out of sight

Mohesh Babu Radhakrishnan

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out of sight.

— evoking senses for tertiary students' wellbeing.

by Mohesh Babu Radhakrishnan

A thesis submitted to the Victoria University of Wellington in partial fulfilment of the requirements for the degree of Master of Architecture (Professional).

Victoria University of Wellington

2022

Acknowledgments

" It takes a Village and Part of Village."
It would never be complete unless thanking a lot of people.

I extend my heartful thanks to the Almighty.

*I would like to start thanking **Philippe**, who took time out to hear, guide, and keep me on the correct path despite being extraordinarily busy with his duties. Thank you for being earnestly honest with me —this research and I are much stronger for it.*

*Secondly, my research stream and its members. Especially **Bruno, Jacqui** and **Carles**, thank you for tirelessly motivating us. Me and the stream are thankful for that; these memories will stay with us.*

*It is my radiant sentiment to place on record my best regards, deepest sense of gratitude to my friend and mentor **Chitra**, who has always been there for me.*

*I take a moment to thank all my friends here and back home. Indefinite memories, working, laughing and supporting each other; thank you for all of it. Especially, **Sultan**, the support you've shown me in every form is admirable.*

*I owe it all to **Mum, Dad** and **Nirmal**, who believed in me, provided me with unconditional love and support. I am forever grateful for that. Thank you for everything.*

out of sight (title track)

blindfolded by illusions
faux mirages and mere semblances
real entities buried — beyond th' eyes
leaving no room for palms, palates, nostrils and lugs
still invisible, utterly
out of sight

Auhtor (2021)

Preface

This research initially stemmed from the author's passion for positive mental health. Emily Dickinson's poem 'Best Things dwell out of Sight' inspired the motivation for the research. The poet writes about the importance of unseen things. The idea obtained from the poem is that we need to have a perspective to see details beyond sight. This idea was the foundation for an understanding of senses in a built environment. Studies tell us that the senses enable users to perceive atmospheres., this design-led research focuses on designing for senses to obtain better physiological and behavioural responses from students in tertiary learning environments.

The proposal does not intend to portray the existing learning environments otherwise. Instead, it drew on systematic research to understand the considerations of senses, atmosphere and light for architecture. This thesis developed affective methods to design spaces around institutional settings . It also recommends future designers to consider including these spaces to facilitate a better state of mind for students.

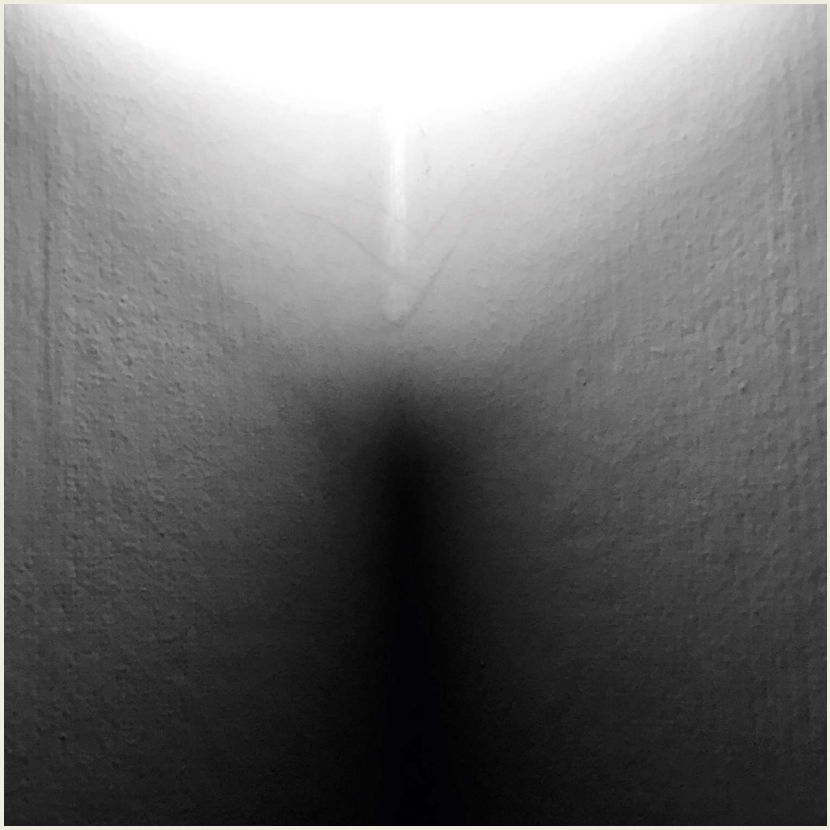

Figure 1.1 : Lampshade Light

All images are authors own unless otherwise specified.

Abstract

Mental health concerns are evident among tertiary students in New Zealand. However, some tertiary learning institutions seldom notice the crucial roles to design environmental abilities to enhance such well-being. Research says that the human body defines or recognises spaces through the stimulation of senses. It intends to seamlessly grasp the environment as an overall atmosphere, ambience, feeling, or mood. Therefore, the role of the senses is vital for humans to engage better in the environment.

The atmospherical experience of a space is often judged only by its visual quality. However, the environmental character is comprised of the multisensory engagement of the users. This multisensory engagement includes all the Aristotelian senses- seeing, smelling, hearing, touching, and tasting. The senses in an architectural realm can create room for mood, emotions, well-being, productivity, and even creativity for the users.

This research explores the importance of providing a well-being initiative in a built environment to support sound mental health for the students. It focuses on how architecture and design can support well-being around institutional grounds.

The research aims to understand the impact that senses, light and nature have on architecture to achieve such holistic well-being for users. Qualitative research methods, including content analysis, literature review, and intuitive spatial explorations, are used to understand the role of an individual's experience in a built environment. The research explores constructive approaches in designing a wellness environment for students through understanding the various atmospheres and affect. The implications are to provide recommendations for the architects to include such affective associations as a campus-wide well-being effort in the future.

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Chapter One : The Background

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Chapter Five : An Album of Chapters

Chapter Six : The Sites

Chapter Seven : The Assemblage

Chapter Eight : The Conclusions

the prologue.

Background of the Research

The issue, need for research and methodology

Chapter One **01.**

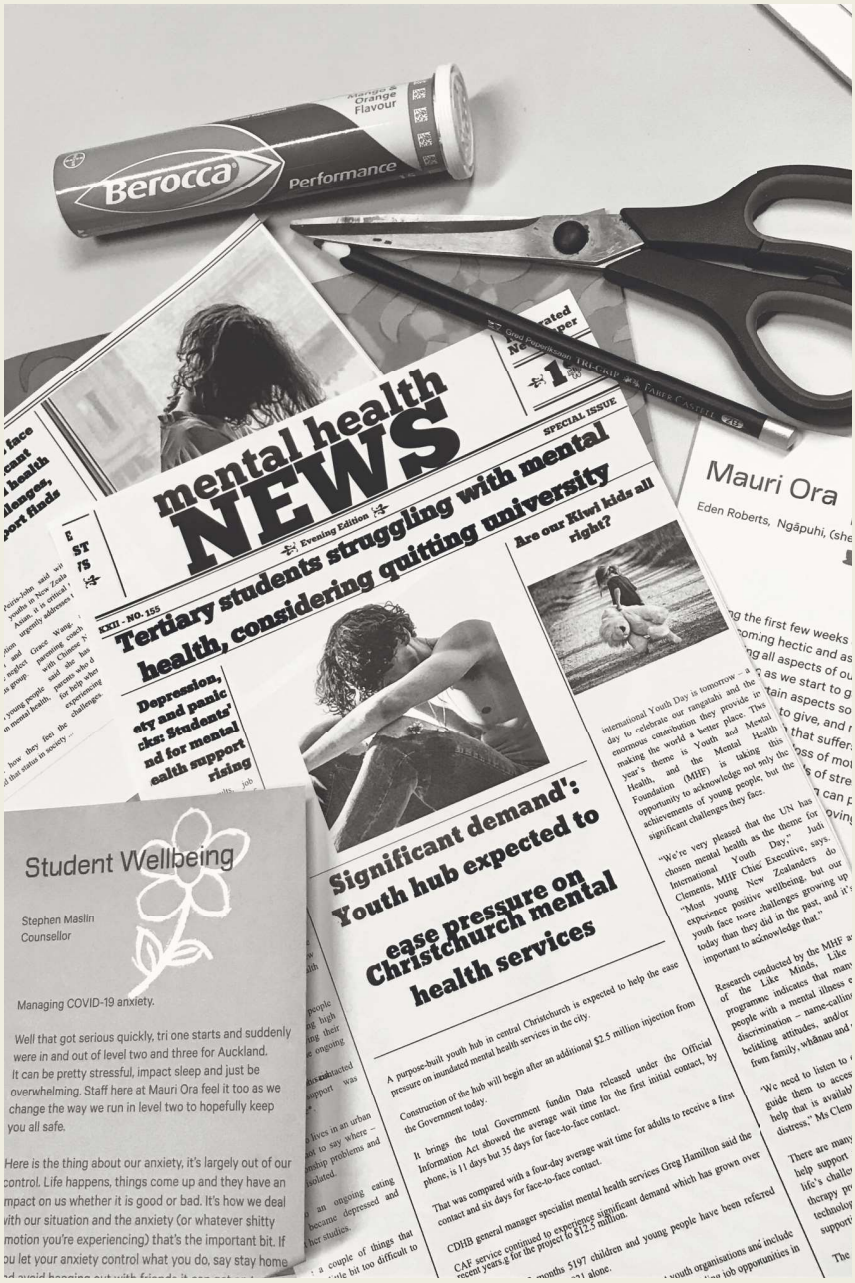


Figure 1 : A Setup illustrating tertiary students' mental health news over the years

1.1 Introduction

Worldwide, tertiary education is often a strong focus in advanced societies. In the last decade, there has been a rapid increase of students opting for tertiary enrolment soon after secondary education in New Zealand (Goedegebuure et al.,2008,p.5). Tertiary-qualified people tend to have noticeable benefits compared with those without a tertiary qualification (p.20).

Though tertiary education can provide benefits, it can also come with mental health and well-being concerns due to academic anxiety, peer pressure and other allied causes (p.27). Voicing personal mental health concerns can have a stigma attached to it. Tertiary students tend not to be very vocal about this because of peer pressures and fear of judgement (New Zealand Union of Students' Association et al., 2018). Concealing mental health concerns often leads to critical well-being issues. It can directly affect the students' engagement and participation in academic life, thereby resulting in dropping out of studies. The notion of personal well-being is often misunderstood as a luxury or an optional extra (Jones,2006). However, self-care is fundamental for successful engagement in any work. Tertiary students might need to take time off from their challenging daily activities in their education. Currently, this negligence in self-care leaves an urge to look after students' mental health.

Recently, denying the need to take care of oneself has been adopted as a cultural norm .Overworking and being stressed gives an outward appearance of being a workaholic, which seems to be thoughtlessly celebrated (Hammer,2016). The commitment to unhealthy routines and an over-working style can create a tough place for tertiary students, leading to severe mental and physical health risks later. However, recent times have seen a developing awareness about well-being. Institutions have taken initial steps to consider students' well-being by facilitating well-being workshops and student counselling programs.

At the same time, the benefits gained from existing institutional initiatives are limited. Apart from current treatments like therapy and meditation, an individual's well-being is dependent on their spaces and surroundings. Thus, the need for an architectural well-being initiative for students to restore personal well-being and mental health has been recognised (Hempstead ,2018).

A person's or an individual's comfort, mood and emotions are highly complex factors. Presently, some built environments are crafted for visual aesthetics, which only serve the sense of sight. However, individuals can attain a sense of relief through evironments if they are orchestrated to delight all the senses. Pallasmaa explains that "architectural meaning derives from archaic responses and reactions, remembered by the body and the senses..." (2012, p.64). Therefore, using senses and experiential studies , proposing a built environment, can be a vehicle to provide personal comfort and well-being.

This thesis examines how architecture can play a crucial role in facilitating stress relief, catharsis and well-being for students. Furthermore, this design-led research is explored spatial and psychological opportunities to contribute to better mental health for students individually and as a community.

Figure 1.2 : Montage illustrating the issues and niche in well-being atmoshpheres for students

1.2 **Niche**

There is a specific architectural niche in designing a notable footprint for students' well-being (Hempstead ,2018). The awareness of positive mental health and well-being are becoming increasingly evident. However, designing spaces, mainly to promote personal renewal and well-being, are not sufficient enough.

Issues of Mental health and well-being constitute of highly personal factors. This research aims to depersonalise these factors that impacts the tertiary students' mental health. The tertiary students fall under the spectrum of higher mental health risks than younger students and other age group (NZUSA et al., 2018). Therefore, the research focuses on designing for this niche (Fig 1.2).

Research Question

In what ways can architecture facilitate personal and social well-being for tertiary students ?

1.3 Aims and Objectives

This research proposes that integrating senseory experiences while designing atmospheric settings around learning environments can improve tertiary students' well-being. The aims of this research are:

- To introduce well-being spaces for the students around the context of tertiary learning environments and create awareness about its importance.

- To explore the spatial design in terms of sensory experiences and consciously design for students to experience better well-being in spaces.

- To experiment with such atmospheric and sensory design methods to improve mental health and well-being for tertiary students.

The principal objectives of this research investigation are:

- To engage sensory-affective theory that interprets views derived from Juhani Pallasmaa as a framework for design to establish an affective architectural response around campus sites.

- To explore how attributes of the site, combined with new affective architectural interventions, tie physical and sensory notions of place to achieve an architectural output.

- To offer insights for mitigating the issues of reduced well-being among students through spatial design.

1.4 Methodology

This research is based reviewing the literature on the theories of senses and atmospheric affect. Multiple approaches were employed to attain a cohesive architectural response that engages various features to stimulate the senses. The research methods are used to design spaces which can have a positive effect on students' moods and allows them to experience wellness. The research uses interpretive analysis , which emphasised two methods: content analysis of theories and research through explorations (Fig 1.3).

During the research, intuitive works such as atmospherical explorations, graphical exploration through art, photography, and maquette making were employed to illustrate the literature and experiential findings.

Furthermore, these intuitive works analysed to obtain inputs for this design-led research (Fig 1.4). After obtaining the research input from premises and explorations, the process explored designing spaces in the early phase. Later, this phase is developed through multiple iterations of the design. Finally, architectural outputs were devised to provide built environments for the well-being of students in the chosen sites.

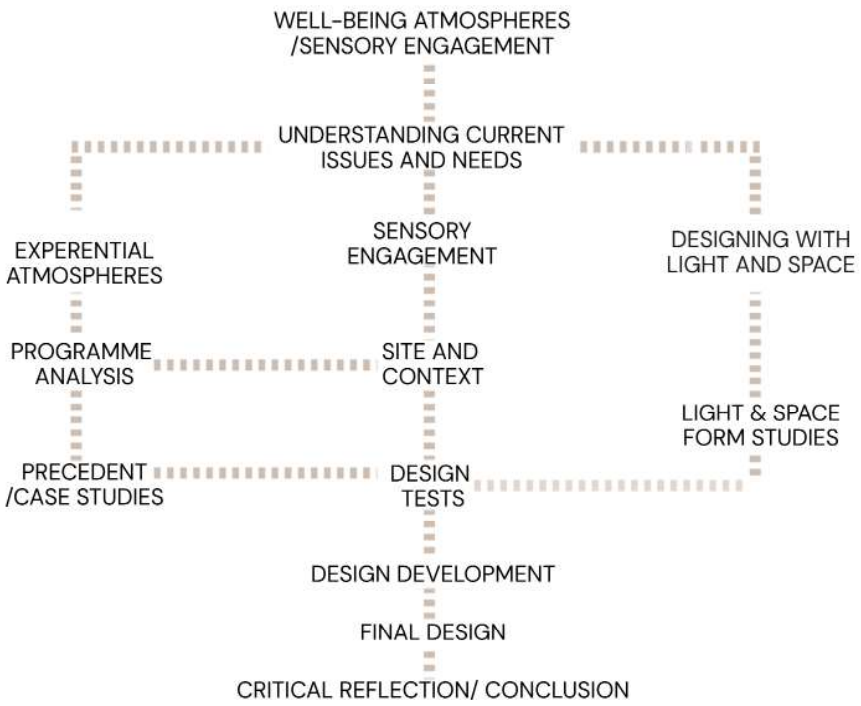


Figure 1.3 : Overview Methodology of Research

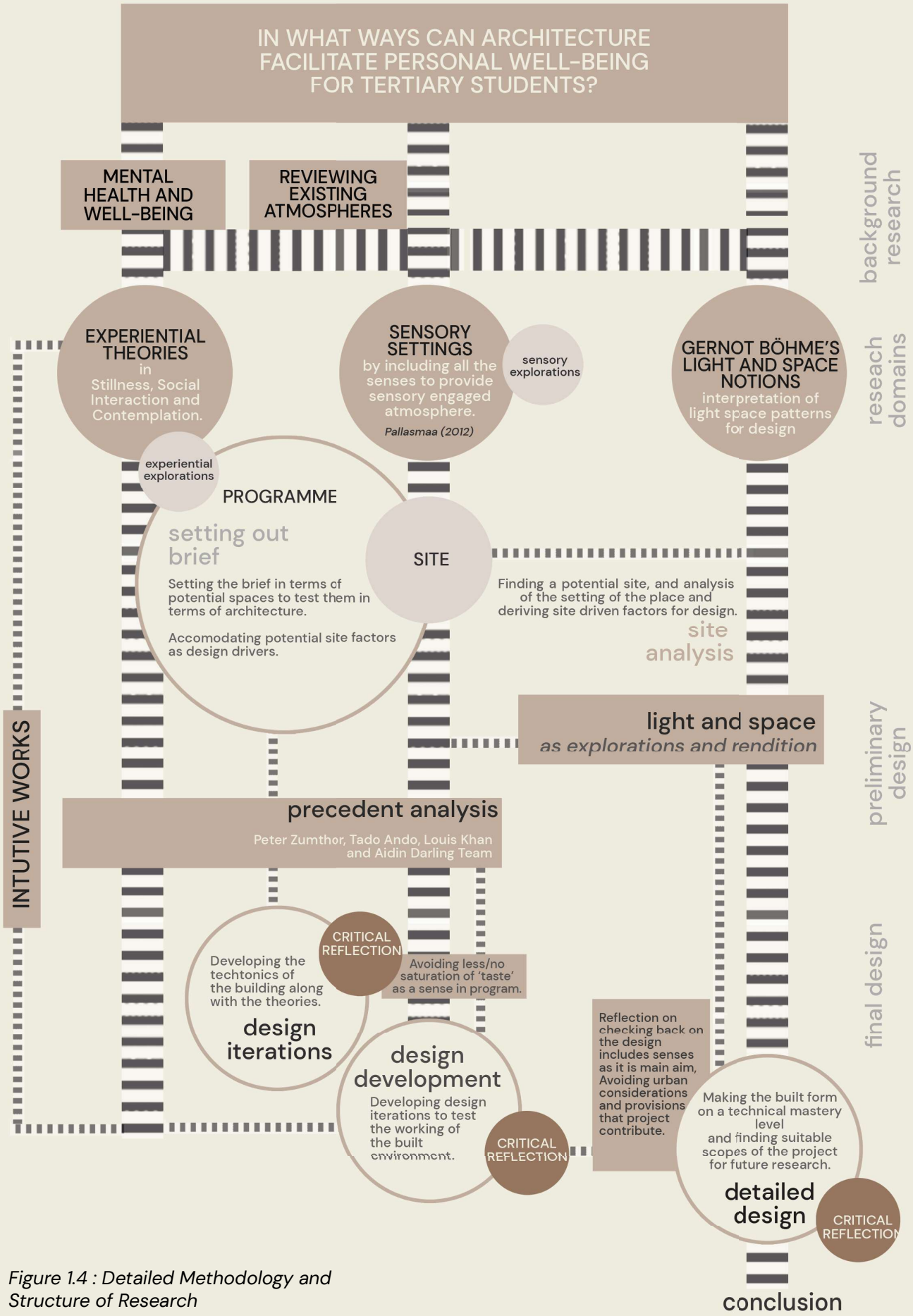


Figure 1.4 : Detailed Methodology and Structure of Research

	The focus areas of this research are...	The exclusions of this research are...
ARCHITECTURE	Well-being Initiative Spatial Relationships Personal Comfort Paradigm Accesiblity Amenity and Provision Contemplation	Costs and Affordability Measurable Health benefits *(eg: BP Tests, Mental evaluation)* Spiritual related Contemplation
SENSES IN DESIGN	Touch (Tactile) Hear (Auditory) Sight (Visual) Smell (Olfaction)	Taste (Gustation) Proprioception Kinesthesis Vestibular sense
INSTITUTIONAL ENVIRONMENT	Surrounding Spaces Mental Health Well-being Leisure time Relaxation Community	Studios, Lecture halls Academic Learning Spaces Teaching/ Learning methodology Academic hours Administrative Spaces
INTENDED USERS OF THE SPACE	Tertiary Students	Institutional members Other staff Public

Figure 1.5 : Scope and limitations of Research

glossary.

There are many definitions to each term,
This thesis will consider the following:

AFFECT	Affect is defined as the attachment to a place. It can also be the sensations of a place has upon arrival and it might stay there as an affect on a person.
ATMOSPHERE	In architecture and spatial design, atmosphere refers to the sensorial qualities that a space emits, the affect comes from the atmosphere.
CONTEMPLATION	Contemplation involved in built configurations that serve as the actual object of direct and purposeful, meditative attention. It is when architecture facilitates a contemplative experience and is also crucial in instigating it, and in this research, the contemplation does not refer to spiritual contemplation.
PHENOMENOLOGY	Phenomenology in architecture is defined as the orchestration of space, material, and light and shadow to create a memorable encounter through an impact from human senses.

SENSES /SENSORY	A vehicle by which the body perceives an external stimulus; they are predominately; sight, smell, hearing, taste, and touch.
SOCIAL INTERACTION	Interaction between the social community. Interaction in this research doesn't indicate conversation alone, but variousunplanned activities emerged through such social interactions.
SPACE	Space in architecture is encompassed of volume in a structure, the parts of a building we move through and experience.
STILLNESS	Architecture itself is considered to be still. Stillness is illustrated as the state of being still in a space and 'stillness' in in architecture enables buildings to be considered free from distraction
STUDENTS	Throughout this research, the word "students" represent the tertiary students.

Figure 1.6 : Manners Street, Wellington, New Zealand

the grounds

Problems and current settings.

Context of Well-being around Institutional Environments

Chapter Two 02.

Purpose Statement

The completion of tertiary study comes along with multiple struggles and issues related to mental health and well-being. Although the discussions about mitigating mental health issues in tertiary institutions have been initiated, they remain rudimentary. The existing methods to help students' mental health, such as peer support programs, academic counselling, and hardship funds, might be the first step towards this process. Figuring out solutions for mental health issues are technically approached. However, human moods, wishes, and personal happiness are highly personal and complex factors.

This study aims to gain an understanding of human emotions inside the built environment. It proposes solutions through architecture to offer students an improved state of mind around the campus environments.

Figure 2.1 : Walkways of City Gallery Wellington, Wellington, New Zealand (2021) ***Source : Author***

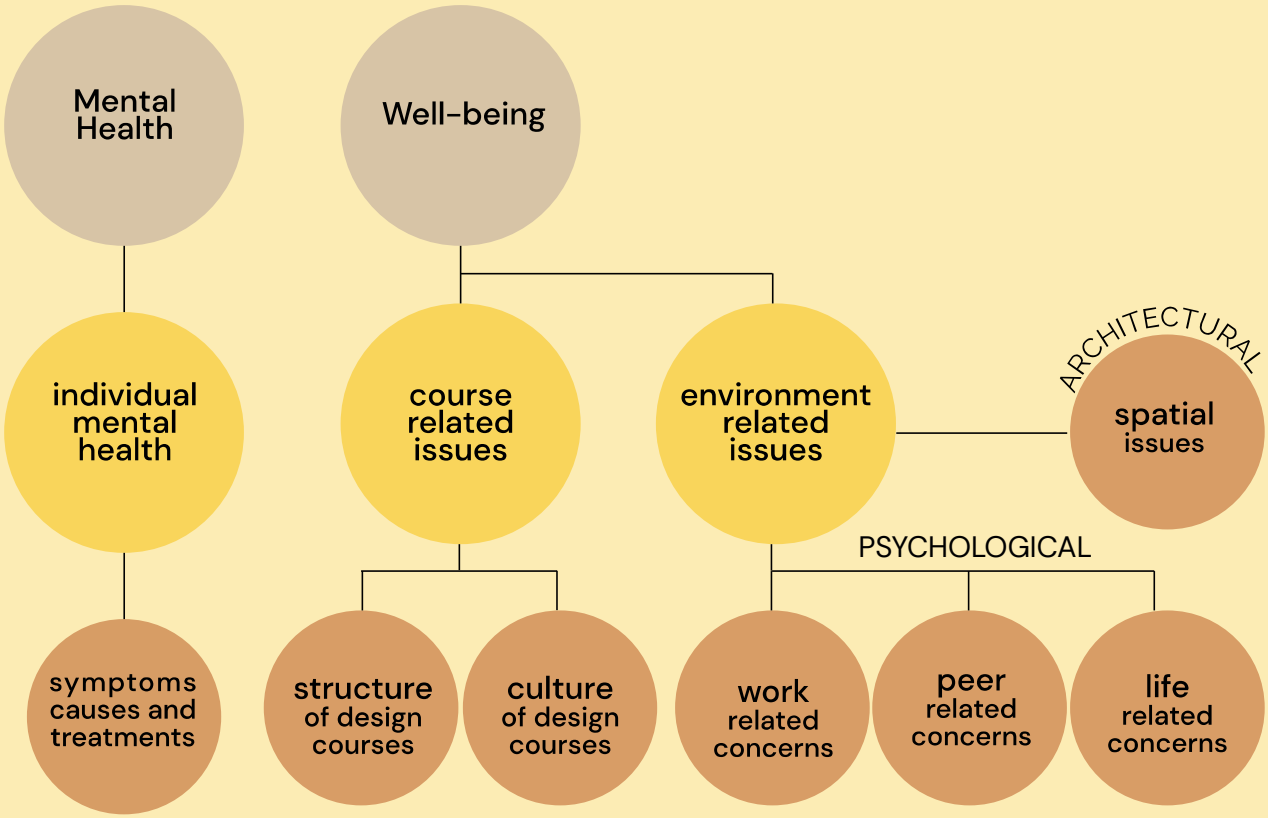


Figure 2.2 : Overview of issues in mental health and well-being

2.1 **Problem Overview**

Generally, Tertiary students and students specifically who study in the design and medicine mainstream face several challenges in physical and mental health. 56% of tertiary students considered dropping out because of mental health, fear of failure, and overwhelming stress (Education Central New Zealand , 2018). Tertiary providers have a responsibility to engage students to participate in educational workplaces actively.

Students might sometimes struggle with continuous participation and engagement in academic activities, reducing productivity during learning (Hourakhsh, 2016, p.834). At the same time, an individual's environment can play a vital role in their well-being. This issue can be mitigated by understanding the problems in detail. This chapter details the source of mental health issues (Fig 2.2).

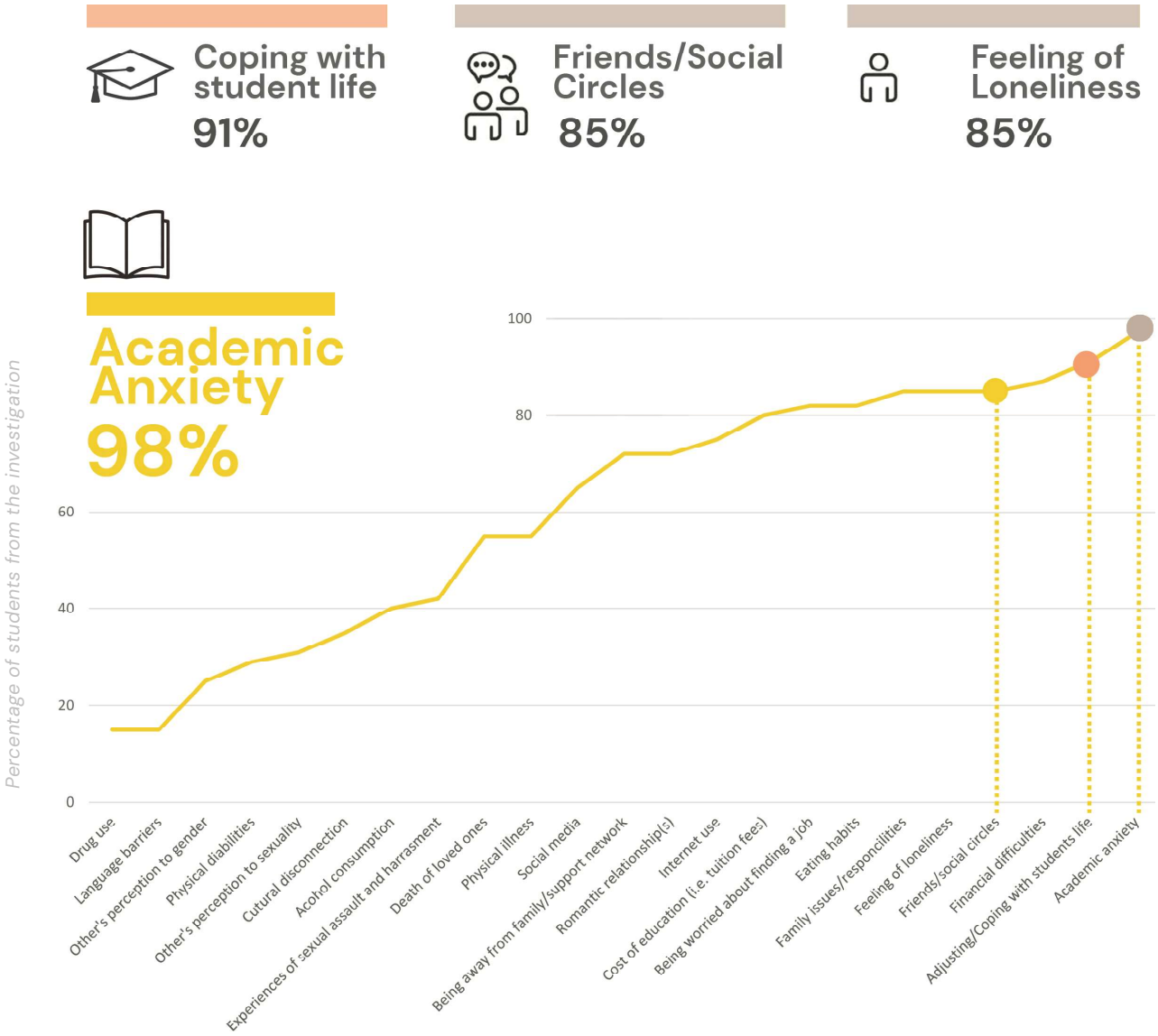


Figure 2.3 : Triggering causes of depression, stress and anxiety amongst tertiary students
Source : Interpreted by Author from the data on Student Mental Health Report in Aotearoa, New Zealand Students Union Association, 2018

2.2 **Mental Health Concerns**

Tertiary students were observed to have some risk factors. It is found that these factors (Fig 2.3) generally trigger their senses of depression, stress, and anxiety (NZUSA et al. ,2018). The three highest reported causes for such triggers were:

Academic Anxiety	**98%**
Student Life-related worries	**90%**
Social circle related triggers	**86%**

TRIGGERS

- General Anxiety
- Work-related Anxiety
- Work-related stress
- Seasonal Depressions
- Peer Pressures

SYMPTOMS OF TRIGGERS

- Low Performance
- High/Low Blood Pressure
- Acute Tiredness
- Insomnia
- Drug/ Alcohol as a coping mechanism

EXISTING TREATMENTS

- Relaxing Exercises, i.e., Yoga, Meditation
- Professional/ Medical Therapy
- Tranquiliser Shots and Supplements

EXISTING WELL-BEING INITIATIVES

- Recreation Clubs to Engage in Sports
- Academic Counselling
- Student Learning Provisions
- Peer Support Programs
- Hardship Funds to shed Financial Loads

2.3 Issues of Well-being

The statistical issues reported on mental health and well-being are barely the crème of the real issues. These issues, causes and symptoms might be merely substantial enough to report. On the other hand, the actual disrupting experiences of mental health and well-being can be delicate. Therefore, they might not be reported or ever discussed (because they can seem insignificant from an individual's perspective). This study focuses on sampling the well-being concerns of a design course student to depersonalise these issues. They emerge from two broader classifications of concerns; The studies from Hammer (2016), listed below are:

1. Tertiary course-related concerns
2. Learning Environment-related concerns.

2.3.1 Well-being concerns related to tertiary design courses

There are many streams that are challenging. One such stream is the design courses. To study the course-leading factors to mental health issues, design courses were selected to study and analyse in this research.

Apart from other courses, the design courses have reviews and exams that require much hard work, commitment, and personal dedication towards their completion. Hammer (2016) observes that the two main contributors to these well-being issues. They are

1. The Structure of Courses

2. The Culture of Courses

2.3.1.1 The Structure of Courses

The structure of design courses is described as the functionality and organisation of the course. These issues are perceivable. Some of them are:

The cost of course:

Design courses are one of the costliest courses on the record after medicine (Times Higher Education, 2020). These course costs are the tuition fees and other resource costs that emerge from art supplies, model making, and specific design software. Though the student loans sometimes bear the costs, it causes stress for students to worry about their study loans.

The course duration:

Design courses are expected to take a longer duration to complete. It is because the knowledge that needs to be gained is intellectual, creative, and usually artistic. This situation requires continuous dedication, which could be a stressful state for students.

Focused Employment Opportunities:

Design professions fall in a specific and narrow spectrum of employment which can be challenging to enter. This aspect can also contribute a large amount of stress on students when they are nearing completion.

Workload and Deadline Pressures:

These factors are predominant, and well known among the students in the design course structure. Design performances are fundamentally assessed through projects rather than regular examinations. Therefore, it requires working on academic projects throughout the year or possibly throughout the course is required.

2.3.1.1 The Culture of Courses

The Design culture and current trends in the learning environment are evident amidst the student backgrounds. However, these issues are not perceivable. Some of those issues are:

Over-working Style:

There is a fine line between being a workaholic and adapting to a culture of overwork among the design cohort. Multiple deadlines lead to constant working, which is often misinterpreted with overworking on projects. Students wilfully do not decide to take a break in order to be productive. This condition can be devastating to an individual over time (Hammer, 2016).

Personal Creativity Standards:

There might be no black and white answers in design. Every solution to a design product can be a perspective. To gain such understanding, one's work is expected to be creative. However, some individuals consider not creative enough, which leads to low self-esteem (NZUSA, 2018). This can be an additional pressure on students to make sure their work reflects creativity. Simultaneously, the students are constantly under pressure to create something "out of the box".

Unhealthy competition:

Humans, by nature, are highly competitive beings. Therefore, every work that is done comes with a peer-peer comparison. Sometimes, this is seen as unhealthy competitive attitude for the students.

Modes of Representation:

The are multiple ways to present one's project. People who could financially afford exquisite ways to represent their work can sometimes overshadow those who cannot afford such a presentation technique. It is a prevalent stigma around the students.

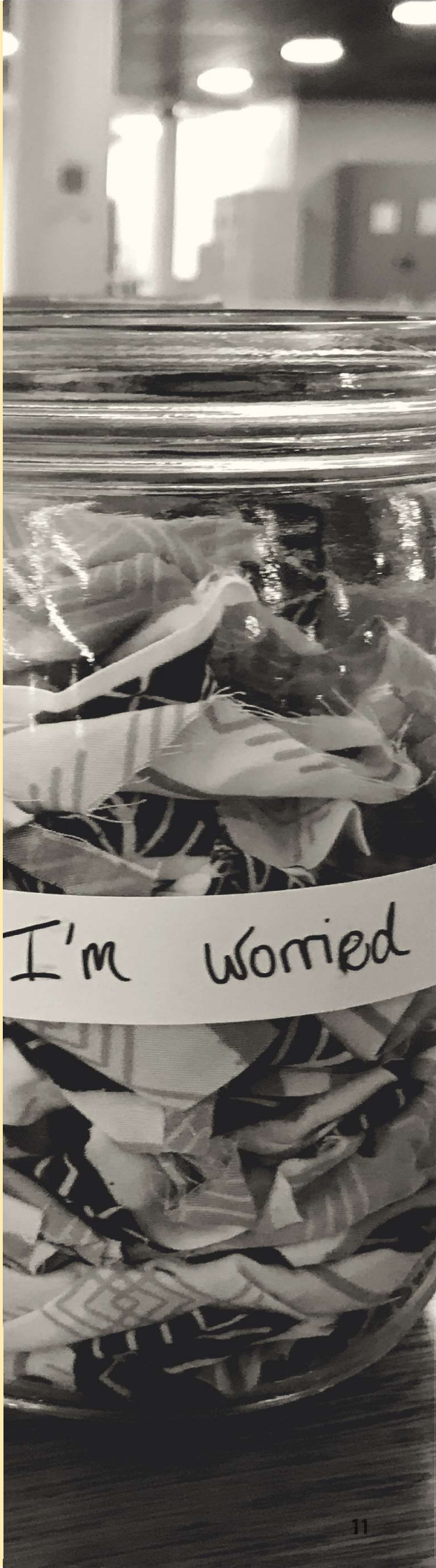


Figure 2.4 : Well-being Services Expo in Victoria University Wellington

2.3.2 Well-being concerns related to learning environments

The most reported problems regarding mental health have been at the institutional and primary organisational levels so far. At times, the students tend to criticise the institutions for their well-being. At the same time, an institution might not be entirely responsible for such concerns. Those issues emerge from an individual level, then a cohort as a whole, immediate surrounding environments, and finally institutional. There are two types of issues emerging from learning environments. namely (Hammer, 2016):

1. Psychological Issues of Students
2. Spatial Issues of Surroundings

2.3.2.1 Psychological Issues of Students

The students related to design courses are psychologically troubled in three ways. These issues are related to academic work, cohort relationships, and personal life concerns (Hammer, 2016) (Fig 2.5a).

a) Distraction and Inadequate Concentration
b) Inadequate organisation of thoughts
c) Inadequate Peer-peer relationship

To mitigate the psychological problems, spatial solutions can be devised while designing the built environment for students.

These spatial solutions will be derived after reviewing the literature, and later, solutions will be provisioned in an architectural dimension in the design to tackle mental health concerns.

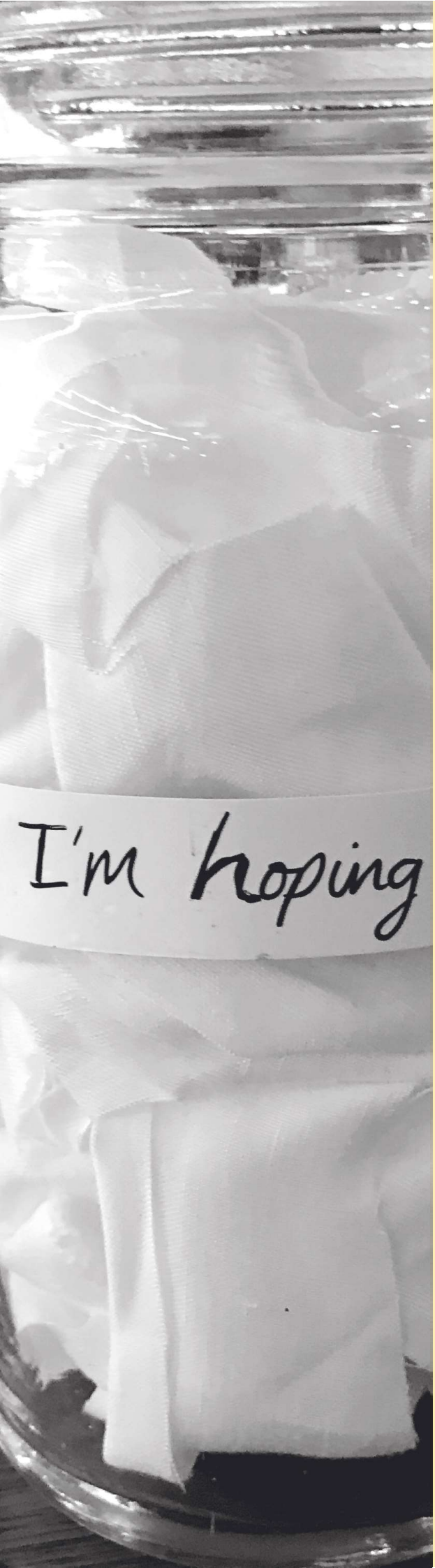


Figure 2.5 : Well-being Services Expo in Victoria University Wellington

Academic Work related concerns	Peer/ Cohort related concerns	Personal Life related concerns
Stressed	Isolated	Constant feeling of being inadequate
Pressured	Unsupported	Trying to be different
Guilt	Easily annoyed or irritated	Not in control
Anxiety	Prone to taking everything personally	Directionless
Overwhelmed	Keen to blame others	Low self-esteem
Inability to detach from your work	Trying to be the life of the party but not truly connecting with anyone	

(Hammer, 2016)

Distraction and inadequate concentration	**Inadequate quality peer-peer relationships**	**Inadequate organisation of thoughts**

problems identified in this research.

Figure 2.5a : Statements by Hamer (2016) indicating psychological Well-being issues in learning environments
Interpreted by Author

2.3.2.2 Spatial Issues

Students spend nearly one-third of the day in learning environments (Fig 2.6). The spaces in learning environments such as classrooms, computer studios, and chalkboard/digital lecture halls are constructed in a regimented fashion. It can make the students' learning experience monotonous and stressful.

Education providers should design their learning environments as a "... sensory engaged skin [orchestrated space] and not just a shell [room]" (Rinaldi ,2013,p.28). Such 'sensory engaged' environments could benefit the mental health of students. Senses play a crucial role in students by stirring their creativity, critical thinking, providing inspiration, imagination, mood, a sense of comfort, and excitement (Holl et al., 1994). After all, '...our senses are ultimately the gateway to all learning...' (Gascoyne & Raban 2012, p.69). Similarly, architecture is not just about the building but about the surrounding, mental surrounding, and biographical setting of the place, which contributes to a user's mental presence.

Finally, this design-led research aims are to design built environments to improve the well-being of the students, which will be considered a fundamental addition in or around learning environments

Figure 2.6 : Atrium - SANNZ Lounge in Victoria University Wellington, Te Aro Campus (2021)

2.4 Existing Well-being services in Tertairy Institutions

Primarily, this research is motivated by the problems of declining mental health among tertiary students in Aotearoa. In recent years, the number of adults diagnosed with mood and anxiety-related disorders has increased all over the country. According to a recent New Zealand health survey collective from the District Health Board (2018), Christchurch, Wellington, and Auckland are the top three places where a higher percentage of adults (18-25) are diagnosed with mental health issues (Fig 2.7). In order to reduce these numbers, the government has recommended that tertiary providers include mandatory well-being services for the students. Since then, the Institutions have provided clinical counselling services and other well-being services like recreation clubs. In contrast, the recent New Zealand health survey records that about 77.1% of adults search the internet to find "solutions and symptoms related to mental health" (NHS, 2018). Thus, the well-being services in institutions are helping with students' mental health, yet the surveys above observe that they are insufficient. In detail, two institutions are studied to observe the efficacy of existing well-being services and space. They are:

1. Victoria University of Wellington Kelburn, Wellington

2. Ara Institute of Canterbury, Christchurch

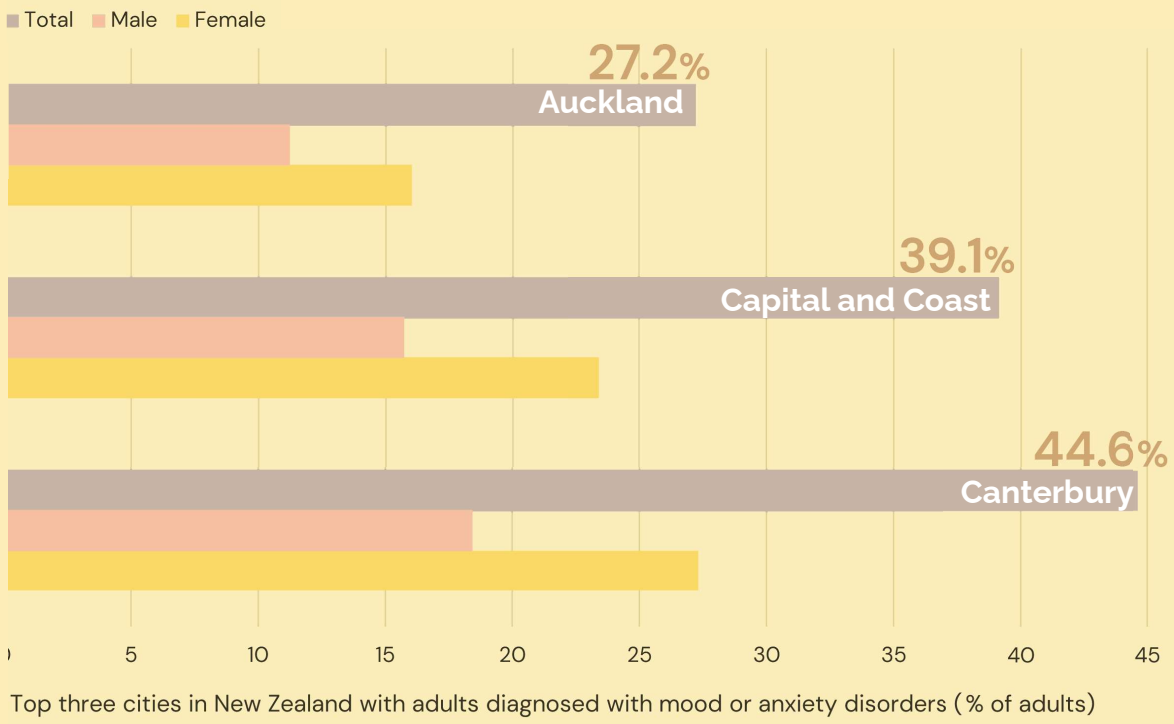


Fig 2.7:
Source : From the dataset New Zealand Health Survey: District Health Board prevalence and Mean data 2018
(Interpreted by Author)

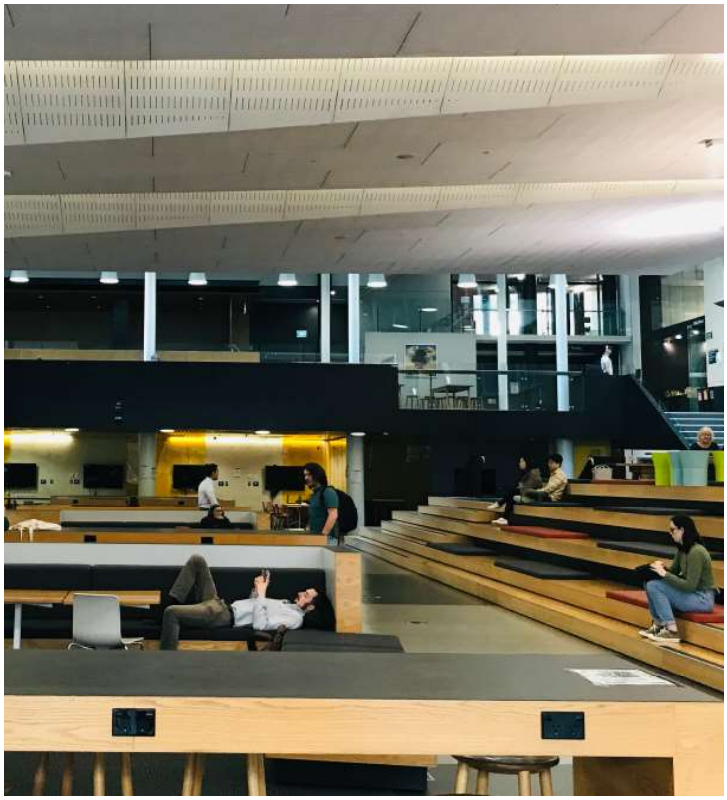


Figure 2.8 : The Hub, Victoria University of Wellington, Kelburn Campus.

Figure 2.9 : The BUBBLE, Victoria University of Wellington, Kelburn Campus.

2.4.1 Wellington : Victoria University of Wellington

The Manawa Ora | Student Wellbeing in Victoria University has provisioned 10+ services for the students (Fig 2.11; Next Page). However, apart from these services, the university has created few spaces of well-being for the students. The two functional spaces among them are :

The Hub: An existing courtyard in the campus is constructed as a closed environment now called "The Hub" in the VUW at Kelburn campus. The space aims to enhance interaction and create student-friendly spaces (Fig 2.8). This space is observed to be the most interactive and active self-accommodating student space on campus. Key reasons for the Hub to be effective could be the presence of café and the translation of circulation into seaters and variety in seating options for personal comfort.

The Bubble: Secondly, the only well-being space solely dedicated to students' well-being is called 'Bubble' (Fig 2.9) and is located in the main campus. *The Bubble* is run by a student organisation managed by the institution. The space directs the students to "chat, relax and just be" (Fig 2.10). The Bubble is observed to be a functional space, yet it is only about 150m2, which seems insufficient for a university with around 22,000 students.

Figure 2.10 : Signage leading to The BUBBLE

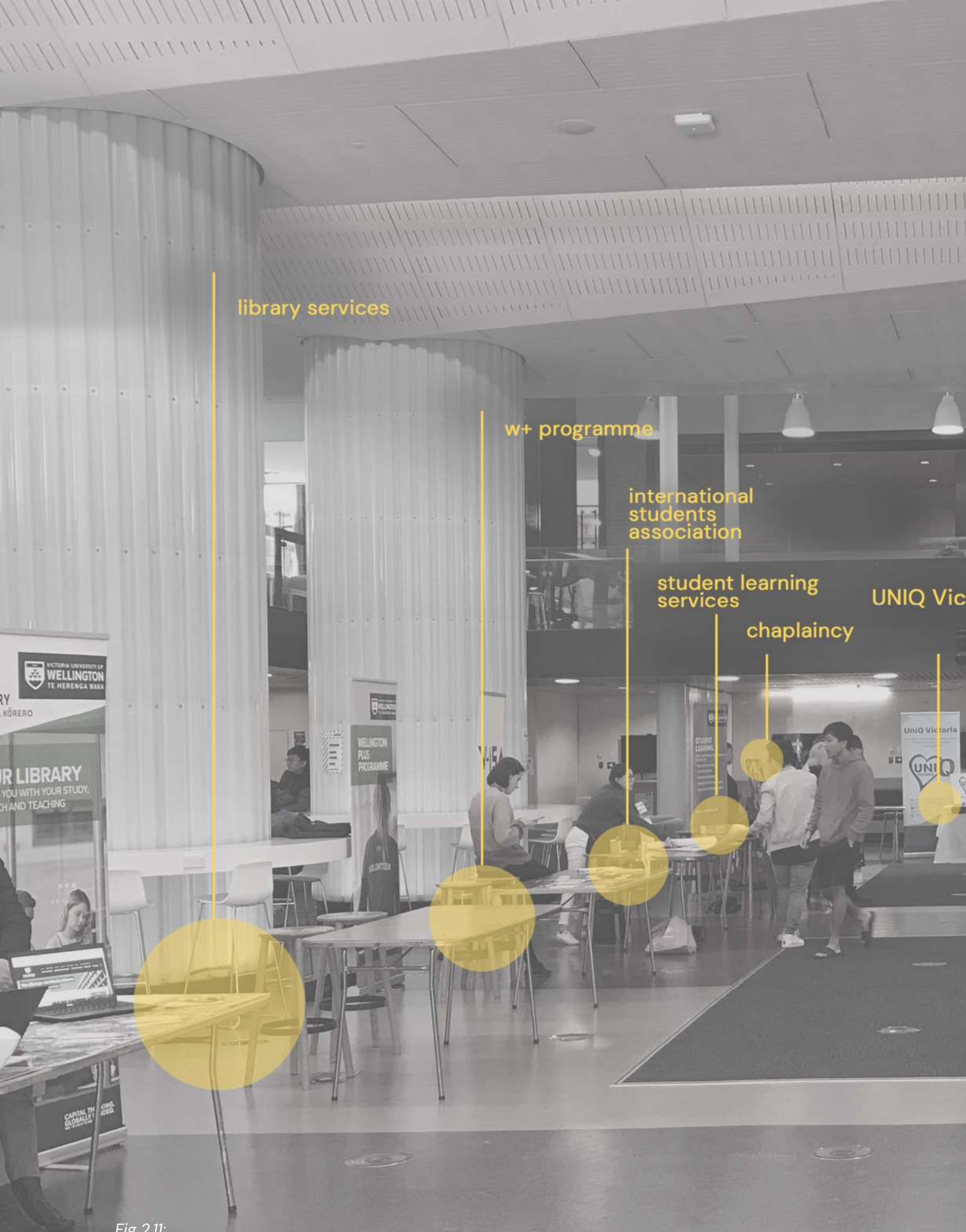


Fig 2.11:
Well-being Services Expo in Victoria University Wellington, Kelburn Campus

well-being expo trimester 2

The Hub, Victoria University of Wellington
Kelburn, Wellington, New Zealand

2.4.2 ARA Institute of Canterbury Christchurch

The Wellbeing services in ARA Institute of Canterbury (ARAIC) are included in a complex called "*The House of Wellbeing*" (Fig 2.12). It accommodates services ranging from a work skill training room, learning spaces, fitness studios, staff workspace, health centre and sports court. Although the building is dedicated to 'well-being' as seen by its name, it focuses more on physical wellness and clinical health care than students' mental well-being. No specific spaces are allotted for the students to interact, leaving the building as a 'controlled' environment. The functionality of this building serves students' learning services with training and discussion rooms (Fig 2.14). These conventional spaces are allotted for students to study in groups or during the examinations.

Following these regulative spaces, the landscaped garden (Fig 2.13) outside the centre is also observed, which contrasts the conventional ideas of interactions by the articulation of seaters which provide opportunities to interact, relax and be themselves. It is observed that, although the building provides specific amenities for the students, it could seldom focus on personal comfort and preferences.

Figure 2.12 : Façade of the 'The house of well-being'

Figure 2.14 : Group Discussion rooms in House of Well-being, ARA Institute of Canterbury, Christchurch

Figure 2.13 : Landscaped gardens around the campus, ARA Institute of Canterbury, Christchurch

Fig 2.15:
Façade of the 'The house of well-being'

2.5 **Conclusion**

Through the case studies conducted ,this research suggests some recommendations for the tertiary institutions to consider.

It is observed that both institutions have provisioned mandatory well-being services for the students. However, through the author's lens, it is noted that these spaces are insufficient to cater to the student's mental health and well-being. Students need to have room to relax around learning environments. When regulative boundaries are relaxed in an institutional space, it can encourage participation, engagement and leisure.

Providing courtyards, landscaped parks, relaxation areas, and friendly spaces are the first step towards creating well-being spaces in and around the learning environments (Fig 2.15). Furthermore, this design-led research recommends extending these spaces into built environments catered for students' well-being.

Although, it is idealistic to predict the cues that users experience in a space. A user can experience various moods and emotions in a space, but these cannot be assumed. Therefore, in order to understand the spatial experience and ways to design spaces for well-being, relevant literature is reviewed in the next chapter.

the premise

Literature studies

Reviewing literature studies to arrive design framework

Chapter Three **03.**

3.0 **Introduction**

This chapter reviews theory from themes of sensory engagement, environmental phenomenology and light in architecture.

Each of these themes adopts a correlated and integrative approach to research and are positioned critically. In addition, the theory of light and space is further examined to enhance architectural response for the students.

Figure 3.1 : The Bridge between two realms

3.1

Sensory Engagement

Premise One

3.1 Senses in built environment

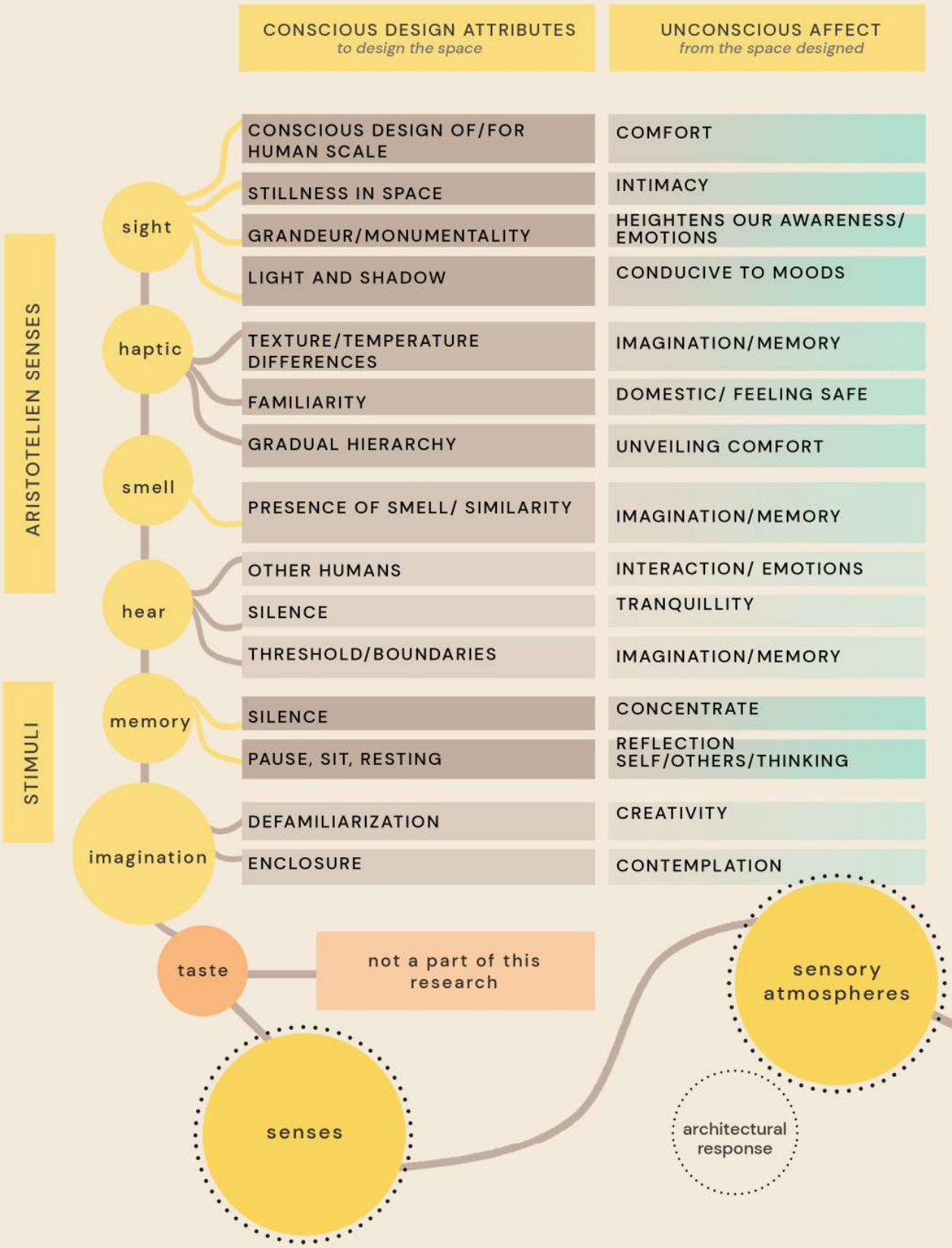
"The body knows and remembers."
Pallasmaa, 2012, p.64

In Pallasmaa's book, Eyes of the Skin: Architecture and the Senses, he outlines that "Architectural meaning derives from archaic responses and reactions, remembered by the body and the senses..." (2012, p.64), and that there are many ways to derive such meanings. However, it is also examined that other senses are suppressed in architecture due to the visual dominance of aesthetics.

Each sense has the potential to influence the spatial experience. For example, the haptic sense is accompanied by personal wishes, moods, feelings and occupations. It "...reads the texture, weight, density and temperature of matter..." (Pallassma, 2012, p.59). Providing a setting for tactile sense leaves room for comfort, imagination and pleasurable experience. Secondly, the auditory sense [hearing] influences vision because hearing directs our vision when moving through space. In this way, the auditory sense has therapeutic properties and helps the user articulate the spatial experience (2012, p.49). The sense of smell is associated with memory, imagination and nostalgia (p.54).

Enhancing the olfactory sense in space heightens the spatial experience beyond the prosaic character of spaces. Architecture is a bridge between the user and environment, and the journey from one realm to another (Fig 3.1) is through the senses (p.72).

It is reviewed that Pallasmaa identifies the critical roles of all the senses in the environment and observes that suppressing other senses in environments challenges our spatial experience. He explains that all the senses are related to each other. By designing to orchestrate the senses, users can experience their spaces, feel represented in them, and gain a sense of intimacy and belonging.


CONSCIOUS DESIGN ATTRIBUTES
to design the space
UNCONSCIOUS AFFECT
from the space designed
ARISTOTELIEN SENSES
STIMULI
sight
haptic
smell
hear
memory
imagination
taste
CONSCIOUS DESIGN OF/FOR HUMAN SCALE
STILLNESS IN SPACE
GRANDEUR/MONUMENTALITY
LIGHT AND SHADOW
TEXTURE/TEMPERATURE DIFFERENCES
FAMILIARITY
GRADUAL HIERARCHY
PRESENCE OF SMELL/ SIMILARITY
OTHER HUMANS
SILENCE
THRESHOLD/BOUNDARIES
SILENCE
PAUSE, SIT, RESTING
DEFAMILIARIZATION
ENCLOSURE
COMFORT
INTIMACY
HEIGHTENS OUR AWARENESS/ EMOTIONS
CONDUCIVE TO MOODS
IMAGINATION/MEMORY
DOMESTIC/ FEELING SAFE
UNVEILING COMFORT
IMAGINATION/MEMORY
INTERACTION/ EMOTIONS
TRANQUILLITY
IMAGINATION/MEMORY
CONCENTRATE
REFLECTION SELF/OTHERS/THINKING
CREATIVITY
CONTEMPLATION
not a part of this research
senses
sensory atmospheres
architectural response

3.1.2 Sensory Engagement for the Well-being of Students

Sensory engagement helps in facilitating movement, comfort and productivity in spatial experiences (Fig 3.2).

Senses allow the body to be in a constant relationship with the environment (Ursprung,2014, p. 48). For example, as a user moves through space, they encounter in the environment such as textures, ambience sounds and aroma. Such encounter can be created through providing careful attention to evanescent qualities of light, shadow, and colour" (McCann,2005). Likewise, users might experience various senses associated with memory and imagination when moving through the space (Pallasmaa,2014).
Therefore, it is examined that the body is in a constant relationship with the environment through senses.

Senses impact spatial experiences and facilitate encounters that may provide comfort. This phenomenon is significant because the senses can be used as a vehicle to improve comfort and well-being. For example, the auditory sense: music and narrative experiences in spaces can promote well-being and stabilise catharsis for the users in an environment (Pérez-Gómez,2016, p.50). Thus, a "properly designed [environment] maintains a temperate, good-natured, and healthy state of mind [well-being]" (Norberg-Schulz,2013, p.37).

Figure 3.2 : Findings from "The eyes of skin" by Pallasmaa and "Different Kinds of Silence" by Peter Zumthor ;
Source : *Author*

Similarly, the senses can help users be more productive and responsible during work. (Pallasmaa, 2012, p.90). Consequently, it can emphasise participation, creativity and also well-being. Senses in atmospheres are crucial in all artistic work environments, providing better integration at such work (Pallasmaa, 2014, p. 238). However, these crucial 'abilities' of senses are largely ignored, especially while designing learning environments (Wilmes et al., 2008). Therefore, it is crucial to consider senses while designing such well-being atmospheres for students, and the designers must focus on designing for "multisensory involvement" for students.

There is also a need to focus on finer intangible aspects while designing for such sensory engagement. The user experiences in spaces have multiple layers of tangible and intangible aspects that add personal comfort. Occasionally, the design process tends to overlook the practicalities of design details in constructability. As a result, the designing process "...seldom notices the abstractive systems and emotional comfort of the spaces..." (Pérez-Gómez, 2006, p. 5). He states that these intangible aspects, such as temperature, textures, light and shadows, can increase the quality of bodily experience (2006, p. 69).

Senses focus on the experiences in spaces by helping users perceive the space beyond boundaries (Tirony, 2021), and it is a crucial element to spatial experience. For instance: "...in a movie, the camera elaborates about the human experience, whereas in architecture, senses orchestrate the encounter of spaces..." (2021). Furthermore, such orchestration of spaces to experience senses can be therapeutic, thereby helping to improve the users' well-being. In this way, atmosphere can be employed to encourage moods and can be used as a vehicle to design well-being spaces.

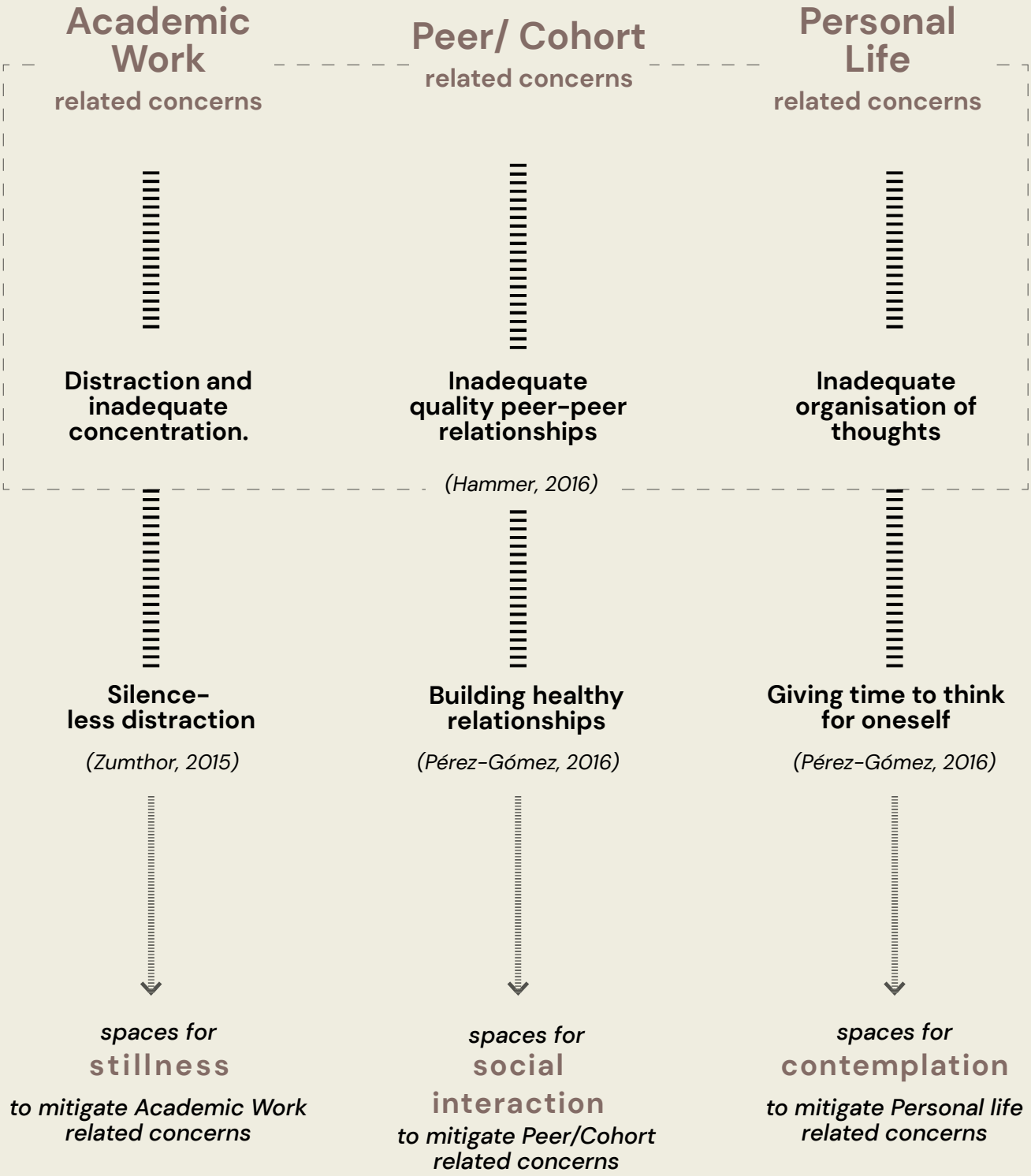


Figure 3.3 : Architectural solutions for psycological problems ; direction of design-led reserach

3.2

Environmental Phenomenology

Premise Two

3.2 Environmental Phenomenology in Architecture

As previously mentioned (Chapter 2.3.2), tertiary students experience three major psychological issues (Hammer, 2016). Namely,

a) Distraction and Inadequate Concentration
b) Inadequate organisation of thoughts
c) Inadequate Peer-peer relationship

In the book "Attunement", Pérez-Gómez (2016) summarises that atmospheres can provide better human experiences and moods in the environment. Therefore, to mitigate the above mentioned psychological issues, three areas of phenomenology are reviewed to formulate and appropriate the architectural responses (Fig 3.3).

1. Initially, a distraction-free space can be designed to mitigate 'distraction and inadequate concentration'. Humans can concentrate if silence and "stillness" in spaces are enabled to tackle inadequate concentration (Zumthor,2015). Thus, designing for "**Stillness**" is the first part of the architectural response in the phenomenological solutions.

2. Secondly, to mitigate 'Inadequate organisation of thoughts', the users must be provided with time away to think. This purposeful meditative attention [mindfulness] can be achieved through "contemplation". "Atmospheres can evoke the 'presence' factor among humans, thereby helping us to contemplate" (Pérez-Gómez,2016, pg.105). Hence , designing for "**Contemplation**" is the second part of the architectural response for psychological issues.

3. Finally, to mitigate 'inadequate peer-peer relationship', spaces can be designed to facilitate such relationships. Pérez-Gómez also states that "humans' self-understanding depends on other humans of the space" (2016, pg.104). Such contemplation on oneself is dependent on social interaction in spaces. Therefore, designing for "**Social Interaction**" is the final part of the architectural response in this research.

Figure 3.4 : Intuitive abstractive maquettes in illustrating about experiences —stillness, social interaction and contemplation.

3.2.1 Phenomenology in terms of Stillness, Contemplation and Social Interaction in Architecture

Stillness

Stillness in architecture is philosophised by critical thinkers such as Peter Zumthor and Juhani Pallasmaa. During an interview, Zumthor (2015) talks about different kinds of silence in the environment. He states:

"Humans can associate with more landscapes nearby, be it a mountain or sea. Humans tend to find silences or stillness in the forms of these spaces. Such landscapes can provoke the brain to create something, e.g., awareness, daydream, a piece of art, or even anything creative."

It is investigated that nature and landscapes are essential for humans to find silence in the environment. Zumthor implies that "...in order for a human being able to concentrate, one must find their mental silence" and "... that silence is present in spaces of stillness" (2015). In contrast, although "...humans tend to be outdoors, but we need the architectural geometry of room to think clearly" (Pallasmaa, 2012,p.45). He postulates that an architectural experience in silence [still] is "powerful" (p.52). Moreover, stillness in architectural spaces can "...frame, halts [pauses], strengthens and focuses our thoughts..." (p.45).

In summary, it is comprehended that stillness in spaces could be provisioned by designing indoor and outdoor meditative environments. Also, designing for stillness can help in providing a distraction-free and contemplative environment for the occupant.

Contemplation

Architecture can achieve contemplation where it "... provides grounds for perception, personal experiencing..." and "...understanding the word." (Pallasmaa, 2012, pg.41). Spaces allow us to direct our attention and thoughts, thereby helping us contemplate inside an environment (pg.41). The spatial experience in architecture strengthens an individual's sense of self. Also, senses "...mediate information for the intellect" and "...ignites the imagination" of the users. (p.45). This attribute of the senses can be helpful for students not only to contemplate but also to help them enhance their imagination and articulate their thoughts. Due to the fast-paced world, we do not have the time to pause and organise our thoughts, which leads us to worry about personal-life related concerns. Therefore, architecture helps us to "... experience the slow, and embrace the present flow of time..." (p.52).

Consequently, the design aims to provide spaces to pause, contemplate and reflect on oneself. Such 'reflection' on oneself could improve a student's state of mind and personal well-being.

Social Interaction

Finally, it is examined that interaction is essential when "all human movements inform the state of existence of individual" (Pallasmaa,2012, p.41). Although architecture cannot force connections, it has the potentiality to fabricate encounters, social interaction, community building and social culture (Cutieru, 2020). Cutieru identifies that architecture enables a fertile ground to enhance conversationand various unplanned activities that emerge from such interactions by removing boundaries in spaces (2020). Moreover, to achieve social well-being and improve peer-peer relationships for the student community, this research aims for an architectural response to facilitate social interaction.

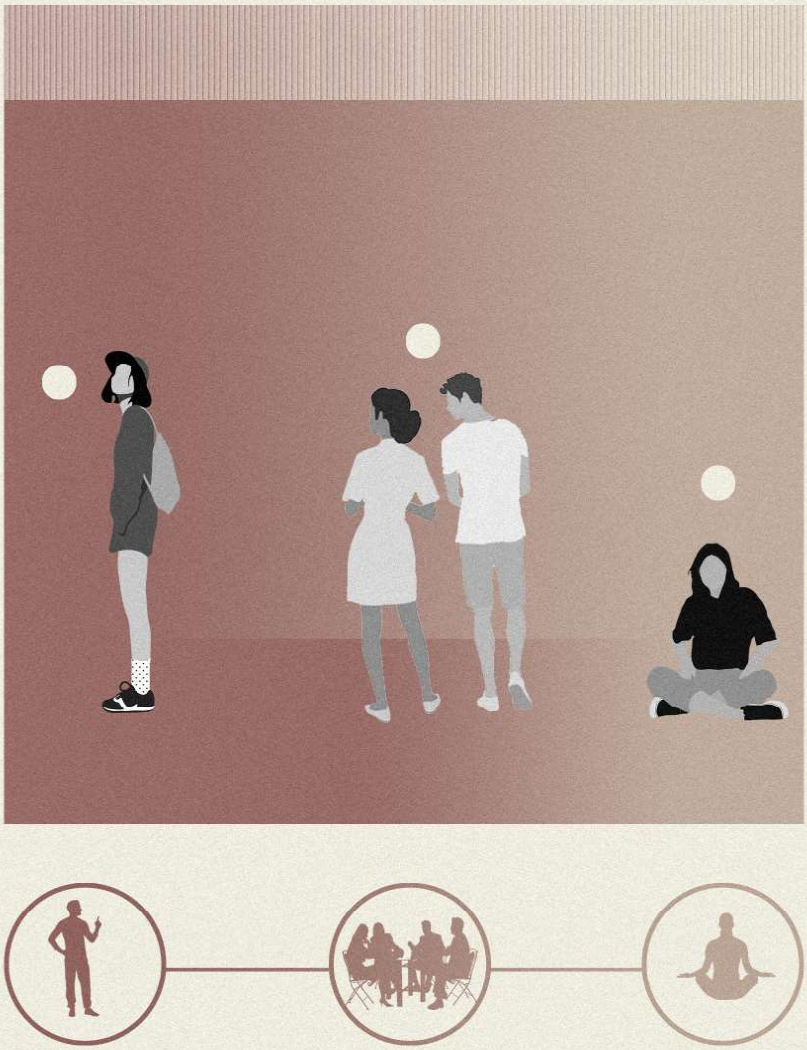


Figure 3.5 : Stillness, Interaction and Contemplation

Conclusion

The affect in an environment "through stillness in architecture would provide calm contemplation and mental healing" to the users (Norberg-Schulz, 2013, p.37). Likewise, senses enable users to be "... aware of self [contemplation] and allow them to experience slowness and silence [stillness]" (Pallasmaa et al., 1994, p.43).

