REHABILITATION NOT INCARCERATION

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The Impact of Natural Spaces and Sensory Architecture for The Use of Rehabilitation

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I declare that this report is my own work and has not previously been submitted for assessment

Rachel Lambourne
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Abstract

Our senses are the very foundation of our psychological perception. However, the strength of each individual perception of the senses will vary from person to person. Partnered with the design theory of psychological and, particularly, environmental architecture, it can be combined to create a space and environment that elicits emotions that subconsciously affects our psyche and overall behaviours. The following body of research goes onto explain how creating a natural environment and stimulating our natural senses can aid in the positive rehabilitation of those who have fallen victim to substance and drug abuse.

Within this report literary sources will be referred to in order to support these claims and offer a clearer insight and varying perspectives on the use of natural environments for rehabilitation, as well as considering the inclusion and positive effects on stimulating the senses with mental progression. This research has identified a clear design problem, which is a lack of utilisation of natural spaces within a built environment and the positive psychological effects they have, which in turn can be used for progressive rehabilitation. For this reason, this document proposes a rehabilitation centre for individuals affected from substance abuse. It will be centred around creating a natural environment through biophilic design, that offers both medical and natural care in a space that is designed to utilise the senses as a means of distraction and replacement for the desire of alternative substances. It is a place free of prejudice and discrimination in which all inhabitants receive equal treatment for their problems and feel safe to receive it.

The thorough research undertaken has led to the clear development of a design strategy in response to the above stated design problem, which is to apply the concept of natural environments in a way that offers privacy and concealment for those who wish to have it, this will be done by a strategy of ‘revealing and concealing’. Through analysing the way people respond to varying environments indoors and outdoors, and what positive and negative emotions are drawn from sensory stimulation, this has ergo both encouraged and enabled a well thought out and justifiable design language that has been applied to the site, the Thackray Medical Museum. A site which is grade II listed due to its past and has a history steeped in care and education for its inhabitants, right from when its first foundations were laid.

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Introduction

Addiction is a term everyone is familiar with and, unfortunately, a large percentage typically associates that negatively to the individual experiencing it. What most people are unaware of however, is that addiction is also heavily psychological and in turn requires more psychological rehabilitation than physical. The rehabilitation centres that have been previously designed are only centred around one purpose, short term fixes.

Currently in Leeds there are 20 businesses which specialise in rehabilitation for drug and alcohol abuse, however none of which are located within close vicinity to one of the worst affected areas in West Yorkshire. Deaths as a result of drug or alcohol poisoning rose 116% to 527 in Yorkshire in 2019, up from the previous recorded number of 244 in 2010, with those living in deprived areas now being 5.5 times more likely to die from drug abuse than those living in more affluent areas (Beever, 2020).

The potential to create a rehabilitation centre that places a larger focus on mental rehabilitation by means of sensory stimulation and natural environments is detailed within this document. With the continuously growing number of incidents related to harmful substances within Harehills, an area of Leeds in West Yorkshire which is viewed as more destitute than its surrounding parts, the improvement of the services available to those who need help is imperative in ensuring a better quality of life, not just for the individuals affected but for the community.Sadly, it is quite common to find that some people, family or friends of those affected, do not know how to offer them help or advice, in turn creating a rift between relationships and typically ending with the victim no longer having anywhere else to turn. As it currently stands in todays' society, those who suffer from addiction are often perceived as burdens and as a result very rarely end up receiving the treatment they need in order to get back on track. As a result of this it is often noticed that there is a direct correlation with mishandled drug use and a rise in homelessness and individuals sleeping rough on the streets. Some people lose themselves and their sense of identity when they fall victim to such a harsh and demoralising addiction and lose aspects of themselves that they once loved. Hobbies now become chores because of fatigue and activities they once loved to do no longer seem as enjoyable because they do not elicit the same high and excitement.

This project aims to create a space which allows them to rediscover their pre-addiction selves and perhaps unearth new interests and talents, this will have a directly positive effect in reducing the need and want for harmful substances. Doing this through natural environments and stimulating their senses will have a large improvement on their mental wellbeing, their progression on the programme and their outlook of life overall.

Literature Reviews

Literature Review 2.1

“is it surprising that prisons resemble factories, schools, barracks, hospitals, which all resemble prisons?”

Discipline and Punishment

Foucault, M. and Sheridan, A,. 1995. Discipline and Punishment: The Birth of the Prison, 1st ed.

Discipline and Punishment: The Birth of the Prison, first published in 1995 by French philosopher Michel Foucault, details a history of the modern penal system. Within it, Foucault seeks to deep dive into the analysis of punishment in the context of its societal impact. He examines how changing power relations have subsequently affected the course of punishment. Beginning by analysing the situation starting just before the 18th century, a time when public execution and corporal punishments were the main forms of punishment and a time when torture was rife in criminal investigations allows us to conduct a side-by-side comparison to today’s justice and punishment system. In terms of relation to this project, this in turn allows for an opportunity to draw areas of influence and similarities between institutions, particularly between that of prisons and hospitals, and how these have affected the reoffence and rehabilitation of those within its systems.

Within the historical context of this text, it is crucial to note the important aspects of previous punishment that has influenced the aspects of the modern-day system. One being that a common ritual before and during the 18th century was that the audience played an important part in receiving justice, which is evident through the public executions that were carried out. Public executions reinforced the power that the monarchy held at such a time and heavily involved the public as a display and reminder of this power. Fast forward to today and that is no longer the case. Though we still have a monarchy they play nowhere near as large a role in the justice system, public executions are no longer a form of punishment as of 29 May 1868 under The Capital Punishment Act (The end of public hanging in Britain, 2021), and the treatment of criminals or those who partake in illegal activities is no longer for public consumption and is dealt with privately.

Foucault believes that disciplinary power consists of 3 main elements, “hierarchical observation, normalising judgement and examination” (Foucault, 1995). A combination of these 3 factors ensures a successful relationship between not only the subject and the state of power, but of rehabilitation and respect between the victim/offender and the system they are being treated with. The hierarchical observation, though it can be received negatively if used in a way to retain complete control, can be useful in achieving its aims if done so in a way that does not feel invasive to those being observed. Normalising judgement can be tricky, as it refers to the enforcement of desired ‘norms’ of behaviour through tactics designed to correct transgressions (Welch, 2009).

However, if the enforcement of these behaviours was not enforced at all, but more presented to them in an environment they feel comfortable in, they may be just as likely to change their behaviours with the feeling of self-control to have this option as a choice for themselves rather than it be forced upon them. Finally, examination acts as a procedure to track and note the patients progress and responses to certain stimulants and experiences over a desired length of time, which can influence the direction of treatment. This same approach can be applied to rehabilitation programmes, as it places the patient at the centre of observation, of which they are aware of, which in turn could subconsciously influence their actions and behaviours positively to achieve the desired outcome.

“the panopticon is a marvellous machine which, whatever use one may wish to put to it, produces homogenous effects of power” (Foucault, 1995). The Panopticon, a system of control designed by Jeremy Bentham, has become a poignant symbol within Foucault’s arguments. With the centre of the Panopticon allowing the ‘controller’ of the institution to observe its surrounding rooms, the homogenous effects stem from the power being operated within its walls. It is theorised that with everyone in the space being isolated within it, that they are permanently exposed to a so called ‘gaze’ from the observer. Effectively, this allows for observation and examination to become easier and more efficient.

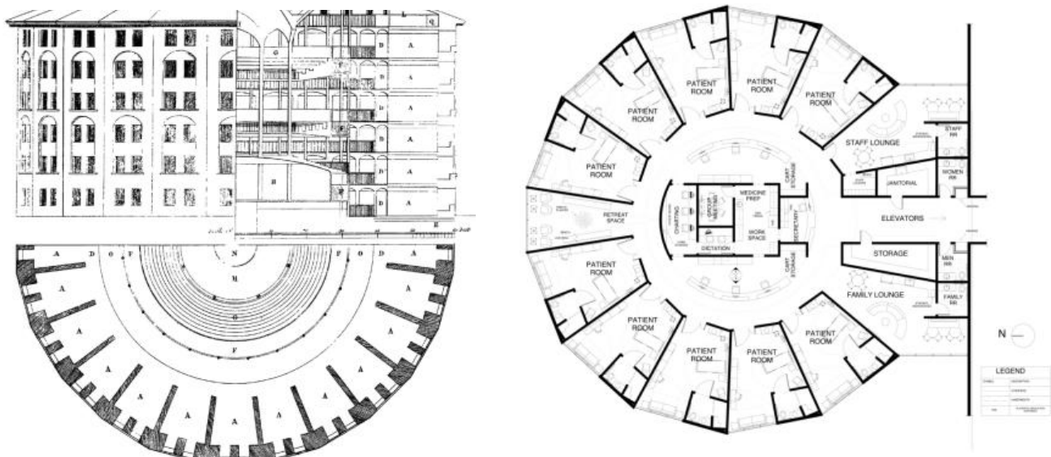

Figure 1: Side-by-side comparison of Panopticon design and Kyoshi Izumi’s Psychology Ward design (Lambourne, 2021).

Literature Review 2.1

> “is it surprising that prisons resemble factories, schools, barracks, hospitals, which all resemble prisons?”

Discipline and Punishment

Foucault, M. and Sheridan, A,. 1995. Discipline and Punishment: The Birth of the Prison, 1st ed.

“is it surprising that prisons resemble factories, schools, barracks, hospitals, which all resemble prisons?” (Foucault, 1995). One of the main points that Foucault discusses within this text is that the form of discipline that is typically associated with the modern prison system is all contained within its interior walls. The instruments of classification, examination and control engage in the function of all the institutions, and through them various forms of power flow. The institution of prisons though mirrors many aspects of hospitals and forms of rehabilitation, not just in similar architectural design but in similar functions. Much like prisons, hospitals and rehabilitation centres house patients with specific needs and/or ailments, for example, addiction, mental or physical illnesses, or crime. Their treatments themselves do not differ vastly. Each goes through a lengthy process of healing, whether it be programmes, sentences to prison, or physiotherapy to ensure progression and thorough treatment.

> **“Every day, our moods are affected by things we may not even perceive”**
>
> *Happy By Design*
> *Channon, B,. (2018) Happy By Design. London: RIBA publishing*

In Happy By Design Channon investigates the many attributes that make up designs which are impactful and influence how we ‘feel within a space’. As individuals we spend over 80% of our time in buildings and not experiencing nature. Channon explores the ways in which the spaces and buildings we inhabit affect our moods. He looks at how architecture and interior design can make us happy and offer support for mental health. He also looks at how poor design can have drastically opposite effects.
One of the first architectural considerations that Channon discusses is that of the value and importance of light. In terms of design, natural light is extremely essential for mental health and how we function day to day. Natural light could have large impacts on our bodily rhythms.

Figure 2: Graphic depicting 80% of time spent indoors vs outdoors, (Lambourne, 2021).

“results of several studies suggest that both natural and artificial bright light, particularly in the morning, can improve significantly outcomes such as depression, agitation, sleep, circadian rest-activity, and seasonal affective disorder” (Boubekri et al, 2014).

Channon states that it can have “substantial impacts on our mood, productivity and overall wellbeing” (Channon, 2018:3), and therefore this should be at the forefront of all designs when designing for healthcare and wellbeing. Accessibility to natural sunlight therefore has been carefully considered within this design in order to create a better sense of overall living for the patients and to subsequently improve their mental health. Channon also states that more intense emotions are felt under artificial light, therefore consideration has been undertaken with this in mind to redirect light in the space, this in turn avoids the creation of negative atmospheres and moods, (Channon, 2018:21). Channon also touches on the affects of coloured lights and how specific colours can help to release serotonin and melatonin which in turn can create the feeling of relaxation, (Channon, 2018:22).

Further into Channons text he states that more than 50% of the population are living in cities, with the figure set to continue to rise (see figure 4), (Channon, 2018:52). He touches on the importance of including nature and biophilic design into spaces and buildings, as he discusses that “spending time in nature has been shown unequivocally to improve our happiness and mental wellbeing”.

(Channon, 2018:52). When designing a space for rehabilitation it is important to ensure that elements of nature are included within the space, (Channon, 2018:52). When designing a space for rehabilitation it is important to ensure that elements of nature are included within the space, whether that be having indoor allotments, individual plants or simply just a view of nature, as the importance of this cannot be stressed enough in terms of benefiting their overall quality of life and treatment within the space. They offer benefits to mood and happiness, as well as accommodating the emotional rewards that come with caring for and nurturing for a living thing (Channon, 2018:53). If utilised correctly, nature and biophilic design can be used to improve not only their happiness, but their co-ordination and self confidence too, which is why Channon reveals that these design ideas and theories are now being seen more frequently in rehabilitation and ecotherapy programmes (Channon,2018:67). Living in an urban environment

> “Every day, our moods are affected by things we may not even perceive”
>
> *Happy By Design*
> *Channon, B,. (2018) Happy By Design. London: RIBA publishing*

can be extremely overwhelming and stressful for some people, it is therefore crucial that city dwellers are presented with opportunities to get an escape from such a bustling environment, particularly those who are seeking help and treatment for an ailment or addiction they have acquired within the city itself.

With the location of this design project being situated just on the outskirts of the city centre, it presents the perfect opportunity for a combination between the two spaces or urban and environmental, it is close enough to offer refuge to most suffering, but far enough away to create its own surrounding atmosphere, separate from that of the busy and overwhelming city.

Figure 3: Surrounding areas of the site that are urban and environmental (Lambourne, 2021).

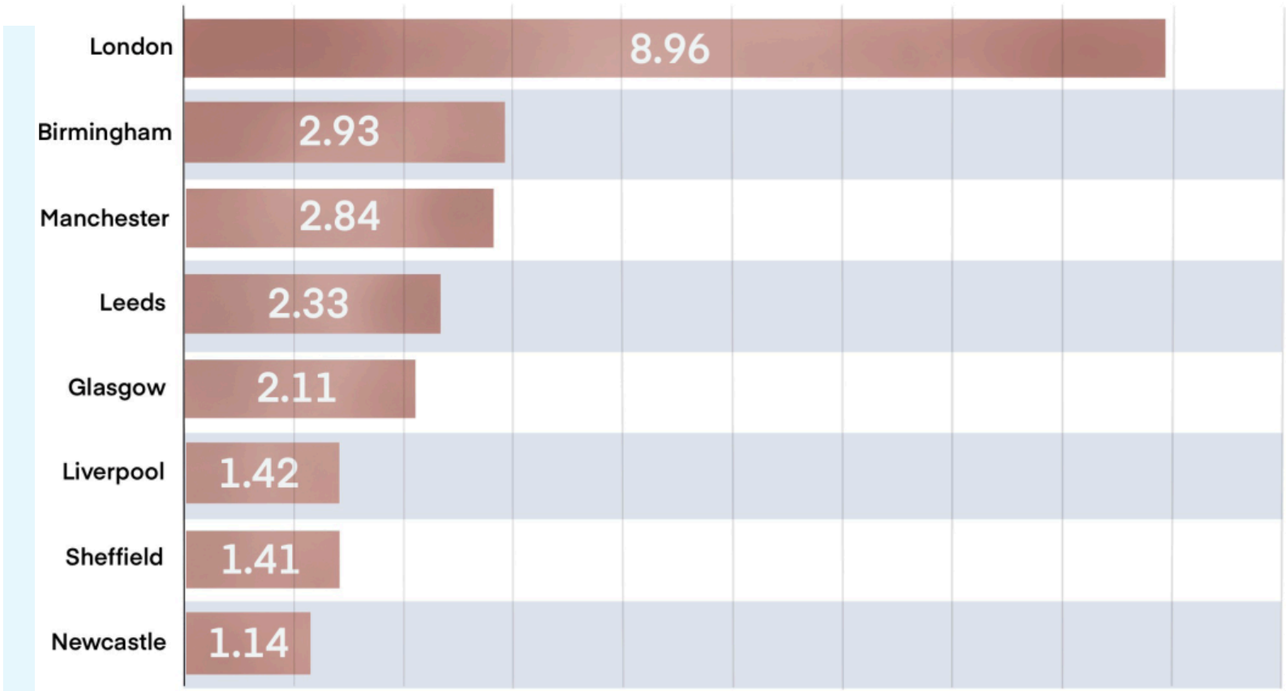

Figure 4: Graph of areas in UK with largest urban population (Lambourne, 2021).

In addition to the essential inclusion of light and nature when designing for wellbeing and healthcare, Channon also discusses the interest of the incorporation of touch and tactile materials within the design, as “using tactility can help us to focus on the present moment”, which contributes massively to cerebral wellbeing (Channon, 2018:29). When victims of substance abuse go through treatment and programmes to help them overcome their addiction, its imperative that they are in an environment that is designed to be as calming and comforting as possible. By including a combination of all the elements that Channon discusses, it will ensure a successful spatial design in this design solution. Moreover, well-designed built environments should accommodate for the inhabitant to have more personal connections to the space in which they can choose where they wish to place themselves, which is important in design for addiction as it gives the patients a higher sense of independence.

“Architecture is the art of reconciliation between ourselves and the world, and this meditation takes place through the senses”

The Eyes of The Skin

Pallasmaa, J. (2005) The Eyes of the Skin: Architecture and the Senses. Chichester: Wiley-Academy

As humans, we physically cannot live our day to day lives without the use of our senses to guide us throughout those 24 hours. When we lose one of these senses, our others heighten. If we were to lose our sense of vision, our sense of hearing would increase to ensure our awareness of our surrounding environments.

In The Eyes of the Skin, Pallasmaa dives deep into the role of these senses within authentic architectural experiences and leads the way to a more centralised focus on multi-sensory architecture that facilitates a sense of belonging and integration. To first begin the exploration into multi-sensory architecture, Pallasmaa first surveys the historical development of the ocularcentric paradigm (a perceptual and epistemological bias that ranks the use of vision over other senses in western cultures) (Chandler et Munday, 2011), and how this has consequently impacted the experience of the world, and the nature of architecture.

Within ‘The Eyes of the Skin’, Pallasmaa opines that “every touching experience of architecture is multi-sensory”, stating that this is due to the “qualities of space, matter and scale measured equally by the ear, nose, skin, tongue, skeleton and muscle” (Pallasmaa, 2005:41). When we first enter a space, our natural impulse is to decipher the environment surrounding us, we take in the smell when we first enter, the amount of light, and we are also able to gauge the kind of atmosphere we have stepped into by the amount of sound being generated, or lack thereof.

Mentioning the effect of natural spaces in relation to mental health, Pallasmaa states that “a forest context, and richly moulded architectural space, provide ample stimuli for peripheral vision”, a particular part of the human function that is medically proven to have a higher priority in our perceptual and mental systems, (Pallasmaa, 2005:13). modalities.

He discusses a forest as he states that “a walk through a forest is invigorating and healing”, he puts this down to the constant interaction with all the sense modalities.

All of our senses come together to work as one, and must work as one in order to create a relationship between user and space, as Pallasmaa states that “the observer becomes detached from an incarnate relation with the environment through the suppression of the other senses” (Pallasmaa, 2005:27) and in turn creates an experience of solitude, detachment and alienation.

Following on from his comments about user detachment of a space, Pallasmaa goes on to associate this and direct blame to the use of technologies and images within architectural design, “particularly by means of technological extensions of the eye, and the proliferation of images” (Pallasmaa, 2005:27). Proposing that the suppression of other human senses in an environment aids to the disassociation of the original intent and representation of the space, Pallasmaa correlates this with the use of technology and the expanding practice of images. Architects and designers are now looking at psychological means of promotion with the intent of instant persuasion, buildings and environments have now transformed into products designed purely for imagery, subsequently detaching them from their observational depth and sincerity, and harmonising together). Bachelard speaks of how the integration of all the senses brought together within a space can create a comprehensive ‘melody’ in a sense (Mace, 2017).

The perception of how each sense interlaces with each other and how we have the ability to experience everything through touch, has helped to advise my design and thought process when forming my scheme for a sensory space, particularly one that incorporates the natural elements too.

“We perceive atmosphere through our emotional sensibility – a form of perception that works incredibly quickly, and which we as humans evidently need to survive”

Atmospheres

Zumthor, P. (2006) Peter Zumthor Atmospheres. Basel: Birkauser Verlag AG.

Similar to Bachelard’s statement of all the senses playing as one harmonious melody, Zumthor presents the idea that “Architecture, like music, is a temporal art. That means thinking about the way people move in a building” (Zumthor, 2006:41). Speaking on the importance of movement within architecture, he compares thermal baths that create a sense of freedom and a ‘milieu for strolling’, to a hospital corridor that is designed to direct people. He states how architecture should be seen as a whole anatomical experience for each individual user, not just the metaphorical idea of a bodily mass, but “-the body itself! A body that can touch me” (Zumthor, 2006:23). Whatever space it is that we first walk into, within the first moment we already have an idea and a feeling about it by what is being presented to us, Zumthor believes “we are capable of immediate appreciation, of a spontaneous emotional response, of rejecting things in a flash” (Zumthor, 2006:13).

Reminiscent of a first impression of a person, we perceive what is shown to us in the first instance of introduction, we decide then and there if we like it, if we feel comfortable, if we are impartial, or if we simply do not care much for it. Much like people, architecture and environments have the ability to have a comparable effect on us, which is why it is exceptionally important to create a space for this project that, in Zumthors words, “moves you” (Zumthor, 2006:11), as that is what he qualifies as ‘good architecture’.

In order to create a space that is appropriate for the design proposal, and when designing around the intention of natural spaces with the motivation of nature as environment, its important to consider the materials that are going to be incorporated into the design.

Materials, much like colours, hold the ability to elicit emotions and reactions from us that can be either positive or negative, depending on the environment and intention of the space. If you were to design a project centred around outer space it is expected that materials such as; metal, steel, and copper, as these are typically associated with colder environments. Zumthor states that “steel, for instance, is cold and drags the temperature down” (Zumthor, 2006:33). For a space such as a rehabilitation centre, materials that evoke a ‘warmer temperature’ are imperative in creating a sense of familiarity amongst patients. As humans, our sense of touch allows us to feel the temperature of a room and associate it with a time of our lives, warmer temperatures are naturally linked with a sense of ‘home’ and comfort, therefore there is a pressing need to blend this aspect within the project.

In agreeance with Pallasmaa’s ideology that the integration of the five senses is fundamental in creating an atmosphere in a space, Zumthor also recognises that the forming of noise, colours, sounds, buildings, materials and textures all coincide with a persons impression of a space or object, (Zumthor, 2006:17).

“Object comprehension is manufactured through filters of memory, culture and epistemology; therefore, the environment should be familiar to psychotic patients as this helps stabilize both comprehension and delusions”

Stressed Spaces

Connellan, K., (2013). Stressed Spaces: Mental Health And Architecture. 1st ed. Vendome Group.

To create such an environment that benefits the specific chosen user of this project, addicts and abuse victims with a particular focus on those with mental health afflictions, it is of the utmost importance to review the evidence and suggestions of how architecture and spaces have a direct effect on a person’s psyche. Stressed Spaces: Mental Health and Architecture focuses directly on this and identified the research question of; How does the intersection of mental health care and architecture contribute to positive mental health outcomes?

Looking into the new or recommended styles of health care architecture, it is evident that the old asylum-style designs are “anathema to mental health practices” (Connellan et al, 2013:129). Strict practices and prison-like designs create a sense of isolation and entrapment which only follow with negative side effects, however it has to be asked whether the construction of new facilities that follow innovative designs are reflective of the new contemporary models of health care. Connellan goes on to say that “such an environment should mimic a safe and cosy home where noise is kept to a minimum” (Connellan, 2013:137), showing the shift from design based around disease cause and effect, to a more centralised focus on holistic wellbeing. Golembiewski suggests that environments should assure that perceptual cues are present to aid in perceptual processes and is to be done in a way that prevents the possibility of ambiguity and perceptual distortion, (Golembiewski, 2010).

Furthering the idea of implementing textiles and materials from nature within rehabilitation design, Connellan centres around the theme of gardens with the inclusion of open spaces. Though the theme of gardens is not solely restricted to mental health care and therefore seen as a holistic theme that feeds into Golembiewski’s suggestion of directing more holistic designs for wellbeing and mental health. Nature in itself is not directly healing or medical, but the psychiatric benefits of a natural, outdoor environment show correlating effects with increasing serotonin and happiness. They reduce stress, cause an increase in positive emotions, aid with cognitive restoration and increase positive effects on self-regulation, (Krekel and MacKerron, 2020). Having the option to view nature is different from having the option to experience it, much like watching a video of a concert can create a sense of comfort, there is always a ‘want’ to be there to experience it, which is why the majority of peoples best memories are things they’ve experienced, rather than things they’ve simply looked at. Connellan discusses how the lack of a window may have a negative effect by “reducing positive stimulation and aggravating the negative effects of sensory deprivation” (Connellan, 2013:145), and states how simply having access to views of a garden can reduce stress within patients.

Ensuring a direct relationship between user and space allows for a connection to be established in which the user understands their environment, doing this with natural elements particularly for the need of mental wellbeing has direct relation with increased happiness and cognitive redevelopment, “participation in building can release hidden talents and open a dialogue between people and their environment” (Jones, 2016).

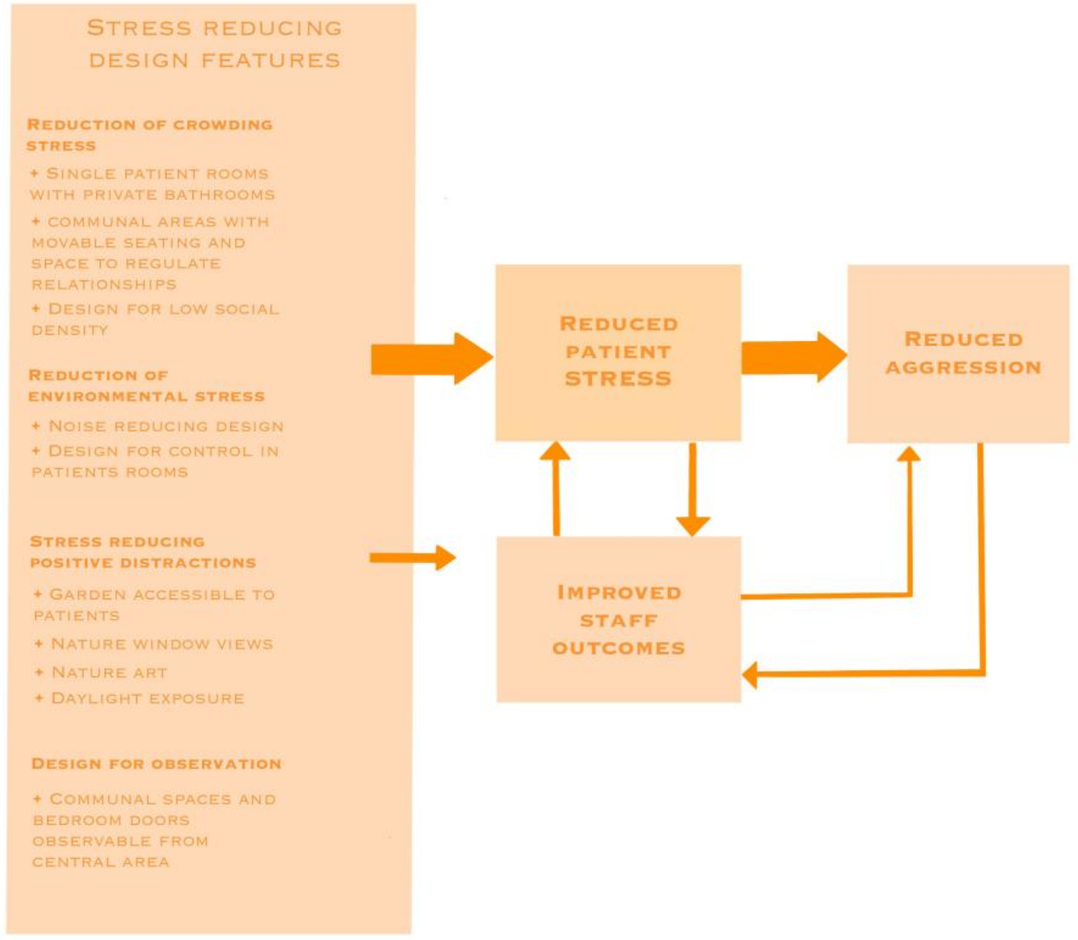

Figure 5: Stress reducing design features diagram (Lambourne, 2021).

“If one room can alter how we feel, if our happiness can hang on the colour of the walls, or the shape of a door, what will happen to us in most of the places we are forced to look at and inhabit? What will we experience in a house with prison-like windows, stained carpet tiles and plastic curtains?”

The Architecture of Happiness
De Botton, A. (2007) The Architecture of Happiness. England. Penguin.

Alaine De Bottons ‘The Architecture of Happiness’ facilitates the idea that even the chilliest-looking modern buildings have ‘feelings’ and that they have the ability to pass these feelings onto its users, he looks particularly at what makes the spaces we inhabit beautiful or ugly, and how this subconsciously has a knock-on effect to us, the habitants. On the note of what makes a space ‘beautiful’, De Botton identifies various qualities that create descriptive narratives in terms of beauty, emotions and tactility (De Botton, 2007:1), pushing the significance of spatial awareness in regards to the perception of the environment, De Botton goes on to say that views created in an environment can change and elicit certain moods and emotions. When designing for a rehabilitation centre focused around substance abuse and mental health it is important to create an association between user and space in which they connect the feeling of comfort, acceptance and hope with their surroundings. Spaces need to have specific association with individual people and their personal experiences, it is important then that the environment is created in a way that projects these feelings and puts them out there for them to experience.

“not only physical but also psychological sanctuary. It has been the guardian of identity” (De Botton, 2007: 1), here De Botton talks of the importance of individuality of a space and the opportunity to mould that space for independent users, through memories and emotions rather than physically. Someone who associates a space with a certain memory or feeling, is likely to have a far different impression of that space than someone who only sees it as a room or building. He talks of buildings having the ability to speak through spatial forms and communicate to the users, they can portray welcoming themes or arrogant ones, constrictive or openness. For the design proposed, the implementation of a welcoming and open space is needed in creating a sense of ‘warmth’ and ‘comfort’, much needed themes that should run throughout the building in order to create a sense of calm and

Figure 6: Visual depicting personality and reflection in architecture (Lambourne, 2021).

positive affirmations. If the space were to be designed ‘closed off’ and threatening, the users would not feel well looked after, and victims may not seek help in the first place.

