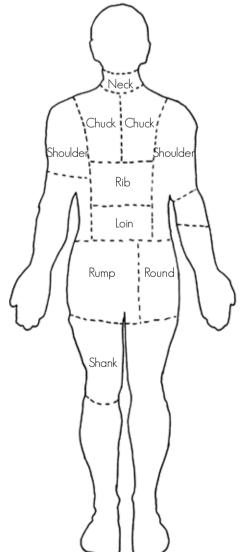
POSTERS SOCIAL MEDIA RECEIPT

WE YOUR CELLS GROW YOUR UVVIV MEAT

THE FUTURE S HUMAN SAVE THE EARTH, UNCLE







To advertise the benefits of eating IVM human meat, and to help with the connotations around cannibalism, Bistro In-Vitro will publish a series of posters to be placed around London and on social media. Meaty colours will be combined with slogans to encourage users to discover more about human harvest. As the in-vitro human meat is consensual, the campaign will also target vegans and vegetarians to persuade them to eat this cruelty-free meat.

BISTR0 IN VITRO



Bistro In Vitro 79-83 Charterhouse St. London EC1M 6HJ

Till 1

Staff: Jude 07/05/2022 Order: 305 15:07 AM 1 Lab Sweetbread 8.99
1 Crane origami 7.99
2 Rustic In Vitro 29.98
1 IVM Ice Cream 4.99
1 Throat Ticker 6.99
4 B-52 cocktail* 47.96 Product Group Summary Food 58.94 Drink 47.96

Savings *2-4-1 23.98

TOTAL £82.92

Optional service charge 10% £8.29

VAT 20% £16.58

Payment Card DEBIT MASTERCARD XXXX XXXX XXXX 1234 CHARGE £91.21

Auth No: 012858

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