In conclusion, it is recognised that all three areas of phenomenology, i.e. stillness, contemplation, and social interaction, are correlated. These three architectural solutions are devised to mitigate the psychological issues examined from the research. In response to this, the research endeavours to create sensory moments of social interaction, stillness, and contemplation in the built environment designed for students (Fig 3.5).

Figure 3.6 : Light as materiality- Author (2021)

content
unavailable

Figure 3.6A : Grafton Architects Installation in Sensing spaces exhibit at Royal Academy of Arts (2014)
Photographed by Anthony Coleman (2014)

3.3

Light and Space

Premise Three

3.3 Light and Space in Architecture

It is examined that intangible attributes in spaces can contribute to the emotional comfort and mood of the user (Pérez-Gómez,2006). One such attribute is light and shadows, where varying light and shadow allows relaxation in a space (p.95). Therefore, the natural systems of light in architecture are considered to be crucial attributes while designing spaces. In Gomez' book, 'Built Upon Love', he expresses that "...light is not formed after materiality, but a material itself." (2006, p.69). He also commends designers to consider natural light systems as a material that can be applied in spaces.

An acclaimed exhibition in London (Sensing spaces; architecture reimagined (2014)) curated the works of renowned architects under the theme of 'senses in spaces'. Goodwin and Ursprung et al. (2014) curated the exhibition to explore various factors stimulating users' senses in built spaces. One such factor is the significance of light in architecture. When spatial narratives use light and shadow, it allow users to roam free in the spaces. It also safely guides them through narrow and open spaces (Fig 3.6A) (Ursprung,2014, p.44). Ursprung considers that light "... spreads harmony just as music does." which is vital for the personal well-being of users (p.47). Also, various light levels in spaces stipulate imagination, daydreams, a sense of place and a meditative state for the users (Pallasmaa,2012,p.47). Finally, it is identified that light in architecture plays a critical role to improve the state of mind in spaces (Fig 3.6).

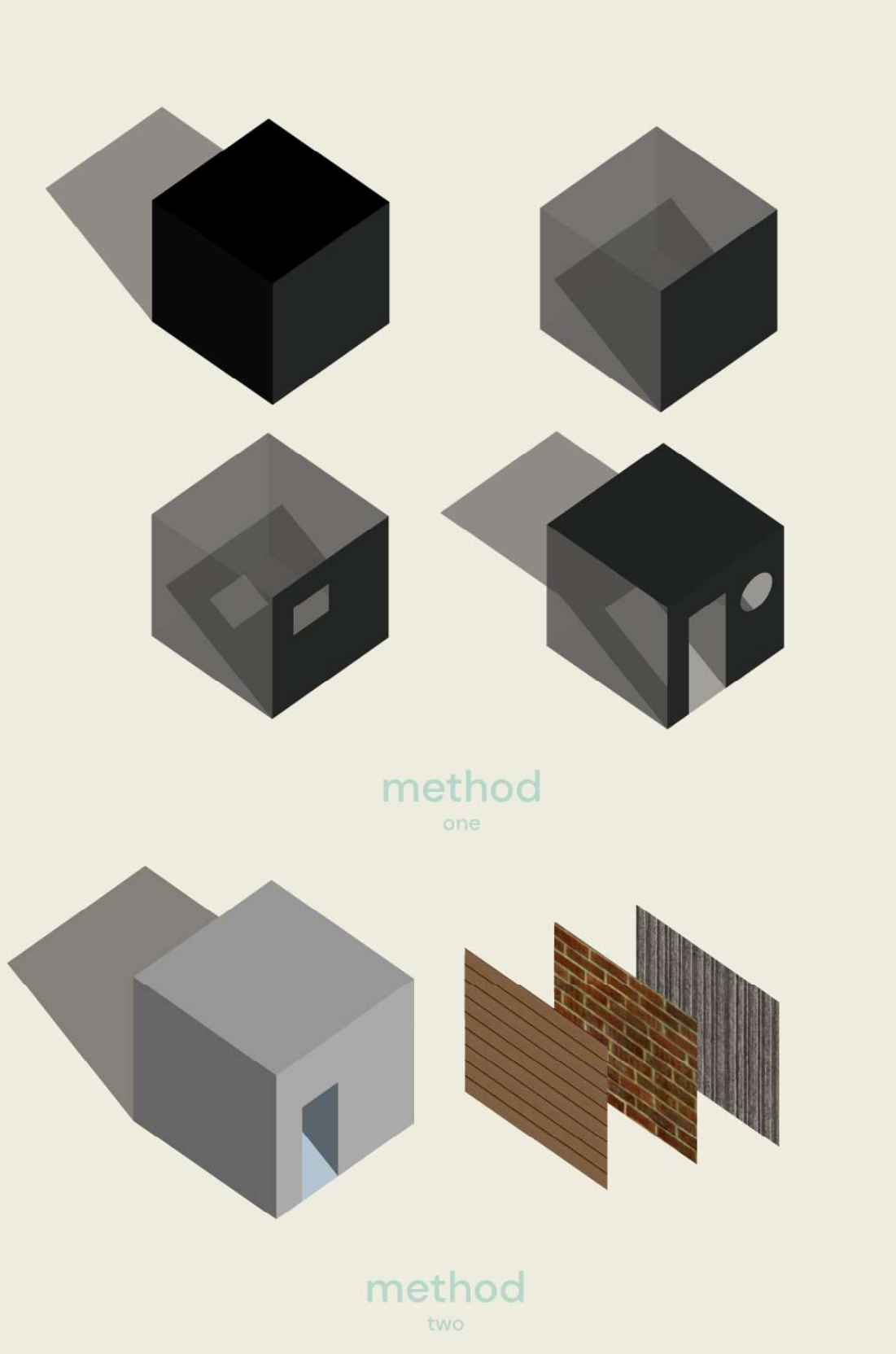


Figure 3.7 : Peter Zumthor's two methods of devising lights in space

3.3.1 Light, shadow and its qualities

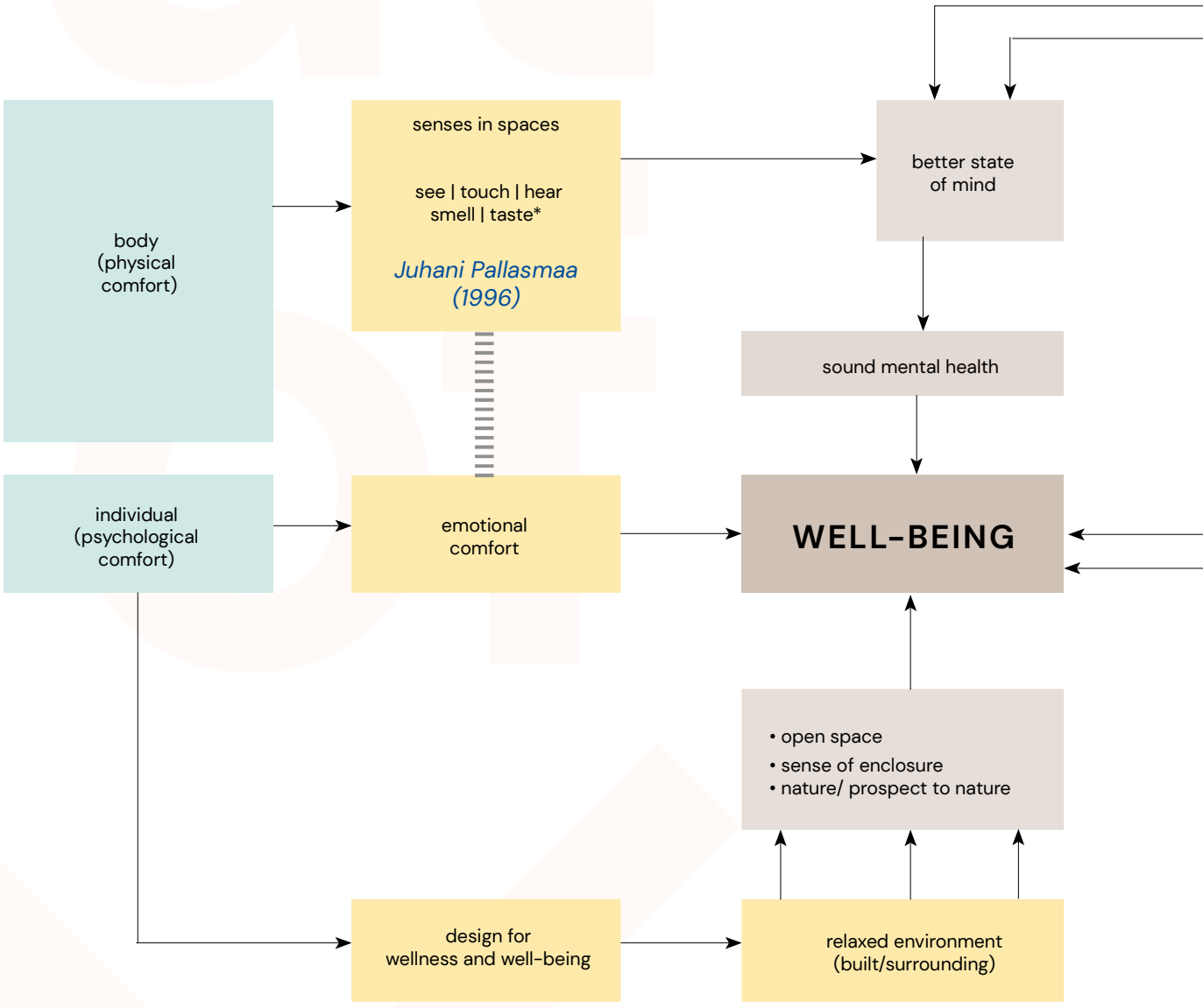
After understanding the importance of light and shadows in space, ways to incorporate them in atmospheres are investigated by Zumthor (2006) and Böhme (2017).

Zumthor presents two notions of devising light systems in architecture (Fig 3.7). The first notion is about imagining the whole form as a shadow and designing various light sources to cut into the space to achieve the complete form. In his second notion, designers are directed systemically to pair various light systems and material surfaces (2016, p.59). In addition, he states that light has spiritual and healing properties.

Therefore, architects are recommended to devise natural daylight rather than artificial lighting while designing spaces (p.60). Likewise, the significance of phenomenology in light is observed from Böhme (2017). Light in spaces helps users experience, articulate, and orient themselves in spaces (p.145).

Additionally, "atmospheric effects of light phenomena forms moods, synthetic, emotive and social character" among the users (p.156). To achieve a better state of mind, it is suggested to tune the lighting in a particular way; humans can feel "concerned and moved" (Böhme, 2017, p.156). In order to achieve the final architectural output, ways to derive the forms is conceptualised. Key Scholars (Pérez-Gómez; Juhani Pallasmma; Peter Zumthor, and Gernot Böhme) discuss light, shadow, and form in architecture. During the development of research output, these notions are thoughtfully treated while orchestrating the spatial experiences.

While Böhme (2017) further details light in space and summarises other notions of light and spaces in his book about "architectural atmospheres". However, the specific methods to articulate light in space to awake a particular mood or emotion are unaddressed. The theories of light and space with spatial experience and Böhme's notions of light and space require further form exploration to design an architectural output to provide holistic well-being for the students.



*exclusions of this research

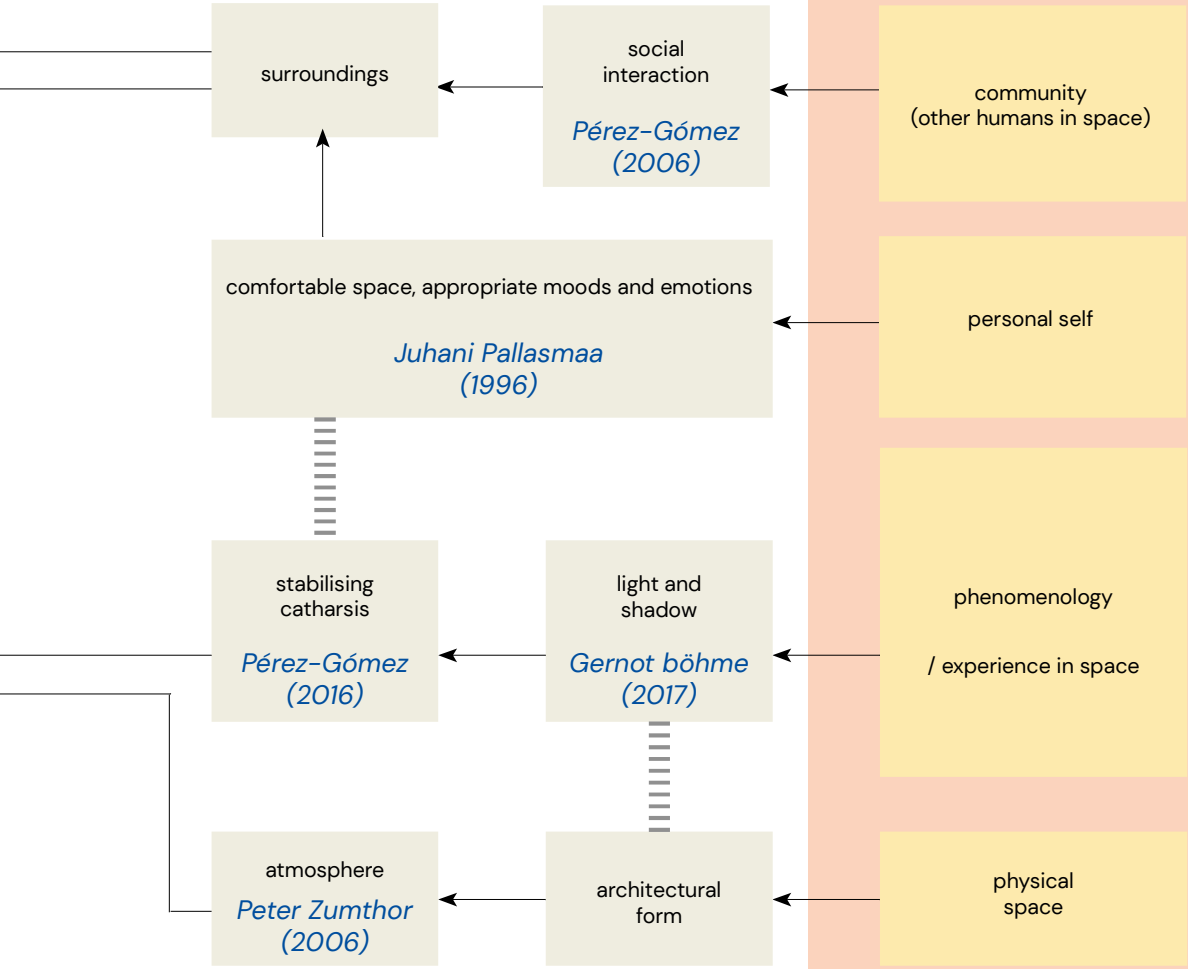


Figure 3.8 : Outline of Literature findings and their relationship towards main theme of research

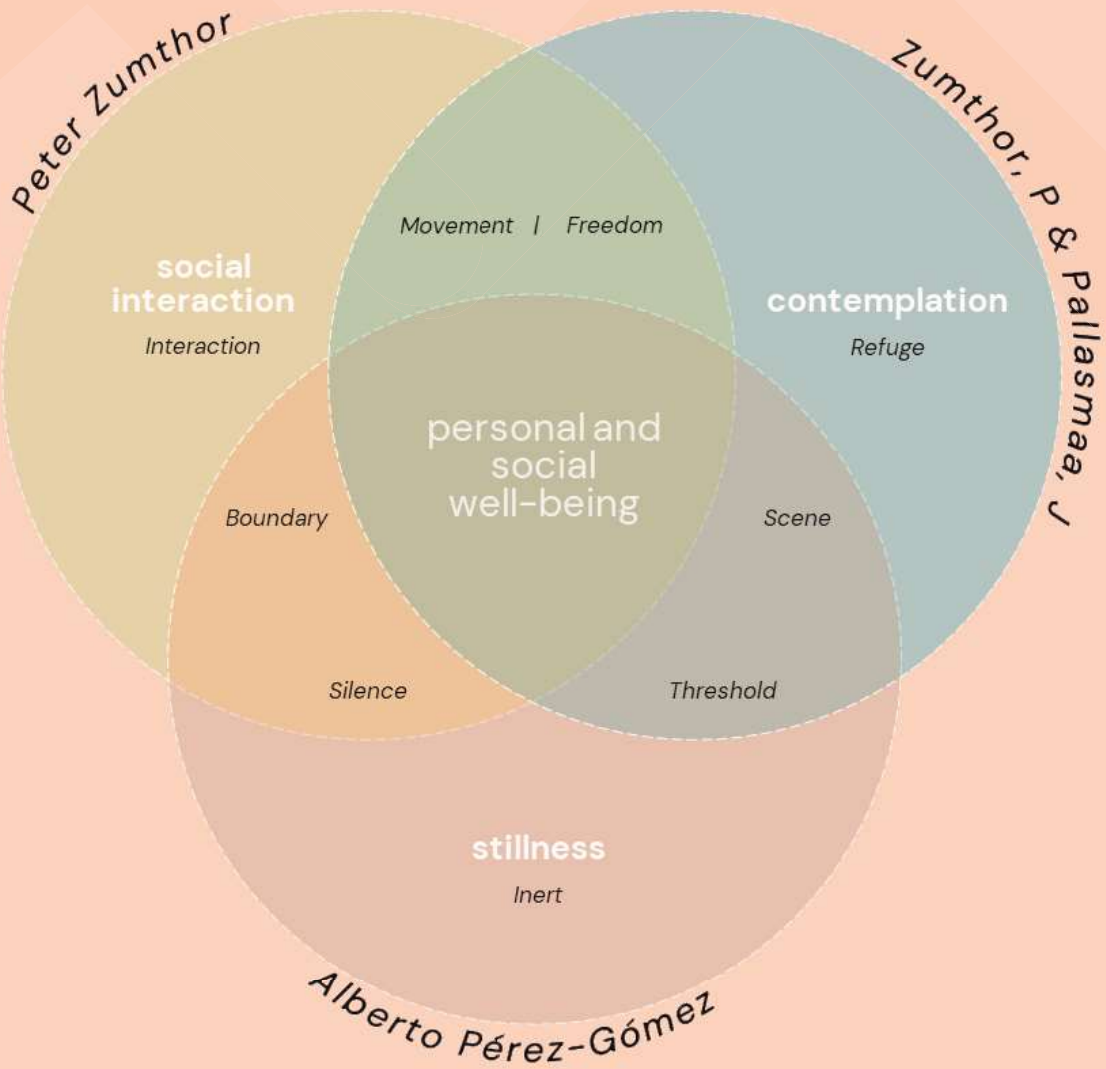


Figure 3.9 : Design framework—
It shows the tri-directional relationship towards acheving personal and social well-being in spaces through the Literature Review.
Source : Author

3.4 Outline of Literature Review

The literature review studies the impact of senses and light on the users' comfort and quality of place. Some studies, however, focused on the personal comfort of users under sensory, spatial and lighting conditions (Fig 3.8). The theories reviewed have considered the design process and its comparative approaches of using light in space. Previous research gaps identified in 'designing for personal comfort in the preliminary stages of the design process.' The affective atmospheres and sensory engagement are important factors when designing for personal comfort, which is also seldom considered.

The study of senses moves from architectural form to experience in spaces, while designing for a specific mood or affect are not always fully addressed in the literature.

From the understanding of the different premises about senses, spatial and lighting conditions in space, it is concluded that they are interrelated to form the design framework (Fig 3.9). Furthermore, it is crucial to indicate that different individual's function upon different thresholds of spaces and situations. These factors that improve the users' comfort and mood in spaces are thus reviewed.

the explora-

Premilinary Design Exploration

Intutive Design Research Explorations

Chapter Four **04.**

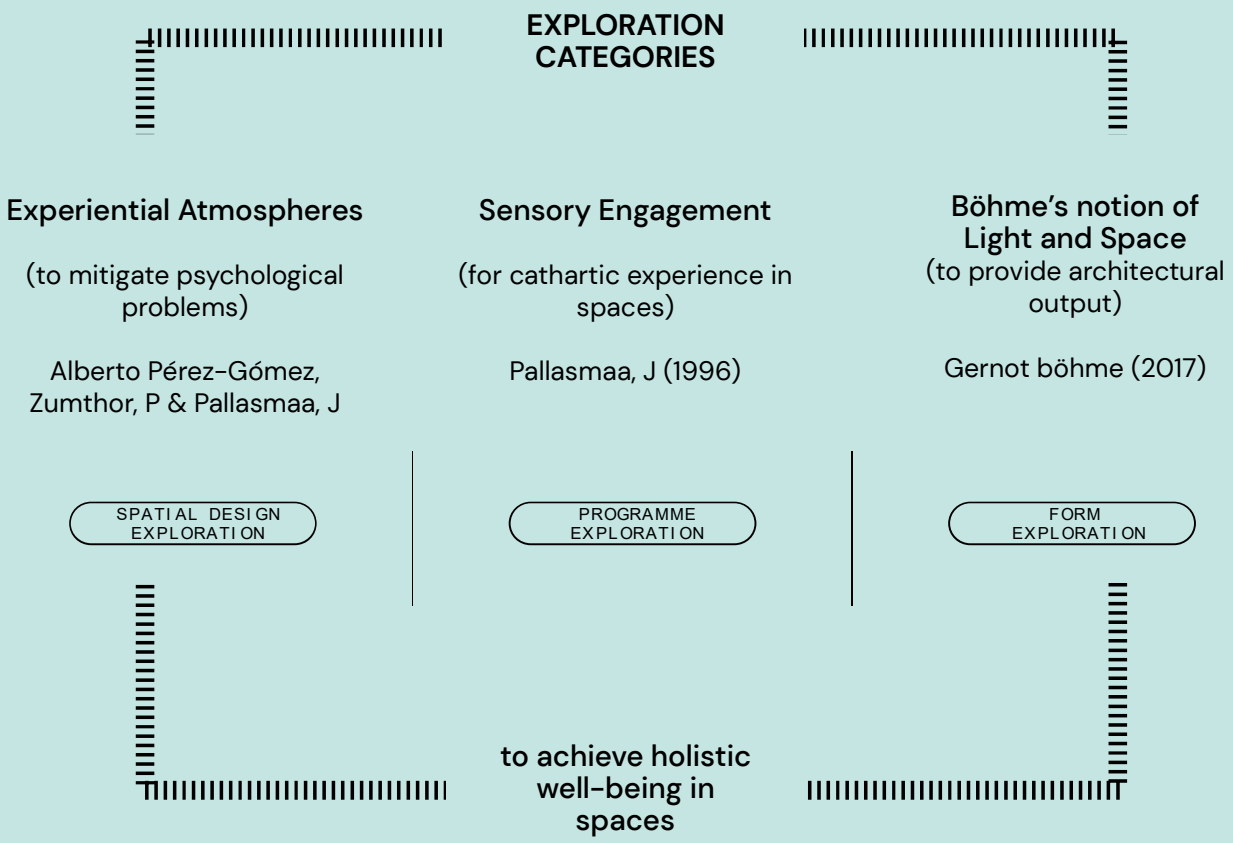


Figure 4.1 : Classification of Exploration Categories and approach to arrive solution for problem

4.0 **Introduction**

The exploration chapter begins by researching, studying and visualising through design to provide explorative solutions (Fig 4.1) to propose well-being spaces for students. The earlier research chapters identifies the issues of inadequate spaces specifically to cater to students' well-being. This chapter has two parts; Senses Exploration and Spatial Exploration. Later this exploration chapter has an annexe chapter which includes 'Light Exploration' which initiates the design.

Senses Exploration

A brief site exploration is carried out following the initial findings from the literature review of senses and engagement in space. It is done to better understand the experience of senses in a selected urban space:
Cuba Street, Wellington, New Zealand.

Figure 4.2 : Cuba Street Exploration in terms of sensory experience ; Cuba Street, Wellington, New Zealand

4.1

Senses Exploration

4.1 **Introduction**

An Urban exploration is carried out to understand better the senses and theory in terms of the spatial experience. From a personal outlook, Cuba Street in Wellington is a street that engages all the senses. The means of circulation is predominately walking, which makes the experience more personal . All the elements in the street, i.e., the pathway, landscape, urban intervention, shops, and other humans in the street, naturally orchestrate all the senses in the 'embodied experience'. The study is divided into two parts. The first part of the investigation covers 139-108 Cuba Street, and the second part covers 107 -80 Cuba Street. (Fig 4.2)

Figure 4.3 : Senses Map : 139-108 Cuba Street Exploration; Wellington, New Zealand

olfactory (smell)

Wellington Apothecary

While walking from the Chili (Fashion Art Gallery), a pleasing smell arises from the Wellington Apothecary (Fig 4.3). These smells originate from aromatherapeutic products such as candles, incense sticks, essential oils and air burners (Fig 4.4).

Aromatherapy is one of the widely known methods to enhance personal well-being through the sense of smell. This investigation helped in adding aroma -therapy related programmes inside the proposed student well-being centre.

visual (sight)

Varying Light and Shadow

Cuba Street is naturally composed of varying light and shadow, where the users can select light levels that are comfortable for them to enjoy during their commute (Fig 4.3). The landscape qualities of Cuba street are beneficial in understanding the presence of nature to provide intimacy and comfort to the users. The street furniture along the street is inviting. Furthermore, it allows the user to visually experience the light and shadow produced by the trees' foliage (Fig 4.4). This observation allowed experimenting with the landscape to employ light and shadow through the programme.

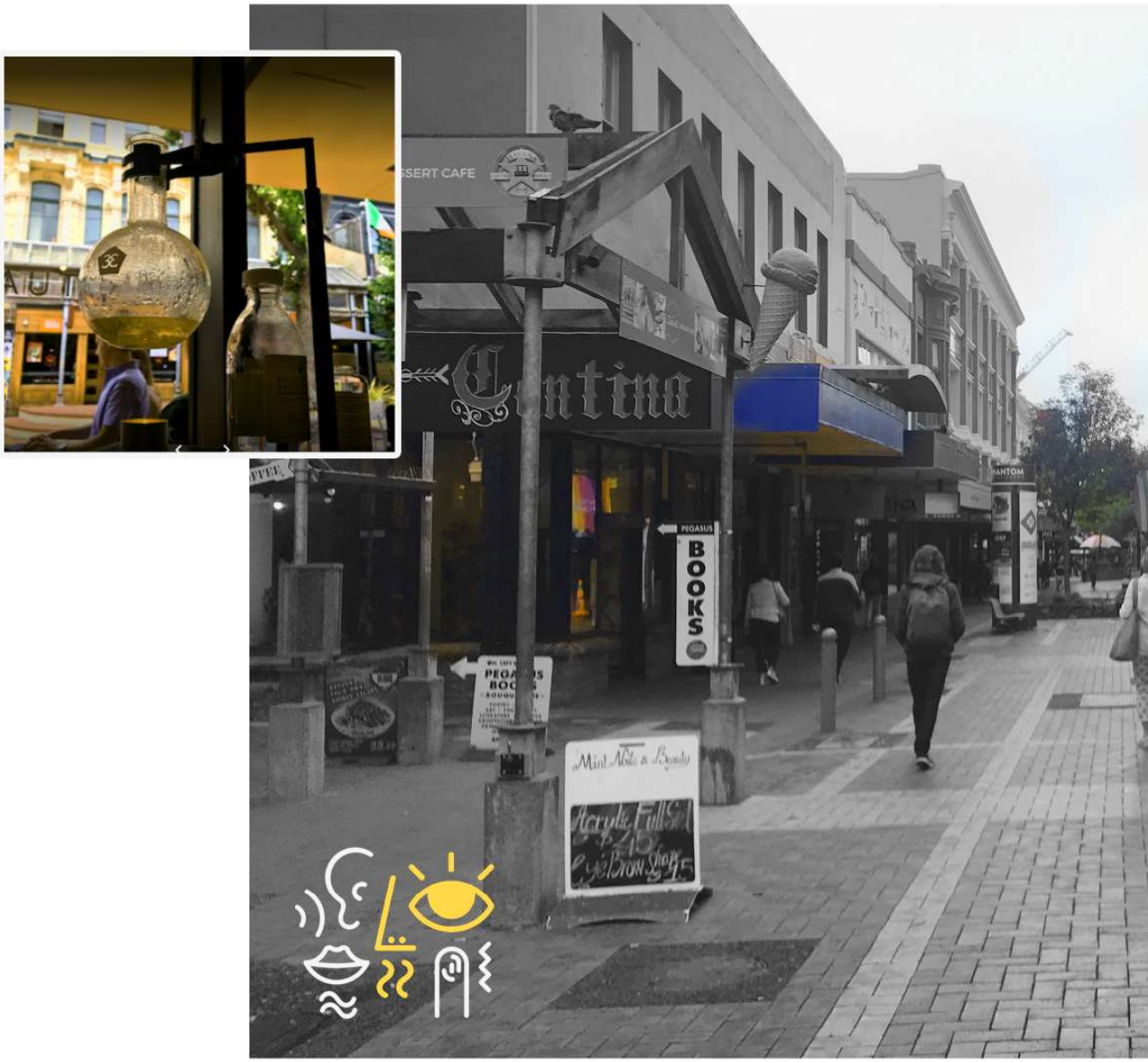
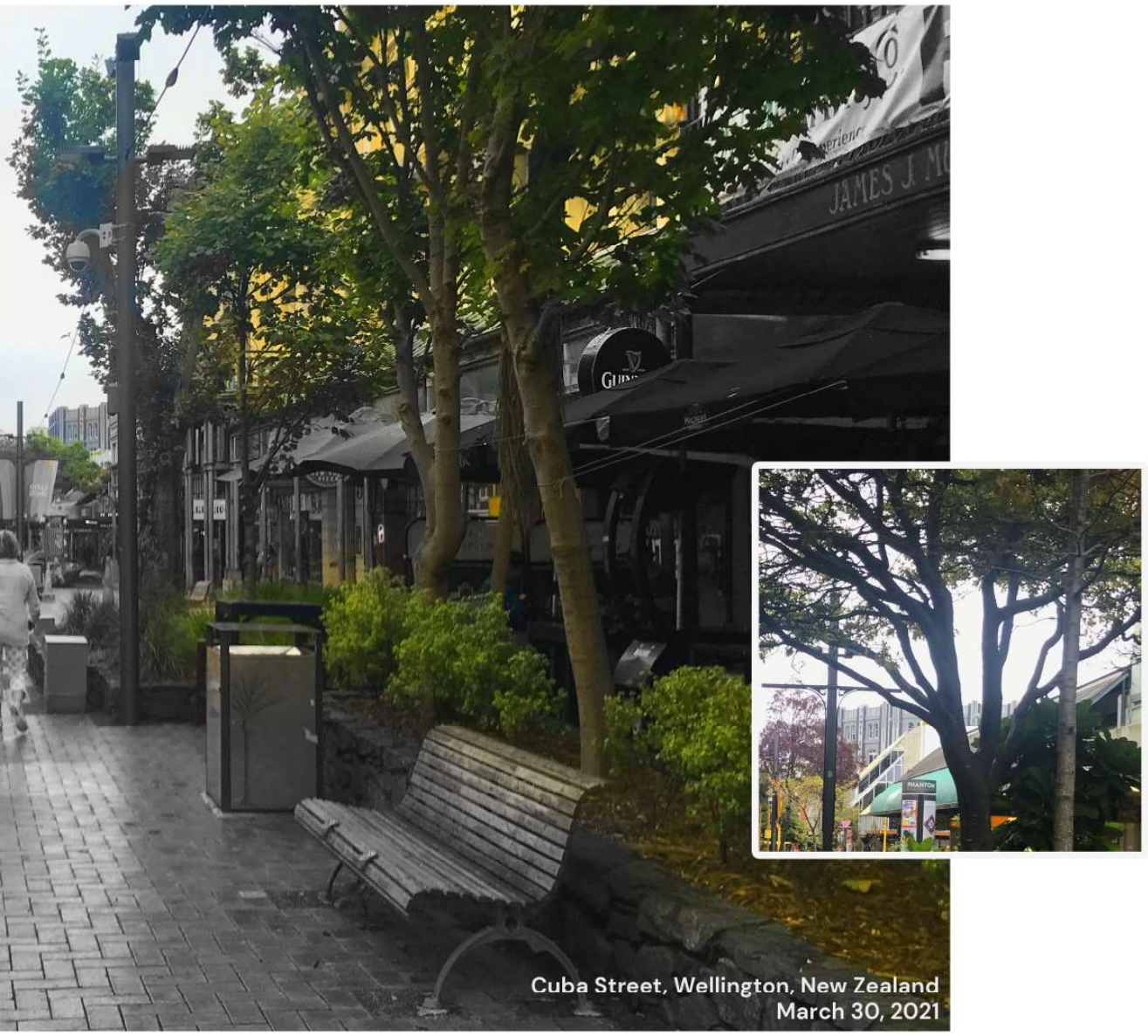


Figure 4.4 : Experience : 139-108 Cuba Street Exploration ; Wellington, New Zealand



Cuba Street, Wellington, New Zealand
March 30, 2021

Figure 4.5 : Senses Map : 107-80 Cuba Street Exploration; Wellington, New Zealand

Bucket Fountain

auditory
(hear)

The presence of water in architecture provides liveability and human well-being in spaces. The patterns of biophilia have proved that seeing, hearing and touching water can improve an individual's well-being (Grahn & Stigsdotter, 2010). The auditory access to water from the bucket fountain adds novelty to the spatial experience. From observing the street, the mechanism of the fountain and its colours add a touch of play, thereby increasing social interaction. Water's movement often visually pleases the user and can enable them to contemplate while watching it (Andō ,2003). (Fig 4.5 ; 4.6)

Varying Textures

haptic
(touch)

The whole of Cuba Street (Mall) has a different road texture than other tertiary roads, including pavement stones that alert the people to identify the street. Thus, the users might be unconsciously aware of their presence in Cuba street through the particular change in texture through the journey. Notably, there is a Children's Play intervention, which allows (Fig 4.5) hard-soft contrasts near the fountain. These varying textures can make the experience a memorable one. In addition, the seating and other rocks around the fountain bring about a humble personal connection to the individuals (Fig 4.6).

Café shops

gustatory
(taste)

Last but not least, Cuba street has excellent coffee. Apart from coffee, it has street-facing restaurants so that public members can visually enjoy the street while gustatorily enjoying their food, making the experiences even more memorable. While some studies (cite) have demonstrated that architecture can invigorate taste through vision, this research is limited from exploring 'taste' as a sense in architecture (Code, 2016).


SONS
GLASSONS


Martens
GLASSONS
GLASSONS

Figure 4.6 : Experience : 107-80 Cuba Street Exploration; Wellington, New Zealand

Conclusion

This exploration helps in the process of creating spatial programmes in the proposal.For example, Tea Ritual and Meditative space is devised as a program in the proposal after studying the effect of the Wellington apothecary on aromatic senses.

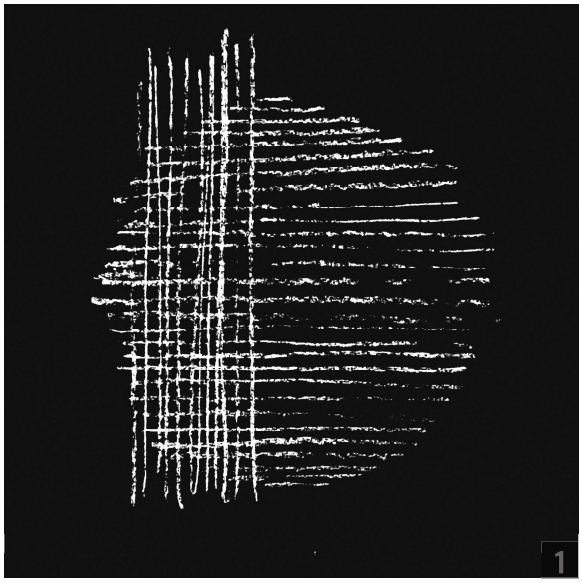
4.2

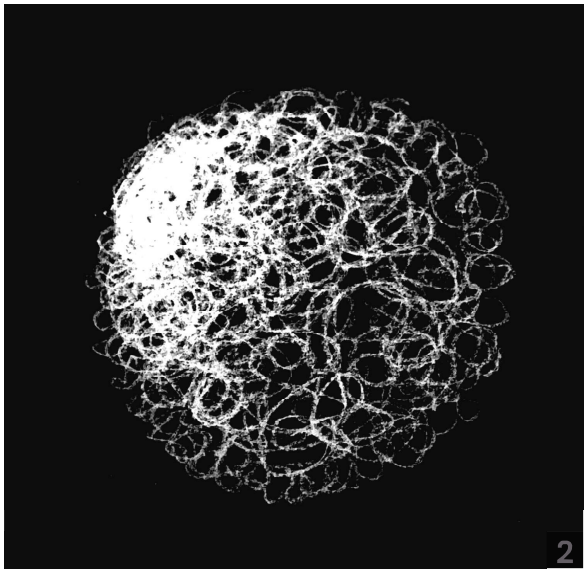
Spatial Experiences for Well-being

After the literature analysis, spatial explorations are pursued in terms of their relationship to well-being. They cover three key spatial explorations; stillness, social interaction and contemplation, with two methods. The first method is a visual and graphical exploration. They help in the process of making intuitive design decisions during the creating of a proposal. Later, to better understand these experiences, critical theorists are reviewed for each aspect, followed by explaining the author's perspective (Phenomenological writings) .

GRAPHIC MICRO MACRO

In the following pages, there are these icons to identify if they were a graphical, micro or macro spatial exploration.





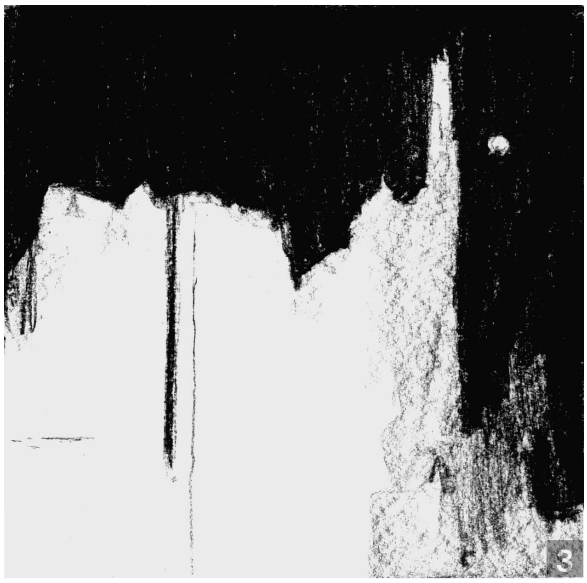


Figure 4.7 : Graphical Explorations of
1. Silence ; 2. Inert and 3. Threshold

GRAPHIC

4.3.1 **Stillness**

It is almost impractical for an individual to experience a state of silence and stillness in the fast-moving world. Environmental, psychological theories from Pallasmaa (2012) and Phenomenological cognitive theory from Pérez-Gómez (2016) have been analysed to understand the importance of stillness and the user's response to it. Moments of stillness create or allow for a better spatial experience and help with the better sensory engagement of the users. However, especially students during their time of education hardly experience a moment of stillness.

"The essential auditory experience created by architecture is tranquillity" (Pallasmaa,2012,p.51). A similar perspective is expressed by Kuma, where he emphasises the importance of 'stillness' in spaces. He indicates a need for 'comfort' in space while creating visual and aural stillness (2014, p. 65). The definite visual enjoyment of human is made up of qualities such as "tranquillity, stillness, proportions, and order" (Farrell & McNamara ,2014, p.84).

From the literature analysis, it is understood that moments of stillness are fundamental for improving students' mental health.

Through graphics in the following chapter, stillness is visually explored through three entities: **Silence, Inert and Threshold** (Fig 4.7).

silence
inertia
threshold.

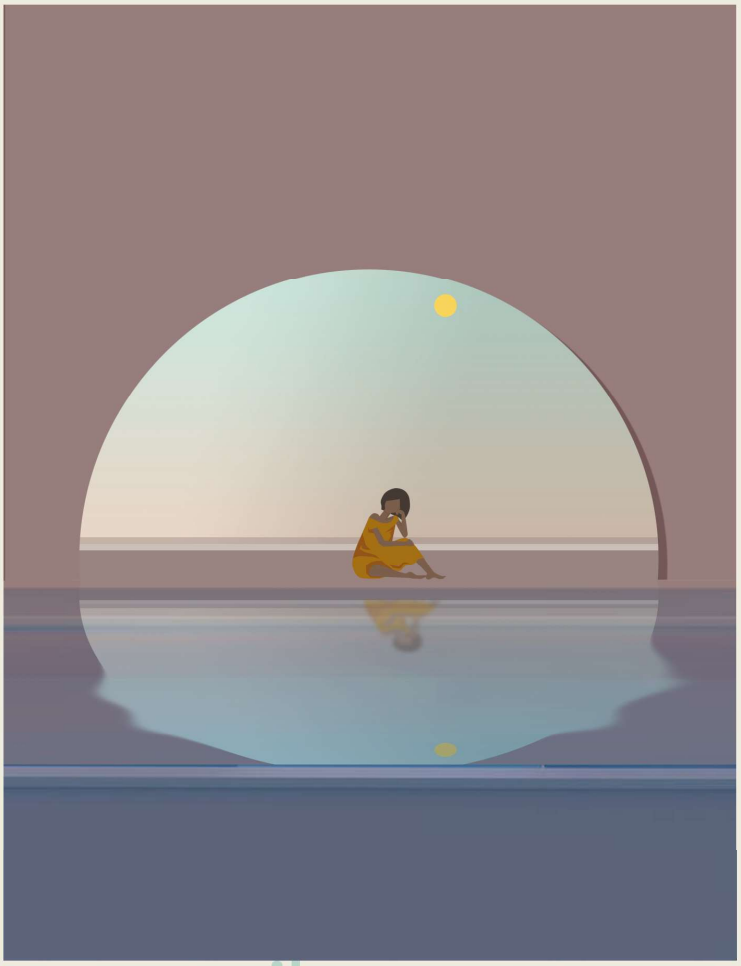
Silence

as stillness in spaces.

Stillness in architecture is "responsive and remembers silence" (Pallasmaa,2012, p.52). Zumthor (2014) also considers that there are different kinds of silence, and "finding one's mental silence can help them concentrate which is most important to work well". Humans tend to find silences and stillness in various forms of spaces (Fig 4.8).

Figure 4.8: Conceptualisation of Silence

MICRO



silence.

Figure 4.9: Spatial conceptualisation of Silence

Experience: *Silence is another dimension (Fig 4.9). Silent as a cold night, still as a statue. A state that is quiet that increases awareness. It organises the thoughts. The mind may wander, the mind may be loud, but the space is silent.*

Silence allows one to pay attention to details. Attention around, attention within. It is the original meditative state. It creates awareness of breath and life—slow, pause and wander (Fig 4.9).

MACRO

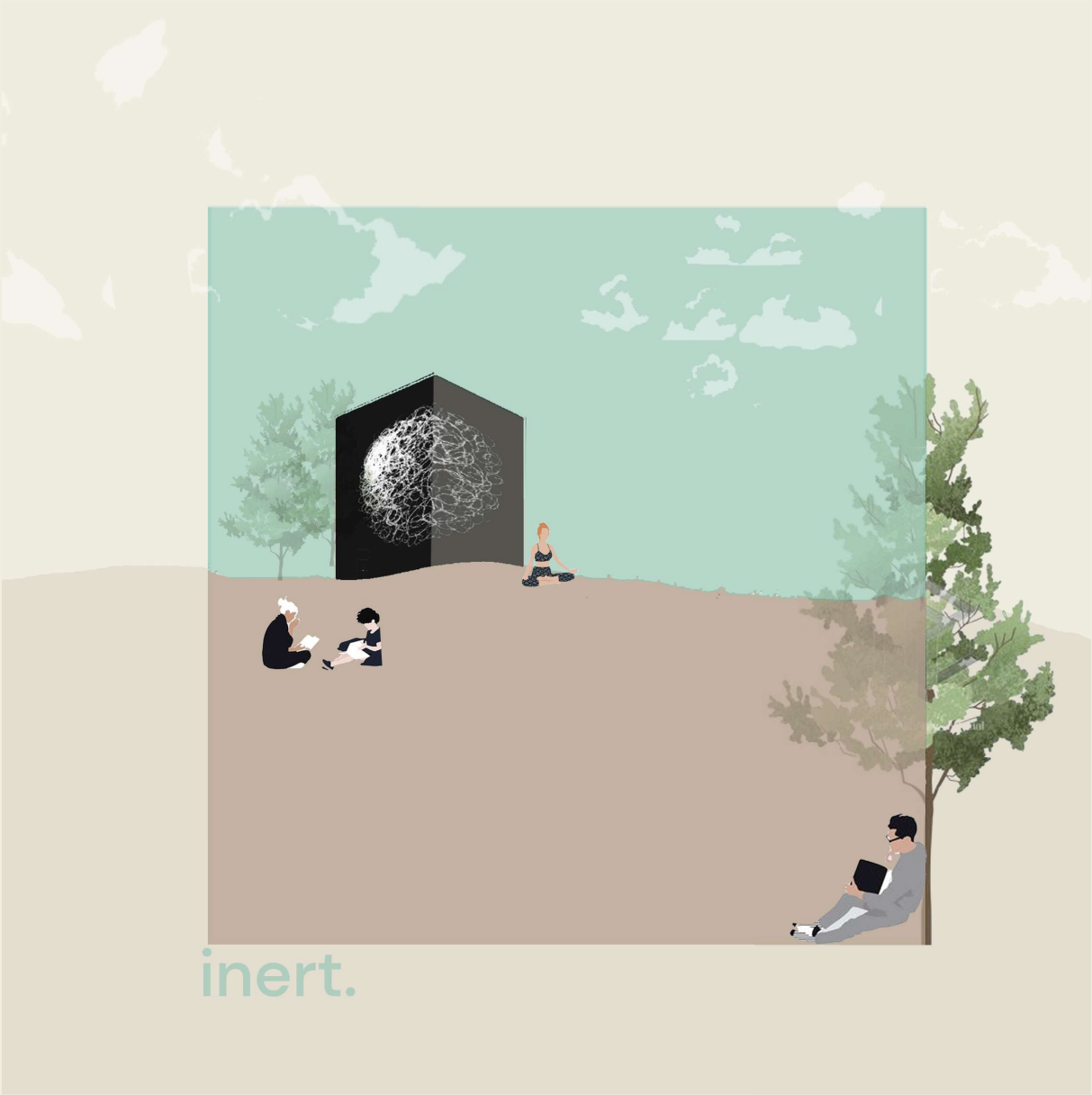


Figure 4.10: Conceptualisation of Inert

MICRO

Inert

as stillness in spaces.

Stillness can also be achieved through still [inert] nature of architecture itself. (Fig 4.10) The **inert** nature of architecture can bring silence, thereby cancelling all external noises and focusing the user's attention and fundamental solitude (Pallasmaa ,2012, p.52)

Experience: *Inert and immovable. Still inert as a statue, yet silent (FigX). Space fills within itself. The architecture carries the subjective nature of " motionless", and the details are still and static. They are touched, felt and held. Stagnant and held.*

The only force of calming gravity leaving the rest immobile (Fig 4.11). Unmoving and Fixed. Stable and Unchanging like the sun and moon. Rarely moved with vibrations yet passive. Inert and Solid.

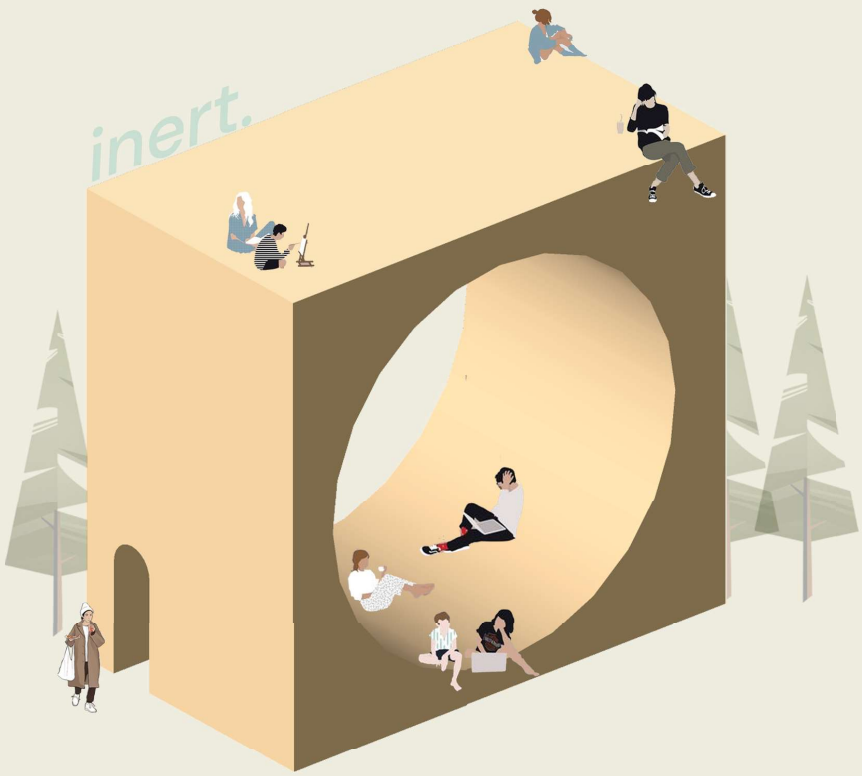


Figure 4.11: Spatial conceptualisation of Inert

MACRO

Experience: *Bound and definite. The visible extent of space though the thoughts may go beyond.*

Stopping and returning, even repeating the journey. Power in space, a threshold in space, and no thresholds within (Fig 4.12).

Figure 4.12: Conceptualisation of Threshold

MACRO

Threshold

as stillness in spaces.

Thresholds in architecture are defined as the visible boundaries in space (Fig 4.13). Moura tried to initiate his "Sensing Spaces" exhibit installation's idea for evoking senses in space using the 'threshold' factor. Thresholds are an essential part of a design, where they provide continuity in spaces that allows the users to have a domesticated feel (2014, p.163).

"People have a feeling about the thresholds, the ending, and the beginning are defined through thresholds..." (p.165). This factor of 'threshold' is also supported by Farrell & McNamara. They discuss that thresholds and awareness they bring during a user experience in and out of space are important (2014, p.85).

Figure 4.13: Spatial conceptualisation of Threshold

MICRO

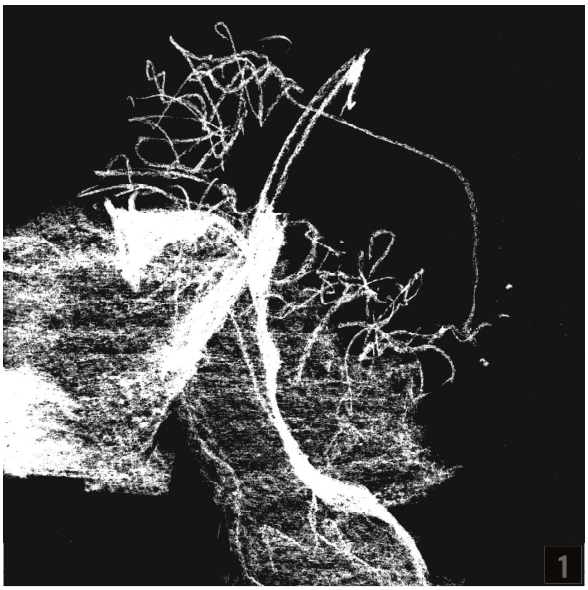


Figure 4.14 : Graphical Explorations of
1. Movement ; 2. Boundary and
3. Interaction

GRAPHIC

4.3.2 **Social Interaction**

As previously mentioned, social interaction is essential for enhancing students' communal well-being. Although architecture cannot force users to interact, it is a potential platform for connections, encounters and social interaction, thus improving communal well-being and nurturing relationships.

Designing for interaction is possible through conscious attention while planning spatial programs Cutieru (2020). She recommends that by providing various activities, a vibrant place for an informal setting can be created. Similarly, Pallasmaa implies that users' "...bodies and movements are in constant interaction with the world and where they self-inform each other" (2014, p.40).

So, interactive programmes like galleries, temporary exhibit spaces, communal meditative halls and tea rooms have improved the scopes for interaction in a building. Furthermore, it is examined that "flexible spatial programme and building typology" can create fertile grounds for social dialogue (Cutieru, 2020). Thus, these aspects assisted in devising the design programme in the latter part of the research.

Finally, this study comprehended that those moments of social interaction are vital in enhancing communal well-being. Social interaction is visually explored in the following chapter through three entities:
Movement, Boundary and Interaction
(Fig 4.14).

movement
boundary
interaction.

Movement

as social interaction in spaces.

Senses can awake a particular affect on the users. This affect can be defined as "...the movement between emotional registers rather than the emotion itself once it can be named" (Frichot, 2007, p.34).

Pallasmaa (2014) describes in his conference paper that "Hands have their movement, moods, wishes, stories, and emotions". He also explains that visual sense and every act of sensing are integrated or associated with memory and imagination (Fig 4.15). At the same time, he clarifies that the image becomes recorded in the muscular memory of every movement.

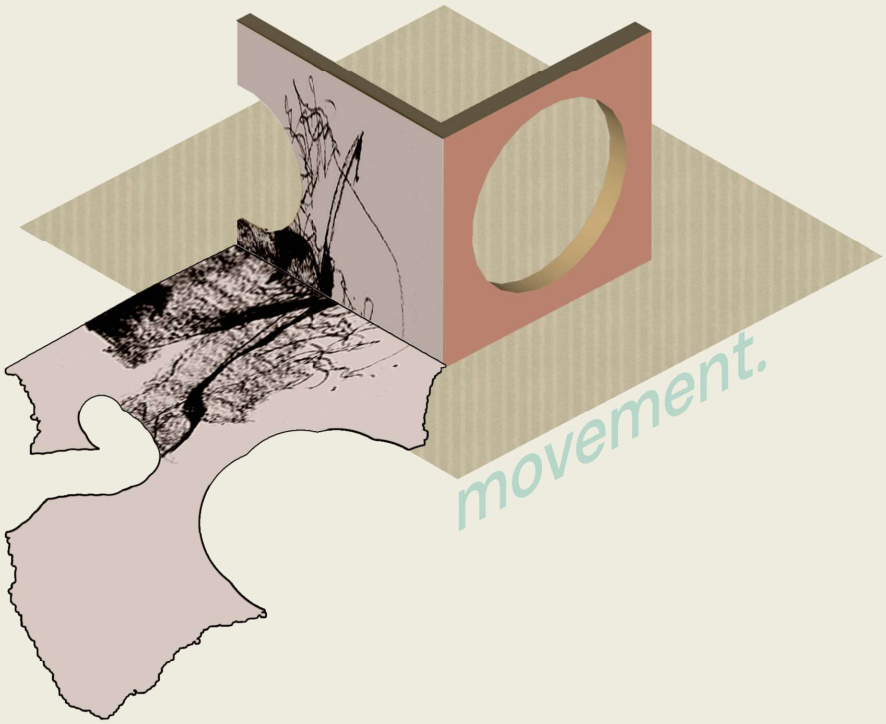


Figure 4.15: Conceptualisation of Movement

MICRO

Figure 4.16: Spatial conceptualisation of Movement

Experience: *Constantly in motion, unlike stillness. Like the waves of oceans, the flow of rivers and the pour of rain. Movement is a sign of life (Fig 4.16). It is changing and shifting like the patterns of the cloud. Walking, stepping and pausing in kinesis and rearranging, and still walking in the infinite movement loop.*

MACRO

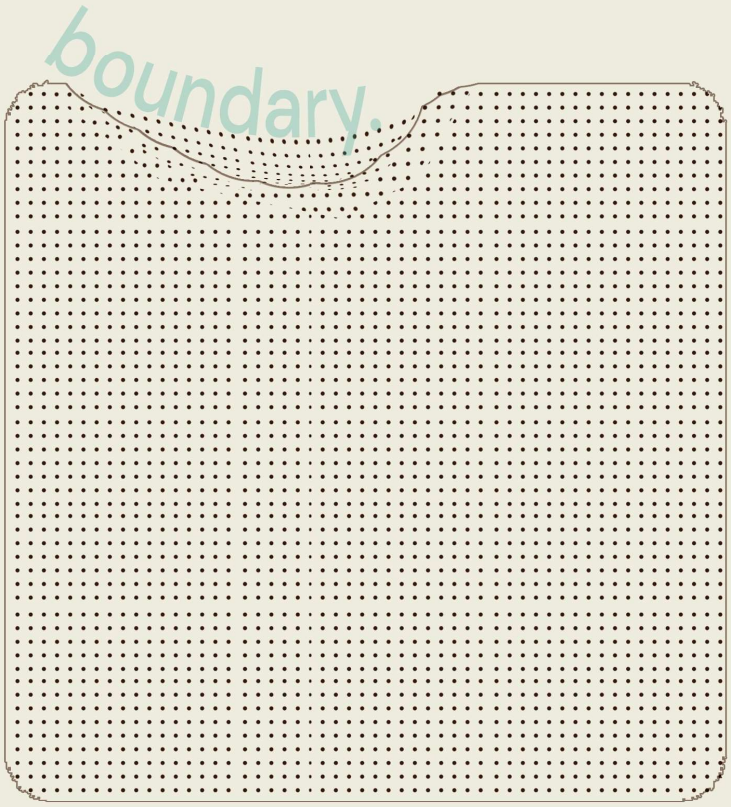


Figure 4.17: Conceptualisation of Boundary

Experience: *Indefinite yet bound. Invisible, yet in limits (Fig 4.17). Imaginative periphery. The edge of a bush or a rock or space. No marked border, however, staying in perimeters. The notion of confinement. The feel of safety.*

MICRO

Boundary

as social interaction in spaces.

MACRO

Boundaries create awareness in spaces. The users tend to engage in a spatial boundary that provides them a perception of safety. Pérez-Gómez quotes Drew Leder's research, showing that the body's tendency toward "self-concealment" allows users to increase "self-awareness". However, "users' organic basis can be forgotten when the body is in a boundary space" (Fig 4.18) (2016, p.141).

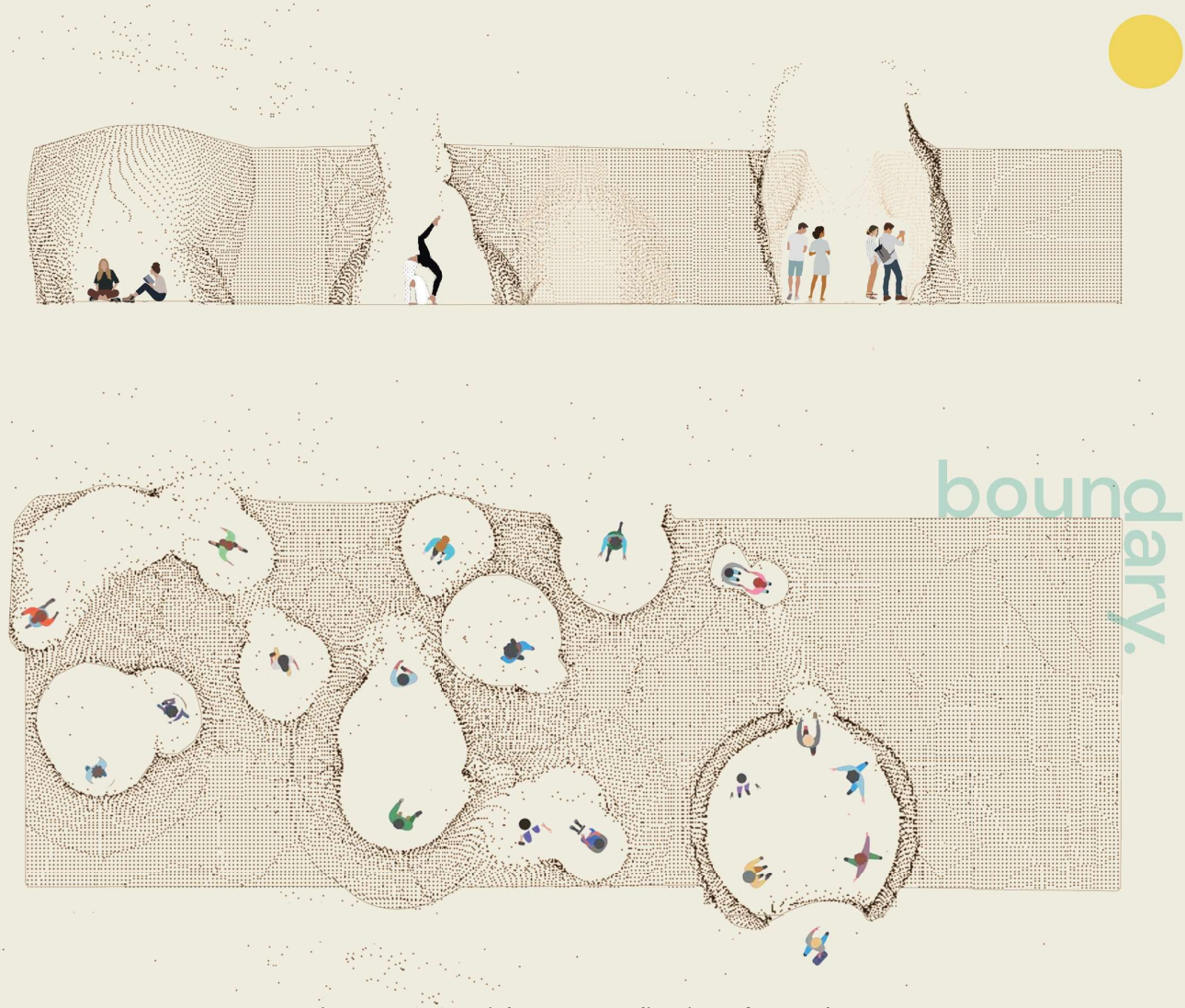


Figure 4.18: Spatial conceptualisation of Boundary

Interaction
in spaces.

Social interactions and memories attached to it include how the old community can have a shared experience inside such intimate amplified spaces (Fig 4.19). Kéré suggests that creating informal gathering spaces for students in his school can be a fertile ground for interaction (2014, p. 149). He exemplifies his project like the 'conversation pit' increases student intimacy and comfortability. In his 'sensing spaces' exhibition's installations added straws through poke through the tunnel walls for the public to play with. Therefore, it is examined that, through a programme or activity in a space, interaction can be formed.

Figure 4.19: Conceptualisation of Interaction

MICRO

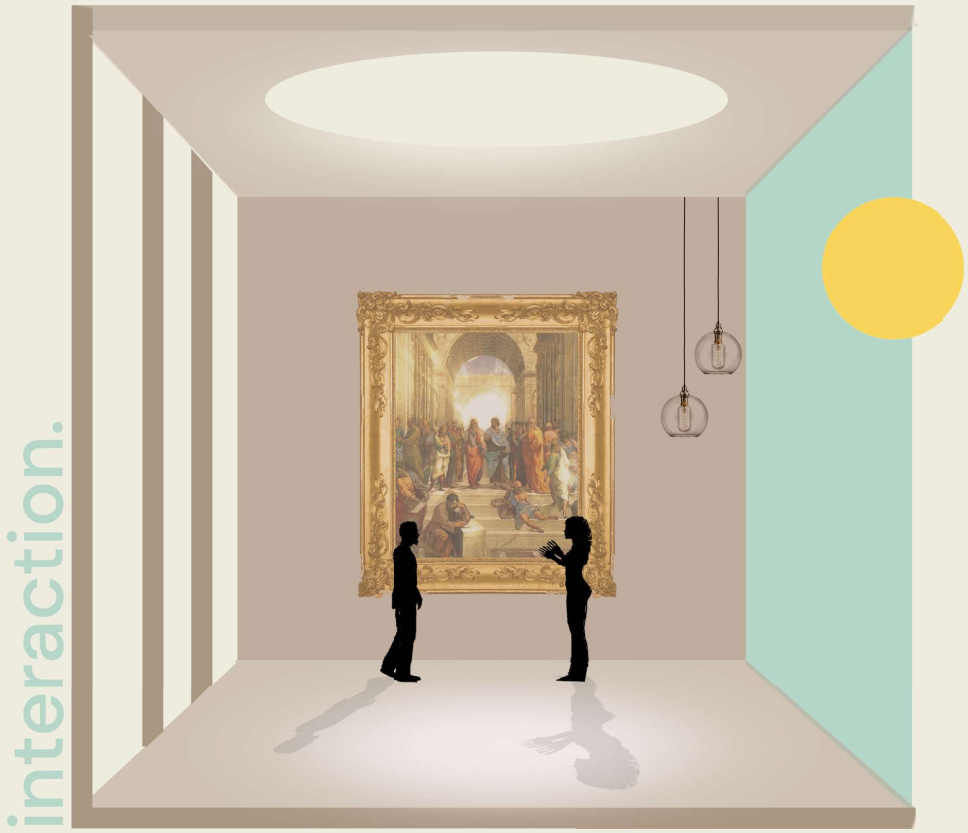
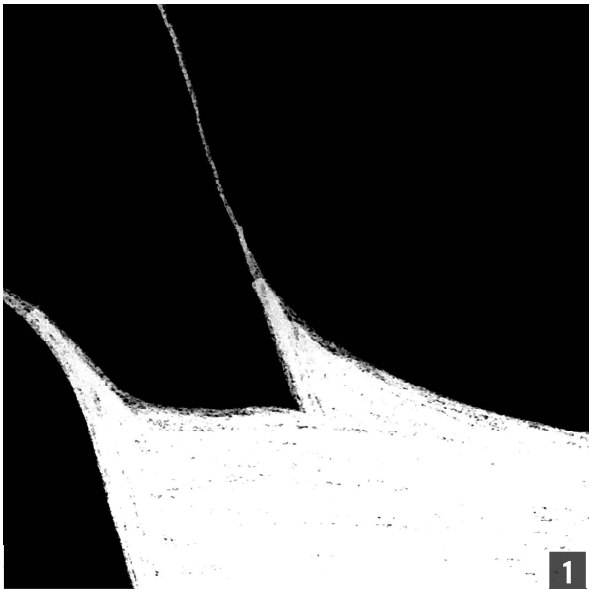


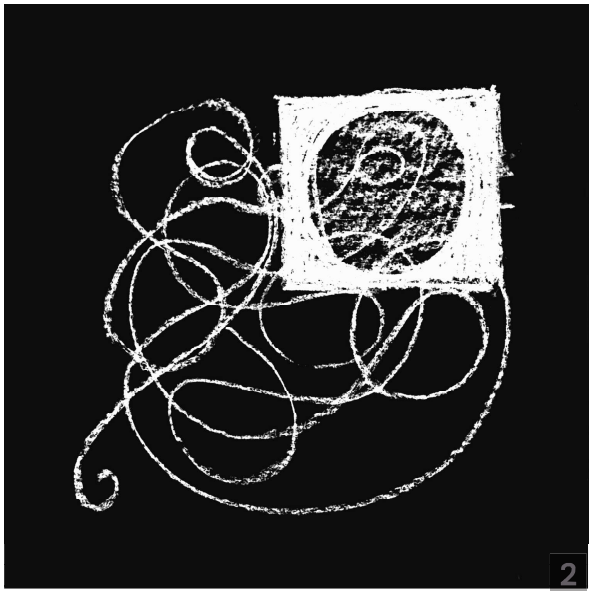
Figure 4.20: Spatial conceptualisation of Interaction

Experience: *Communication and Contact. The Sound of chatter. Conversations, discussions and collaboration. Like a swarm of bees with its community working together. Interaction brings a sense of safety and domestication.*

It accelerates relativity and familiarity within. Hear, touch and see. Express, occupy and exhibit. Social community forming the individual boundary. Interaction outside leading to interaction within (Fig 4.20).

MACRO





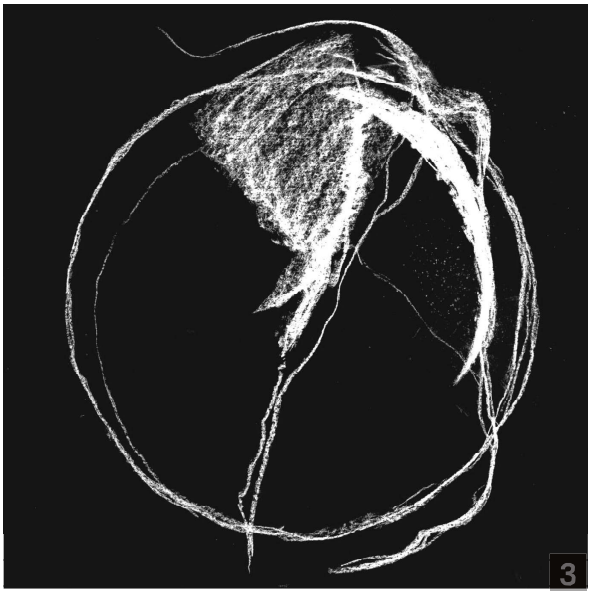


Figure 4.21 : Graphical Explorations of
1. Scene ; 2. Freedom and 3. Refuge

GRAPHIC

4.3.3 Contemplation

Architecture provides ground for thinking and directs our thoughts and experience to broader horizons [freedom]. Our spaces strengthen personal experience, senses, and thoughts, thereby helping contemplation (Pallasmaa, 2014, p.41). Senses can "ignite imagination", thereby articulating organised thoughts required for contemplation (2014 ,p.45). Similarly, Grahn & Stigsdotter (2010) have suggested that some of the potential aspects to reduce personal stress are' prospect [scene] and refuge'.

From this preliminary observation, it is recognised that the moments of contemplation are also vital in improving students' mental health. 'Contemplation' is visually understood through explorations in the following chapter through three entities: **Scene, Freedom and Refuge** (Fig 4.21).

scene
freedom
refuge.

Scene

as contemplation in spaces.

The importance of scene [prospect] in spaces has emanated from spatial preferences and psychological well-being research. For example, seeing landscapes and vistas can provoke the brain to create something, e.g., awareness, daydream, a piece of art, or even anything creative (Pérez-Gómez ,2016). Likewise, "it is essential to have a prospect, vistas over the surroundings". (Grahn & Stigsdotter ,2010, p.268). Including 'prospects' in design can improve comfort and reduce stress and boredom.

They compare that prospect into nature as a "wild, free-growing and untouched room (p.268). Hence, the aim to include prospects can be both encouraging and threatening. For example, the prospect need not always be direct access to wild nature but can also be visual access to nature from a viewable platform (Fig 4.22). Therefore, safety is also carefully considered in the process of designing for prospect and refuge.

MICRO

Figure 4.22: Conceptualisation of Scene

Figure 4.23: Spatial conceptualisation of Scene

Experience: *The Background and Foreground. The first thing the user sees (Fig 4.23), the scene guides the user along the journey. Watching and observing. It is simply the location.*

The user being visually pleased with the vista, which itself is a canvas. Prospect and Panorama.

MACRO

Freedom

as contemplation in spaces.

The space with "no boundaries" [no walls] calls for the user to experience imagination, which leads the mind to be creative, and makes it create something (Pérez-Gómez, 2016, p. 107). The term "no boundary" is interpreted as freedom in design (Fig 4.24). So, the plan of the proposal will be aimed to design as an open-plan layout to increase such freedom in movement.

Figure 4.24: Conceptualisation of Freedom

MICRO

Figure 4.25: Spatial conceptualisation of Freedom

Experience: *Openness in space is freedom; it is about freeing the mind (Fig 4.25), body and soul. It is giving a choice entering a space, shelter and landscape. Nonconforming to the norms of the journey. Liberty in expression, still inclusive.*

Inventive and Independence. Safe within the site yet with freedom.

MACRO

Refuge

as contemplation in spaces.

The aspect of 'refuge' has originated from visual preferences in spaces and spatial preferences from the 'scene' aspect. Conditions of refuge in a space can give a user a boundary by creating a personal space (not necessarily a physical space with definitive boundaries) (Fig 4.26), thereby helping them to reduce stress.

Designing for refuge can help in "...reduced irritation, fatigue and improve concentration and attention." (Grahn & Stigsdotter ,2010 p268). It is claimed that the attribute of refuge in design has a higher effect on space along with prospect (Grahn&Stigsdotter,2010,p.268). Therefore, spaces of refuge are consciously planned during the design process.

Figure 4.26: Conceptualisation of Refuge

MICRO

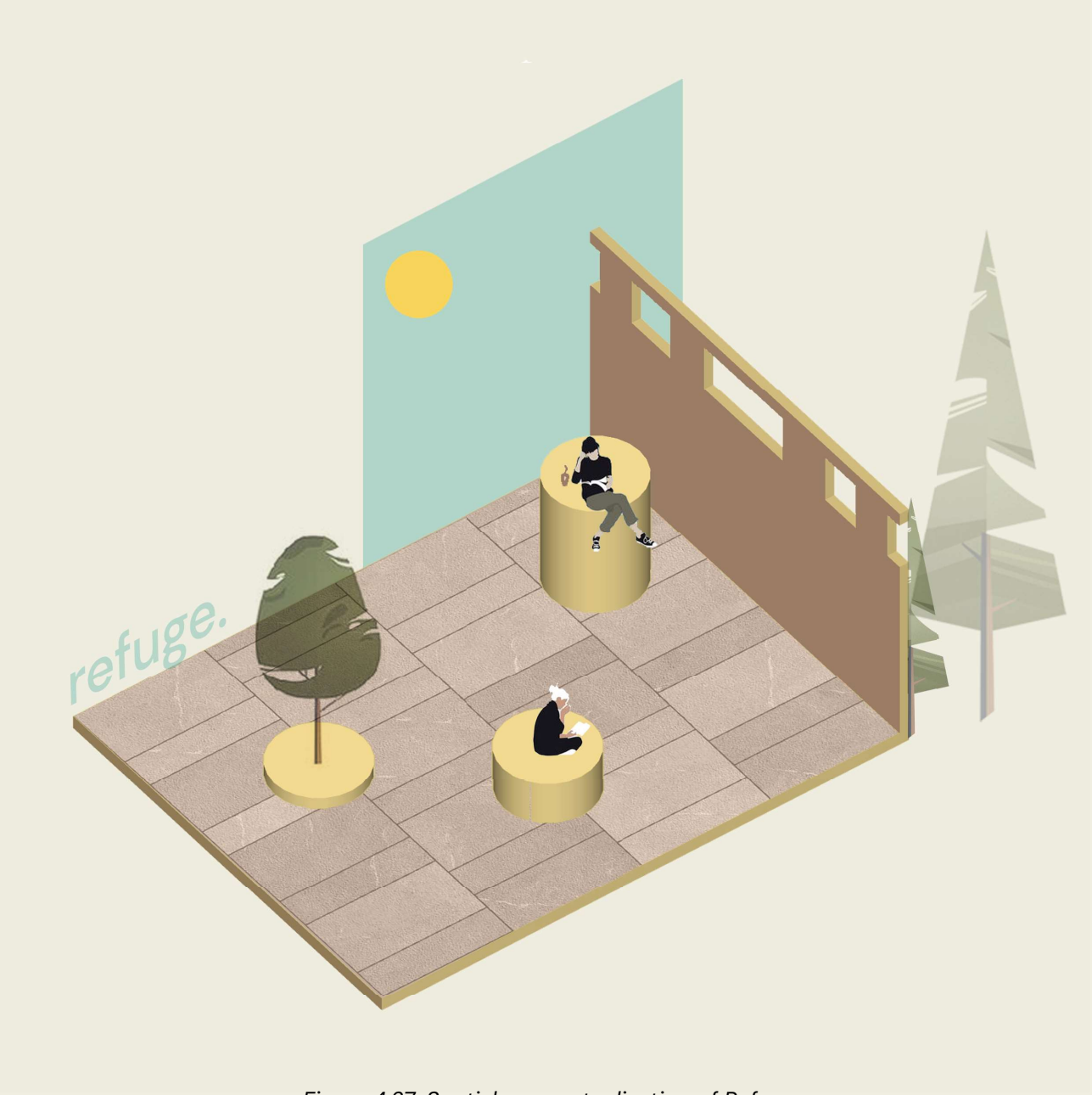


Figure 4.27: Spatial conceptualisation of Refuge

Experience: *Shelter and comfort. Like the cocoon wrapped around thy self. Alone and grounded with personal thoughts and humbled by thy self. Feeling of containment. Protection and safe haven. Recourse and resorting. A Place of safety, away from the sight of the world.*

MACRO

"Without the senses, we would have no true idea of space. And without writing, we would have only a partial record of how individuals experience their place in the world."