Following on from the statement that a building can present and essentially ‘push’ feelings onto a user, De Botton says that “people will possess some of the qualities of the buildings they are drawn to”(De Botton, 2007: 7). Incited from this, it is assumed that peoples personalities are reflected not only in the spaces they design but also the designs of others they are most drawn to. Those most drawn to environments such like barns, smaller and cosier spaces that emit a sense of ‘home’ may be more likely to be drawn to the works of such designers like Norm Architects, whose buildings typically replicate the style of homes, much like Danish Architecture.

In comparison to this, someone who may prefer a more simplistic, stripped back

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The Architecture of Happiness

De Botton, A. (2007) The Architecture of Happiness. England. Penguin.

life may prefer the works of such an architect like Ludwig Mies van der Rohe, who theorised that minimalism gave maximum power to architectural space (Astbury, 2018), and designs with minimalism in mind.

Much like the theory that our personalities are reflected in the designs we prefer, but those buildings also have a responsibility to indicate what type of or quality of life is to be inhabited by it, present something dark and dreary and the quality of life and experience in the space is likely to reflect that. De Botton argues that buildings must construct specific or desired moods for the adopted users of the space, in such ways that are inclusive of the senses. To De Botton, materials such as concrete, steel, stone, wood and glass are able to express themselves in a way that implies the sense of touch, which is highly significant as the sense of touch allows us to further our impression of something (De Botton, 2007:59). Our sense of touch not only allows us to gauge an impression of the space surrounding us, but we are also able to tell if we are fond of an environment by temperature, as a cold room is not particularly inviting for a long stay (De Botton, 2007:69). The significance that De Botton places on the sense of touch shows support for Pallasmaas ideology of the intertwining of senses to create a better quality experience or quality of life for those within it.

> “we create and produce almost exclusively for the one sense-the visual”

Senses of Space
Spence, C., (2020). Senses of Place: Architectural Design for the Multisensory mind. Cogn. Research. [online].

For many years, architectural practice and designers have primarily centralised their focus on the eye and sense of sight, however there has been a shift in the sense that designers and architects are now integrating and considering with more tactility and consideration. Namely sound and touch, including that of proprioception (commonly referred to as kinaesthesia), the vestibular sense which contributes to the maintenance of balance and body posture, smell, and less commonly taste (Spence, 2020:1). Researchers in the field of sensory psychology are beginning to stress the importance and impact that sensory features in a built environment has on us as the users of the space. Spence follows on with this point by discussing the fact that although we may be ignorant and pay little attention to the sensory cues that are placed into the environments around us, that doesn’t necessarily mean that they don’t have an effect on us, this is far from true as our subconscious picks up on this and changes the way we act, the way we feel or the way we think as a result (Spence, 2020:5). With addiction being primarily neurological in the chemicals it releases to the brain, the users of these substances only focus on the sense of feeling in terms of what it offers them, to create a space that distracts from that one aspect and opens them up to an array of other sensations and use of their senses as a means of aberration is imperative in ensuring positive outcomes and progress from the patient. Bringing attention away from the feelings they get when using in a way that interests them in a positive way contributes to the overall effectiveness of treatment as it invites them onto the road of recovery.

Spence goes on to discuss the idea that although visual dominance makes sense for the fact that far more of our brains are given to the processing of what we see, rather than dealing with information stemming from any of the other senses, that doesn’t mean we should neglect them. He mentions Canadian designer Bruce Mau, who quotes that “we have allowed two of our sensory domains-sight and sound- to dominate our design imagination. In fact, when it comes to the culture of architecture and design, we create and produce almost exclusively for the one sense-the visual” (Mau, 2018:20). Though he later counters this by stating that “the failure to fully consider the auditory aspects of architectural design may help to explain some part of the global health crisis associated with noise pollution interfering with our sleep, health and wellbeing” (Spence, 2020:3), not completely disregarding sounds involvement in architecture, Spence here states that if not done correctly that sound can have negative effects and cause disruptions to our daily lives.

In terms of rehabilitation, sound can play a large part in creating a desired atmosphere that is a catalyst for other feelings. If a room is embodied in a sense of calm and serenity with comforting sounds like fire crackling, nature or rainfall, a patient will feel more at ease.

Figure 7: Our prominent sense of sight overpowering our other senses (Lambourne, 2020).

> “we create and produce almost exclusively for the one sense-the visual”

Senses of Space
Spence, C., (2020). Senses of Place: Architectural Design for the Multisensory mind. Cogn. Research. [online].

In comparison to this, if a room is full of loud and uninviting sounds like machine beeping and traffic then it creates a sense of unease and the patient may not wish to continue treatment in that facility. It also needs to be considered that some sounds may have correlation with some negative memories, each of which needs to be taken into consideration in order to assure that no patients are placed in uncomfortable situations, “it has been shown that most patients develop into depression as soon as the rehabilitation program begins” (Spence, 2020:308).

Within the contents of this journal, Spence refers to how the neglection of architectures fundamental role in maintaining our wellbeing is a primary theme in Perez Gomez’s book ‘Attunement: Architectural meaning after the crisis of modern science’, once again highlighting how the importance of the integration of the senses is emerging within other literature aspects.

> “the concept of sense of place is used in studying human-place bonding, attachment and place meaning”
>
> *The Concept of Place and Sense of Place*
> *Najafi, M., Shariff, M., (2011). The Concept of Place and Sense of Place In Architectural Studies. International Journal of Human and Social Sciences.*

“Place is where a dimension is formed by people’s relationship with physical settings, individual and group activities” (Najafi and Shariff, 2011:187). A ‘place’ is not determined by the surroundings, it is determined by the relationship formed with the user and any potential activities taken place with other people. It states that it is “a strong effective bond between a person and a particular setting” (Najafi and Shariff, 2011:187), therefore a ‘place’ has personal relation to individual users with individual experiences and impressions of the space, through the development of memories within it. Each one of these places is held with a high regard due to the personal bond formed in it, there is a mix of human values and principles that each play on an essential role in life.

How we perceive a space is all subconscious, within a second of arrival we have already formed an opinion of the space due to its design, if it is dark and unkempt we associate it negatively compared to somewhere well-lit and inviting. Bollas states that the way in which we as humans plan, survive and live in our constructed environments mirror the unconscious forms of thinking that are then realised through architecture, and that therefore, an environments construction and system might reflect our unconscious inclinations of the users that inhabit it (Bollas, 2000). If we see others living in derelict, worn down areas or spaces, our unconscious bias towards them assumes that they are below us in class or stature, so it is highly important that when designing a space for victims of substance abuse that the environment they are inhabiting does not reflect the conditions they may have been in before. If a space is created that initially puts across an image of health and growth with a positive reputation, there is a higher chance of inclusion and less discriminatory remarks when the users are eventually back in society.

Najafi and Shariff discuss the importance of integrating the user and place as one combined body, talking of the significance this holds in contributing to better use, better satisfaction and better attachment to places (Najafi and Shariff, 2011:187). Going on to suggest that architects, designers and planners should pay more attention to the environments they are designing, relating this to a “significant role of architecture as providing physical attributes to space which facilitate habituation of the users as well as their mental and physical wellbeing” (Najafi and Shariff, 2011:188). They highlight the importance of architecture in contributing to the overall health of the users, both physically and mentally, highlighting on the important fact that physical settings play a significant role in facilitating the goals and attributions of the users. Connecting this to the implementation of the five senses in an environment, they express that “the experience is felt through all of the five senses […], and the place experience is in fact a whole sensual experience” (Najafi and Shariff, 2011:189), showing support of Pallasmaa’s ideology that “‘life-enhancing’ architecture has to address all the senses simultaneously and fuse our image of self with our experience” (Pallasmaa, 2005:11).

The sense of place is a factor that makes an environment much more psychologically comfortable, it is measured by terms of “richness of their psychological and socio-cultural meaning, as well as its relation to physical comfort, safety and performance criteria” (Najafir and Shariff, 2011:188). The important factor of that being the safety of the environment, dealing with victims of substance abuse could potentially mean also dealing with violet outbreaks, either to themselves or to others, and so to design around this to ensure safety for everyone in the space is vital.

“all buildings coordinate and consolidate social relations by giving orientation and focus to the spatial practices of those who use them”

Architecture and Ritual: How Buildings Shape Society
Blundell Jones, P., (2016). Architecture and ritual. 1st ed. Bloomsbury.

Architecture and Ritual explores how the routines and aspects of our day to day lives are influenced, framed and defined by the spaces and environments we find ourselves in. It explores beyond conventional notions about architecture, utility and aesthetics, and instead centralises more on how buildings not only shape but also reflect our personal experiences in ways which remain unconscious to us. This once again supports the theories and culture surrounding sensory design due to the subconscious and unnoticed affects that the use of materials, colours and our surrounding environments have on our psyche.

Early on within the text, Blundell presents the statement that “buildings provide prompts for actions and frameworks to define relationships with fellow human beings in forming societies or communities” (Blundell, 2016:3). Here he is suggesting that buildings can create a common sense of understanding between individuals who connect to the space or retain similar judgements towards the environment that they are in. These mutual feelings can help to create a sense of ‘community’ or ‘society’ between those involved on a basis of collective understanding amongst each other. An example of this is evident through the sport of football and the use of stadiums. The sport of football itself is for most people a way to pass the time when with friends on a patch of open grass, but when a team is introduced that they can all mutually support it gains popularity and creates the need for a stadium in which they can all spectate their team. The creation of the stadium not only provides a space specifically for fans to gather and watch the game but has since created a community of football fans who all share the same passion for the sport within the walls of the ground. The same can be done for rehabilitation, by creating a space where there is a mutual understanding between everyone involved that has the sole focus of treatment and progression, there is suddenly no room for judgment due to collective understanding that everyone is there for the same reason, to get better. Consequently, this creates its own community amongst the patients within the walls of the building.

Blundell also touches on the importance of shared activities between individuals, stating that “shared social activities leave traces that can be read” (Blundell, 2016:4). Referencing back to a previous piece of literature by Najafi and Shariff in their book The Concept of Place and Sense of Place, the importance of sharing activities and creating memories is crucial for rehabilitation design. Within their text they highlight the importance of creating memories within a space as this creates a “strong effective bond between a person and a particular setting” (Najafi and Shariff, 2011:187).

To create a memory, one must first have an experience, and an experience shared with others, one that opens opportunities for social bonding, may leave more ‘traces to be read’. In saying this it is the suggestion that they are memories they may reflect fondly on and want to repeat. When creating for rehabilitation its imperative to create a sense of routine for the patients, and to do this a sense of place and a connection between person and environment must be established, “buildings reinforce their efficacy, carry memories of them in their organisation, and both guide and encourage their repetition” (Blundell, 2016:10). This has been done in this design project using group therapy rooms where a sense of vulnerability and understanding can be established amongst peers, and through spaces that provide the option for social interaction and relaxation amongst the patients.

Furthermore, Blundell concludes his work by saying that “buildings preserve memories of relationships through their very organisation, thus defining roles and identities” (Blundell, 2016:342). With support from Najafi and Shariff, the importance of the use of architecture to establish connections and a ‘sense of place’ amongst rehabilitation patients is undisputed, as this sense of ‘being’ and ‘experiencing’ a space can help form new identities, or rediscover their past personalities that they may have lost through addiction.

> “the idea is that throughout evolutionary history humans have long lived in intimate contact with nature”

Can Natural and Virtual Environments Be Used To Promote Improved Human Health and Wellbeing?
Depledge, M., Stone, R. and Bird, W., 2011. Can Natural and Virtual Environments Be Used To Promote Improved Human Health and Wellbeing?

This paper reviews and analyses the evidence supporting the ‘exploitation’ of natural properties and natural environments in the future of healthcare strategies and healthcare design. It also touches on the development of multi-sensory therapy for the benefit of patients with a variety of psychological conditions such as, depression, anxiety, pain and sleep deficit. All of which are common symptoms and effects of substance abuse within its victims. The following text looks at the exposure of individuals to natural environments, like forests and coastlines, and how these factors help to promote stress reduction and assist in mental recovery. Settings as simple as windows with overcasting views into gardens or nature-like scenes can also be influential and important to successful recovery.

Bird reviewed pre-written literature and discovered evidence to suggest that “time spent in natural environments was beneficial for improving mental health in all ages” (Depledge et al, 2011). When designing for a project with an age range of between 16 – 59, it was important to consider a scheme that was coherent and appropriate for all ages. The implementation of such aspects of the natural world are beneficial for a range of areas that are all imperative in a successful rehabilitation programme, such as:

- Self-discipline
- The treatment of attention deficit
- Hyperactivity disorder
- Reducing aggression
- Reducing Crime
- Promoting better health
- Delay the impact of Alzheimer’s.

(Depledge et al, 2011)

Within this text they also discuss a research project carried out by Tsunetsugu and Colleagues from the Japanese Forestry and Forest Products Research Institute. When discussing the research project, they highlighted a key aspect of the evidence gathered which proved that a 15–20-minute exposure to nature was accompanied by significantly lowered blood pressure, pulse rate and cortisol levels when compared to similar exposures in a more urban and busier city area (Depledge et al, 2011).

Continuing through the text they touch on the fact that it is human coding developed through many years of evolution that is the reason for our subconscious connection to nature and the natural world, which is not only why we feel happier and healthier when exposed to it, but also why it was imperative to utilise this connection to aid the progression and rehabilitation of addiction, “we subconsciously seek connections with all that is alive and vital” (Depledge et al, 2011). They place particular emphasis themselves on applying this to situations in life that require the most sensitivity and are deemed the hardest struggles to overcome.

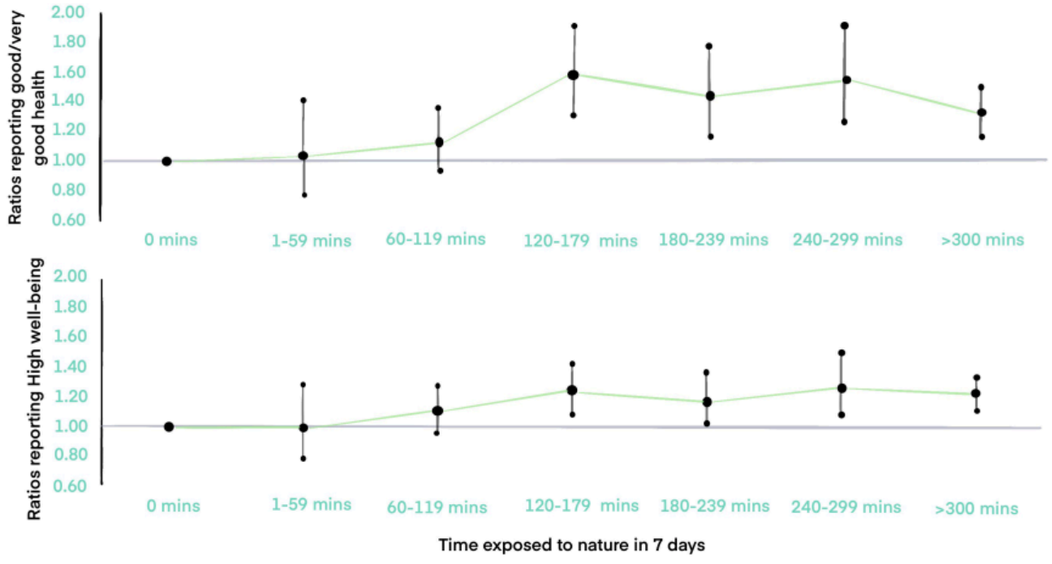


Figure 8: Exposure to nature and wellbeing graph (Lambourne, 2021).

3.1 What is addiction?

In order to properly, thoroughly, and effectively design a rehabilitation centre for the treatment of drug addiction it was incredibly important to comprehensively understand what addiction is, what causes it, the side effects, and how it is currently treated. Having this information and understanding of how it affects the users was crucial in ensuring the space was designed to combat any ailments and provide benefits both for their health and mental wellbeing in a way that included new modern day treatment techniques.

According to the National Health Service (NHS), addiction is defined as “not having control over doing, taking or using something to the point where it could be harmful to you”. Most commonly associated with drugs, it can also be tied into the use of gambling, alcohol and nicotine, though it can extend to almost anything in any form. It is important to understand that addiction is not solely associated to the usage of drugs, and that some of us may also have addiction to things without even knowing. Some of the other forms of addiction can include:

- Work – some people become obsessed with their work to the point its all they can think about doing and become physically exhausted.

- Internet – particularly in this day and age, it is so easy to become addicted with social media and all it entails. This mainly affects the younger generation who see images and false perceptions of life or become addicted trying to chase the lives of the influencers they follow.

- Solvents – volatile substance abuse is where substances are inhaled such as glue, petrol, aerosols or lighter fluid in order to give the feeling of ‘intoxication’.

- Shopping – When things are bought consistently that are not needed, it becomes an addiction, quickly followed by feelings of guilt.

What causes addiction? Becoming addicted to something can be different for every person, in the case of drugs, nicotine and alcohol, these substances all affect how they feel physically and mentally. To the majority of users, they begin usage due to enjoying the feelings that these substances create, and therefore creating a powerful urge to use substances again.

Suffering from an addiction to something often comes with withdrawal symptoms for the individual 90% of the time, with some experiencing a more powerful ‘come down’ from stronger substances. To counter the effects of a ‘come down’ some people will carry on with continuous use in order to avoid it due to the negative and unpleasant side effects.

Generally, addiction becomes uncontrollable due to the need for more and more usage to achieve the ‘high’ being craved.

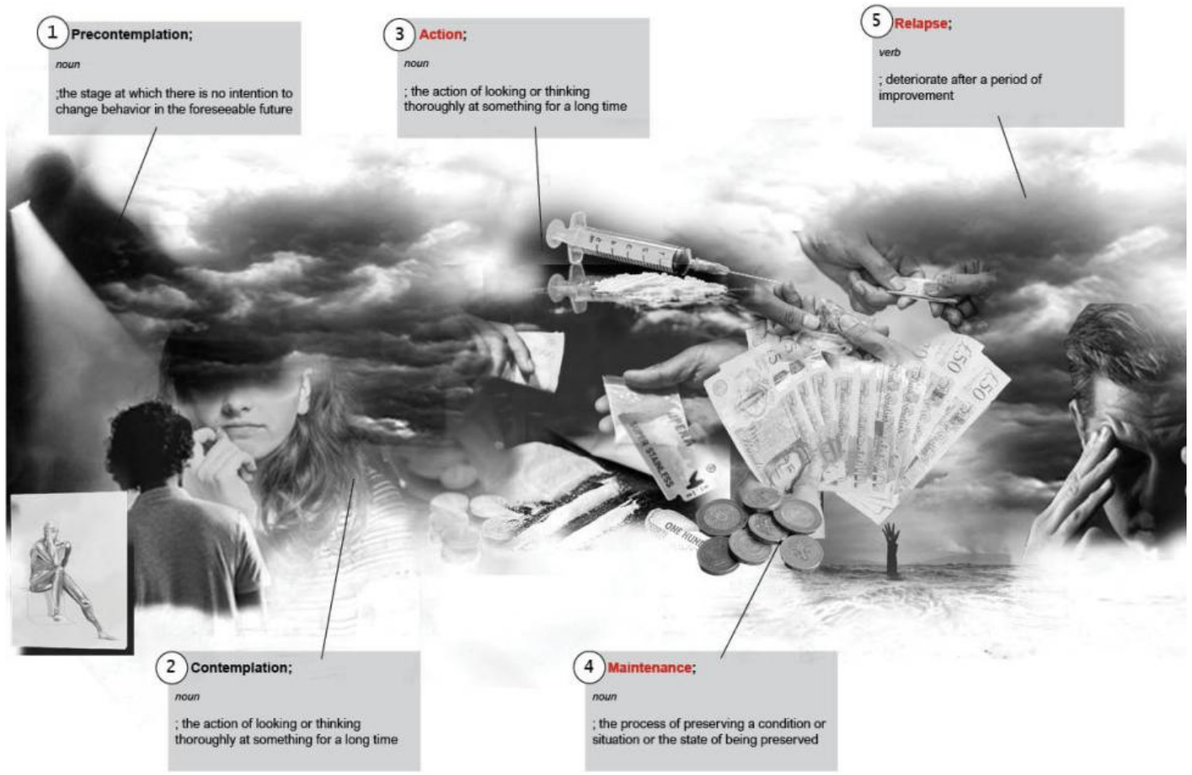


Figure 9: Timeline of addiction (Lambourne, 2020).

3.2 How does addiction affect us?

Not only can addiction have a physical affect on the human body, but it can also begin to spill over onto other aspects of the user's life. Managing addiction can end up severely damaging your work life and relationships. Some studies have found that addiction can be genetic and be passed on through generations, but environmental factors, like being around other people with the same or similar addictions are also a risk at increasing the chances of addiction.

Some people use it as a way of blocking out other difficult issues they are dealing with. Unemployment and poverty are just a couple of these circumstances, but it can range from anywhere from unemployment to money issues to relationship issues, however stress and emotional or professional pressure can also be an influential factor.

Someone dealing with addiction may experience some of the following:

- Unable to stay away from the substance or stop the addictive behaviour
- Display a lack of self-control
- Have an increased desire for the substance or behaviour
- Dismiss how their behaviour has been affected and may be causing problems for others around them
- Lack of emotional response

It is also important to look for the warning signs of addiction in users who may not express they have a problem, or to spot them in someone who may be beginning to relapse and need more treatment, some of these include:

- Seeking out situations or putting themselves in situations that encourage past behaviour
- Behaviour, increased secrecy or increased anxiety
- Insomnia or memory loss
- A change in personality that is drastic or noticeable

Due to the severity that addiction can cause for some users, people experiencing addiction are more likely to be prone to cycles of remission and relapse. If not dealt with early on they can lead to further, potentially permanent, health problems or serious consequences such as debt.

What are the types?

Though there are many forms of addiction stemming from various sub-themes, there are a few that are more common within the specific addiction of substances, these include:

- Nicotine
- THC, found in marijuana
- Narcotics (opioids), or pain relievers
- Cocaine

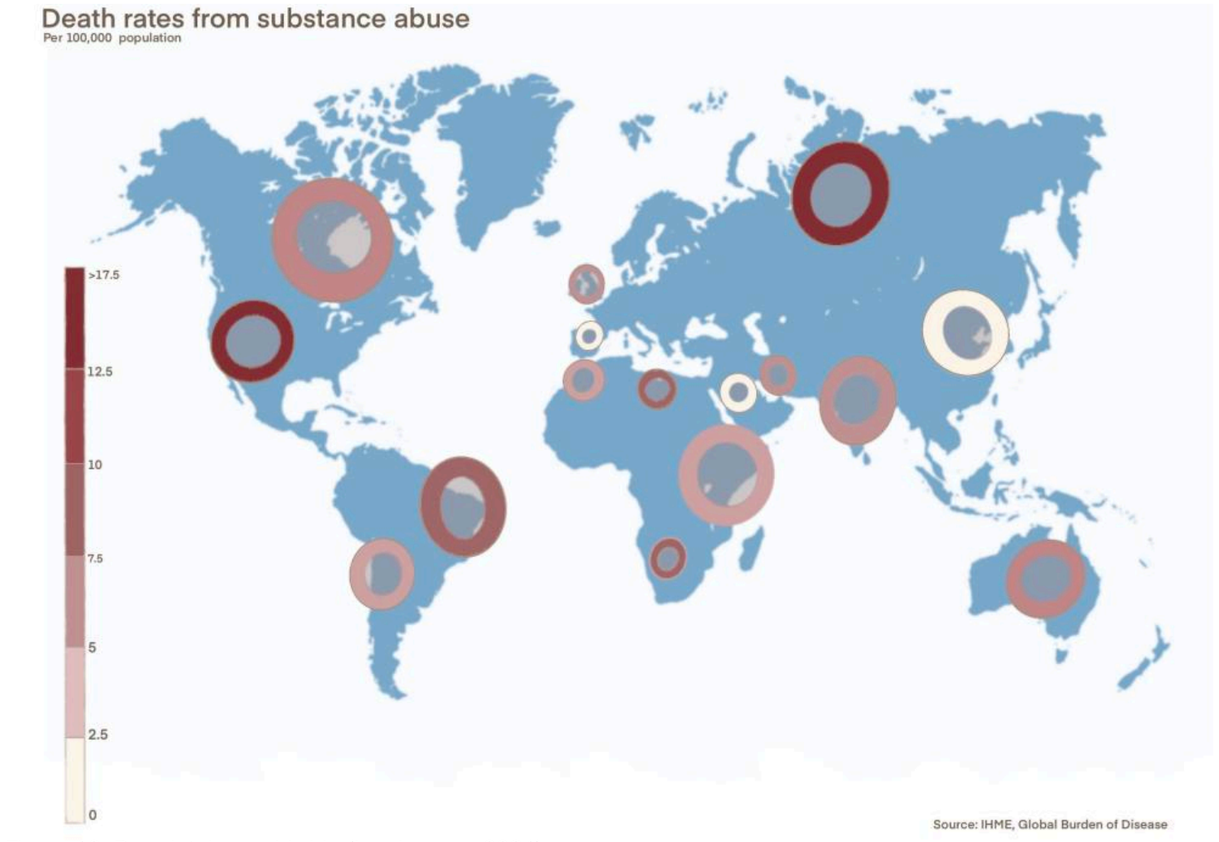


Figure 10: Drug intake worldwide (Lambourne, 2021).

3.3 Addiction in Yorkshire

The focus of Leeds, located in West Yorkshire, derives from the continuously growing problem of drug abuse and drug related deaths in the city, carrying on its 10-year run. Across England and Wales in 2018, 4359 deaths were reported with the connection of drug poisoning, the highest recorded number since 1993 (Vinter, 2019), 484 being in Yorkshire alone.

Compared to 2017, there was a 16% rise as only 409 drug related deaths were recorded that year. More than half of the deaths involved some sort of opiate, and deaths from new psychoactive substances, or ‘legal highs’ doubled in a year to 125.

The stereotype that cocaine is most used amongst people in their 20s have been snubbed by statistics showing that it is more common in people in their 30s and 40s. This is mainly related to the fact that cocaine is classed as a ‘middle class’ drug, used by people with a higher income and better career who can afford to continue the purchase and usage of the drug.

The rate in Leeds was exceptionally high, averaging 9.4 people in every 100,000 people dying as a result, thought in part to be due to the infusion of fentanyl in heroin. There needs to be a place of reconciliation for people suffering with addiction in Leeds in order to see a decrease in the number of death rates, and a decrease in the number of homelessness as a result.

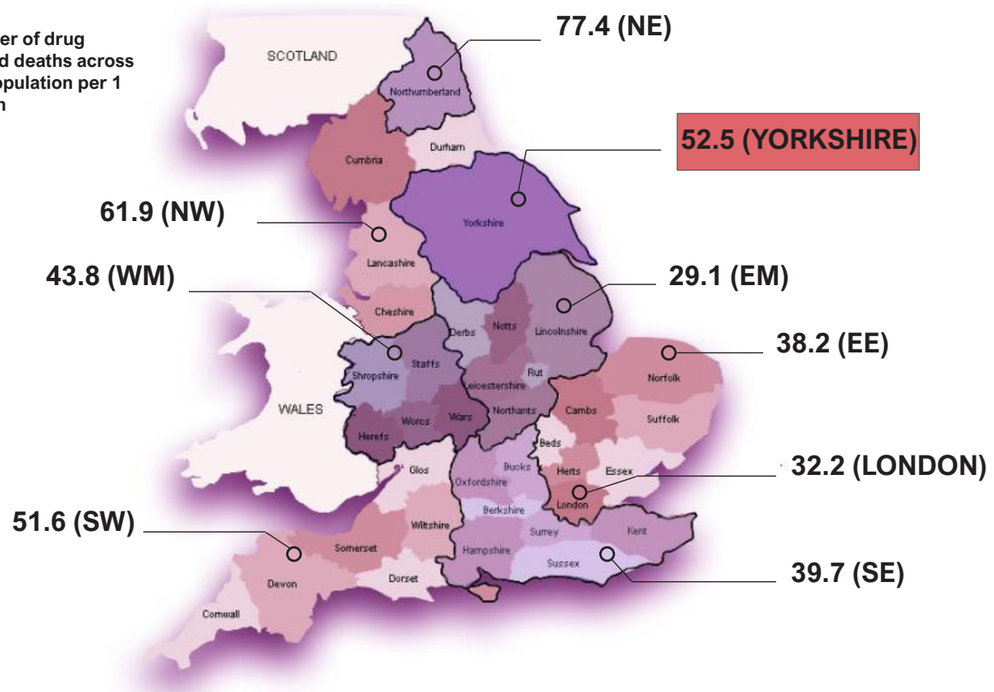


Figure 11: Drug related deaths across the country (Lambourne, 2020).

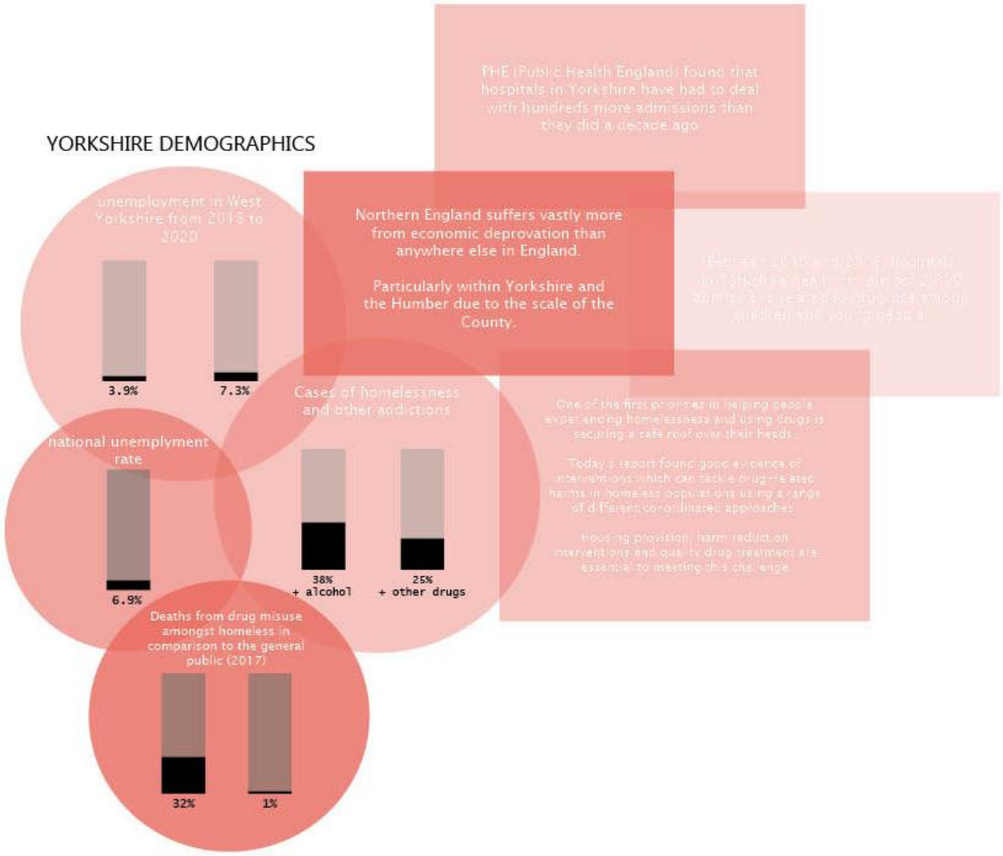


Figure 12: Yorkshire statistics (Lambourne, 2020).