Diana Fuss

4.4 Conclusion

The above work is the further development of the author's explorations. The first part is an urban exploration that covered all five senses during a spatial journey. All the senses are considered when exploring the urban street. Observation from this exploration is distilled to provide insights for the proposal for a students' well-being centre. Combining the findings and design attributes from exploration categories creates an improved overall experience to design. The exploration is carried out through the author's lens.

The second part is a spatial exploration on three levels, i.e., graphical, spatial and visual. First, a short description of the qualities of each experiential category is written from a personal perspective. From here, overall senses, spaces and programmes are orchestrated to establish the design proposal. Senses and light are considered crucially within each of these spatial programmes.

The annexe part of this exploration is about 'light'. The next chapter is dedicated to exploring light and spaces following Bohme's (2017) guidelines. Several physical models and light photographs are produced. This is achieved by creating visual linework showing the light model and bringing this into a 3-D digital modelling programme.

Finally, the following exploration with 'light' [Chapter 4a] is combined into categories for design iterations. The critical takeaway from these explorations is the need to carefully consider senses, light, and experience within the iterative process of designing spaces.

the light.

Light and Space Explorations

Conceptual Design Explorations and Form Iterations

Chapter Four (Annex) 04a.

4.5 Light Exlporation : Gernot Böhme's notions of Light and Space

Introduction

A form/ maquette exploration of light and space notions from Böhme (2017) for is conducted to compliment the literature on light and shadows and their importance in spaces [Chapter 3.3]. The Böhme (2017) notions of light and space are:

The phenomenology of light
Cleared space
The space of light
Lights in space
Things appearing on light
Light on things
Lighting

Each of these notions is analysed with its common aspects such as; Space, the object in space, shadows and light itself (Fig 4a.1). This exploration helps create the architectural forms using all these light and spatial techniques for design iterations in the latter part of this thesis.

4.5.1 The Phenomenology of Light :

The 'phenomenology of light' is the first notion of light and space devised by Böhme (2017). Contrasting asymmetry between light and darkness is perceiving and understanding through eyes, perceived as 'the phenomenology of light' (Böhme ,2017, p.142).

Furthermore, the eyes' ability to perceive and understand objects/material is significant. To better understand this significance of light, various forms of the maquette (Fig 4a.2) are curated, which exhibited alternative light and spatial characters.

4a

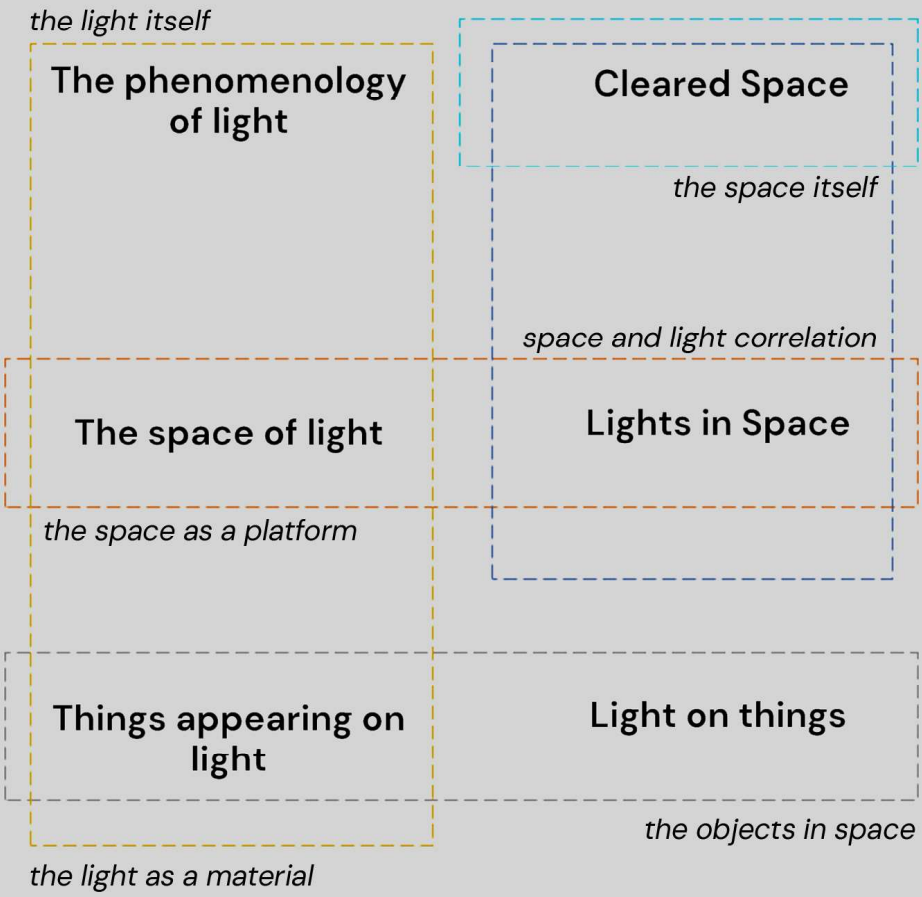


Figure 4a.1 : Bohme's Notions of Light and space, using it a as framework for form exploration. Interpreted by Author

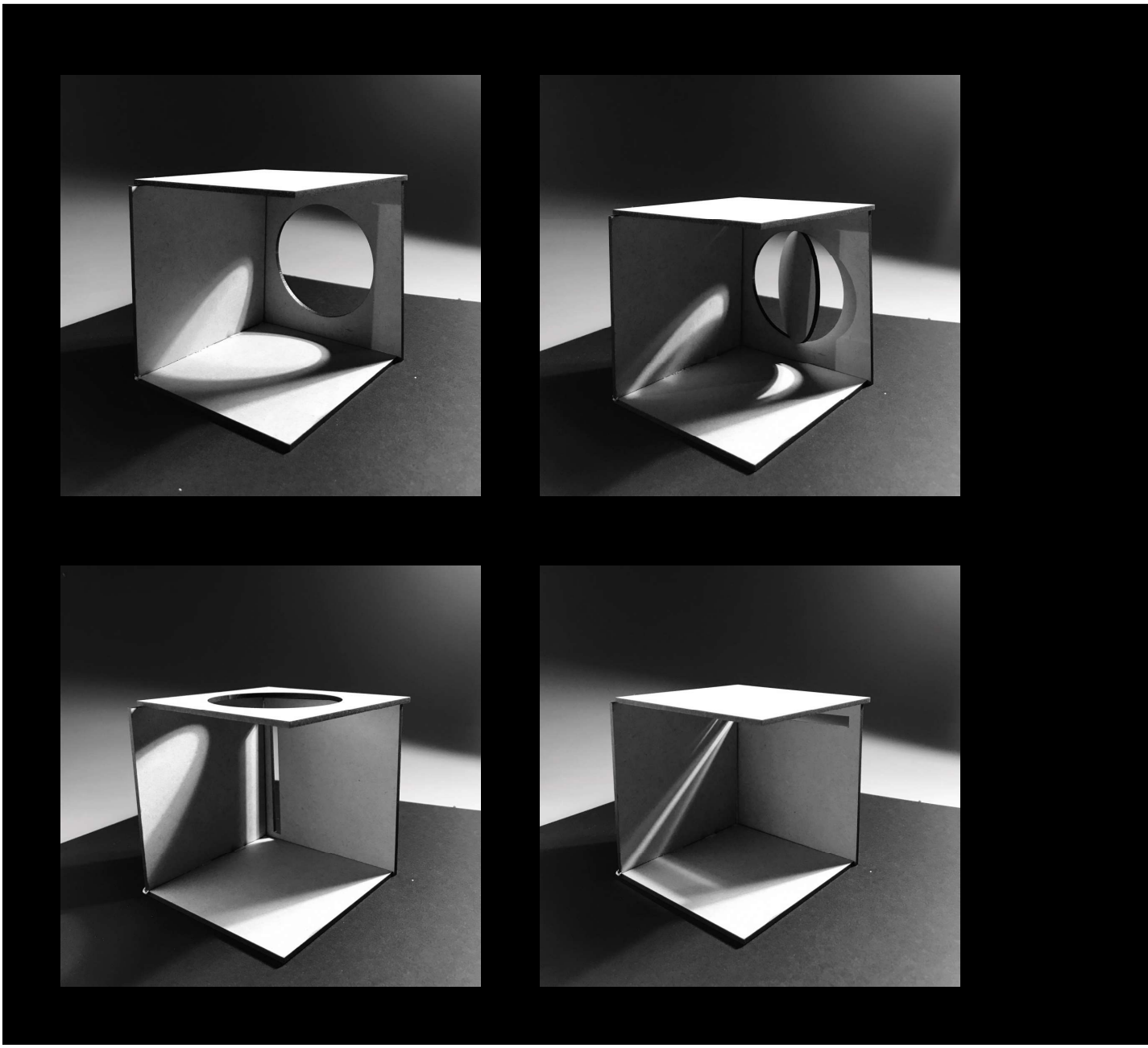
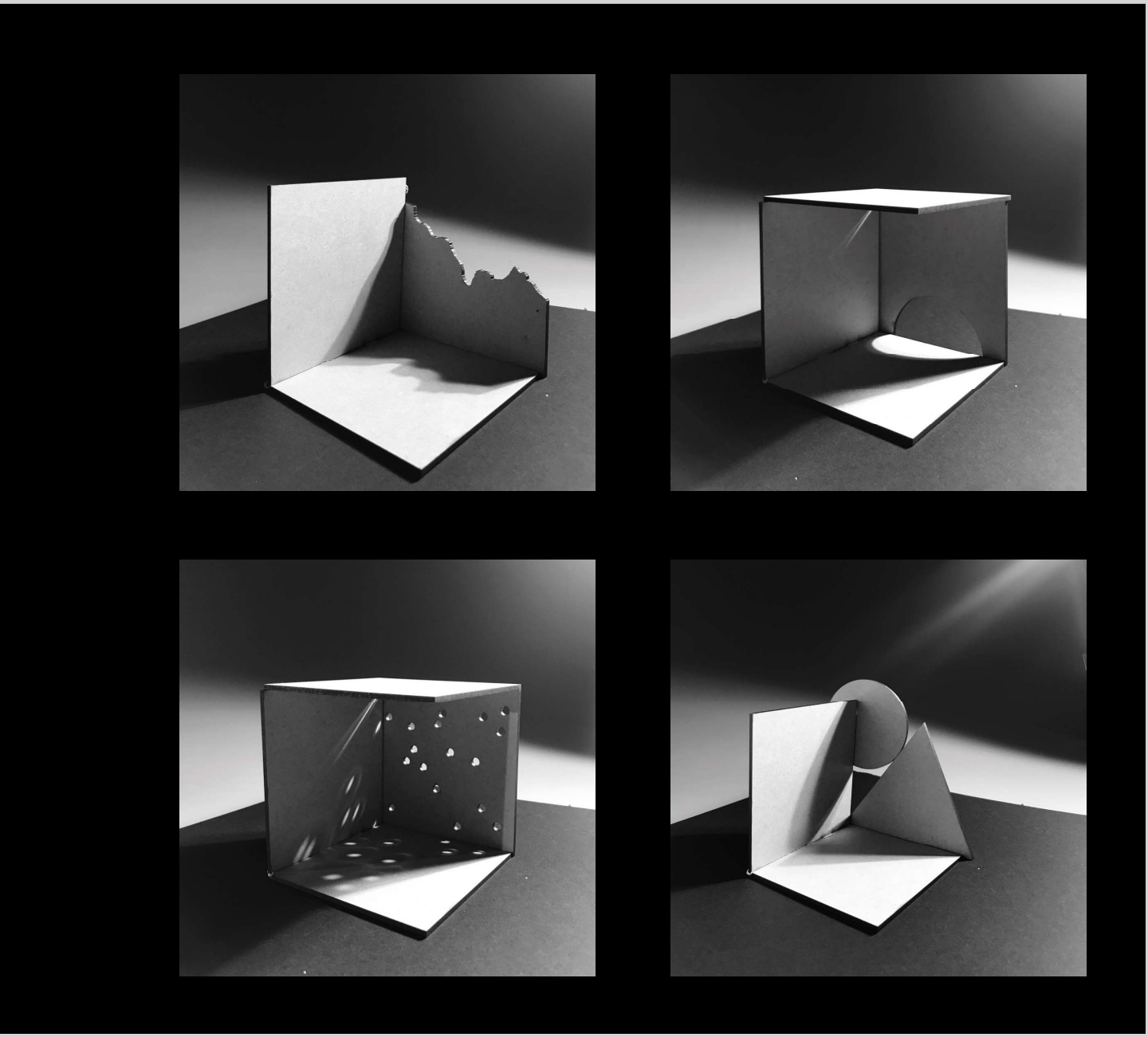


Figure 4a.2 : Physical Exploration of Light and space through various iterations of form and fenestrations



4.5.2 **Cleared Space**

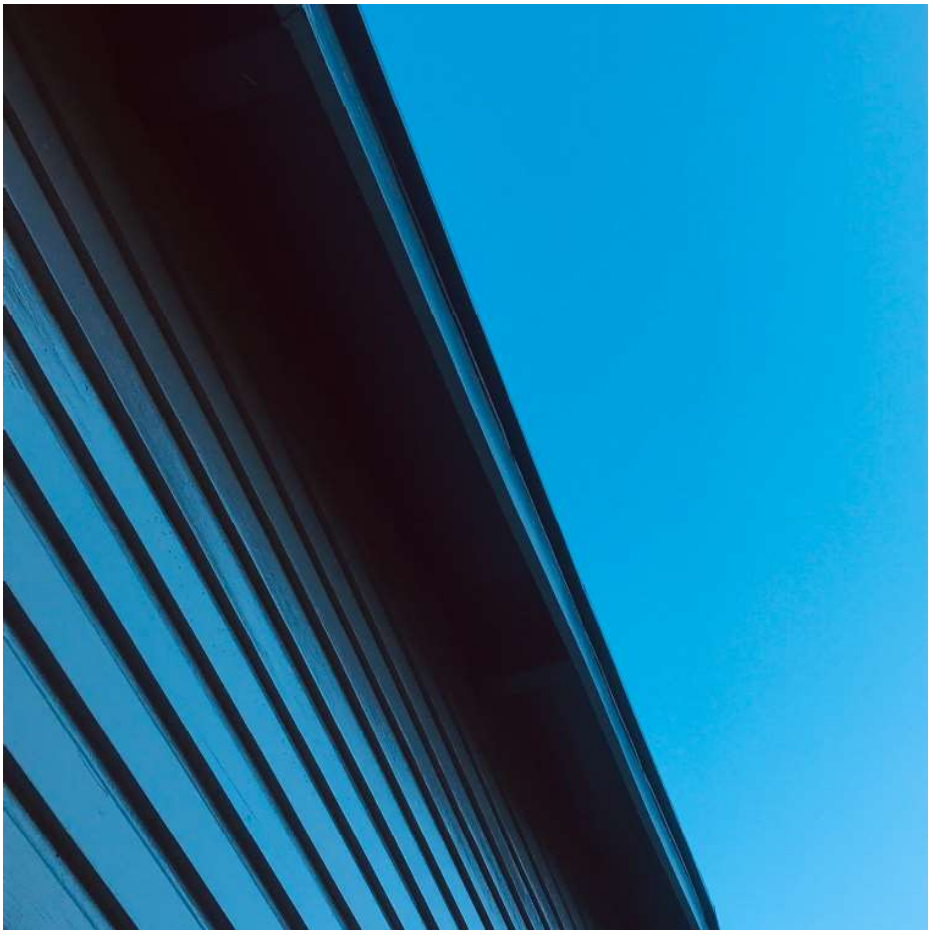


Figure 4a.3 : Cleared Space

The first effect of light as brightness is to unfurl a space. Thus, space is shaped by light. The space formed by light, which is cleared for other features, is described as the 'cleared space'. The current study investigated 'cleared space' to understand the spaces of a particular experience [experiential well-being atmospheres].

Rendering contours of shadows in those features in cleared space can provide visual movement, which provides freedom for the user in the cleared space. (Böhme ,2017, p.144). Understanding cleared space can help understand the opportunities of the contours and existing lighting conditions on-site. For example, various shapes of primary planes and contour lines of the landscape are modelled (Fig 4a.4) to understand the effect of 'cleared space' in the atmosphere.

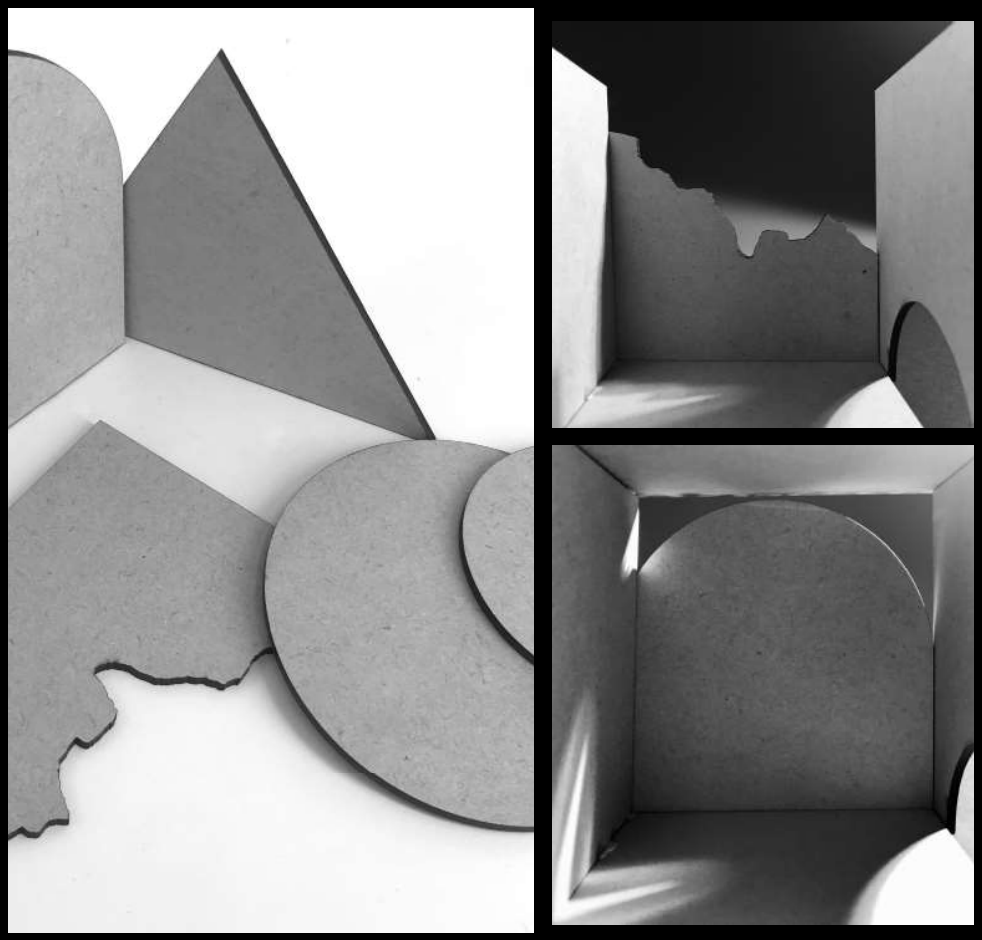


Figure 4a.4 : Cleared Space Light Exploration

4.5.3 **The space of Light**

Figure 4a.5 : The space of light

The space of light is expressed as space where a light source falls and impacts the space. The space of light is "an illuminated space" (Böhme ,2017, p.152). The experience of illuminated spaces fluctuates between casted shadows and light sources on any space to affect the user (p.152). The 'spaces of light' genre includes the setting of light sources in the space. It is also defined as the shadows produced with such light sources.

These cast shadows float freely in space, leaving room for thinking for the users (p.152). Furthermore, a lighting experiment is carried out (Fig 4a.6). A light source is fixed, and the planes are varied, tilted to understand how the shadows form the 'space of light'.

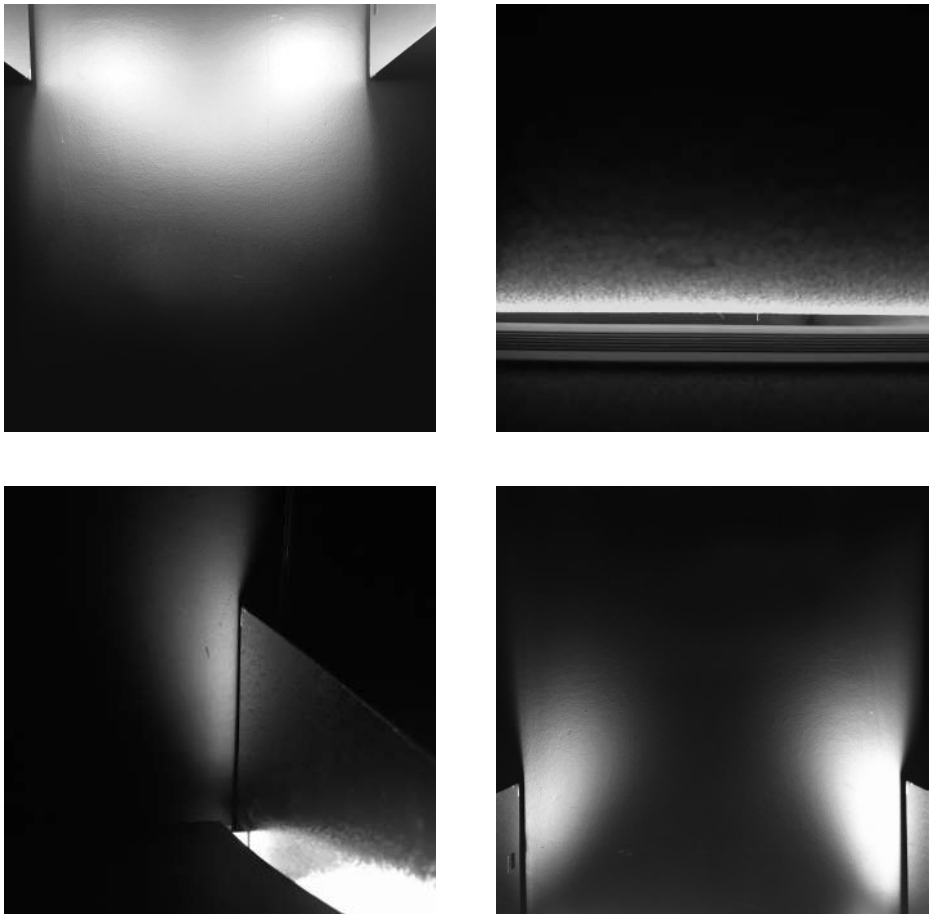


Figure 4a.6 : The space of Light explorations through maquette

4.5.4 **Lights in Space**

Figure 4a.7 : Lights in space

This notion defines the paths of lights into space. 'Lights in space' are identified as points of light, not as sources of light. The 'lights in space' phenomenon provides basic illumination to spaces without distracting the primary light sources and other objects (Böhme ,2017, p.152). Lights in space lighten up the spaces evenly. This notion of light is unapparent and not perceived as originating from the source. Instead, it is perceived when cut, diverted and articulated (Böhme ,2017, p.153).

In this research, 'Lights in space' is studied to design architectural spaces by creating forms using various fenestrations (Fig4a.8). These maquette forms assist the design process (Fig4a.9-10).

Figure 4a.8: Wall Fenestration to bring light in space - Form I , II and III

Figure 4a.9 : Wall Fenestration to bring light in space - Form I

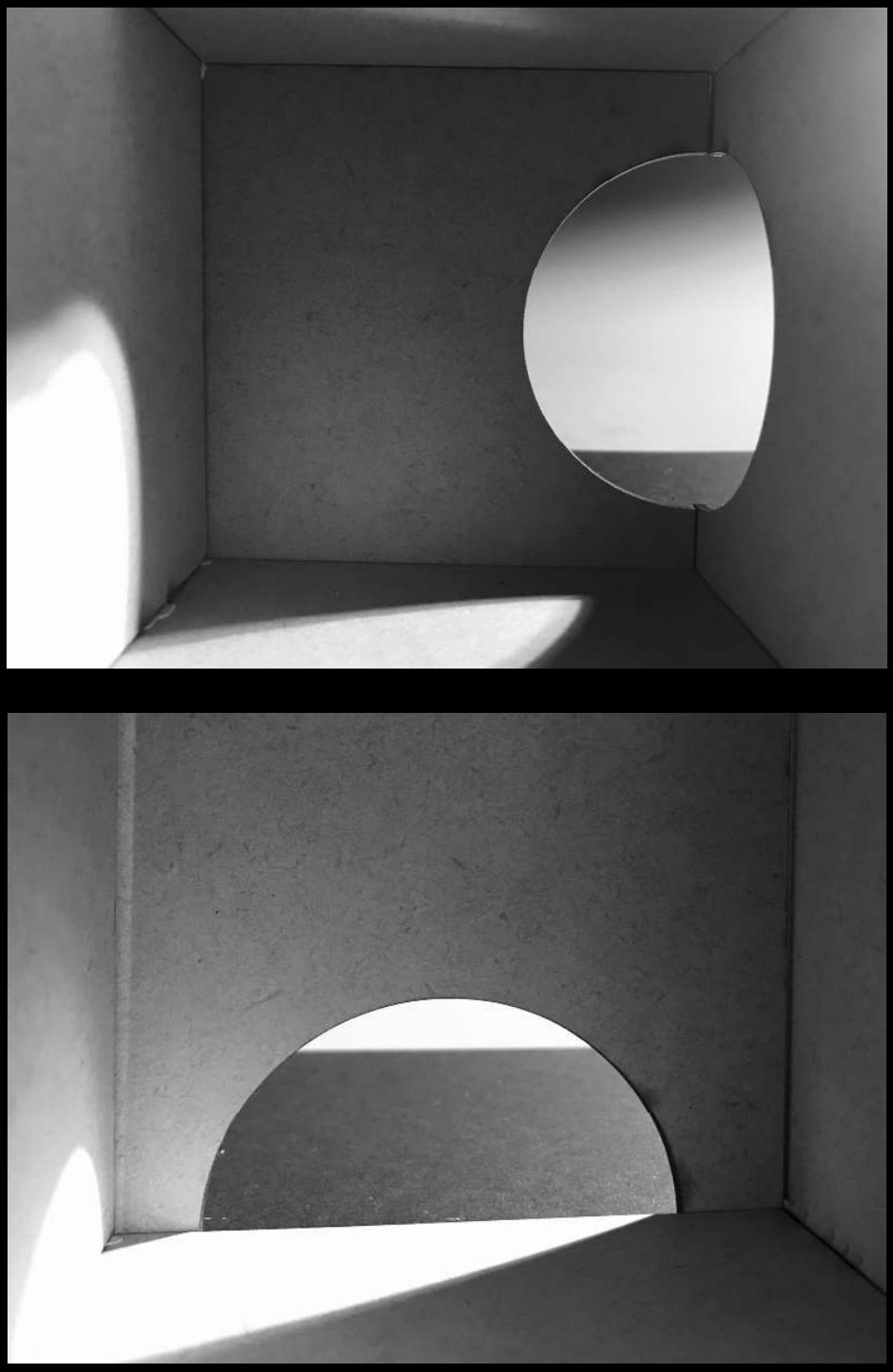


Figure 4a.10 : Wall Fenestration to bring light in space - Form II & III

4.5.5 **Things appearing in light**

Figure 4a.11 : Things appearning in light

When light is sourced onto space, it causes the things in those spaces to appear. The 'things appearing in light' phenomenon happens when natural light falls on the space and static objects. This phenomenon not only causes things to appear in light but the light co-appears along with them, providing a scene or a moment in that space (Böhme ,2017, p.154). For instance, natural light changes over the day where the object emits varying optical characters during that change in illumination (Fig 4a.11). This phenomenon is essential to understand while designing for spatial experience and visual senses.

Additionally, during a hīkoi around the Moa Point, Wellington, a few rocks and boulders were observed. These rocks threw interesting light and shadow because of their still and contour nature. Later, in spatial design, the usage of boulders and rocks is potentially seen as the experience of 'things appearing in light', and it is also used to symbolise stillness in spaces (Fig 4a.12).

Figure 4a.12 : Moa Point, Wellington

Crushed Paper (Fig 4a.13): A piece of crushed paper is experimented with under changing light conditions to understand the aspect of 'Things appearing in light'. The crushed paper symbolises 'rocks' in nature. The paper is placed on a point, and levels and light directions are oscillated and photographed. From observation, it is perceived that those rock formations in nature express stimulating light and shadows under sunlight. The shadow appears in the light, coming out of contour similar to the 'crushed paper'.

Figure 4a.13 : Crushed paper under varying light

4.5.6 **Light on Things**

Figure 4a.14 : Light on Things

Through the play of light on things that appear as such attains a character. Light brings the original character from the way it interacts with materials. The "appearance of the material depends upon the light that shines which emits its surface character (Böhme ,2017, p.155). He states that this type of light phenomenon is significant for creating various natural lighting devices to alter the character of objects in spaces.

The deployment of materials in design and architecture is essentially determined by how their surfaces interact with light. (p.155) (Fig 4a.15). Therefore, while selecting materials for this research, the light character reflected by those materials are also considered.

Figure 4a.15 : Light on things
- photographic study

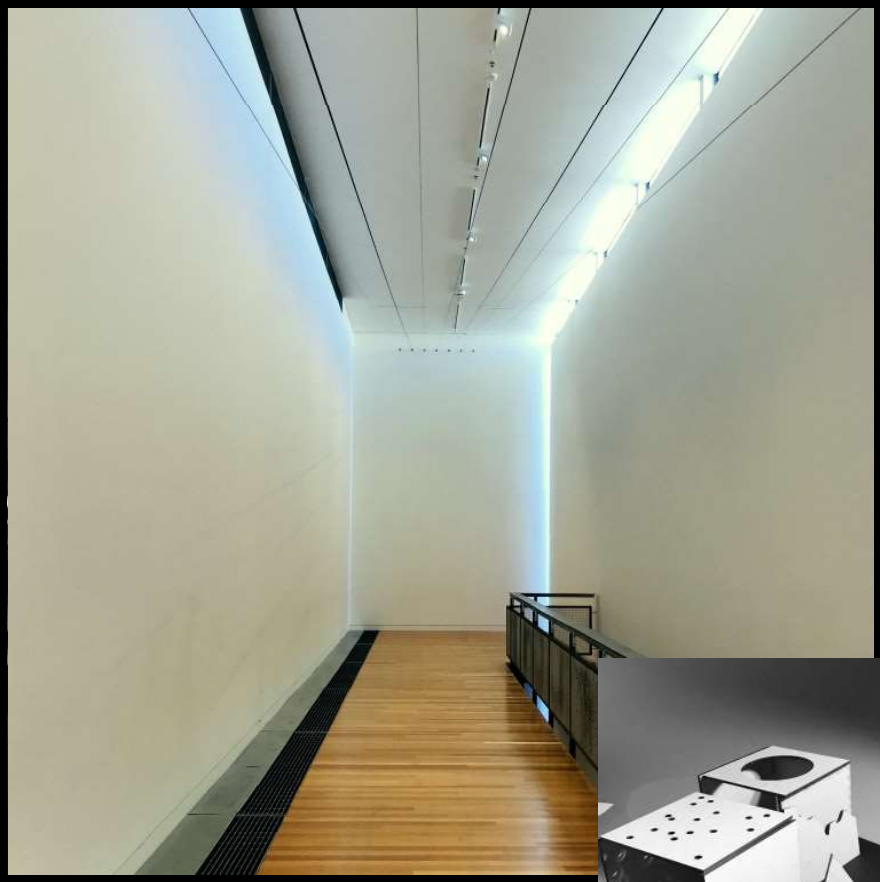


Figure 4a.16 : Adam Art Gallery, Wellington

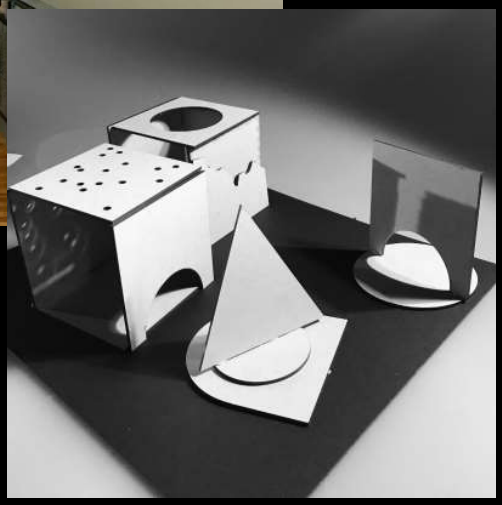


Figure 4a.17 : Series of maquettes

4.6 **Precedent (Light in space)**

The Adam Art Gallery in Victoria University of Wellington, Kelburn, is studied to understand the use of natural light devices in spaces (Fig 4a.16). It is observed that providing natural light from the wall to the roof planes created an exciting dynamic and diffused light in space. The space has varying intensities of light and shadow that change over the time of the day. The slits in spaces create a light well in both storeys, thereby maximising daylight into the gallery space than artificial lighting. The design of the narrow gallery corridors is compensated for by these light devices, ensuring users do not feel enclosed or confined. The study of the gallery provided insights while deciding the programmes for the well-being centre.

4.7 **Conclusion**

The light exploration was carried out to create forms for the well-being spaces in the proposed well-being centre. The above study determined some of the forms that are selected to explore to create varying and engaging light patterns required for the journey (Fig 4a.17). Therefore, the research aims to overlay the findings from these key explorations over programmes to create a programme matrix for the proposed design.

After finishing all the research explorations and conceptual design with frameworks, the next chapter explains the siteless design iterations.

the album of chapters

Compilation of Studies

and Design Explorations through Precedents and Case Studies

Chapter Five 05.

The album of chapters

The 'Album of Chapters' is the compilation of analysis chapters such as precedent analysis, case study analysis, siteless exploration and first design iteration. The first part of chapter presents insights from various precedent analyses and derives design programs for the proposal. The second part of this chapter starts to develop the programs into siteless design explorations.

This overall 'chapter' outlines and critically reflects on the siteless exploration and proposes design-led research tests in the conclusion. Finally, this chapter is a antecedent period from site-less design to the sited design proposal.

prec–

Precedent Analysis

5.1 Introduction

Three international precedents are chosen aligned to the research context. The analytical factors in choosing the precedents are primarily about the design and function of buildings and landscapes. For example, the first precedent is a contemplative centre built to improve students' mental health inside an institutional environment. The three precedents are as follows :

P1

CALIFORNIA
United States of America

Windhover Contemplative Centre for Students

P2

AHMEDABAD
Gujarat, India

Louis I Kahn Plaza in Indian Institute of Management

P3

BREGENZ
Austria, Central Europe

Kunsthaus Bregenz Museums and Gallery

serene, contemplation & community.

Windhover Contemplative Centre

Stanford University
California USA

Aidin Darling
2016

Overview

The Aidlin Darling team designed the Windhover contemplative centre during 2014 as a student's well-being retreat in Stanford Campus, USA. The well-being task force study reported mental health concerns ranging from anxiety, depression, eating disorders, and other struggles for the students. In order to facilitate the student's well-being, the Aidlin Darling team was commissioned for this project. The name 'wind-hover' comes from the series of paintings displayed in the gallery of the contemplative centre. The built environment is a traditional gallery and a meditative space. The building is designed for students to "just" be (Aidlin ,2014). The design is a solution to the student's mental issues to relieve the pressure of workload. It is also aimed to cater to wellness and facilitate contemplation for the students.

The "Wellbeing Task Force scientifically examined and identified that students have lower blood pressure levels, increased productivity, balance, and wellness after designing the contemplative centre for students." (Aidlin ,2014).

Moments of Stillness and Contemplation

The building is designed as an open-ended layout. The mix of spaces allows students to decide how they want to interact with the landscape and building according to their personal preferences (Aidlin, 2014). Aidlin was inspired by Chinese Temples and designed the building with a water garden, salvaged fountain and art gallery. He stated that water helps the students rejuvenate and refresh during the day, stimulating their sight. The humble (Fig 5) benches, rocks, and gentle textures of floors allow the visitors to feel encouraged to pause, stop and move at their own pace. These textures also help in amplifying the sense of touch. The design facilitates students to feel less trapped during their egress. The set of all these spaces muffles the cacophony of daily pressures. The building, on the whole, enables students to be still, sit and reflect in the environment.(Fig 5)

Interactive Environments

The design creates a state of social well-being for the student community. Talking and interacting is a way of venting out human pressures, thereby allowing people to help one another (Aidlin ,2014). Simultaneously, the gallery and other labyrinth gardens accelerate interactions being above silent spaces. (Fig 5.2)

*Figure 5.0 : **1** Contemplative Grove ;*
***2** Gallery and **3** Meditative Court*
Source : Matthew millman (2020)

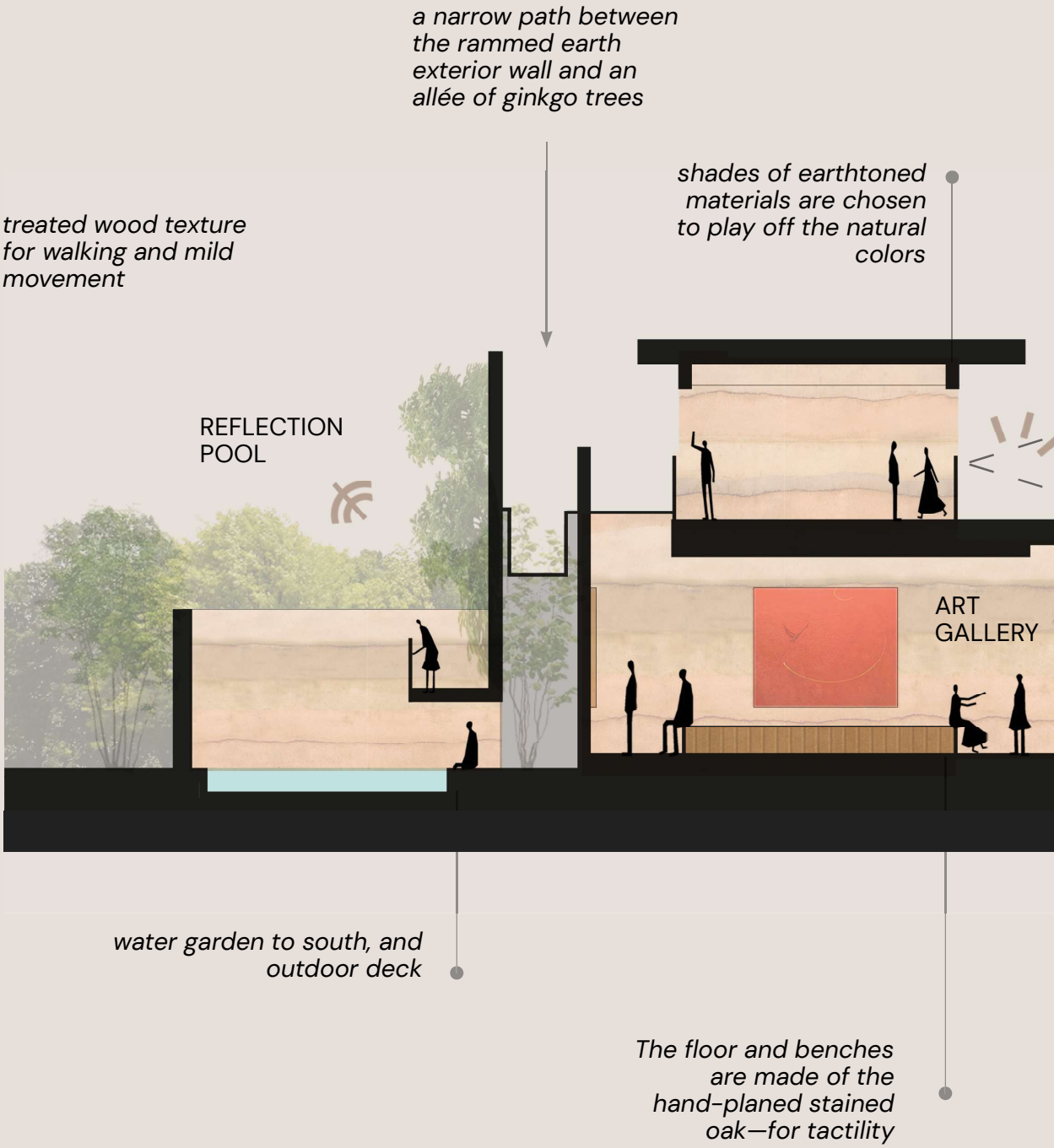


Fig 5.1 : Section of Windhover Contemplative Centre

Existing campus trees and other surrounding landscape.

entrance from campus

Buildng set in the landscape at 180° which accentuates refuge condition

visual connection to nature- prospect

From the gravel at the entry to the trees in the court, color palette to reinforce a calming atmosphere

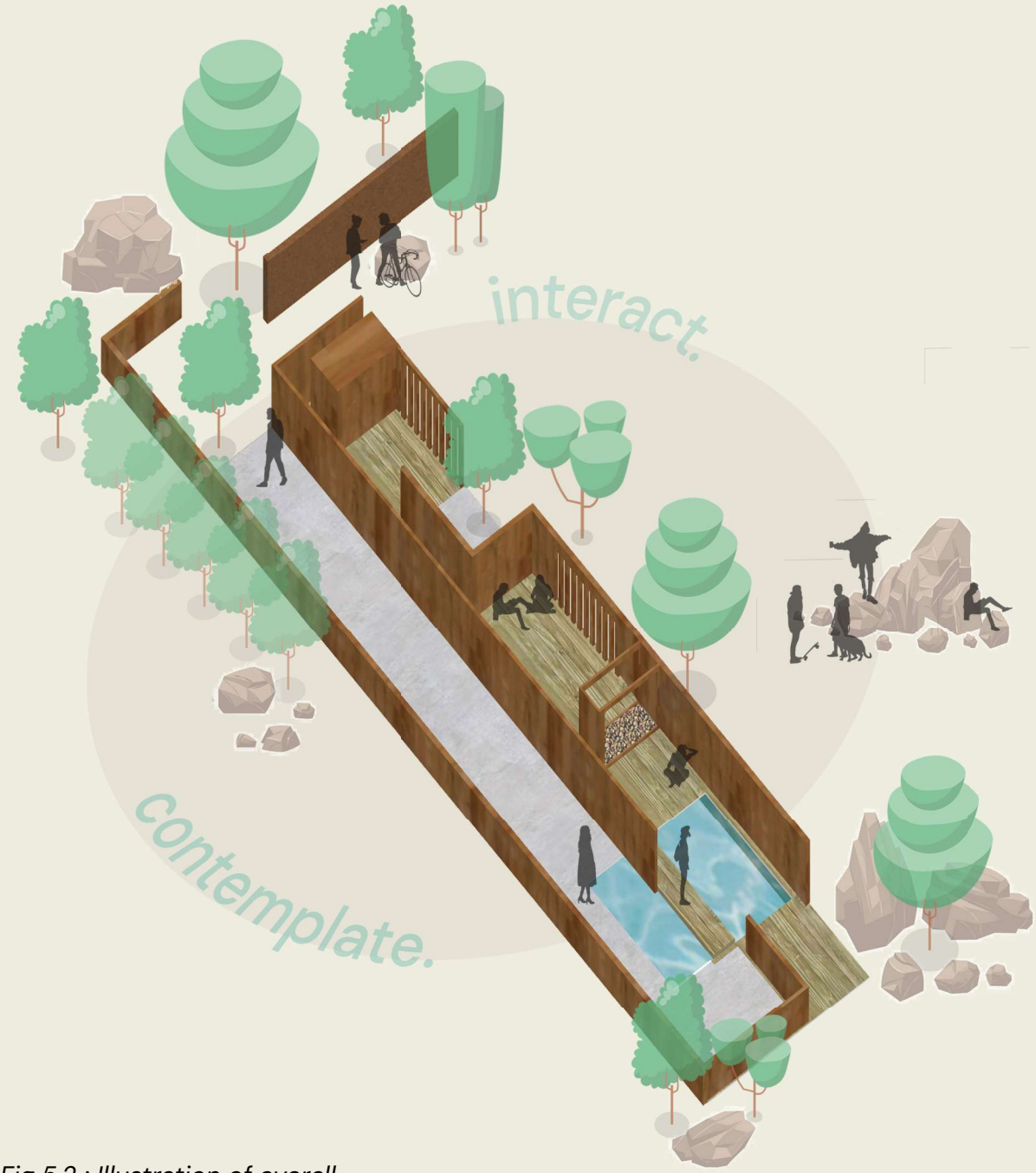


Fig 5.2 : Illustration of overall centre

Figure 5.3 :
Reflective Pool Space
Source : Matthew millman (2020)

Summary

Aidlin's design mode is an upfront response to mitigate mental health concerns by understanding students' identity, choice of freedom, and the position of designers to enable this user freedom. As discussed earlier through the literature review of experiential atmospheres and senses, the AD team establishes design for contemplation, visual and haptic senses. They try to relieve the students' stress by providing a serene shelter that engages their peace of mind. (Fig 5.3)

This precedent illustrates that stillness and contemplation is produced by architectural techniques such as devising various light and materials. It is also illustrated that interaction is produced by providing programmes like gallery spaces.

form, freedom and timeless.

IIM Ahmedabad

Gujarat, India

Louis I Kahn
1961

Overview

The Indian Institute of Management in Ahmedabad (IIMA), India, was built by Louis Kahn during the early 1960s. The architect is well-known for his unique institutional designs, such as Salk Institute, NICVID Institute in Dhaka, Phillips Exeter Academy, and IIMA. One of the noteworthy aspects of his institutional buildings is designing open spaces to create a better student environment. One such aspect is evident in the IIMA, which has 'Louis Khan Plaza'. It facilitates a communal well-being environment in the epicentre surrounded by other buildings (Fig 5.5).

Social Well-being

The Plaza is designed to covered by the three blocks, which gives the place a sense of enclosure. The enormous massing of those three blocks helps sufficient shading for the Plaza. In addition, the wide corridor pathway helps in facilitating interaction between students. The built-in alcoves are parallelly adjacent to the corridor. Thus, a group of students can find refuge and can comfortably accommodate themselves in the open space. All the corridor spaces and circulation are entirely devoted to communal spaces serving as hangout spots for students.

Lighting

The grand openings in the massive walls help to provide better lighting and ventilation. The architect has provided minimum glass openings and played with geometry by cutting through interesting fenestrations to achieve diffused and cosy lighting (Fig 5.4).

Form and Fenestrations

Throughout IIMA, Louis Kahn has designed huge fenestrations with interesting geometry such as circles, multiple arcs, squares and rectangles. Those geometric façades provide better light and ventilation and enable gathering spaces for the students and faculty in the background. In addition, the form of buildings throughout the whole institution serves to create boundaries and enclosures.

Figure 5.4 : ***Louis I Kahn Plaza, IIM Ahmedabad***
Source : Author (2019)

Figure 5.5 : ***Louis I Kahn Plaza, IIM Ahmedabad***
Source : Author (2019)

Figure 5.6 : Illustration of Louis I Kahn Plaza

Summary

The design of the Plaza and the Institution is a response to the need for spaces where the student community can learn, rest, interact, and help each other. (Fig 5.6)

The light and space inside and around the spaces provide a cathartic experience during the students' spatial journey. The overall design is achieved by supporting an expansive landscape equivalent to the building masses to accommodate their personal needs.

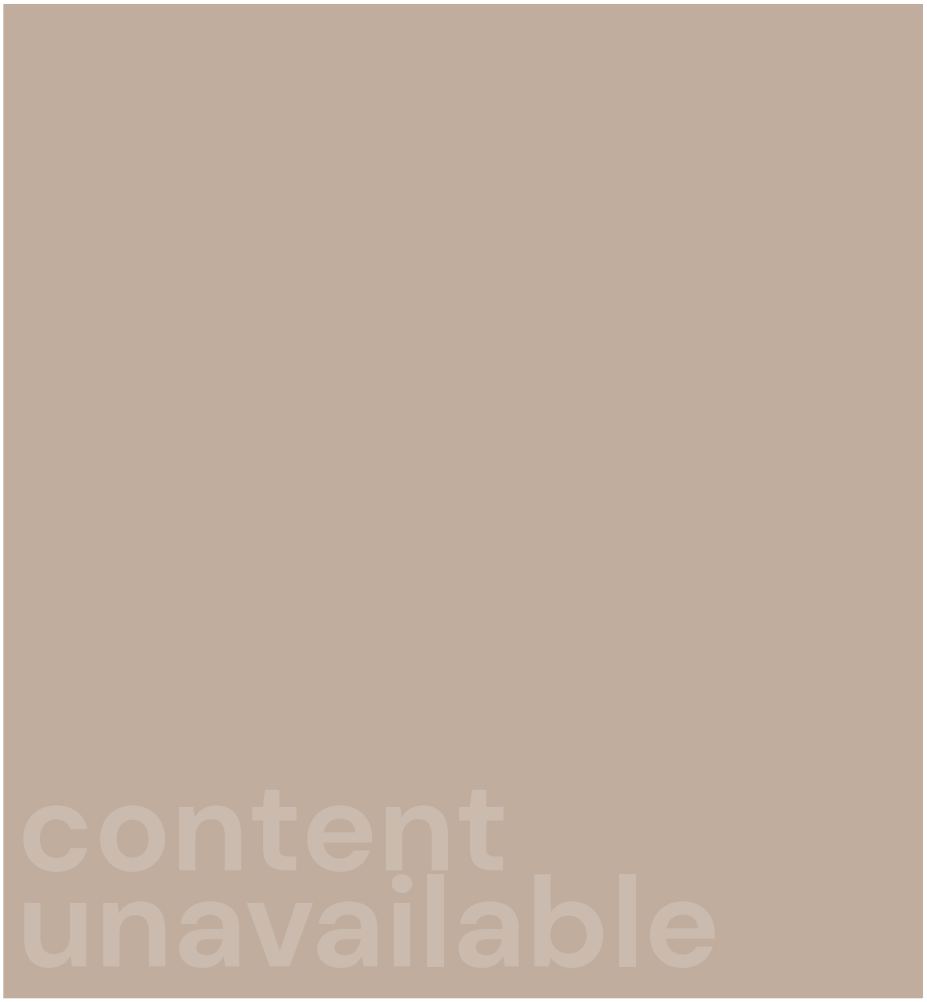


Figure 5.7 : Gallery- Kunsthas Bregenz
Source : Beobachtungen (2018): CreativeCommons

light, silence and adaptability

Kunsthas Bregenz

Bregenz, Austria

Peter Zumthor
1997

Overview

Kunsthas Bregenz was designed by Peter Zumthor during 1997. The gallery was designed soon after his outstanding work of Thermal Val. The building mainly functions as a temporary exhibition. This changing functionality in the space required the building to adapt to various exhibition scenarios.

Lighting

The material selected for the building is mainly concrete and glass. Peter Zumthor has designed a way to enable more natural light for exhibitions instead of artificial lighting systems. He encompassed the whole building with a glass exterior and left the concrete mass with an aperture to distribute diffused light evenly in the spaces. It is observed that the spaces absorb the colour of light and sky according to each day's weather. (Fig 5.7)

This atmospheric phenomenon provides an effect of interior-exterior association.

Summary

The design of Kunsthaus was drawn from significant attributes of material and lighting. The Architect minimally used concrete to improve the user's mood and presence, thereby not overshadowing architecture over art. He has taken advantage of natural light over polished concrete finishes forming a light palette throughout the building. The design, on the whole, stands out for its inert contrast through minimalism. (Fig 5.8)

stillness.

Figure 5.8 :
Illustration of Gallery Kunsthas Bregenz

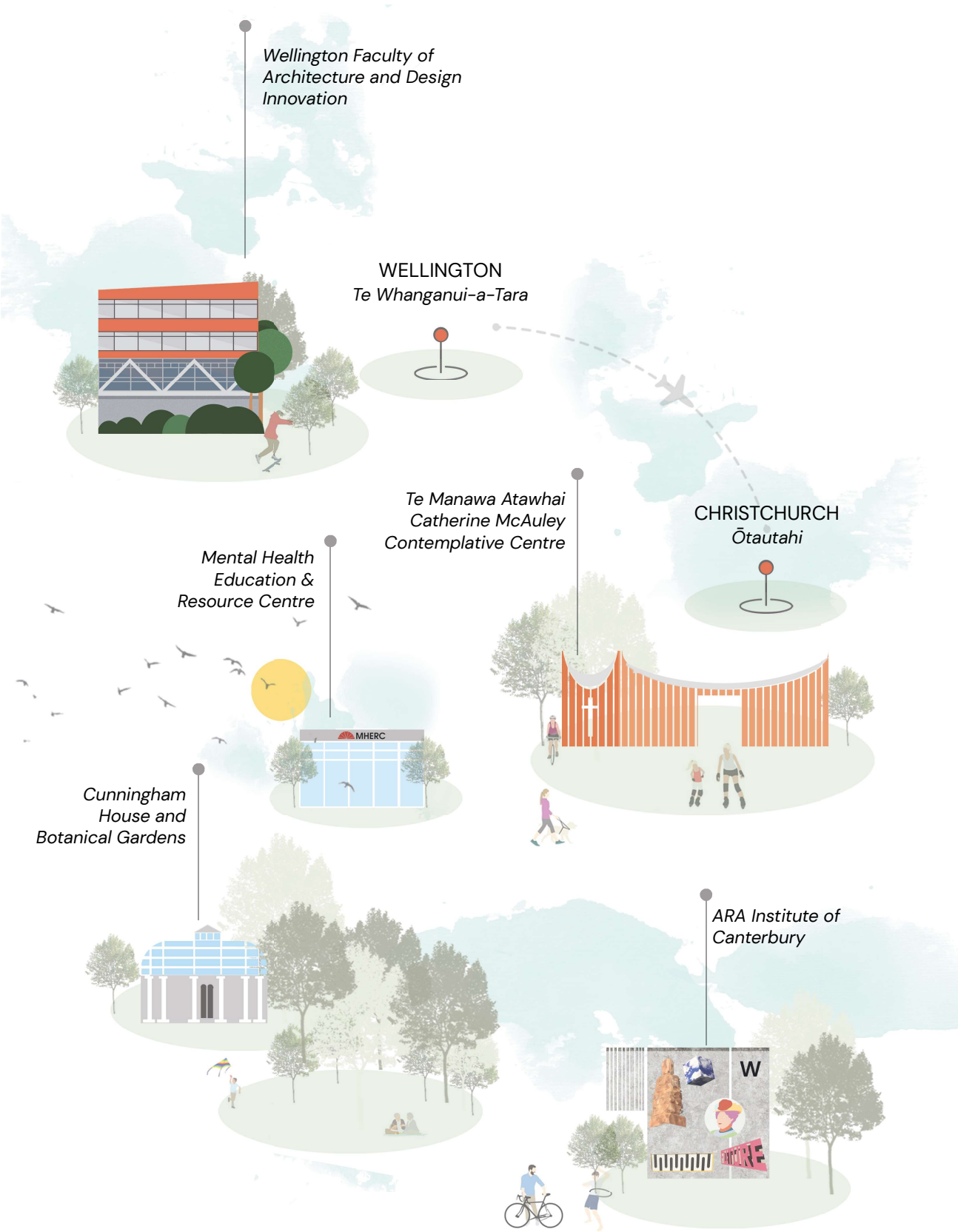


Figure 5.9 : Overview of Case study Trip to Christchurch, New Zealand

case–

In-person Case Study Analysis

5.2 Introduction

Following international precedent analysis, the author embarked in-person visits travelling to Christchurch, New Zealand (Fig 5.9). Christchurch is chosen to pursue case studies because, statistically, it has the highest percentage of adult students diagnosed with mood/anxiety-related disorders than other cities of New Zealand (DHB, 2018).

The preliminary research is carried out to find well-being spaces mainly constructed for students around the city. One such place is Te Manawa Atawhai Contemplative centre inside an institutional environment (Villa Maria College).

Secondly, this trip allowed to review well-being services provided by other New Zealand Institutions such as University of Canterbury and ARA Institute of Canterbury [these reviews are recorded in Chapter 2.3.2].

These case studies are analysed individually and finally compared with the precedents, in conclusion, to make informed decisions for creating design programs in the proposal.

C1

UPPER RICCARTON
Christchurch, New Zealand

Te Manawa Atawhai Contemplative Centre in Villa Maria College

C2

HAGLEY PARK
Christchurch, New Zealand

Cunningham House + Botanical Gardens landscape

C3

UPPER HUTT
Wellington, New Zealand

Whirinaki Expressions Art Gallery

contemplative, healing & spiritual.

Te Manawa Atawhai McAuley Contemplative Centre

Villa Maria College
Upper Riccarton
Christchurch

Hamish Shaw
2018

Te Manawa Atawhai (Compassionate Heart) Catherine McAuley Contemplative centre is located in Upper Riccarton, Christchurch. This centre is built on the premises of Villa Maria College. It was constructed in December 2018 by Hamish Shaw group of Architects. (Fig 5.10.1)

Mental health and Well-being

The primary purpose of the building is to help students achieve improved mental health and well-being through its spaces. The spaces have a variety of spatial programs, including spiritual functions. There is an open meditative hall, open to sky couryard in the middle, (Fig 5.10.2) guided counselling rooms, discussion mezzanine, and other open-end/flexible student-friendly spaces. This variety in spaces and landscapes allows the users to choose closed or open spaces to relax according to their mood and preference.

Contemplation and Spiritual Meditation

The centre has potential space for meditation so that the students can feel relaxed. The administration arranges for guided counselling for them. They also arrange weekly scheduled spiritual mass and meditation for the students. The students' activity was observed on a typical day of college. The students accommodated themselves around the contemplative spaces by themselves or with a group of people. A few students went to counselling, where the rooms had blinds to maintain their privacy yet openable.

*Figure 5.10 : **1** Entrace of Contemplative Centre ;*
***2** Courtyard;*
Source : Author (2021)

Design and Scale

The centre is named after Late Sister Catherine McCauley. She had a vast ombre shawl which she used to hug and cover the children. The form of the centre is designed in such a way that mimics the shawl of Sister Catherine, which ensembles a spatial metaphor of covering the students under the centre's shelter. The building is a single-storey timber structure. Two arcs cut through the plan forming curved walls and courtyards in the space. The façade is made of slit-perforated iron panels, which are rusting and ageing gracefully. This phenomenon leaves the building with distributed hues of oranges and browns in the elevations.

Although the walls end in an extruded fashion, they drop in the middle of the building to provide a domestic scale. (Fig 5.11) This gradual change in scale throughout the building creates awareness and factor of "presence" during the spatial journey.

Figure 5.11 : Contemplative Courtyard
Author (2021)

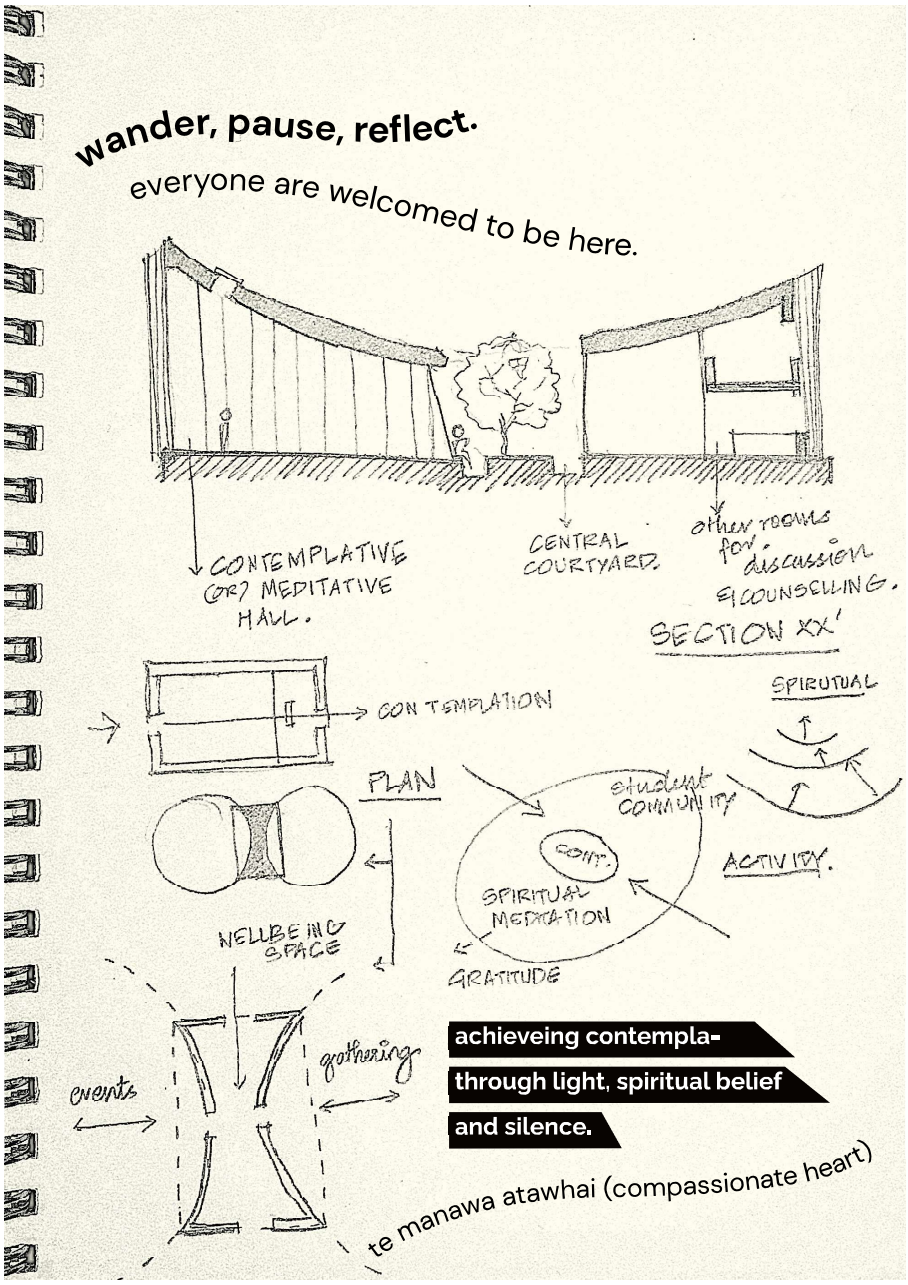


Figure 5.12 : On-site sketching analysis

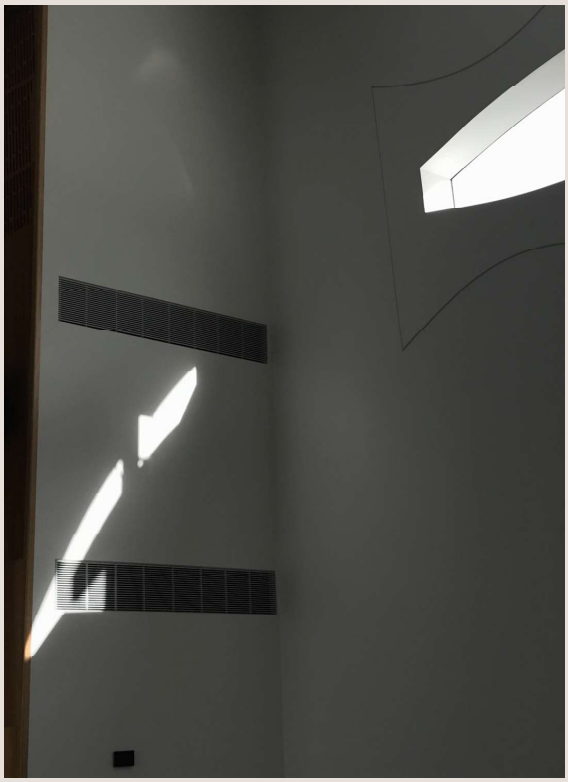


*Figure 5.13 : **1** Outdoor Furniture ;*
***2** Meditation Hall*
Source : Author (2021)

Summary

In conclusion, the centre is helpful for the students to reflect, roam and be. Moreover, the institute has taken one step further in providing Manawa Ora services by dedicating this whole centre to the well-being of the student community. The building challenges the conventional institutional space with its contemporary design. Altogether, the qualities of this centre prove that it is an effectively functioning paradigm of well-being space inside an institutional environment (Fig 5.12).

lanscape, gardens & stillness.

Cunningham House + Botanical gardens

Christchurch

Collins and Harman
1923

Overview

Cunningham House is a massive structure and one of the winter gardens houses among Townend, Garrick and Fern house in Botanical Garden of Christchurch. According to Christchurch City council, it is a building of architectural importance, and it is listed with the Heritage New Zealand Pouhere Taonga.

Landscape – Nature as a potential tool for contemplation

Cunningham house being a dedicated built environment for the garden, the predominant feature is the articulation of landscape. The indoor plants are planted with their plant groups but organically spread out aesthetically. This organic way of planting gives a domestic scale effect.
A variety of plants are segregated into two floors. The ground floor has small and average height trees, plants and shrubs. The expansive staircase leads to a gallery of tropical plants with potted plants, creepers and climbers (Fig 5.15). The landscape is designed to keep the circulation of people clear and without any hindrances.

Circulation

The planning of circulation starts from the overall master plan of the entire botanical gardens. The building has a landscaped garden along the main pathway in the front. The pathway leads to the narrowed entrance to the house to domesticate the users. Following the entrance, the house has two loops of corridors on each floor. The first one begins with multiple seats on the ground floor so that people can sit, pause and reflect (Fig 5.14). The first-floor loop concentrates on the walking experience and does not have seats, making the user repeat the loop or head down to pause/end their journey. The users are also given another choice of a journey with a rear exit into the garden.

Material Palette

Materials used in this building are concrete, brick, glass and plaster. Brick construction is chosen to maintain a warm temperature for tropical plants. It was also chosen for structural reasons because plants can add additional weight to a building. The roof is made out of glass, and it is a large semi-circular arch dome that acts as a natural lighting device. There is diffused lighting on the ground floor with semi-circular windows in the periphery. The natural lighting allows a better visual connection for the surrounding landscape.

Figure 5.14 : ***Sit, pause and Reflect***
Cunningham House

Figure 5.15 : Staircase entraces
Source : Author (2021)

Figure 5.16 : Illustration of Cunningham house

Summary

The study from Cunningham house is helpful to make informed decisions such as blending landscape [*vegetation*] into architecture and planning during the design process (Fig 5.16).

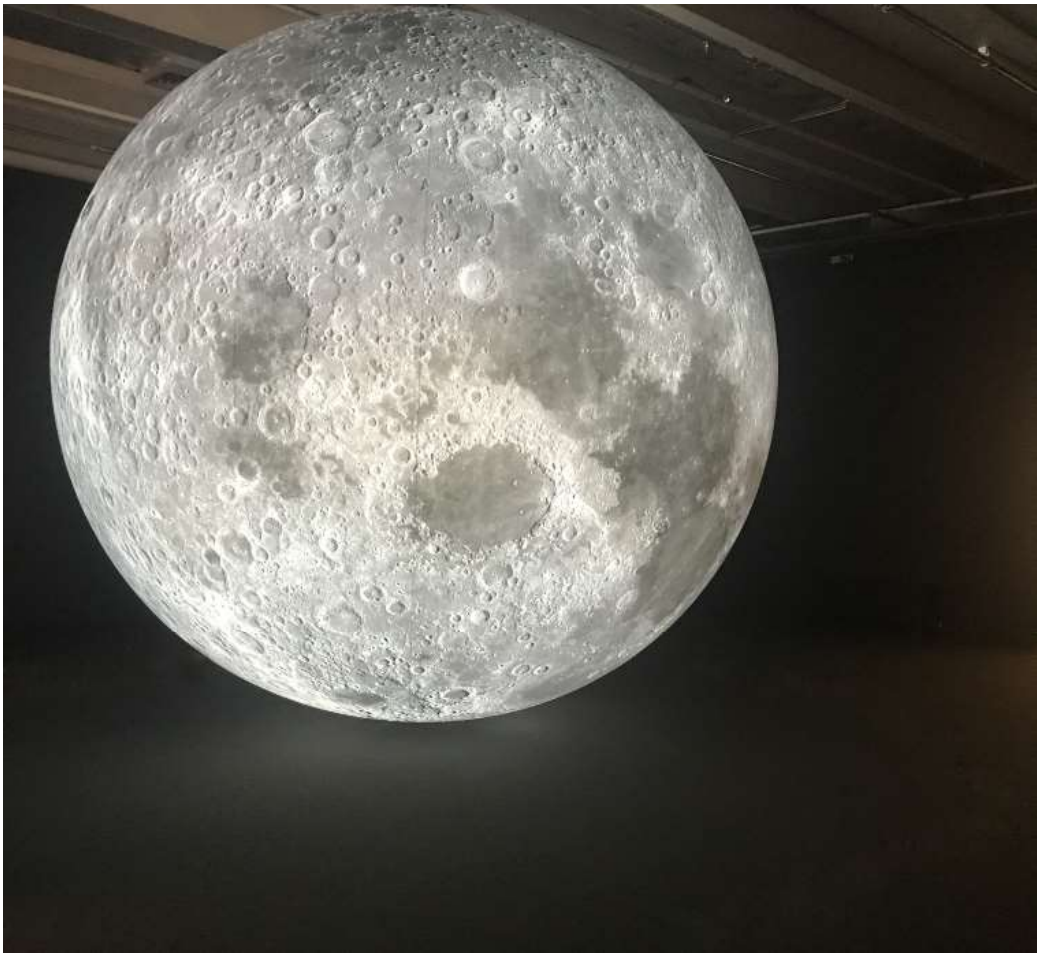


Figure 5.17 : ***Moon Meditative Gallery***

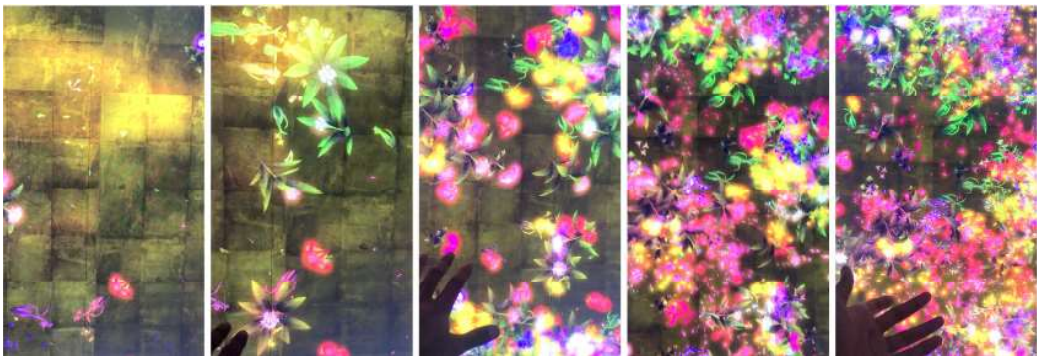


Figure 5.18 : Digital Interactive Installation
Flowers and People

gallery atmospheres and installations

Expressions Art Gallery

Upper hutt, Wellington

Orongomai Marae and local iwi

2011

Overview

The Whirinaki Expressions Art gallery is situated at the outskirts of Greater Wellington in Upper Hutt. The gallery has five temporary exhibit galleries widely known for its interactive experiences in those galleries. Installations was observed with more engagement & participation.

Stillness – ***Moon Meditative Gallery by Luke Jerram***

The first gallery has an installation that is a fusion of lunar imagery, artificial moonlight and surrounds sound composition. It creates a heightened awareness of visual, auditory and haptic senses. It encourages the users to sit, reflect, observe the moon, and meditate and contemplate, forming a still and silent space (Fig 5.17).

Contemplation and Interaction – ***Flowers and People by team Lab***

The second gallery has an interactive pre-recorded on loop digital installation. It produces moving imagery of the lifecycle of flowers and petals from growing to withering. It reads the people's movement, and when a person goes near the installation, the flowers grow, and if the user moves away, the flowers wither (Fig 5.18). Thus, it provides a modified experience for haptic senses, different from conventional "do-not-touch" galleries. Whereas, this acceleration of haptic senses can cause the users to reflect, contemplate or even make them feel nostalgic (Pallasmaa ,2012, p.69).

Social Interaction – ***Fergusson by Sara Hughes***

The final gallery has an interactive installation for children where they are allowed to build with blocks, make models, and interact with parents and other children (Fig 5.19). Thus, it allows a specified activity such as building blocks that focuses on personal, physical and social interaction. This case study suggests that the quality of including activity to improve social interaction.

Figure 5.19 :
Social Interactive workshop

Precedent and case study comparative analysis

These precedent and case studies share six design attributes which are chosen to initiate the design process. These attributes are compared and the implications are drawn to begin the conceptual design.

precedent

Precedent One

Windhover Contemplative Centre — P1

The windhover contemplative centre in Stanford University Campus, California, USA.

Precedent Two

Louis Kahn Plaza, IIM Ahmedabad — P2

Central Plaza in Indian Institute of Management in Ahmedabad, Gujarat designed by Louis I Kahn.

Precedent Three

Kunsthas Bregenz — P3

Temporary exhibitions of international contemporary art in Bregenz, Austria designed by Peter Zumthor.

case study

Case study One

Te Manawa Atawhai Contemplative Centre — C1

The Te Manawa Atawhai contemplative centre in Villa Maria College Campus, Upper Riccarton, Christchurch.

Case study Two

Cunningham House + Botanical Gardens — C2

Cuningham House is a social significant edifice and one of the Botanic Gardens display houses in Christchurch.

Case studyThree

Expressions Whirinaki Gallery — C3

Temporary interactive exhibitions and arts centre in Upper Hutt, Wellington

	Potential Stillness	Potential Interaction	Contemplative spaces	Gallery spaces	Ample Landscape	In Institutional premises	Open to public
P 1	*Present* **Specific design**	*Students* **Highly interactive**	*Decks*	*Paintings* **Windhover art series**	*Trees, rocks and presence of water*	*Present* **Stanford University**	*Not open to public*
P 2	*Present*	*Students* **Interactive corridors**	*Potential ; unspecified*	*NA*	*Single lawn*	*Present* **IIM Ahmdbd.**	
P 3	*Potential ; unspecified*	*Public* **Highly interactive**	*Potential ; unspecified*	*Temporary exhibits*	*NA*	*NA*	
C 1	*Meditative* **Specific design**	*Students* *Identified during leisure hours*	*Present* **Halls and rooms** *(includes spiritual contemplation)*	*Not Present*	*Trees, outdoor furniture and lawns*	*Present* **Villa Maria College**	
C 2	*Not Present*	*Potential ; unspecified*	*Potential ; unspecified*	*Not Present*	*Variety of plants, trees and presence of water*	*NA*	
C 3	*Meditative* **Specific design**	*Public* **Highly interactive**	*Potential ; unspecified*	*Temporary exhibits*	*Not Present*	*NA*	

5.3 Conclusion

Three international precedents are examined; however, these three precedents have been chosen and analysed as various fundamental principles according to the design criteria determined in chapter two (the grounds; architectural response).

These live case studies in Christchurch added valuable three insights for the design process, they are:

1. Need for well-being spaces in Campus

'Windhover contemplative centre (California, USA) [P]' and ' Te Manawa Atawhai Contemplative Centre (Christchurch, New Zealand) [C]' are designed for students, especially to provide psychological and social wellbeing across the overall institutional community.

2. Landscape to influence sensory experience

'IIM Ahmedabad: Louis Khan Plaza [P]' and 'Cunningham House [C]' informed design decisions about landscape's influence on sensory experience.

3. Light as a tool for contemplative state

'The Kunsthas Bregenz Gallery [P]' and 'Expressions Whirinaki Gallery [C]' provided insights about individual wellbeing experiences and their influences from light in architecture.