3.4 What is rehabilitation?

For this project in particular, the focus will be on residential rehabilitation. How is residential rehabilitation different from regular rehabilitation? Residential rehabilitation specifies an alcohol/ drug treatment programme offered specifically in a residential setting for a specific area. Rehabilitation centres often take the route of abstinence-based treatment and provide programmes of support and care for those seeking help and wanting to become free of any addiction. They can be administered as either traditional rehab methods or newer models (What is Rehab?, 2020).

Traditional methods usually entail the patient taking a complete break from their current situation and have a long-term stay at a facility away from home to combat their addiction.

Newer methods of rehabilitation can sometimes take a ‘stage’ approach with treatment which are typically as follows:

- **Stage One –** Short stay rehabilitation treatments offered for the first stage of long-term programmes, mainly focusing on therapeutic remedies and immediate responses to coming clean

- **Stage Two –** Reflects the later stage of long-term treatment, mainly looking at the development of life skills, education and employment-based skills

- **Stage Three –** Offered by some companies and usually relates to self-sustained living with supported housing and monitored support

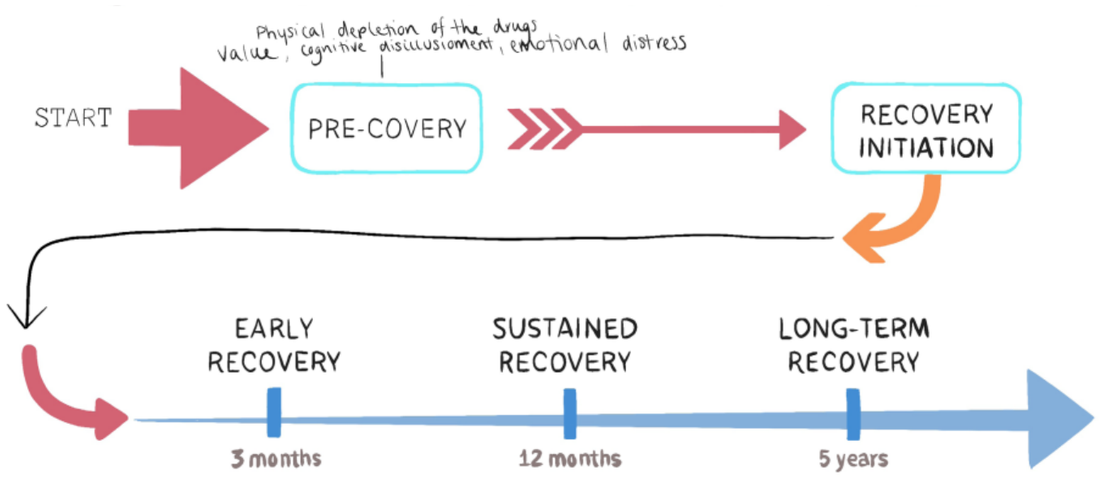


Figure 13: Recovery Model (Lambourne, 2020).

Biophilic Design 4

4.1 What is biophilic design?

Biophilic:
– Of, relating to, or characterised by biophilia: relating to, showing, or being the human tendency to interact or be closely associated with other forms of life in nature.

Biophilic Design:

Biophilic design is a concept used within the architectural and design industry to increase the connectivity between the inhabitant to the natural environment. This is done by use of direct or indirect nature, space or place conditions. The Biophilia Hypothesis, a book written by Stephen R. Kellert and Edward O. Wilson in 1995, landmarked the term 'biophilic' and proposes that most humans have a deep-seated love and affection for nature and natural environments. As humans and individuals, we seek interaction with nature and without it our health could suffer massively (Kellert and Wilson, 1995). Biophilic design is the applied solution to fulfil our innate desires to interact with nature and our surrounding environments. This design application can often result in a substantial positive impact on our physical health, mental health and overall wellbeing (Gillis, 2018).

Ecotherapy:

Ecotherapy – a formal type of therapeutic treatment typically including activities that take place outdoors or in natural settings. The inclusion of ecotherapy in treatments is often related to exploring and appreciating the natural world (Mind, 2021). Its commonly works around reviving or establishing the connection we have with nature, which some people may have lost or have trouble connecting to again. It can also involve spending time with other people or allowing for chosen interaction from the participants. This was an important aspect to implement into the design proposal but has been successfully included using a shared group therapy space that also has the option for individual reflection and therapy spaces within the surrounding environment. There are also varying degrees of interaction available to patients in the library/garden section. This allows for social interaction or individual time in a natural environment. In a world so dominated by social media, the internet and mobile devices it is becoming easier to disconnect with nature, which is why there has been an increase in the use of ecotherapy and biophilic design over the recent years to reconnect the digital world to the natural one.

4.2 The natural world and us

There is an abundance of evidence out there that supports the use of biophilic design, and that nature is beneficial for us. One article that supports this is 'Nature: a new paradigm for wellbeing and ergonomics', which states that a relationship between humans and nature can encourage character and cognitive development (Richardson et al., 2016). Though exposure to nature is important, we must establish a personal connection to it in order to feel the lasting benefits. Some of the main models used to explain the mental and wellbeing benefits of exposure to nature is that of restoration. Attention Restoration Therapy (ART) and Stress Recovery Therapy (SRT) explain this best.

------- ART demonstrates natures' invaluable role in our existence and hints to another potential role: the contribution of conquering mental fatigue and bettering our ability to focus and redirect our attention effectively (Ackerman, 2020). Though this is a widely accepted theory, there is a hesitance to fully support it due to the need for more research and further studies.

------- SRT is a psycho-evolutionary theory devised by Roger Ulrich and his colleagues in relation to natural environments. It states that stress recovery involves the restoration from extremely instigating states, both psychologically and physiologically (Ulrich et al., 1991).

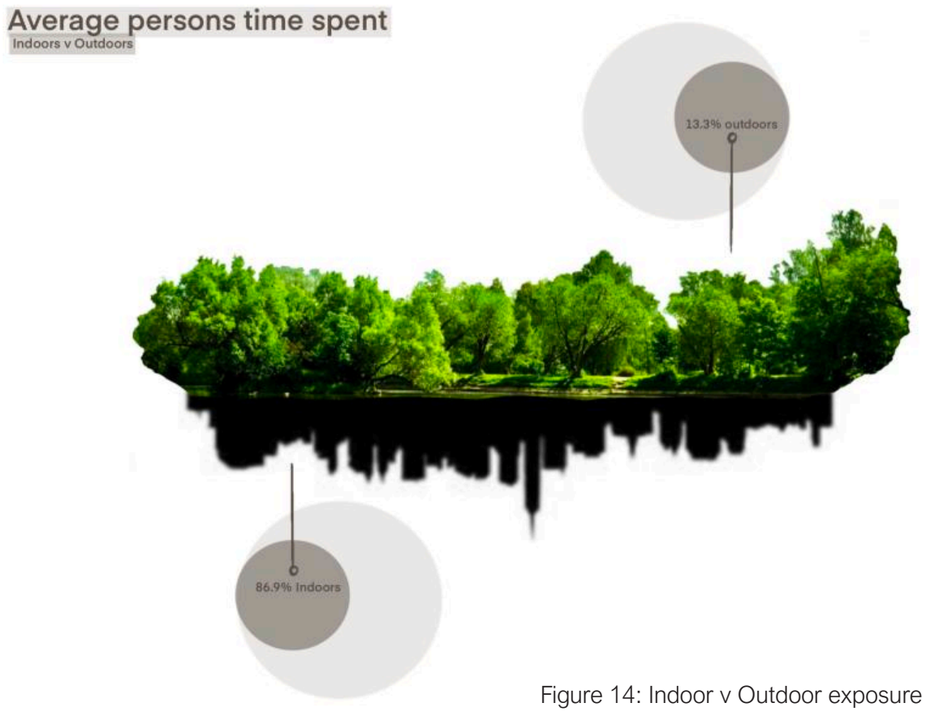


Figure 14: Indoor v Outdoor exposure (Lambourne, 2021).

4.3 Biophilia and Biophilic Design for Rehabilitation

Now more than ever we are starting to see the inclusion of biophilia and biophilic design in more institutions centred around bettering the health and mentality of those suffering with ailments. The benefits of nature and natural environments cannot be overlooked when designing for addiction and rehabilitation, as there is a direct correlation and relationship between the benefits of biophilic design and the results that are needed in order to sustain a healthy recovery from addiction. The improved mental wellbeing is crucially important in maintaining this, as it gives the patients a better outlook and quality of treatment, as well as creating an environment that they feel as though they can establish new connections in, whether that be with other patients or with nature itself.

Partnering this alongside the medical treatment for addiction was central to ensuring a successful scheme. By implementing aspects of nature, something calming and relaxing, into an area that may be worrisome and anxious for some, like medical treatment, there has been an environment created that allows the patients to feel a sense of trust and calm in receiving this treatment. To maintain this strong connection to nature, it has been done through the means of merging the natural and built environments into one fluid concept in a space that achieves both the medical and natural healing aspects of addiction treatment. In turn this has created a soft, comfortable environment that contributes to healing.

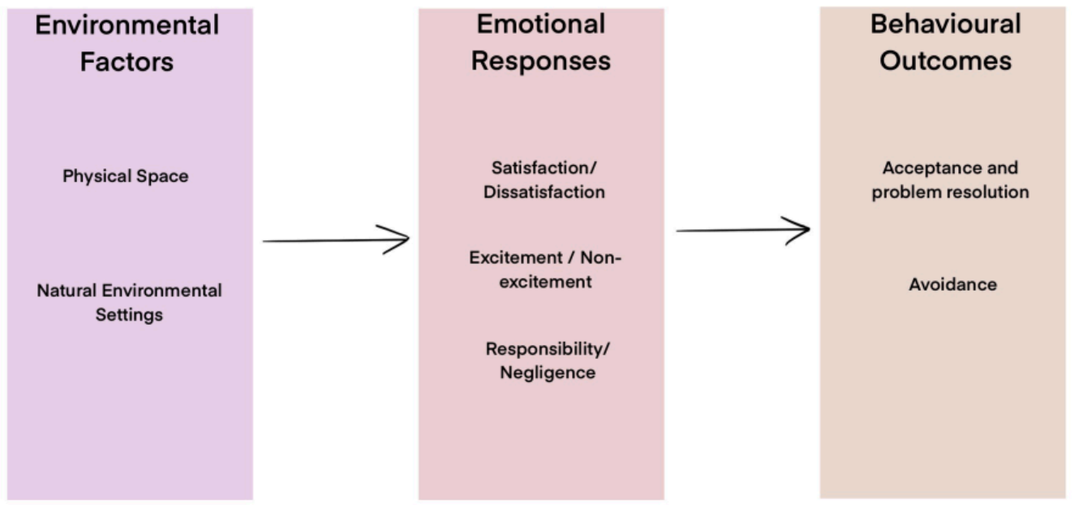


Figure 15: Environmental factors on behaviour (Lambourne, 2021).

5.1 Architecture and Psychology

Typically, when we think of architecture and psychology, we imagine them to be separate entities, however there is a deeper connection between the two than one might have thought. When our brains initially take in an environment or object we are looking at, the mind elicits certain feelings and emotions that tell us how to react or how we feel about that object. These feelings are commonly linked to an experience we may or may not have realised we had established with a certain environment, colour or material. This is the same for architecture, what we see, smell, touch, taste and hear in a space or environment has the same effect in eliciting emotions from us and creating impressions of a building or built environment. When we are exposed to psychological triggers, our genetic makeup affects our perceptions (AQSO, 2020). Our hardwired minds automatically respond based on our unconscious habits and intuitive biases.

Architectural psychology is more than just the feelings a building allows us to experience, it is also the psychology of colours and materials. Certain colours are commonly associated with the feeling they elicit in the majority of people, for example green is associated with a sense of calmness which is why you're more likely to see it around health-based environments such as hospitals and GP practices, though a more extensive analysis of this is available in chapter 9 (9.5).

Psychology contributed a particularly big role in this design proposal due to the nature of the brief and the association between addiction and the mind. The human brain can use up to 60% of its capacity for the intake and storage of images and information, cross reference it with past experiences and memories, and create the same or similar sense of that initial feeling. This is a dangerous prospect that needed to be approached consciously and sensitively to ensure the patients in the space were not reminded of any past trauma or events (Baugher, 2020).

5.2 Psychology and Environment

Environmental psychology is all about the interplay between people and the built environment. For researchers, it is the why and how to understand the impact that spaces can have on us, and how it affects our relationships with these objects (Ackerman, 2020).

Environments can tell us a lot about ourselves, from the spaces we prefer to be in to the spaces we tend to avoid, but environments can also help to guide us into specific directions or guide our psyche into certain emotions or patterns. Winston Churchill once said that "We shape our buildings, and afterwards our buildings shape us", putting forth the notion that our built environments have a direct correlation into how we evolve as individuals. When designing for a rehabilitation centre it was important to ensure that the direction the space provided guided the patient in a direction of hope and positive outcomes, it provides them with a home and comfortability that we naturally seek, with the end result being one of a better quality of life when finished with the programme. To have a space for such vulnerable people that would guide them into a negative pattern with enclosed and dark spaces would have been detrimental to the progression of their wellbeing and may result in remission or relapse upon release.

Our senses are the basis of our psychological perception, but the perception of each sense will vary in strength from person to person. Sensory therapy aims to utilise neural plasticity mechanisms to aid in the recovery of addiction, by replacing the sensation of 'highs' achieved with substances, with different sensations achieved with the use of the other senses in a controlled and monitored environment.

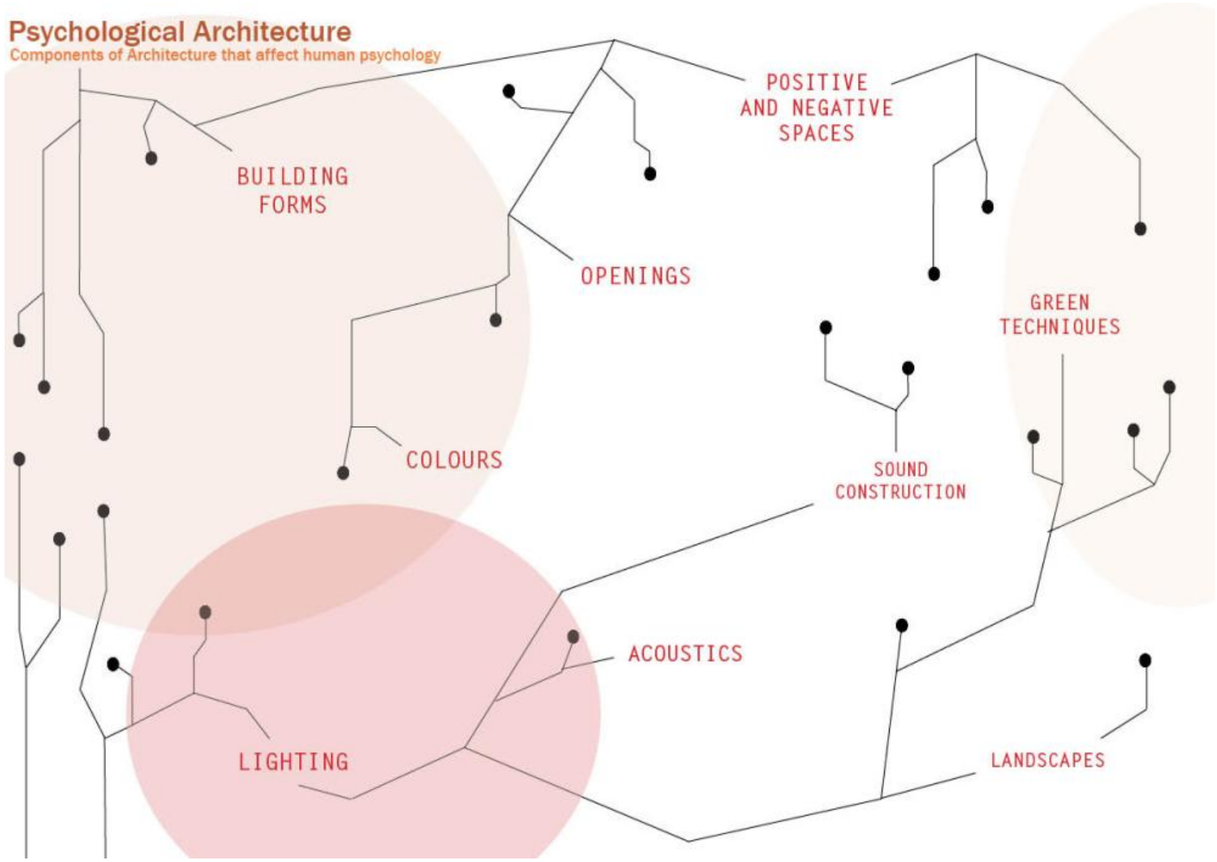


Figure 16: Components of psychological architecture (Lambourne, 2021).

5.3 The medical treatment of addiction

Though this design proposal has a focus on the use of the senses and natural environments for rehabilitation, it was also important to understand that treatments for such a serious ailment are to be dealt with properly, and that cannot be achieved without the assistance of medical treatment alongside it. This can include anything along the lines of:

- **Talking therapies –** a 1-1 discussion with a trained therapist/ psychologist to assess how the patient's thoughts and feelings may be affecting their overall behaviour.

- **Treatment with medicines –** For the dependence of substances the patient may be offered a substitute drug to satisfy the need without the negative effects. For example, if one were dependent on heroin they would be supplied with methadone.

- **Detoxification –** Mainly aimed at those who intend to stop taking opioids entirely to help cope with the withdrawal symptoms.

- **Reducing harm –** Workers from the local drug service (in this case the AlphaBiolabs DNA, Drug and Alcohol Clinic Leeds) will aid in reducing the risks associated with the drugs being taken, and testing may be offered for other risks such as hepatitis or HIV, with subsequent treatment for a positive result.

The integration of physical medical treatment for the users of the facility was an integral part of this design proposal, as it reassures the patients that they will be receiving the best treatments and programmes available to them. It was also important that the facility offer services for other aspects of wellbeing, because although it can be circumstantial, our state of happiness and over all mentality can be caused by genetics or other circumstances, and so there needed to be treatment for these areas as well, such as financial or family help. It was implemented in the space in a way that compliments the two aspects of sensory and medical treatment processes.

Figure 17: Graphic of Site Map (Lambourne, 2021).

6.1 Site and Context

When identifying an appropriate location for a rehabilitation centre in Leeds, it was important that it was within an area of Leeds which targets the main demographic, an area that needs government funding and investment to improve the quality of life for residents. Harehills in LS9 fit this demographic due to drug abuse being one of the largest problems facing the area, after anti-social behaviour, burglary and theft (Wired, 2020). The areas in England with the highest drug related death rates are as follows (see figure 11):

- The North East
- The North West
- Yorkshire and The Humber
- The South West
- West Midlands
- East Midlands
- The South East
- East of England
- London

From this research, the focus of Yorkshire and its correlating cities within the borders was selected due to them having the third highest drug-related death rates in England. This choice is also well justified by the ever-growing rates of substance related deaths within the city of Leeds alone, and its 10-year high streak of rising numbers contributing to those statistics.

More extensive research was then carried out to further narrow down the specific location within Leeds of the site of this project. The medical aspect of this project was placed at the forefront of this research to ensure the desired site would reflect the basis of this design proposal, to ensure a rich history and connection between the site and design could be established. Harehills was chosen as the area of interest due to the many St James's hospital buildings sitting close to the housing areas, consequently highlighting the Thackray Medical Museum. This then led to mapping of the surrounding area to highlight the relationship between medicine and the site, not to mention the various routes to and from the chosen site from the city centre, located not far from the

building. This investigation highlighted 3 important aspects which ultimately lead to the decision of choosing this building,

1) The connection between a medical history and medical basis of the project proposal

2) The proximity to the city centre of Leeds and all the available options for transport to and from the site

3) The close proximity to a residential area located close to the site and the introduction of new jobs for those residents.

6.2 Site demographics

The statistics shown highlight the many issues that the area of Harehills is facing as a community, with the use and distribution of drugs being one of the main contributing factors. This issue can also in turn contribute to the other dominating factors, as the use and continued use of drugs and harmful substances can in turn affect the behaviour of those taking it, consequently adding to the largest issue the area faces, anti-social behaviour. These statistics show there is a dire need for help to those within the area, as not only is it underfunded but the reputation that the area holds in West Yorkshire is slowly depleting the longer it goes without change.

This therefore means that the site is very appropriate as it will not only create jobs for locals, but will also improve the quality of living for those in surrounding areas and those suffering with drug mis-use, which in turn will also hopefully have a knock-on effect in reducing the number of drug-related deaths within Leeds and West Yorkshire.

Figure 18: Cycle (top) and walking (bottom) routes (Lambourne, 2021).

6.3 History

Figure 19: Site Map (Lambourne, 2021).

The Thackray Museum of Medicine had its first foundations laid in 1858 and opened its doors in 1861. The grade II listed building was originally designed as a workhouse which housed up to 784 paupers upon its introduction, later in the 19th century it was largely used as a place for medical care for the poor and less fortunate.

In 1902 the building was bought by Charles Thackray who owned a small family-run business in the centre of Leeds located on Great George street, which is now opposite to the Leeds General Infirmary.

Later in his life Charles Thackray developed his business into a major medical supply firm, supplying drugs and medical instruments across the world, and purchasing the Leeds Union workhouse. Towards the start of the 20th century the site was known as the East Leeds War Hospital and served as a huge contribution in the aid and care of soldiers who had/were serving during the First World War. Moving into the mid-20th century the building was known to the city as the Ashely Wing and was then part of the St James University Hospital (situated adjacent to the building) until the late 1900s when it was no longer considered fit for modern medicine and consequently closed down in 1997 (Creative Tourist, 2018).

After the closure of the hospital wing in 1997 it then became what is now known to the current generation as the Thackray Museum of Medicine. After only a year serving as a museum it won the ‘Museum of The Year Award’, followed by the ‘Excellence in England Small Tourist Attraction of The Year’ and the ‘Sandford Award for Heritage Education’ in 2004.

As it currently stands, the museum still offers viewings to the public and as school trips. It acts as a way of educating on the past medical practices and life in England from the 1800s onwards, some of the displays it offers are:

Leeds 1842: Life in Victorian Leeds - an interactive display where visitors walk through a reproduction of a slum street, complete with authentic sights, sounds and smells. Follow characters and determine their life choices.

Pain, Pus and Blood - describes surgery before the invention of anaesthesia.

Having a Baby - the development of the process of childbirth.

And many more (Thackray Museum of Medicine, 2020).

Moreover, the building initially acted as a union workhouse up until the point of the start of the first world war, to the point where it then became part of the NHS. It now functions as an educational place on the advancement of medicine and life in Leeds. All of these contributions highlight the reasons for this site as the location of this deign proposal, due to the medical background and rich history that the building and surroundings offer, creating a fantastic space and many chances to construct a space of wellbeing and treatment with a comprehensive relationship between user and place.

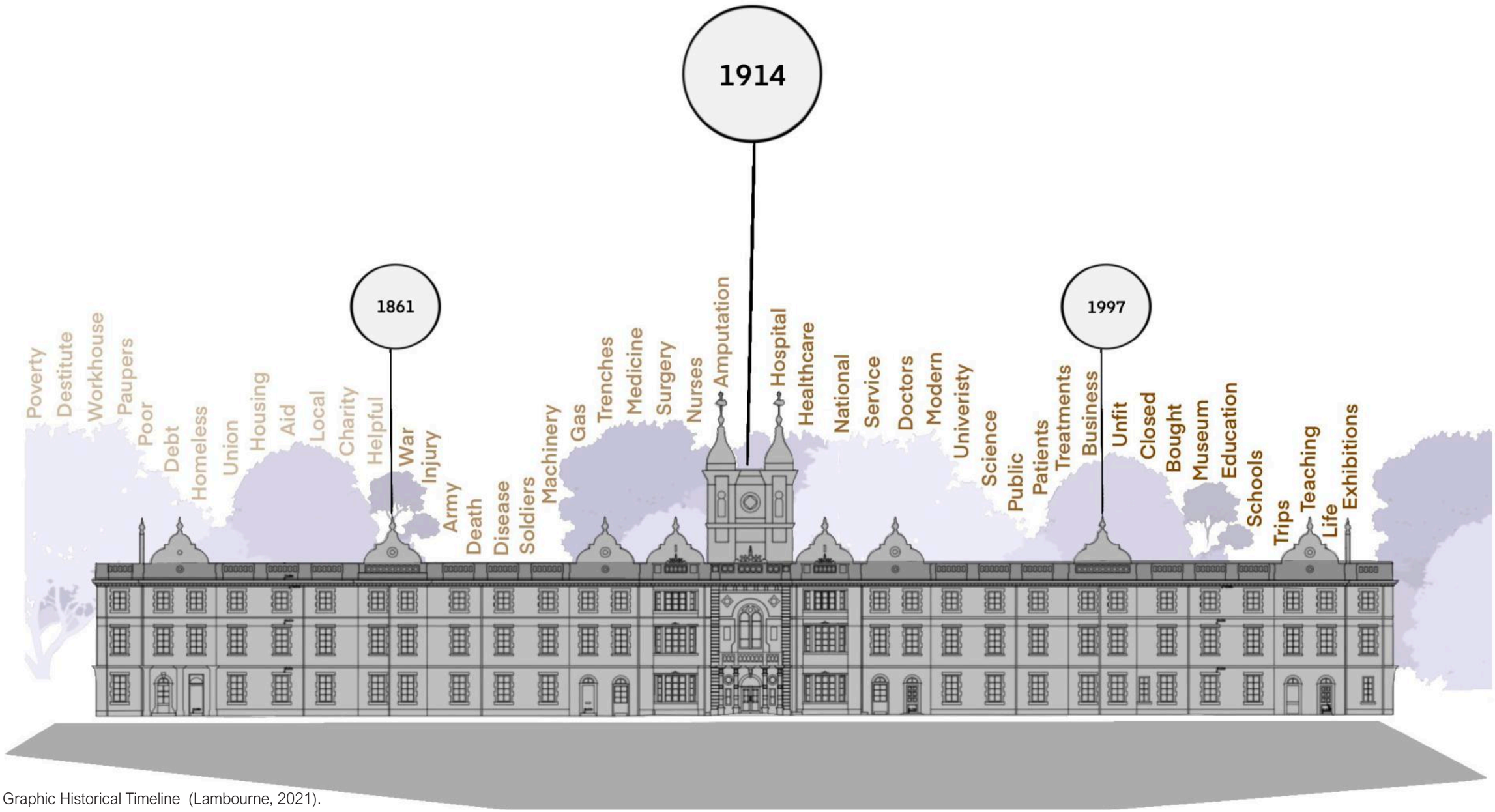


Figure 20: Graphic Historical Timeline (Lambourne, 2021).

6.4 Restoration

As with any building of this age, and with the amount of history that has passed through its doors and hallways, there is wear and tear that shows this. Due to it being Grade II listed, these restorative works have to be undertaken very carefully to ensure there is no damage to either the interior or the exterior facades. Research into the plans and documents for this building has revealed the specific areas of concern that would need tending to before any other major construction could begin to take place.

The Elevation:

The elevation itself is generally in a good condition having already been extensively overhauled and repaired as part of the 1990s alteration works when becoming the museum.

The roof however, is in a worse condition. This has resulted in a number of leaks throughout the the building. The leaks can be associated to a number causes:

- Slipped or damaged slates
- Missing / damaged lead flashings and gutters
- Failing flat felt roofing
- Failing internal chutes
- Leaking rooflights
- Inadequate rainwater goods and gutters
- Lack of maintenance access.

The Roof:

The original lead valley gutter was more recently replaced in the late 1990s with polycarbonate rooflights.

The rooflights that span the building length not only contribute to the ongoing leaks, but are also the cause of exorbitant light and heat build-up within the second floor.

This is most notably a problem within the storage and archive areas.

The Gutters:

As a result of the growing and more consistent and brutal weather changes ocurring, the gutter on the south of the building is struggling to cope. The current cornice with a drainage channel to the outer side of the parapet is also culminating in water ingress. Where needed, this will be re-done in lime mortar.

(Simpson & Brown, 2017)

6.5 Sunpaths

When it comes to mental wellbeing, the amount of light we are exposed to can play a massive part in affecting our moods and behaviours. The more natural light we are exposed to the happier we tend to be. With this design focusing on rehabilitation it was important that every aspect of daily life that affects us was considered. Having said this, the sun path demonstrates how the sun moves around the building site at varying points of the day.

As shown, it is the front façade of the building that receives the most amount of natural light throughout the day, this influenced the decision that the areas where patients will spend the majority of their time should be situated towards the front of the building in order to optimise the amount of light they can receive.