Hence, all of these precedents and case studies have assisted in informing design decisions and showing how the design criteria determined in chapter two could be attained

[C] *Live Case study*
[P] *Precedent Study*

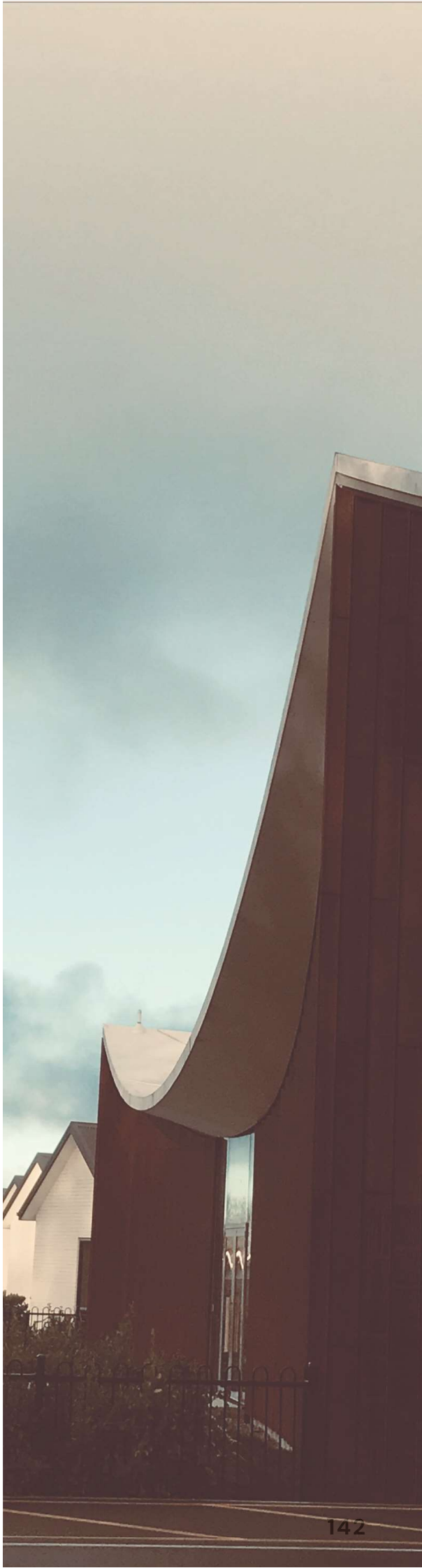


Figure 5.20 :
Exterior of Te Atawhai Contemplative Centre

out of

Siteless Exploration

The explorations were pursued after the literature analysis of senses and engagement. To undestand the sensory experience, Cuba Street, Wellington,
New Zealand was chosen to explore

sight

5.4 First Design Iteration
(Designing Key atmospheres)

As mentioned in Chapter 1.3, the primary aim of this research is to introduce an environment of wellbeing for students in the context of tertiary learning environments and create awareness about the importance of personal well-being and a stress-free state of mind. It is attained by creating built environments and wellbeing atmospheres that cater to improved students' mental health. A centre for students' well-being is taken as the main programme for the first design test. This space will be dedicated to the student community in Greater Wellington. The central concept of designing this centre includes three well-being atmospheres, as mentioned in Chapter 3, section 3.4. These atmospheres will act as prime built environments that have moments of stillness, social interaction and contemplation. These atmospheres are individually explored as siteless design responses where they will be sited later. It is because, to focus the design solely on designing the certain atmosphere carefully. The exploration of diverse forms and spatial techniques are adapted using design principles from the literature review, intuitive explorations and precedent studies.

Exploration Cluster Experiential Atmospheres	Programme Categories
Stillness	Rockpool Gallery (Indoor)
	Water Surround Meditation (Outdoor)
Social Interaction	Gallery (Programme yet to be developed)
	Herbs and Aromatic Social Tea Making Space
	Doodle Therapy room
Contemplation	Rockside Contemplative Space (Outdoor)
	Walking Meditation and Circulation
	Reclaimed Stone Fountain
	Landscape and Vistas of Mount Victoria Belt

Figure 5.21 : Initial programme table dervied to design the atmospheres

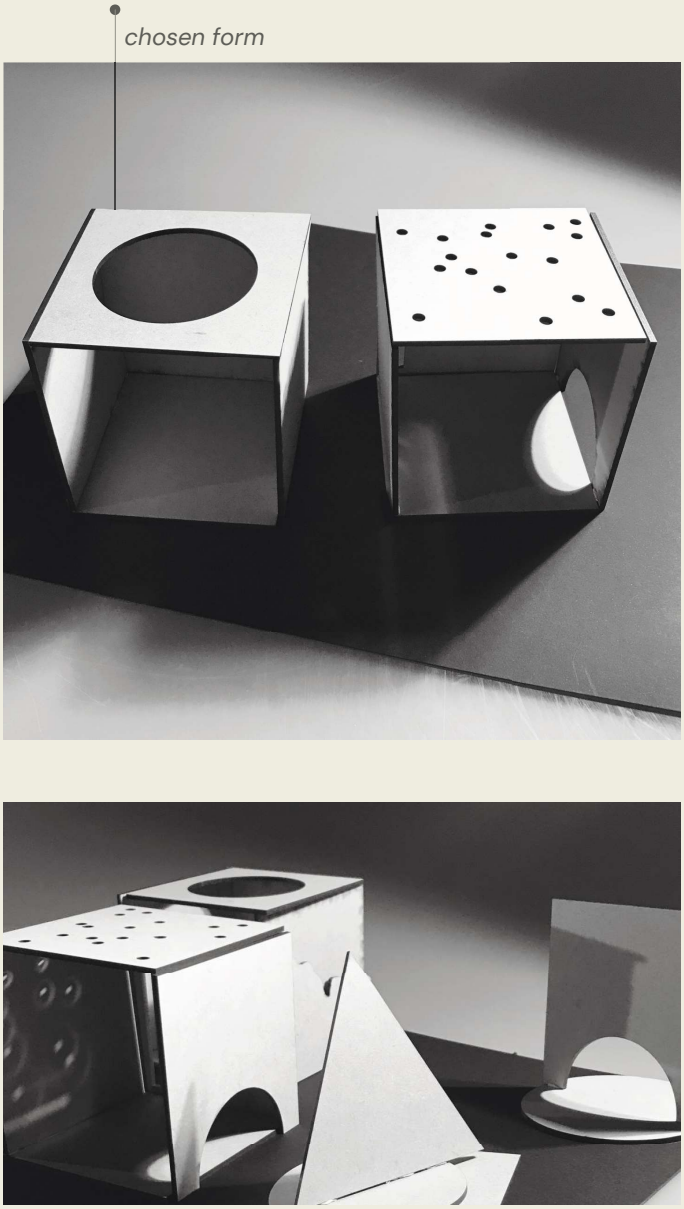
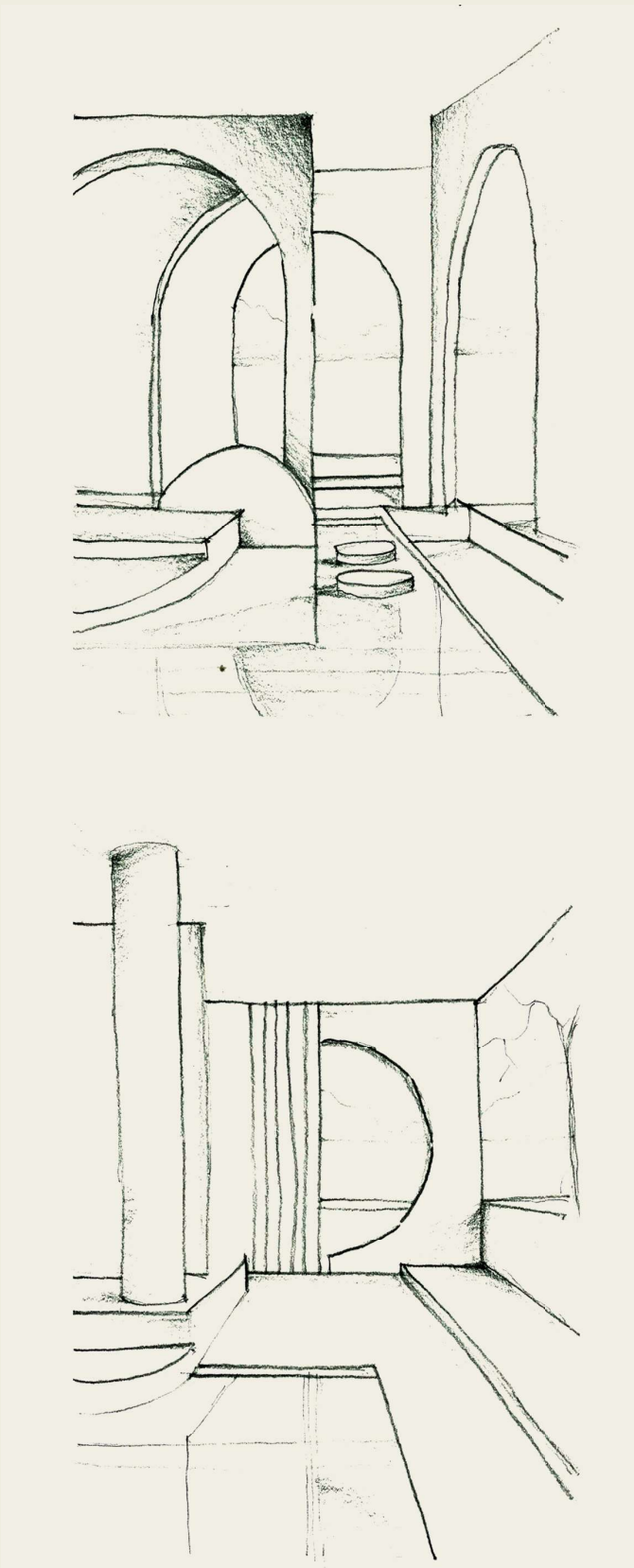


Figure 5.22: Maquettes exploring the forms for stillness atmosphere



5.4.1 **Stillness Atmosphere** (Rockpool Meditative Gallery)

Initially, the design is started by exploring the architectural forms to achieve stillness in space (Fig 5.22). In comparison, it is understood that architectural form is still by itself yet needs to be designed in a certain way to achieve a still and distraction-free environment. Initially, the intended experiences for a still environment are outlined as 'detach' [from the physical world] and 'state of stillness'. The form of the maquettes reflects simple geometric characters, which reduces visual movement, thereby accelerating a sense of stillness. Later, the form chosen for the still atmosphere contrasts the circular void with the solid space. This form creates a control for the environment by heightening the sense of central light falling into the centre of space. In nature, the character of stillness can be exhibited through static rocks and stagnant water (Zumthor, 201X). Therefore, this concept is tested through sketches of spaces with elevated geometrical openings and the presence of still water (Fig 5.23). Conclusively, to accelerate this character, a central rockpool is devised in the space (Fig 5.24). Thus, the space has a simple geometrical form, and through agencies of light, landscape and texture, a still and tranquil environment is designed for the users (Fig 5.25).

Figure 5.23: Sketches – iterations of Stillness spaces

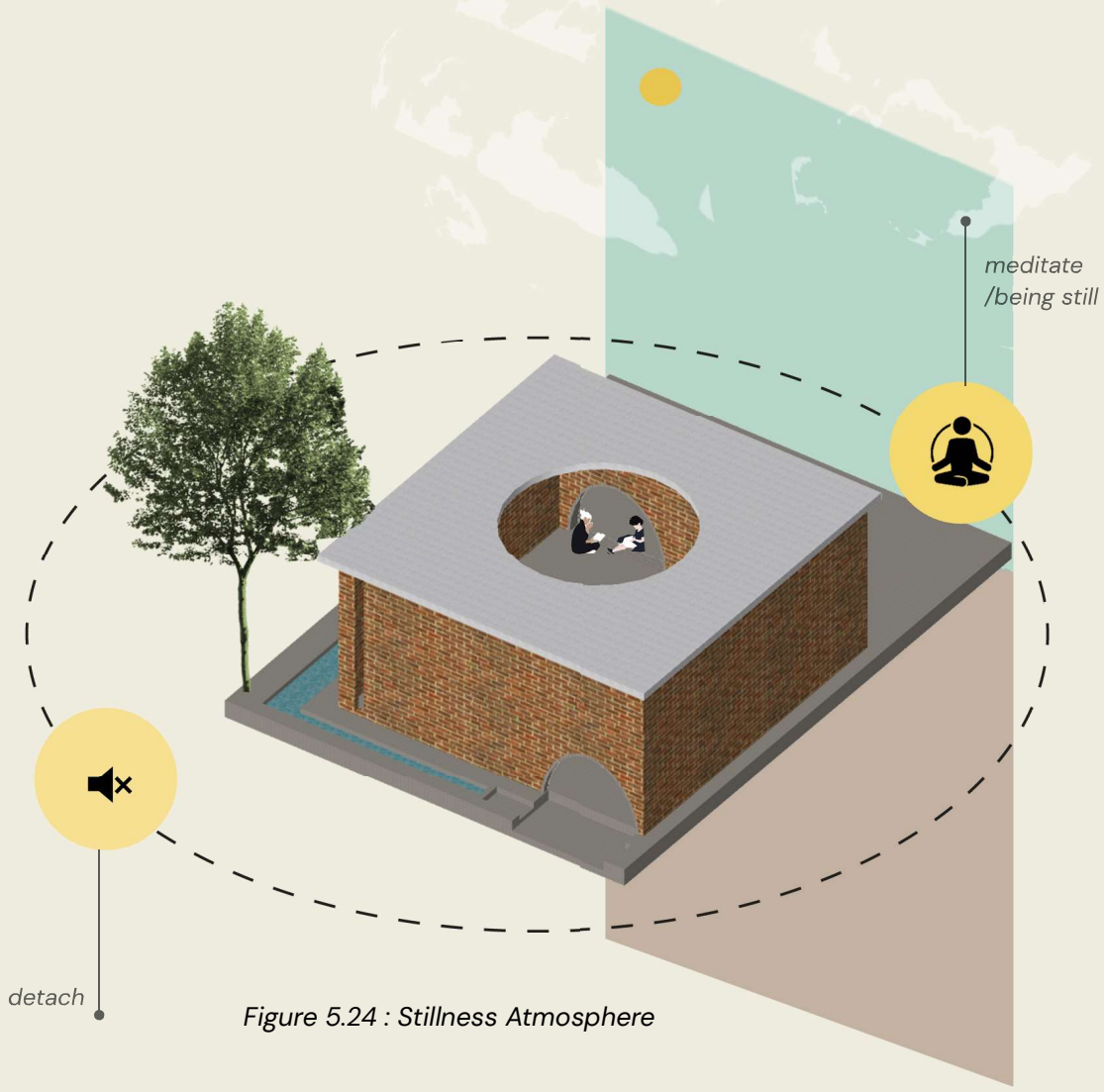


Figure 5.24 : Stillness Atmosphere

Figure 5.25: Exterior
- First iterations of Stillness spaces

5.4.2 **Interactive Atmospheres** (Student's Interactive Complex)

Böhme (2014) explains that social interaction is "...not only dependent by light and sound, but also from other persons in a space"(p.45). He also clarifies that "personal communication occurs in a certain mood, emanating from other people's behaviour" (p.46). Therefore, it is understood that the programs and activities that can accelerate people's engagement inside spaces are essential in creating an atmosphere for interaction. So, the programs/activities are focused and explored (Fig 5.27). Primarily, the intended experiences for the interactive atmosphere are outlined, such as thinking/talking, creating and especially tea room spaces to evoke the sense of smell (Fig5.28).

Later these experiences are translated into three forms of spaces. These three spaces are then iterated individually and pieced together (Fig 5.28) to provide the student's interactive complex in the final proposal (Fig 5.29). As a result, the atmosphere accommodating a melange of activity and programmes creates a room for interaction in these built spaces.

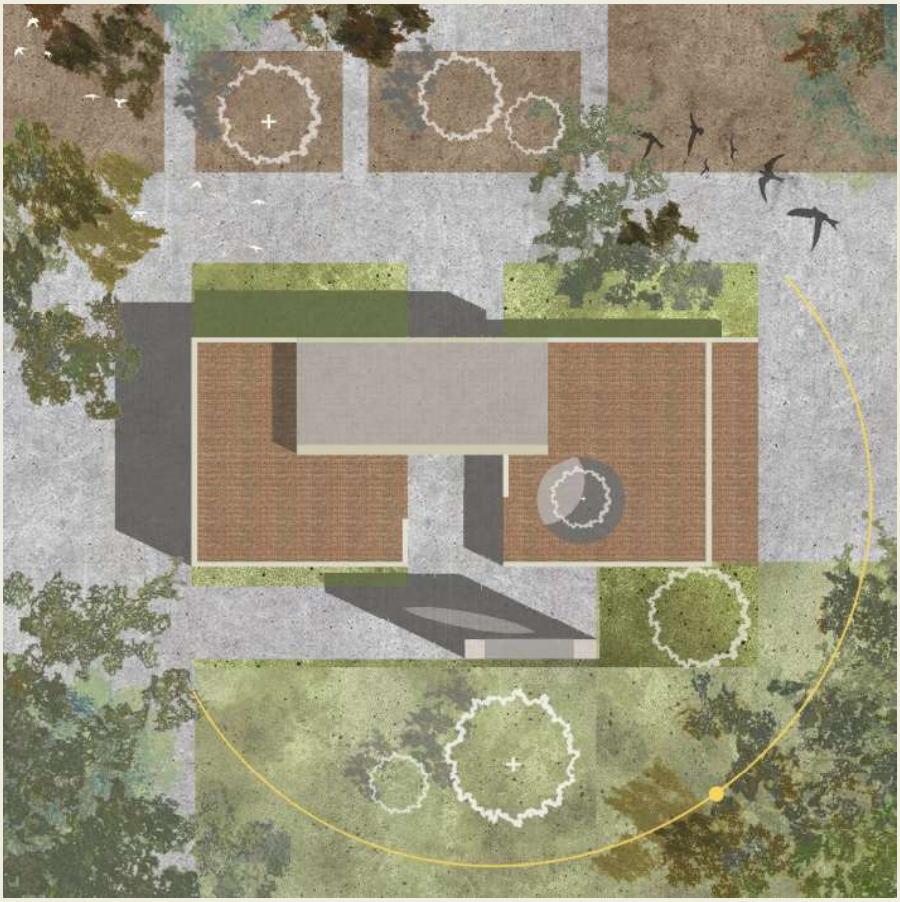


Figure 5.26 : Conceptual Plan of Interactive Complex

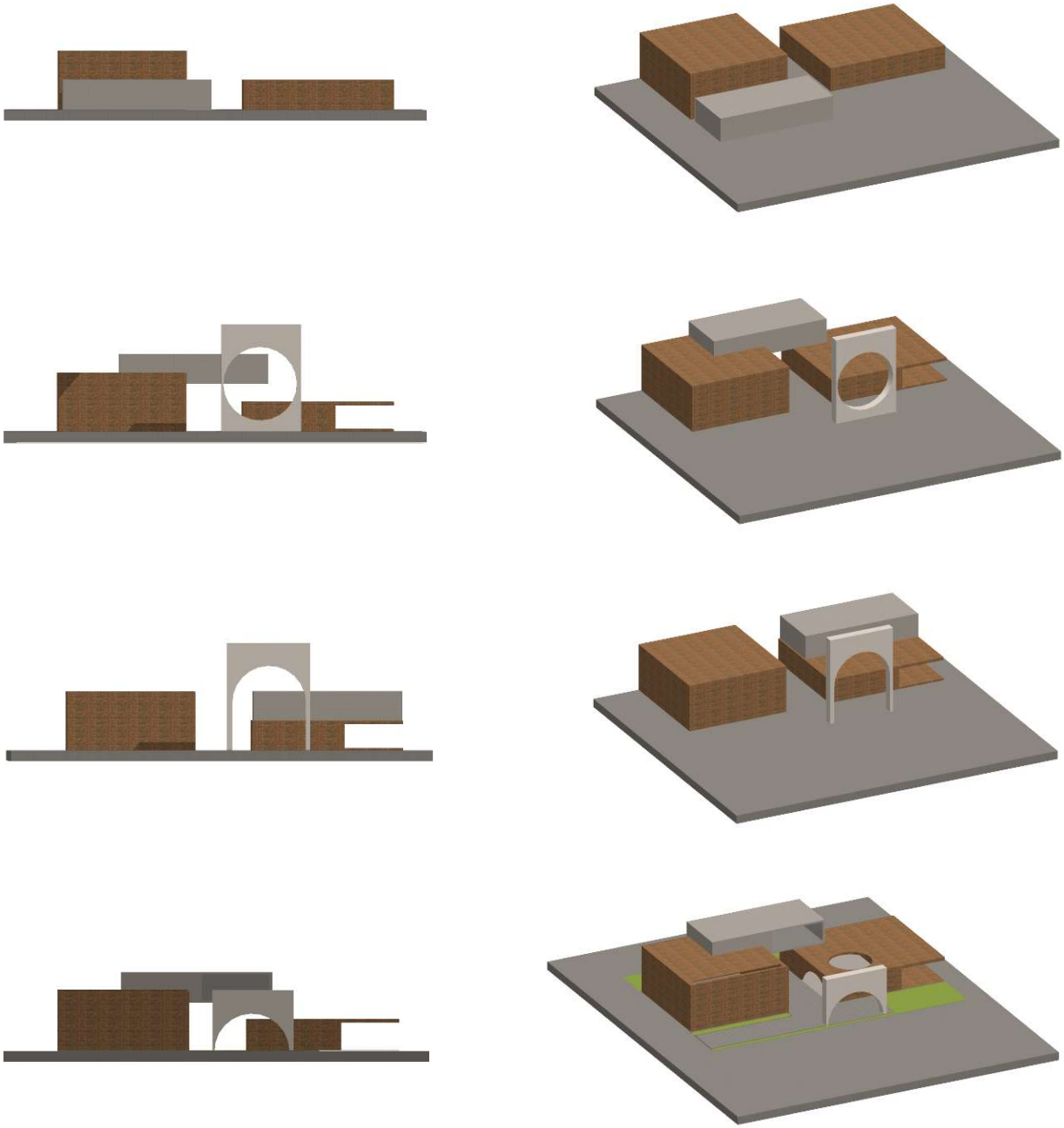


Figure 5.27 : Development of interactive design complex

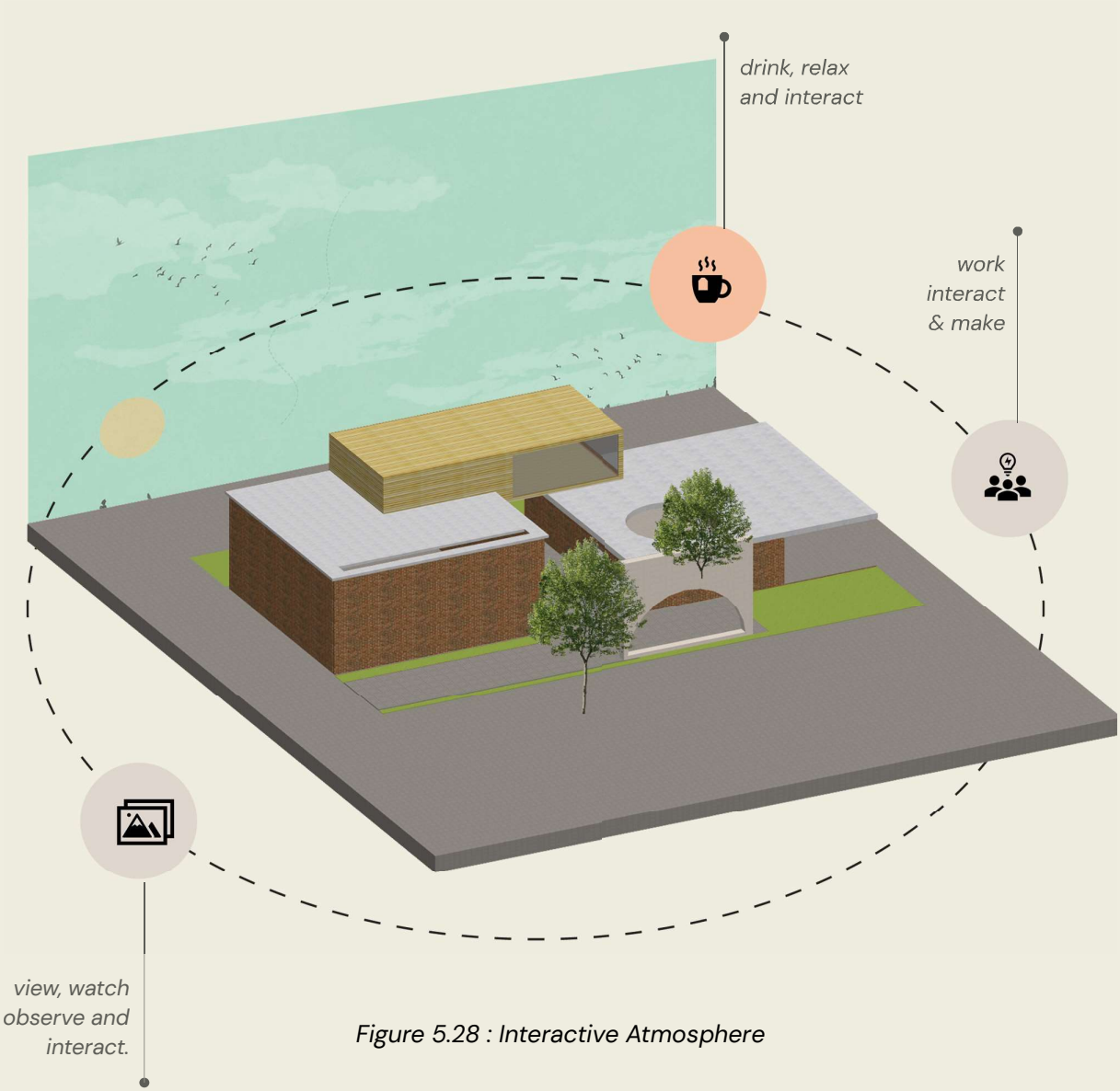


Figure 5.28 : Interactive Atmosphere

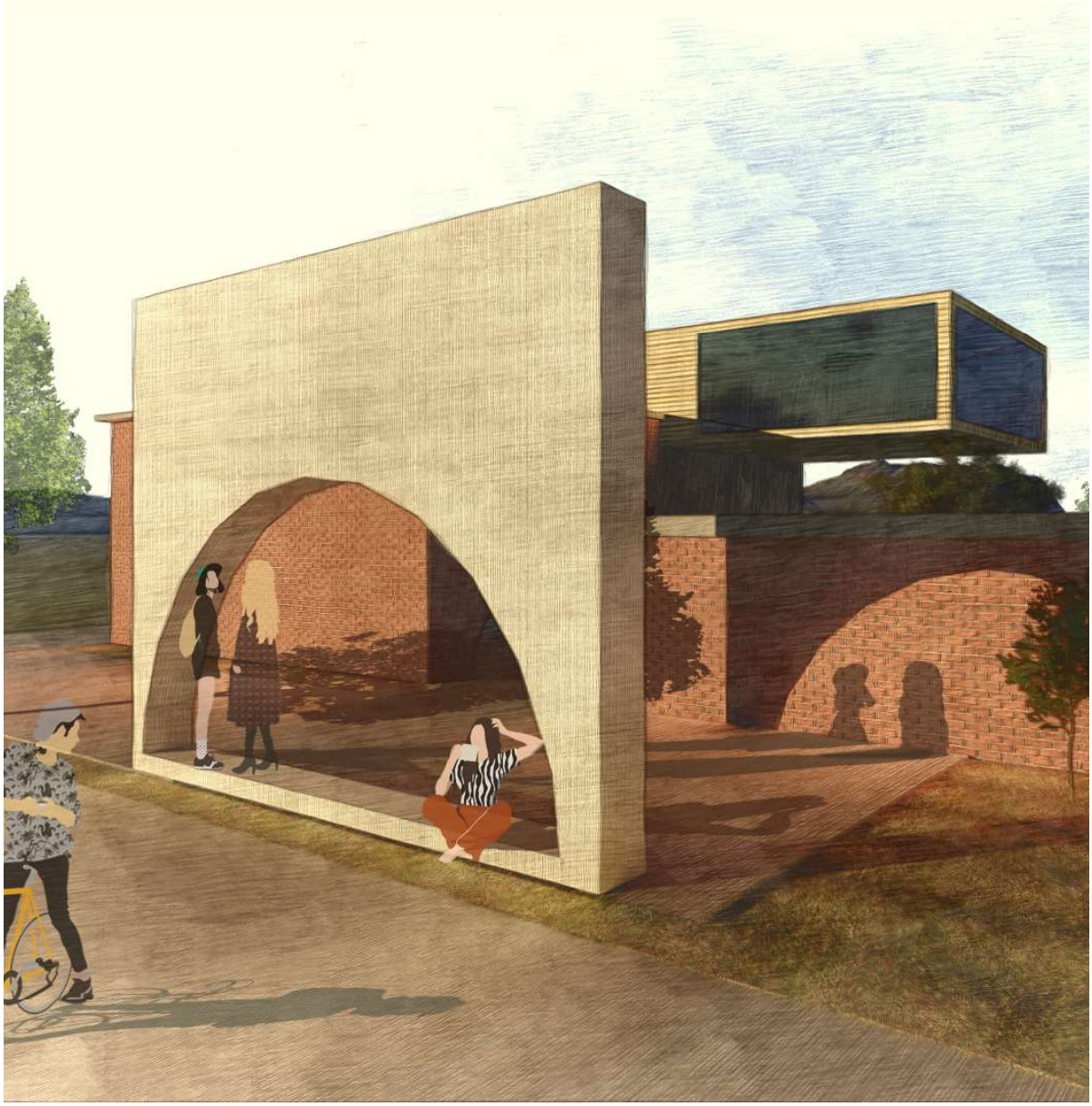


Figure 5.29: Exterior - First iterations of Interactive Space

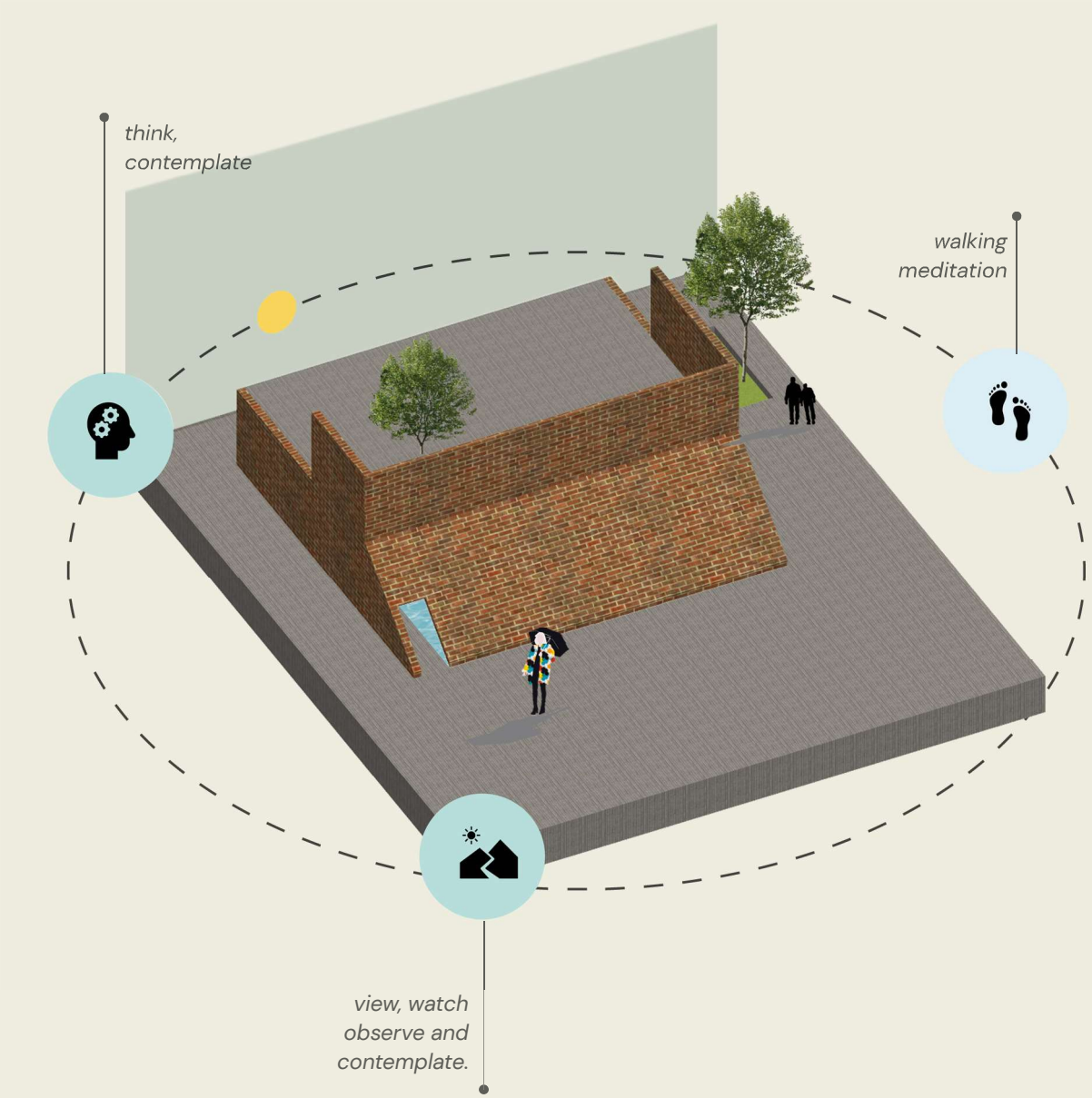


Figure 5.30 : Contemplative Atmosphere

5.4.3 **Contemplative Atmosphere** (Closed contemplative space)

Firstly, to design a contemplative atmosphere, the users' intended experiences in the contemplative atmospheres are outlined, such as 'to prospect, refuge and contemplate'. The initial iteration for providing contemplation is designed through walking meditation along the landscaped pathway. However, Pallasmaa et al. (2014) suggest that "focused vision and emotional sensitivity [contemplation] " is achieved through various textures of materials and geometric form in architecture" (p.22). Later the current iteration is tested by forming an architectural space around it to create a safe boundary. Therefore, with the help of nature, the factor of 'silence' and through a built space 'thresholds' is created.

Furthermore, forms are iterated with altering fenestrations to stimulate 'lights in space' required for a contemplative state (Fig 5.32). Finally, the maquette tests begins to visualise the concepts of bringing such stimulating light into the space (Fig 5.31). Therefore, through the medium of varying materiality, light and landscape in a closed environment for walking meditation enables the user for a contemplative state of mind (Fig 5.30).

Figure 5.32: ***An iteration*** *for contemplative atmosphere*

Figure 5.31: ***Choosen iteration*** *for contemplative atmosphere*

5.5 First Reflection

One significant insight from the first design phase was learning between creating generic designs and designs that accommodate multiple layers such as spatial experience, senses and light. If they are examined deeper, these layers can be overlapped to enhance the spatial journey. For example, the initial design approach is to create spaces to improve the well-being of students. However, while examining these layers, it is observed that well-being in spaces is enhanced when these concepts are accommodated with multiple approaches and diverse student needs.

In the first design phase, influential moments led to breakthroughs such as layering senses and light in spatial experience through understanding fundamental theories such as Pallasmaa (2012) environmental theories and Böhme's (2017) notions of light and space.

Additionally, the stream reviews and May reviews initiated critical discussions of multiple design tests. As a result, two more design tests are interrogated to see whether the programme could be tested inside tertiary institutions or urban interventions in the city (Fig 5.33). Following retrospection led to extending the research to test various design programmes around an institutional site.

Furthermore, the decision to extend the research by testing the design on an institutional site will be carried out after testing on the determined communal site, i.e., Cambridge Terrace in Wellington. The initial decision to test the design on a shared site, was to dedicate it to the overall student community in Wellington. Creating such spaces on an institutional site can create more opportunities because of its easy accessibility. There are two choices of Institutional sites; Victoria University of Wellington, Kelburn & Massey University in Wellington. After invesitgating the comparative analysis of sites, it is decided to test the research in and around the Kelburn Campus.

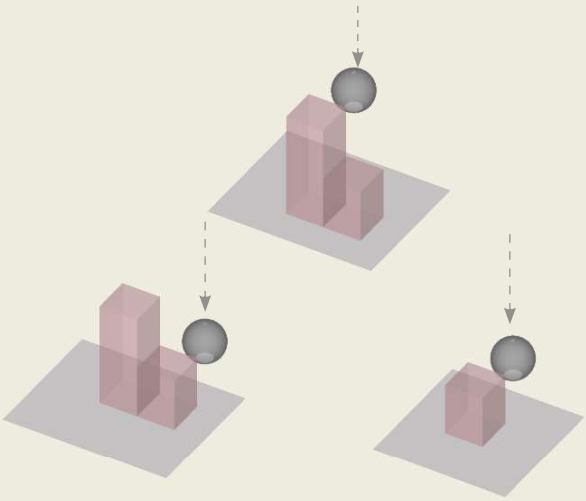
The approach to test on other sites opens opportunities for an invigorating and engaging way of providing a well-being experience in space for students. The above discussions also led to the idea of concerns for safety in the proposed site. Therefore, the last part of site analysis explores humanely safety and privacy measures to ensure site safety through landscape and architecture despite generic notions of safety such as demarcated site boundaries and technological surveillance. Appreciating how these considerations combined with various methods to analyse the site provided enhanced site analysis, which impacts the design development in phase two.

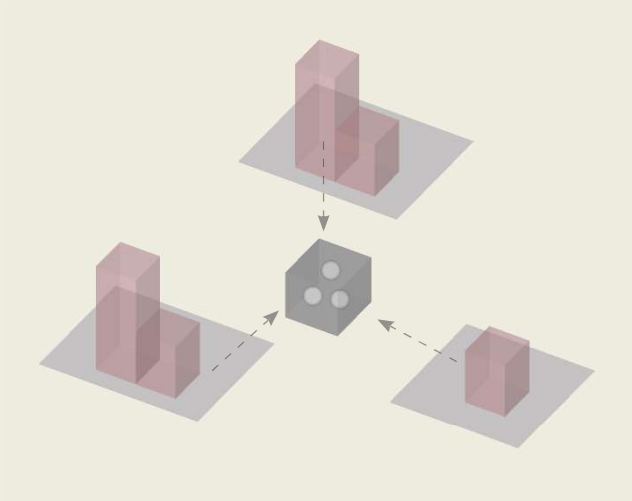
Moreover, field trips and in-person case studies are pursued in Christchurch to understand design testing in institutional sites better. For example, visiting the Catherine McAuley Contemplative Centre in Villa Maria College campus provided comprehensive insights into the importance and functionality of well-being spaces in a campus site. Additionally, those observations from various case studies around Christchurch contributed diverse perspectives to develop this research further. For example, one of the crucial observations is the need to consider landscapes while designing spatial journeys in overall planning from observing Cunningham house and Botanical Gardens. Finally, the case study demonstrated the effectiveness of implemented strategies in unison for future design processes that require designing for students' well-being.

Finally, scales, materials and textures (for senses) will be mindfully explored to achieve stillness and a contemplative state to facilitate improved well-being for students in the subsequent design phase.

01 The first test (the proposal):

The first test output is tested on a site in Wellington. The test aims to provide a well-being atmosphere for the student community in Wellington. All three atmospheres will be programmed to arrange a student's well-being centre to facilitate personal and social welfare. The objective of the test is to understand the impact of an individual's overall experience inside the built environment.



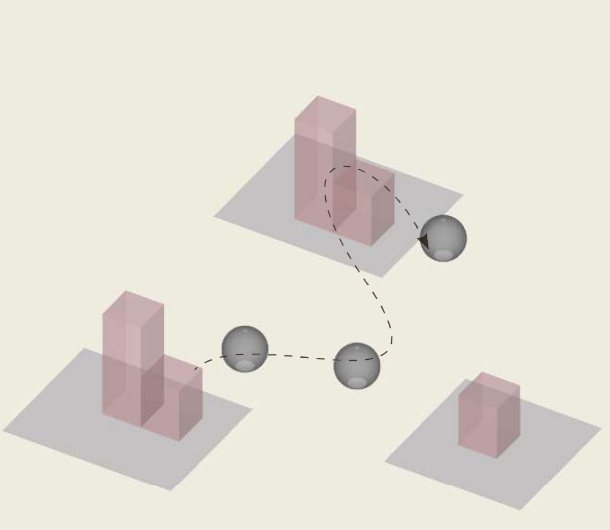


02 The second test (explored option):

It is aimed to extend the first output's findings in terms of spaces, experience and atmospheres. These atmospheres are then rearranged into multiple pieces by testing them as individual interventions and pavilions inside an intuitional setting—the test aims to facilitate students' well-being in existing learning environments.

03 The third test (unexplored option):

This test is aimed to extend the first output's findings in terms of experience. This experience will be arranged as various interventions in the city. These interventions could create a well-being journey for students as an urban experience—the test aims to facilitate students' well-being in the urban fabric.



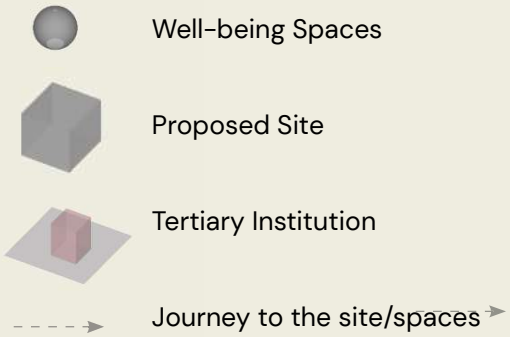


Figure 5.33:
Three choices of design tests

the sites

Proposed Sites for Design

Selection of Site and Design opportunities from Site

Chapter Six **06.**

6.1. **Selection of Site**

To transform those siteless explorations from the above chapters, the research had to be tested on a shared (public) site. Through this transformation, there are varied site factors that need to be considered. From previous research, it is known that there are very few built environments that specifically cater to the well-being of people in Aotearoa. On that premise, the capital of Aotearoa is chosen for consideration.

Wellington is the home of many education providers and tertiary institutions. It accommodates one of the oldest and most comprehensive institutional communities. Wellington also has the highest number of students per staff count compared to other institutions in other provinces in New Zealand (UNZ, 2020).

Additionally, to test the research, site zones were selected and analysed (Fig 6.1).

Finally, three sites were chosen and compared among various factors to find a site for the proposal. For example, view shafts, student accessibility and proximity to institutions were primarily considered while selecting the site (Fig 6.2).

Figure 6.1 : Locations of selected sites

Site 1

77 Salamanca Road,
Kelburn, Wellington 6012

AREA : 1,972.26 m²
(21,229.27 ft²)

Site 2

208 Victoria Street, Te Aro,
Wellington 6011

AREA : 1,480.92 m²
(15,940.46 ft²)

Site 3

75-78 Cambridge Terrace,
Te Aro, Wellington 6011

AREA : 1,497.58 m²
(16,119.83 ft²)

Figure 6.2 : Comparitive analysis of selected sites

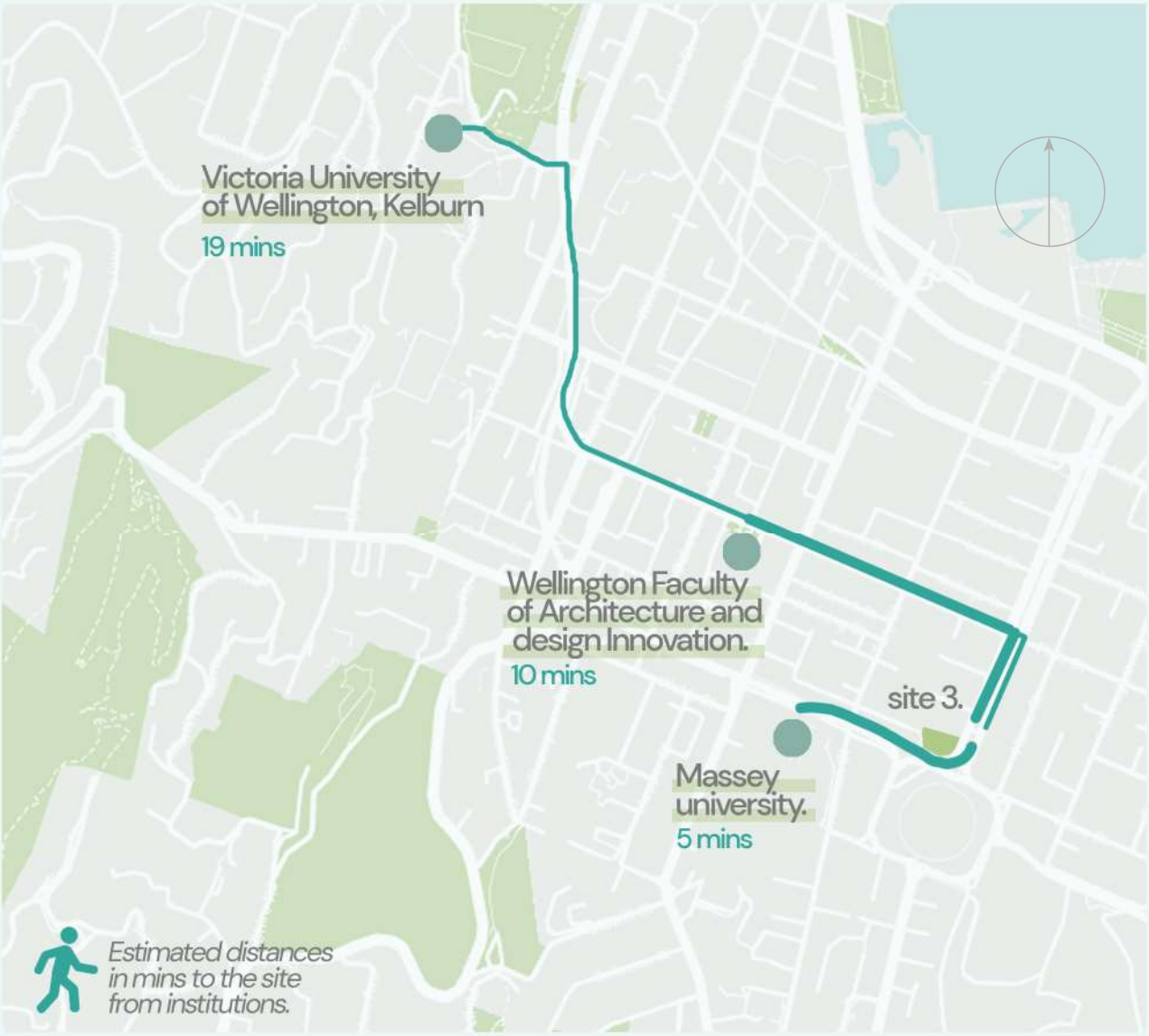


Figure 6.3 : Site 3 and its proximity to the tertiary institutional environments in Wellington.

After comparing these sites, SITE 3 (Cambridge Terrace) is selected for testing the research. The role of the design is to help with personal wellness for the students. So, the site had to be within the proximity of institutional environments. Selecting a site inside an institution could form regulative boundaries. While selecting a common site in the city could benefit students from various institutions. The subsequent factor for site requirement is the need for the students to commute during their break/ leisure hours. Te Aro is a well-known neighbourhood for tertiary institutions. Cambridge terrace (Fig 6.3) is accessible within 15-20 mins of walking from all three institutions (Wellington Faculty of Architecture & Design; Massey University and Victoria University Kelburn Campus). The site looks out to Mount Victoria and the Basin reserve and is threaded with lush landscape. It falls under one of the quiet zones, away from the city's traffic.

site

Analysis of Site and Context

6.2 Wider Site Context

The Kent and Cambridge neighbourhood has a high historical value and identity. These streets were once a stream connecting to the Basin Lake, transporting goods to Newtown through the stream from sea lines (Wellington City Council,2017, p.5). The terrace neighbourhood reflects the quality of their construction materials, ornamentation, and decorative elements to enrich these otherwise utilitarian buildings (p.7). It is used as one of the central hubs for trams and transportation, and its importance is highlighted because it is the main route to the basin reserve (p.8). The site sits on a par¬ticular place where it is offset from a busy zone from the city yet not far away.

Thus, it is a potential site for students to use as a quiet zone (silence/stillness). The site neighbourhood is in the nucleus of the tertiary institutions (Fig 6.4) in Wellington, facilitating students' accessibility to the proposed built environment. While designing, various factors such as view shafts were observed as site informed strategies.

Figure 6.4 (Opposite Page) : Map showing site relation to surrounding institutions


Victoria University of Wellington, Pipitea Campus
Yoobee Colleges- Wellington Campus
The College of Law
Royal Australasian College of Physicians
Victoria University of Wellington, Kelburn Campus
Te Auaha
Wellington Faculty of Architecture and Design Innovation , Te Aro
The Film School
SITE
Massey University, Wellington Campus
Wellington College
Wellington East Girl's College
Toi Whakaari : NZ Drama School
University of Otago, Wellington Campus

6.3 **Immediate site context**

The site is situated at the end of the Commonwealth walkway, adjacent to Pukeahu National war memorial park. The Commonwealth walkway runs through the war memorial park creating the entire pathway as a wellness corridor (Fig 6.5). From observing people's activity during the site study, the corridor has still and interactive moments. (Fig 6.6) The people tend to sit on the park furniture, under pavilions and the humble sculptures. These spaces are potential hotspots of social interaction of all age groups.

Additionally, the setting of the site has ample landscape around it and along with alluring vistas. These extended landscape settings can rejuvenate and support the users during their routines like walking, jogging and cycling (Fig 6.8). Thus, the sited program will be a potential addition to the existing wellness corridor.

Figure 6.5 (Opposite Page) :
Wellness corridor connecting site

Figure 6.6 :
Still and interactive moments around the site


Taranaki St
NZ State Highway
COMMON WEALTH WALKWAY
National War
Memorial
Pukeahu
National War
Memorial Park
COMMON WEALTH WALKWAY
Buckle St
Basin
Reserve
SITE

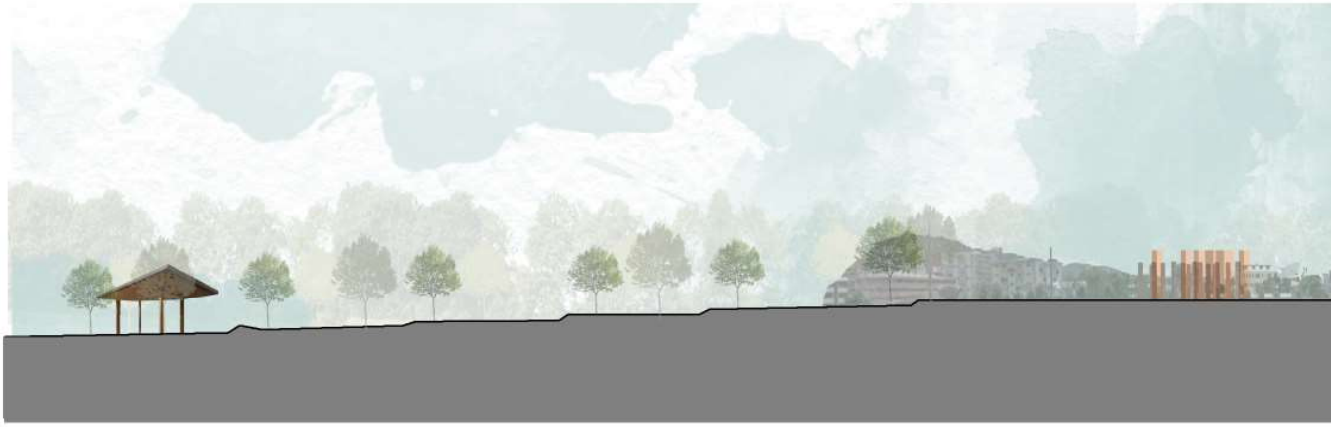
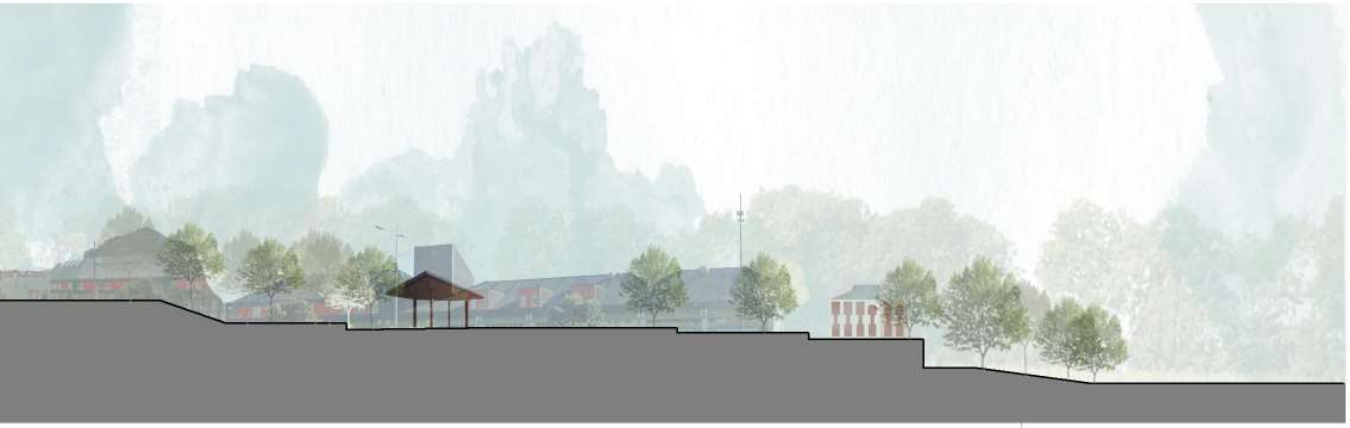


Figure 6.7 : Wellness Corridor Section AA' through out the site context



the site

Figure 6.8: Illustration of Activity from commonwealth walkway to the site

6.4 Location of Site

The proposed site is a vast empty parking lot on the edge of Cambridge Terrace. The site 75-58 Cambridge Terrace is opposite Basin reserve, packed around institutional settings, parks and other such amenities (Fig 6.7). In addition, it is offset from busy corridors, thereby creating a quiet zone. The site area is 1497.58 m2, with an empty open extended lawn inside its boundary. In addition, the site is connected through a pedestrian entry from the west side of Taranaki and Tory Street, leading to the rear side of the site. It also has a main vehicular entry from the Cambridge terrace. After the site observations, a few design opportunities are observed from the site (Fig 6.8), which will be thoughtfully included while sitting the proposal.

Figure 6.7 : Site location in Cambridge Terrace

25

0 50

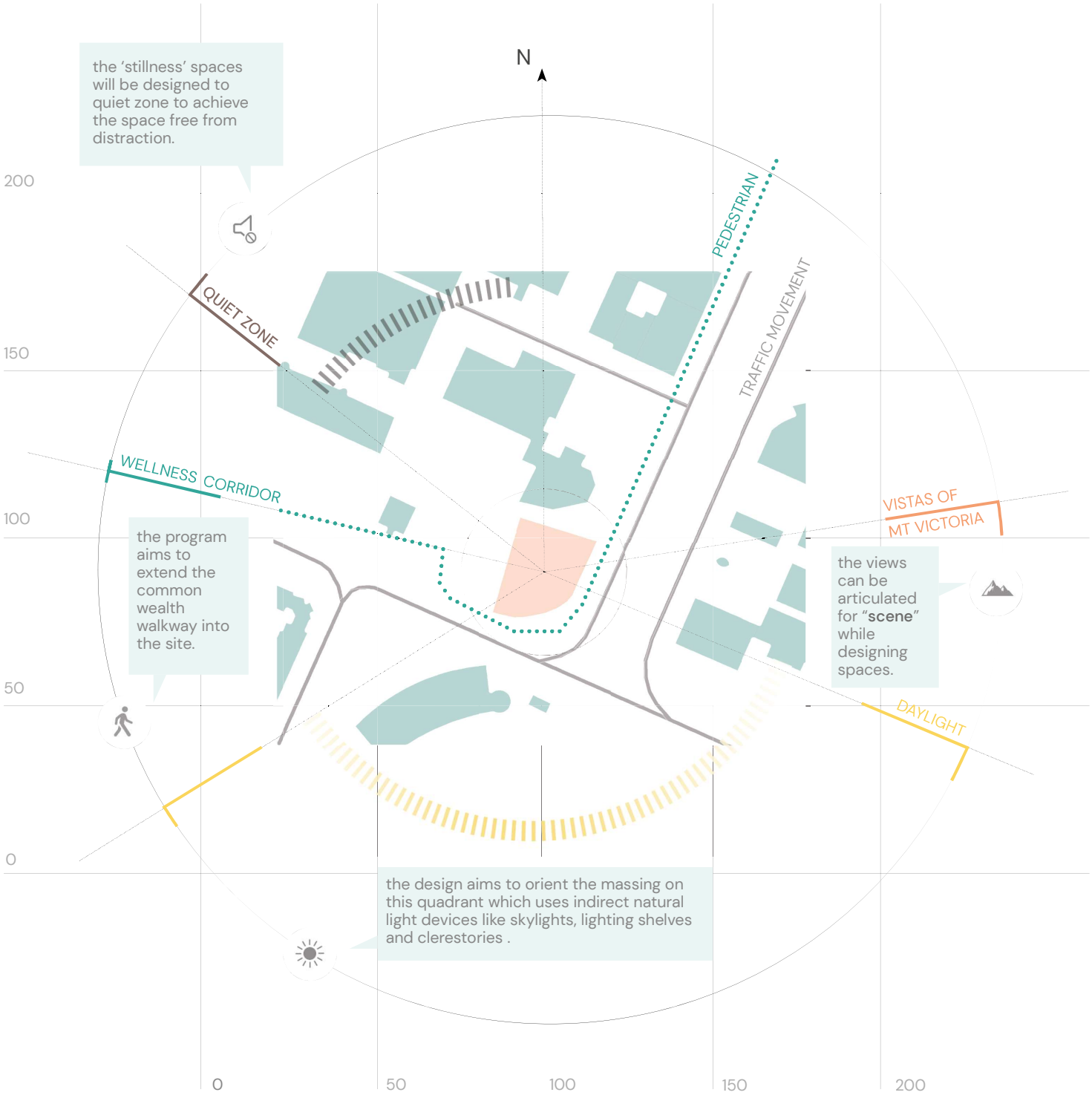


Figure 6.8 : Design opportunities in natural context of the site

6.5 Height and Light Study

According to the WCC regulations, the site falls under the Heritage area and buildings surrounded by Tory Street, Courtney, and Cambridge terrace. The absolute permissible maximum height for the site is 21 meters (approximately 5-6 stories), ensuring no impact on heritage value and the area's character. The allowed lower and upper thresholds are 12 m and 18 m, respectively. The relative neighbourhood height is examined to understand the site- vicinity scale (Fig 6.9). After understanding the allowable height studies, light and shade are analysed. As 'light in space' is one of the design literature guidelines, it is essential to study the natural lighting conditions of the area. Therefore, a study is done to understand its light and shade conditions through the day, ideally on the spring equinox, i.e., December 23 (observed). This study is insightful to design the spaces according to natural light and shade falling in the site (Fig 6.10).

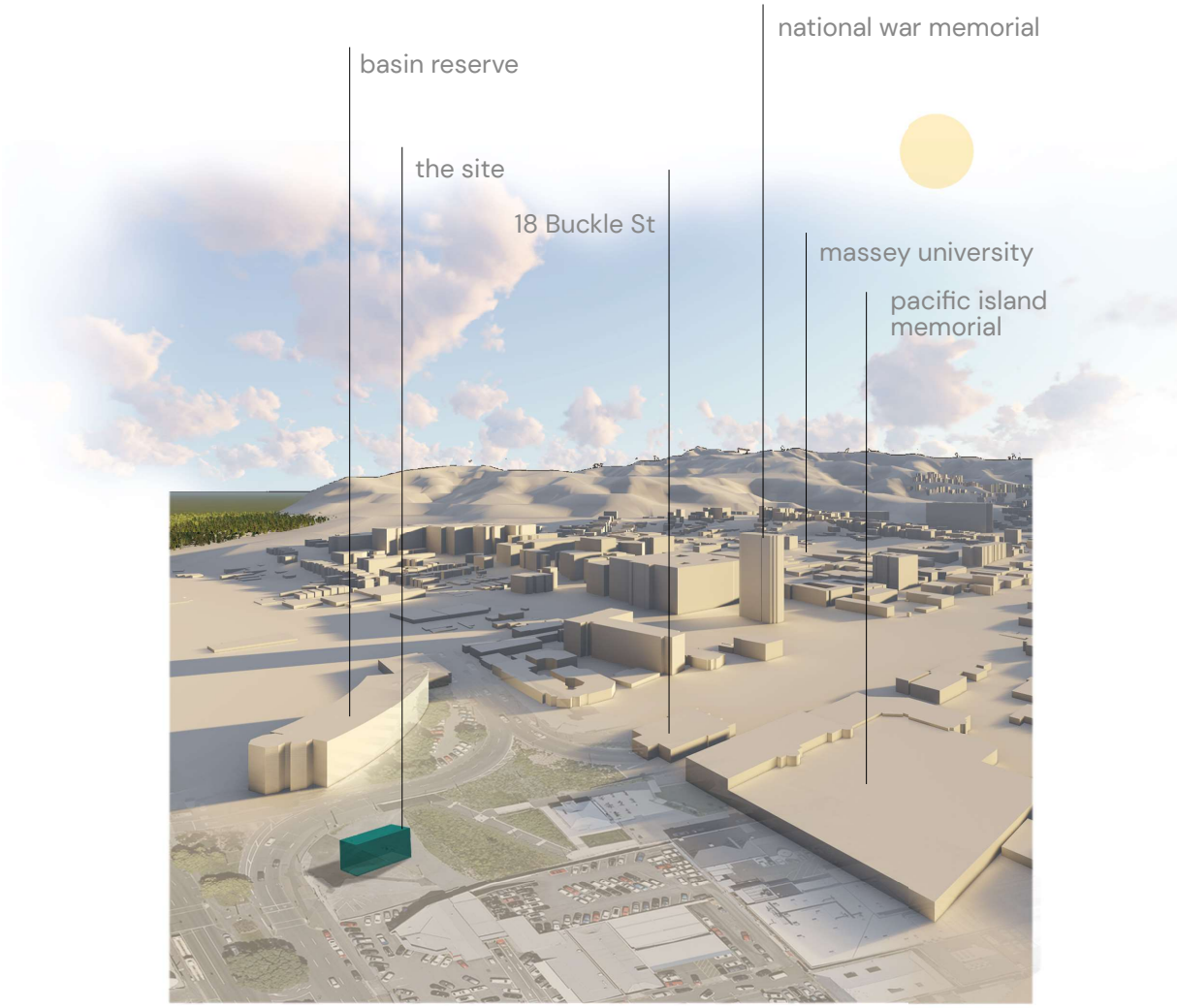


Figure 6.9: Height Study of Site

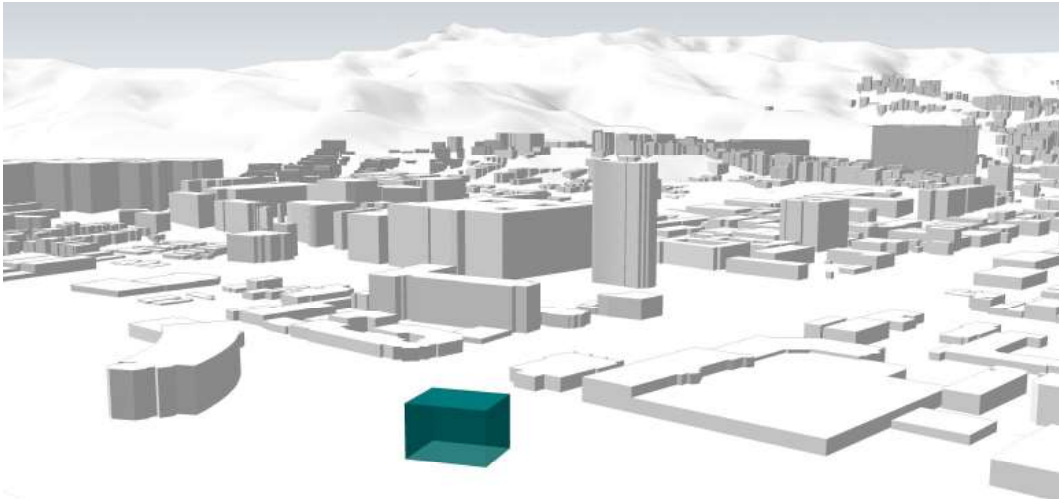
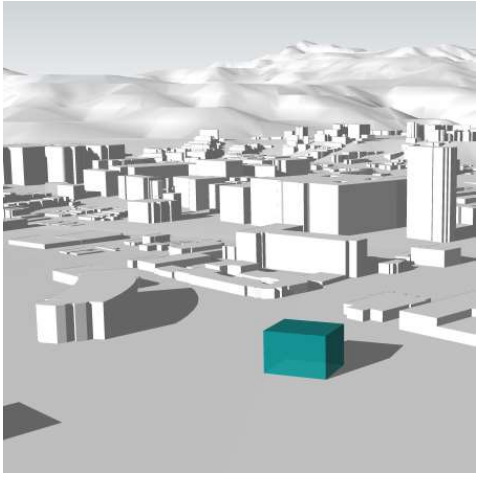
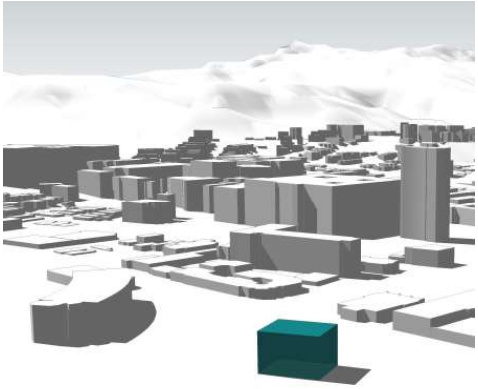


Figure 6.10: Light Study of Site

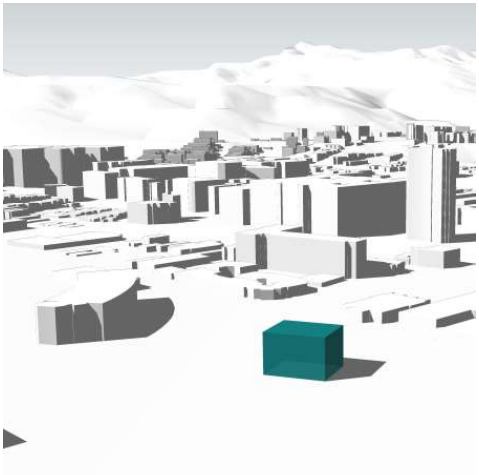
Light Study during Spring Equinox
23 December



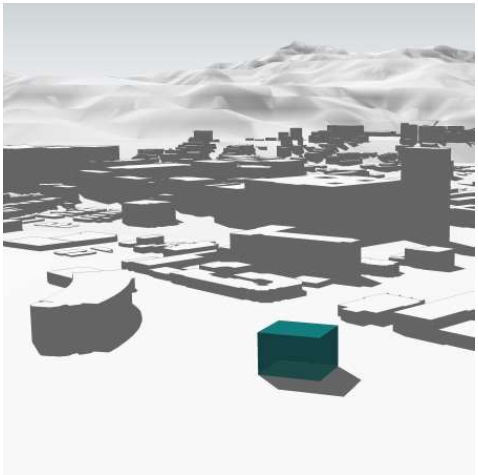
23 December | 8 am



23 December | 12 pm



23 December | 10 am



23 December | 2 pm

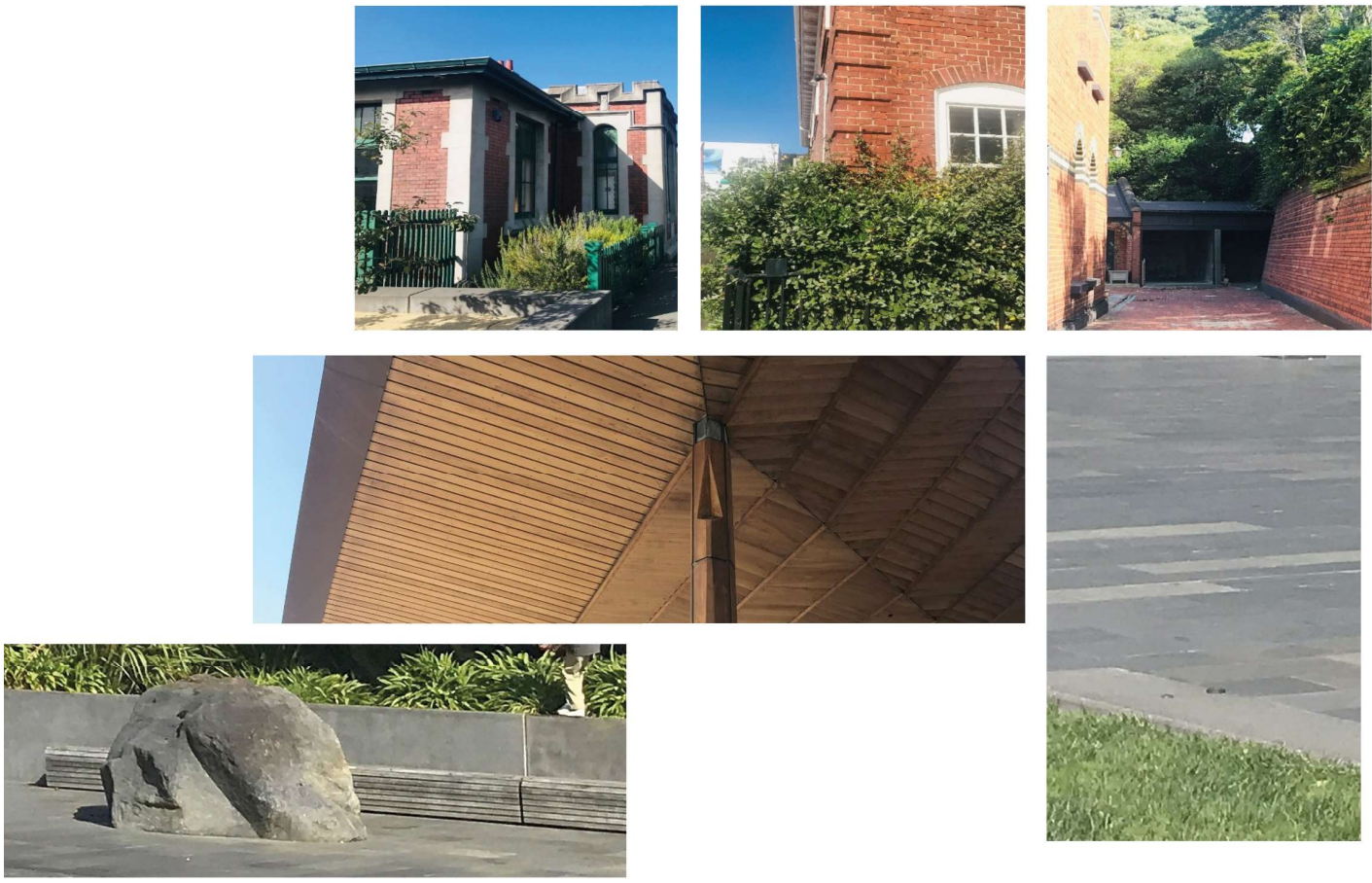


Figure 6.11 : Material pallette around the site settings

6.6 Material references

Material palette and references are gathered from observing various built environments and landscapes around the site. Other surrounding hard and soft landscapes have concrete, stone and other materials. For example, the wellness corridor has pavilions cladded in copper and padded with woven patterned native timbers. There are also subtle hints of brass along the way. The predominant colour scheme of the setting is of warm colours painted with lush greens from landscapes and gradients of grey. From the observation (Fig 6.11), many surrounding buildings are made of brick and concrete.

6.7 Site Safety and Surveillence

The site falls in a public zone, whereas site safety needs to be considered. The design aims to provide subtle and humane privacy measures rather than conventional methods of safety and surveillance such as security, gates and CCTV. In research from Dickinson (2016), four humane measures to provide safety on site are ensured during the design process. These are:

01

Identifying Vulnerabilities

Initially, while zoning, it is identified that the site has two entries—the rear side pedestrian entrance from the park and the main vehicular entry from the Cambridge terrace. For safety reasons, the rear side entry will be closed to minimise the possibility of trespassers or intruders. However, if the students want to access the rear entry, a pedestrian ramp walkway is in the site's perimeter (54 metres ≃ 30 sec if 3mph by walk) to the main entry.

02

Unobtrusive design strategies

Additionally, design strategies to incorporate transparent materials, such as glass, keep the surroundings aware of the users in the building. Increasing familiarity and relativity can also allow the users to feel safe. Also, other building technologies, such as brick jali and louvres, were designed to make the security seamless. These architectural devices also help the users in "noticing without being noticed". Consequently, designing of nooks and niches were minimised.

03

Sense of enclosure

Furthermore, the design can create a sense of enclosure through architecture and landscape as well. For example, the efficient way to provide thresholds is to design a landscape with high perimeter bushes (Fig 6.12) and falling creepers near corridors. Therefore, the design is consciously created with defined borders, boundaries and thresholds.

04

Ensuring Reassurance

Finally, the masterplan design ensures safety and reassurance through ample illumination and well-lit spaces throughout the site. In addition, the site plan has suitable wayfinding and distinct sightlines, thereby helping to ensure safety for the students during their ingress and egress. Therefore, site and safety are arranged in the design through all these humane privacy measures.

Figure 6.12: Illustration of landscape performing site saftey role in design

the
assemb

Final Architectural Assemblage

Design Tests and Proposed Final Design

Chapter Seven 07.

“A profound design process eventually makes the patron, the architect, and every occasional visitor in the building a slightly better human being.”

Juhani Pallasmaa

7.0 **Developed Design**

The conceptual design is explored through spatial atmospherics [Chapter 4.2] and formal exploration [Chapter 4a]. After the conceptual design exploration, it is contextualised in the site at Cambridge Terrace in the next stage. Firstly, the designs are explored in setting out the site. Finally, they are examined for hints towards the detail and structure's materiality and construction.

As discussed in the first reflection, this design-led research will be examined with two design tests (Fig 7.1). Therefore, this chapter initially examines the first design test and investigates the second test with observations from the first test.

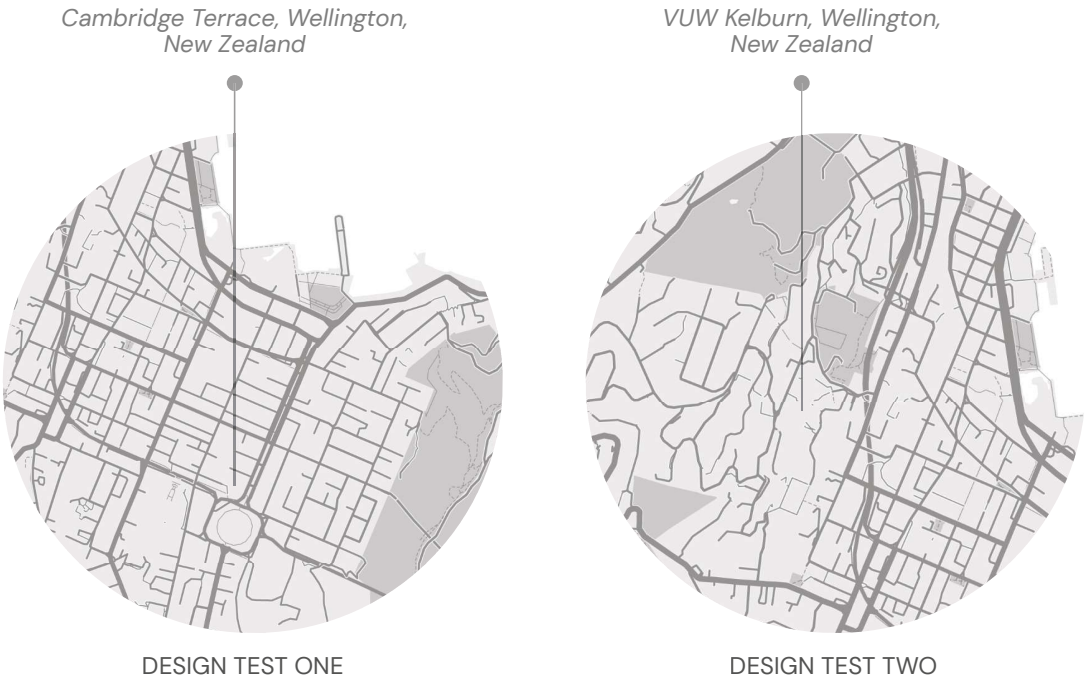


Figure 7.1 : Locations of two design tests

The well-being centre.

The first design test aims to create several common well-being spaces for the student community in Wellington. This test proposes a students' wellbeing centre.
It is executed in a selected site, limitations, users and dedicated functions.

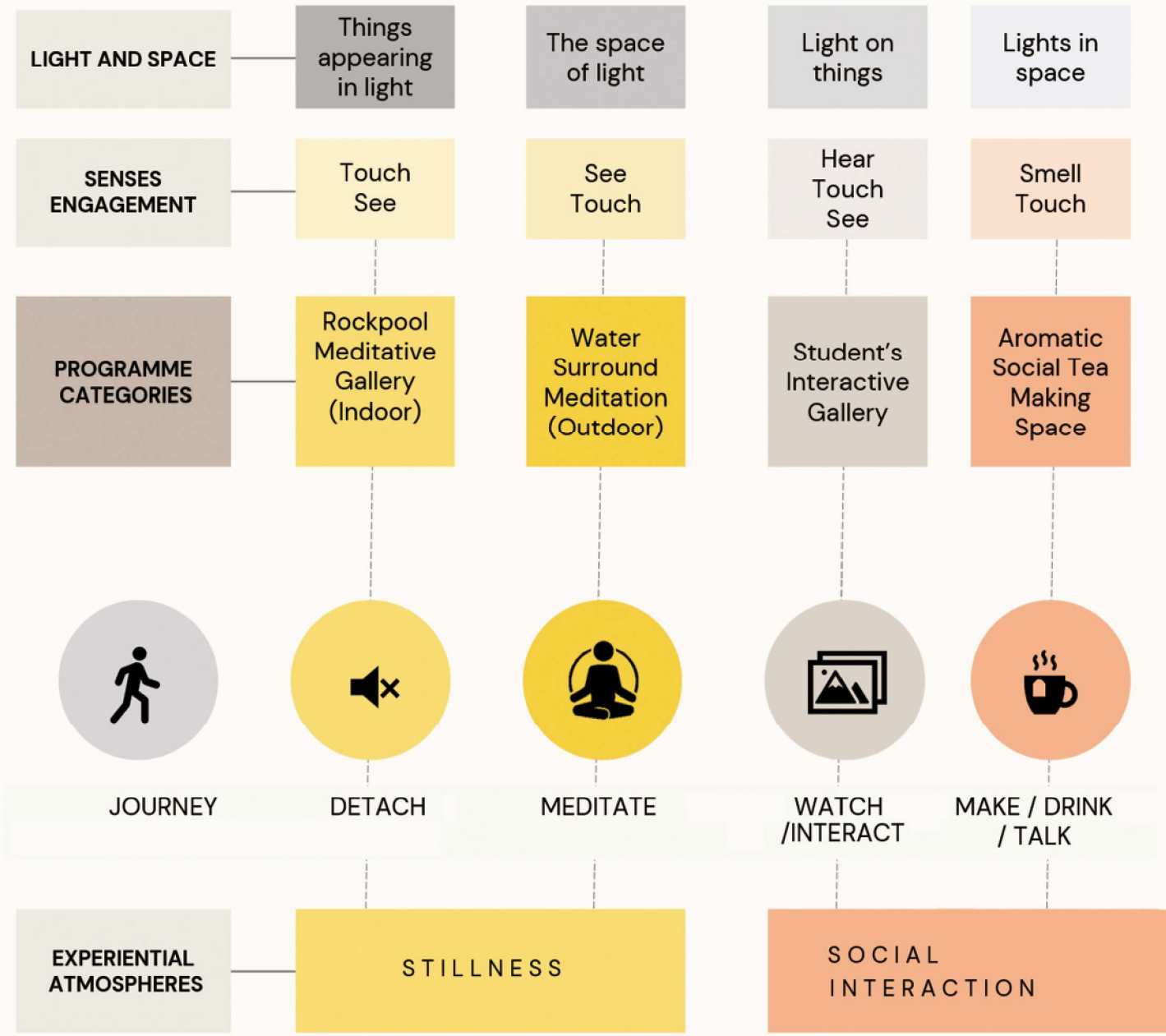
7.1.1 Introduction

The site selected for **(Design Test One)** is in Cambridge Terrace. The site analysis is revisited earlier in this chapter to obtain site informed design strategies for the proposal. The following set of pages explain the proposal in detail.

Figure 7.2:
Render : Spaces around the proposed well-being centre

7.1.2 Programme Matrix

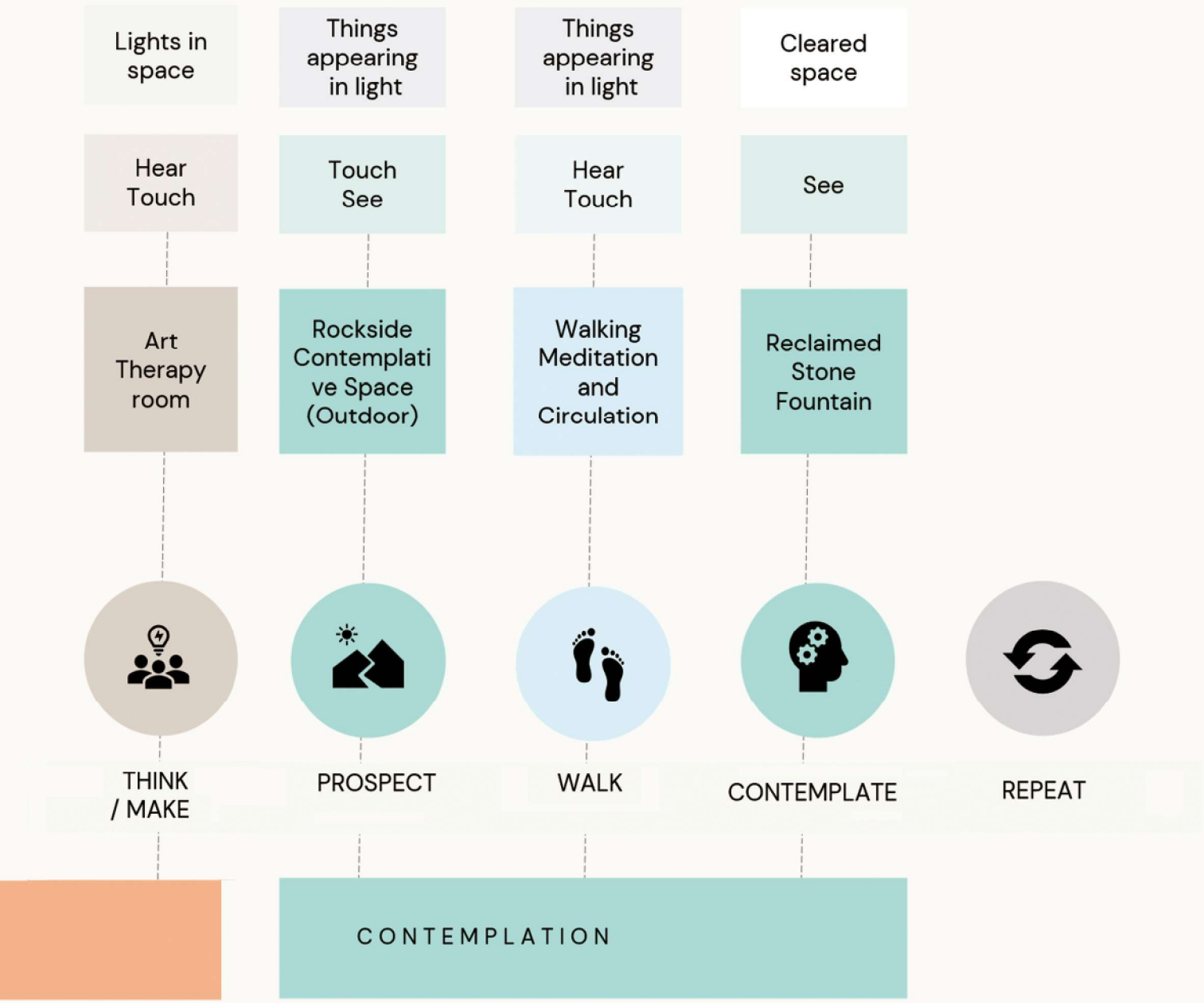
As mentioned in chapter 2.6, this design-led research proposes a built environment to improve students' well-being. This effort to improve well-being is accomplished through creating accessible, functional and shared spaces for the students. A centre for well-being is chosen as the main programme for the proposal [Design Test 1]. This centre will allow students to pause, interact and reflect, which is vital amidst their busy study life. The design of this centre is focused on sensory awareness, varying light levels and an inviting landscape to achieve opportunities to "pause, interact and reflect" in these spaces. The centre includes three dedicated built environments for the aforementioned aspects: stillness, social interaction and contemplation. It also includes open and semi-open architectural and landscape programmes altogether to form this



centre for well-being. Initially, to list the programmes for this centre, the required student experience was drawn individually from stillness, social interaction and contemplation. For example, the experience of 'detach' and 'meditate' was chosen to create a 'stillness atmosphere' (Fig 7.3). Later the findings from exploration categories (Chapter 4, 4a) were layered above the experiences to form the programme matrix for this centre (Fig 7.3). Those programmes are as follows:

1. Rockpool Meditative Gallery
2. Sensory Garden
3. Students' Interactive Gallery
4. Social Tea Mezzanine
5. Working room and Art Corridor
6. Closed Contemplative Space
7. Walking Meditation and circulation
8. Central Stone Labyrinth

Figure 7.3 : Programme Matrix of proposed well-being centre

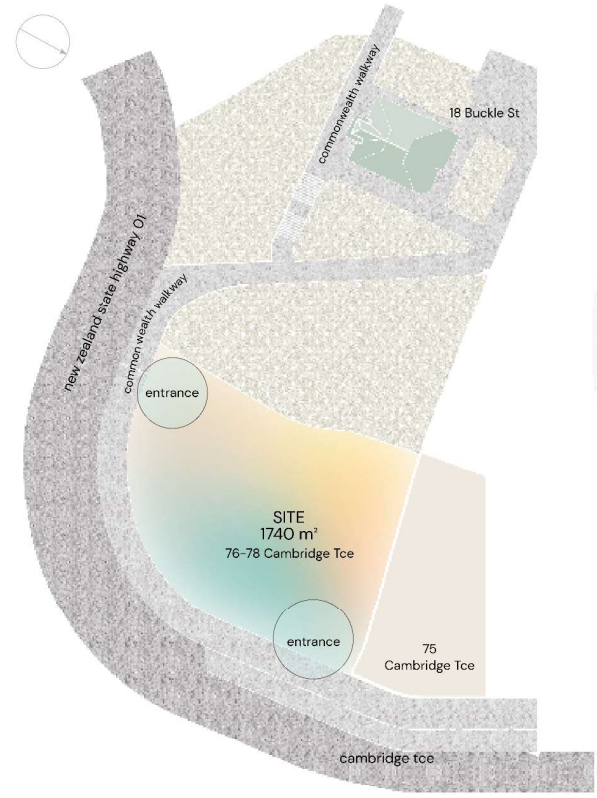


7.1.3 Programme Mapping and Zoning in Site

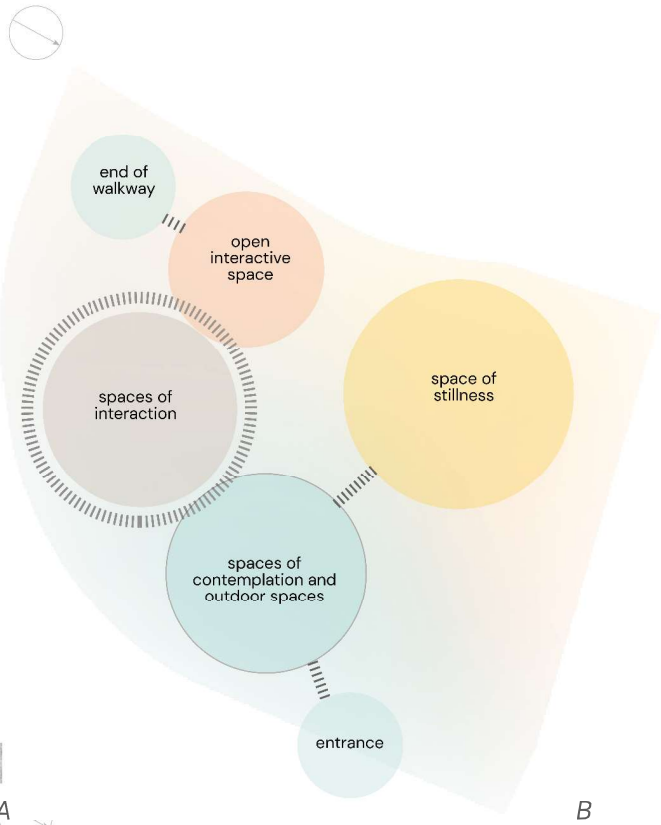
Half of the existing site's boundary is surrounded by Cambridge Terrace and New Zealand State Highway 01. The other half is bounded by the elevated landscape and the walls of 75 Cambridge Terrace (Fig 7.4A). Initially, in the first mapping (Fig7.4B), the programmes is conceptually mapped within the spatial groups. For example, stillness and contemplation spatial groups were mapped in the quiet zone of the site, as these activities require silence.

Furthermore, the spaces for interaction were also bounded by buffer spaces and outdoor programmes to reduce the noise from such interaction. The entrance is positioned in proximity to existing pedestrian traffic. In this way, the centre has opportunities to gain attention while pedestrians commute through Cambridge Terrace. Secondly, mapping A was developed to form mapping B (Fig 7.4C). The spaces were zoned in detail, and the spatial group was broken down into individual spaces for better zoning. For example, the spatial group for interaction which had three spaces were then zoned individually. The interactive spaces such as the gallery, art therapy room, social tea room and outdoor interactive spaces were pushed away from other spaces because of the possible noise in such interactive spaces. A buffer space is created in the centre to divide the site into quiet and noisy zones. The facility for the buffer space is chosen as an open to sky (OTS) meditation which is later developed as a central OTS rumination space bounded by tall concrete walls. Finally, the walking Meditation around the master plan is included to create the final programme zoning in the site (Fig 7.4D). All the programmes and facilities are provided along the walking meditation lines around the site, making the centre easily accessible.

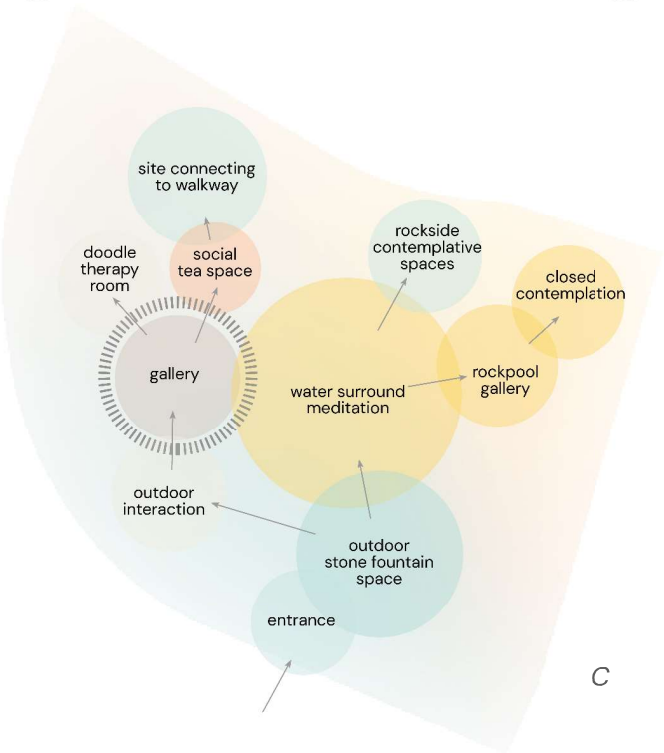
Figure 7.4 (Opposite Page) : Programme mapping and zoning in site


commonwealth walkway
18 Buckle St
new zealand state highway 01
common wealth walkway
entrance
SITE
1740 m²
76-78 Cambridge Tce
entrance
75
Cambridge Tce
cambridge tce

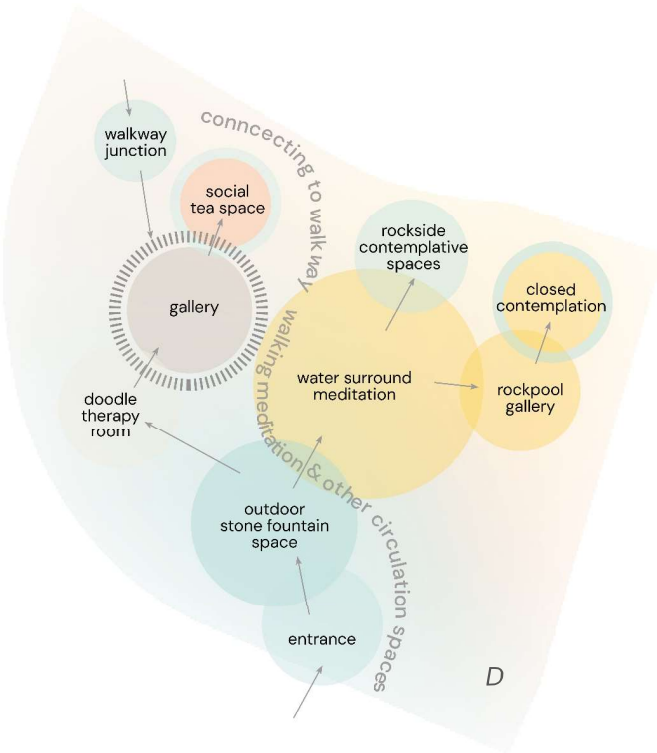
A


end of
walkway
open
interactive
space
spaces of
interaction
space of
stillness
spaces of
contemplation and
outdoor spaces
entrance

B


site connecting
to walkway
doodle
therapy
room
social
tea space
rockside
contemplative
spaces
closed
contemplation
gallery
water surround
meditation
rockpool
gallery
outdoor
interaction
outdoor
stone fountain
space
entrance

C


walkway
junction
conncecting to walkway
social
tea space
rockside
contemplative
spaces
closed
contemplation
gallery
water surround
meditation
rockpool
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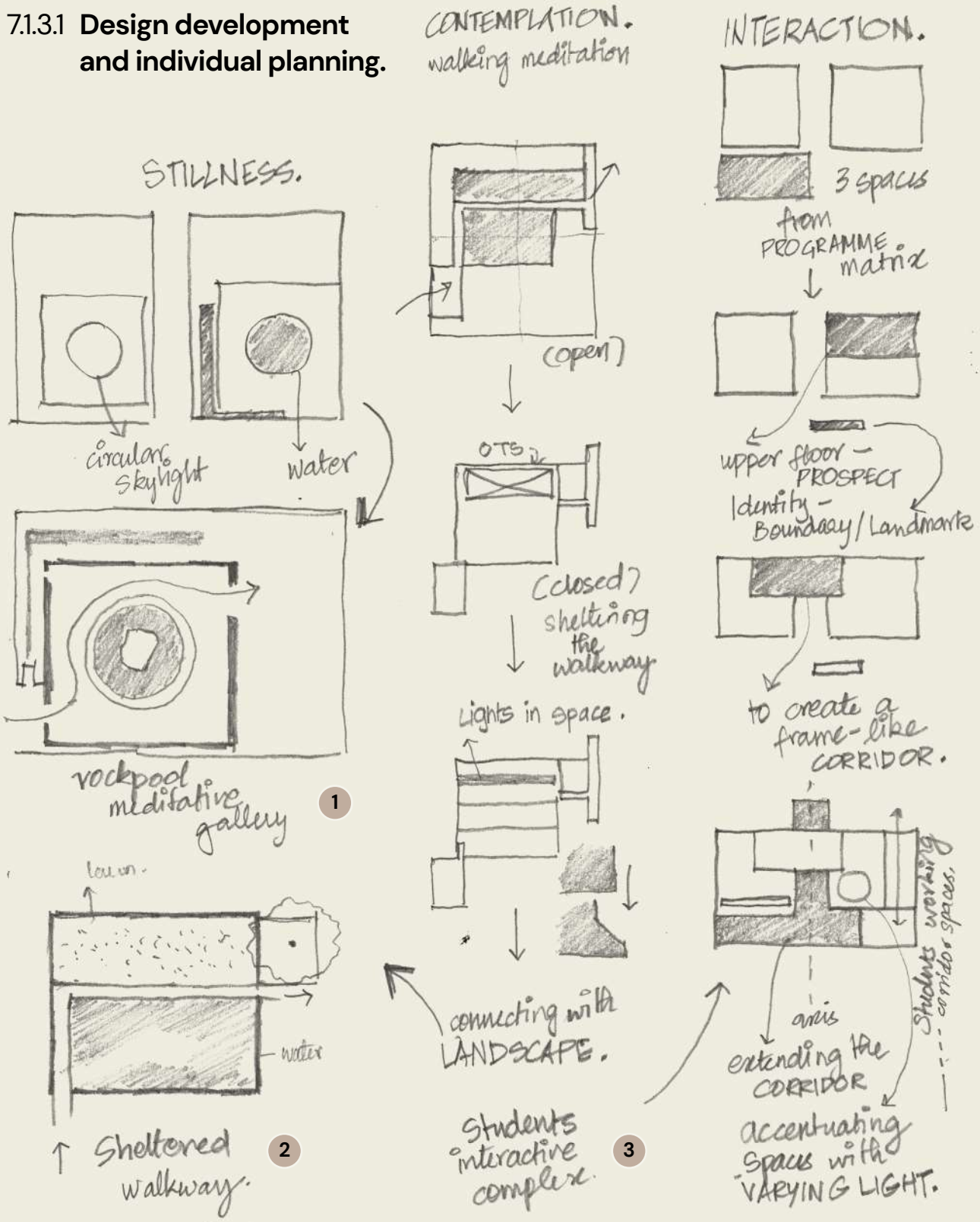
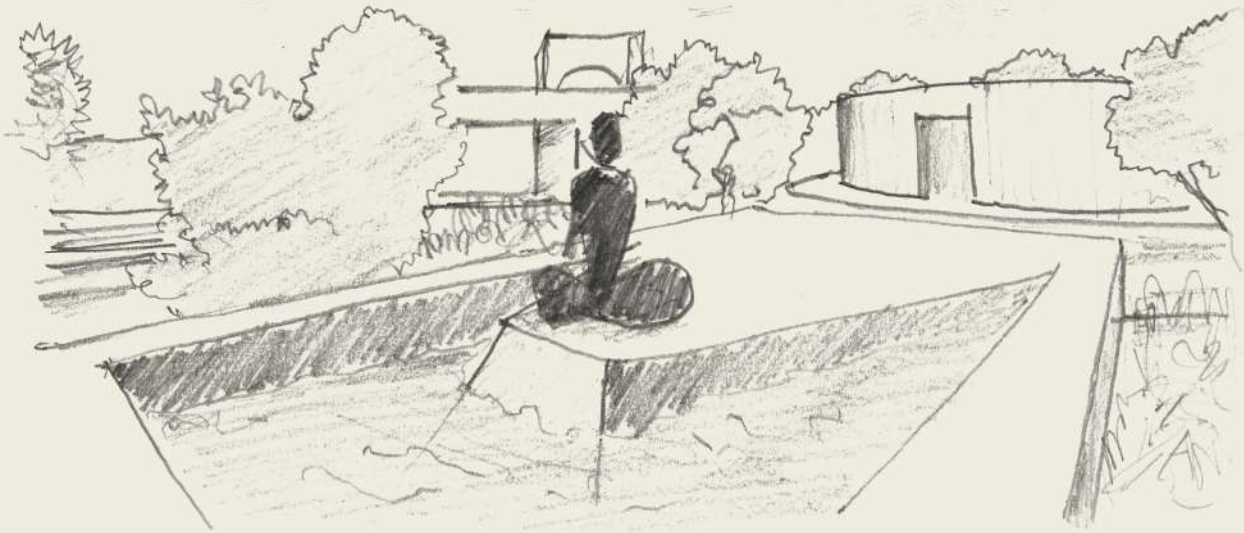
doodle
therapy
room
walking meditation & other circulation spaces
outdoor
stone fountain
space
entrance

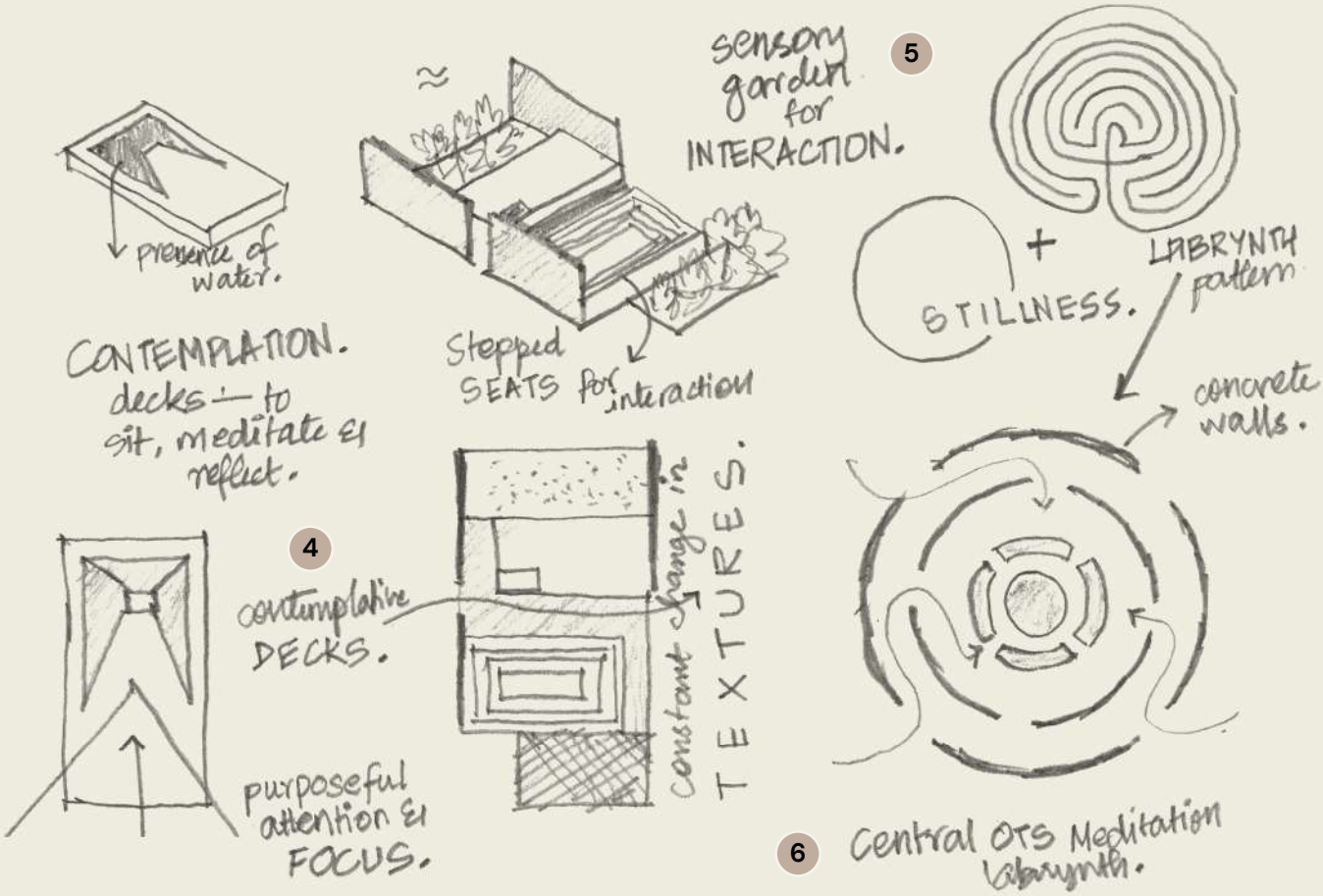
D

7.1.3.1 **Design development and individual planning.**

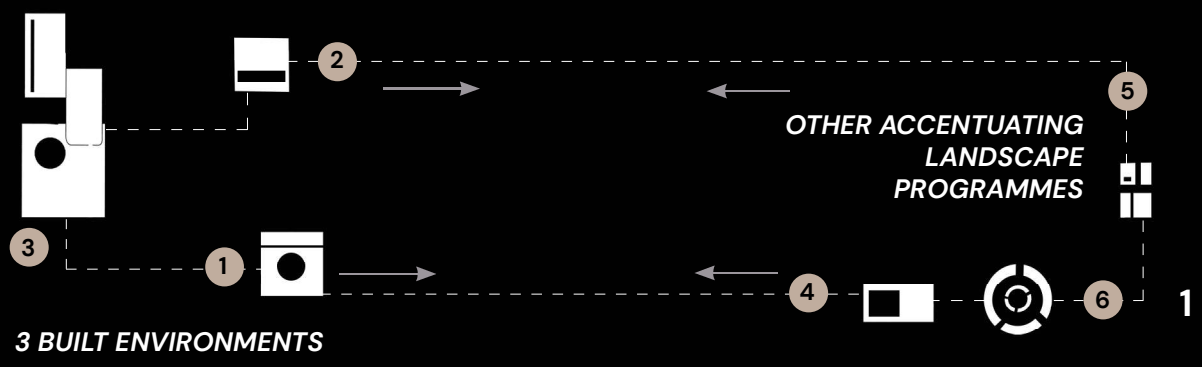


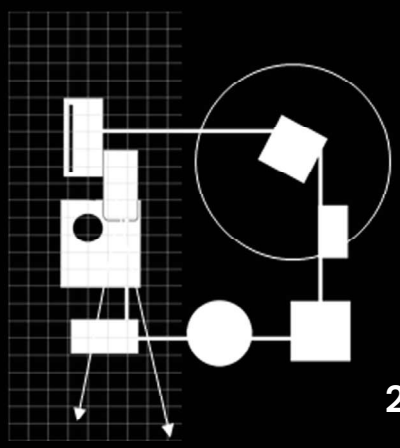
Built environments : ***1*** *Rockpool Meditative (Stillness) ;* ***2*** *Sheltered walkway (Contemplation) ;* ***3*** *Students' Interactive Complex (Interaction).*

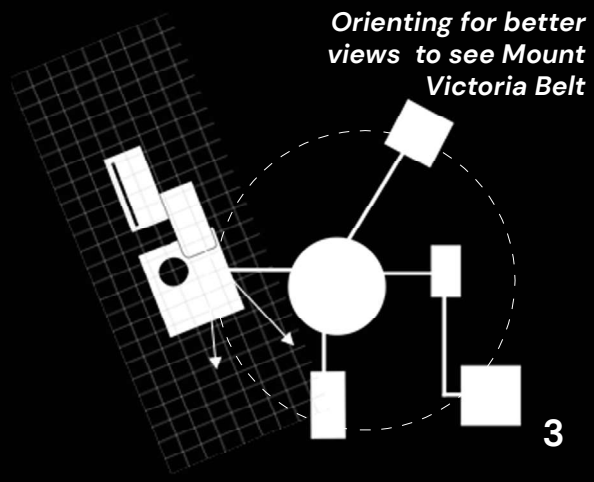


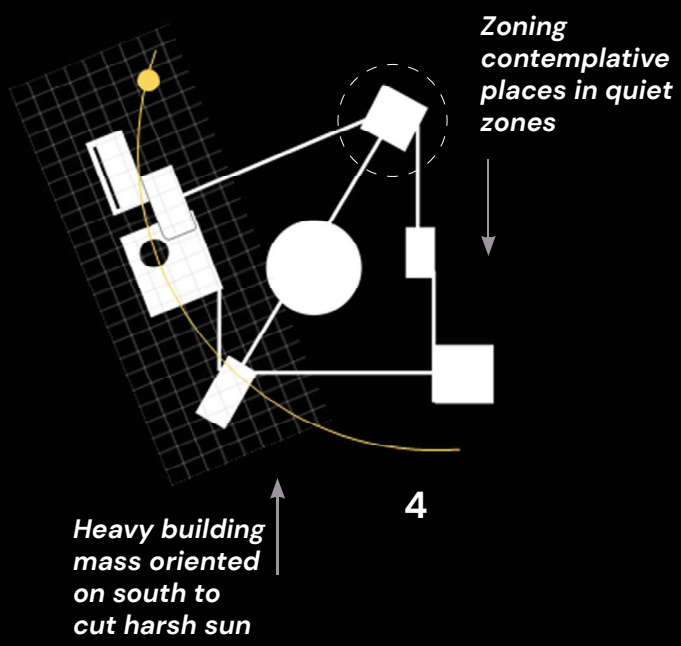


Landscape Programmes : ***4*** *Contemplative decks (Contemplation) ;* ***5*** *Sensory textured Garden (Interaction) ;* ***6*** *Central rumination Labyrnth (Stillness).*









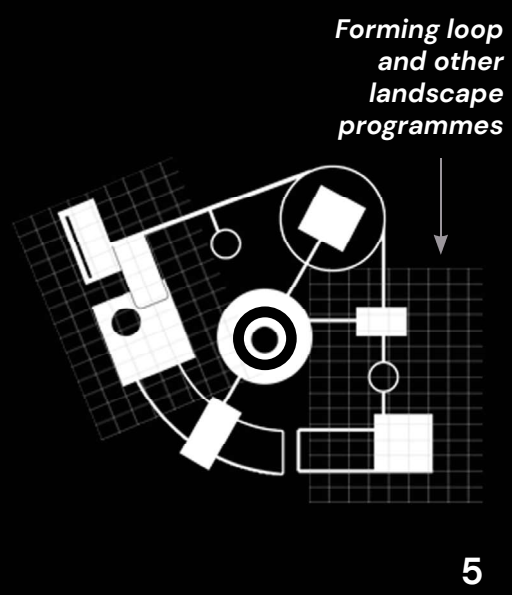


Figure 7.5 : Development and Multiple concepts of Master Plan

Key Site Conditions and Layout

7.1.3 Development of Master Plan

A large-scale master plan concept is initiated to transform the zoning concepts into plans. After designing the built environments, they are combined with landscape programmes to form the initial master plan concept (Fig 7.5.1). The site analysis is revisited to develop the master plan. The interactive building with spaces such as the Social Tea Mezzanine requires sufficient views as it was designed around the concept of prospect.
Therefore, the interactive building is positioned to face the Mount Victoria Belt in the second concept. The idea of forming a loop around the centre with the circulation is introduced in this concept (Fig 7.5.2). The interactive building is skewed during further development to obtain a better view shaft (Fig 7.5.3).Another key finding from reassessing the site is that harsh sunlight falls on the southern part of the site. A larger building mass (interactive building) is placed in the southern part to cut out this harsh sunlight and protect other spaces through improved shadow conditions.

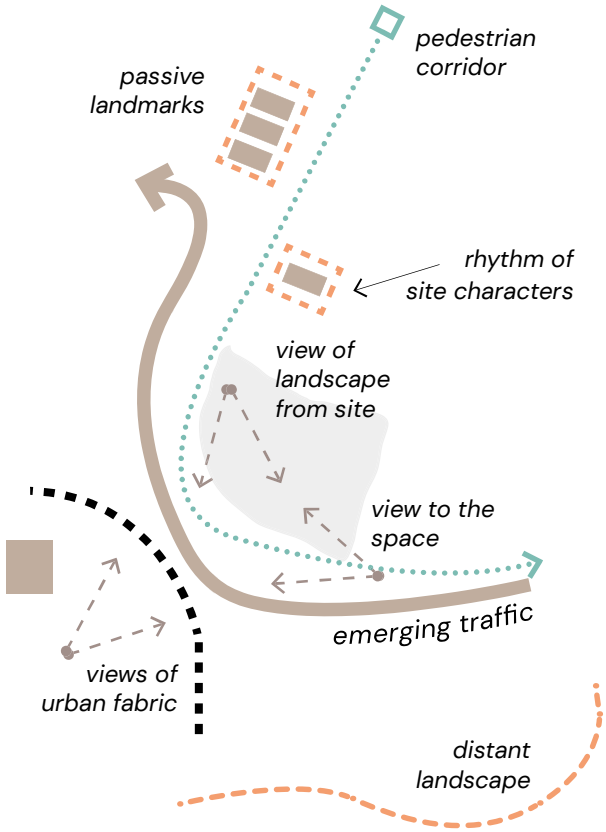
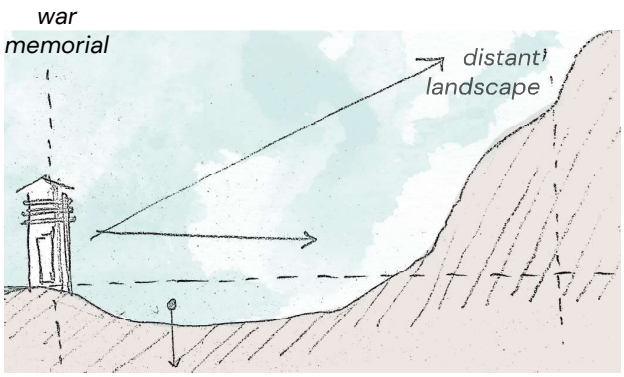
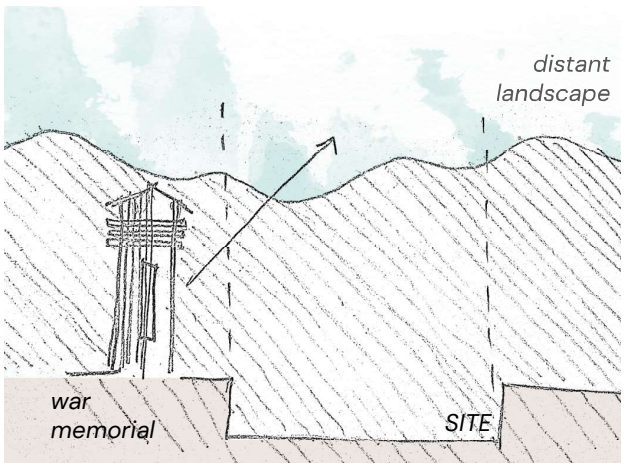


Figure 7.6 : Site opportunities for design —landscape, views and site character

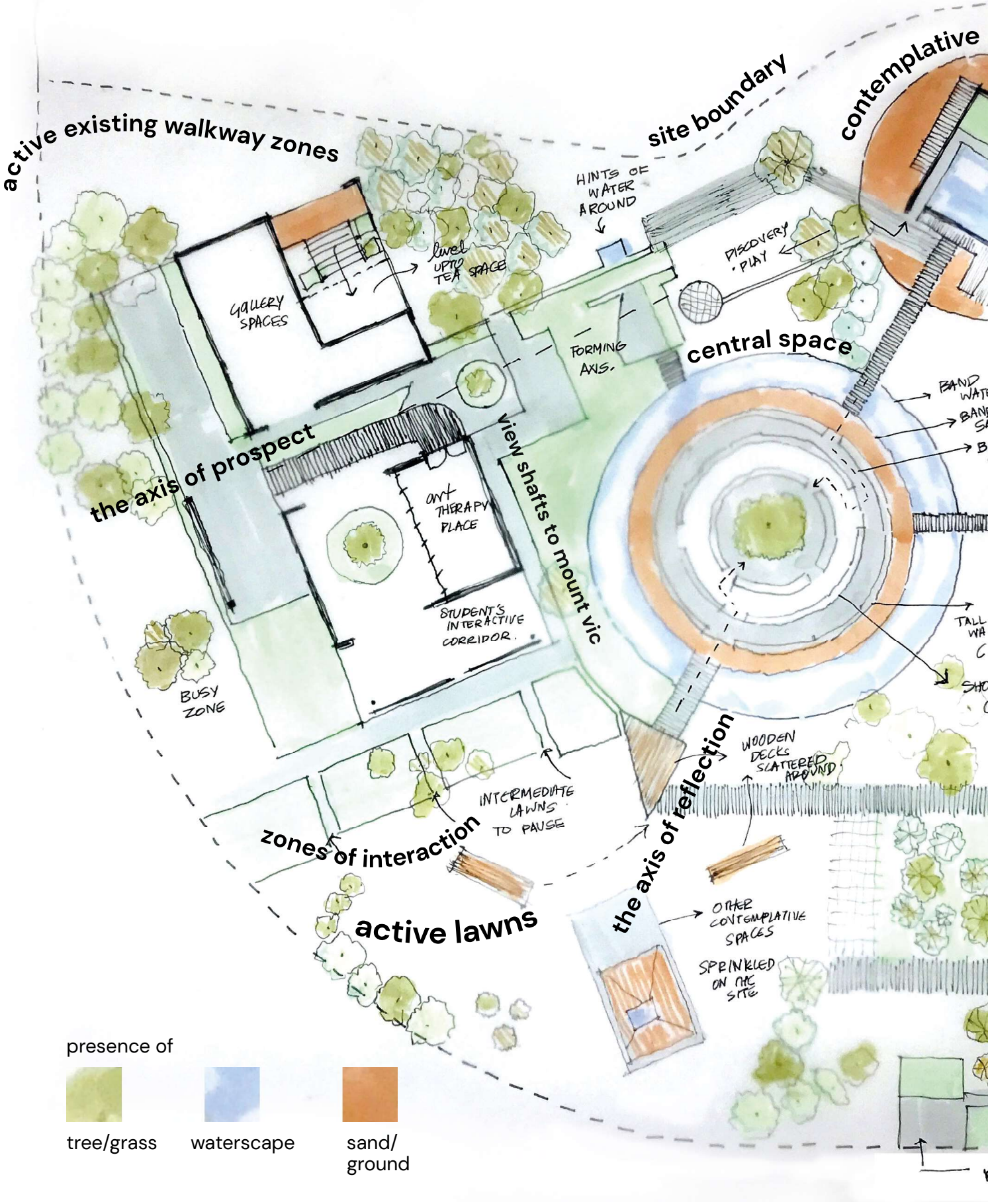


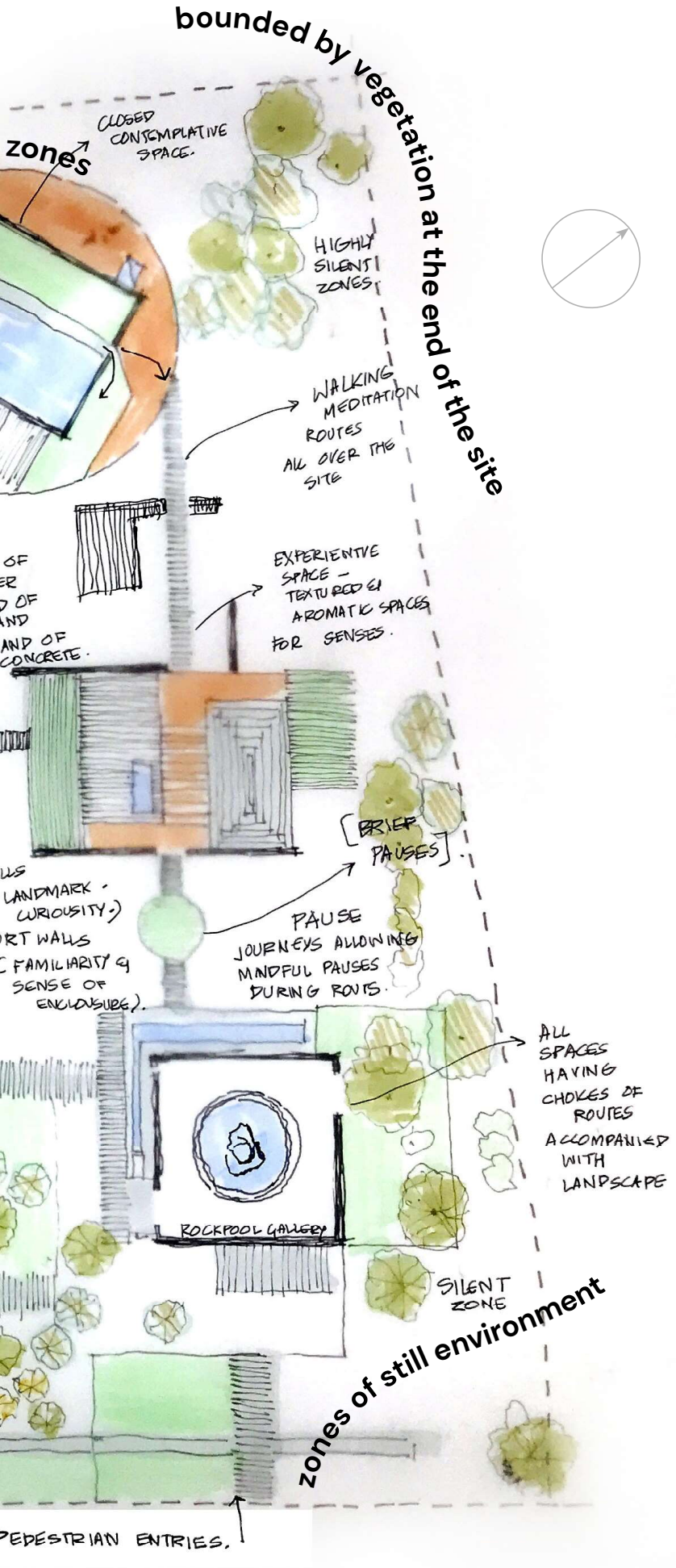
SECTION E-W



SECTION N-S

Furthermore, the labyrinth space is moved to the centre in this design concept. All the spaces are designed to branch radially from the centre. This radial planning is rethought to cut an axis through the plan in the following concept (Fig 7.5.4). The contemplative spaces are placed along that axis. Finally, all the landscape programmes, outdoor spaces and gardens are strategically knit with the walking meditation loop so that the students could pause along the journey (Fig 7.5.5). Ultimately, the master plan is designed with opportunities such as focal points, sightlines and wayfinding with various options for students to choose from depending on their mood or preference. An observation from revisiting the site analysis is illustrated. (Fig 7.6).


active existing walkway zones
site boundary
contemplative
HINTS OF WATER AROUND
level UPTO TEA SPACE
GALLERY SPACES
DISCOVERY PLAY
FORMING AXIS.
central space
the axis of prospect
view shafts to mount vic
OVT THERAPY PLACE
STUDENT'S INTERACTIVE CORRIDOR.
BUSY ZONE
WOODEN DECKS SCATTERED AROUND
INTERMEDIATE LAWNS TO PAUSE
zones of interaction
the axis of reflection
active lawns
OTHER CONTEMPLATIVE SPACES
SPRINKLED ON THE SITE
presence of
tree/grass
waterscape
sand/ ground



The master plan is drawn over the site after incorporating zoning and site strategies. The developed master plan follows the principles covered in the above pages. The design also corresponds with the proposal objectives presented in the Building Code compliance and District Plan, which will be considered throughout the design process. (Fig 7.7)

From the seaters at the entry to the materials in the court, color palette to reinforce a calming atmosphere.

The foreground is dominated by the roads but the trees in the view assist in making a connection across the space, particularly with the repetition of the type of tree, Pohutukawas and Golden Elms.

Figure 7.7:
Preliminary Master Plan Design Process

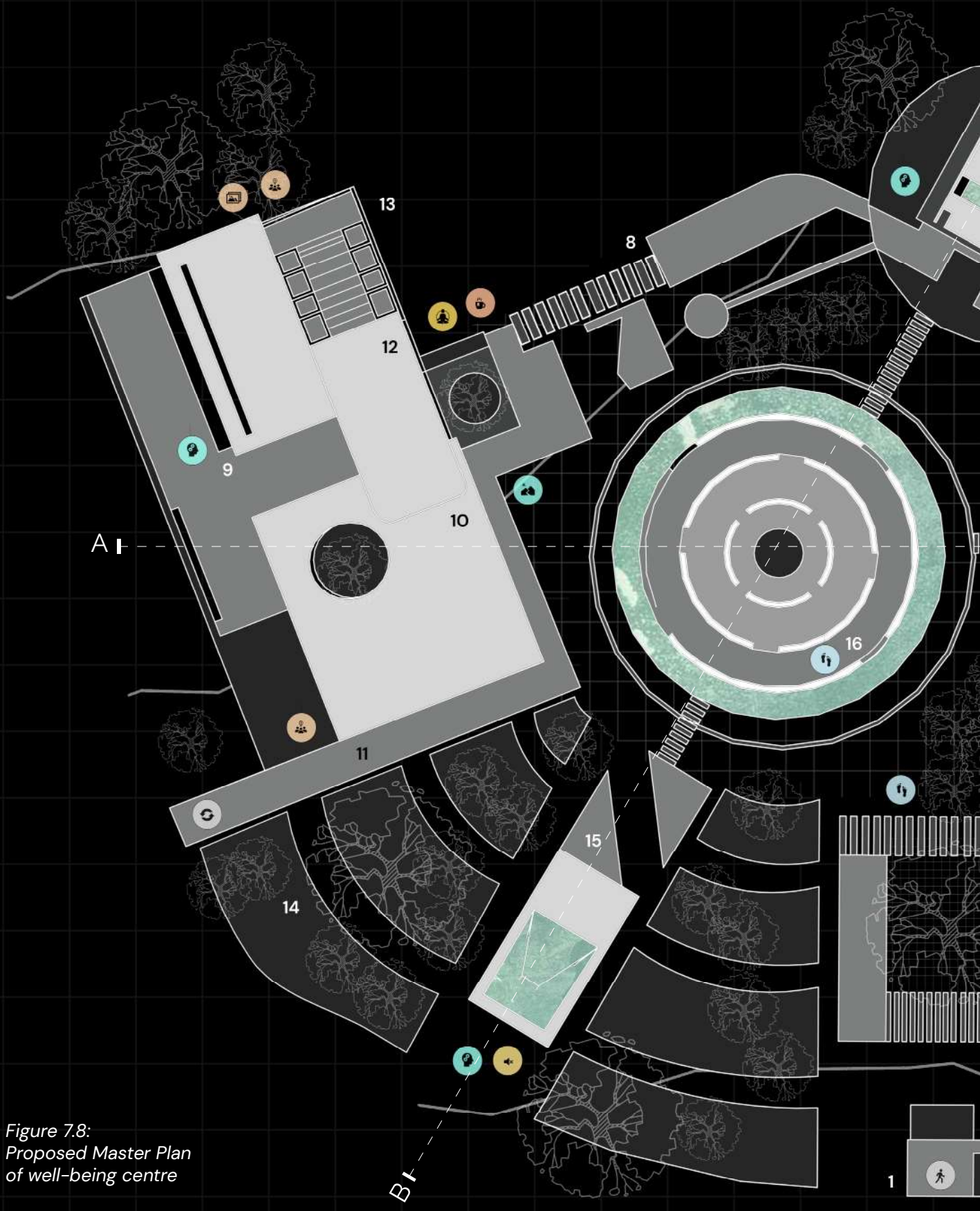
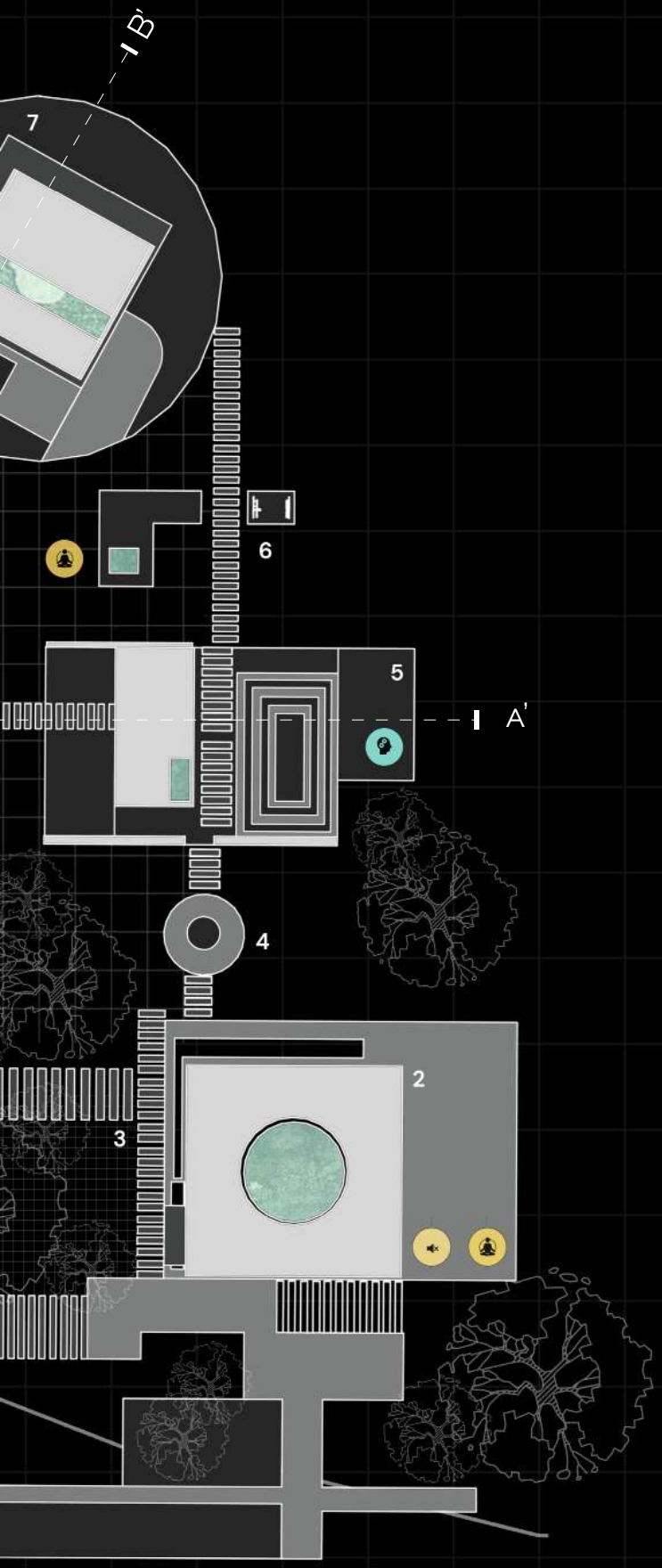
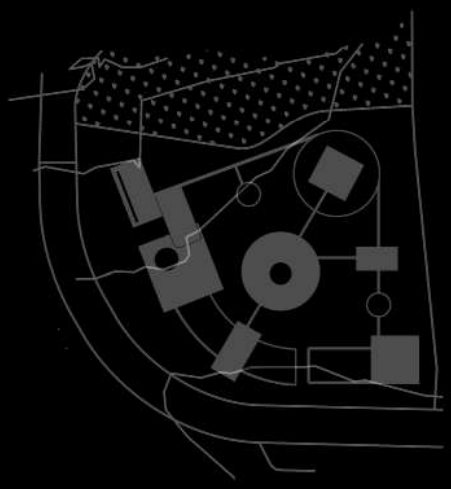
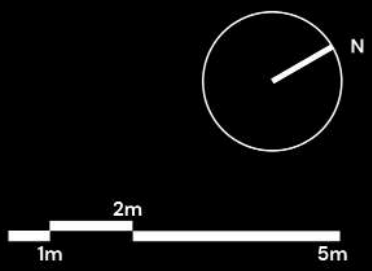


Figure 7.8:
Proposed Master Plan of well-being centre





1 Entrance
2 Rockpool Meditative Gallery (Stillness Space)
3 Sensory Garden (Aromatic Landscape)
4 Pause pavilion
5 Textured Garden (Haptic Landscape)
6 Interactive Pause
7 Closed Contemplative Space
8 Walking Meditation
9 Student's display gallery
10 Group work room
11 Scribble Corridor
12 Tea ritual room
13 Stepped OAT
14 Canopy lawns and lanes
15 Open water meditative group of decks
16 Central water surround muse and ruminate space



7.1.4 Final Master Plan

The master plan is a collective architectural response as a well-being centre that caters to students' stress-free state of mind. This response is achieved by utilising built environments as a tool while integrating landscape and circulation for an improved relationship between nature and users, thereby improving their state of mind. While designing, these three aspects, i.e., built environments, landscape and circulation, are strategically designed to attain higher architectural resolution. The next part of this chapter explores designing the built environment and reflecting on the entire design test against the strategies established in this research.

Built environments

Through research, the well-being atmospheres are transformed into three individual built environments for stillness, social interaction and contemplation. They adapt humble architectural forms. They are also designed to attain sensory experience and varying light levels required for each space. Later in detail, all the buildings are designed according to the Building Code compliance and application of materials rendered upon New Zealand standards.

Landscape

Incorporating landscape programmes was adopted after the in-person case study to Christchurch. It was adapted while studying the importance of landscape to improve sensory experiences among spaces cohesively. While designing the master plan, each well-being atmosphere is made sure to have both indoor and outdoor facilities. For example, Stillness is achieved through indoor and outdoor spaces such as Meditative Gallery and sensory garden. (Fig 7.9)

Circulation

The circulation is the walking meditation lanes that run throughout the entire centre. The initial concept of tying a list of experiences starting from entry to contemplation is achieved through the circulation. It is designed as a loop for the users to repeat the journey according to their choice. Finally, the circulation was also accentuated with spaces for pausing to break the monotony of the walking experience.

Figure 7.9 : Bird's eye view of the well-being centre surroundings

Figure 7.10 : Central Meditation space

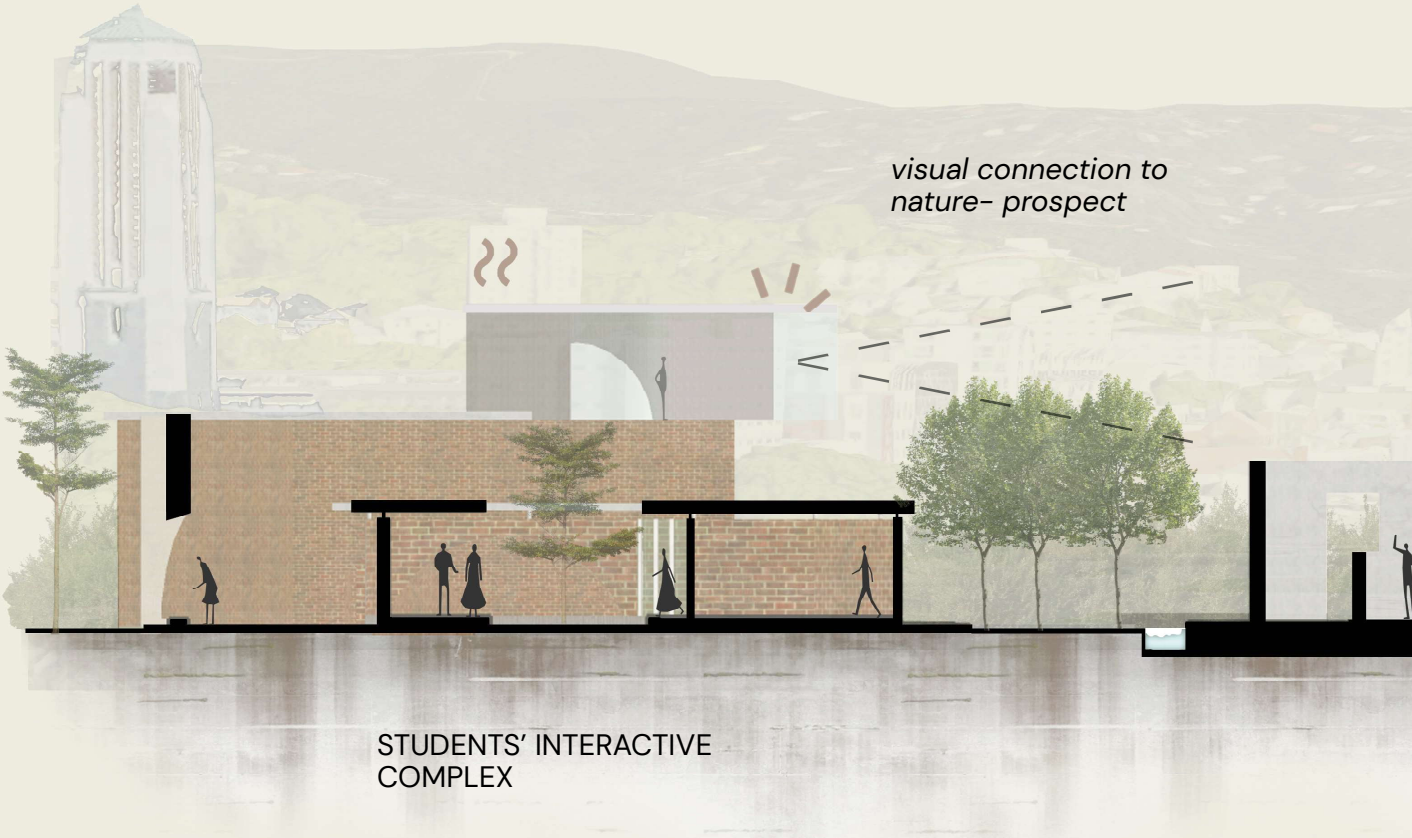
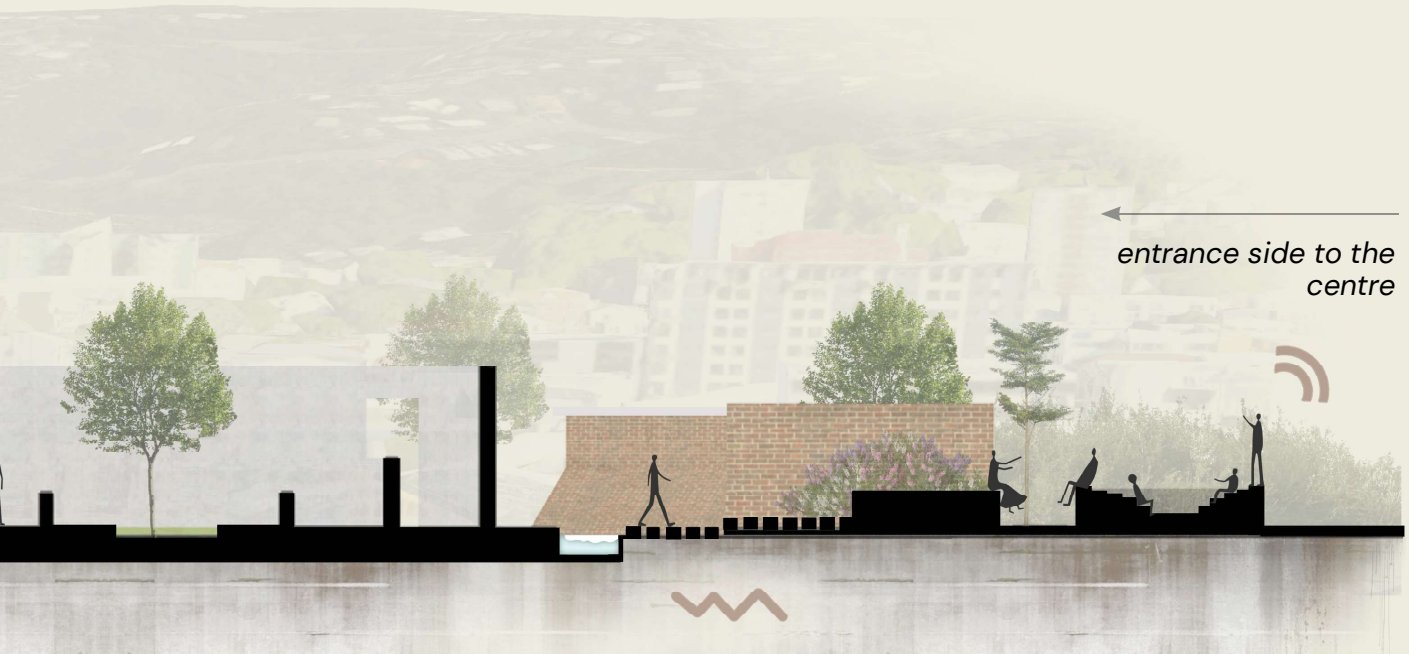
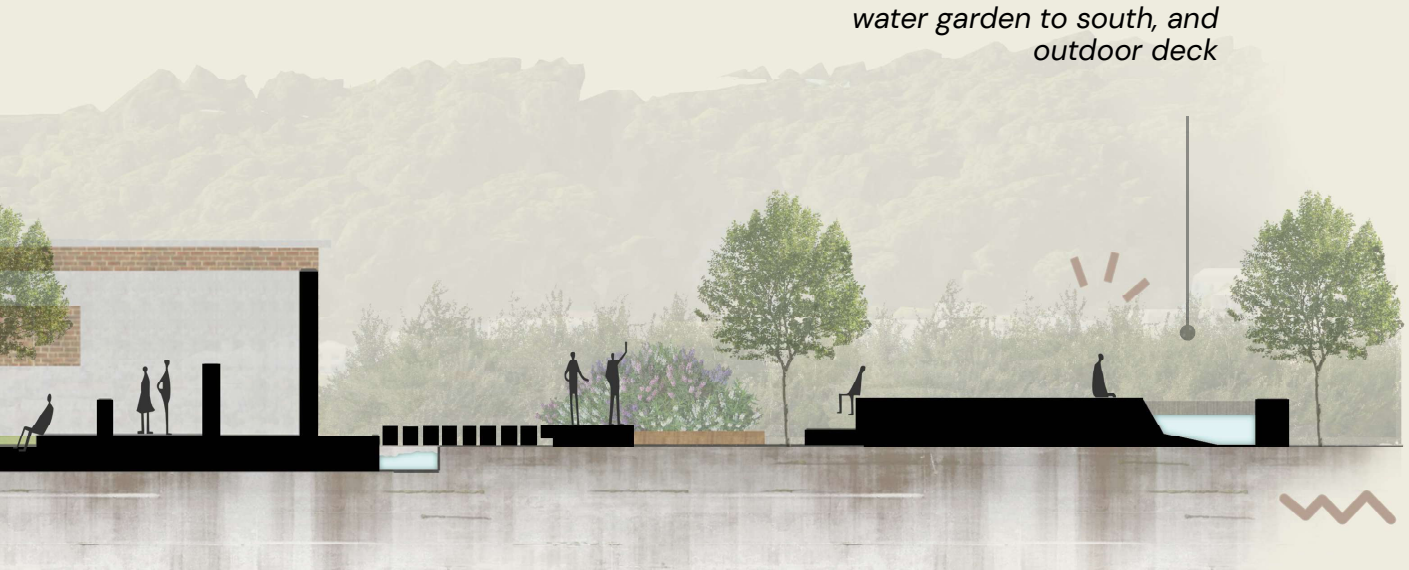


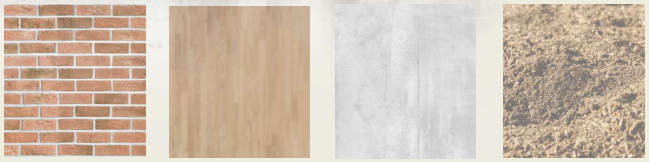
Figure 7.11 : Sections of Proposed well-being centre



The floor and built benches are made of partially treated concrete—for tactility



shades and textures of earthened materials are chosen to play off the natural colors



7.1.5 The Three Atmospheres as built-environments

As mentioned above, three built environments are designed in the well-being centre (Fig 7.12). They act as crucial landmarks to the centre, protect the users from hazards of the site and welcome the student community to the closed environment. The built environments that are designed according to programme matrix are:

[01.] **Rockpool Meditative Chamber (Stillness)**
An indoor open to sky meditative chamber with a central rockpool creates a still environment for meditation.

[02.] **Student's Interactive complex (Social Interaction)**

A three-space community complex invites interaction through activities and facilities like a gallery, working room, art corridor and tea room.

[03.] **Sheltered walkway (Contemplation)**

A sheltered walkway is dedicated as a space for students to self-reflect and, it is attached to the walking meditation pathway

Figure 7.12 : Built environments in the proposed centre

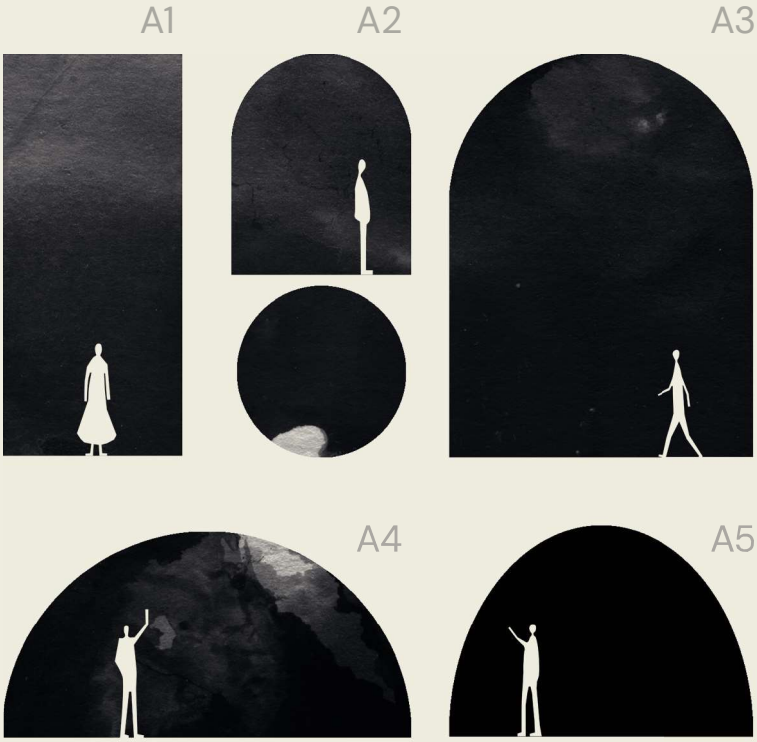


Figure 7.13 : Process of testing various openings

Figure 7.14 : IIM Ahmedabad Corridors
Source : Author (2019)

7.1.5.1 Rockpool Meditative Gallery

Inspiration is the feeling of beginning at the threshold where silence and light meet. Silence, the unmeasurable, desire to be, desire to express, the source of new need, meets light, the measurable, giver of all presence,
Louis I. Kahn

Louis Kahn's "immeasurable" quality is indicated through architecture when a physical space has metaphysical character. He has achieved such character in his buildings through geometric fenestrations, materials and play of light. Initially, geometrical play in spaces is examined from Louis Khan's IIM Ahmedabad (Fig 7.14). Later, those geometric fenestrations were tested for the design (Fig 7.13). Secondly, while reviewing material applications, Pallasmaa illustrates Khan's works that " A lay building [brick/concrete] may very well induce transcending [metaphysical] experiences and attain a sacred character albeit a nonreligious kind " (2016, p.11). While brick is considered as a sacred material in Indian architecture, it will be used here as a response to the surrounding buildings in the site.Therefore, brick is chosen to employ in the design of the well-being centre through site analysis, and above material precedents.

Finally, for play of light and transcending light character, form explorations are examined in Chapter 4a using Böhme's notions of light and space. Whereas maquettes were tested to produce the final architectural response for this stillness meditative space (Fig 7.15).