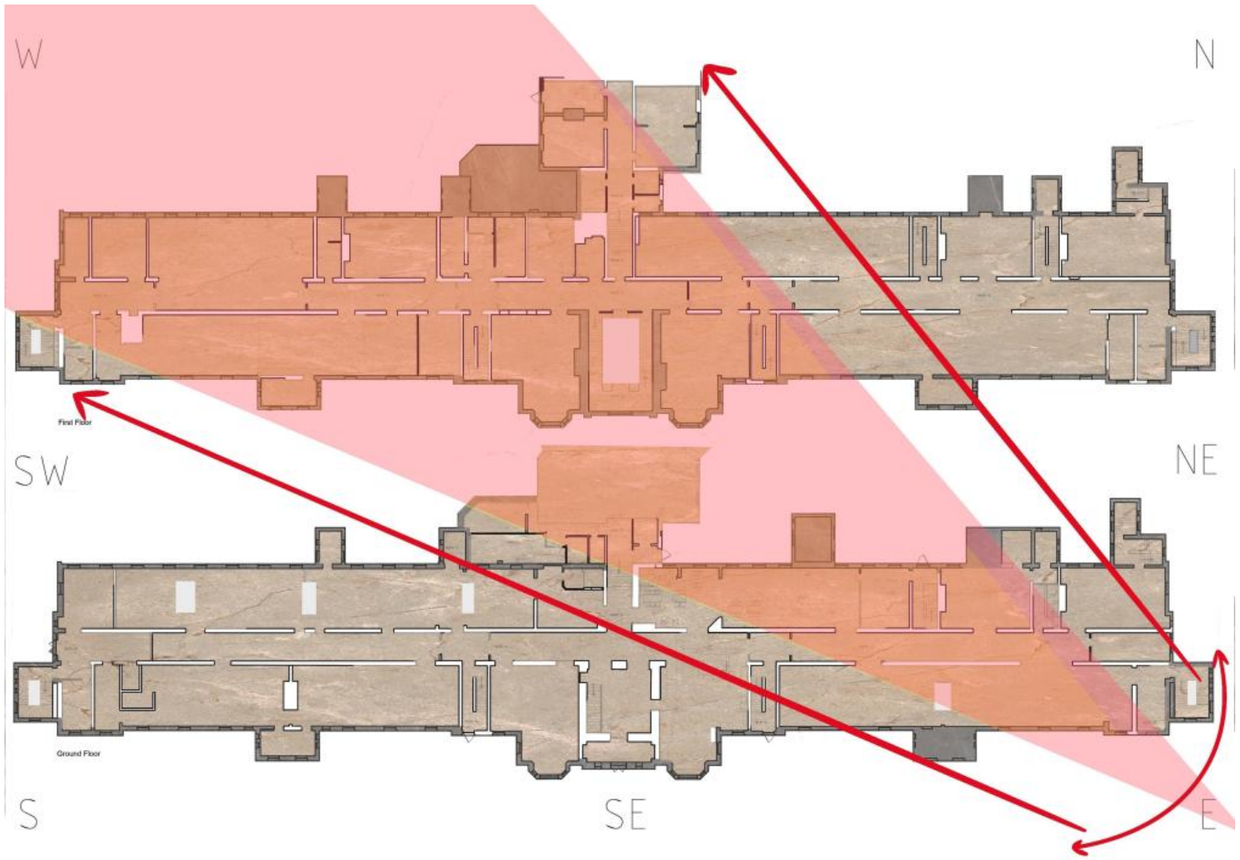


Figure 21: Directional sunlight during the morning (left), evening (top right) and night (bottom right) (Lambourne, 2021).

Figure 22: Client history timeline (Lambourne, 2021)

7.1 The User:

This proposal placed a focus on the influence of environmental psychology and sensory healing, and their ability to help with rehabilitation and mental cognitive redevelopment with an end goal of creating a better quality and outlook of life. Therefore, the predominant users of this space are substance abuse users and addicts. The design is proposed for users suffering at varying levels of treatment, whether it be new users/victims who are seeking help to avoid addiction, or long-term users/victims who are finally ready to take a step in the right direction to a better life.

Substance abuse victims are the dominating users of the space due to the sky-high statistics and drug related deaths in Leeds and neighbouring areas within Yorkshire. However, just because drug use is one of the main issues facing the community, that does not mean that it is the only one. Since the start of lockdown in March 2020, as a result of the Coronavirus pandemic, domestic abuse cases in Leeds alone have risen, with calls to the National Abuse Hotline rising by 65% in the month of April (Mohan, 2020). Therefore, this space will also need to accommodate those suffering in these circumstances. The design proposition caters to an array of sub-sections within the scheme, from communal rooms, to canteens, to private consultation rooms and individual sensory rooms.

Within the space will also be a different kind of user, the staff members. To allow for the integration of staff in the design there are areas that adhere to their 'needs' and 'wants'. It allows for chefs to have space to cook, for carers to have to space to relax, for doctors to have private consultations with patients, and for therapists and specialists to have face to face meetings. It was imperative that these spaces were easily accessible for both carers and patients, as drug misuse is also a growing problem amongst those with disabilities, both mental and physical. Some people living with disabilities may turn to drugs as a coping mechanism for several ailments, to cope with loneliness, exclusion or chronic pain (Drugs and Diversity: Disabled People, 2010).

Amongst other users are the family and friends of the patients who may choose to visit to offer support or to monitor their progression. And so, it was important to ensure there is a space for them to congregate that is safe for the patient but is still sociable and family friendly.

7.2 The Client:

The client for the design proposal is AlphaBiolabs DNA, Drugs and Alcohol Clinic. AlphaBiolabs first established its name in 2004 and has consistently led the industry in innovation within the drugs and alcohol testing industry. This was chosen as the desired client since they are the local drug clinic situated within the city of Leeds. They have an aim to provide the best support systems they can for those struggling with drug and alcohol addiction and are therefore the perfect fit for this design proposal. In 2004 they launched their first Walk in Centres in Liverpool and London; however, they are now reaching 11 centres nationwide. This business clearly saw the need for such support in this West Yorkshire city as they first opened their Leeds Walk in Centre in 2016. This proposal will be a new branch of the organisation that centres more around the rehabilitation of addiction rather than the testing aspect.

8.1 The Design Proposal:

The proposal of this design project was to create a rehabilitation centre dedicated to those suffering from addiction and substance abuse who want to become clean and are seeking help within the city of Leeds, West Yorkshire. The aim was to design this in a way which blends the methods of medical treatment with the adoption and focus of implementing the use of the senses and sensory therapy within a natural environment. It revolved around the concept of each of the five senses, looking at how they intertwine with one another in a way that contributes and creates a specifically designed atmosphere within a built environment, and how they could be presented through natural elements. Below are statistics which demonstrate the importance of each of the senses that I have determined to be the most significant in ensuring this proposal was successful:

Touch – 45%

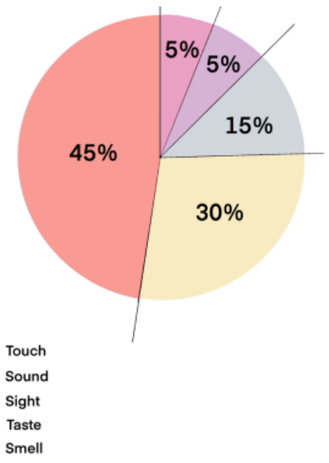
Sound – 30%

Sight – 15%

Taste – 5%

Smell – 5%

(See figure 23)



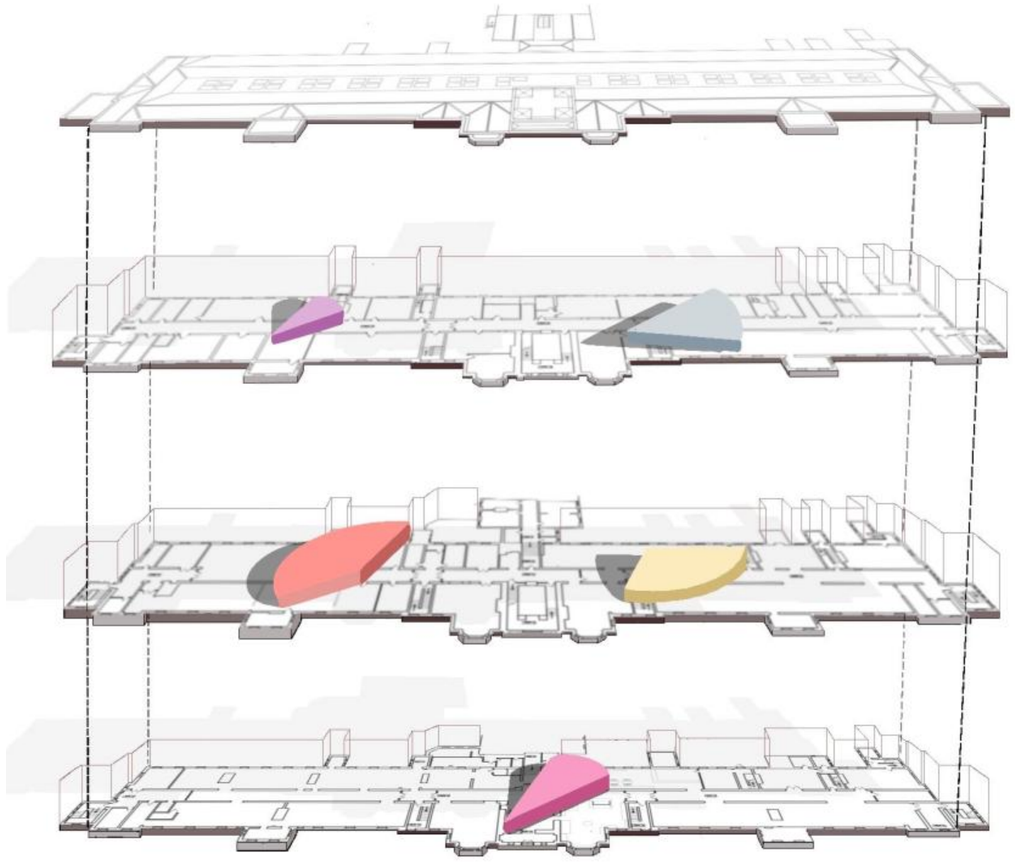


Figure 23: Axonometric with sensory placement (Lambourne, 2021)

The most effective form of treatment for the addiction of harmful substances is medical treatment, which is why it was critical that this aspect and the spaces which accommodated it were implemented into the design. However, medical treatment simply is not enough to ensure these patients do not fall into remission. Sobriety is a state of mind not a medical prescription, which is why it was equally important to ensure the sensory and natural themes of the proposal were done in a way that provided long term change on mental wellbeing and contributed to the patients desire for the continuation of treatment.

Therefore, the idea was to take these varying approaches to addiction treatment and to create a space which allows for the convolution of all aspects and sub-themes which make them so successful. The space opens an opportunity for them all to work in harmony and allows the patient to create a sense of connection and ‘place’ between them as the individual and the built environment, in a way that promotes healthy living, a better quality of life, and the hope to keep pursuing the end goal of sobriety.

It is important that the design accommodated those besides the users, as the family and friends of those using the facility are just as invested in the treatment that their loved ones are receiving, and it had to reassure them that the facility is offering the best treatment they can receive in a space that is designed to the best quality it can be.

8.2 Conclusion:

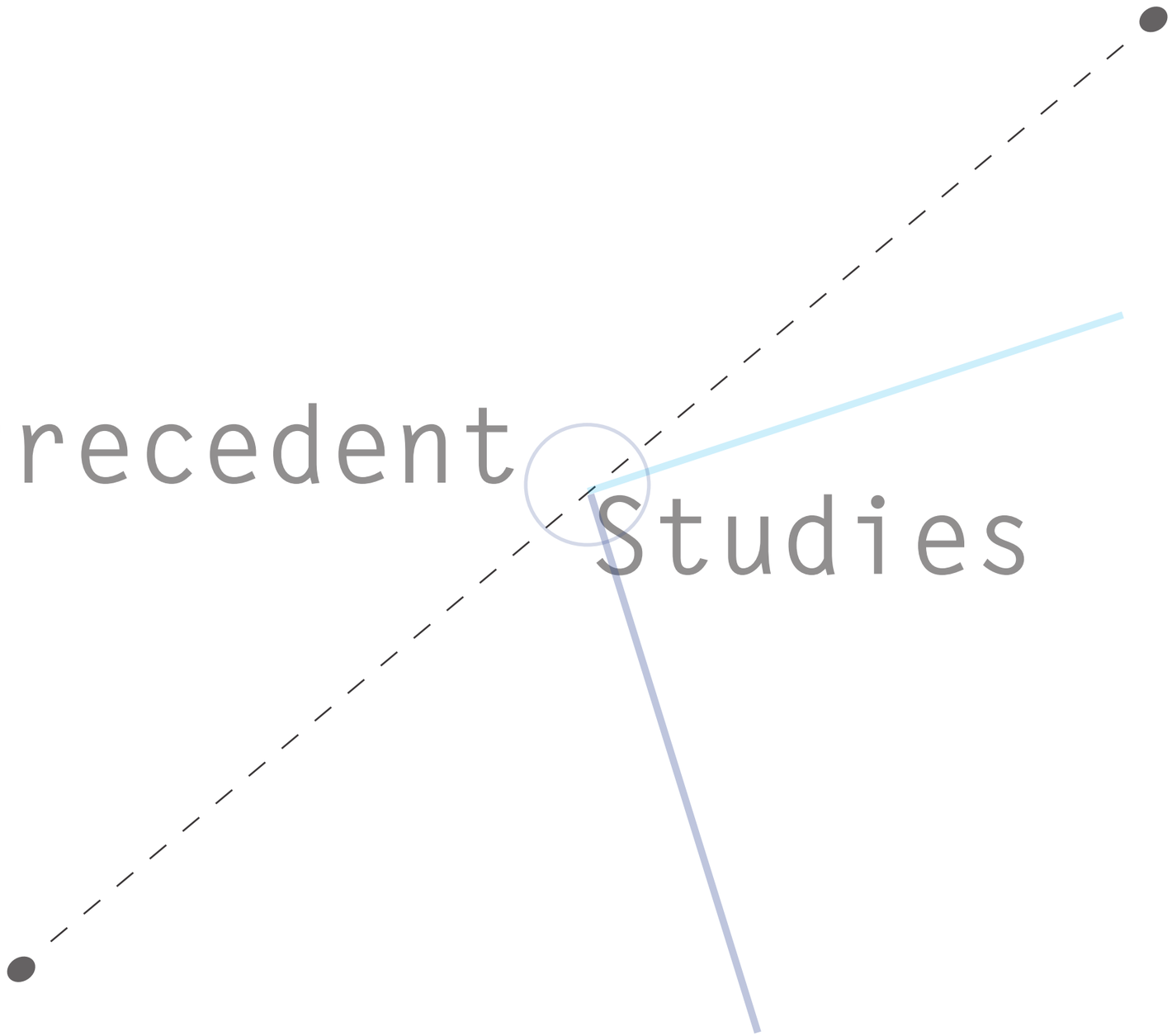
In this project design proposal it was clear that the implementation of the senses and natural environments into architecture has a direct affect on our psyche and how we perceive and let our built environments affect us, and consequently how this can cause a direct affect on the process of rehabilitation for the treatment of drug addiction. Safe spaces for such vulnerable people dealing with this addiction is so important in ensuring a thorough progression into sobriety without the possible return into remission or relapse, as they allow the patient the opportunity to feel as though they are deserving of a better quality of life.

The literature reviews highlighted key concepts both in architecture and psychology in regards on how to design a space for mental and physical wellbeing, and the subthemes within them that all contribute into completing the final concept comprehensively and effectively. The importance of incorporating the use of the senses was also a key theme throughout the literature reviews, providing an aberration from the mental battles they will be facing each day within the facility.

Furthermore, when researching into the importance of the sensory and natural environments, alongside designing for wellbeing, it was identified that ensuring the space does not serve any triggering or potentially harmful cues to the users of the space is important in ensuring patients desire to stay and continue, as the facility will provide a different world, one more helpful and hopeful that doesn't remind them or encourage them to revisit the past. It was also put across that the consideration of materials and colours also plays a large part in effective wellbeing design, as certain colours and materials elicit more positive and effective methods of rehabilitation. Moreover, creating the sense of 'homeliness' and an environment that feels familiar to them is needed to create a deeper interplay between person and place. All this research was considered thoroughly moving forward with this design in order to create a well thought out and informed space.

The research offered has also included that of looking at the importance of establishing a relationship between person and place, concepts of which were implemented into this design process to ensure a deeper connection between the user and the environment, in turn correlating a direct link with a more progressive and effective space and treatment. To progress this research further, the direct affect of sensory architecture in relation to drug addiction was investigated more extensively. It was critical that the creation of this space with the implementation of the senses and natural environments did not take precedence over the most important aspect of the design, rehabilitation. It was a risk that the main aim of this project could get lost under the attempt to implement too many sensory cues in the space, in turn reducing the effectiveness of the treatment.

Precedent Studies



Architect: Laurent Troost

Location: Manaus, Brazil

Year: 2020

9.1 The Cassina Innovation House

Intro:

Laurent Troost Architectures, a Belgian architecture firm, undertook a project in 2020 within a 125-year-old brick building in Manaus, Brazil. The building originally stood as the Cassina Innovation House and is now part of the project entailing the adaptive reuse of this dilapidated and historic structure that stands in the capital of the state of the Amazonas (McKnight, 2021). The architecture firm created workspaces that look upon a miniature jungle situated within the walls of the house. This precedent is therefore beneficial to study for my project, as this particular project looks at creating an intervention within a space that requires preservation for both its history and its original structure.

This building which is now serving as a co-working venue, originally began its journey in the late 1890s as the luxurious Hotel Cassina and was chosen for this project by a public vote.

Figure 24: (Dezeen, 2021)

Analysis:

After the building closed in the 1960s, it became overgrown with vegetation, resulting in a striking visual that the architects wanted to credit and keep in the design. Troost has said that the designers on the team have long been interested in ruins, they cited figures such as Robert Smithson, Piranesi and Gordon Matta-Clark (McKnight, 2021).

“the beauty of the ruins imperfection raises interest and questions, and invites reflection on the past and the action of time and man in the city – and on heritage buildings in general”, Laurent Troost.

Opting to preserve the exterior brick work of the building and the original remaining stone foundation walls, they reconstructed the interior of the space by introducing a system of prefabricated steel, as well as adding a glazed volume on the roof. Working around the importance of natural light alongside preservation of the building, they took care to conserve original elements, and put in new shading devices on the eastern elevation to help alleviate the heat gain that the building receives. Being hit by the sun rising on a morning, contemporary frames filled with tempered glass fins create a ventilated façade replicating a double – skin façade that withstands the heat and keeps it out.

A tropical garden has been planted within the space just inside of the front door entrance, creating its very own microclimate, the space houses a walkway that goes over the garden.

The introduction of this was to act as a reminder for the reason Manaus is where it is today, because of the Amazon Rainforest. To allow full view for the interior garden, there are open rooms connected by adjoining stairs that allow full view through glazed walls. The visibility of nature from a workspace that is often busy and stressful, is a lovely contrast of the calm and serene feelings someone receives when exposed to nature. To have these accessible throughout the workday introduces a new atmosphere into a commonly unpleasant environment.

The use of natural materials is run throughout the building. The rooftop area that houses a restaurant with panoramic views of Rio Negro is adorned with a large overhanging roof that is clad in ipe wood, more typically known as Brazilian Walnut. This use of locally sourced materials is reflected in the design concept also.

This tropical area, associated with transparencies, glass and reflection, creates a fusion between the future of the new Cassina Houses technological direction, and the history of the building's ruins. In order to preserve sustainability throughout the building, there are large eaves that in place that assure a comfortable environment paired with a well-ventilated climate.

Figure 25: Plans to highlight relationship between existing vegetation and intervention (ArchDaily, 2020)

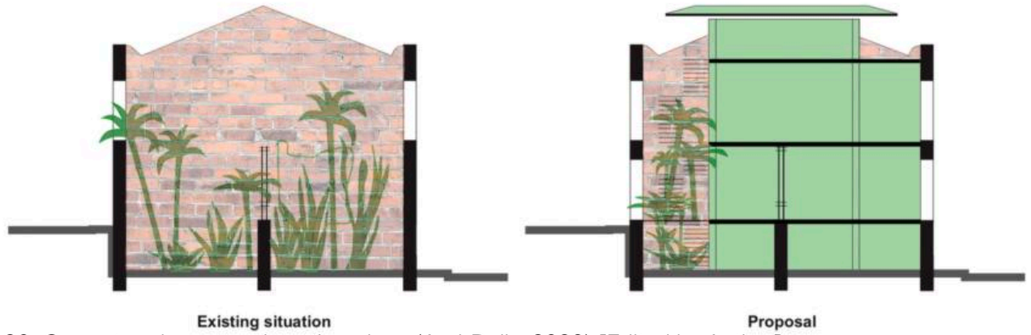


Figure 26: Current and proposed section plans (ArchDaily, 2020) [Edited by Author]

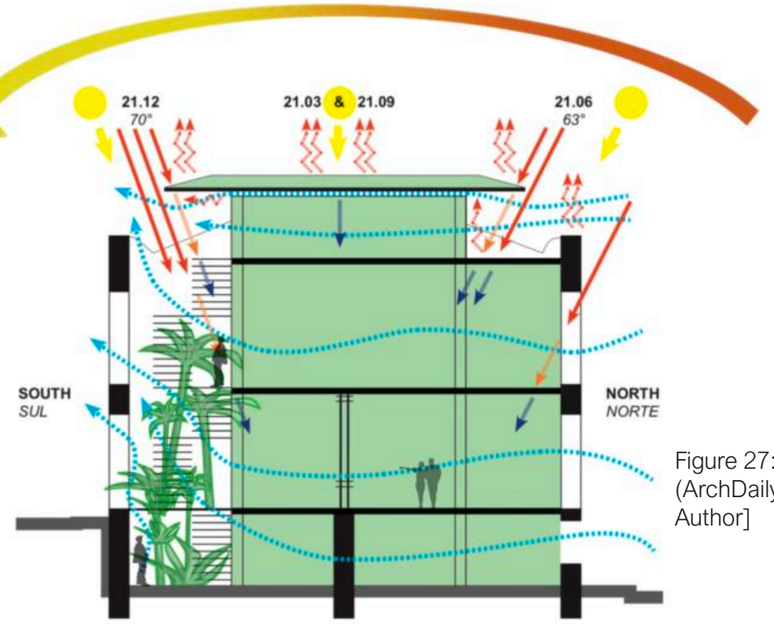


Figure 27: Ventilation (ArchDaily, 2020) [Edited by Author]

Application:

- **Materiality**
- **Historical**
- **Colour Palette**
- **Spatial Configuration**
- **Biophilic Design**
- **Healthcare**
- **Locally Sourced**

Architect: Setter Architects

Location: Haifa, Israel

Year: 2017

9.2 GE Healthcare

Intro:

Setter Architects, established in 1984 by Michael Michi Setter, is considered one of the leading interior design firms in Israel. They base their designs and specialisations on “inspiring, creative and productive design with an emphasis on integrating international style”, (Setter Architects, 2021). The firm’s expertise at combining creative design with the needs and wants of the clients has resulted in creating projects that “lend prestige to the client’s business or organisation”, (Setter Architects, 2021).

The Project:

“seeing through the layers”.

The client of this precedent, GE Healthcare, engage in development and research of medical imaging via CT/MRI. Setter Architects first launched their design process by evaluating what the company does and discusses how they could reflect that architecturally. They state that their overall aspiration for this project was to “celebrate GE Healthcare’s uniqueness and to identify the point where architectonic design could encounter and merge with elements of medical imaging”, (Gonzalez, 2017). Much like a medical intervention, their design process started with an exploration into the deep layers of medicine. This precedent therefore links to the proposal of this project due to the use of partition walls and nature that flow throughout the space, all of which have influenced the direction of this design proposal.

Figure 28: (ArchDaily, 2017)

Analysis:

When creating a space for healthcare it is important to find the balance between public and private. To achieve this, Setters Architects introduced partitions amongst the workstations to separate them from the shared spaces. The use of distorted wooden slats that mimic the movement of waves, allows the eyes to still see inwards yet still retains a degree of privacy. The decision to construct these out of wood as opposed to differing materials like metal or copper, withholds the homage and nod to the benefits of nature and natural elements, while emitting a soft roundedness to the space.

Inspired by the body's inner organs, Setter Architects wanted to create an illusion with the wood partition. To do this they explored with the use of changing elements of wood to construct a '3D picture', with benches emerging from the partition as though they are 'growing' from it. (Gonzalez, 2017). By moulding the wood panels in such a rhythm, they have successfully achieved the intention of revealing workspaces as if exploring the body's inner organs, while still upholding a degree of privacy.

Creating a space for healthcare and wellbeing means that every fraction of the space must be thoroughly considered. While some overlook the importance of entrances and lobby design, their significance and impact cannot be neglected. Manu Malhotra says that "They are the starting point of the healthcare experience. First impressions are often lasting impressions." (Malhotra, 2016). Setter Architects understood this influence. Cleverly utilising the trick of illusion once more, they direct the sight of the viewer towards the canteen by moving their eye along a wall of green foliage that stands out against the dark furniture accents. The wall remains visible through the metal lattices that sit either side of the entrance stairs. By including a wall of foliage behind metal lattices, it immediately opens the space for visitors, and displays a clever and cohesive relationship between nature and medicine through the use of the materials and colour palette. "We used natural materials and a palette of soft colours to showcase the rich textures." (Setter Architects, 2021).

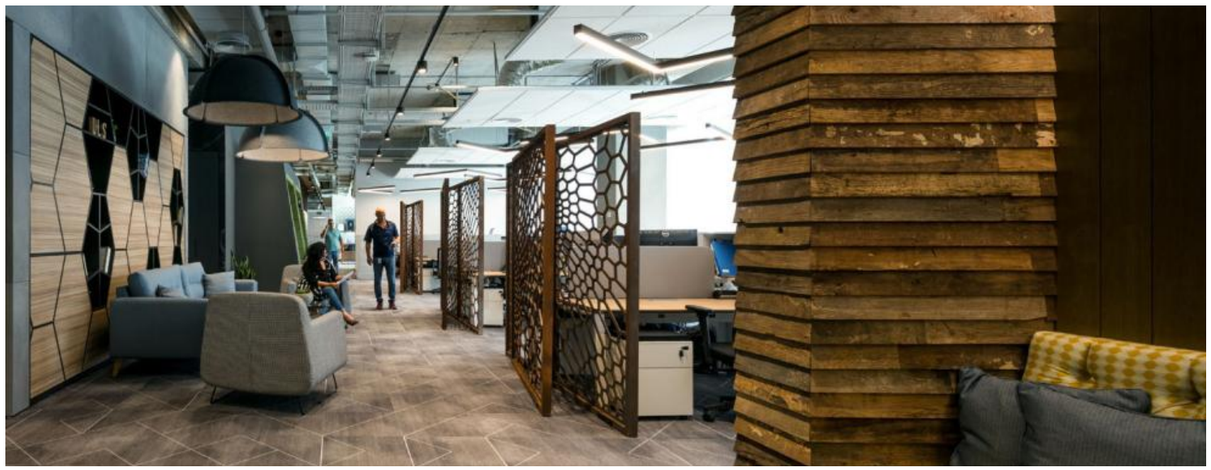


Figure 29: Office spaces with metallic perforated screen dividers (ArchDaily, 2017)

Figure 30: Floorplans (ArchDaily, 2017)

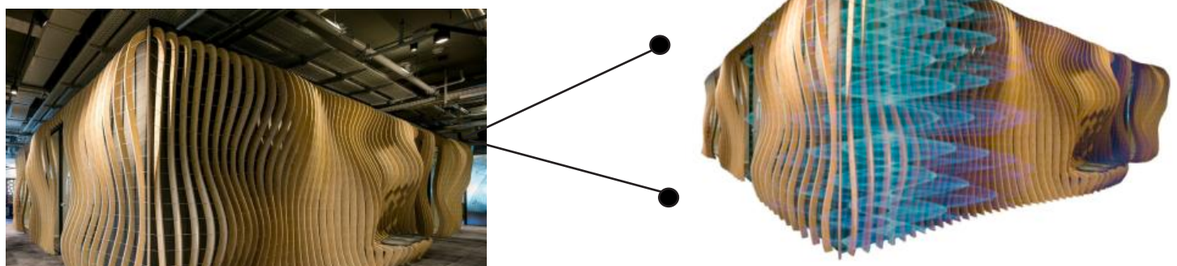
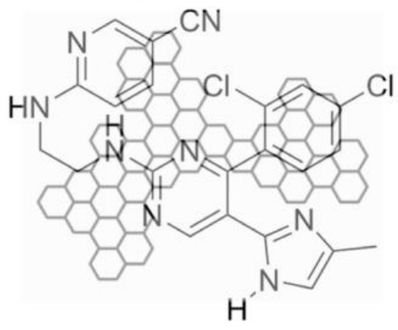


Figure 31: Wood partition inspired by brain waves (ArchDaily, 2017) [Edited by Author]

Figure 32: Glass walls inspired by hexagonal chemical structure and brain connectivity (ArchDaily, 2017) [Edited by Author]

Application:

- **Materiality**
- **Historical**
- **Colour Palette**
- **Spatial Configuration**
- **Biophilic Design**
- **Healthcare**
- **Locally Sourced**



Architect: Denys Lasdun

Location: Paddington, UK

Year: 1951

9.3 Hallfield Primary School

Intro:

Sir Denys Lasdun, one of the leading architects through the 1960s, constructed the Hallfield Primary School in 1951 before falling into the architectural spotlight almost a decade later. The concept for this design was built around the image of movement and growth for those who move within its space. This concept was constructed to present the importance of these aspects in the education of children, (Kozlovsky, 2010:133). The idea of growth has been appropriated from the anatomy and concept of plants, whilst its structures and forms present a spectacle that shows the process of life. This precedent therefore has relevance to my project, as the concept of growth can be applied to the topic of rehabilitation and can be applied through the forms and curves that are installed within the interior of this building. This building was also chosen due to its similarities with creating an experience in its space, highlighting the importance of sensuous environments and creating a space that is representative of nature, and of one that presents opportunities for personal growth. Though this places a focus on the education of children, it is still a strong precedent that will prove beneficial for my project due to it also being a grade II listed building.

Figure 33: (Kozlovsky, 2010)

Analysis:

The design centralises more on ‘rhythmic’ qualities that have been created and showcased by way of contrasting colours and sporadic corridors, effectively creating a sensuous vibrating experience for those who surpass through the environment. To allow for maximum utilisation of sunlight, the walls have been structured by the use of numerous full-length windows, which also presents the opportunity to manipulate the natural light. “This play and movement of light and shade brings life to our interiors” (Kozlovsky, 2010: 707). As discussed in previous chapters, the importance of natural light and the effect it has on our mental wellbeing cannot be overlooked, especially in a project that provides concepts centralised around education and healthcare.

Inspired from a maze-like circulation layout, the school was purposefully designed in this way to represent a metaphor about “education as a process of self-transformation and discovery” (Kozlovsky, 2010: 133), and is reminiscent of a non-linear perception of growth. The same metaphor can be applied to the concept of rehabilitation through natural environments and sensory aspects, by creating an environment that supports ‘self-transformation’ and self-discovery amongst those battling addiction, it presents them with the opportunity to learn and develop a better quality of life and a better mentality to fight those battles for the long term.

Taking inspiration from the plant concept, this building layout has been organised and arranged by connecting the building blocks through the courtyards and outdoor spaces, to the main structure of the school. Within the floorplans, it is visible to see that Lasdun has created a flow between classrooms that helps to escape the creation of a common institutional atmosphere and environment. Two alternating routes allow for access to the classrooms that avoid the long corridors, and also avoid the accidental creation of an oppressive design that many schools and institutional buildings adhered to in the 1950s. (Kozlovsky, 2010: 134).