Figure 7.15 : Rockpool Meditative gallery building

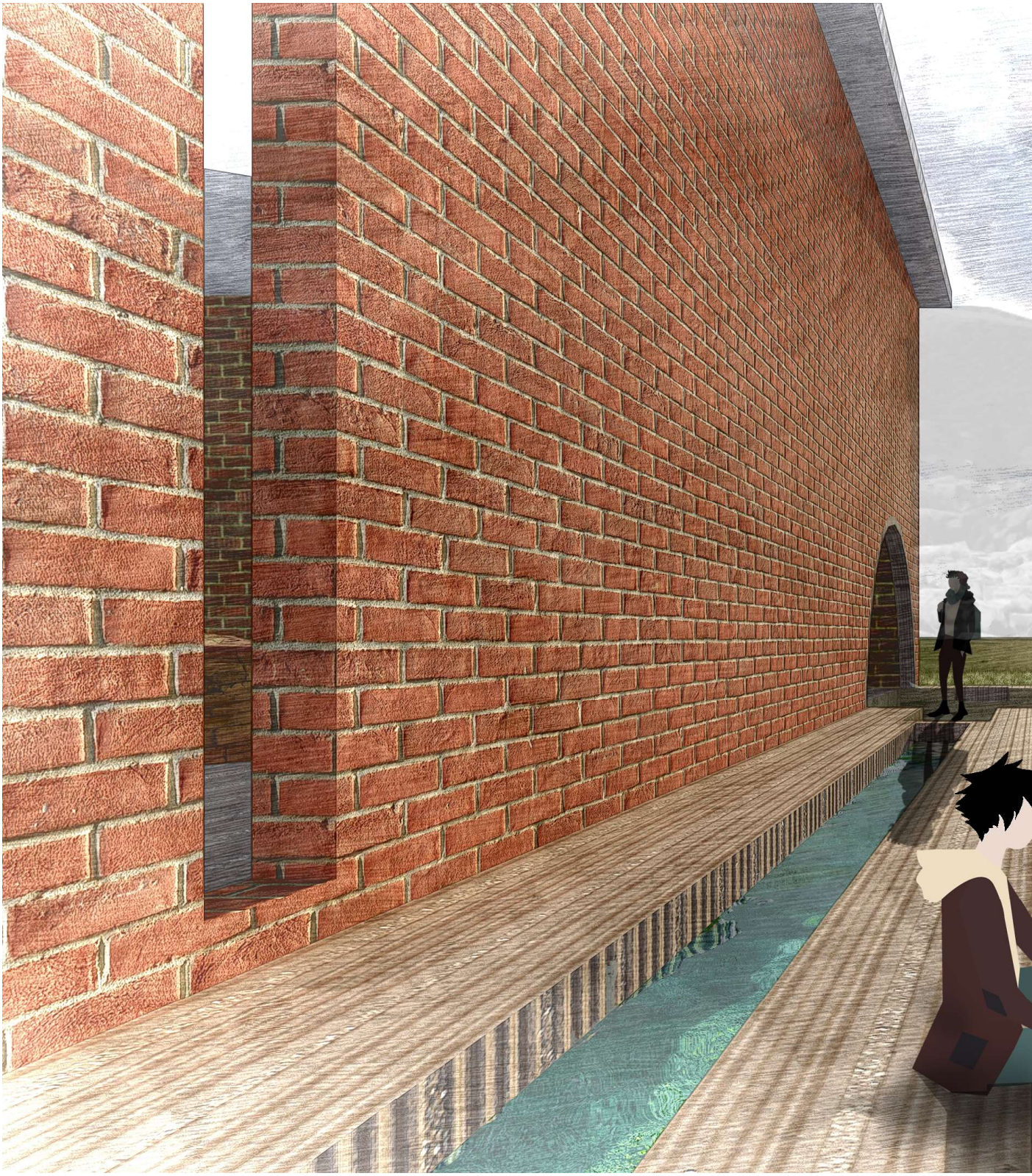


Figure 7.16 : Entrance to Rockpool Meditative gallery building

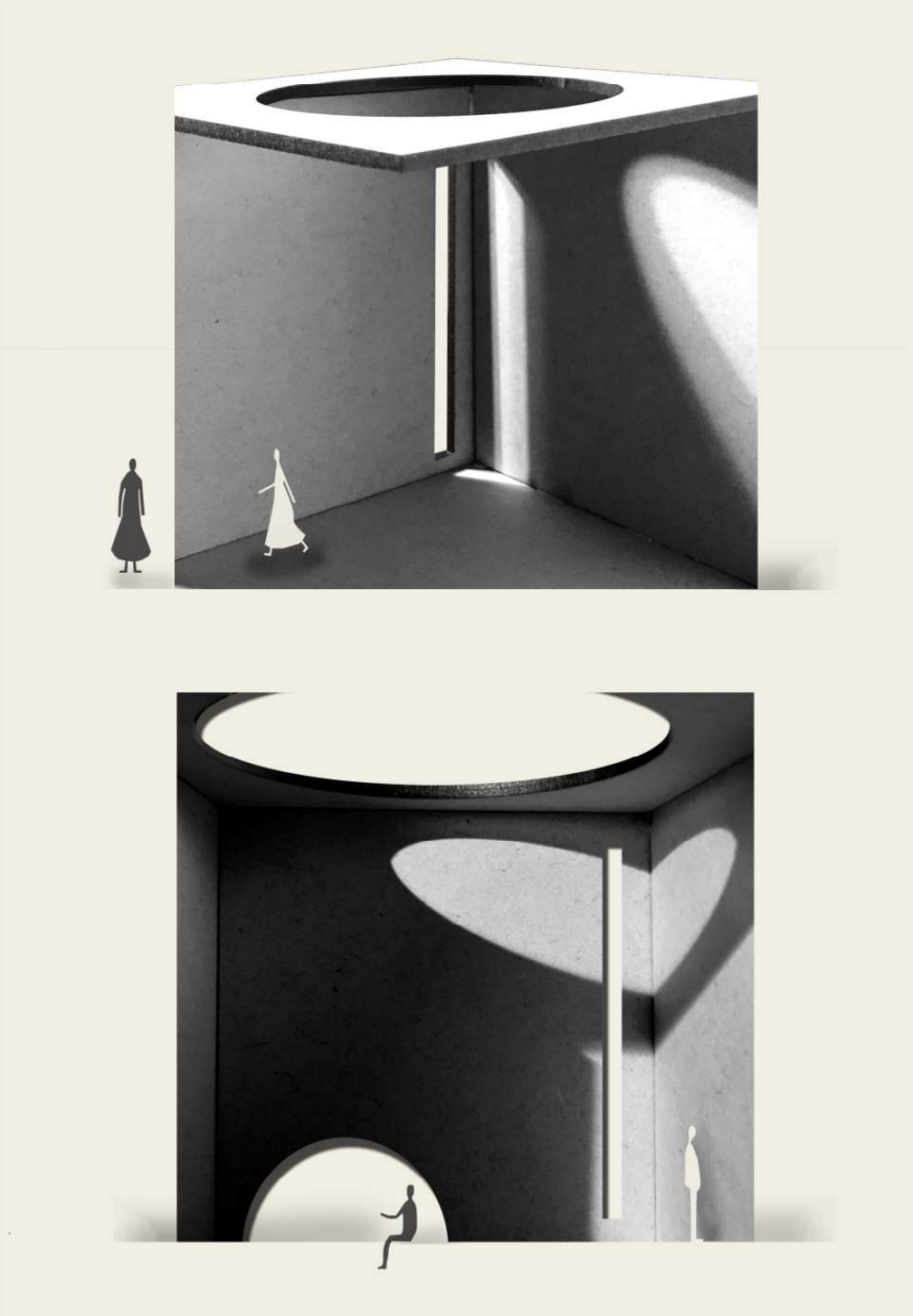


Figure 7.17 : Physical models of the meditation gallery

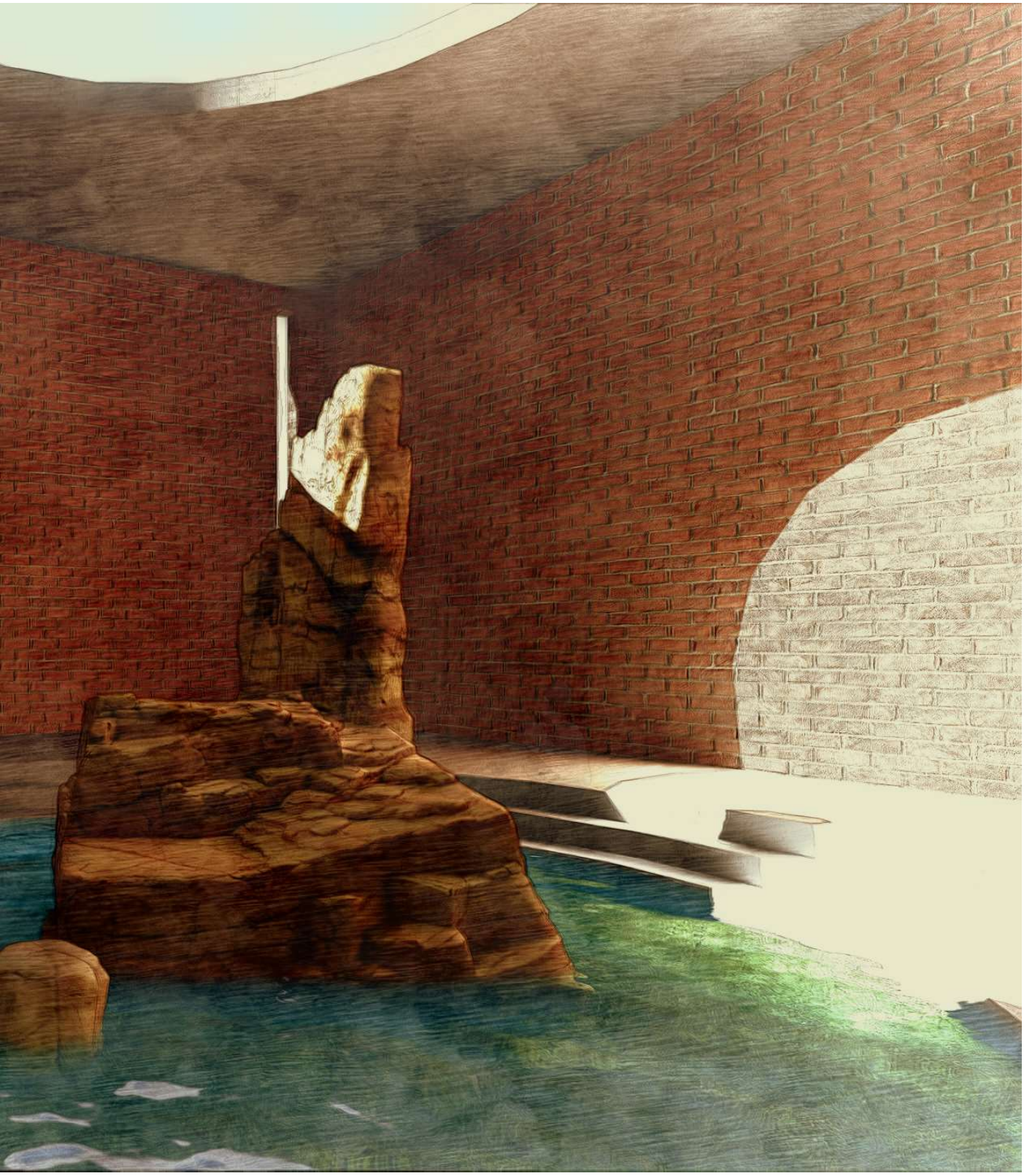
Architecture by nature is still, yet it forms a material connection with users. It is a place that seeks silence through its simplicity and repetitive use of material [brick]. The sensory garden in the front starts to create awareness about the still environment. It is designed to help students experience oneness with the environment and a spiritual connection to nature and self. Following the entrance, the users intend to gaze upon the circular skylight, similar to while entering a church. (Fig 7.18)

The central space has rocks seated amidst the still water, thereby symbolising stillness in nature. This skylight exhibits an emotive relationship to the sky, building and the user. It also acts as a place of meditation and companionship to self with closeness to the sky. Finally, the stillness in spaces allows users to meditate and fully experience themselves through these agencies that put the mind free from distraction. (Fig 7.19)

Figure 7.18: Section of meditative gallery

CENTRAL
MEDITATION SPACE

Figure 7.19: A moment of stillness—Interior of the meditative gallery



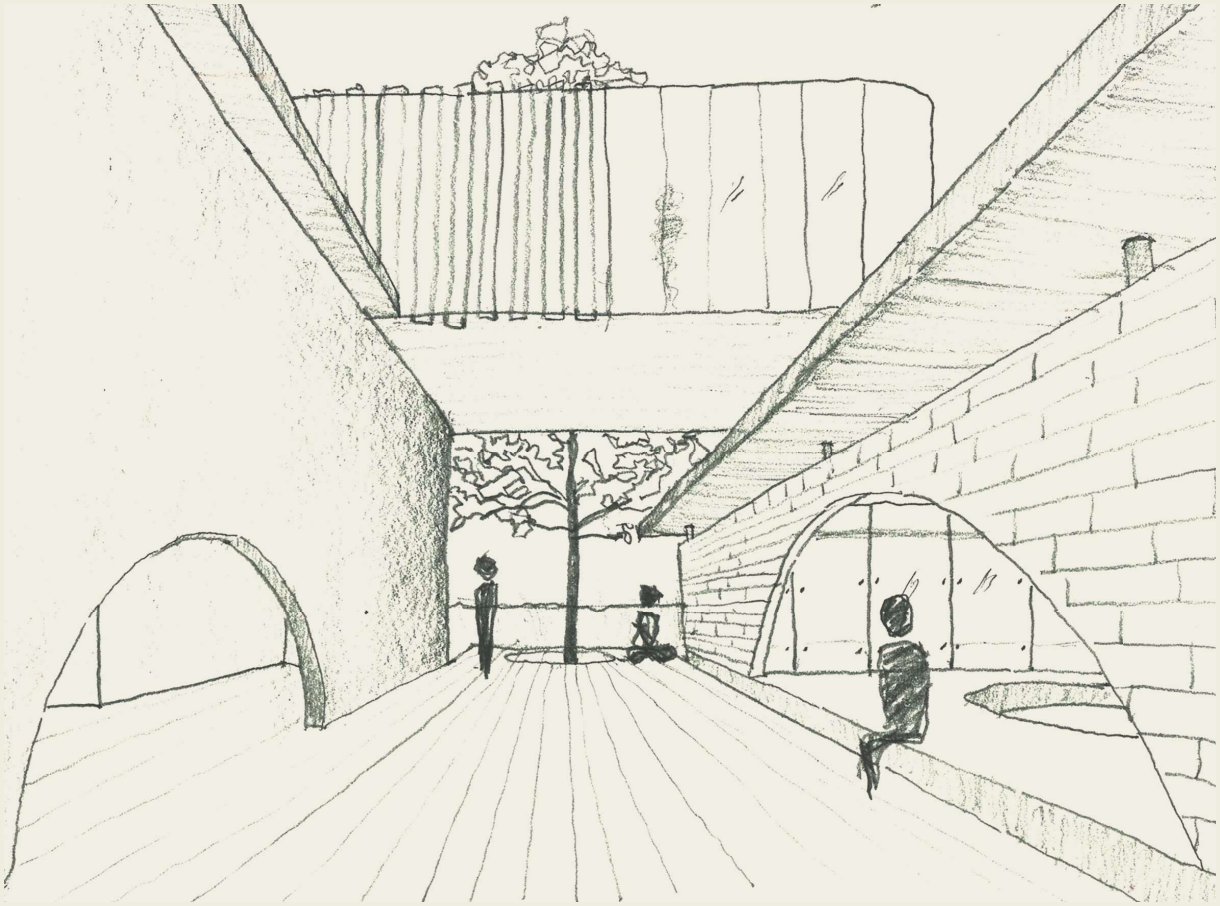


Figure 7.20 : Intuitive sketches of interactive complex design

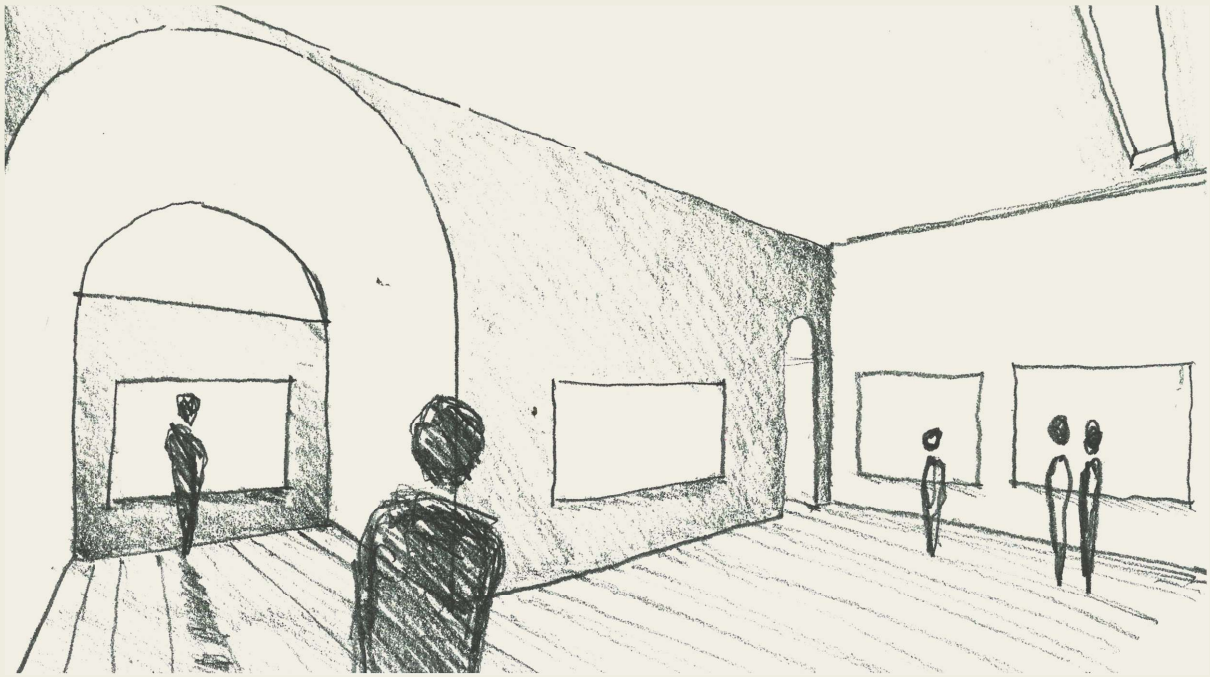


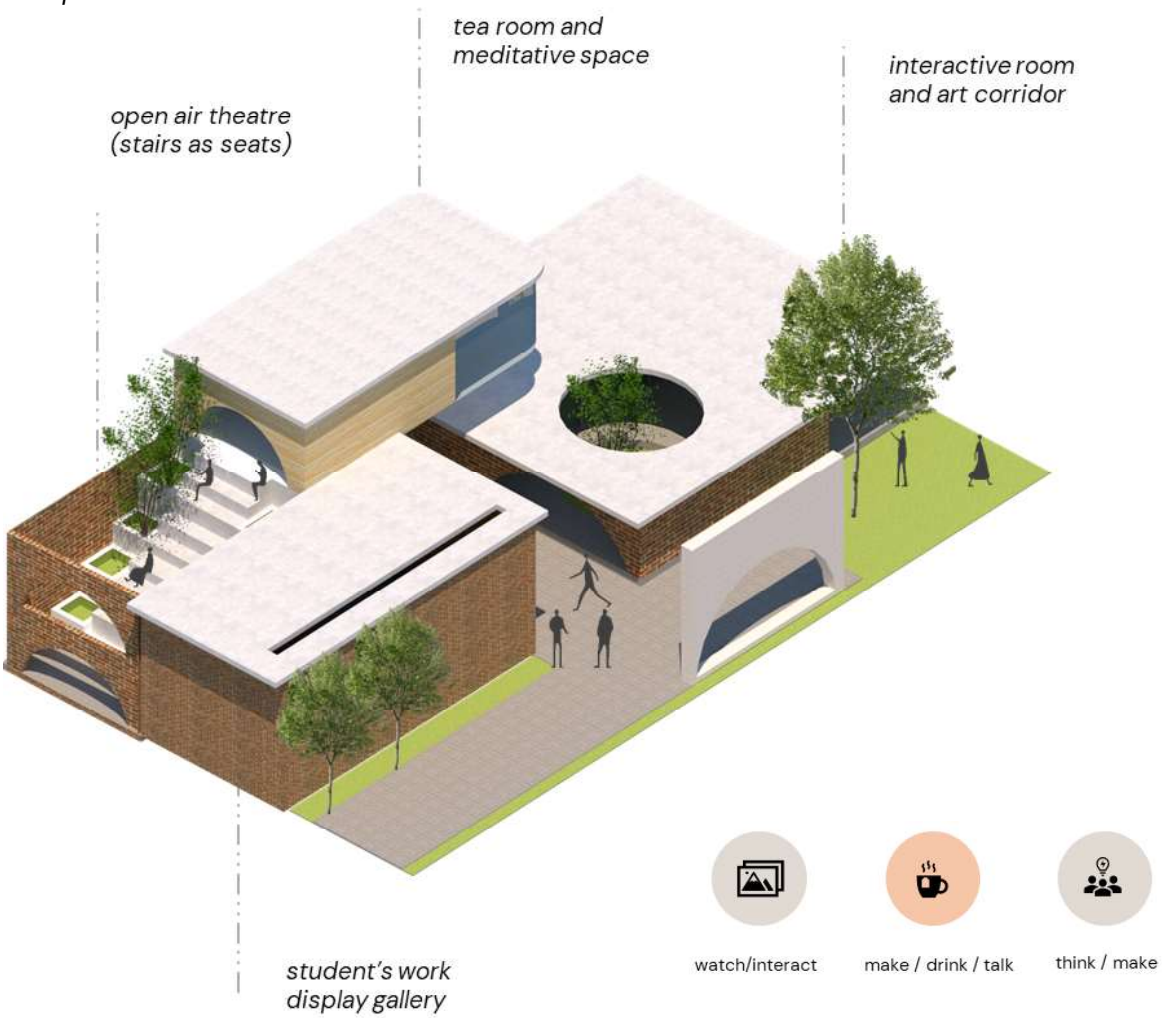
Figure 7.21 : Intuitive sketches of gallery spaces in design

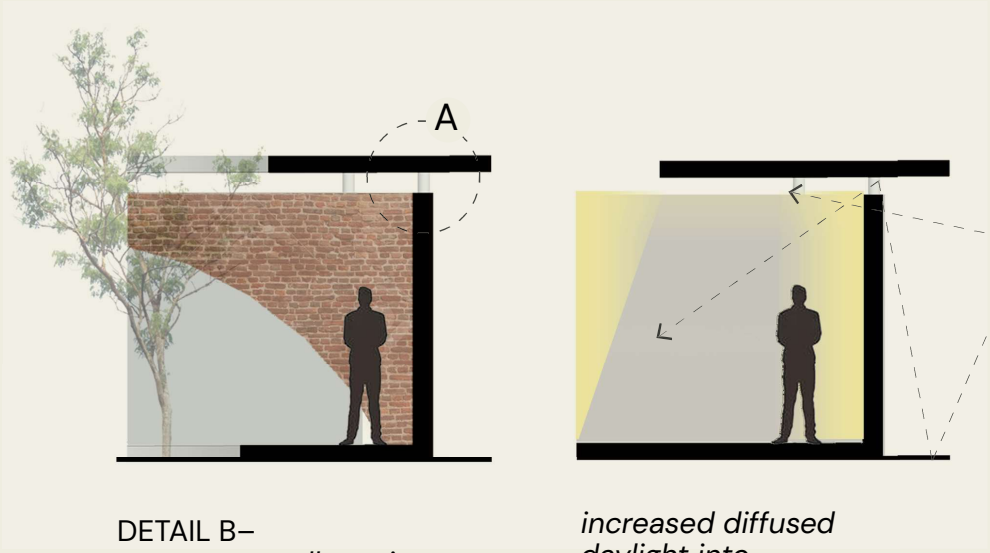
7.1.5.2 Students' Interactive Complex

"humans' self-understanding depends on other humans of the space."
Pérez-Gómez (2016, p.104)

The list of interactive spaces such as student working spaces, gallery, tea room, and group meditation rooms is primarily grouped by referring to the programme matrix. Then, this group of interactive spaces are architecturally assembled to form a students' interactive complex. All the spaces are individually designed with attention to spatial experience, light and materiality. The initial concept for designing the complex is initiated by grouping highly interactive and mildly interactive spaces related to noise levels. However, all the spaces are designed independently yet connected in terms of circulation (Fig 7.22).

Figure 7.22 : Proposed Interactive Complex

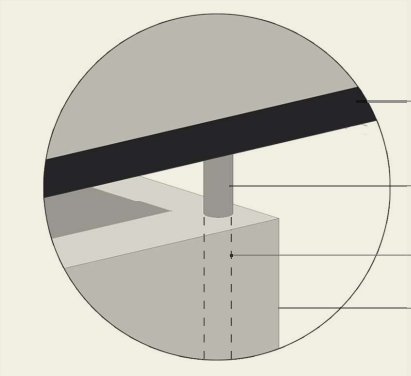




DETAIL B–
transverse wall section

increased diffused daylight into courtyard spaces

Figure 7.23 : Section and details of Proposed Interactive Complex inside the well-being centre



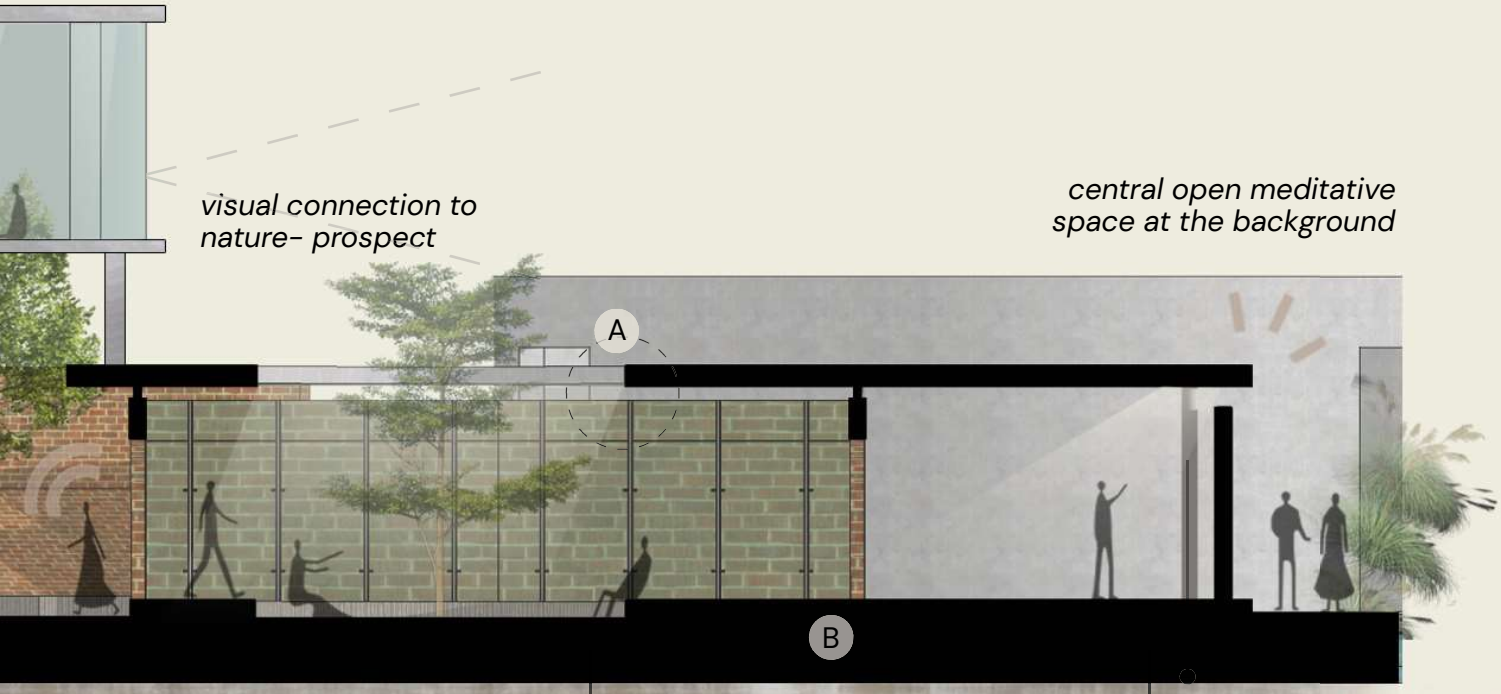
concrete roof slab 100 mm

9" rod can be placed at the interval of 3.5m each

hidden reinforcement in the wall

brick wall 250 mm thick
including plaster and Mortar into the frog and core holes.

DETAIL A



visual connection to nature- prospect

central open meditative space at the background

STUDENT'S WORKING ROOM

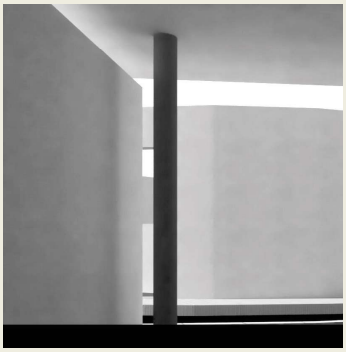
ART CORRIDOR

providing various levels of light, landscape and unhindered circulation for better spatial experience.

The floors made of partially treated concrete— tactility

Figure 7.24 : Interior of the student's working space courtyard

Figure 7.25A : Changing nature of spaces in student's art corridor



Art Corridor and working spaces

The students require a working space, so a room is dedicated with a courtyard to take a break (Fig 7.24). Secondly, research tells that any form of art/sketching can be therapeutic. Therefore, two free-standing walls adjacent to the room are provided to create art that can be washable. Finally, these two spaces are categorised as highly interactive spaces which could be noisy. Also, these interactive spaces require a flexible layout for the students according to their varied accommodation.

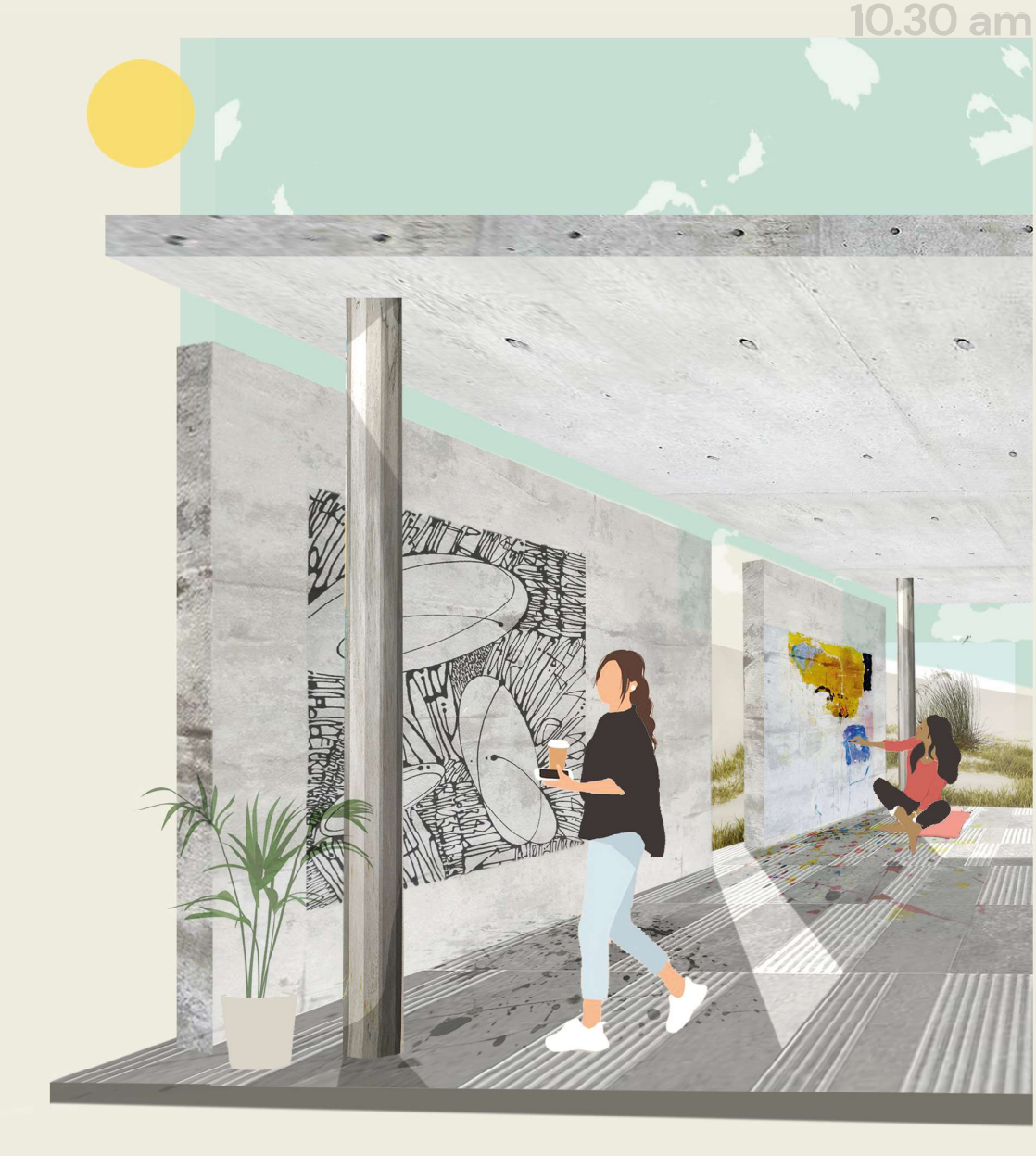


Figure 7.25B : Changing nature of spaces in student's art corridor

Figure 7.26 : A moment of interaction—Corridor of Students' interactive complex

Gallery and students' display spaces

The mildly interactive spaces are a gallery, and the tea/group meditation room is quiet. They require defined boundaries for their activities. Firstly, the gallery is designed with unhindered circulation for a better experience. The maquette explorations helped in curating daylight into space. (Fig 7.27)

A linear skylight filters and distributes the light through the gallery spaces. (FigX) The space is composed of materials that are minimal in design but detailed during those light and atmospheric conditions. The brick walls and polished concrete floors are composed to house the artworks and displays in the space. Therefore, art and architecture do not overshadow each other. (Fig 7.28)

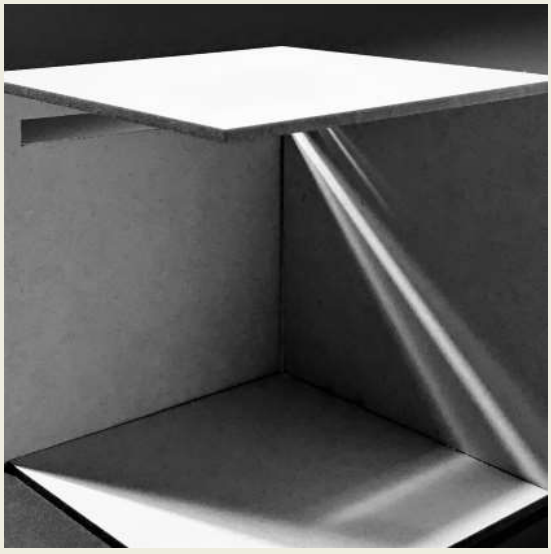


Figure 7.27: Physical model testing of devising light in gallery spaces

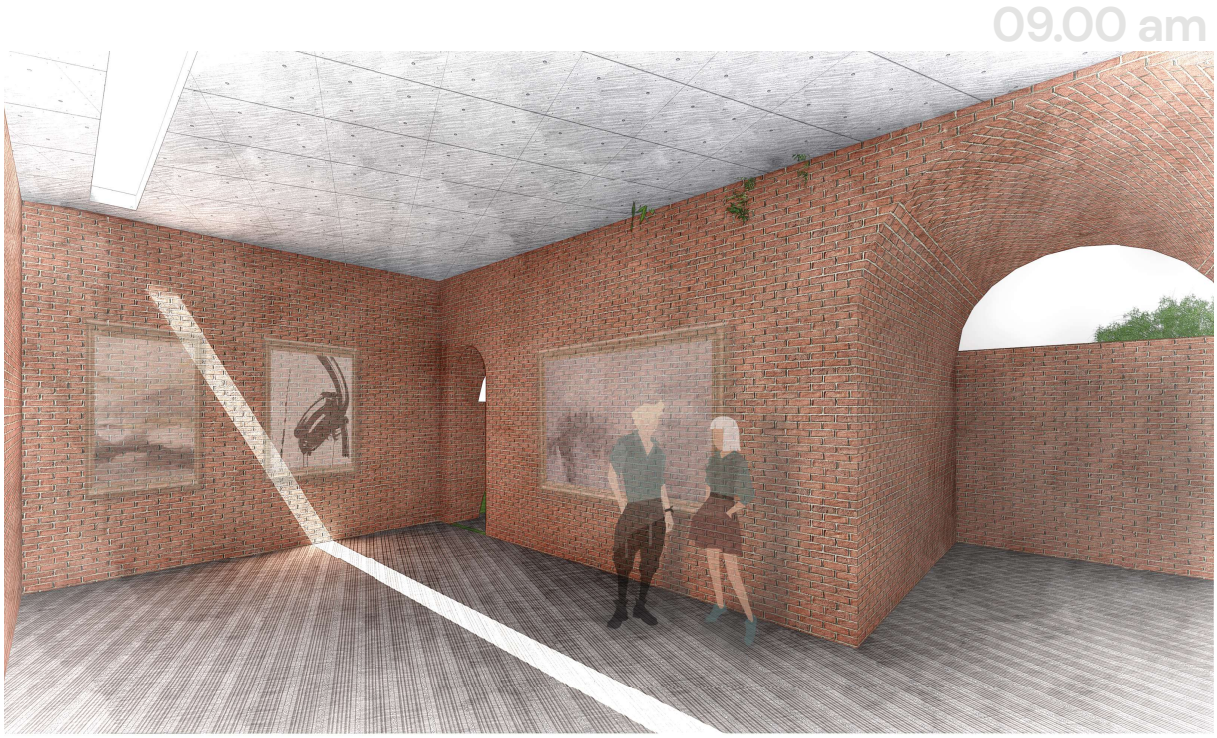


Figure 7.28 : Change in light character throughout the day in gallery spaces

Social Tea room and Meditation spaces

Secondly, the quiet interactive space is the social tea room, which is elevated to the upper floor to separate from noisy zones. The upper floor has better prospects which is required for meditation as well (Fig 7.30).

The functions of Wellington Apothecary accelerating the senses of smell and interaction is observed during senses exploration (Chapter 4.1). This observation leads to the notion of providing a social tea room in the interactive complex. The tea room has various tea dispensers, and tea infusers can fill the space with aroma. Whereas, similar to Japanese culture, the function of making tea can bring students' together for this tea ritual. This space will also be used for morning meditation, thereby making the space flexible (Fig 7.32).

Multiple forms are iterated to add this single space to the complex (Fig 7.29). They are iterated based on the design attributes for this space (Fig 7.31).

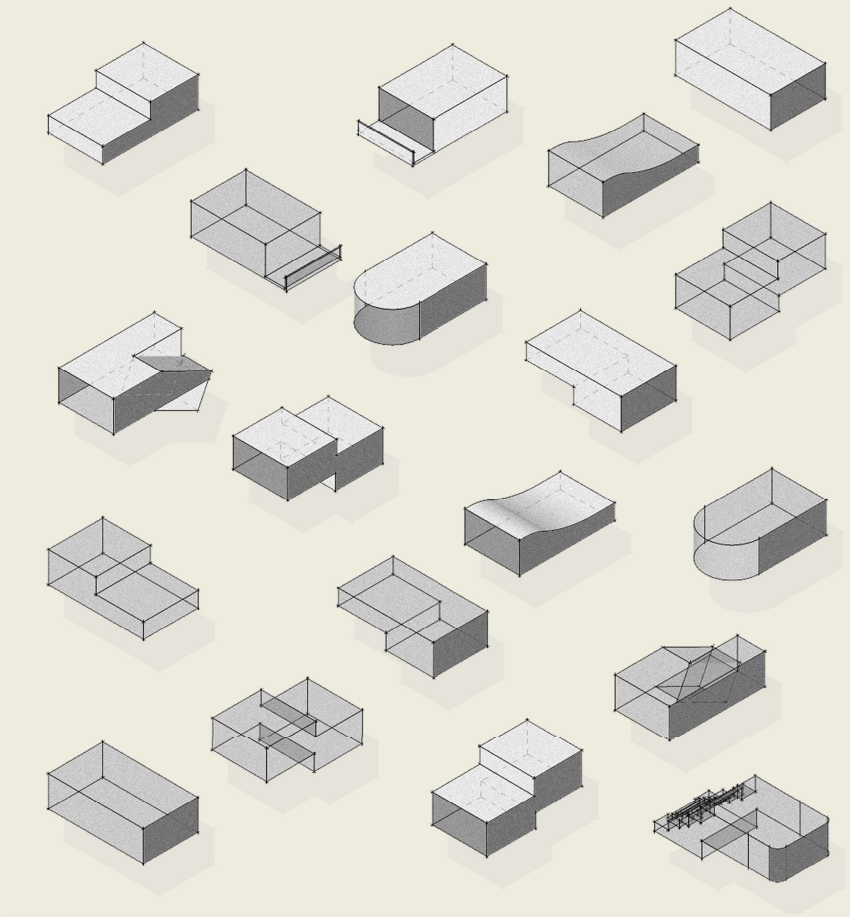


Figure 7.29 : Digital Iterations—addition of tea room to the interactive complex

Figure 7.30 : Intuitive sketches of stairs as seats concept leading to upper floor to the tea room

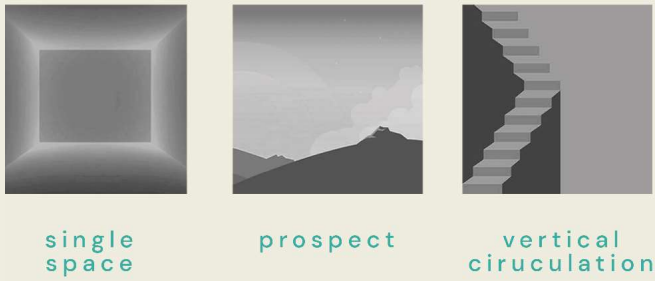


Figure 7.31 : Design attributes for designing tea room in interactive complex

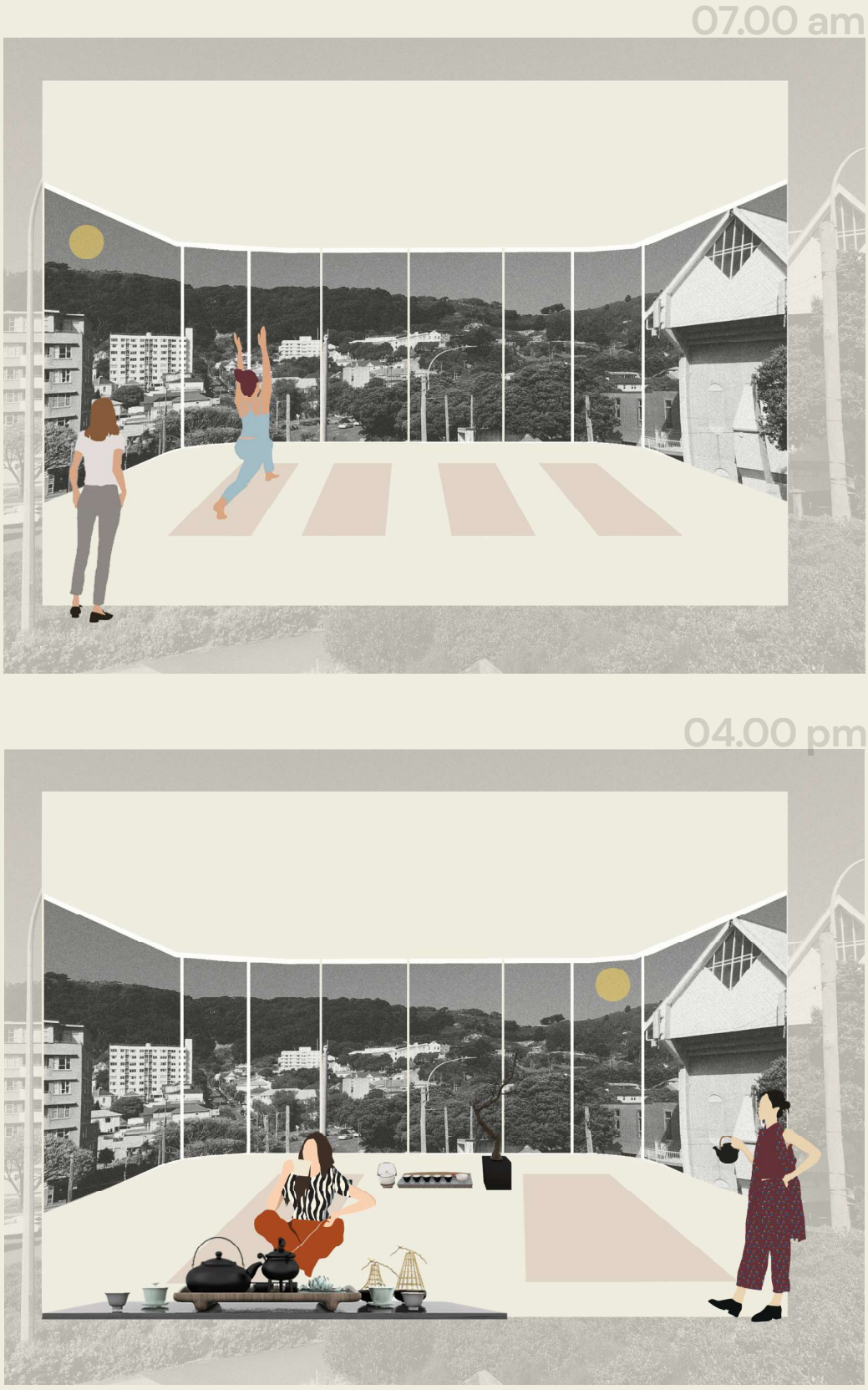


Figure 7.32 : Change in activity inside proposed tea room and group meditation

Figure 7.34 : Landscape programmes leading to interaction

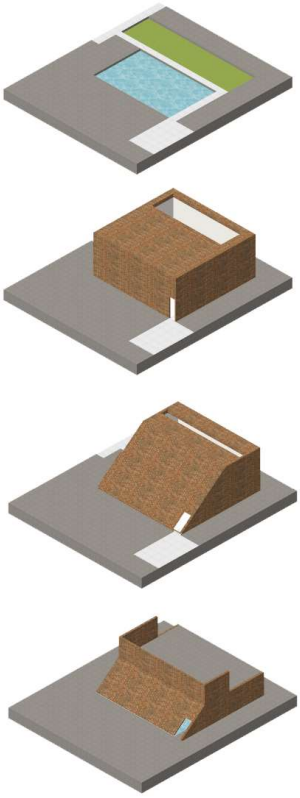
Finally, the interactive spaces are also spread across the master plan to create pockets of interaction. These pockets are seamlessly knit with the site and other landscape programmes. Therefore, students have choices to interact in open spaces as well as closed spaces.

7.1.5.3 Sheltered Contemplative Walkway

Initially, the idea to provide contemplation was through designing walking meditation pathways surrounding the landscape. Later through the review of Bermudez et al. (2015) and Zumthor, P (2003), the idea of encompassing architecture enclosing the walking meditation was introduced (Fig 7.35).

"Architecture has the ability to turn geometric proportions into shivers, stone into tears, rituals into revelation, light into grace, space into contemplation."
Bermudez et al. (2015)

[A wide-ranging conference titled with triple entendre: "Transcending Architecture: Aesthetics &Ethics of the Numinous, Bermudez et al., 2015]



DESIGN DEVELOPMENT

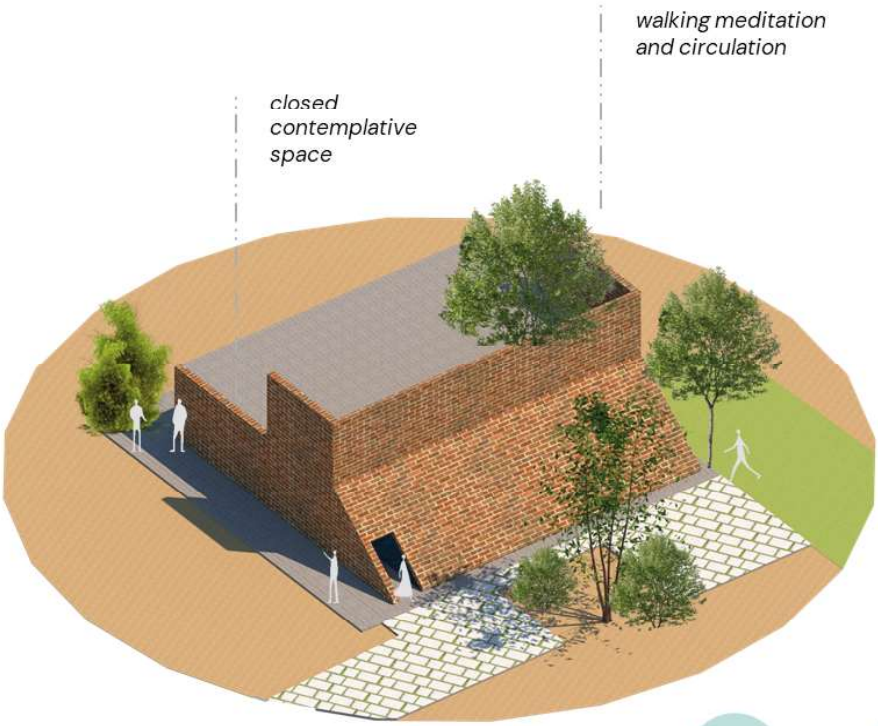


Figure 7.35 : Proposed sheltered walkway space

To transform such "space for users to contemplate", there is a need to focus on creating sacred sanctuary or ritual-like architectural priorities (Bermudez et al.,2015, p.185). Such sacred spaces are evident in Buddhist pilgrimage caves (Fig 7.36). These spaces are open to the sky yet closed from the outside world, which artfully brings in light for the users.

Furthermore, any built enclosures/space containing a water source configures an artificial sanctuary that resembles a natural one (p.186). Therefore, the final iteration is tested by including a reflection pool to create a "sanctuary-like" space for contemplation. Finally, the closed contemplative atmosphere encompass-es three spatial experiences as reflecting, viewing, walking and meditating (Fig 7.37)

Figure 7.36 : Ajanta Cave number 7, Maharashtra India
Author (2017)

Figure 7.37: Exterior view of sheltered walkway building

The end of the walking meditation pathway poetically separates this distinct built environment at a quiet zone. The contemplative site comprises several diverse elements: a dense grove of Makomako trees enclosing it, a sloping brick enclosing wall, and two human-scale entrances. In addition, a private contemplative walkway separates a grassy lawn, and a landscaped reflecting pool is covered inside this built environment. The central Ngaio tree in the pool complements the scale of this closed environment. As a source of silence, a place to reflect and meditate, the entire space is permeated with contemplative experiences. Furthermore, the tactile character of the materials allows users to touch and feel the surface while sitting under the slit of light from the sky. As a result, the space offers users a grounding sense, thereby helping them reflect thoughts of connection with the land, life, and the user itself. (Fig 7.38)

Figure 7.38 : Sections of Sheltered walkway

SHELTERED CONTEMPLATIVE WALKWAY

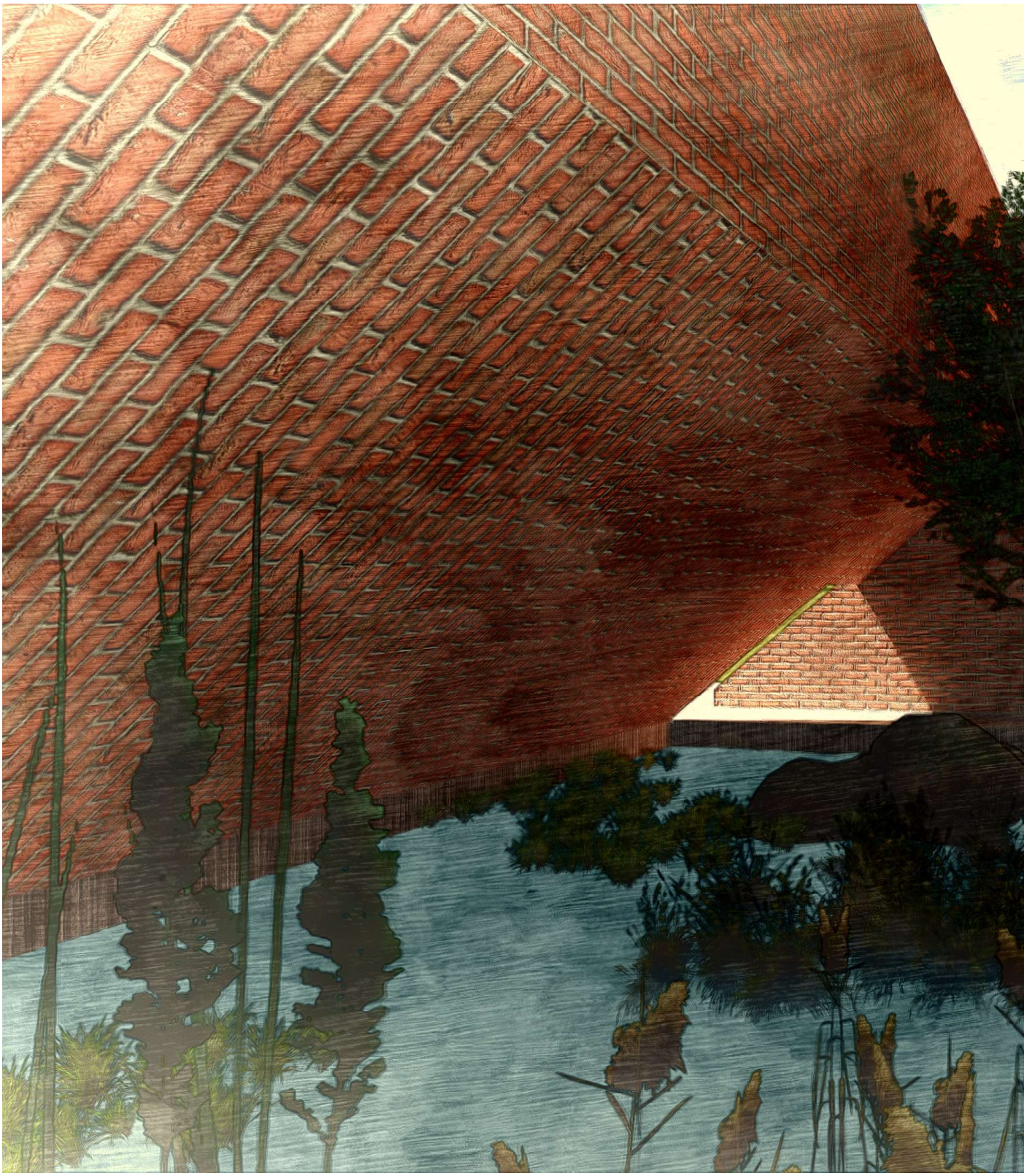


Figure 7.39 : A moment of contemplation—inside contemplative walkway space

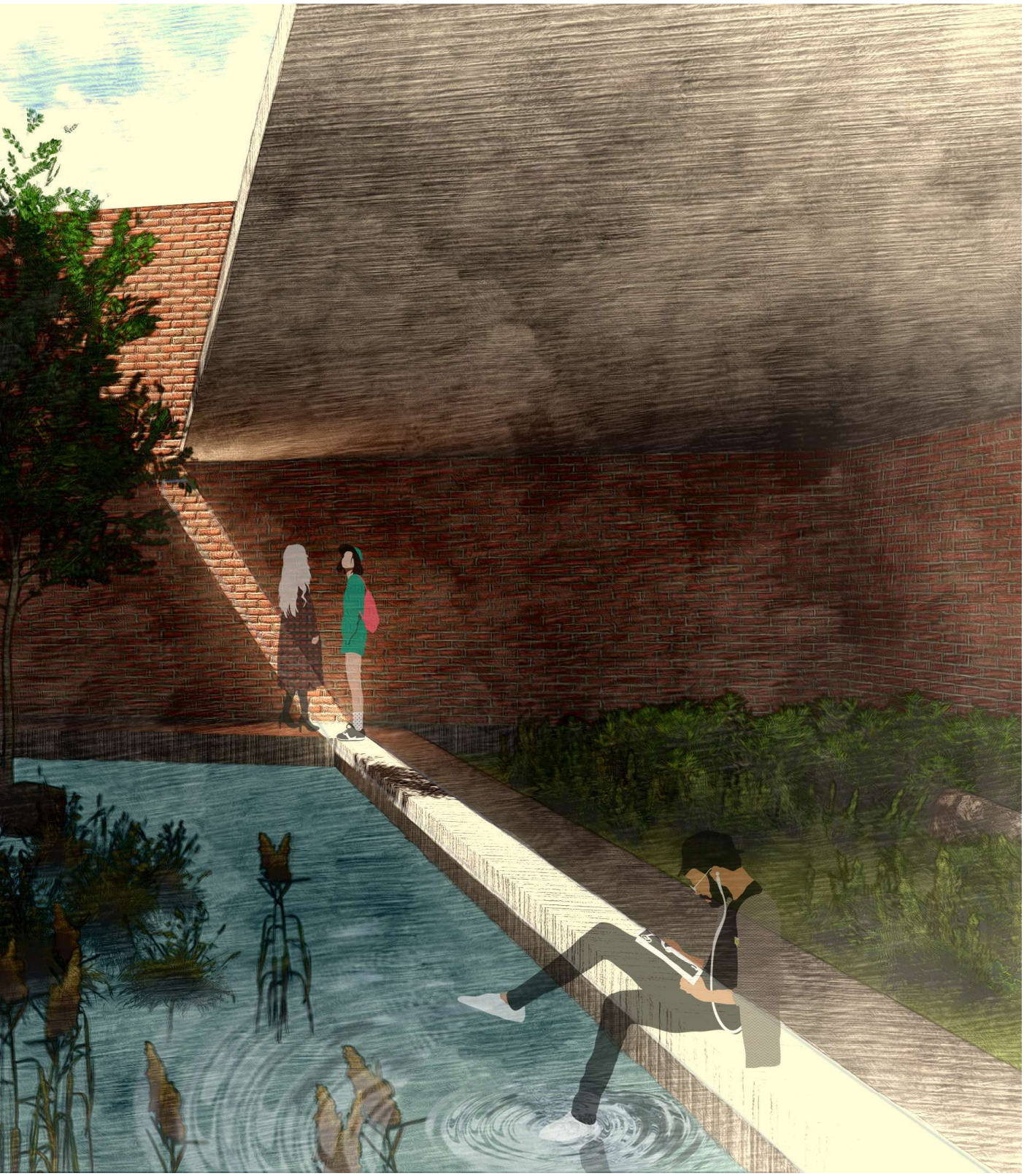


Figure 7.40: Exterior spaces in proposed well-being centre

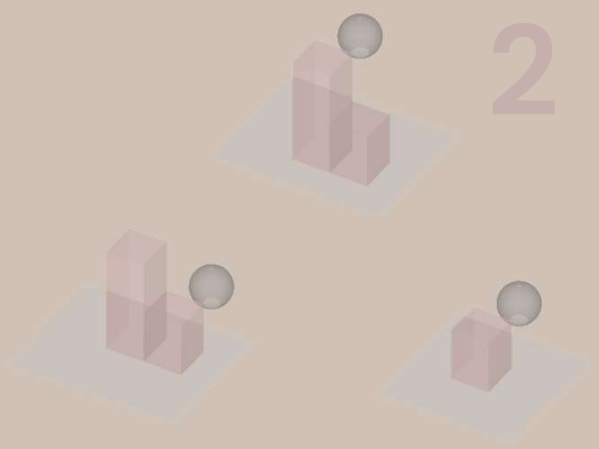
7.4.5 Reflection on Design I

While the well-being centre is currently designed to shade from the sun and rain, additional refinements around weatherproofing could allow the design to better accommodate the students. Other material iterations could have also been devised for the same settings to examine spatial well-being. The proposed well-being centre should be considered as a conceptual model or framework of findings. Meticulous attention to detail, configuration and materiality could further enhance this design outcome.

Secondly, although the design response answers to a specific, architectural and a sited problem, it could have been more developed where the existing encounters the new. The upcoming design will implicate the research findings in the institutional environment where the existing student spaces in campus encounters a newly designed well-being space for them.

Campus interventions.

The second design test aims to create student well-being spaces within a tertiary intuitional environment. It proposes two pavilions amidst an institutional environment to improve students' well-being. They are designed in selected sites, with their limitations, users, functions and dedicated experiencea, i.e., stillness and contemplation.



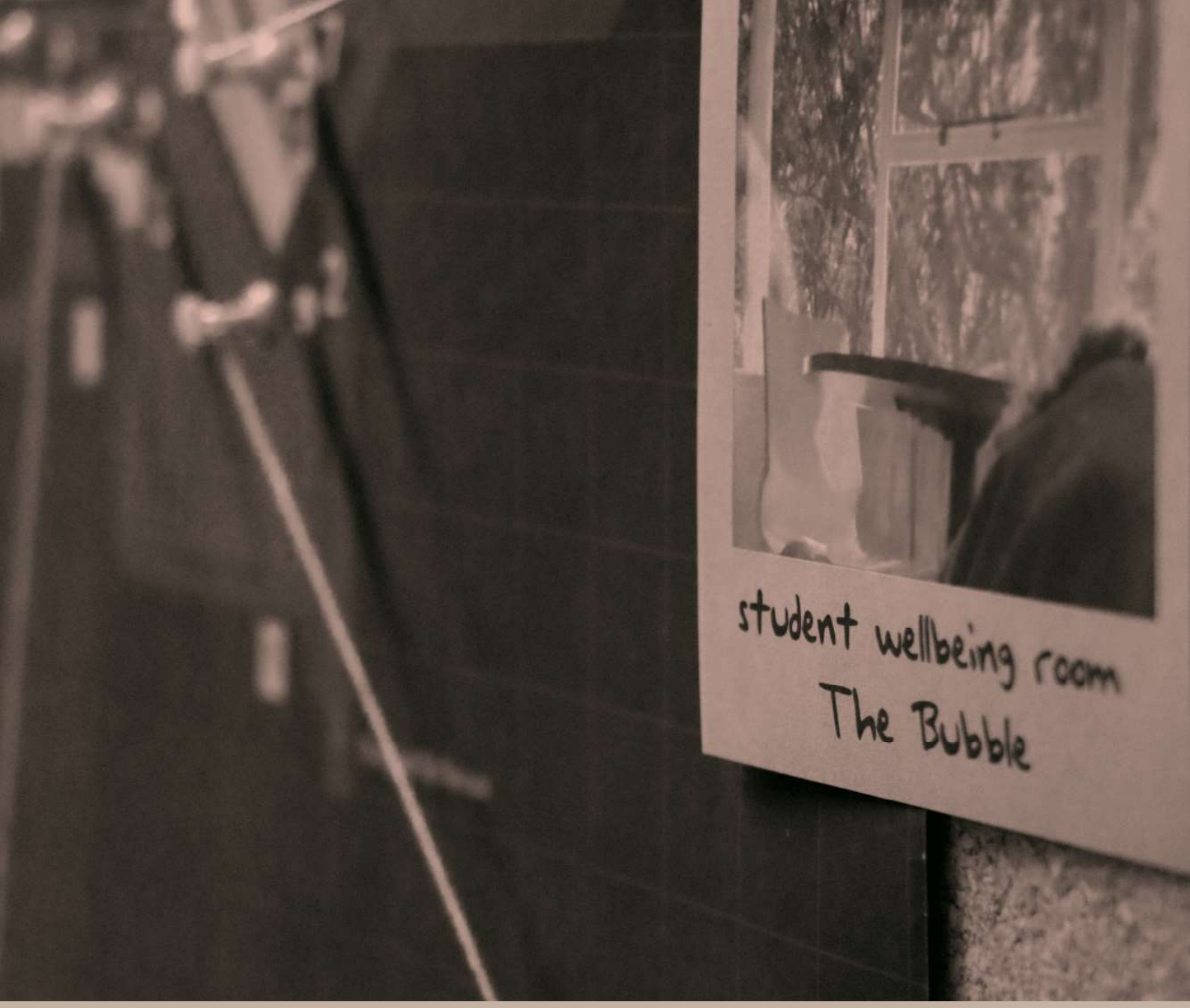


Figure 7.41 : Kelburn site analysis board

7.2 Introduction

The site selected for Design Test 2 is the Victoria University of Wellington, Kelburn Campus. The open campus sites are examined initially in this chapter to obtain site informed design strategies for these proposals. This test aims to create well-being spaces across the campus setting and also exercise cohesive connection inside existing university spaces. The following set of pages starts to explain the process in detail.

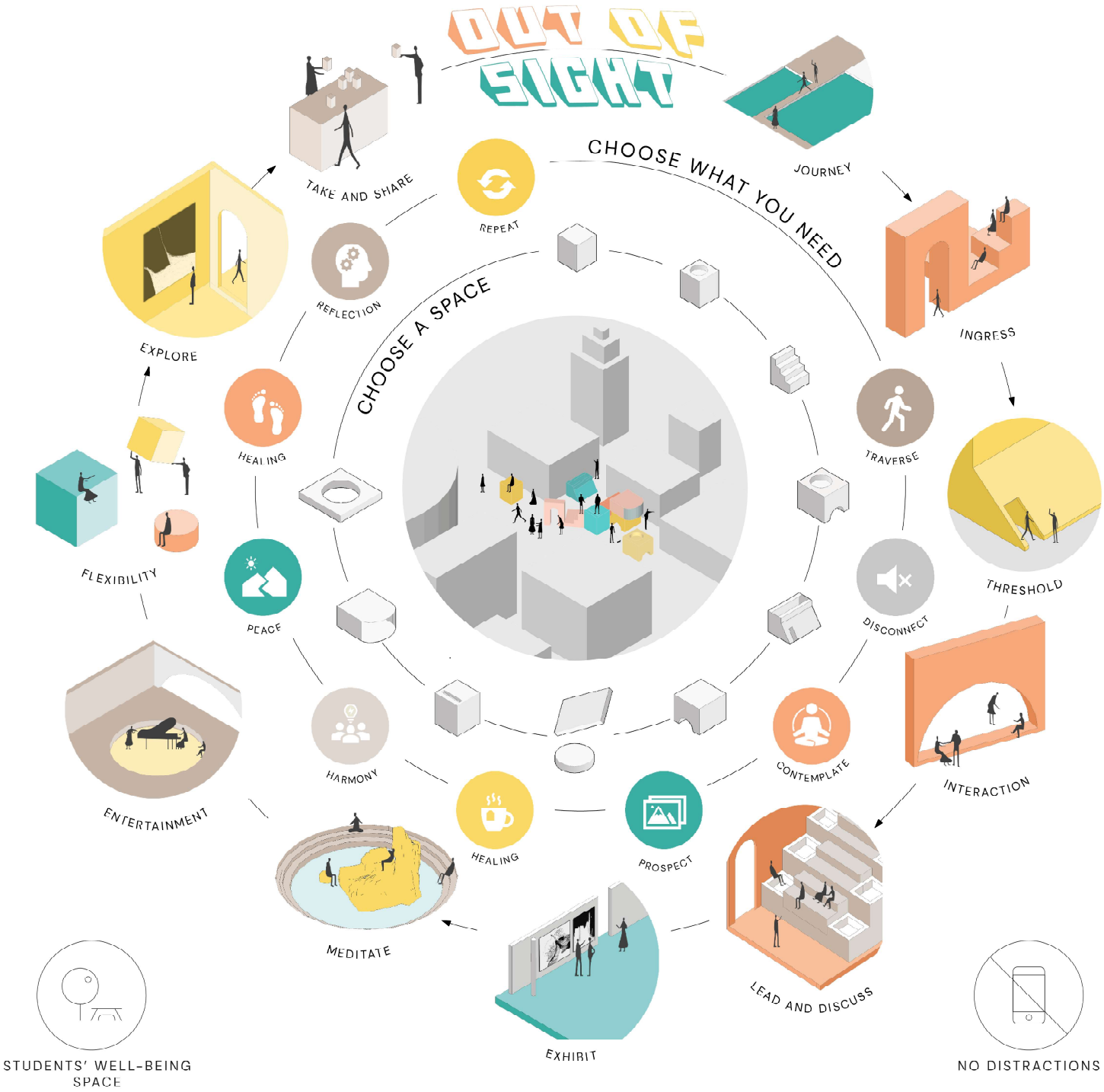


Figure 7.42: Programme cluster of proposed kelburn interventions

7.2.1 Programme Cluster for Design Test II

The programme from the first design test provides spaces and experiences for students that are then broken down into single programmes. By contrast, in test 1, students gain a holistic view of well-being, while in test 2, they choose specific pieces that pertain to their needs through pavilions and interventions. In test one, still, contemplative, and social interactive spaces are grouped. Later they are ungrouped to position across the university in test two. Therefore, students could select spaces according to their mood and state of mind (Fig 7.42).

Moreover, there are actively functioning spaces to interact, such as the hub and bubble rooms (Fig 7.43). Hence, this design-led research aims to select two sites for designing a stillness intervention and contemplative pavilion within the campus.

Figure 7.43 : Spaces of the 'THE BUBBLE—The students' well-being room

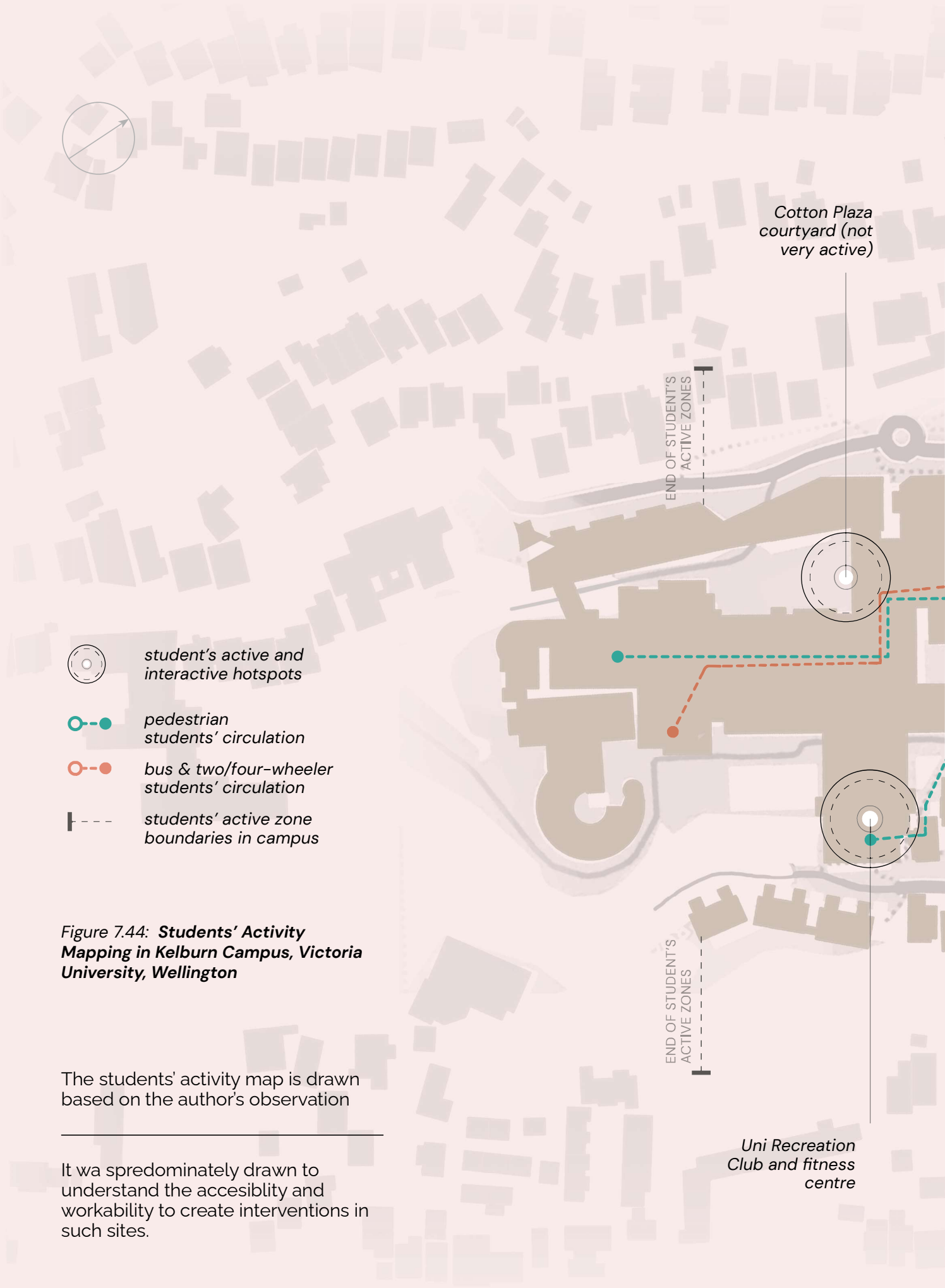


Figure 7.44: ***Students' Activity Mapping in Kelburn Campus, Victoria University, Wellington***

The students' activity map is drawn based on the author's observation

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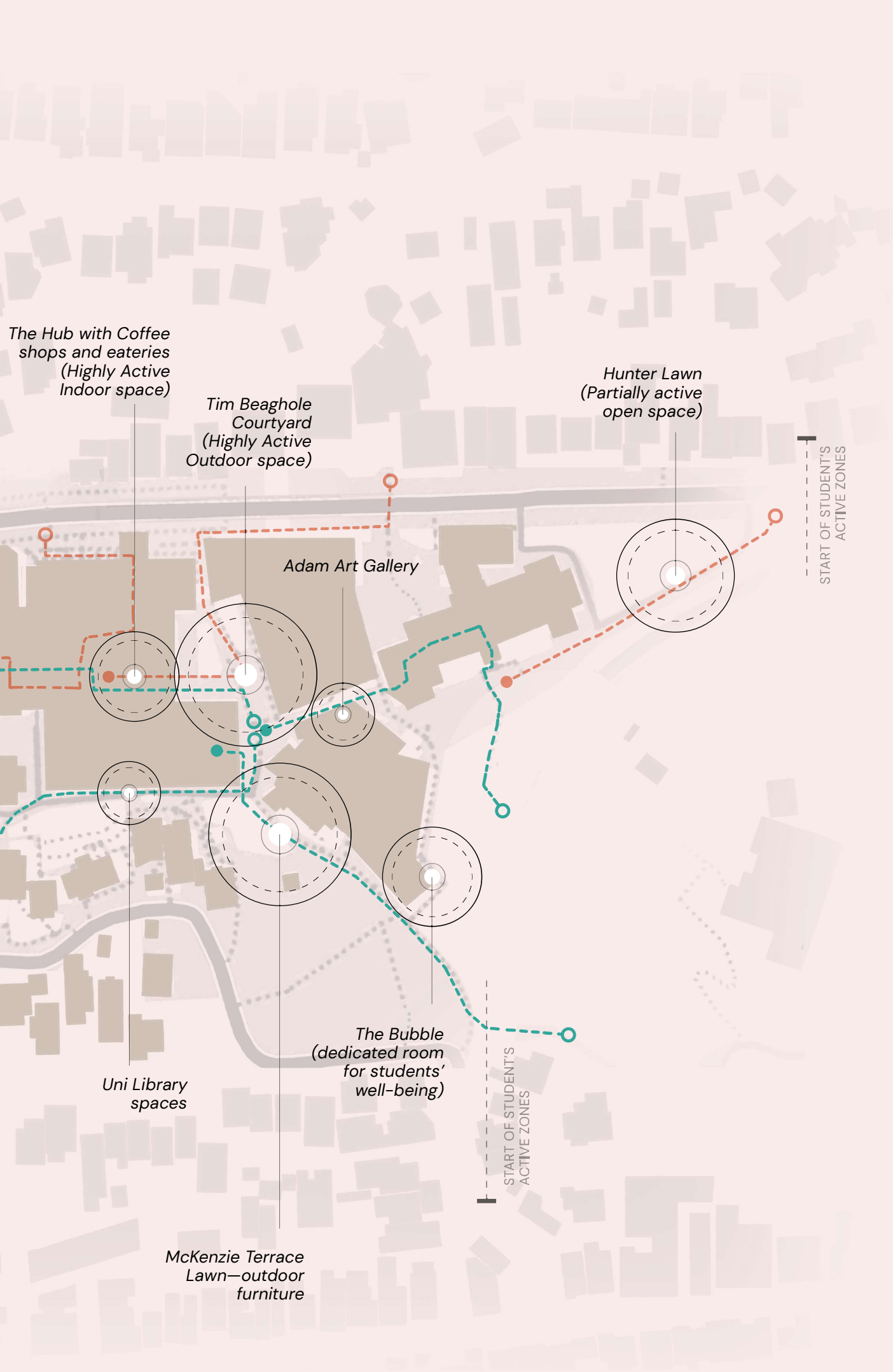
It wa spredominately drawn to understand the accesiblity and workability to create interventions in such sites.