Figure 34: Curved hallways that are carried throughout the scheme (RIBA, 1995)

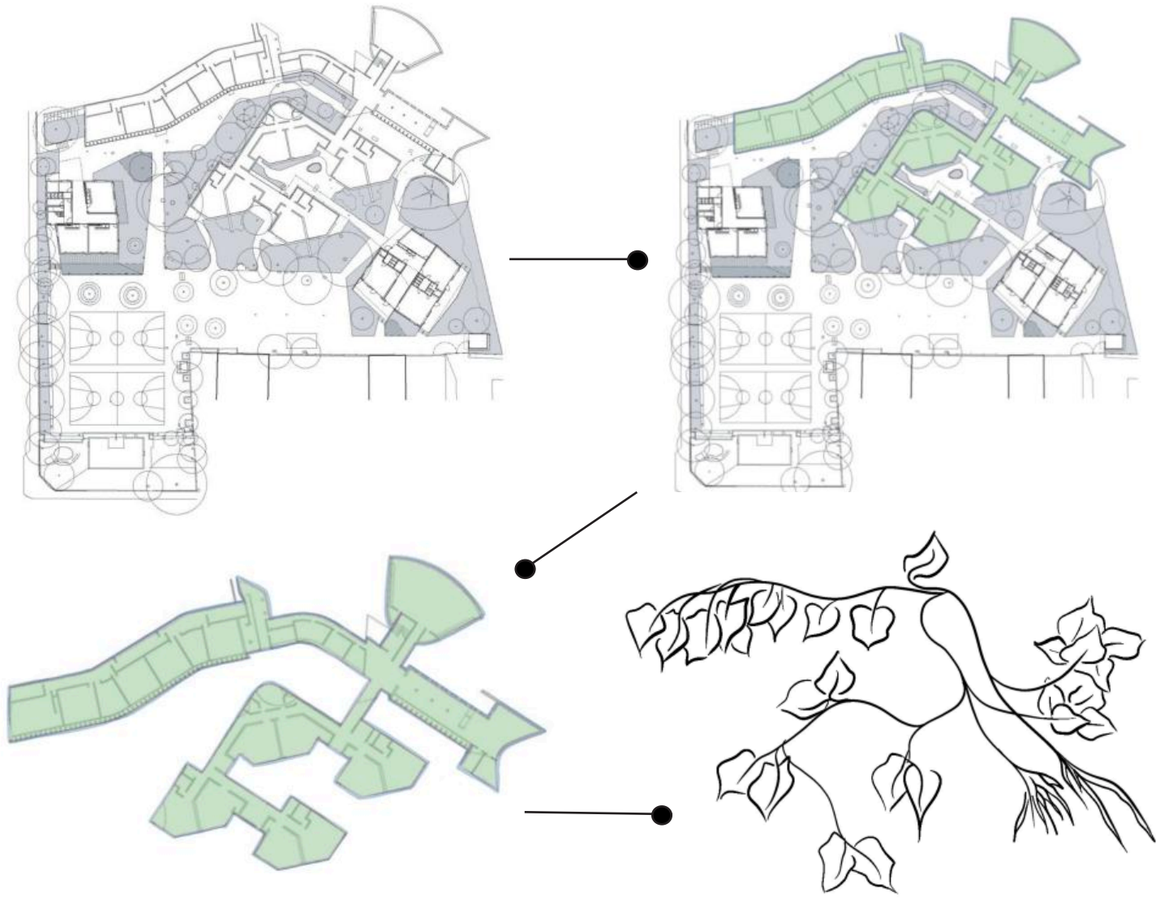


Figure 35: Layout of building in relation to the inspiration of the anatomy of a plant, inspired by RIBA Library Photographs (Lambourne, 2021)

Application:

- **Materiality**
- **Historical**
- **Colour Palette**
- **Spatial Configuration**
- **Biophilic Design**
- **Healthcare**
- **Locally Sourced**

Figure 36: Curved hallways that mirror other areas of the building (Hawgood, 2015)

9.4 Maggie's Centre Leeds

Architect: Heatherwick Studio

Location: Leeds, UK

Year: 2020

Intro:

Heatherwick Studios have designed a Maggie's Centre: a thoughtfully designed space predominantly for cancer patients. Maggie's Centres are public spaces and free for public use. They provide cancer patients with social and emotional support before, during and after treatment (Dezeen, 2017). Multiple designs of various Maggie's Centres are spotted around the entirety of the UK, now reaching a total of 26 venues open for use (Block, 2021). This precedent therefore ties in with this project as the design for this centre intends to enhance the wellbeing of its users, and intertwines the use of biophilic design, much like the aim of this project.

Analysis:

The Heatherwick Studios Maggie's Centre sits within the St James's University Hospital grounds, which also happens to sit adjacent to the Thackray Medical Museum, the site of this project. The centre has been built within the university hospital grounds in order to keep proximity to where the patients may be receiving treatment. The location of the centre allows for those at the hospital to take a much shorter journey between the two buildings and encourages them to seek the social and emotional support they may need due to it being in a much more convenient position.

Heatherwick Studios have therefore drawn on the philosophy and beliefs that Maggie's upholds: the belief that "great design can help people feel better" (ArchDaily, 2020). Maggie's Leeds uses several healthy materials alongside energy-saving techniques to create a sustainable and biophilic design.

The project group intended to create an environment unlike any other clinical building that is often dark and dreary by comparison. It only makes sense that a building being used as a symbol of health and wellbeing is represented through the very materials it uses, "our aim was to build a home for people affected by cancer that would be soulful and welcoming, unlike other typical clinical environments" (Block, 2021).

Figure 37: (Dezeen, 2017)

The buildings' main structure is constructed from a prefabricated spruce timber system which has been sustainably sourced also. The inclusion of permeable materials in the design, such as lime plaster, help to maintain the in-house humidity as a result of the naturally ventilated building. This has been achieved through thorough inspection and consideration of the form and orientation of the building (ArchDaily, 2020).

This building is used as a way of exploring and experimenting with everything that is commonly overlooked in healing environments. Elements such as natural and tactile materials, soft lighting and spaces designed with social interaction and quiet contemplation and reflection in mind. Therefore, when approaching the design proposal, these often-missed aspects of wellbeing and mental health development could be included in a way that too reflects the healing aspects of nature and natural environments. Thomas Heatherwick, the founder of Heatherwick Studios says that "by only using natural, sustainable materials and immersing the building in thousands of plants, there was a chance for us to make an extraordinary environment capable of inspiring visitors with hope and perseverance during their difficult health journey" (Block, 2021).

With biophilic design being at the heart of Maggie's Centres designs due to the overwhelming benefitting attributes of nature and plants, Heatherwick studios have adorned the entirety of the building with greenery and foliage inspired by the Yorkshire woodlands. This pays homage to the locality of the centre and the city it resides in, whilst also attributing the award-winning Yorkshire Dales, voted the best national park in Europe (TripAdvisor, 2021), with vegetation choices being influenced by the Dales. The building itself currently houses 23,000 bulbs and 17,000 plants, of which visitors are encouraged to participate in the care for. Not only has the biophilic design influenced the direction of this project, but it has also inspired the use of foliage and vegetation that is representative of the county the site locates in. This use of familiarity and resemblance of the area through this design direction insights a sense of home and belonging to the patients inhabiting the space, making them seem more at ease as opposed to a surrounding that feels more foreign and out of place. The inclusion of a garden within the project in which the patients could walk through and tend to their own allotments was also heavily influenced by this precedent.

In keeping with a naturalistic theme for this site, Heatherwick studio created three 'mushroom-shaped volumes' that house counselling rooms within their pod-like centres. (Block, 2021).

A sense of home is created through the windowsills and shelves built into the walls intended for visitors to decorate and display with their own objects to leave a little bit of themselves within the space.

Figure 38: Floorplans showing integration of plants (Dezeen, 2017) [Edited by Author]

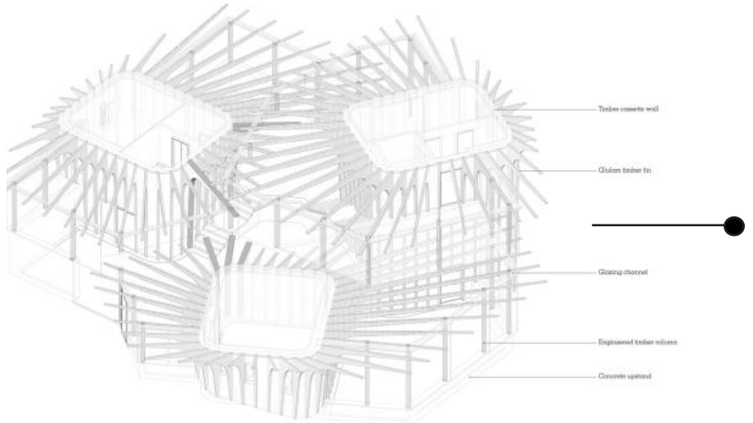


Figure 39: Spruce wood timber structure (ArchDaily, 2020)

Application:

- **Materiality**
- **Historical**
- **Colour Palette**
- **Spatial Configuration**
- **Biophilic Design**
- **Healthcare**
- **Locally Sourced**

Architect: Sharon Davis

Location: Rwinkwavu, Rwanda

Year: 2015

9.5 Rwandan Housing for Nurses

Intro:

Sharon Davis' designs, based in New York, exists to produce and design remarkable buildings that transform communities. Working with non-profit organisations they aim to represent a new model of design, one where innovation is measured in both aesthetic accomplishment and social benefit. Their work is known for creating harmonisation between both natural and built environments. Sharon Davis Design encapsulates the ideal of "positively changing the way people live, both globally and locally, through multidisciplinary rigor and with compassion for the earth and mankind", (Davis, 2018).

The Project:

This project consists of a new housing complex designed for nurses and doctors within a village situated in rural Rwanda – Rwinkwavu. The space itself was built by residents, incorporating regional materials, (Brake, 2015). Placed next to a 110-bed hospital, this project was intended to create a community space for all involved in working at the facility. Conclusively, this structure was built with the improvement of healthcare standards in mind. Davis states that this project is "more than a dormitory for nurses and doctors […] staff not only live closer to the hospital – but quality housing near the hospital will boost morale, enhance connections between staff and community and will, we hope, create a village within this village" (Brake, 2015).

This precedent therefore links with the proposed project due to aims and intentions, alongside material choices, that reflect that of the proposal. With both intentions being to create and improve general healthcare and wellbeing, alongside incorporating materials local to the site and manipulating the use of natural light, the two projects remain similar in convention.

Figure 40: (Dezeen, 2015)

When designing this space, the architects chose to connect the rooms by introducing covered outdoor hallways. By leaving the hallways essentially untouched and uncovered, they have left space for natural light and ventilation to occur and flow throughout. With the site of this project being in a warm climate it is important to include ‘cool’ spaces that offer shade, but which still offer some protection. To do this they implemented screens constructed from Eucalyptus wood attached to metal frames that wrap around the walls of the complex. Not only have they also withheld traditional building techniques, but by using Eucalyptus wood they have also created a stunning walkway that manipulates the natural light that falls on the building, to cast unique patterns onto the interior. These can also be seen in this design proposal within hallways and rooms to cast unique light patterns and offer an element of privacy to the users.

Due to the building being almost entirely wrapped in Eucalyptus wood, it still manipulates the light being directed to it, whether it be natural light or artificial. The natural light creates an array of unique patterns that streams into the interior of the space. Whereas, when the day draws to close and the natural light is replaced with artificial, there is a new warm, enticing glow that emits from the inside out.

This entire project was built with the site and locality at its heart. From utilising the natural sunlight that it is exposed to, to local Eucalyptus wood to create light casting hallways. Everything about this space represents the culture and nature of Rwanda and includes special little details that would otherwise go unnoticed to others but retain meaning to the community. For example, not only were all materials sourced within Rwanda, but stones were also locally quarried, and bricks were handmade by a local women’s collaborative nearby. Almost all the labour and construction were contributed by workers from neighbouring villages, (Brake, 2015).

Figure 41: (Dezeen, 2015)

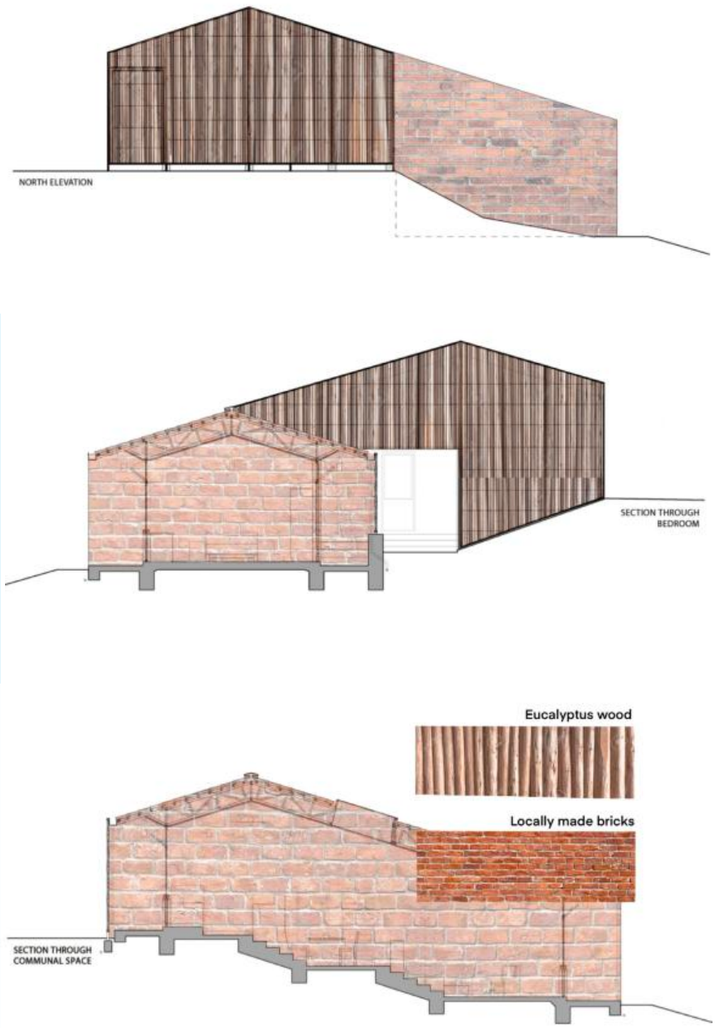


Figure 42: Elevations showing brick and eucalyptus materials (Dezeen, 2015) [Edited by Author]

Application:

- **Materiality**
- **Historical**
- **Colour Palette**
- **Spatial Configuration**
- **Biophilic Design**
- **Healthcare**
- **Locally Sourced**

Architect: Steimle Architekten

Location: Kressbronn, Germany

Year: 2018

9.6 The Kressbronn Library

Intro:

Steimle Architekten, an architecture firm working out of Stuttgart in Germany, has converted a former barn into a library and community centre. The town of Kressbronn lies on Lake Constance and now houses the new addition of the library.

The former agricultural building sits noticeably in the centre of Kressbronn, close to the village's town and festival hall. The directional initial ideas for this reuse of the former barn were to recognise the architectural heritage of the site and treat it with consideration, (Steimle, 2021). Preserving the characteristics of the former barn was a 'must' for the architects, and so decided to centre the design around just a couple of thoroughly considered interventions, while adding an element of modernity and keeping it accessible, (Steimle, 2021). This precedent offers significance to the project due to it being an adaptive reuse project in a building that already holds history. This is reflective of the site chosen for this project as that too already holds a great amount of cultural meaning for the community surrounding it and holds that at the centre of its design. It is also beneficial as this library included within the design proposal drew inspiration from elements of this precedent.

Analysis:

In keeping with the new and reused library, Steimle Architekten wanted to ensure it remained connected to the local and surrounding communities. To do this the studio also built a new outdoor terrace and forecourt to connect it to nearby buildings, (Griffiths, 2020).

The original structure of the barn initially featured a steeply pitched roof adorned with overhanging eaves that offer shelter to a threshing floor situated above a storage space and stables.

Approaching this conversion with a sense of 'softness' and 'wariness', the architects introduce delicate wooden openwork that now stands in place of the old façade. This reaction to the existing structure shows a coherent and gentle altering to the building and showcases the respect the architects hold for the site. Progressing from the barn's historical significance of its famous stables and existing architecture, and realising the sentimental significance it holds for people, the barn has been brought into the modernity of today's world using little architectural ways of doing so and without diminishing its history. By studying the ways in which this was achieved by the firm, it presented the ability to reflect this in the design project.

Figure 43: (ArchDaily, 2020)

By understanding the cultural significance of the Thackray museum and the standards to which it is held within the community, the exterior façade of the structure and its current windows remain untouched. This was decided upon as the face of the building is what is most recognisable for this site, and the windows have presented views into the rich history and stories that have been told within its walls. As already stated within the Site and User section of this document, the Thackray Medical Museum contains a deep history that spans the course of the 19th, 20th and 21st century. Such history has been upheld within a respectful design concept. By creating a concept centred around healthcare and caring for the surrounding community, it is mirroring its earlier intention of care for soldiers, during and after, the first and second world wars.

“By maintaining the existing urban structure, with no external addition and no change to the striking, deeply overhanging saddleback roof, the preservation – worthy historical building fabric was strengthened” (Steimle, 2020).

To reflect the rustic themes of the original barn structure, the architects used modern materials like stone walls and concrete surfaces in a design concept to evoke and pull out the traditional design and construction of the site. Within the interior, the barns horizontal clapboard has been reintegrated with vertical wooden slats placed at varying angular directions. These slim angled boards permit diffused daylight to enter the library and are manipulated to create striking effects across the building’s interiors. This aspect of this particular precedent influenced the introduction of spruce wood timber planks that frame the windows on the ground floor of the proposed site for this design project. Doing this not only brings attention to the lovely, original window structures of the site, but creates unique spaces for the natural sunlight to occupy and ensures maximum utilisation of all-natural light that falls on the front façade of the building.

To pay respect to the original intention of this barn-turn-library, the design consists of deep reveals within the base to emit the solidity of the earlier structure. When designing for an adaptive re-use space, there is an opportunity to gain a crucial understanding of the site and its history that will inevitably influence the direction and success of the project. Not only this, but it also presents the opportunity to obtain the extent of its cultural impact on neighbouring areas, cities and individuals. To design with this in mind shows a more cohesive and considered design that reflects the original intention of the space and is withholding the antiquity of its initial purpose.

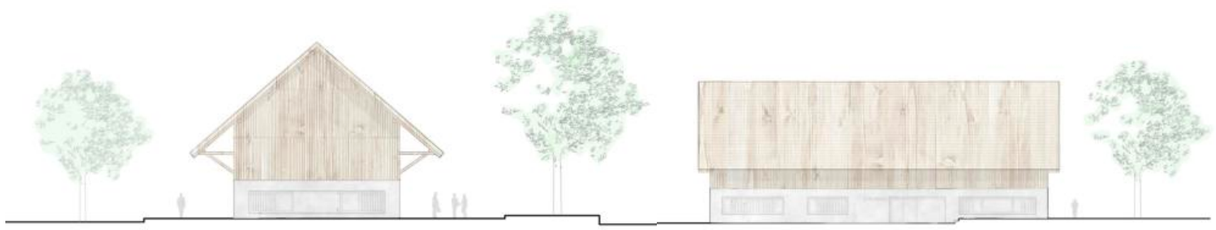
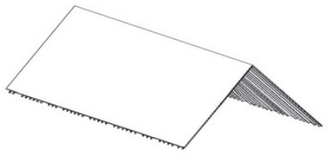
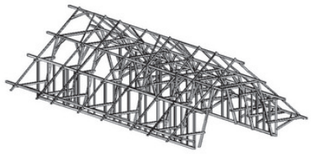
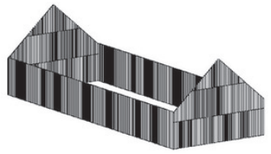
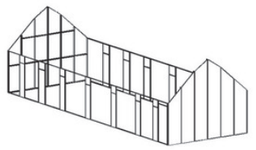


Figure 44: Elevations (ArchDaily, 2020) [Edited by Author]









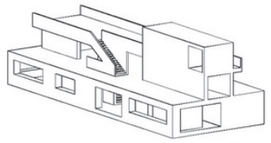


Figure 46: Axonometric (ArchDaily, 2020)

Figure 45: Kressbronn Interior use of wood beams (Dezeen, 2020)

Application:

- **Materiality**
- **Historical**
- **Colour Palette**
- **Spatial Configuration**
- **Biophilic Design**
- **Healthcare**
- **Locally Sourced**

Architect: P+HS Architects

Location: York, UK

Year: 2020

9.7 Foss Park Hospital

Intro:

P+HS Architects, a firm renowned for its healthcare designs, has been specialising in healthcare and wellbeing architecture since its establishment in 1984. Beginning as a small office firm in Stokesley North Yorkshire, they have since developed into a robust company now situated within three studios. As designers, their strengths lie in creating complex, highly flexible and sustainable buildings, all of which are intriguing and good to visit, work and live in. They aim to promote positive responses from their inhabitants for all who experience them (P+HS, 2021).

The Project:

Tasked with designing a new mental health facility in York, England, P+HS centred this project on the needs of the patients and staff as opposed to creating a space that is purely for show and to churn out short term results with no long-term benefits. Through an extensive consultation with the client, it was established that they were to embrace the opportunity to devise a facility to the very best of their abilities for individuals who are in a time of extreme vulnerability.

Figure 47: (P+HS, 2021)

Analysis:

Comprising of four 18 bed wards, this facility consists of two adult and two elderly wards. Within the older peoples' unit there is a ward that is designated for functional illnesses such as psychosis, depression or anxiety, and one ward that is for 'organic illnesses' like dementia and Alzheimer's. Within all the wards in the facility there are supporting day spaces alongside therapy rooms. As with any facility centred around mental health, there are assessment rooms to carry out thorough checks and estimation of level of treatment.

One of the main concepts and desires for this design was the upkeeping of the buildings' history, the old function of the hospital it used to be is at the forefront of this design to reflect that piece of its history. Considering this, it has been reflected in the buildings' exterior, the creation of a two-storey front elevation represents the original façade of the previous hospital through the ordered and structured brickwork composition that makes up the new front exterior. The front exterior has been divided into 'bays' as a means of creating a sense of rhythm, whilst imitating the historically famous streets of the city of York.

To carry through the forms of the newly created front elevation, the main lobby has been doubled in height and decorated with a glaze to add an element of modernity, as well as being framed externally with a variety of sculptural elements.

Designing for such a sensitive topic, the environment itself has mirrored that sensitivity in its colour and material schemes. The interiors of Foss Park are flooded with natural daylight from the main lobby area's large windows that decorate the entrance space, alongside a muted colour scheme. The inclusion of muted colours and utilising natural daylight goes back to the role that nature plays on wellbeing. Organic materials and colours are evident throughout the scheme in supporting mental health and wellbeing, as well as the access to organic natural views and access to the outside.

To ensure the privacy for both the patients and family, there are resin screens used to divide up the generous lounge area and add that element of privacy whilst maintaining the openness of the space. In keeping with natural elements and organic design, the resin screens have been embellished with natural grasses.

Progressing from the historical treatments of mental health and the stigma surrounding them, schemes like Foss Park and the proposed design ignite a positive influence for the progression of rehabilitation treatment, none of which could be possible without the marriage of all these elements which support such an inclusive, forward thinking and creative design.

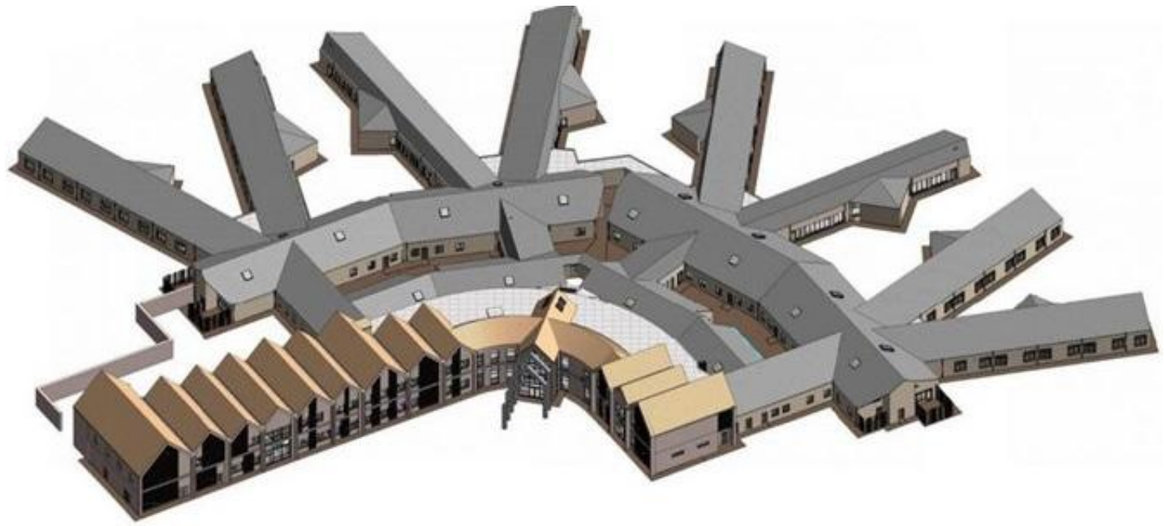


Figure 48: Interior of Foss Park showing resin screens and garden features (P+HS, 2021)

Application:

- **Materiality**
- **Historical**
- **Colour Palette**
- **Spatial Configuration**
- **Biophilic Design**
- **Healthcare**
- **Locally Sourced**

Strategy & Approach

Strategy & Approach 10

10.1 Introduction:

The following chapter will discuss the process of the development of the concept and include the reasoning behind the creation of the concept model by identifying the individual elements that it comprises. Within the next section it will be discussed how the proposed concept will be resolved into the design, it will consider all the factors which have influenced each design decision being made and will analyse their contribution to the scheme. This will include research collected which is informative in exploring the five senses, biophilic design and healthcare design. It will also show how these studies have formed some of the design decisions and their applications, alongside the reasoning behind some of the decisive features.

The concept for this project gravitates around the idea of sensory stimulation and architecture, looking at the ways these can be implemented within a naturally built environment that impacts positive cognitive re-development and promotes mental and physical rehabilitation for addiction treatment. The design concept uses an abstract design language that is incorporated throughout the building by structures, form, materiality and colour, whilst creating meaning and justification for all design aspects.

10.2 Concept Model:

To show this concept in a 3D format, an initial conceptual model was created which represents the formation of a generic graph structure. The idea to represent the concept in a form which takes on the shape of a graph came from extensive statistical research into our senses. Due to coronavirus restrictions, I was unable to create a physical 3D concept model as I was not in Lincoln, and so instead created a realistic render of the form I would have created had the workshop been accessible. Each section of the graph is representative of one of our senses and is constructed from a material that is relevant to the specific section. Individually they can be analysed to provoke a thought or draw on the observers' personal use of that sense and how much they think they utilise it, but when looked at as a whole model it provides the opportunity to step back and compare the sections as one cohesive graph. By formatting this concept in a graphical style, it creates an easier visual to understand how much each one of our senses is utilised throughout our days.

Figure 49: Initial concept model (Lambourne, 2021)

Sight - an opal texture, a type of stone that is commonly deemed pleasing to look at and is known to draw the eyes attention.

Sound - a metal sheet, as the 'twang' and vibration of metal is often a recognisable sound to the human ears.

Taste – rock salt, though it is not encouraged to taste this material, it is one of the most notable materials that produces a taste.

Smell – leather, a commonly pleasant smell that everyone experiences often, whether buying a new pair of shoes, coat or bag.

Touch – wool, a soft texture creates a sense of safety and calm, whether that be wrapped in a wool coat or blanket or standing barefoot on a delicate rug or carpet.

After further research and a more centralised focus on the inclusion of natural elements and biophilic design, the concept model was developed further. Inspired by the anatomy and layout of a tree, the model took form to show this whilst still retaining the initial inspiration from the first model. To show the relationship between architecture and nature, the model represents a tree's structure through building elements.

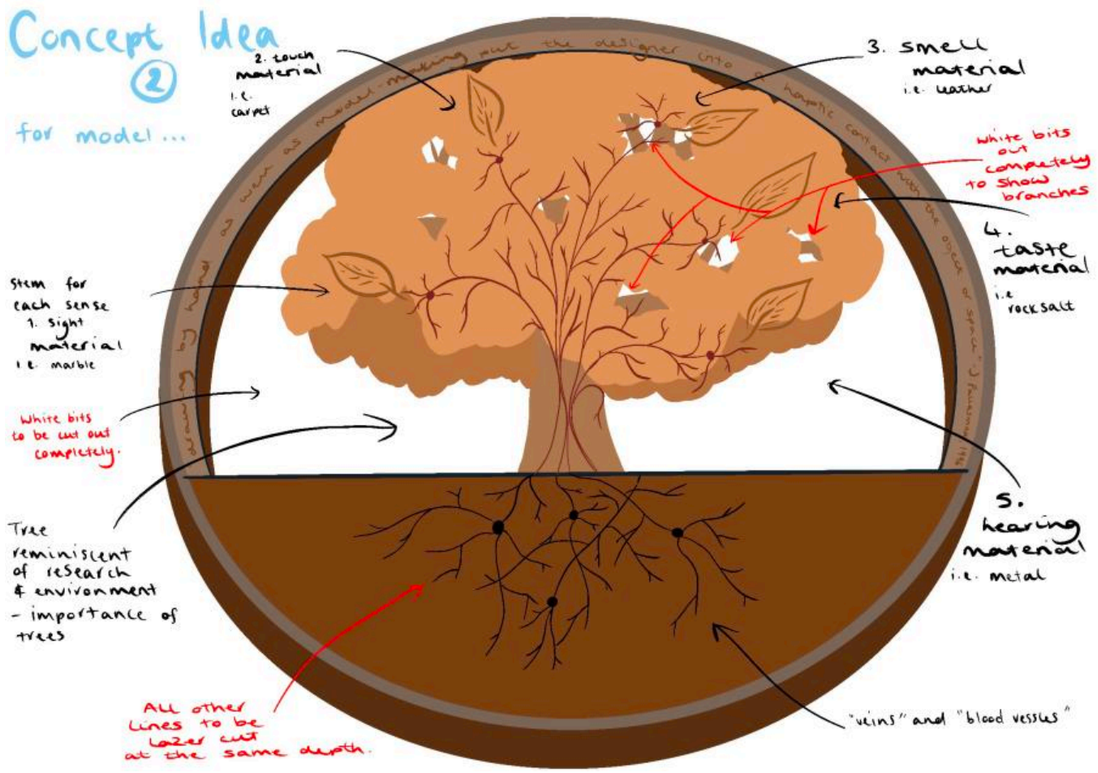


Figure 50: Development concept sketch (Lambourne, 2021)

A centralised column that sits in the middle of the model is representative of a tree trunk, with ‘branches’ coming out from it to create floor levels. Both a column and a tree trunk are elements that uphold the weight of the object and create a central balance for the rest of the object to develop around. Each ‘branch’ is adorned with a material that is still reminiscent of a relevant sense, however it now follows a scale of ‘natural’ to ‘man made’. A slab of terracotta sits at the base of the model, representative of the basement level that sits in the chosen site. The choice of terracotta was due to it being a 100% natural element, otherwise known as ‘baked earth’, and to show the subterranean aspect of the basement which sits below ground level. A metal lattice sits at the base of the column, mimicking an architectural addition of a fence, but representing a skeletal outline of fallen leaves.