The Hub with Coffee shops and eateries (Highly Active Indoor space)
Tim Beaghole Courtyard (Highly Active Outdoor space)
Hunter Lawn (Partially active open space)
START OF STUDENT'S ACTIVE ZONES
Adam Art Gallery
The Bubble (dedicated room for students' well-being)
START OF STUDENT'S ACTIVE ZONES
Uni Library spaces
McKenzie Terrace Lawn—outdoor furniture

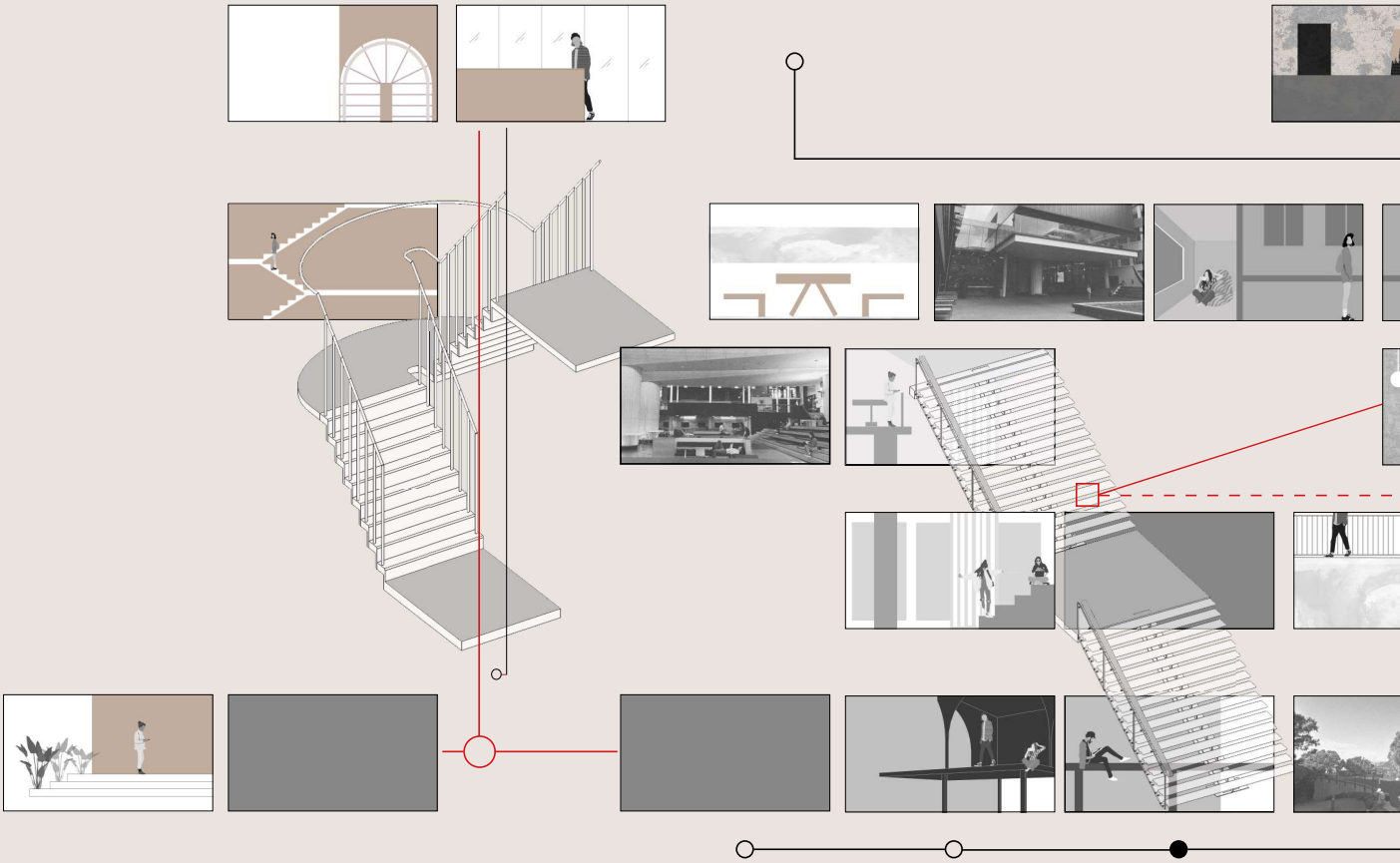
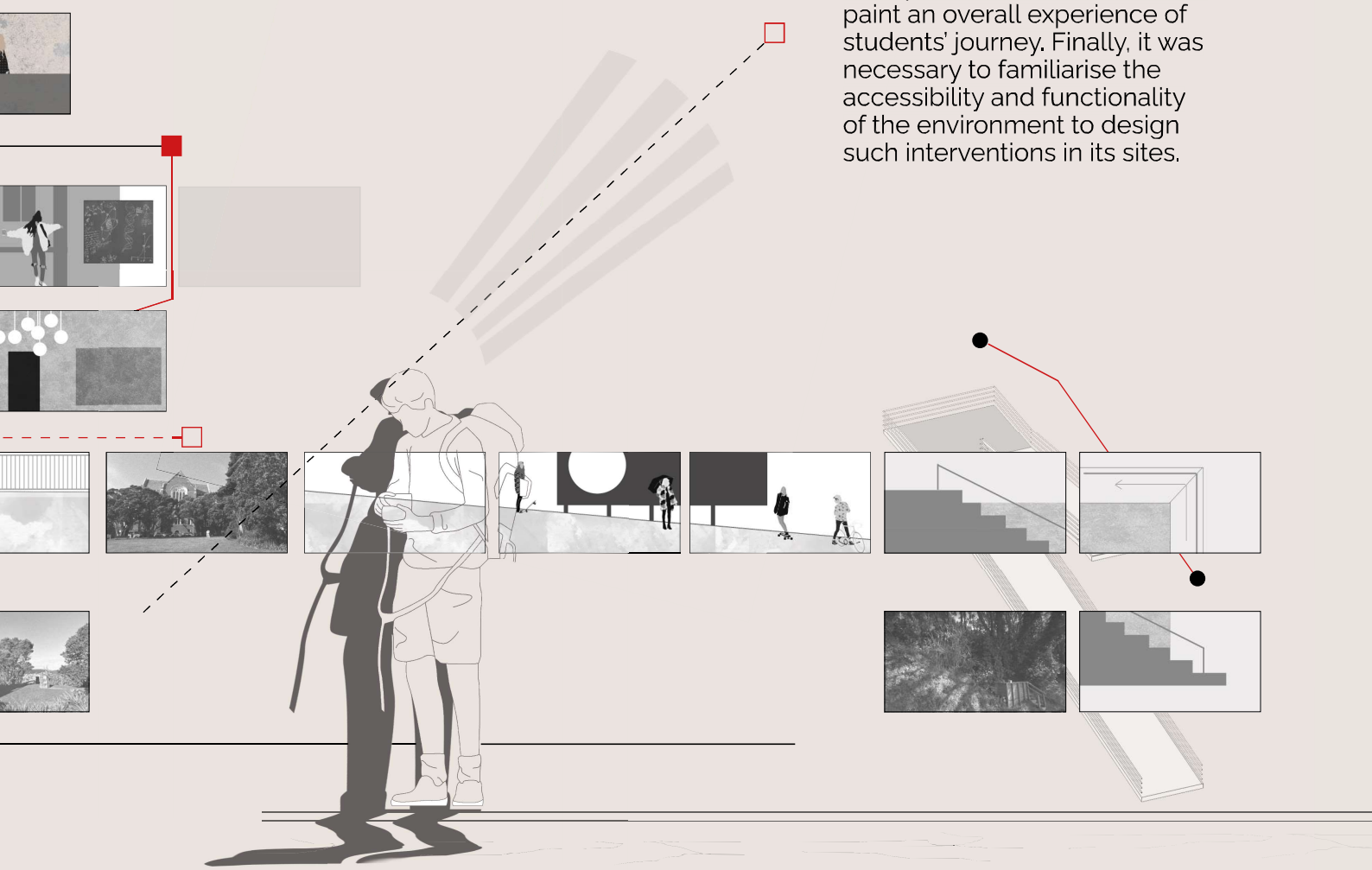


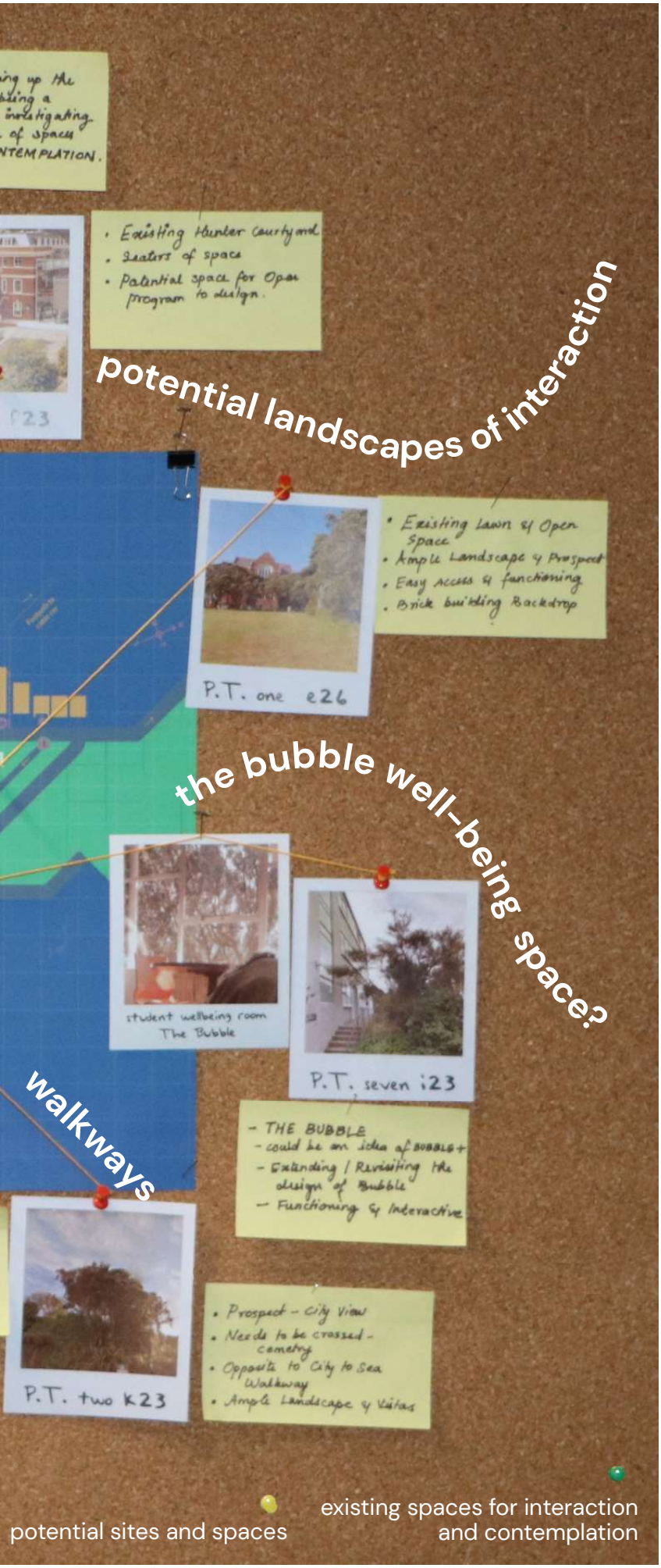
Figure 7.45 : Visual board illustrating a pedestrian student's journey from city to campus.

Below is a visual presentation of students' activity map in terms of their journey.
(Fig 7.45)

This presentation is drawn upon the perspective of a pedestrian student's ingress and egress routes. In addition, it covers existing functional student spaces and two anticipated intervention sites to paint an overall experience of students' journey. Finally, it was necessary to familiarise the accessibility and functionality of the environment to design such interventions in its sites.




active existing spaces
- HUB improves the sense of smell & hear through cafe' and music
- Highly Interactive.
the HUB
22 Apr '21, 11:05:03
closed interaction HS
The HUB
interaction hotspot
Tim Beaglehole Courtyard
contemplation
courtyards
the hub
parking site
P.T. four i19
• Existing Parking site
• A Level can be increased without disturbing Parking
• Prospect - City
• Highly potential for Silence Stillness & Contemplation
parking site with good view?
abandoned empty plots
out of sight
• Extension of Māori Studies building
• Can be designed as closed offset space
P.T. five K14
P.T. three i21
• Highly interactive point
• Existing seaters and furnitures
• Functional & Easy Access
• Prospect - Panaroma of Uni Buildings - city & Sea.
inactive lawns



The Kelburn campus is analysed extensively to find potential sites for interventions and pavilions. After site observation, seven potential sites are found on the campus. They are primarily green open spaces, lawns or existing parking sites. All seven sites are investigated in terms of students' accessibility, preference and other favourable site conditions. Two such sites are narrowed down for designing the interventions through the analysis (Fig 7.46)

Figure 7.46 : Evidence board of sites to choose for the intervention

1

stillnesss intervention.

Victoria University of Wellington, Kelburn

7.3 Introduction

The first selected site is along Kelburn Parade Road, before the Hunter building. It is on a gradual slope with tall trees around it. When students walk to campus, it is an open lawn in the first zone. The initial design test findings reveal that 'silence' and relaxed boundaries are crucial when designing for stillness. Finally, the design framework is revisited when iterating, incorporating 'silence, inert, and threshold' as crucial considerations to attain stillness. The Victoria University Design Guide (WCC, 2000) is also used to integrate regulations for new developments. As a result, the iterations of design using all of these attributes are detailed in this section. (Fig7.47).

Massing:
4.O5: Contrast **horizontality** and verticality of the existing developments

Massing:
5.G2: Encouraging **higher architectural resolution** due to importance of institution

Scale and Alignment:
4.O9: enhancing **adjoining patterns of building** alignment and landscape

5.G8: The **nominal height of single storey** expected for proposed development

Views:
4.O12: **Maintain views** of Hunter building

Circulation & Connection:
5.G23: **Enhance existing through-routes** within the university for pedestrians

Circulation & Connection:
4.O19: Character of new development should be at the **level of intricacy** of nearby residential building around.

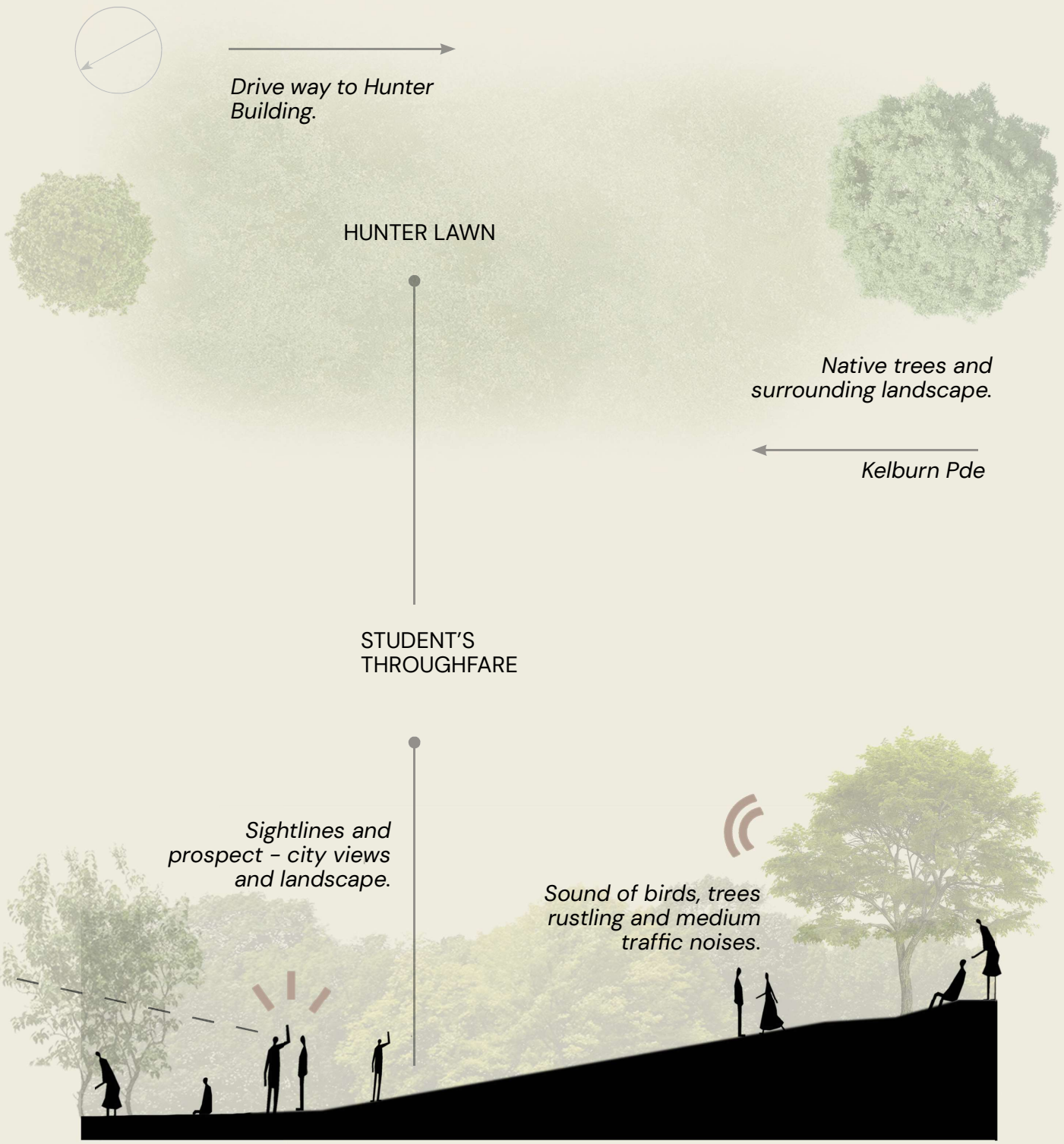
40%

Area
7.G45: **40% of the open spaces** in peripheral sites in Area 4 [hunter lawn] is allocated for proposed developments

Figure 7.47 : Interpretation of Guidelines for designing interventions (WCC, 2000)

The design carefully considers the textures of the neighbourhood character and exsiting university builings to enhance adjoining patterns of building as per the objective 4.O6

Figure 7.47A : Texture and Material palatte used for designing pavilion and interventions



Plan and section of existing hunter lawn, Kelburn.

Existing Site

Stillness Intervention,
Hunter Lawn, Kelburn Campus

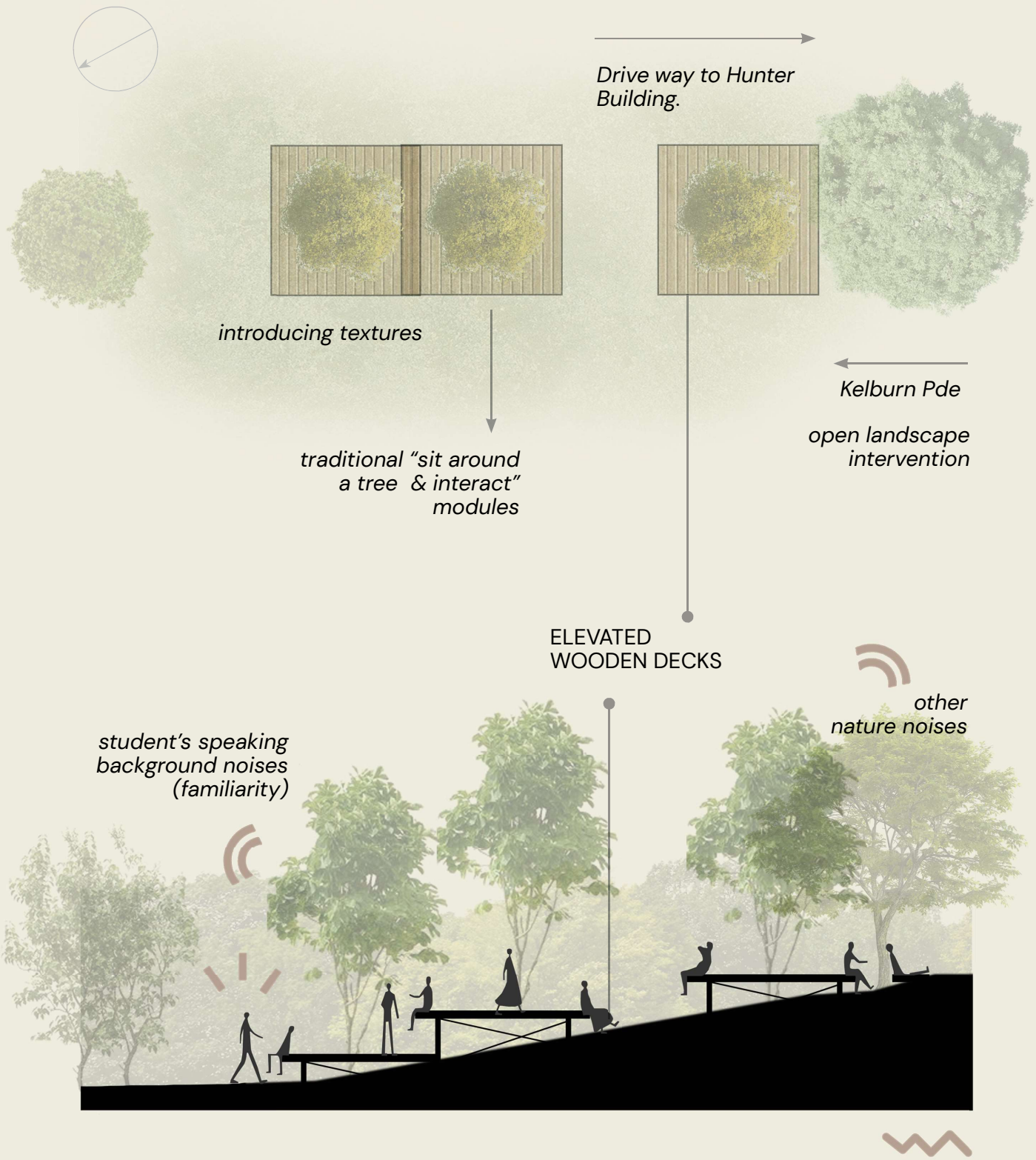
Figure 7.48: Isometric view of the site

01 Site and surrounding

The site has an adequate landscape to provide a visual connection to nature for design.

02 Landscape

It is also a potential ground to accelerate the use of senses for students.



Plan and section of existing, proposed intervention- iteration 2 Hunter lawn, Kelburn.

Iteration One

Stillness Intervention,
Hunter Lawn, Kelburn Campus

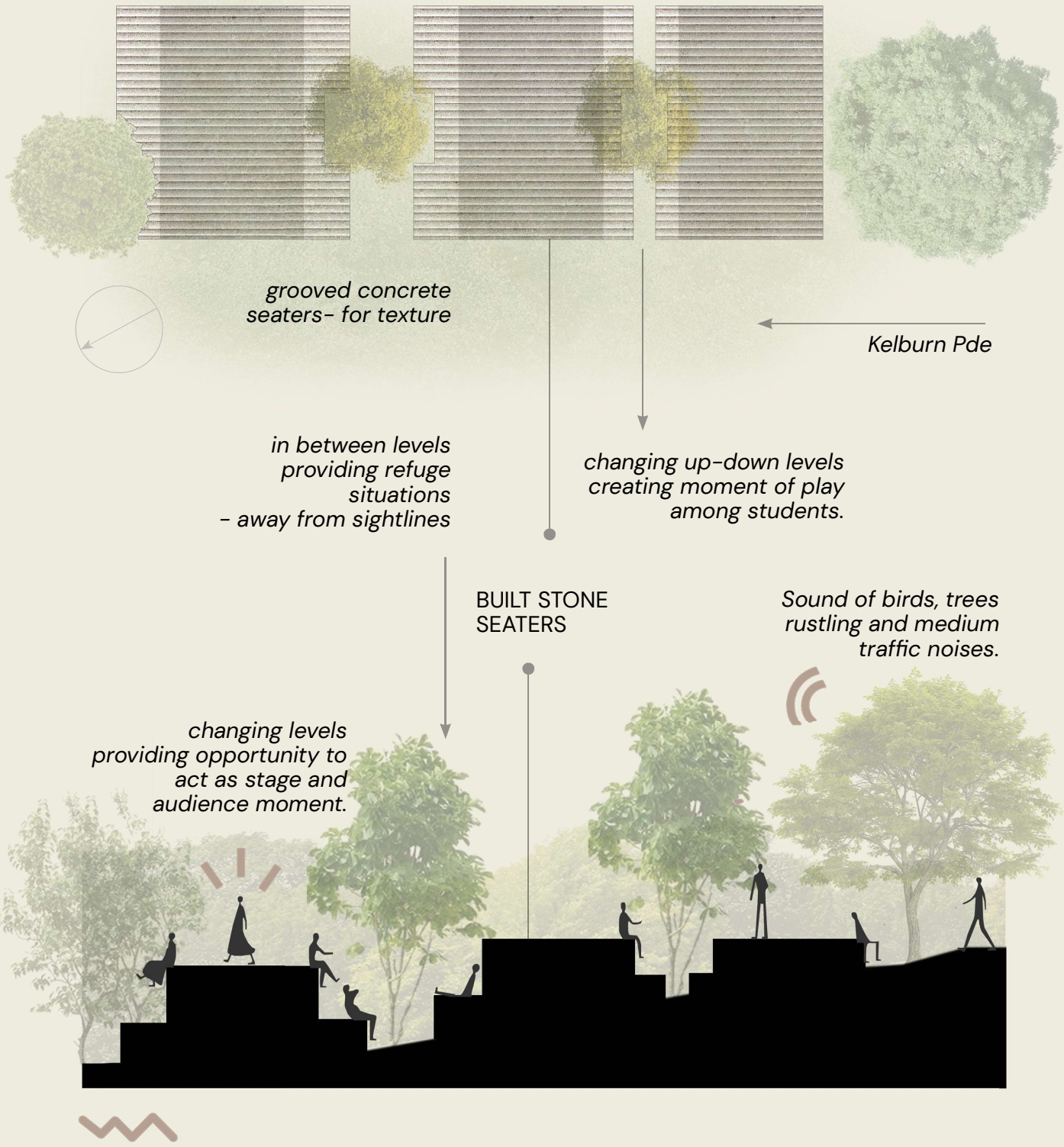
Figure 7.49: Isometric view of iteration one

01 Visual Connection to Nature

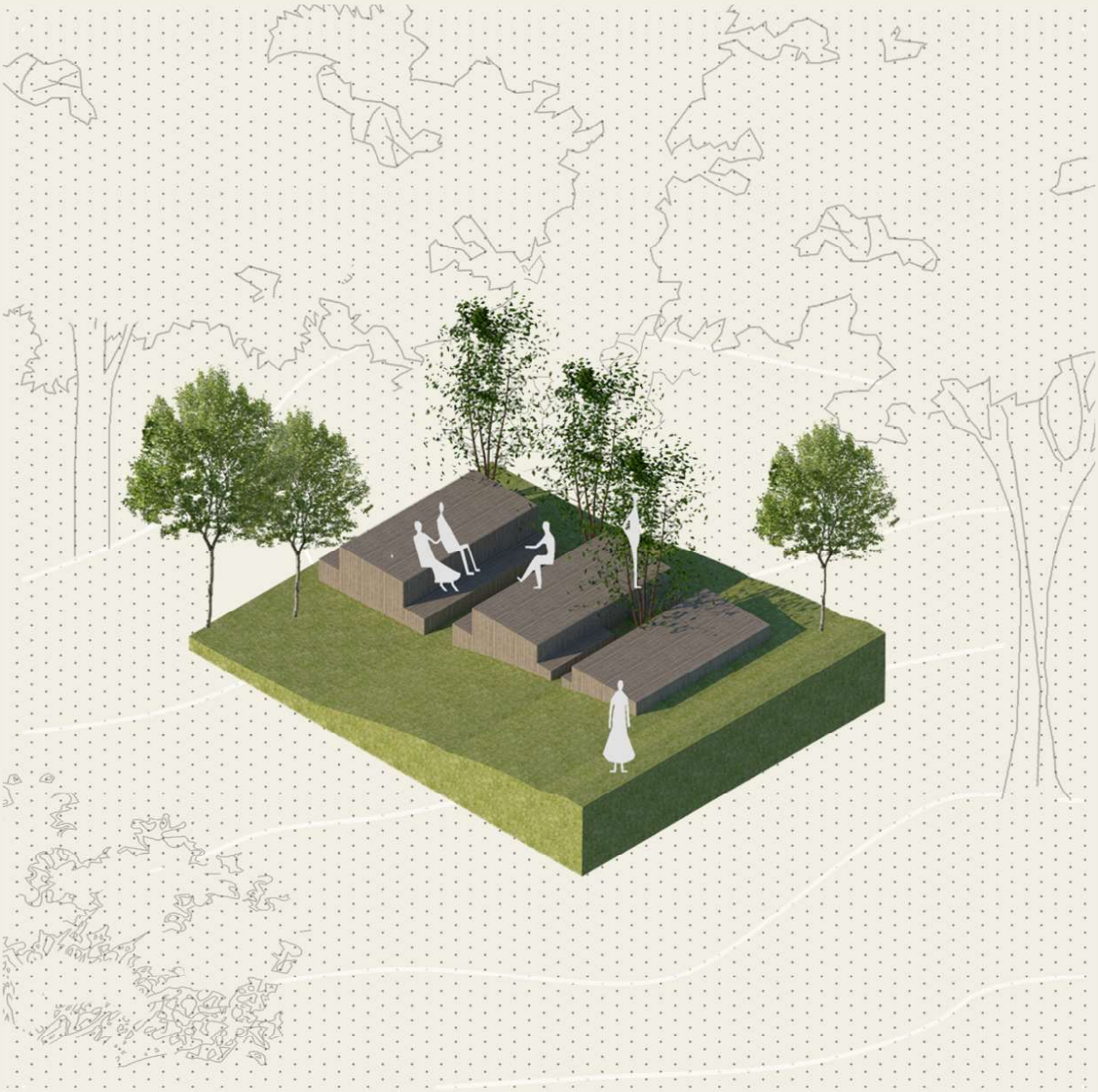
This iteration is focused on creating seaters around the landscape to maximise the effect of prospect.

02 Prospect

By designing the seats, the users will experience reduced stress by viewing nature and perceive comfort and safety.



Plan and section of existing,
proposed intervention- iteration 3
Hunter lawn, Kelburn.



Iteration Two

Stillness Intervention,
Hunter Lawn, Kelburn Campus

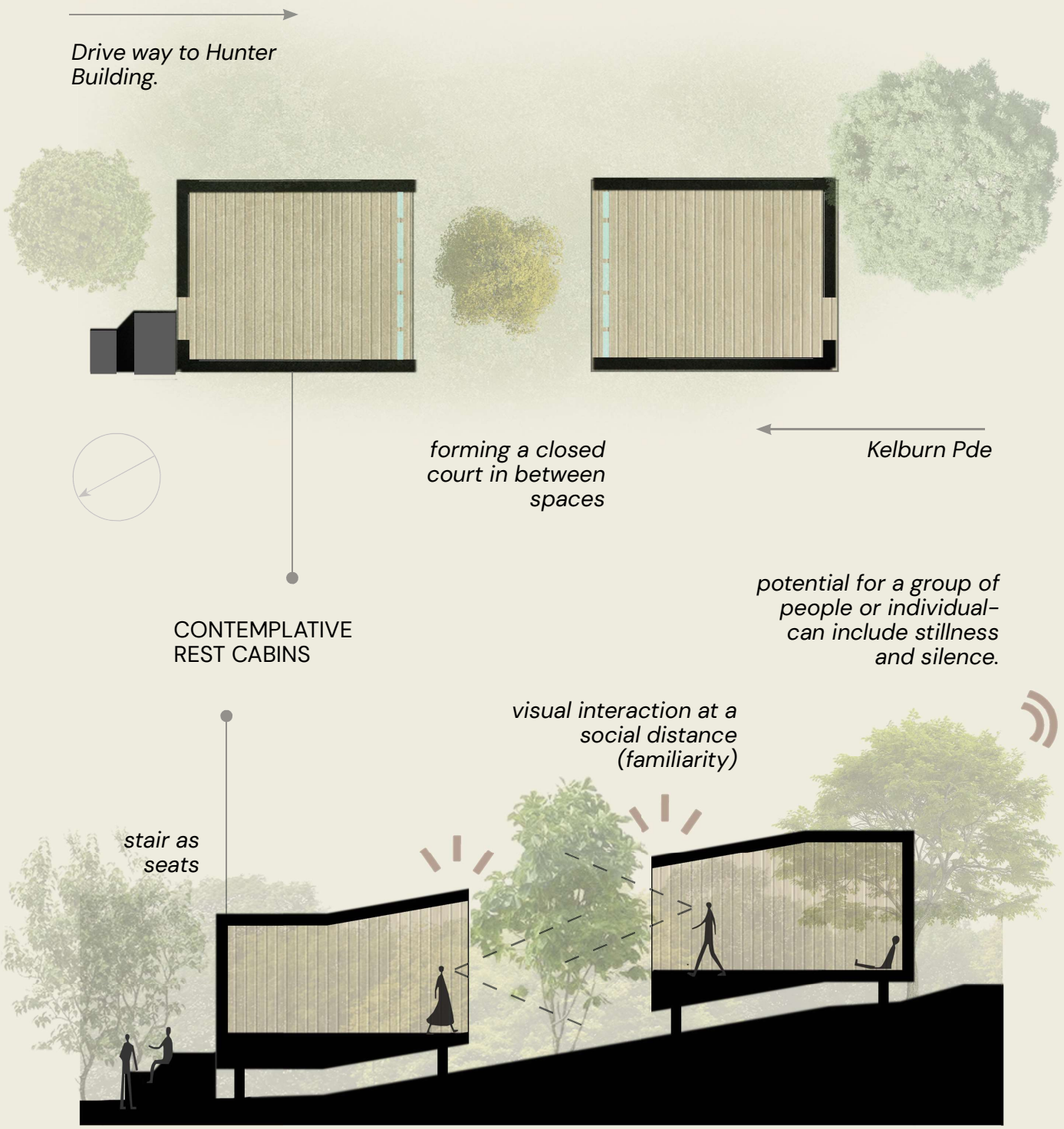
Figure 7.50: Isometric view of iteration two

01 Prospect

The seater idea is further developed into a perpetual way to be one with site.

02 Refuge

The nooks formed by these seaters and high-backed seats provide a sense of closure and comfort.



Plan and section of existing, proposed intervention- iteration 4 Hunter lawn, Kelburn.

Iteration Three

Stillness Intervention,
Hunter Lawn, Kelburn Campus

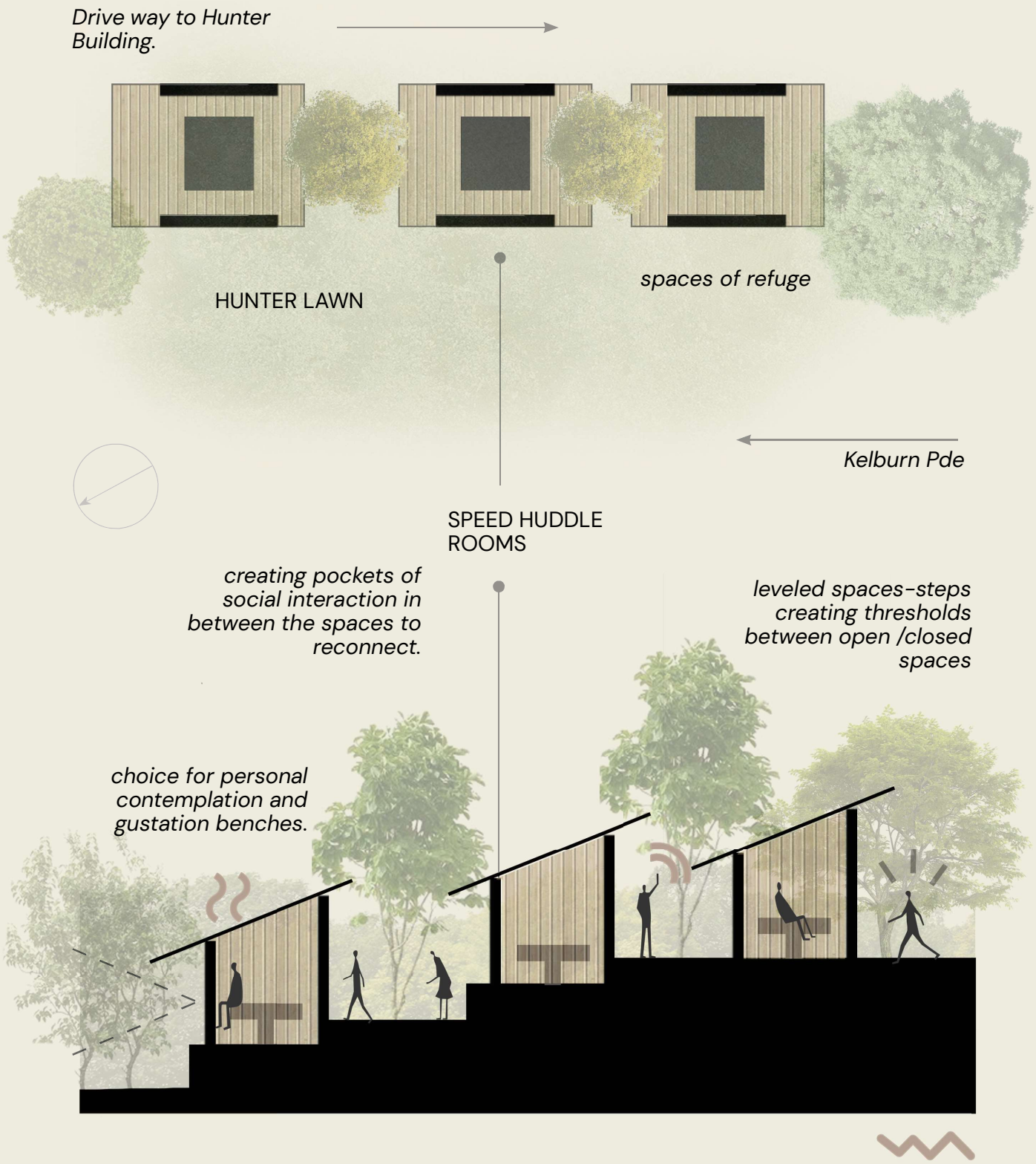
Figure 7.51 : Isometric view of iteration three

01 Prospect and Refuge

These aspects are elevated to form an architectural space to heighten the state of enclosure and privacy.

02 Material Connection to Nature

The use of timber and minimally treated wood surfaces create an analogy for nature, connecting users to the surrounding landscape.



Plan and section of existing, proposed intervention- iteration 5 Hunter lawn, Kelburn.

Iteration Four

Stillness Intervention,
Hunter Lawn, Kelburn Campus

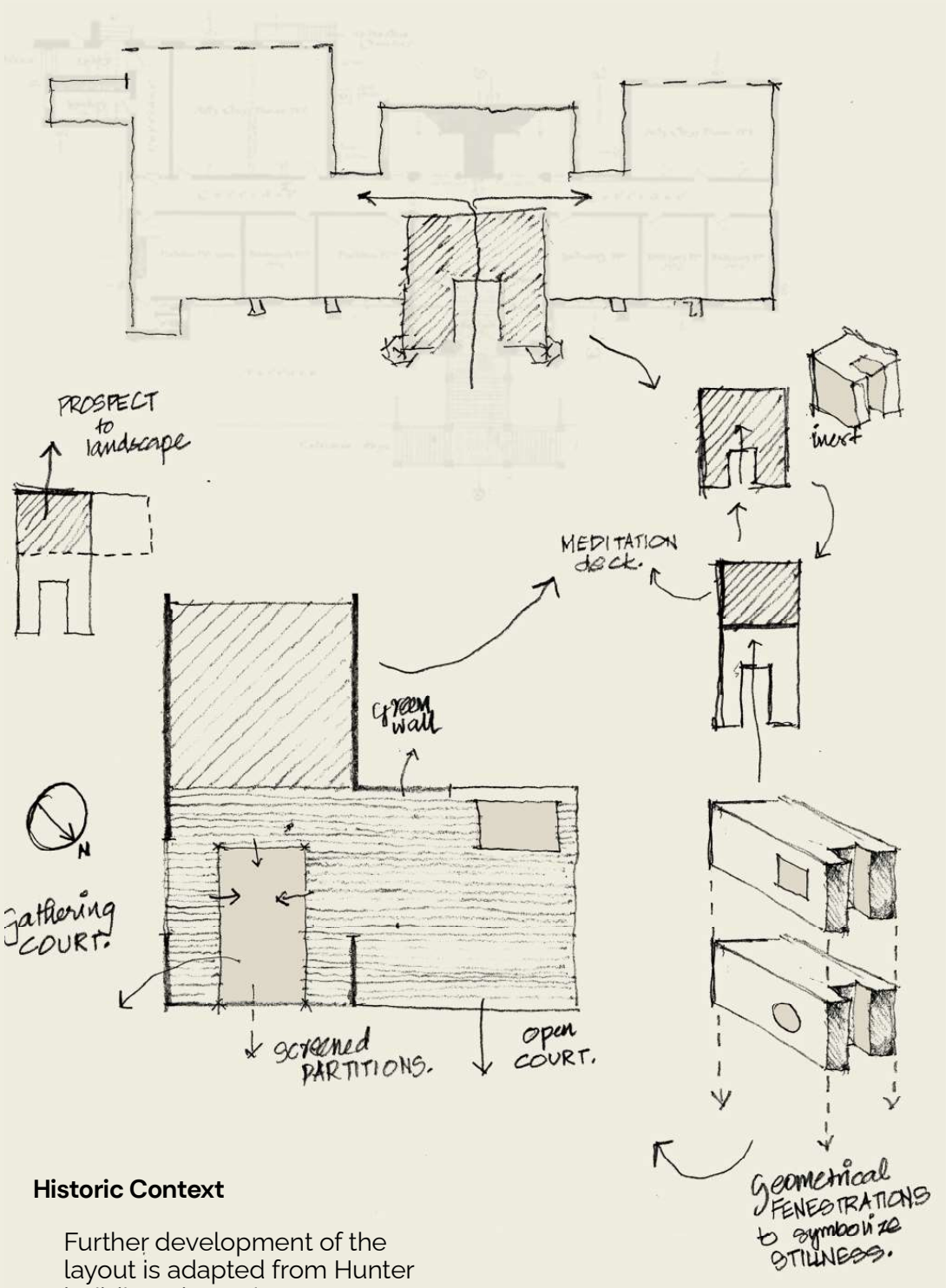
Figure 7.52: Isometric view of iteration four

01 Refuge

The spaces are broken down into individual cubicles for better refuge with side-lines of prospect

02 Visual Connection to Nature

These side openings allow users to view the extensive greenery and also has between trees



01 Historic Context

Further development of the layout is adapted from Hunter building plan to incorporate similar circulation.

02 Varied Boundaries

The layout is designed with fully enclosed, partially closed and open spaces to provide users various choices to accommodate.

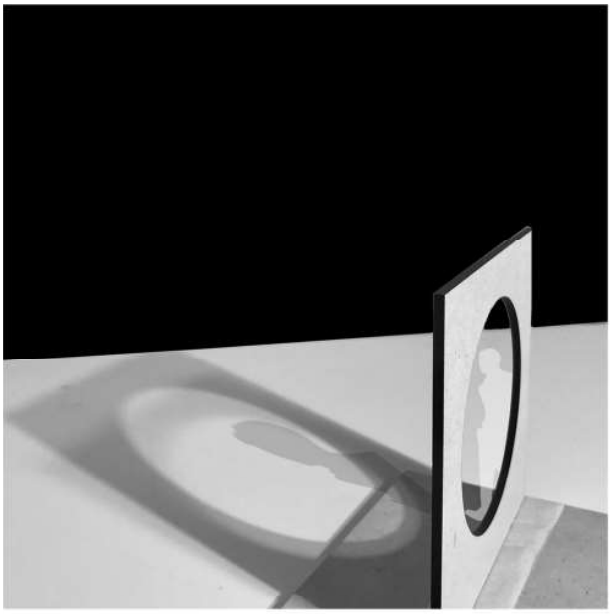
Figure 7.53: Development of plan

Figure 7.54 (Opposite Page): Maquette exploration of geometrical opening.

Figure 7.55: Isometric view of iteration four

03 Geometrical Openings

This iteration is tested with geometrical opening to visually connect the outside environment.



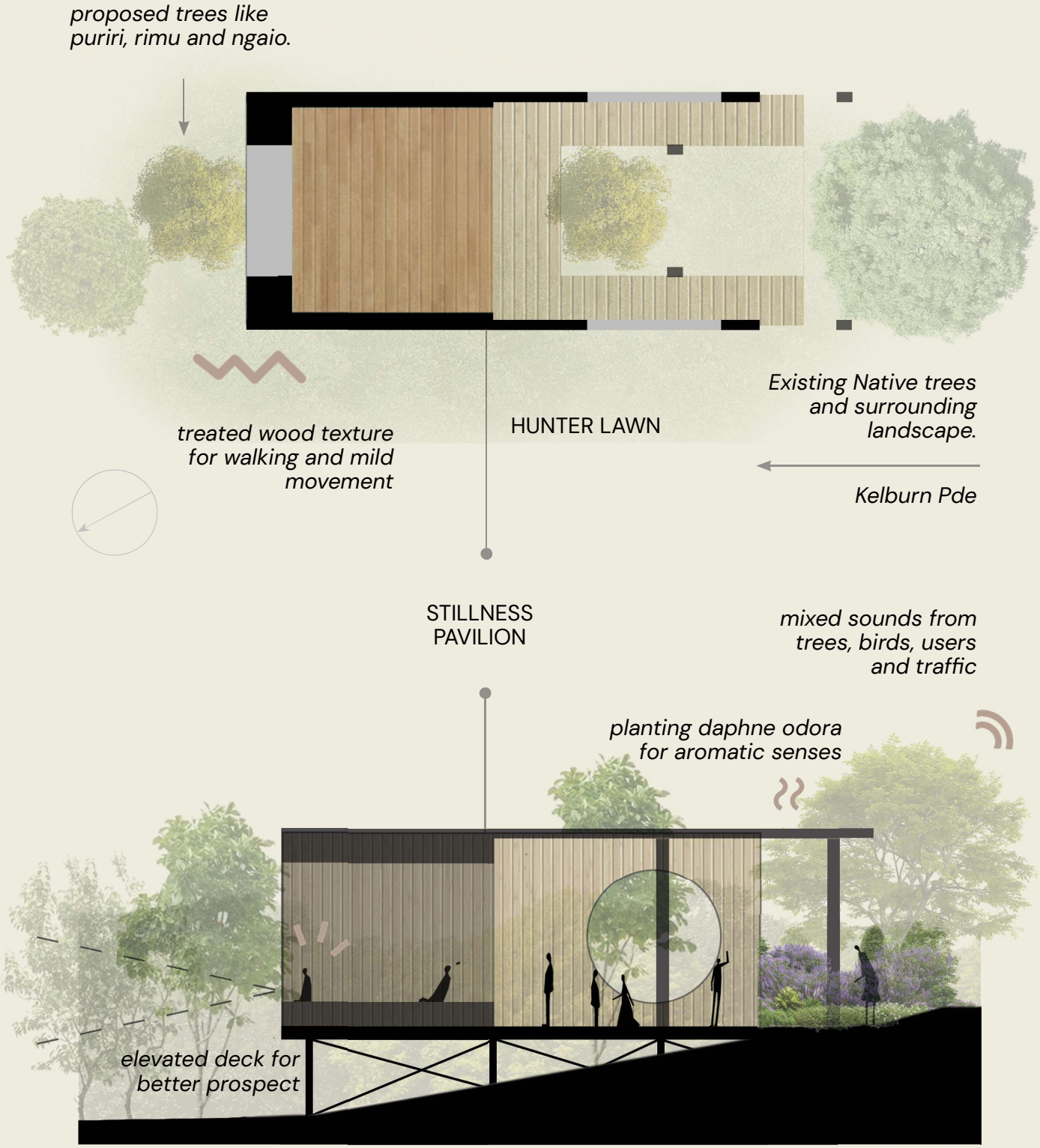


Figure 7.56: Conceptual Plan and longitudinal section of proposed intervention- final iteration Hunter lawn, Kelburn.

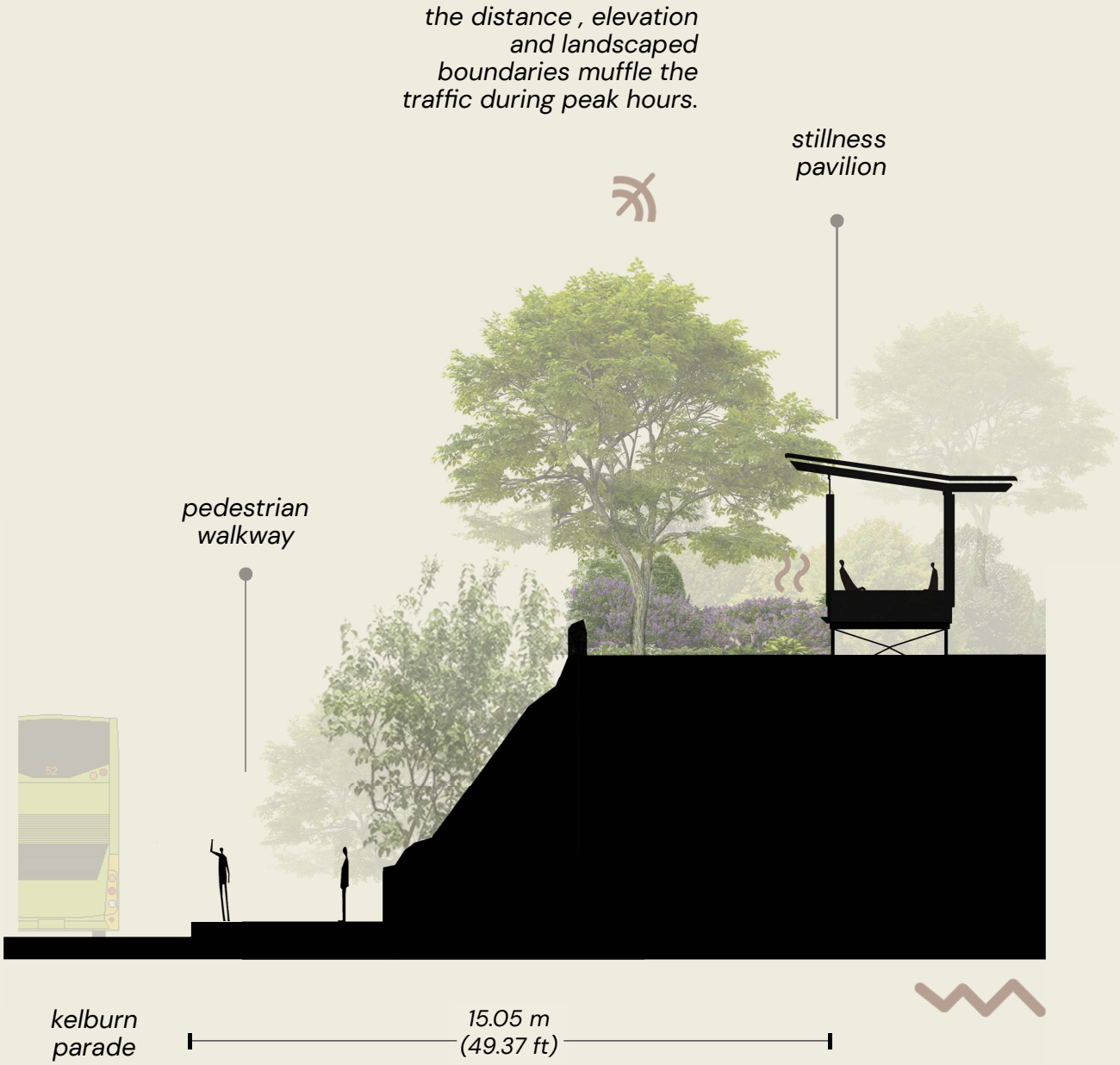


Figure 7.57: Transverse section of proposed intervention - final iteration Hunter lawn, Kelburn.

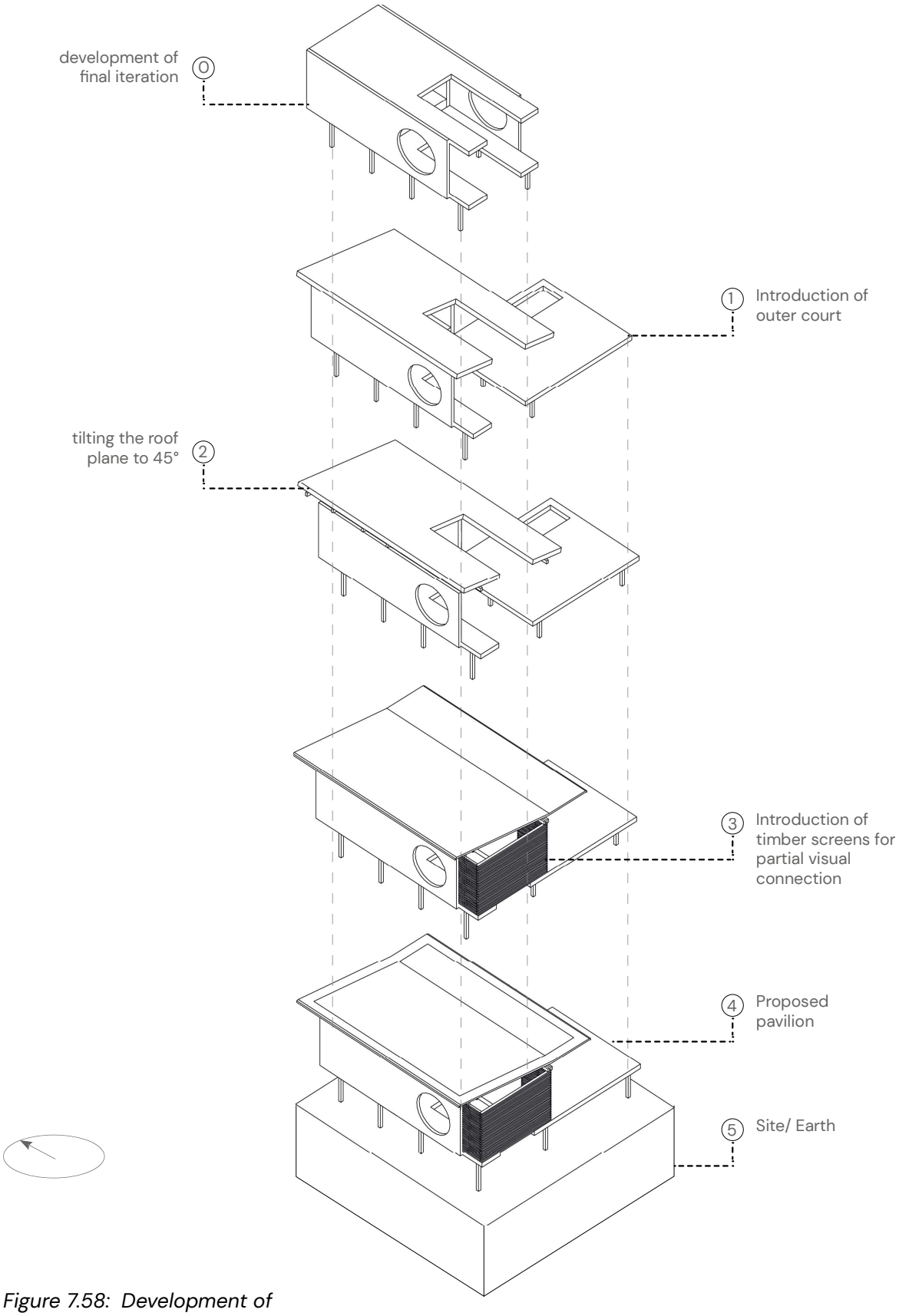


Figure 7.58: Development of final iteration

Developed Design of Final Iteration

Stillness Intervention,
Hunter Lawn, Kelburn Campus

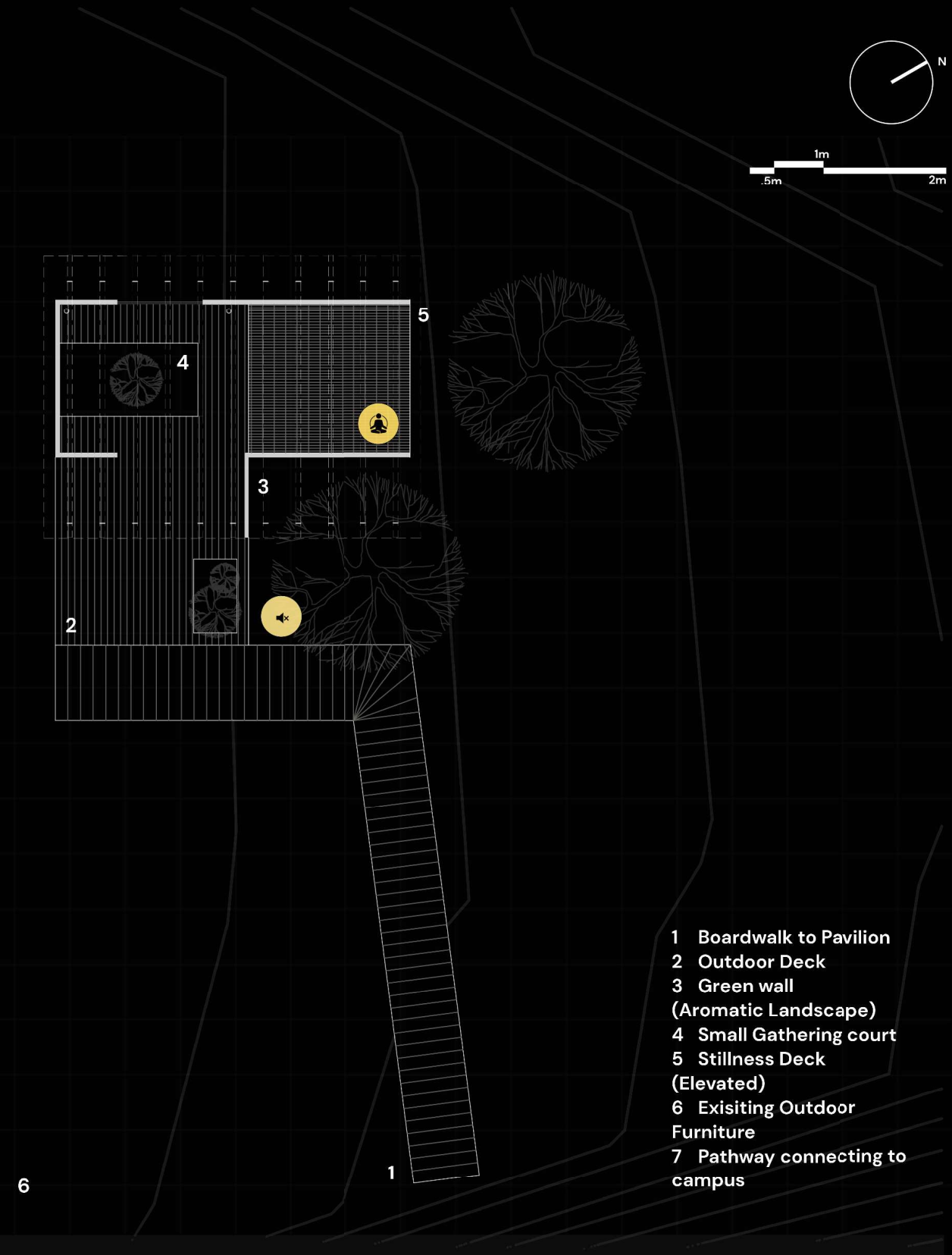
Figure 7.59: Isometric view of the proposed intervention

01 Threshold

All the above aspects culminate, forming a defined threshold to experience stillness.

02 Inert

Designing with clean lines and simple geometrical openings symbolises balance and inertia, enhancing stillness in the intervention.



1 Boardwalk to Pavilion
2 Outdoor Deck
3 Green wall (Aromatic Landscape)
4 Small Gathering court
5 Stillness Deck (Elevated)
6 Exisiting Outdoor Furniture
7 Pathway connecting to campus

Figure 7.60: Floor plan — stillness intervention

Figure 7.61: The stillness intervention

Figure 7.62: The stillness intervention

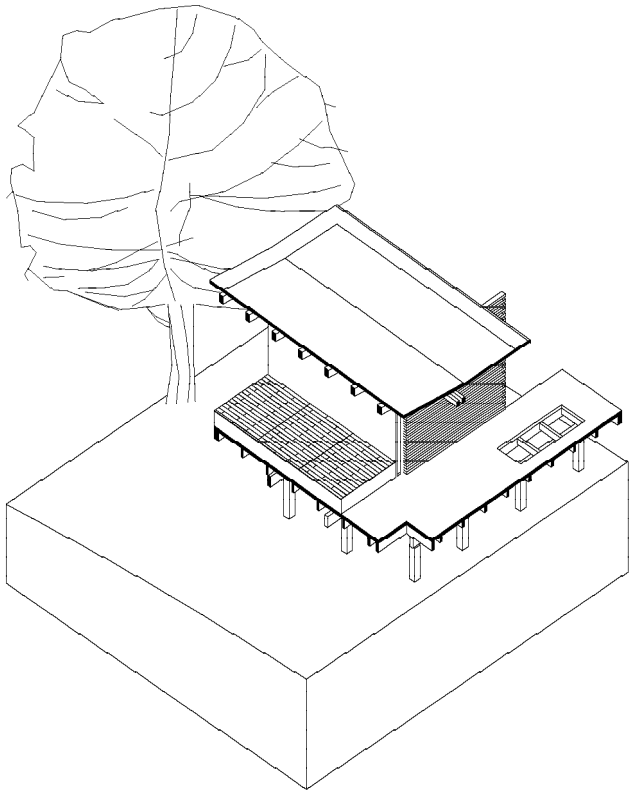


Fig 7.63: Isometric double-cut section detail of Stillness Intervention

1 Dimondek 630
ZINCALUME® Roofing

2 Timber Purlins
75 x 40 @ 400mm ctr

3 Timber Rafters
200 x 50mm @ 900mm

4 Universal Steel Beam
NZS 3679.1-300S0
150 x 14mm

5 Brass-like Finished
200mm thick G500 Grade
Steel Posts for support

6 *40mm thick x 150mm*
Raised Decking Box
topped with
Chevron Patterned
Mountain Oak Flooring
1050 x 310 x 14mm

7 Vertical Shiplap V Groove
Cladding
142 x 18mm

8 Trimming Studs Framing
90 x 45mm

9 Kwila | Hardwood
Decking Timber
Screening *42×19*

10 Treated Ecoply® Plywood
flooring
25mm

12 Studs and Nogs
140 x 50 @ 600mm

Floor Joists over Sleds
200 x 50mm @ 450mm

Timber posts
125x125 @1350mm

13 Foundation
Erth and Backfill
Crushed Stone

7.3.2 Detail of Intervention

The intervention design is focused on a micro-scale to progress in terms of feasibility and practicality. It is pursued to understand the user experience by working on specific materials, construction and finishes. The construction details are developed according to the study from NZS 3604:2011 (Standards New Zealand, 2011). Furthermore, the choice of material and construction is set to traditional architectural type, following the Victoria University Design Guide (Wellington City Council, 2000). According to section 08:G44, new developments "should reinforce the diversity of detail, neighbourhood character and limited range of materials to relate to local context" (p.15). Finally, precedents and additional research influences the materials and finishes mentioned above. (Fig 7.64)

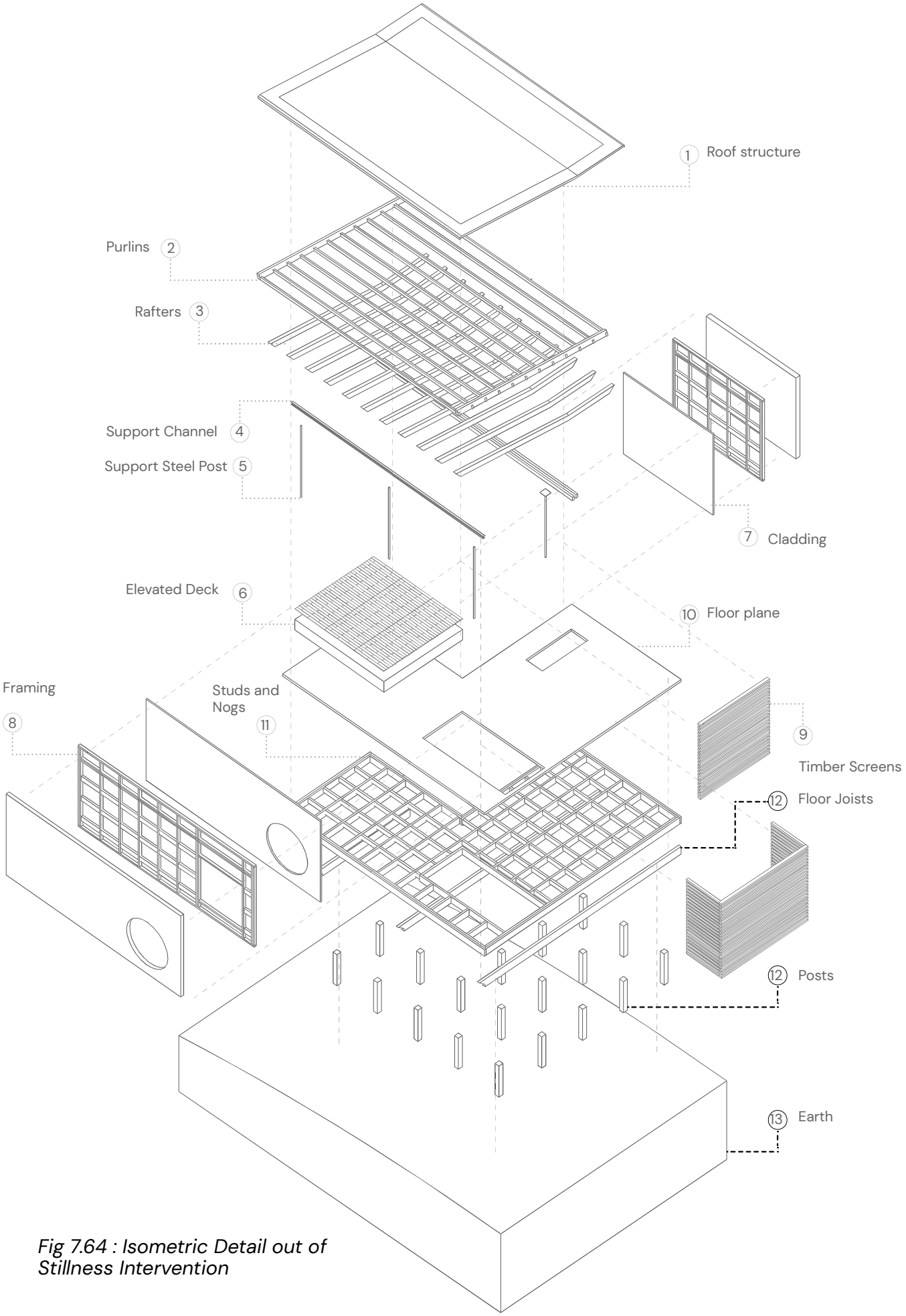


Fig 7.64 : Isometric Detail out of Stillness Intervention

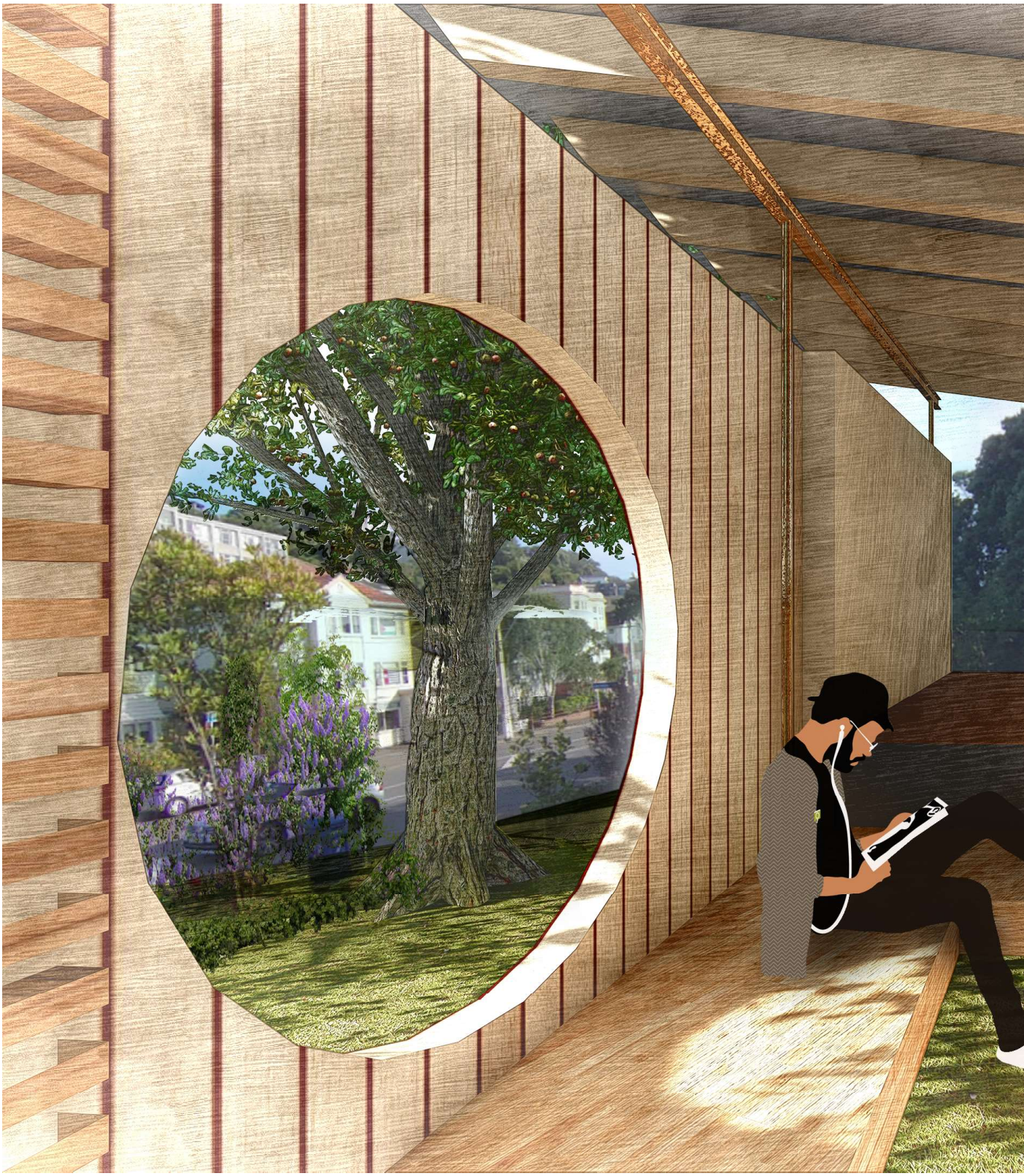


Figure 7.65: The stillness intervention

2

contemplative pavilion.

Victoria University of Wellington, Kelburn

7.4 Introduction

The site sits behind a burial site, along the pedestrian walkway to the campus. It is adjacent to a slope and has mildly uneven contours. Sufficiently away from it, the site is an open lawn with some existing furniture overlooking the city and sea. Thus, the site has the potential to design for prospect and refuge. Additionally, from the first design test findings, 'articulation of light' is crucial for designing a contemplative space. Finally, the design framework is revisited while iterating, in which 'scene, freedom and refuge' were integrated as vital aspects for contemplation. Therefore, this section begins to detail the iterations of pavilion design using all these attributes (Fig 7.66).

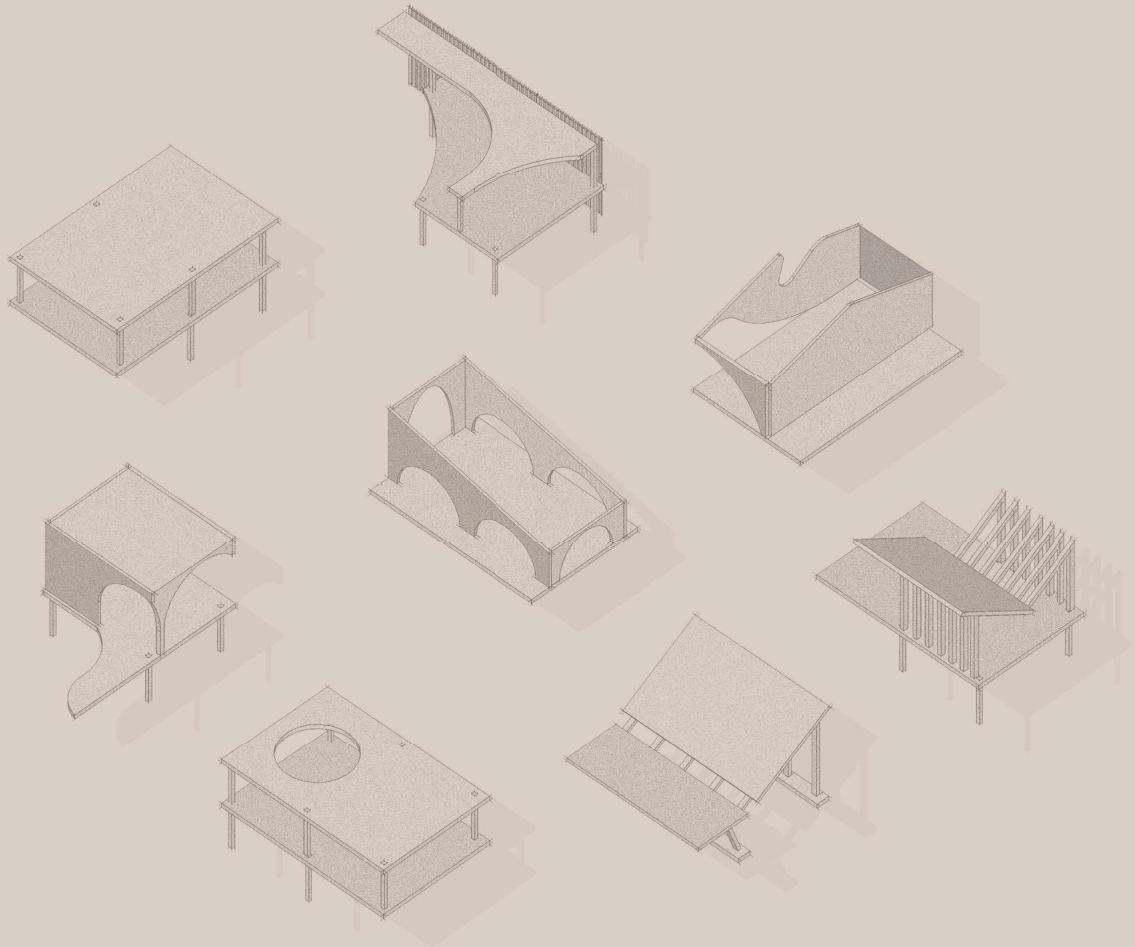
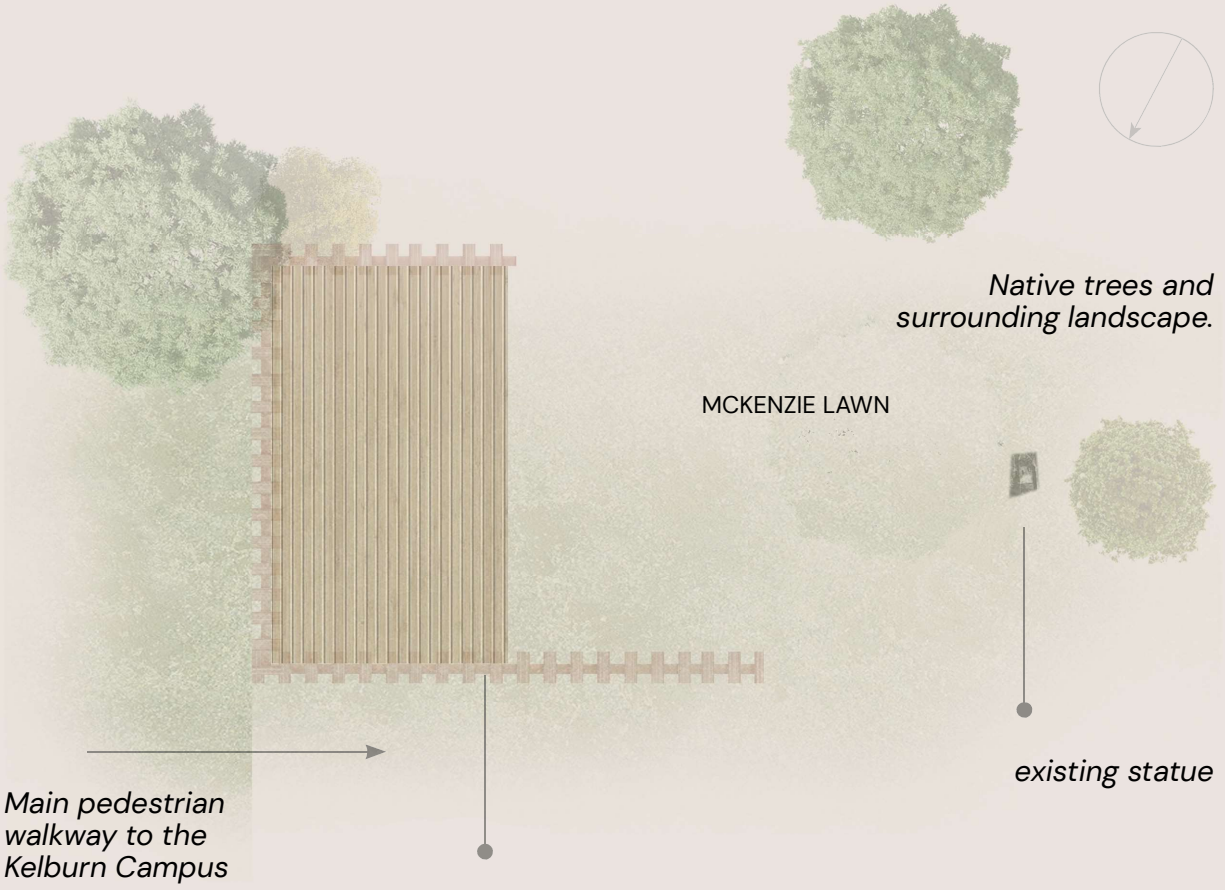
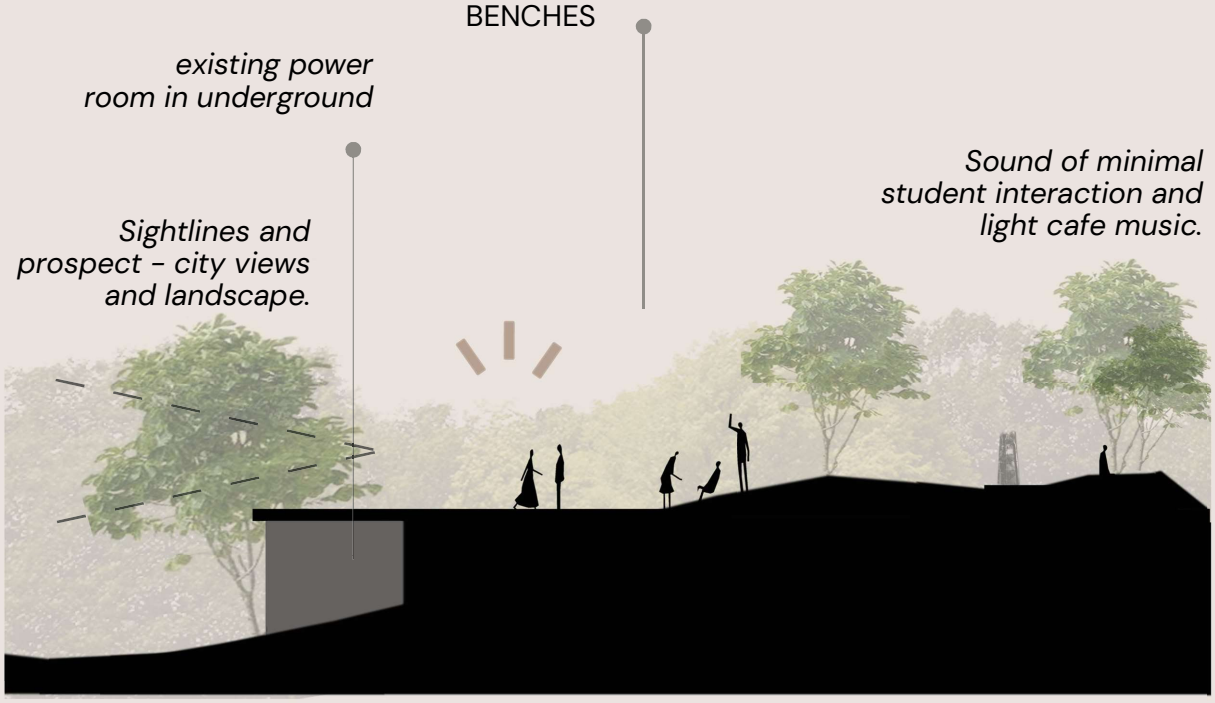


Figure 7.66: Spread of Iteration prototypes of contemplative pavilion





Plan and section of existing McKenzie lawn, Kelburn.