Every segment and aspect of this concept model has been developed through extensive research into the importance of the five senses and the importance of nature to healthcare and wellbeing. I placed each sense in the corresponding order of which is most naturally made, to the most man-made. Luckily, they also happened to fall into the order of the senses which are utilised the most, that being the senses of smell, sound and sight. Sight is said to be our most utilised sense, as without it we would struggle to navigate our surroundings and understand the world, though the sense of touch cannot be overlooked for its importance as we experience all the other senses of touch, sight, smell, sound and taste by some sort of touch (Pallasamaa, 2005). Forming a marriage between the use of sensory architecture through natural elements and materials is crucial for progression and treatment for addiction, as it provides stimulation and distraction for the psyche in an environment that itself is very stimulating and benefitting for wellbeing.

Figure 51: Final concept model design (Lambourne, 2021)

10.3 Anti-Homeless Architecture:

When creating a space designed purely for the rehabilitation and treatment of people who have been the victims of substance abuse, it was important to understand that some of the people being treated may have had previous experiences of sleeping rough or not having anywhere to seek shelter. In relation to actually designing this space it would bode well for all involved to have an understanding of this between designer and inhabitant, this is so any trigger, either a certain shape, material or object, can be avoided so as not create a sense of unease amongst the patients and remind them of a potentially upsetting time. The space designed is also a space to give hope and help to those who potentially have experience of this, or know someone who has and wishes to avoid this for themselves.

Anti-homeless / hostile architecture, also known as defensive architecture, hostile design, unpleasant design, exclusionary design, and defensive urban design, is an urban-design strategy that uses elements of the built environment to purposefully restrict behaviour in order to prevent crime and maintain order. It often targets people who use or rely on public space more than others, such as youth and the homeless, by restricting the physical behaviours in which they can engage and the areas they can seek shelter and refuge. This form of architecture is mainly targeted to city centres and densely populated areas that are known to have a high degree of homelessness. Although the term “hostile architecture” is recent, its modern form is derived from the design philosophy Crime Prevention through Environmental Design (CPTED), which aims to prevent crime or protect property through three strategies: natural surveillance, natural access control, and territorial enforcement. Critics of hostile architecture argue that it makes contrarianism impossible, that it replaces public spaces with commercial or “pseudo-public” spaces and uses architecture “to enforce social divisions”. Contrarianism is in relation to a person who holds a contrary position, especially a position against the majority, known as a ‘contrarian’.

Examples of Anti-Homeless / Hostile Architecture

Architectural Spikes, usually found outside the back of businesses and on corners between structures. Done to avoid members of the public from seeking shelter outside buildings.

- Spiked
- Can also be disguised as circular balls to seem more appealing
- On corners, around buildings and parks
- Metal

Armrests on benches, found particularly on benches in city centres and public parks. Armrests added for the illusion of privacy between occupants but prevents people from laying across them.

- Can be done on any benches whether open or with back support
- ‘dividers’ may not be armrests, but can also be gaps placed between spaces

Sloped benches / bus stops, the angling of public benches and bus stops is to prevent the possibility of someone using it for a means of sleeping.

- Slippy materials such as stainless steel or plastic
- Often without backrests to make uncomfortable after a short amount of time

Large boulders / planters, placed as an attempt to stop people sitting or sleeping on spare space, often disguised as ‘modern art’.

- Large plant pots that take up spare space
- Large boulders either to create a division or occupy space
- Forces people out into the cold

How to combat this:

- Avoid pointed/ spikey shapes or clusters of shapes
- Any spare space - utilise in a way that can be practical rather than just putting something in to fill it
- Avoid metal shapes

- For any seating, whether public or private, avoid dividers - also opens up to more socially interactive opportunities - unless singular seating

- No sloped / slanted seating or rest areas
- Avoid stainless steel and metal materials

- Any foliage or nature implemented in the space should be done as a group or ‘area’ solely dedicated to it.
- Any individual plants should not be obstructive to the space

10.4 Application of Concept:

The application of this concept started with analysing the forms and shapes that had been created through the development of the concept model, alongside the creation of plans that stated exactly what the space needed in order to meet the requirements for medical treatment for addiction and all other spaces that would benefit natural healing. After identifying these needs and sections, the next step was to depict where in the building these sections would sit, and their degrees of privacy. Before implementing the concept into the design, it first had to be decided what sections of the existing building were to be included. It was settled that 2 halves of the first two levels would remain untouched and be kept as the museum, this was to preserve a nod to the buildings current purpose and provide a space of education for the local community. To incorporate the concept, a degree of privacy was established for each level of the building, ranging from fully private to semi-private to a mix of open plan with individual private sections. This nicely created a plan and roll-over into implementing privacy through means of stimulating materials and foliage. By layering plans on one another a space was defined which took an abstract form and created a clear alteration to the original floorplans. In order to respect the heritage of the original structure, and in keeping with its Grade II listing, the original windows and exterior façade of the building is untouched.

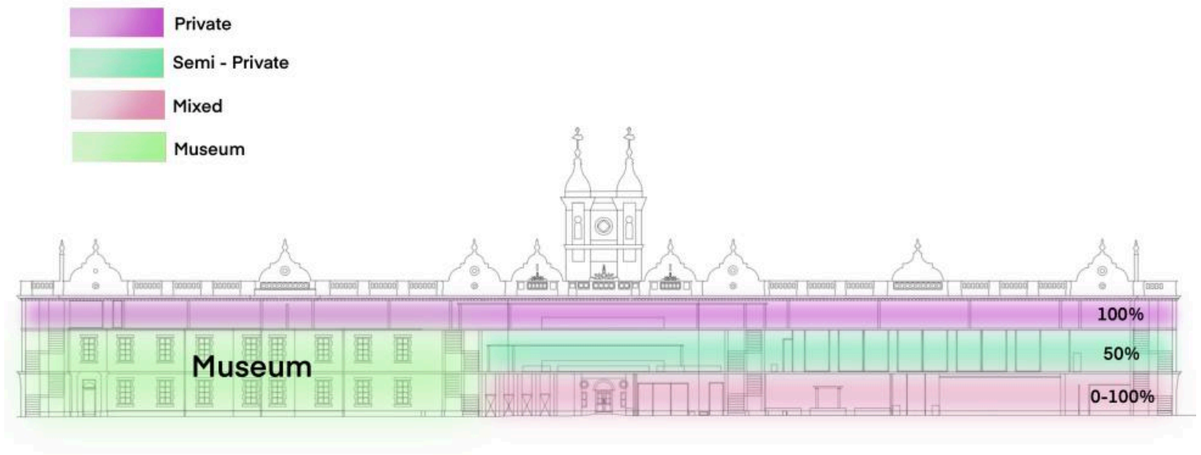


Figure 52: Application of privacy in the space (Lambourne, 2021)

To explore the element of privacy in a way that was in keeping with the themes of the concept, a range of card inserts depicting different styles and patterns relating to nature were created, such as bark, bamboo, leaves and tree trunks. This was used as a way to examine various ways of implementing privacy in a way that utilises natural light as a way of revealing and concealing. These later influenced the introduction of large partition screens in areas such as the canteen and library.

Furthermore, the structures and forms created were heavily influenced by the precedent studies found in chapter 10 and precedent research, specifically Foss Park Hospital and the Maggie's Centre in Leeds. Looking at these two studies allowed an insight into design for mental health, as well as design for wellbeing and encouragement. The way each design focused on bettering the quality of life for their inhabitants, each in two varying concepts of biophilic design and rehabilitation design, presented opportunities to connect the two and create one cohesive scheme that complimented them both. How each designer took their concepts and designed around them to optimise comfortability and privacy influenced the incorporation of this concept into the rehabilitation centre. As well as this, the use of materiality from the Maggie's Centre of local plants representative of the Yorkshire Dales has also been incorporated into the scheme to present the personal connection to the site location as well as adding to their overall experience.

Placing the patient at the heart of this concept, the structure and form has been designed around them. The layout of the scheme and its levels has been divided in this way to allow for complete privacy or privacy options. With the top floor being where patients feel the most at-home the privacy element of the concept is heavily applied, and slowly reduces as you move down through the building. This took inspiration from the research into the stages of addiction treatment.

Furthermore, materiality, sensory stimulation and privacy are key elements in my design. As from a sensory aspect, the inclusion of stimulating materials and foliage that creates scents known to reduce negative emotions is evident through the inclusion of these details and will work to control the level of stimulation received. This is demonstrated through the inclusion of different surfaces, textures, plants and flowers, lighting and colour included in the space.

10.5 User and Journey:

Within the rehabilitation centre the user is taken on a sensory stimulating and positive experience with the intention of aiding them along their rehabilitation journey and guiding them along the way. There is a clear journey depicted on each floor of the building with a clear distinction of the aspect of rehabilitation it relates to. From this the users are given a sense of direction with a clear end point they can feel dedicated to progress to and are also given a sense of routine to help them stick to the treatments.

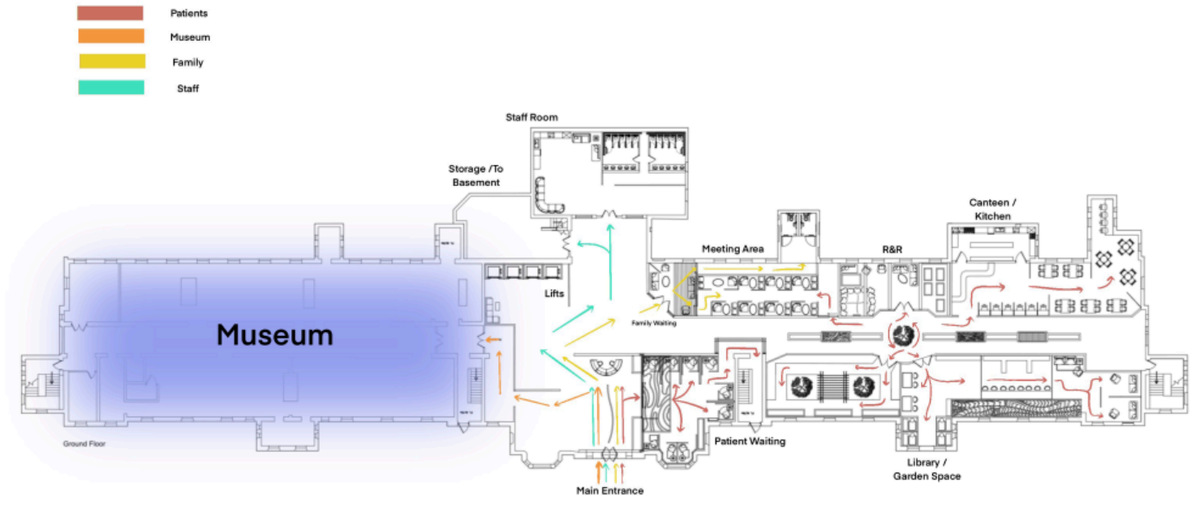


Figure 53: Circulation plans on ground level (Lambourne, 2021)

Ground Floor – arriving to an entrance space with two distinct entrance pathways for the museum and rehabilitation sections of the building, the user then moves through to either a private waiting room for assessments, or to the family and friends waiting area. This provides total anonymity for those reaching out for help who may feel embarrassed or scared. Following the route to the family and friends' section they are then led to a private room that allows for secluded meeting between them and the patients. On the rest of the ground level sits a conjoined garden/library space. This is situated at the front of the building in order to utilise a maximum amount of natural light that falls on it. Moving from there the patients can choose to access the canteen or social interaction and relaxation space, designed with open plan beams to promote social interaction amongst patients.

First Floor – moving into a scheme that promotes a higher level of privacy, the first-floor level is designated to medical treatment for current patients as well as a group therapy space and houses a private assessment area for potential patients. The private assessment area for new patients is only accessible via a staircase from the building's original structure, which can only be used by those within the private waiting room on the ground level. The users move from a waiting space into a closed off office to receive evaluation. These offices are situated behind a variety of wood screened panels that reduce visibility to the interior but still allow light to travel through the space.

Second Floor – the space where patients begin the journeys of their day and end their days activities is the accommodation section. It is comprised of three levels of privacy stay: fully private, semi-private and shared living. This scheme was influenced by the stages of treatment and allows the user to progress through these levels as they move through the treatment. It is designed to encourage social interaction and still retain an element of privacy. All rooms are adorned with felt panels to reduce noise either from inside or outside and to stimulate the touch sense. All shared rooms are designed with screen panels of different fabrics and materials that offer different levels of visibility and privacy.

The journey through the space is designed to offer stimulation and mental refreshment through a scheme that incorporates stimulating materials, colours and foliage. It follows inspiration from addiction treatment stages and mirrors this in the way the users ‘progress’ through the space. It is also designed with varying degrees of privacy in mind and ensures all users of the space are comfortable and well looked after.

10.5 Colour Psychology and Materiality:

The implementation of colour plays a largely influential part when it comes down to eliciting specific emotions and creating particular atmospheres. Not only this, but it can give meaning to environments and create a personal meaning for the individual who experiences the space. It can affect and alter the behaviour of the user and change their perception according to the associations they hold to specific colours (Ulusoy, 2017:263). When initially entering a space, the colours you are immediately presented with can impact your experience, and an opinion of the space has already been formed. As a result, spaces designated for healthcare take colour palettes and materiality into great consideration in order to ensure that the created environment displays the intended concepts. Colours are the stimulants we don't realise exist. With underlying intentions and relationships', we don't even know we've created with specific colours, their importance in design and the way they can completely change the atmosphere of a space has been thoroughly researched.

As with all things in our lives, as a society we have branded specific colours with specific connotations and generalised associations, though these can differ in varying cultures (Ulusoy, 2017:263). On the scale of temperatures, red, orange and yellow are universally known to represent warmer climates, whilst colours like blue, green and white associate with colder climates. However, on the other side, in some cases red is also typically seen as an alerting colour that could represent danger and elicit a sense of unease. In terms of interiors, 'warmer' associated colours are used to create a 'cosy' and inviting environment. This is also carried through into materials within a space, for example timber, that too is regarded to create a sense of 'home' and confidence when used in a scheme, which is why it is such a beneficial material for this design. It can be seen in the material palette of the precedent study of the Maggie's Centre, which places large spruce wood timber beams to frame the interior walls. Commonly coming in various shades of brown, the Maggie's Centre opted for a light brown wood to compliment the bright green flourishes of their use of plants.

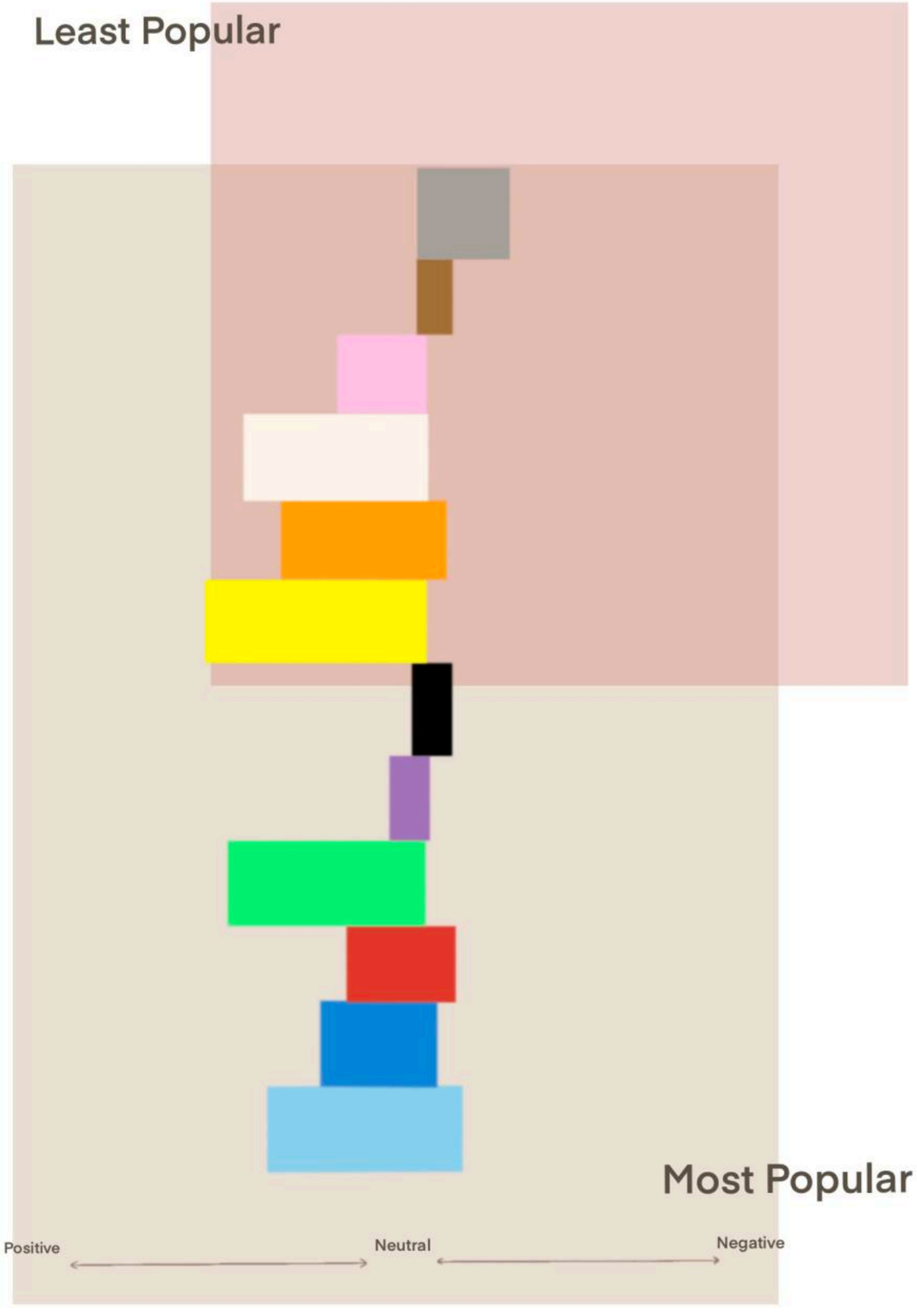
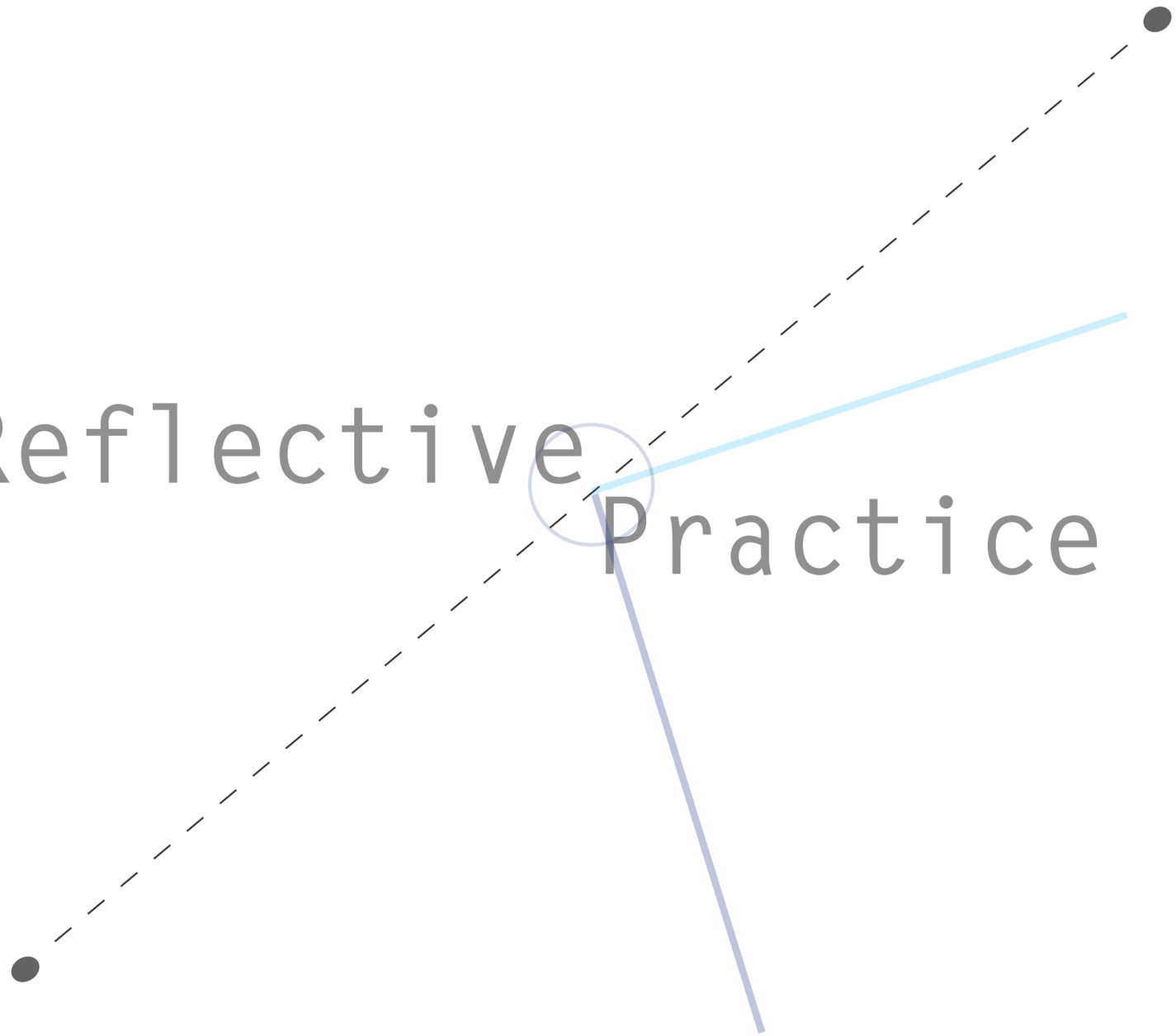


Figure 54: Colour popularity (Lambourne, 2021)

Figure 55: Colour and Material palette (Lambourne, 2021)

The scale at which a colour is placed into an environment can also affect the impact it has on an individual, as well as potentially change the course of the desired intention. Throughout the design it was important to provide ample use of colours and materials that are beneficial for the individual, without being too overstimulating. Within healthcare design the scales of colours are mirrored in the sense that colours like blue, green and white are commonly associated with health and wellbeing, as they hold relationships between the association of nature, water and health. The introduction of these colours is therefore beneficial in the group therapy and assessment spaces that place a larger focus on the medical aspect of the concept. While on the other side, the implementation of warmer colours would benefit more from being in the canteen and meeting spaces. To include materials that elicit the appropriate senses for specific areas, for example the sense of smell and touch in the garden/library space, it is beneficial to relate these materials to the senses. An array of colour in the flowers the patients can tend to will evoke a sense of care for the plant, and a sense of achievement for the individual, whilst being surrounded by an array of scents that produce calming and benefiting effects. Due to the stimulation of care and serenity from the established connection between the material and colour palette, it is suitable to carry this throughout the scheme.


Reflective
Practice

Reflective Practice 11

11.1 Introduction:

The purpose of this reflective practice chapter aims to allow further success as a designer, and to consider the key decisions that were made throughout the design process. Here I will discuss the stages I undertook during the design process and make note of any of the challenges I faced and how I resolved them. Reflecting on the cycle model by Gibbs, this allowed me to ensure this was undertaken in a successful way. Gibbs (1998), states that when we reflect on our individual styles of learning we must follow a series of practices; a depiction of the creative journey and the range of emotions felt throughout, a critical analysis and overview of the journey, and finally a conclusion. Through following this method of reflecting, the following chapter of work should successfully identify the strengths of the design process and determine if they were successful, as well as areas of hardship and their solutions.

This chapter will centre on the rationalisation of major design decisions, and how these directed and influenced the path to further decisions. I will not only critique the individual stages, but I will reflect on this project as a whole and decide whether I have successfully incorporated facets of my initial research and exploration. I will log how these have determined my decisions and monitor the thought and feelings throughout in order to understand my distinctiveness and identification as a designer. From this I will open the opportunity to cohesively understand all the elements of the design process in which I excelled, and those I can improve on which would make me a more well – rounded designer.

11.2 Theory and Research:

Due to the nature of my initial design proposal being a sensitive topic, it was crucial to ensure the research into it was extensive and thorough and all bases of it were covered. To begin with, I spent most of my time researching buildings with a lot of history that were situated in West Yorkshire. I knew from the beginning that I wanted this project to reflect me as a designer and what I am passionate about. Basing it in my hometown and resolving an issue I had grown to see develop is the best way I could have done this. Though the focus was not initially on drug rehabilitation. After discovering the Thackray Medical Museum and diving into its history I became particularly interested in the large part the building played in healing and aiding for the soldiers of the First and Second World Wars. Following this path of rehabilitation for veterans of war lead to a central focus around those suffering from PTSD. After more research into rehabilitation the focus of the design project shifted to a broader acceptance of a wide range of mental problems, not just PTSD.

I started this new research journey by reading A Brief History of Addictions Treatment in the UK by Gary Winship, this was so I could gauge a sense of the development that had already been achieved for drug addiction. The diverse and thorough research that was available in this text was a vital opportunity for me to understand why there is such a stigma around asking for help for such things. The text described through the decades how the subject of addiction was both treated from a medical perspective, and how it was received from a public perspective. From this, unfortunately I saw a variety of similarities that are still prevalent to this day, this highlighted the issue that there is not much being done to resolve the issue at its core. Ideas like the victim of substance abuse being a burden and treated as such in facilities that only churn them out to temporarily deal with their problems, is still an issue that can be seen today and is highlighted in the previous discussed chapter, ‘The Design Problem’.

Using this text, I began to garner a more coherent understanding of why individuals rarely speak out for help and made it my mission as the designer to create a space that felt safe enough for them to do so, and to change this stigma. This piece of writing was what really solidified this design problem for me, the sheer truth and exposure that it told of the hardship suffered by those who were brave enough to ask for help, moved me to want to create a design that was the opposite of what they had come to know.

After concluding this as the central focus for my design proposal, I moved onto researching the problem of drug use and drug related deaths within Leeds, West Yorkshire. Growing up within the city, I created a personal attachment to the area and the communities within it, and to see the growing issue of drug misuse within the communities I had grown up in was devastating. However, this deep connection I felt to the site, the community affected, and the design problem all fuelled a strong desire to create a space that benefits the city and all that inhabit it for the long term.

11.3 User and Purpose:

From the research and theory process it was decided that the user of this space was to be victims of drug and alcohol abuse, particularly those in Harehills, an area of Leeds most affected by this growing issue. It was vital I chose a project and subject base that I was passionate about and heavily invested in for the forthcoming months. With healthcare and wellbeing being a prominent aspect of my life and surroundings, particularly in the past year surrounding the circumstances of Coronavirus, I wanted to continue the progression of new methods of healthcare. Therefore, I needed to consider the ways in which I could do this. Through research into the multitude of benefits of multisensory design and ecotherapy, I finalised the decision of creating a fusion of these two kinds of rehabilitation techniques. This is completed by the relationship between aspects of ecotherapy and biophilic design that also tie into the category of sensory design, primarily using materials. Because substance abuse can affect anyone at any age or stage of their life, the specified age range of this proposal is between 16-50. This was decided after deeper research into the dominantly affected age groups, paired with the age group which showed the highest rise in cases. Past research which has been discussed in earlier chapters, highlighted the age group of between 30-40 which had the most common use of cocaine and other substances, whilst the age group of 15-29 saw the highest rise in growing cases of incidents related to drugs, and an increase in the distribution and deaths as a result.

Choosing this user demographic also cemented the personal connection I was looking for when deciding a project, as I have witnessed first-hand the results and actions of those under the influence. It is this connection and drive to help others that would maintain my interest in the upcoming design process. I feel this critical decision not only identifies my strength in validating my decisions, but also establishes my capability to form a much-needed relationship with projects on a deeper level. This meant that I was filled with excitement and eagerness to create a space based around my past research and the potential that sensory architecture and natural design holds in progressing rehabilitation. By already having a knowledge and idea of the topics I wanted to further explore, as well as discovering reading material which supported that journey, it meant that I was in a good position with a clear directional path that I wanted to follow. This in turn made me more efficient and ensured I could use my time wisely and effectively to build a strong collection of knowledge to aid me throughout my project. Therefore, this shows that I consider the long-term effects, benefits and nature of a project when making crucial decisions.

11.4 Site and Location:

Once the purpose and user had been identified I then moved onto investigating for a potential site location for this project. After research into growing numbers of drug related deaths or incidents it became known to me that West Yorkshire was suffering from one of the largest increases of this issue across England, particularly in Harehills in Leeds. I knew this had narrowed down the location to this and its surrounding communities as I developed a strong desire to create a project that would benefit my home city and the communities I had grown up in and come to love. It was essential that the building was situated close by or in this area, therefore I began researching specifically into buildings with a medical or care history. In part this was also because I wanted to return a building back to its original purpose of caring for the community it houses. I found this quite a quick and easy part of the project as I already had an inkling that the Thackray Medical Museum would be perfect to successfully portray my ideas. Having visited the museum several times throughout my childhood I had already established a personal connection to the site. Each time i visted the museum when I was younger, I always left with a sense of having learnt something new and interesting about the history of the city I live in and the history of the building itself, and this is something I wanted to continue through the design process to ensure it was not lost to the new users in the space. Though I completed this part of the project reasonably quickly I still developed a range of skills that would have helped me find a site location had the Thackray Medical Museum not been available. From establishing a clear purpose and intention of my desired space, to narrowing down an area that would benefit most from this new intervention, to having a clear knowledge of the kind of history I wanted the building to have and collecting a portfolio of the buildings cultural and historical impact on the community.

And so, I had settled on the Thackray Medical Museum to be the location of this design project. The site linked perfectly with my project, both having a historical connection to the area it was in, and having a rich and deep history of care, both medical and non-medical. Beginning its journey as a union house for paupers and moving on to eventually being a War Hospital, to then being a branch of the St James's University Hospital would guarantee that it returns to its original purpose of housing and care for the inhabitants that live their lives in its surrounding areas.

Throughout the course of this project there have been many struggles and setbacks, as there is with any project of this scale, but one that I faced particularly early on was attempting to find floorplans of the building as it currently stands. Due to the current coronavirus restrictions and most organisations no longer allowing public access, I was also in the predicament that I could not physically walk through the space to gauge an understanding of the flow. This in turn led to various concerns,

the main one being that I would have to find a new site location after having completed most of the exploration on the museum already.

Continued exploration into the building and its history allowed me to discover a conceptual RIBA project done within the building by the architecture firm Simpson & Brown. A pdf was linked with this site which was an accumulation of all aspects of their project, including existing floorplans of the building and their proposed plans. Making contact with the staff at Simpson & Brown was not my first thought, but after scouring the internet and every possible website to find accessible floorplans of the Thackray Medical Museum I decided it was in my best interest to get in contact with them about the possibility of accessing their CAD plans. After some dialogue with one of the designers of their RIBA project, they contacted the museum on my behalf to ask for permission to send over the CAD plans. Permission was not given on the basis that there are other medical buildings within proximity of the site. This in turn led to an array of emotions, from feeling deflated (at the time that seemed like my last resort to access plans), to feeling anxious at the thought of having to go back to square one and potentially find a new building for the location. However, this in turn led to a feeling of determination to not give up on finding those plans as so much work had already gone into establishing this building as the site. With this being the first major project where I had the ability to choose my own site location and every aspect of the brief, I had become quite adhered to the work I had already carried out and the aspects of it I had decided on, so the thought of having to start from the beginning with a potentially new concept entirely was very disheartening. However, this drove a new-found determination to ensure that that was not to be the case.

Figure 56: Section (Lambourne, 2021)

Due to the extent at which I felt this was a rather large setback, I found myself struggling to find the energy to continue looking for the plans, but also with a lack of energy to find an alternative. To combat the situation and reduce the amount of stress that had been created, I remained in contact with Simpson & Brown about potential options to retrieve the plans whilst also ensuring I had other options to fall back on had I not been able to retrieve them. I was determined to preserve the concept of the project as it is an issue I have seen develop throughout my life living in Leeds, and so I continued searching for possible alternative sites in Leeds with a medical background that I could utilise. Eventually after a bit more communication with the staff at Simpson & Brown, they informed me of an area of the Leeds City Council website that had downloadable files which contained the CAD plans and were available for public use. I felt a tremendous amount of relief when I eventually gained access to them as it assured me I would not have to start from scratch, and that I could continue with a project brief I was heavily invested in and very passionate about.

Though this issue arose quite early on, I have a sense of gratefulness that it happened when it did. It taught me to always ensure that I have an alternative route to take if things do not necessarily go the way I wanted them to, whether that be having back up ideas or just a method and set of steps to follow to make sure I have explored all options to access a solution. This set me up for the rest of my project and gave me a sense of calm when approaching potentially more complicated areas as I now had an idea of how I should meet the problems I am faced with, and in a way that minimises the amount of stress and worry that comes as a result of them. It also showed me that no matter the scale of the issue that there are others I can rely on to try and help resolve them, whether it be tutors offering solutions and helping to look for the plans with me, staff at an architecture firm emailing the business on my behalf, or my classmates and friends simply offering their help and support to diffuse the anxiety I was feeling.

Moving forward, and to reduce the possibility of similar issues, I will ensure that I cover all possible bases, discuss options with my support network and explore any alternative routes I can before making decisions to possibly change the course of a project. Although that is not what I ended up doing for this project, it would be untruthful to say that the idea arise. There are skills embedded within this reflection which I can in turn use in other aspects, not just in my day-to-day life, but in a potential work environment. For example, in depth research into a project to cover all bases, back up plans and concepts for the event there is an unsolvable problem and not being afraid to ask for help when its needed.

11.5 Influential Literature that Informed my Conceptual Language:

The next stage of my design process was to begin creating and establishing a design concept, by reviewing literature and continuing research that can be found in chapter 2. The information I would find would be key in directing the course of my decisions throughout this process. To begin with, sensory architecture was at the centre of my design concept, but later research would see the introduction of biophilic design and natural environments becoming combined and one fluid concept. One key text I looked at was 'The Eyes of the Skin', which not only discussed in detail the benefits and importance of sensory architecture but was also one of the starting areas for my intrigue into the use of natural environments for rehabilitation, as the author states that "a walk through a forest is invigorating and healing" (Pallasmaa, 2005: 13). Pallasmaa's 'The Eyes of the Skin' was a hugely important book for the development and progression of my design concept process, as it explored in detail just how reliant we are on our senses to navigate our day to day lives. When we are stripped of even one of those senses, we are thrown off balance and can become completely disconnected to our surrounding environments. This was particularly important in terms of drug and alcohol addiction, as often, when someone is under the influence, they are incapable of using all their senses as one. Pallasmaa drew importance on this fact by amplifying the necessity to create a relationship between user and space to avoid the creation of solitude, alienation and detachment, "the observer becomes detached from an incarnate relation with the environment through the suppression of the other senses" (Pallasmaa, 2005:27).

Fundamentally, The Eyes of the Skin was vital in helping me understand how multisensory architecture, in a similar way to natural environments, can impact how we subconsciously act and react to our surrounding environments, and how these reactions can create a journey for the individual. By reviewing this literature, I also gauged a broader understanding of how this in turn can help alongside a rehabilitation journey by creating a sense of place for the user, and by stimulating all their senses as a means of distraction and redistribution of melatonin and serotonin. I was able to perceive a personal strength in the fact that I was able to take the information Pallasmaa was presenting to me and apply this thoroughly to my user and purpose, as well as being able to identify a reliable and well justified source to help me in my development. However, this book was rather lengthy and so not all its content was applicable. This to me highlighted yet another strength, which is that I can skim through large books filled with lots of content and pick out parts that are relevant to my work, this way I do not waste time reading the entirety of the book.

Further pieces of literature I read like 'Happy by design', were more focussed on designing with nature in mind and the use of materials to achieve this. Despite this being only one of my concept ideas I wanted to ensure I did in-depth research into both aspects to ensure I had the best understanding possible to design for such a sensitive topic. I felt that I demonstrated a clear and thorough strength of being able to extract important and key information from the sources I collected and identify the limitations I may encounter in my design.

However, even though these sources were incredibly useful, if I were given the opportunity to do the research process again, I would have liked to have done more research into ecotherapy and architecture designed around this. I feel as though it was the late implementation of biophilic and natural design that was lacking, this meant I had to research further, much later into the project than I would have liked.

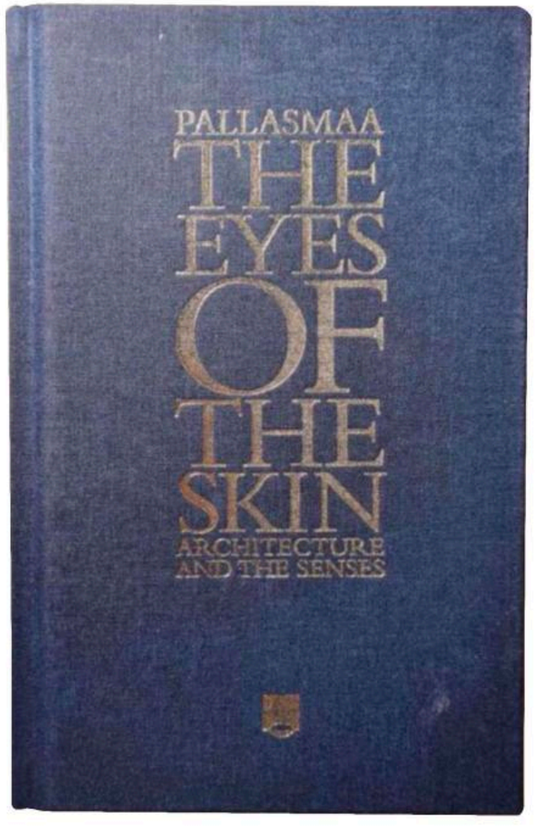


Figure 57: The Eyes of the Skin (Sarankim, 2020)

11.6 Concept:

In terms of a design project, a concept is a thought or idea that becomes the foundation of a design project. It spans the entirety of the project timetable and runs as a common thread throughout, directing and guiding design decisions. For this project, the concept was born from pre-existing and further research, alongside development models. Finalising a design concept for this project was not something I found difficult as I knew from the start that I wanted to base my proposal and intervention around healthcare and wellbeing. The major factor in deciding on the concept of sensory architecture and biophilic design developed from my understanding of the design proposal itself. It was obvious to me that the proposal was extremely complex and delicate, this required many variables in order to be successfully achieved.

From my research I was made aware of the fact that there are many elements of architecture which I had to take extra consideration in, particularly those that are reflective of 'anti-homeless' architecture which has been discussed in chapter 10 (10.3). I feel like this exhibited my ability to conduct relevant and useful research that covers all bases of a proposal and concept to ensure maximum stability and experience for the user in the space. This also meant I was in a better position to implement ideas into my design that were the most relevant and effective.

I used the idea of the five senses and sensory architecture to create the basis for my concept idea. It shows how certain materials stimulate the 5 different senses and the varying emotions it can elicit from the user. From this I incorporated underlying elements of biophilic design and natural environments by intertwining natural materials and associating them each individually with a sense it would benefit the most. This idea was generated through my review of the literature in chapter 2. Bodies of work that looked at multi-sensory architecture like 'The Eyes of the Skin' by Pallasmaa (2005), 'Atmospheres' by Zumthor (2006) and 'Stressed Spaces' by Connellan (2013) paired nicely and all reflected similar ideologies and theories in texts that looked primarily at natural environments like 'Happy by Design' by Channon (2018), and 'Natural and Virtual Environments' by Depledge (2011). I feel as though this highlights my strength of being able to link two varying concepts through thorough research into both to underpin similar or almost the same theories and ideologies and being able to create one fluid concept out of the two which is in keeping with the design proposal.

Through generating this concept, I created a series of cardboard inserts that were designed to represent privacy screens that are implemented throughout the building. I created 4 key inserts, each representing a different form of nature: tree bark, leaves, bamboo sticks and standing tree trunks. Each of these patterns was chosen as I thought I could experiment with varying degrees of privacy with each and see how exposing each design would be. It was decided I would do this on brown carboard to simulate the idea of them being built out of wood, a material that is heavily implemented into this design. If I were to do this again, I would create more inserts that were representative of more patterns and materials and played with sizing more as well so I could have also experimented with positioning throughout the building.

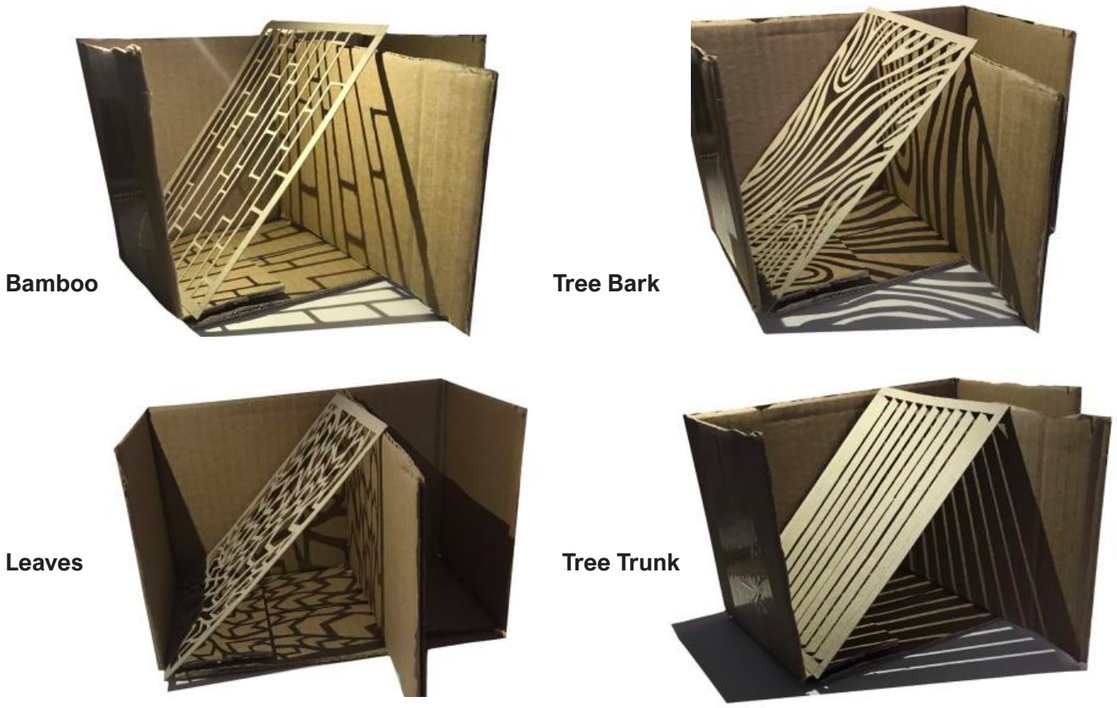


Figure 58: Model inserts (Lambourne, 2021)

Overall, I feel that my finalised concept and concept models that accompany it are beneficial in portraying my concept clearly and coherently. I feel that producing images and models like these is one of my strengths as it is also something I get enjoyment out of when creating, however the practical side of this is also something I struggle with. Moving forward I needed to take these factors into consideration and develop them further in order to fully succeed as a designer and for my project to be successful.

11.7 Precedent Research:

Researching and exploring a variety of architectural buildings and designs was an essential stage for the progression of the design process phase, as this is where some elements of inspiration were drawn from. Not only this, but it contributed further to my understanding of the concepts and ideas behind other architectural buildings and built projects. Here in which lies within this body of work, research and analysis, inspiration which aided to advise some of my main design decisions. During this process, I originally struggled to find precedents and buildings that were relevant to the concept I was looking for, as there weren't many that showed the relationship between nature and the senses.

To combat this, I instead divided the two concepts once again to find individual projects which recognised one of the design ideas. I found it difficult to find 7 precedents that directly related to my design concept, and so I spent quite a lot of time trying to find buildings and projects which were exactly what I was looking for. This was one of my weaknesses, spending too much time looking for the perfect precedents. Instead, I broke down the aspects of my design that I wanted to incorporate above anything else; the senses, nature and healthcare. By doing this I also ensured I had a wide range of different types of projects, some being adaptive re-use and some being contemporary.

In turn, this assured me that I had a good selection of precedents to look at and analyse. That is also an area in which I could improve as a designer and will ensure I progress in the most successful ways possible. My style of writing is often very descriptive, and so when I am presented with the task of analysing, I find it hard to escape that mindset. One other issue I found when looking for precedents, was that there were little-to-no rehabilitation centres for addiction that were relevant to either area of my concept.

Though this created a small amount of stress for me when finding precedents, it also reaffirmed to me my justification to create a rehabilitation centre for this issue due to the lack of centres that are inclusive of forward thinking and modern-day rehabilitation techniques.

11.8 My Learning Style:

After completing the Learning Style Inventory task in which it helps to narrow down the learning styles someone follows into the 4 categories of; Concrete Experience (CE), Reflective Observation (RO), Abstract Conceptualization (AC) and Active Experimentation (AE), I have discovered that I meet criteria that falls between all these aspects evenly. They derive from Kolb's Learning Cycle, a method in which in order to ensure the best learning experience and outcome from a new method, one must reflect on an experience by observation, formation, consideration and reflection.

Scoring highest on AE with 26, this tells me I place particular emphasis on practical applications with a greater concern with what works rather than the absolute truth. This resonates with my personal style as I prefer to consider all areas of a topic to gauge what others are saying and their own personal ideas. AE is also described as focusing on actively influencing people and changing situations, an area of this style which feels less relevant to my unique learning style.

Scoring 25 on both CE and RO reflects the more personal involvement I have with the information I am learning, CE bases more on looking at the uniqueness and complexity of present-day reality as opposed to theories and thoughts. This resonates more with me as I like to ensure I cover all bases of what I am learning so I have a maximum understanding to approach it from all perspectives with an open mind. This goes hand in hand with the style of RO, which focuses on understanding the meaning of ideas and situations by observation and description.

Scoring lowest on AC with 24 tells me that I do not place as much importance on aspects such as using a more scientific approach rather than an artistic one and building general theories rather than understanding specific areas. This is true in the sense that I prefer to have a deeper knowledge of varying angles and perspectives of a theory or problem, as opposed to drawing my own conclusions. I prefer to look, and study other peoples' views and theories and relate them to other information or problems I find.

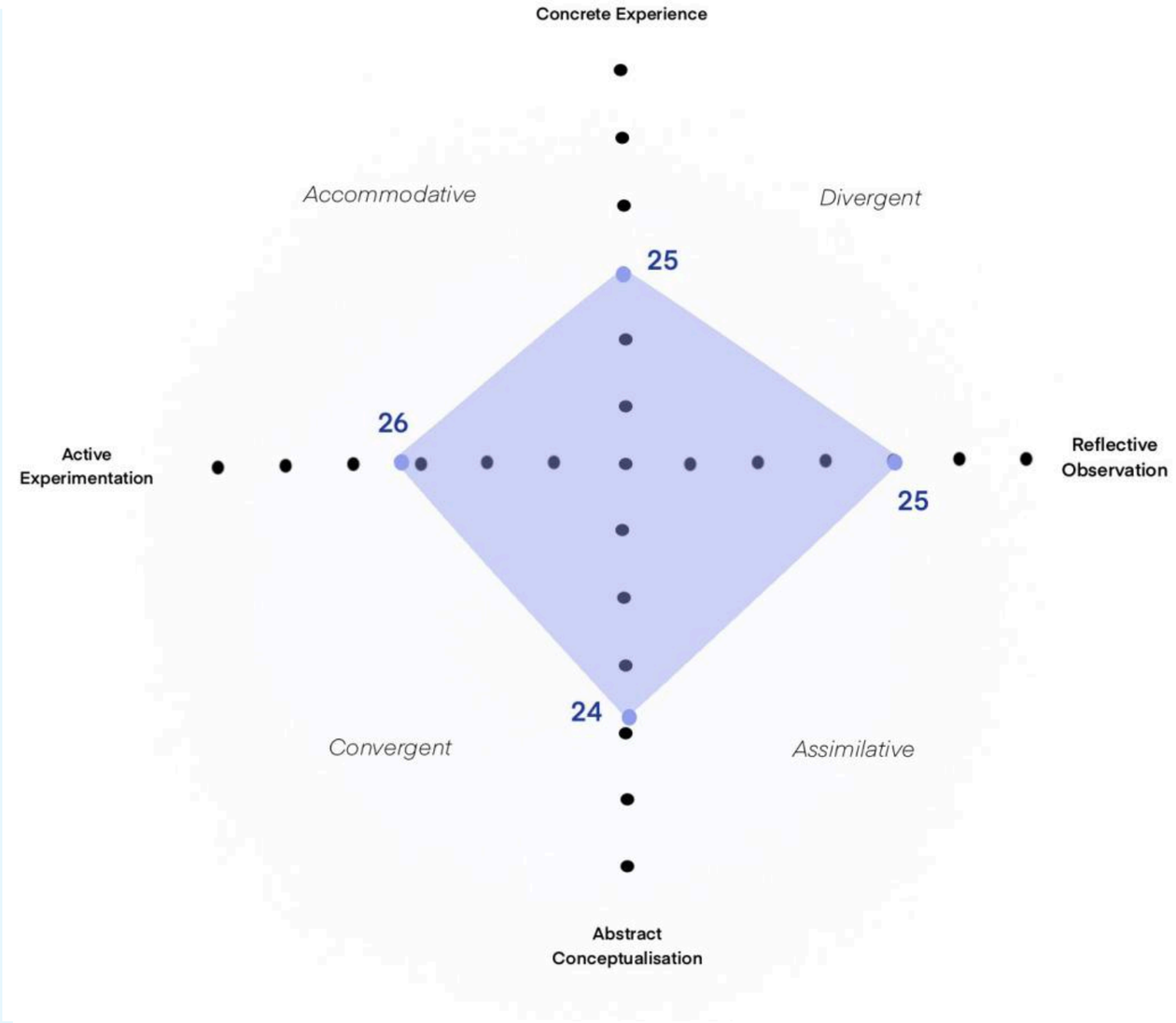


Figure 59: My Learning Style (Lambourne, 2021)

11.9 Where I Am Now and Future Plans:

At this moment in time, I am currently in the stage of refining my design and going over my spatial planning. This involves the zoning of varying areas in my building in order to successfully fulfil the requirements of the space. I feel as though this is a stage in which I am least confident as I worry that I have not achieved the correct layout needed and may want to change my mind.

When I initially started my spatial planning, I went back and forth on the idea of only using a portion of the building, as the size of it I found quite intimidating. Eventually I settled on saving two halves of the ground and first floor, this was so it could be kept as it currently stands and continue its function as a museum. When I went back and forth with this idea, my concept idea was lost, and so settling on this base layout and cementing it allowed me to work with a building I felt more comfortable with in size, and I was able to regain my concept. I did this through sectioning the building into a style that mimicked user progression in the space.

Each level was sectioned into varying degrees of progression and privacy that the user could then move through as they progress through the treatment. This has therefore led me to the point I am currently at in this design process, which is looking at it from a wider perspective and taking a step back to ensure the concept created is represented in a more considered application. I have now constructed a more justified creation of the forms within the space, with a deeper consideration of materiality and placement for privacy.

I now plan to refine my layouts with my more considered application and design of my concept. To do this I need to ensure that the intended form works in the space and amend anywhere it does not to ensure it is as successful as it can be. I also must create a model depicting my design intervention and a series of models which represents the use of materiality and the senses in this design. Furthermore, I also need to look at implementing further details into both my plans and my design pack, this includes drawing conventions on the floorplans and sections, and floor and wall finishes, etc. Finally, I must continue to ensure that all aspects of my design and my design decisions are well communicated and justified within the space.

11.10 Conclusion:

Throughout this chapter I have successfully identified areas in which I excel and succeed, as well as areas in which I have weaknesses. I have identified that I need to improve my flexibility between the practical and research stages, as I find that I excel a lot more in the research and exploration side of things, and falter more in the practical side. Moving forward into the final stages of this project I will ensure that I improve on this area as it could be detrimental to the finished product if I cannot successfully portray my ideas. Furthermore, another strength I have identified in myself is my time management skill, which is crucial for both education and practice. I am strong at creating and following a strict timetable that clearly lays out a hierarchy of work and which elements are more important to be completed quickest. This quality is deemed essential in practice as there are always time restraints and strict schedules on projects.

Conclusion & Overview

12. Conclusion

To conclude this body of work, the document has discussed the benefits and need for the incorporation of biophilic design and has also highlighted the importance of sensory stimulation by means of architectural design. With a current lack of spaces that incorporate the marriage of these two elements of healthcare and wellbeing design, particularly for the treatment of substance abuse and addiction, the proposed design aids to contribute to the creation of a new generation of healthcare design. One that operates in an unbiased environment that promotes the stimulation of our neglected senses whilst also in a space that promotes a connection to nature. This document has addressed the issue of the inclining rates of drug related deaths and incidents in the area of Leeds and has promoted the design concepts that appropriately relate. With the current lack of treatment available and the stigma that surrounds drug and alcohol addiction, it is important that the overall quality and outlook of life for the patients in the facility is improved massively. The proposed design aims to create a calm, peaceful yet stimulating environment that offers the inhabitants a refuge and safe space to seek the help they need, whilst maintaining the medical needs for substance addiction. The body of research has addressed how quality of life can be increased in both stimulating spaces and biophilic spaces, and how a partnership between the two can be incorporated into the design. Several strong sources related to sensory architecture, biophilic design and designing for healthcare have been analysed to support design ideas, provide clearer insights, and explain the importance of their incorporations as well as their limitations. All of which resulted in a well-considered and researched design.

The design solution has inserted key architectural interventions that stand with the objective to alter the existing form in a way that is compassionate to the history and listing of the building. The most notable inclusion being that of the large garden and library space on the ground floor. This contributes in creating an educational, calming and self-reflection space. It creates a circulation that is easy and stress-free to navigate to reduce anxiety for the individual.

Overall, this design solution has established a concept that meets the needs of the inhabitants fully. Through the incorporation of sensory stimulation and biophilic design, it ensures a sense of ‘place’ and a sense of ‘self’ can be achieved, while the patient still receives the appropriate medical care and treatment. Due to the growing literature and studies supporting the inclusion of our senses and the importance of nature in architecture, as well as the need for improved addiction treatment, a design solution has been produced that could be utilised for years to come, making it justified and viable.

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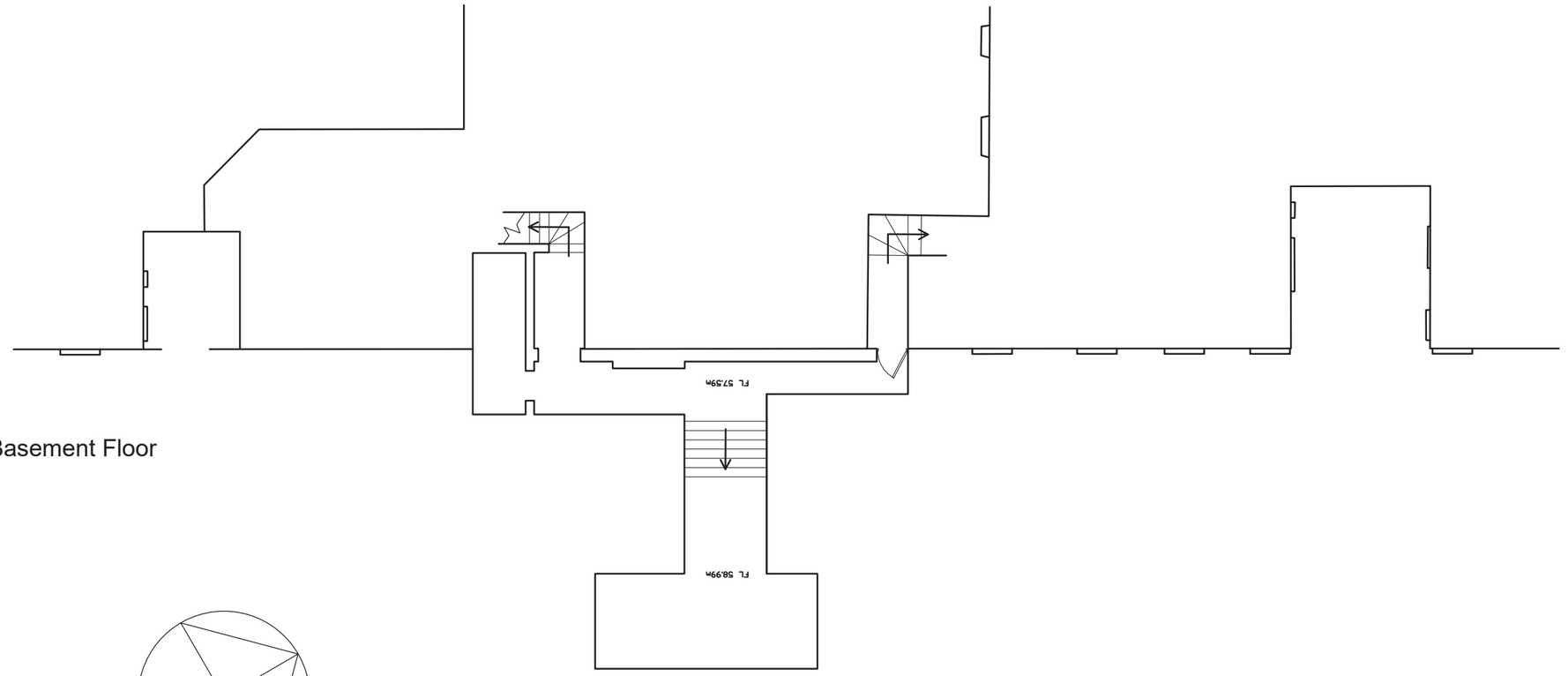

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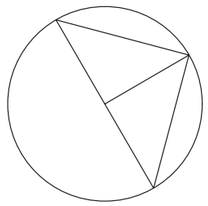

Scale:

JOB TITLE Thackray

Oct 2020

DRAWN BY Rachel A Lambourne

DWG TITLE SURVEY

Second Floor and Roof Plan

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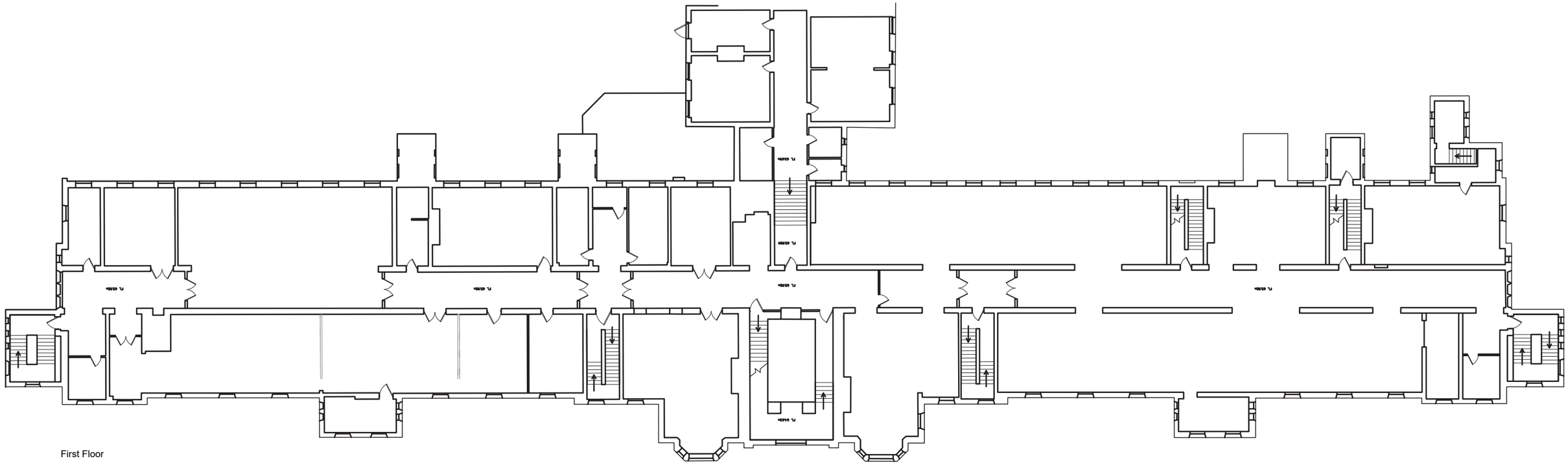
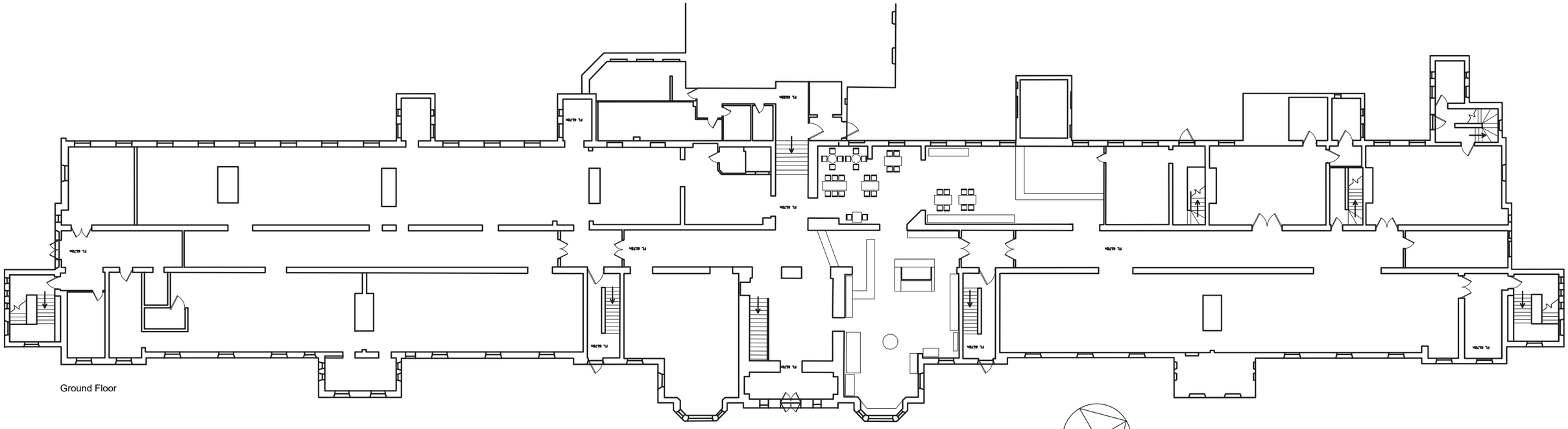
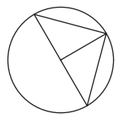


First Floor



Ground Floor



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DRAWN BY Rachel A Lambourne
DWG TITLE SURVEY
Ground and First Floor Plans
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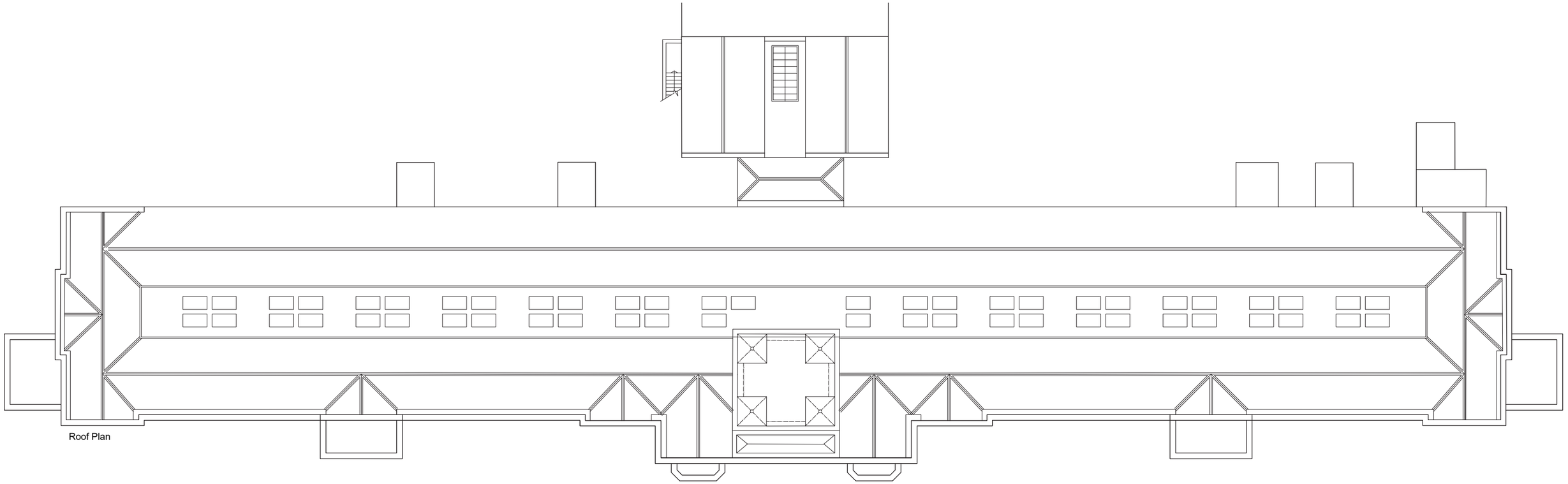
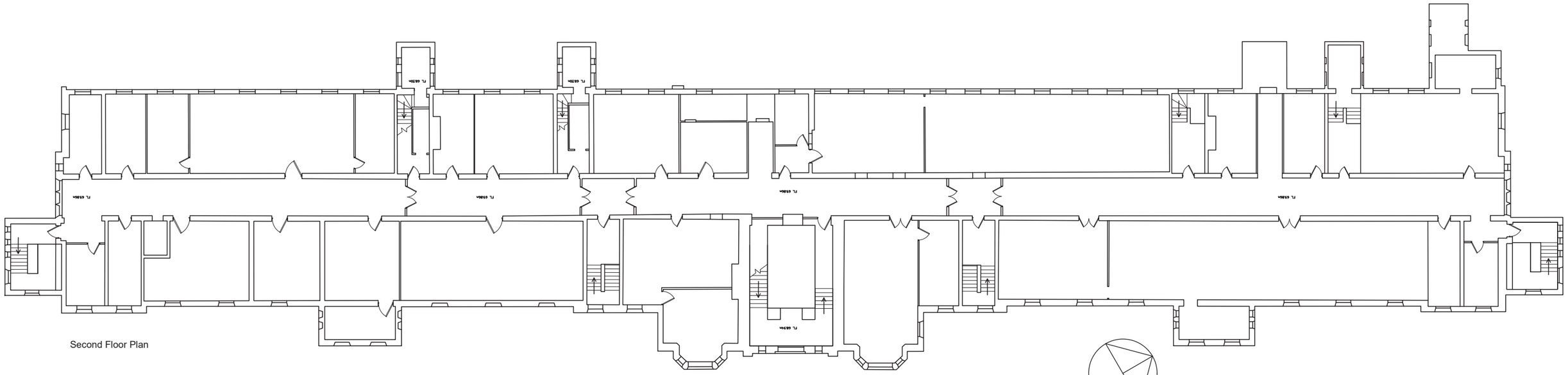


Roof Plan



Second Floor Plan

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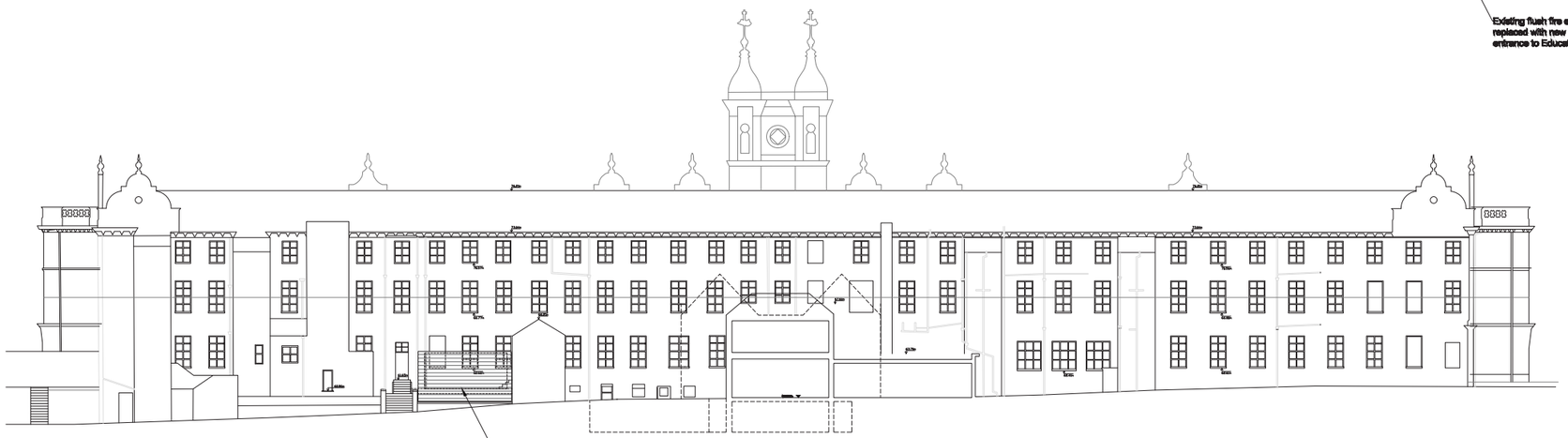
JOB TITLE Thackray Oct 2020
DRAWN BY Rachel A Lambourne
DWG TITLE SURVEY
Second Floor and Roof Plan
A1 SCALE DRAWN STATUS
1:200

SOUTH ELEVATION

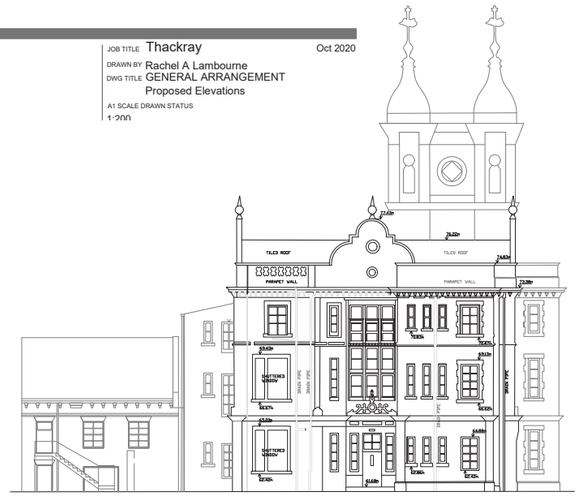
Existing flush fire exit door removed and replaced with new paneled door forming entrance to Education Centre.



NORTH ELEVATION

External cold storage units allocated on exiting raise plinth. Units to be screened with galvanized steel mesh supported on a galvanized steel frame.

JOB TITLE Thackray Oct 2020
DRAWN BY Rachel A Lambourne
DWG TITLE GENERAL ARRANGEMENT
Proposed Elevations
A1 SCALE DRAWN STATUS
1:200



WEST ELEVATION

EAST ELEVATION

JOB TITLE Thackray Oct 2020
DRAWN BY Rachel A Lambourne
DWG TITLE GENERAL ARRANGEMENT
Proposed Elevations
A1 SCALE DRAWN STATUS
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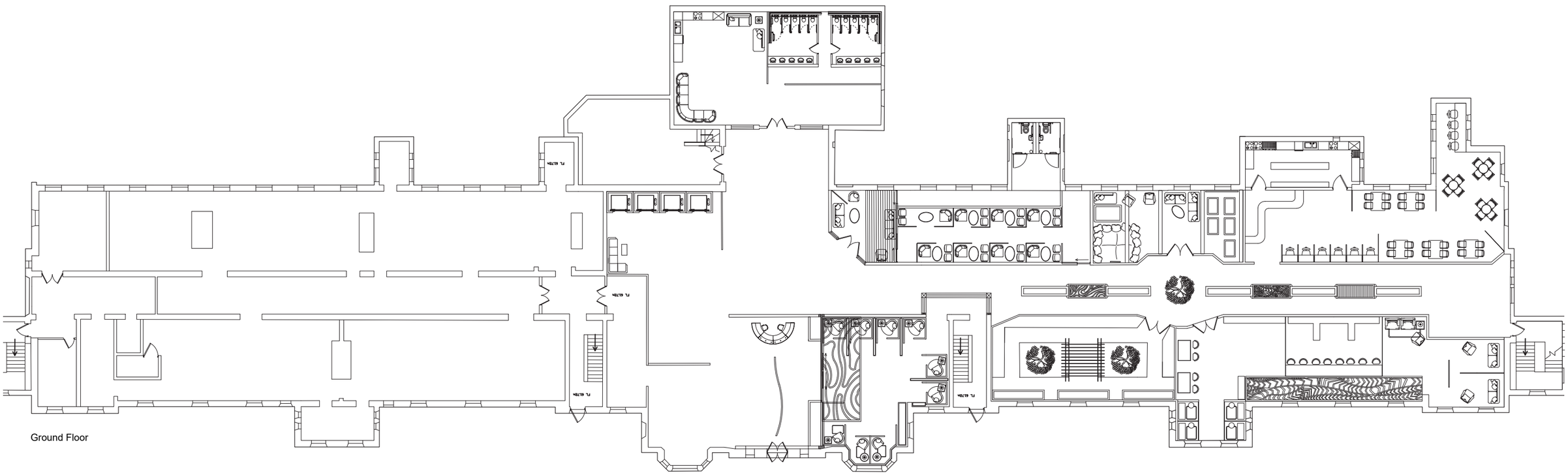
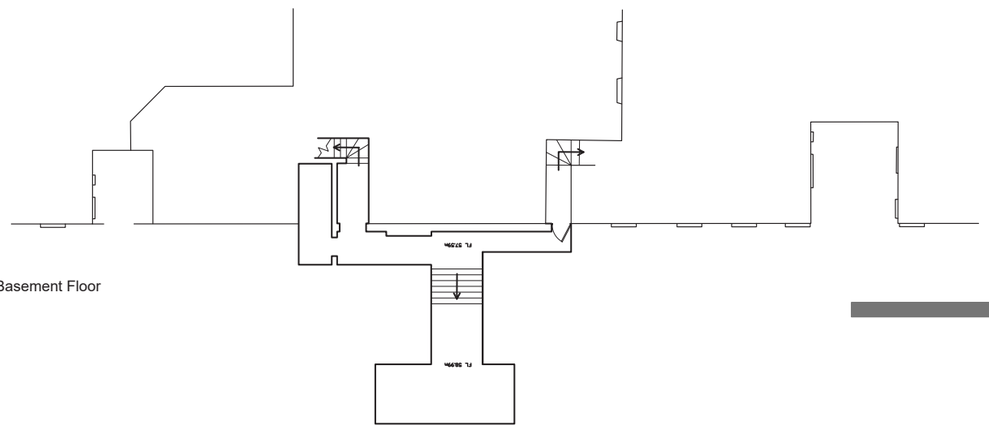
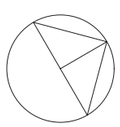
Addendum B



Ground Floor



Basement Floor



Scale:
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Basement and Ground Floor Plan
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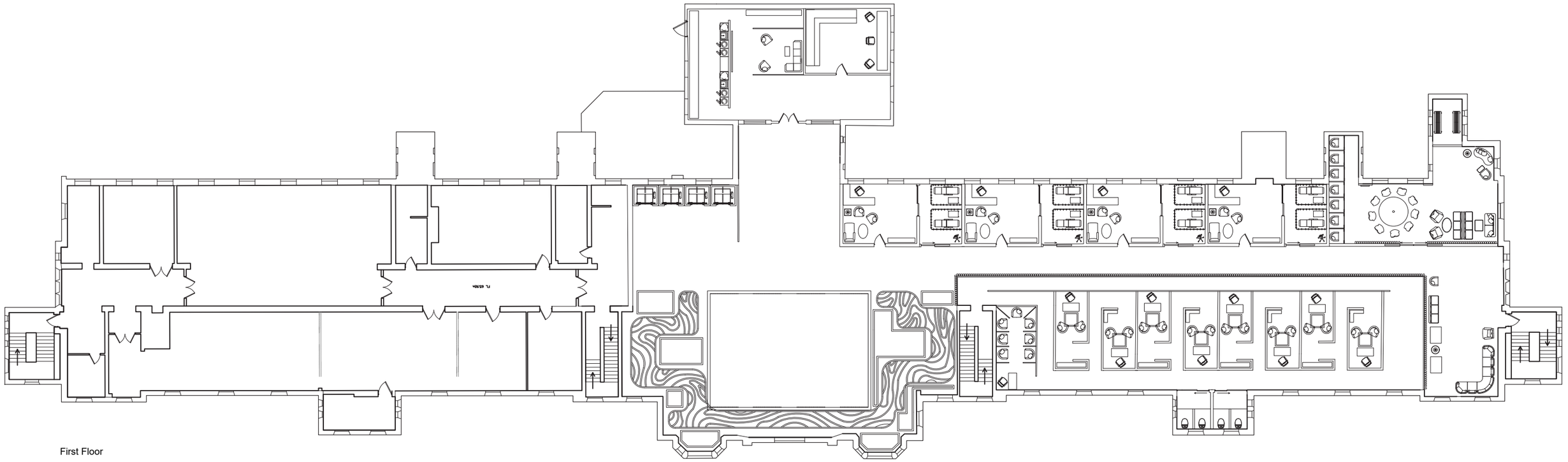

First Floor

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Feb 2021

DRAWN BY Rachel A Lambourne

DWG TITLE SURVEY

First Floor Plan

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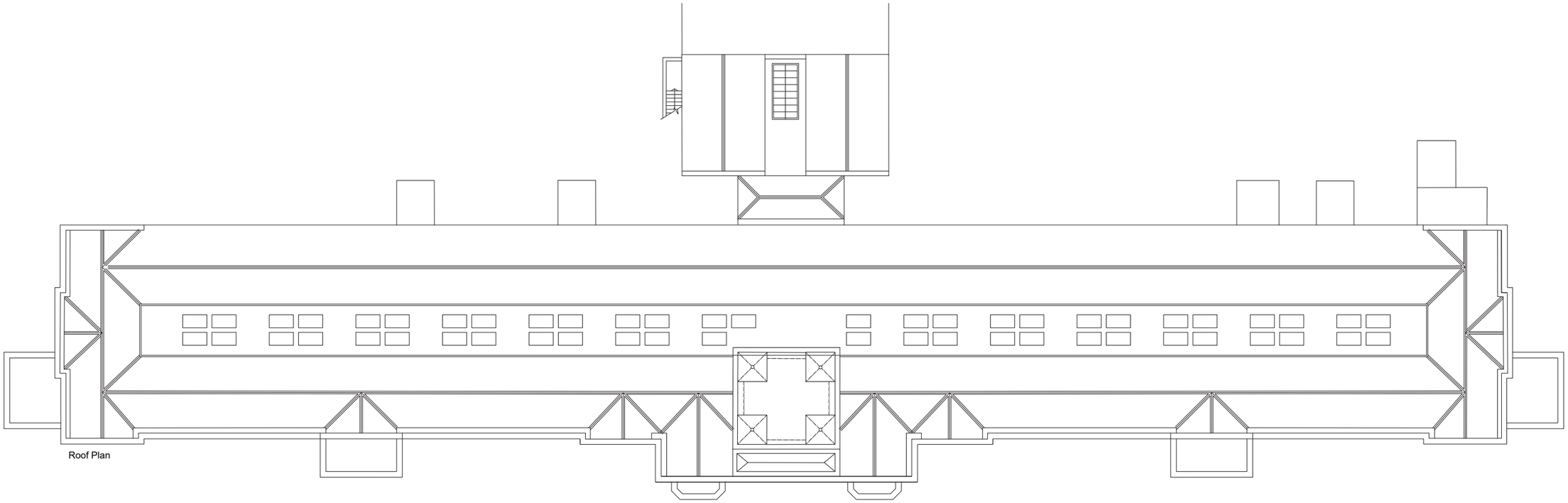
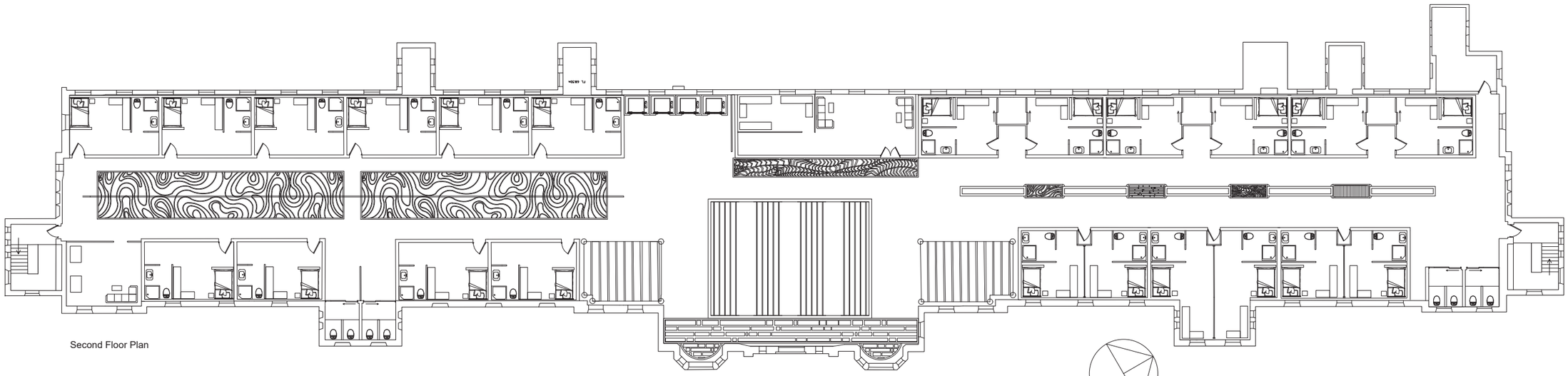


Roof Plan



Second Floor Plan

Scale:
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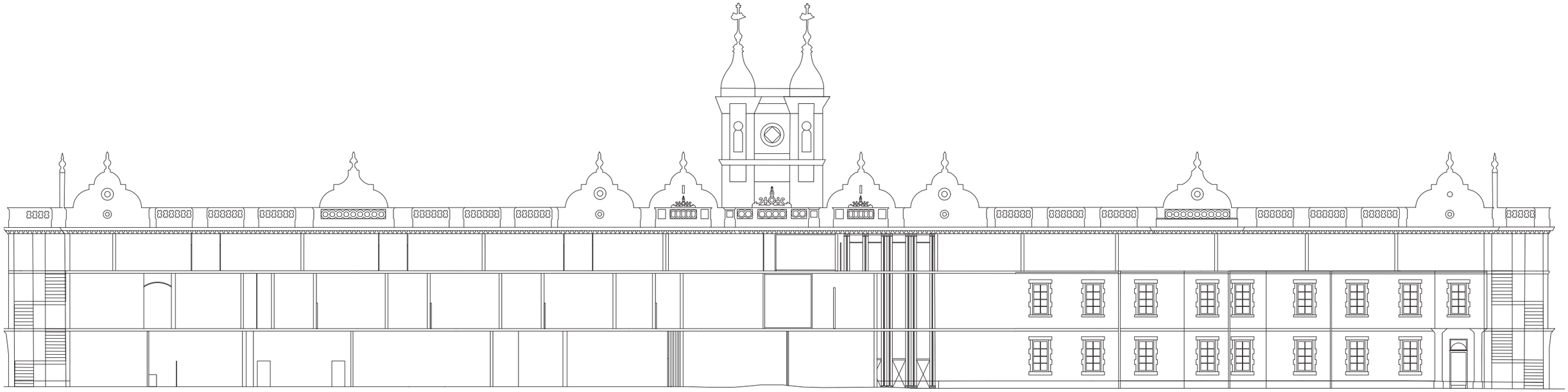
DRAWN BY Rachel A Lambourne
DWG TITLE SURVEY
Second Floor and Roof Plan
A1 SCALE DRAWN STATUS
1:150

South Elevation



North Elevation

Addendum C


HAREHILLS
BURMANTOFTS
Cemetery
Business Park
Reservoir
(covered)
Mills
Nightingale
Primary Academy
Club
Harehills
Childrens Centre
St Cyprian and
St James Church
Eckersley
House
Thackray Medical Museum
Chapel
Shelter
Lodge
BECKETT STREET
SHAKESPEARE STREET
STANLEY ROAD
STONEY ROCK LANE
HUDSON ROAD
HAREHILLS LANE
Beckett Street
(Car Park)
Shakespeare
Towers
Shakespeare
Court
Shakespeare
Grange
Vicarage
Hall
St Agnes'
Church
Free Gardeners
Social Club
The
Sportsman
(PH)
Children's
Centre
Shakespeare
Primary School
Bowling Green
Pavilion
Medical Centre
Trent House
Little Pebbles Creche
Abdul Rahman Business Centre
Garage
Works
Play Area
TORRE GROVE
TORRE MOUNT
LUPTON AVENUE
Hillcrest
House
NOWELL APPROACH
NOWELL CLOSE
NOWELL STREET
NOWELL MOUNT
SHAKESPEARE AVENUE
SHAKESPEARE APPROACH
SHAKESPEARE GARDENS
SHAKESPEARE LAWN
UPPER WESTLOCK AVENUE
WESTLOCK AVENUE
BURTON WAY
TRENT ROAD
LYDGATE
MIDDLETON AVENUE
FRASER STREET
STONEY ROCK GROVE
COMPTON ROAD
COMPTON AVENUE
COMPTON VIEW
COMPTON TERRACE
COMPTON PLACE
COMPTON CRESCENT
COMPTON ROW
SUTHERLAND MOUNT
SUTHERLAND ROAD
BROWN HILL AVENUE
BROWN HILL CRESCENT
BROWN HILL TERRACE
CLIFTON MOUNT
CLIFTON TERRACE
CLIFTON AVENUE
CLIFTON GROVE
HUDSON GROVE
HUDSON STREET
BELLBROOKE PLACE
BELLBROOKE AVENUE
CROSS BELLBROOKE AVENUE
BACK COLDCOTES AVENUE
FLORENCE STREET
STANLEY AVENUE
STANLEY TERRACE
STANLEY PLACE
ASHLEY ROAD

Addendum D

Design Exegesis

HOURLY SCHEDULE

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
9:00 AM	Wake up	Wake up	Wake up	Wake up	Wake up	Wake up	Wake up
10:00 AM		D.E	D.E.	10:30 Tutorial	D.E.	D.E.	D.E.
11:00 AM	D.E.	D.E.	D.E.	D.E	D.E.	D.E.	D.E.
12:00 PM	Tutorial	Lunch	Lunch	Lunch	Lunch	project	project
1:00 PM	Tutorial (Lunch)	Lunch	Lunch	Lunch	Lunch	Lunch	Lunch
2:00 PM	D.E.	Rest	D.E	D.E.	D.E	Lunch	Rest
3:00 PM	Rest	D.E	D.E	Lecture D.E.	D.E	Rest	D.E
4:00 PM	D.E	Rest	D.E	Lecture D.E.	Rest	D.E.	D.E
5:00 PM	D.E	D.E	Rest	Lecture Rest	D.E	D.E.	D.E
6:00 PM	Tea	Tea	Tea	Tea	Tea	Tea	Tea
7:00 PM	Tea	Tea	Tea	Tea	Tea	Tea	Tea
8:00 PM	Rest	D.E	project	D.E.	D.E	D.E.	D.E.
9:00 PM	D.E	D.E.	project	project	D.E	D.E.	project
10:00 PM	D.E	project	project	project	D.E	D.E.	project
11:00 PM	Finish	Finish	Finish	Finish	Finish	Finish	Finish

Addendum E

Learning Agreement

This document records the details of the project to be undertaken. This agreement must be negotiated and submitted during Term 1 and is based on the outputs produced for the final studio research project. Any amendments during the project must be negotiated and a new learning agreement signed. Students are responsible for the safe keeping of a copy of the agreement.

Name **Rachel Lambourne**	**Student ID** **16657260**	**Course** **Interior Architecture and Design**
Module **Design Exegesis**	**Module Code** **(INT3179M-2021)**	**Project Tutors** **Rosie Elvin, Begum Ulusoy**
Start date **12 October 2020**	**Final Submission** **30th March 2021**	

Nature of the brief

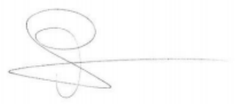
A modern approach to rehabilitation for members of society suffering from drug abuse or mental health afflictions, with an approach from a 'natural healing' perspective. This includes the use of environmental psychology as opposed to purely medical practices, though they will be integrated within the design.

Aims of the project

To create a safe space that presents the opportunities for rehabilitation and a second chance, for those who may be struggling to achieve this on their own. It will be a space that integrates new modern research of the psychology of 'healing', and will demonstrate how architecture can play a large role in the advancement of this. This will also then present the chance to research more in depth, the effects (both positive and negative) that institutes around the world are having on the patients they take in. It will open up a whole explorative approach into 'environmental psychology' when looking at the facts and statistics of repeat offenders/users when brought back out into the world.

Personal learning objectives

To become more self-aware when designing and researching such a sensitive topic in terms of my own health and privilege, and how I can use this in a positive way that benefits the majority.
To expand my knowledge and understanding of rehabilitation practices and how some are more detrimental than they are good, so that I may then use that knowledge to educate others and bring awareness to how mistreated and neglected those who suffer from drug abuse and mental health are under our current government and across the world.

Student Signature 	**Date** **28.10.2020**
Lecturer Signature	**Date**
Lecturer Signature	**Date**

Project Title

Short Title *(no more than 100 characters)* Rehabilitation, Not Incarceration

Please not that your short title should be specific to your project and not be 'dissertation' or 'thesis'.

Full title Rehabilitation, Not Incarceration. How architecture and multi-sensory design benefits rehabilitation.

Will your project be known by an acronym? ○ Yes ◉ No

PRF

A.3. Does your project fulfil the criteria for completing a Project Registration Form (PRF)? *Please see 'i' button for further information* ◉ Yes ○ No

Signed: This form was signed by Rachel Alexandra Lambourne (16657260@students.lincoln.ac.uk) on 29/03/2021 19:50

Academic Supervisor Declaration

ASDec. Academic Supervisor Declaration

Note: You will not be able to make any further changes once signatures have been obtained. The application will be auto-submitted.

Academic Supervisors: if you are not happy with the application, please do not sign the form - please contact the student directly to make any changes.

DECLARATION

I have read and approved this ethics application. I am satisfied that the content of the research is satisfactory for an educational qualification at this level.

I have reviewed the application and confirm that all relevant documents have been uploaded and where changes have been requested these have been addressed.

I take responsibility for ensuring that this study is conducted in accordance with ethical principles set out in the University's **Research Ethics Policy**, **Code of Practice for Research**and **related policies** on the proper conduct of research, in conjunction with other academic supervisors as appropriate.

I take responsibility for ensuring that the applicant is up to date and complies with the requirements of the law and relevant guidelines relating to security and confidentiality of participants and other personal data, in conjunction with other academic supervisors as appropriate.

Signed: This form was signed by Dr Begum Ulusoy (BUlusoy@lincoln.ac.uk) on 29/03/2021 20:33