Existing Site

Site conditions of Contemplative Pavilion

01 Site

The site is an existing open space between the VUWSA building and the library in Kelburn Campus.

02 Environment

The site has ample views of the city and surrounding landscape

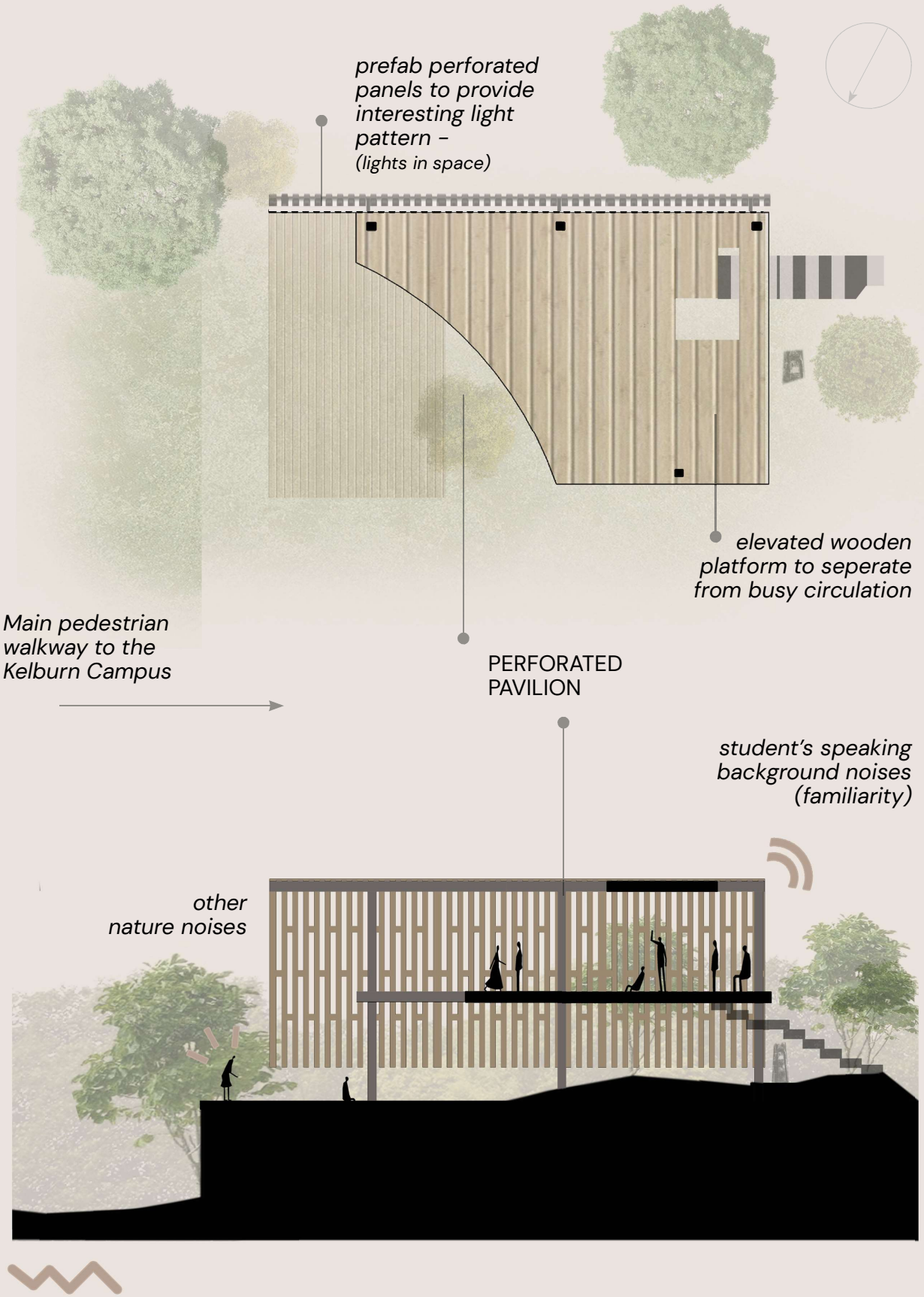
03 Access to Site

It is situated in the main pedestrian route to the campus.

04 Landscape

It is also a potential ground to accelerate the use of senses for students.

freedom
pros-
pect
refuge,
reflect.



Plan and section of existing, proposed intervention- iteration 1 McKenzie lawn, Kelburn.

Iteration One

Iteration for Contemplative Pavilion

01 Access to Pavilion

The access to the pavilion is vertically employed with steps to an elevated deck.

02 Prospect

Better views are provided to users through that viewing deck.

03 Refuge

Spaces for refuge are directed below the pavilion and other existing furniture on site.

04 Articulation of Light

The south elevation of the pavilion is designed with perforated panels to throw interesting light pattern

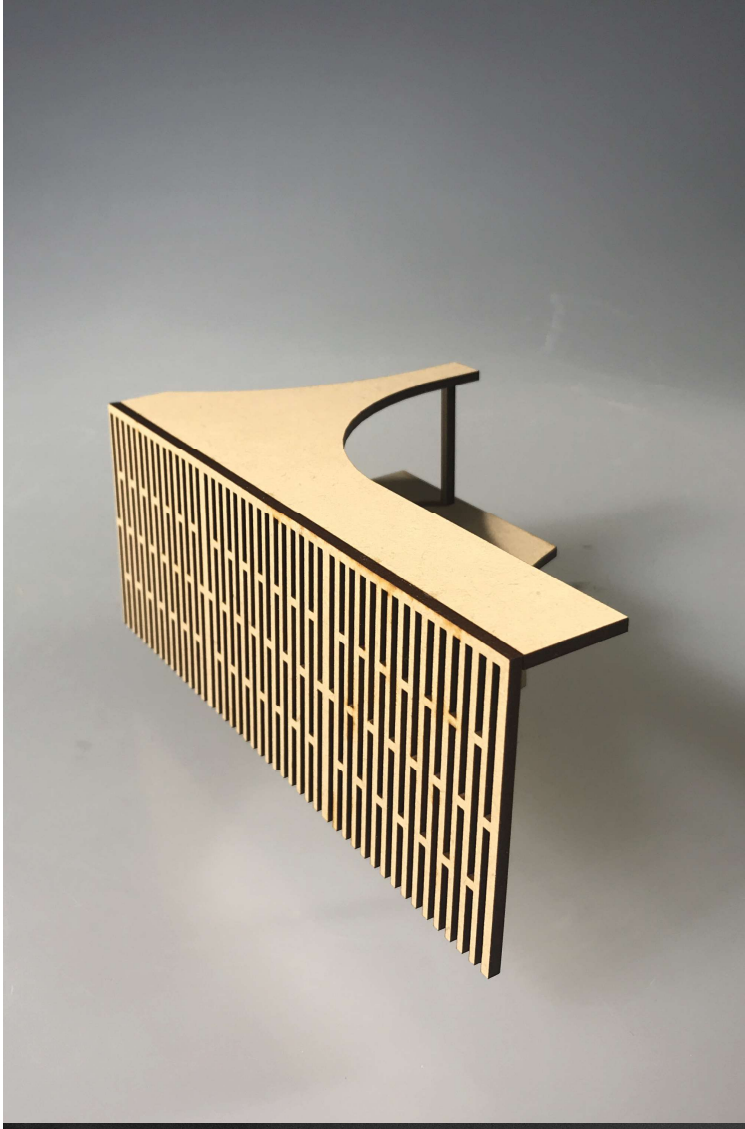
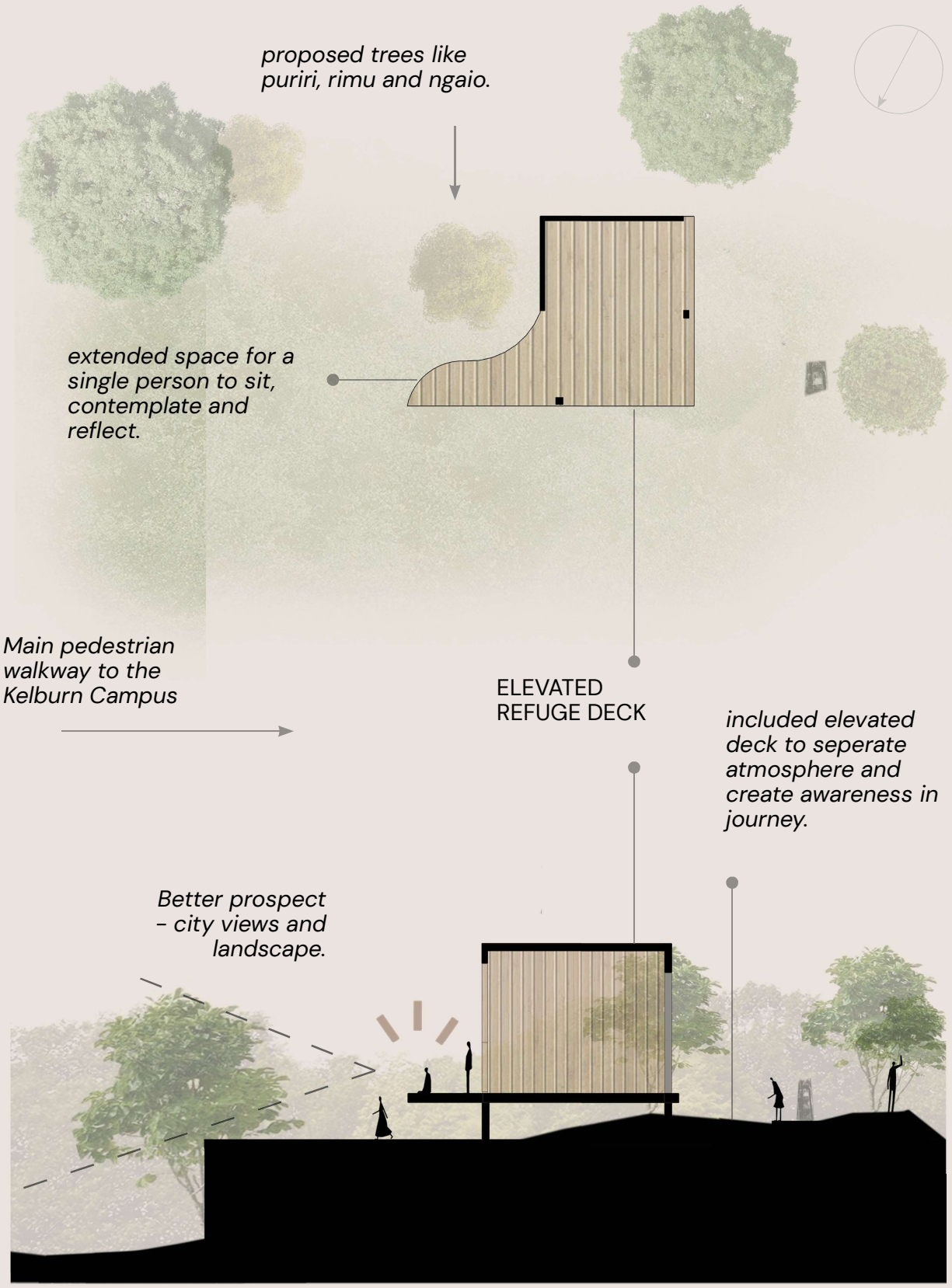


Figure 7.67 : Maquette of iteration 1



Plan and section of existing, proposed intervention- iteration 2 McKenzie lawn, Kelburn.

Iteration Two

Iteration for Contemplative Pavilion

01 Access to Pavilion

The steps are removed from the last iteration to make the design inclusive.

02 Prospect

The idea of an elevated deck is retained from the previous iteration.

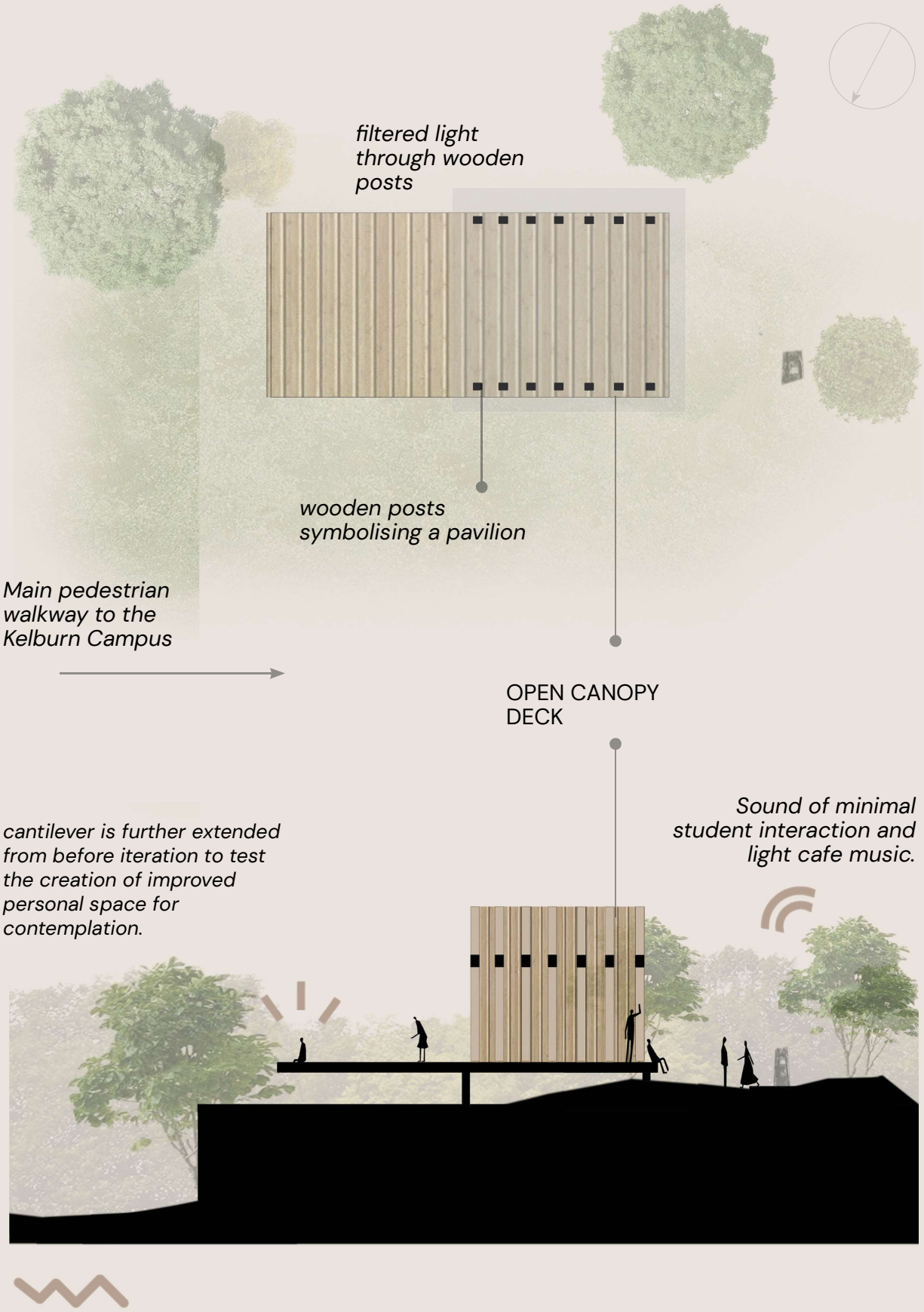
03 Refuge

A refuge space for a single user is extended in the deck for personal space.

04 Articulation of Light

The shapes of wall planes are adopted from design test 1 to incorporate "lights in space".

Figure 7.68: Maquette of iteration 2



Plan and section of existing, proposed intervention- iteration 3 McKenzie lawn, Kelburn.

Iteration Three

Iteration for Contemplative Pavilion

01 Access to Pavilion

The concept of accessibility remains unchanged.

02 Prospect

The deck is further extended for multiple users to view the cityscape.

03 Refuge

An overhead canopy of wooden posts is run through half the pavilion to provide a sense of enclosure.

04 Articulation of Light

The wooden posts placed in rhythm and harmony throws stimulating light patterns over the sun's movement. The form is also designed with various angles to artfully bring the light from movement of sun.

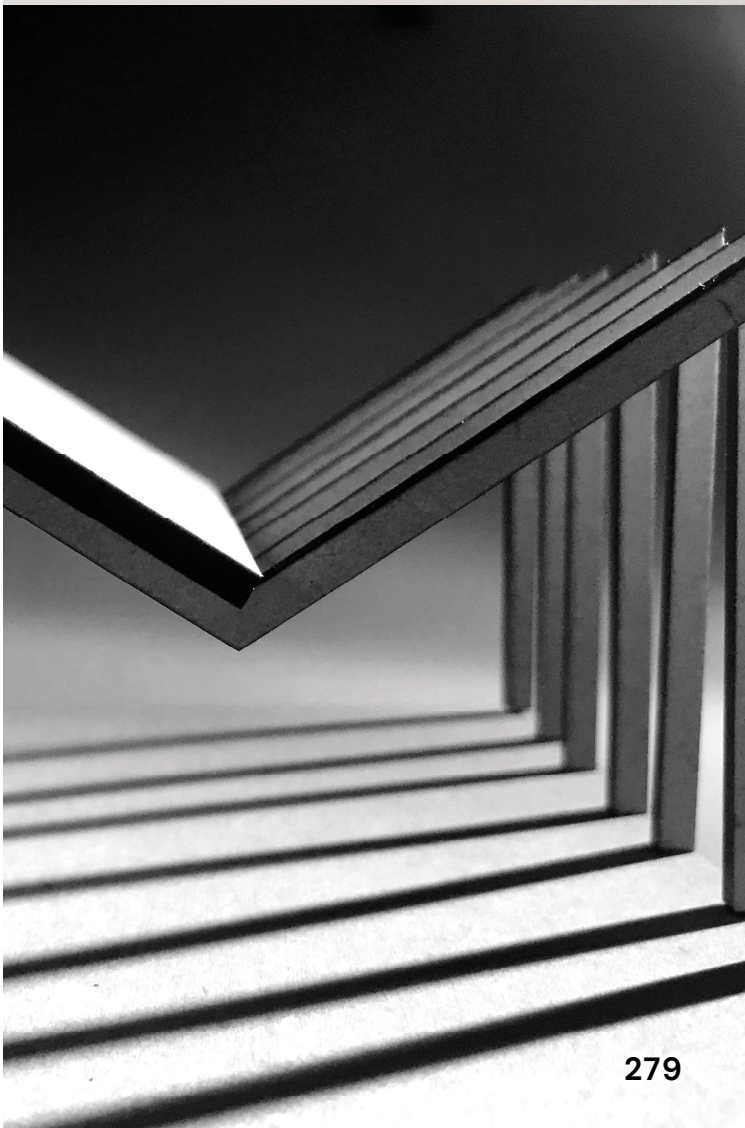


Figure 7.69: Maquette of iteration 3

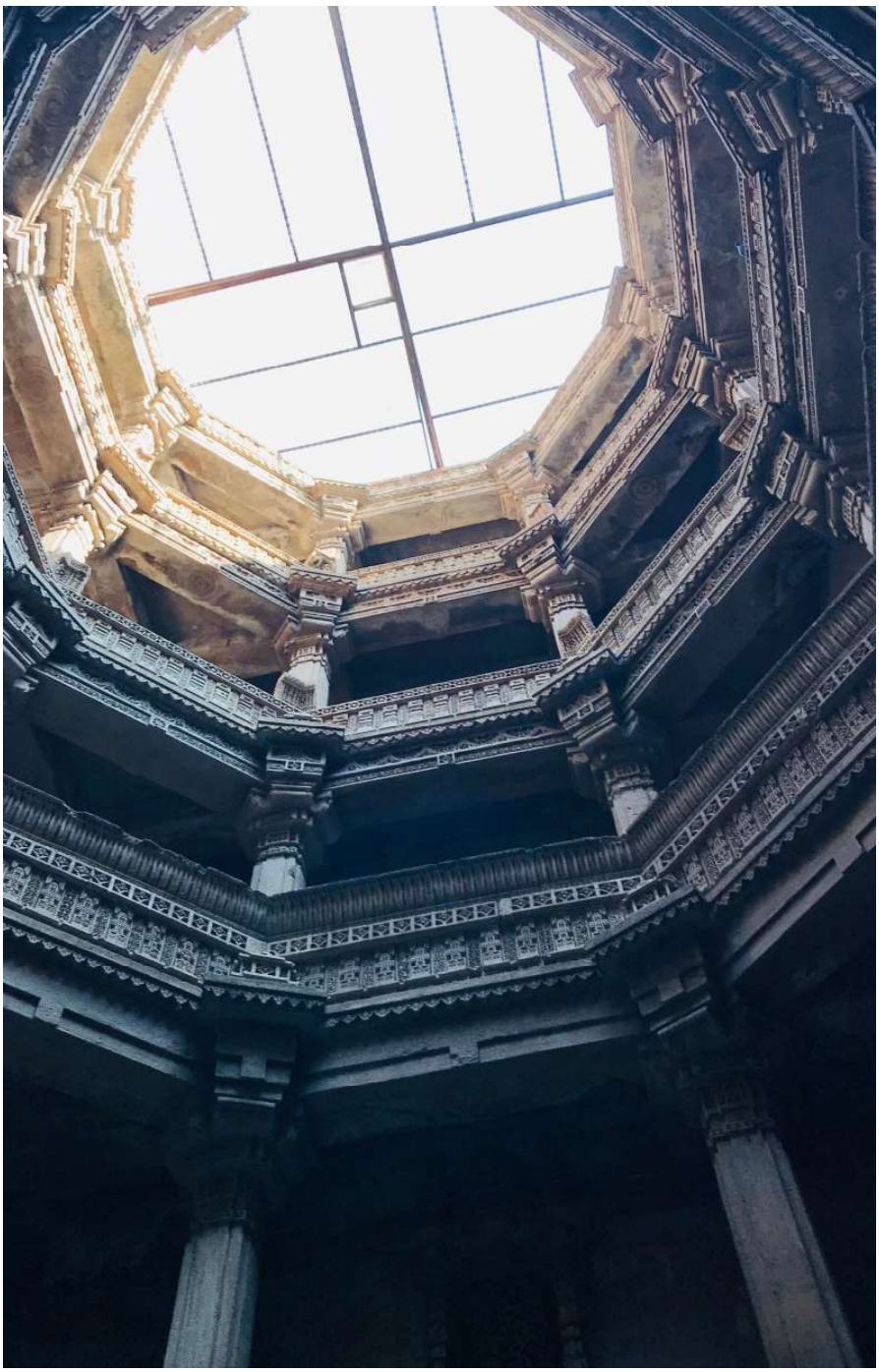


Figure 7.70 : Adalaj Stepwell, Gujarat, India
Source : Author (2019)

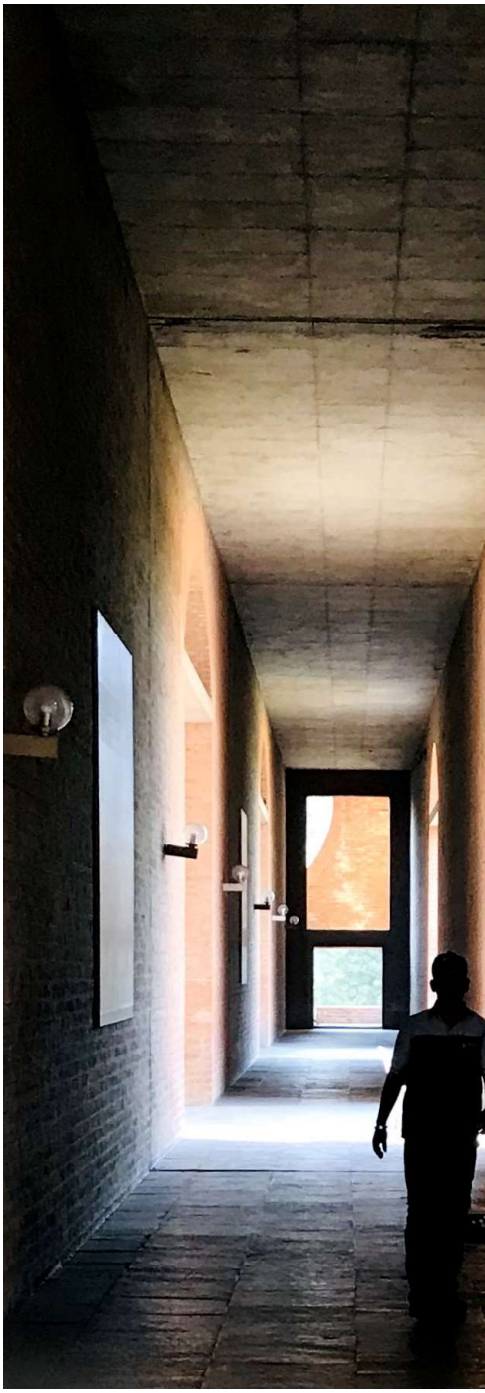


Figure 7.71 : IIM Ahmedabad
Source : Author (2019)

Introducing concept of underground

7.4.2 Varying light levels and contemplation.

"The daylight, the light on things is so moving that it almost feels like it has a spiritual quality."
Peter Zumthor, 2006

Contemplation can happen while daylight movement is evident in space (Zumthor, 2006, p.61). In comparison, the following iterations are primarily focused on designing illuminated spaces to stimulate contemplation. According to Bermudez et al. (2015), there are three modes to create contemplative architecture. They are theatrical mode, sanctuary and contemplation mode. In the design development, the sanctuary and contemplative modes are employed. Firstly, the 'sanctuary mode' in architectural form pushes the boundaries between the external environment and personal self, thereby creating a "sacred space" where contemplation takes place (p.14). For example, the Adalaj Stepwell (Fig 7.70) and IIM Ahmedabad corridors (Fig 7.71) isolates the inner spiritual environment from the outside world through light-dark compress and releases in space. Secondly, the 'contemplation mode' can be created through "light and built configurations [space]" that leads to experiences of meditative and ritualistic attention (p.04). For example, in Thermal Val (Fig 7.72) and Adalaj stepwell, users tend to transcend, seek refuge and rejoice in a moment of quiet contemplation.

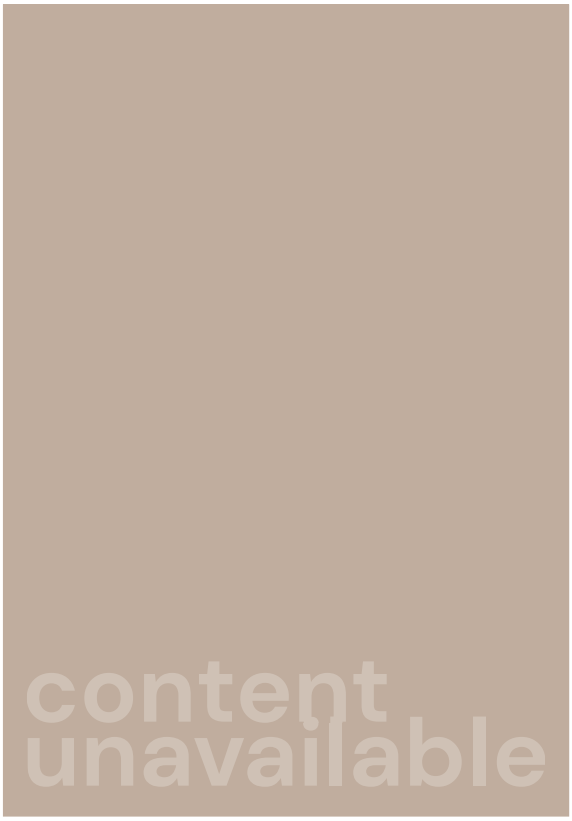


Figure 7.72 : Therme Vals
Source : Fernando Guerra (2004)

Therefore, to achieve "sanctuary" and "contemplative" modes in architecture, methods are focused on employing daylight into space with light-dark light levels. Furthermore, these precedents help in illustrating that underground architecture can achieve those light-dark levels required for reflection.

Finally, these theories and precedents are further explored through sections (Fig 7.73;7.74) that led to the design of the following iterations.

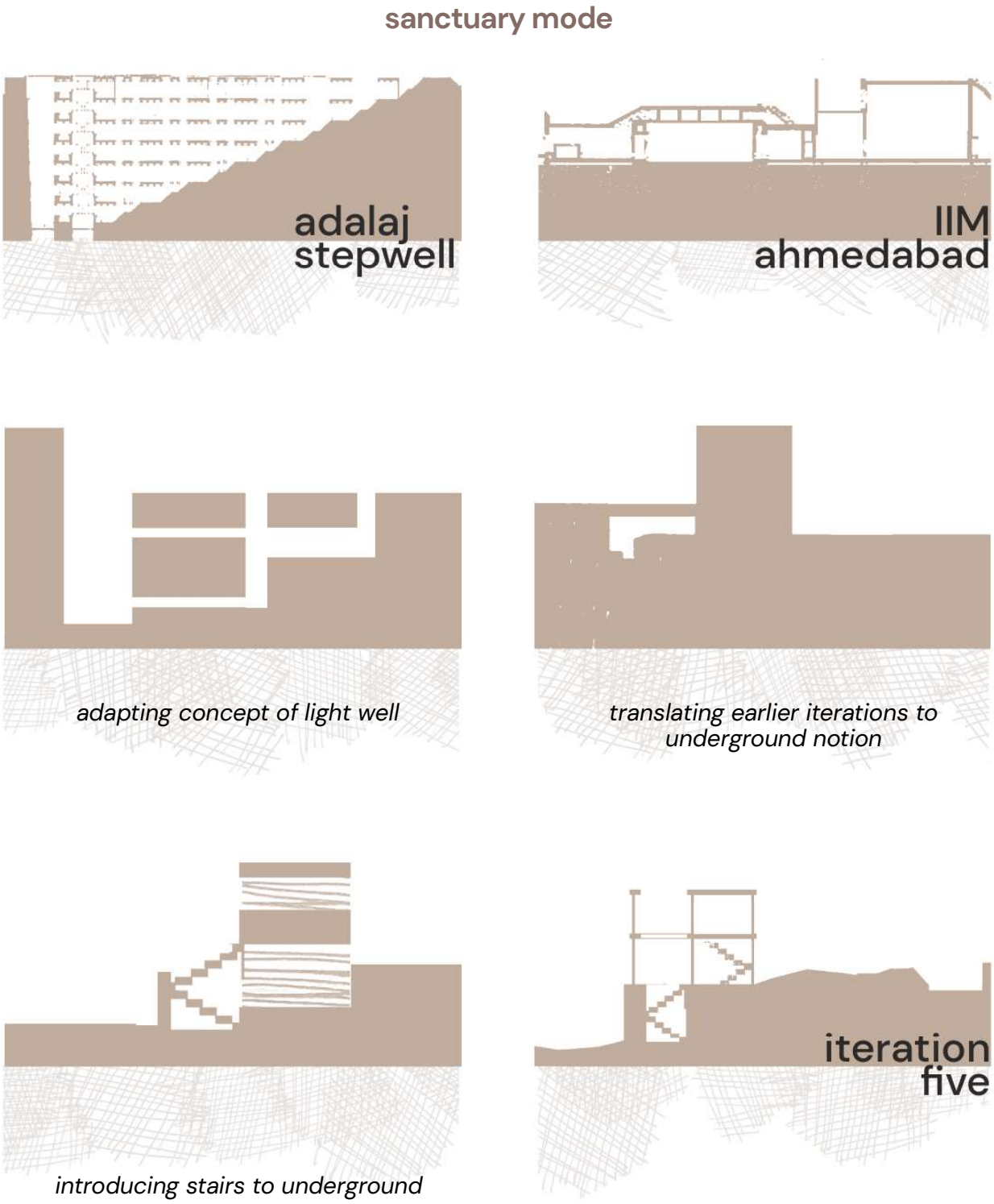


Figure 7.73 : Translation of Light precedent I and II into Iteration Five.

contemplation mode

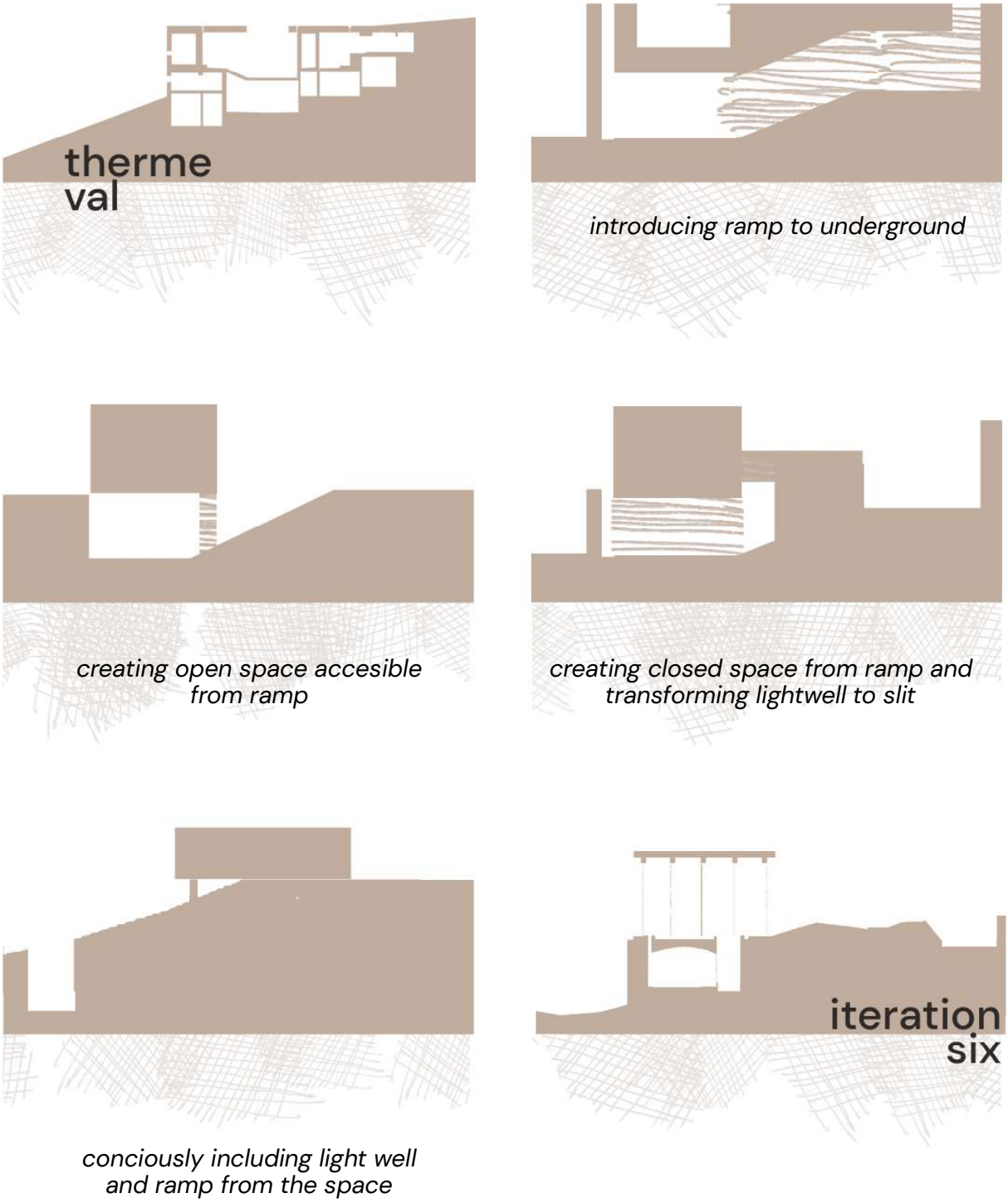
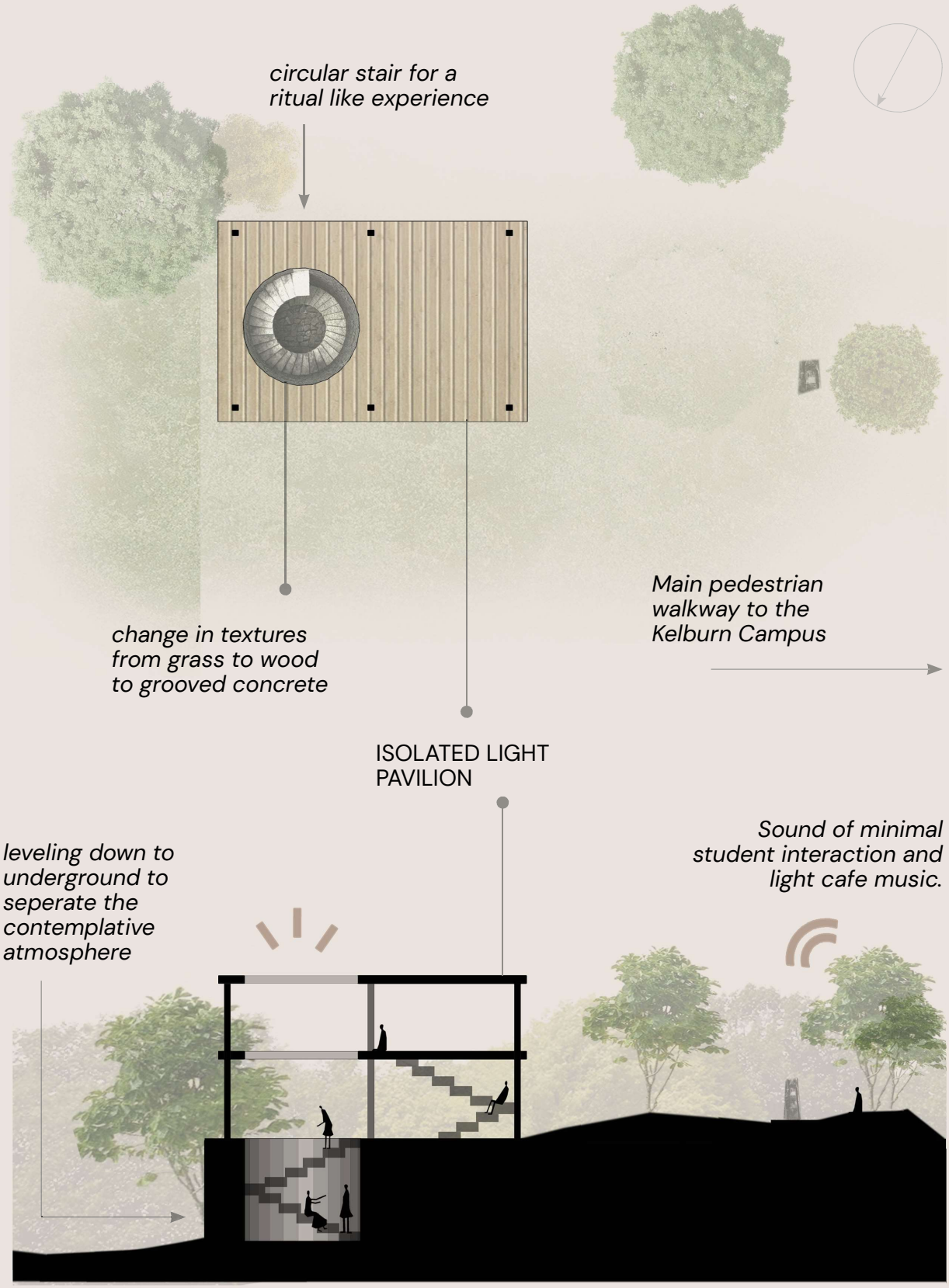


Figure 7.74 : Translation of Light precedent III into Iteration Six.



Plan and section of existing, proposed intervention- iteration 4 McKenzie lawn, Kelburn.

Iteration Four

Iteration for Contemplative Pavilion

01 Access to Pavilion

The design of stairs is reintroduced to reach the basement and deck.

02 Prospect

The concept from iteration one is adapted again to reach the elevated deck for the prospect.

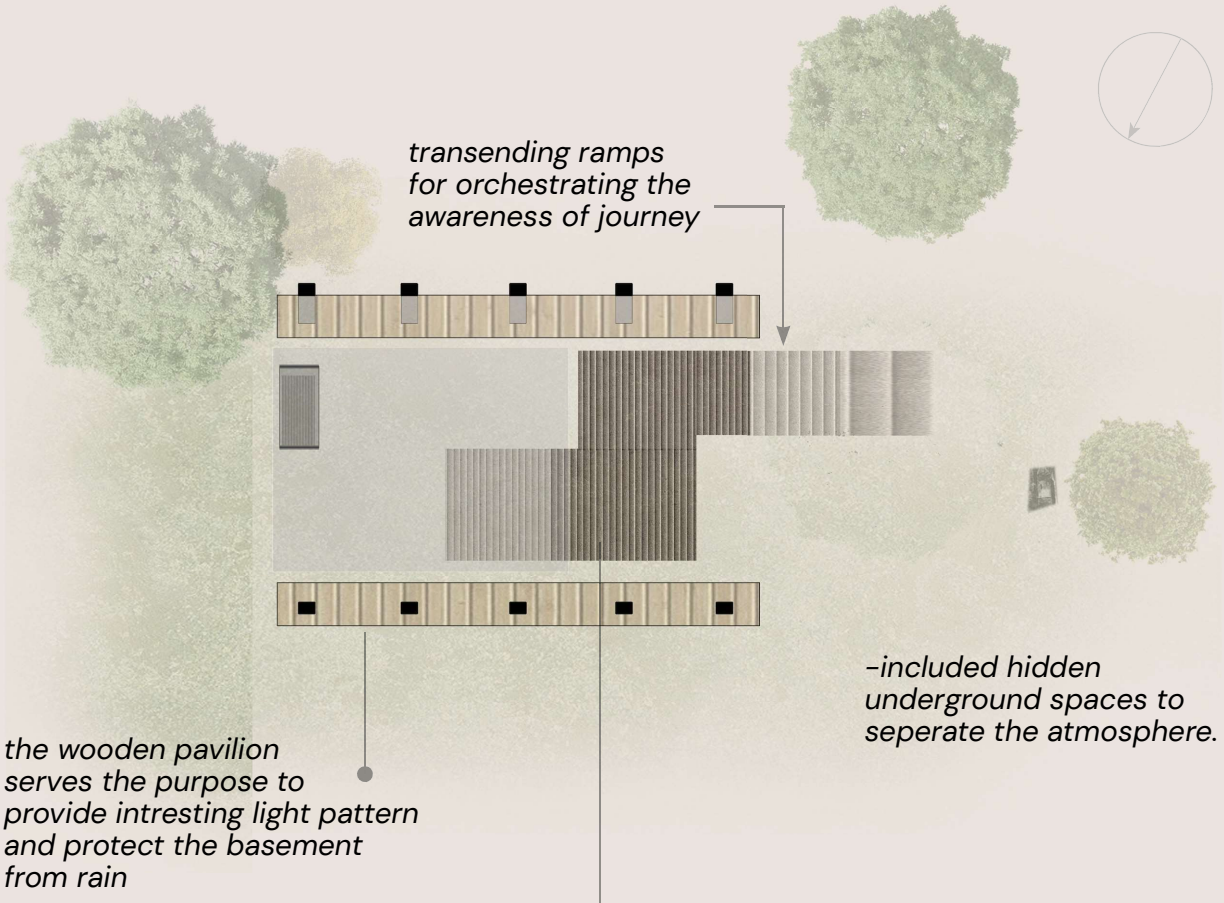
03 Refuge

The light well space descends with stairs to form refuge spaces where these stairs act as seats too.

04 Articulation of Light

The circular light well throws focused light into the space required for contemplation.

Figure 7.75: Maquette of iteration 4



Plan and section of existing,
proposed intervention- iteration 5
McKenzie lawn, Kelburn.

Final Iteration

Developed Final
Iteration for Contemplative Pavilion

01 Access to Pavilion

Furthermore, to create an inclusive space, ramps are designed to reach the basement.

02 Prospect

The idea of prospect is limited, and the pavilion focuses on the refuge.

03 Refuge

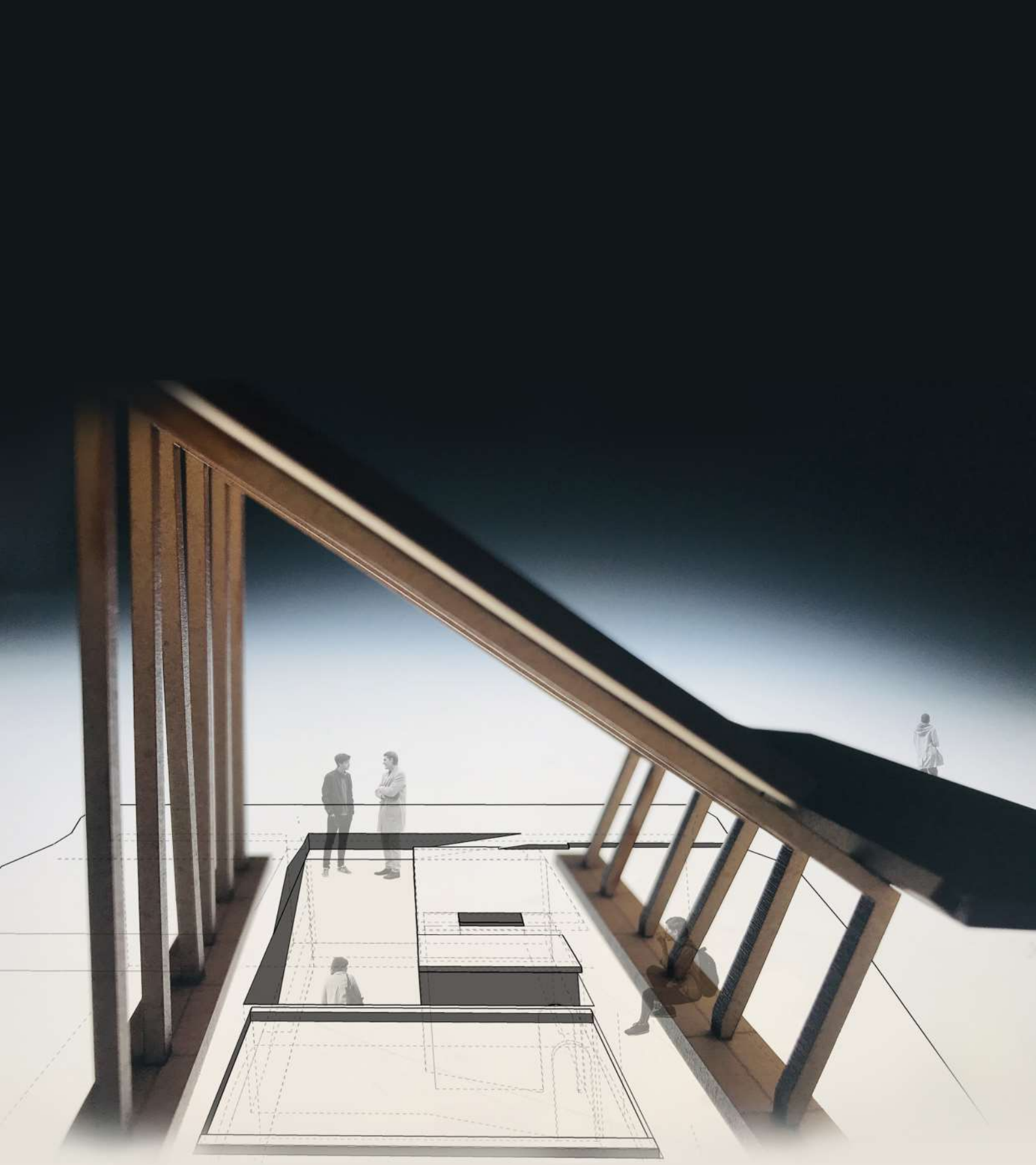
Underground space with focused light through slit forms a space of refuge.

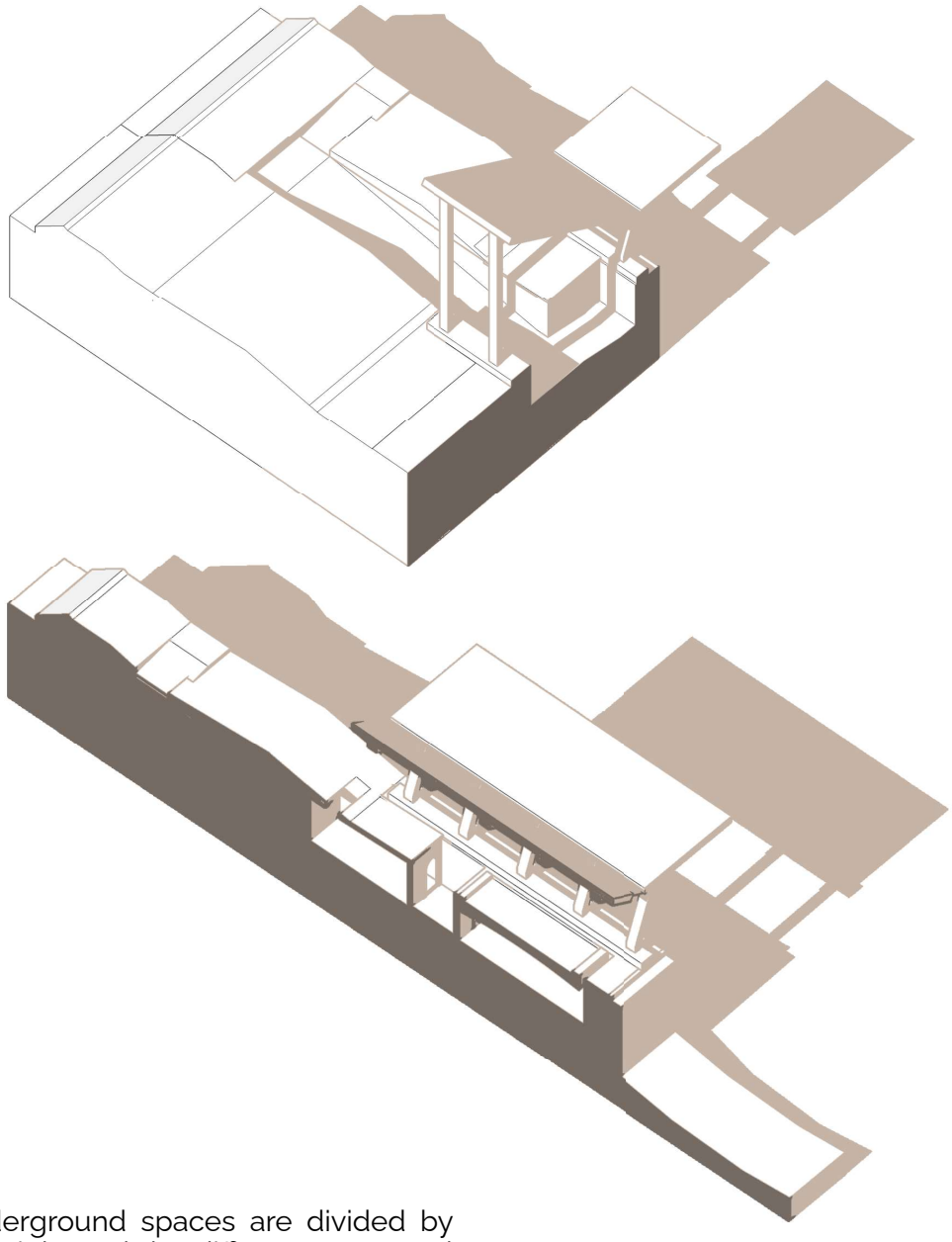
04 Articulation of Light

The light levels decrease as the user goes into the underground, which stimulates reflection for them.

This iteration is chosen because, it integrates both sanctuary and contemplation mode in the spaces. It also includes the ramp for catering better journey for students.

Figure 7.76: Maquette of Final iteration

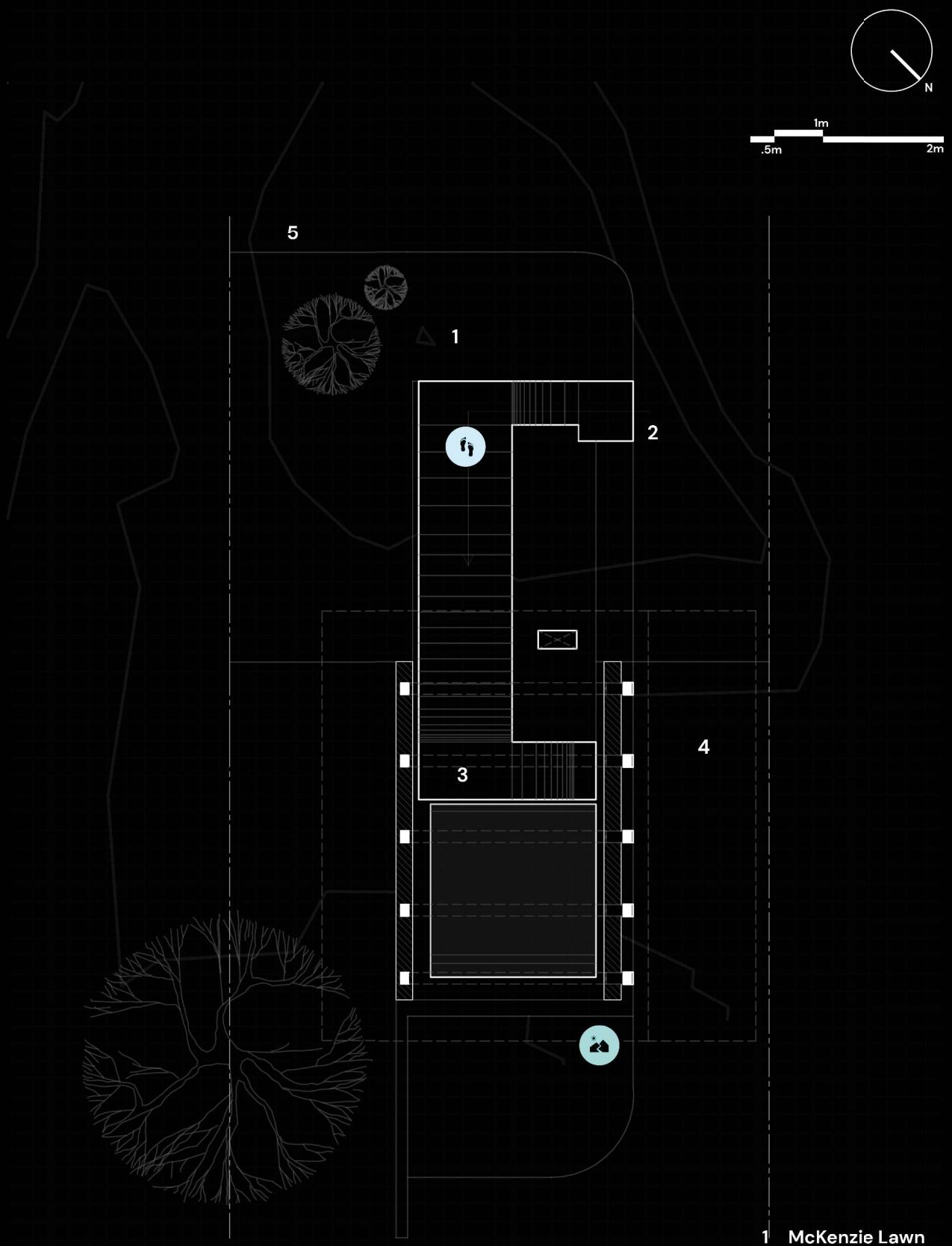




The underground spaces are divided by ceiling height and the different types and levels of lights. They are connected from the central circulation to these spaces on either side. The contemplative room is cut off from the outer world, where the light exhibits various expressions as the sun moves (Fig 7.82). The ritualistic space has a single directed linear light where users have space to go around it. Therefore, this dark and faintly illuminated space creates a restorative and sensuous experience for the user.

Figure 7.77 (Opposite Page): Maquette of final Iteration

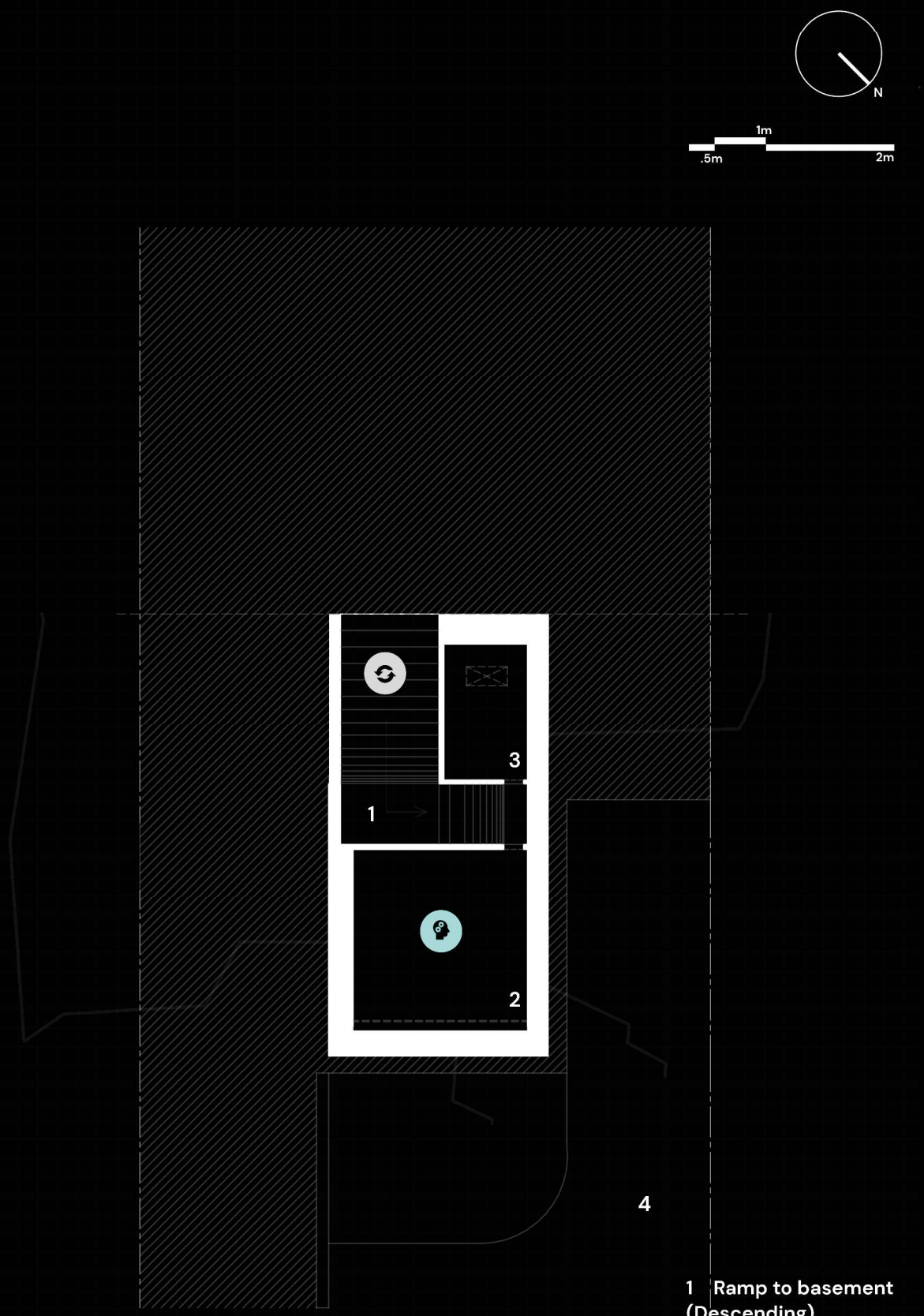
Figure 7.78: Perspective sections



1 McKenzie Lawn
2 Entry
3 Ramp to basement (Descending)
4 Existing Student Pedestrian
5 Pavilion Structure

Figure 7.79: Ground Floor plan — contemplative pavilion

Figure 7.80 : Ramp to the contemplative spaces



1 Ramp to basement (Descending)
2 Contemplative Space (Slit Light)
3 Light Circumbulation (Skylight)
4 Existing Student Pedestrian

Figure 7.81 : Underground Floor plan — contemplative pavilion

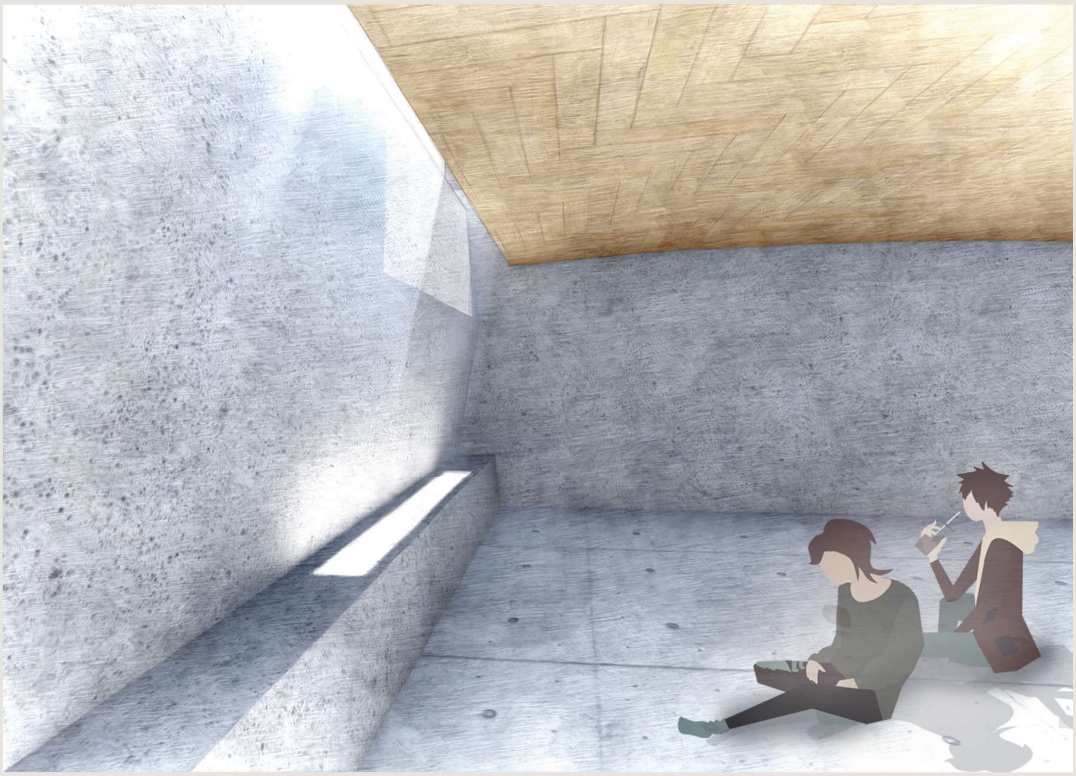


Figure 7.82 : Contemplative spaces and changing light character

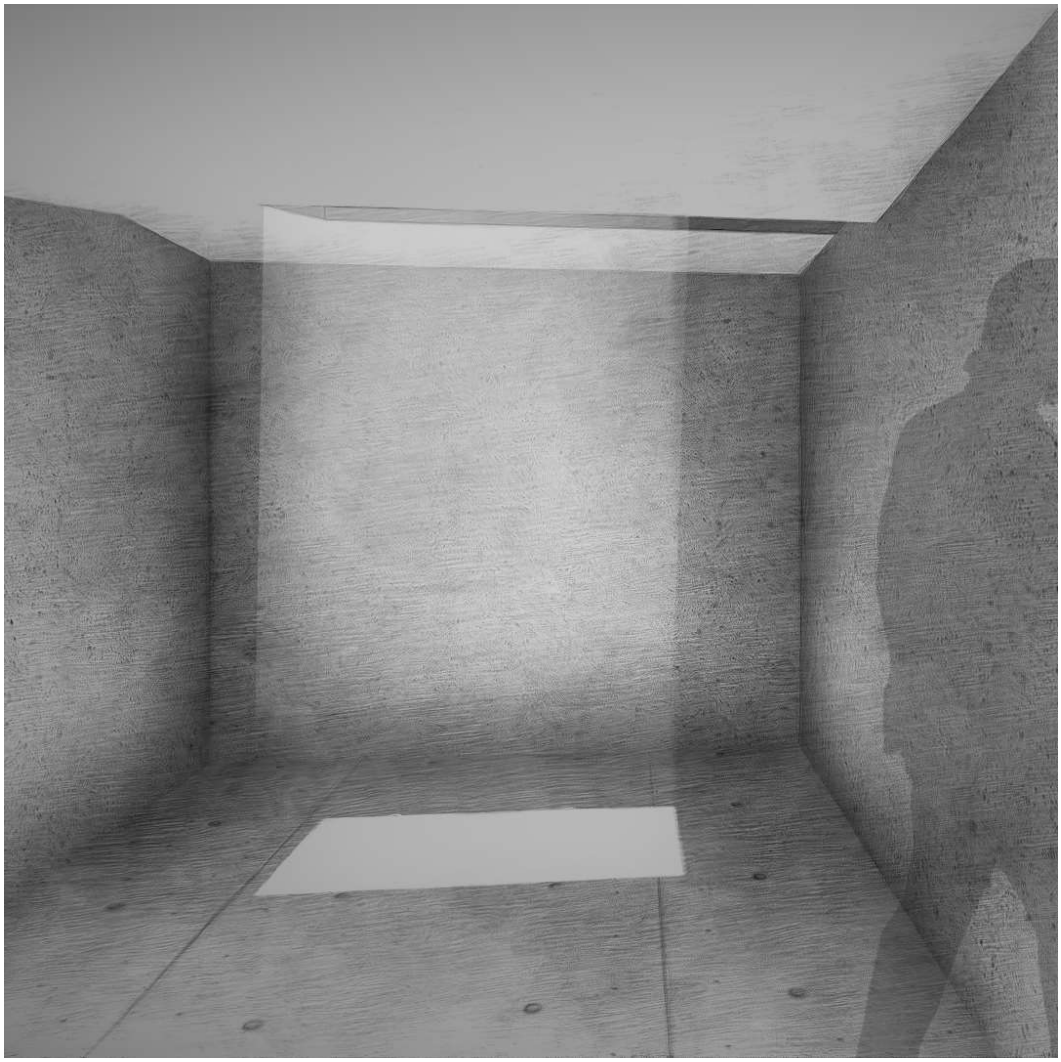


Figure 7.83: Light circumbulation space

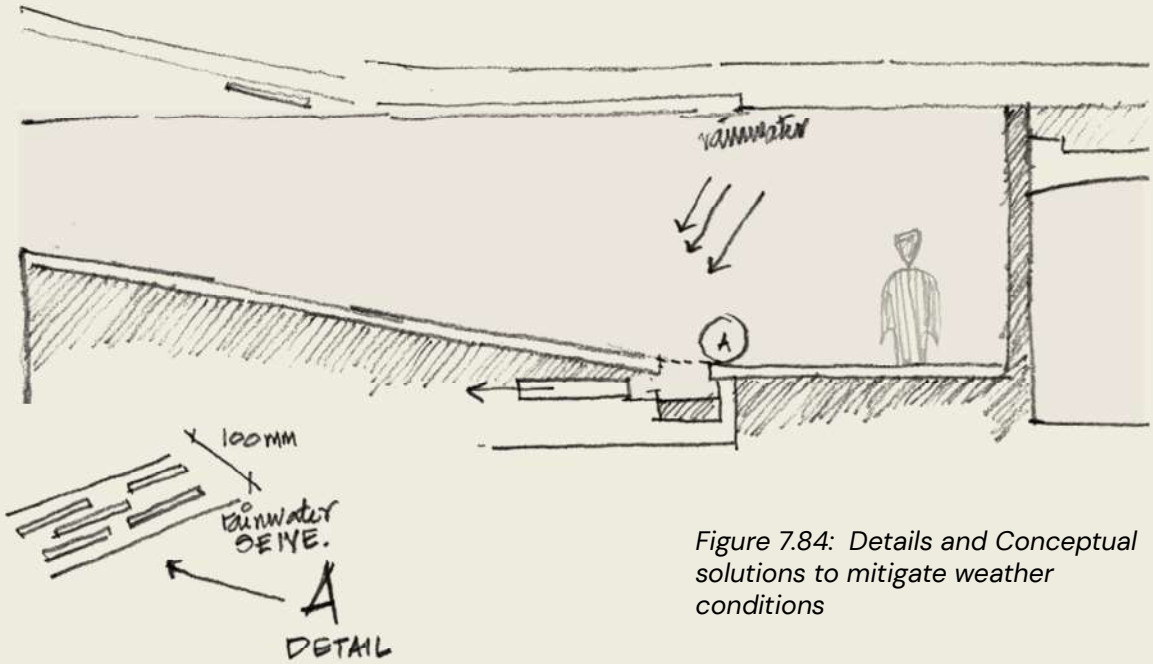
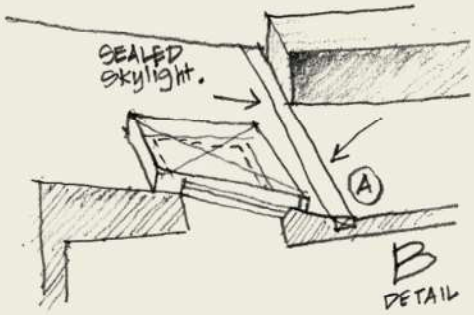
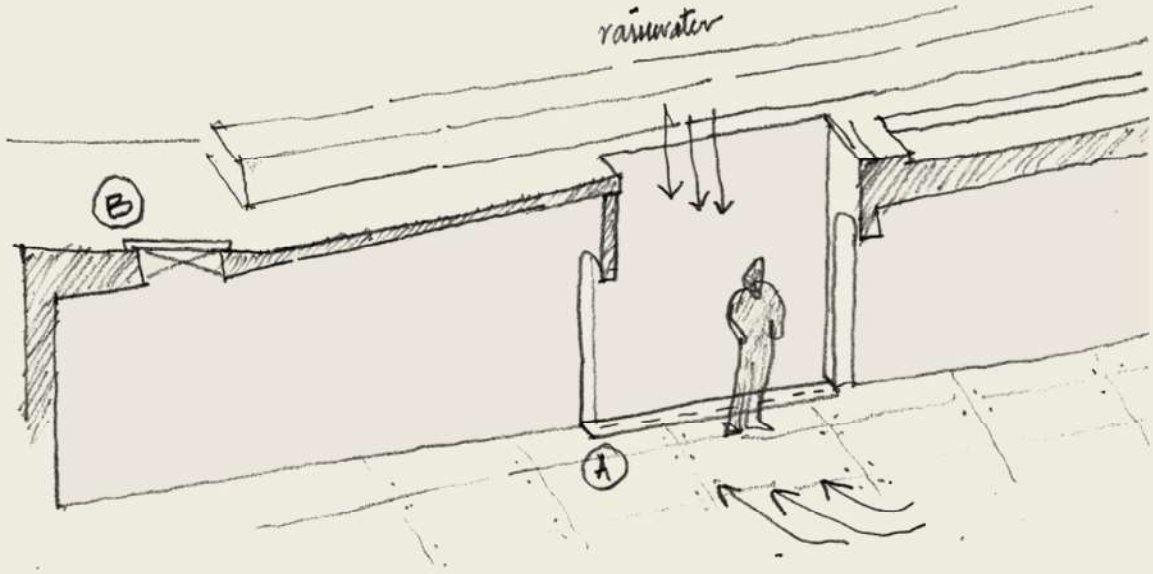


Figure 7.84: Details and Conceptual solutions to mitigate weather conditions

7.4.3 **Reflection of Materials in terms of Weather**

Wellington is of mild, temperate and windy climate. The detailed design considered few measures were taken to avoid basement flooding by collecting rain-water through designing runways and sieves (Fig 7.84). Secondly, the structural sway is reduced by adding mass to the timber pavilion and roof to tackle the heavy winds. The details of timber joinery and underground wall section are detailed in this section.





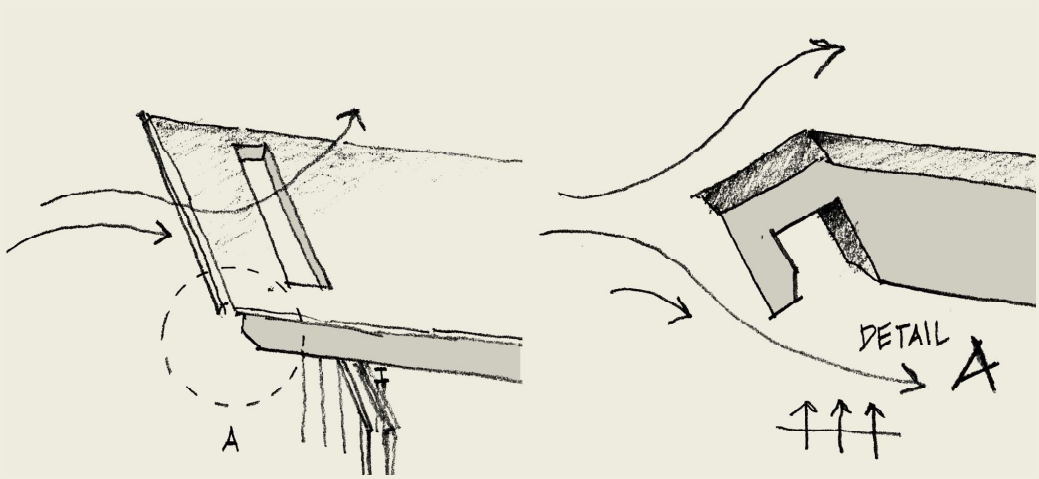


Figure 7.85 : Weather reflection on Stillness intervention

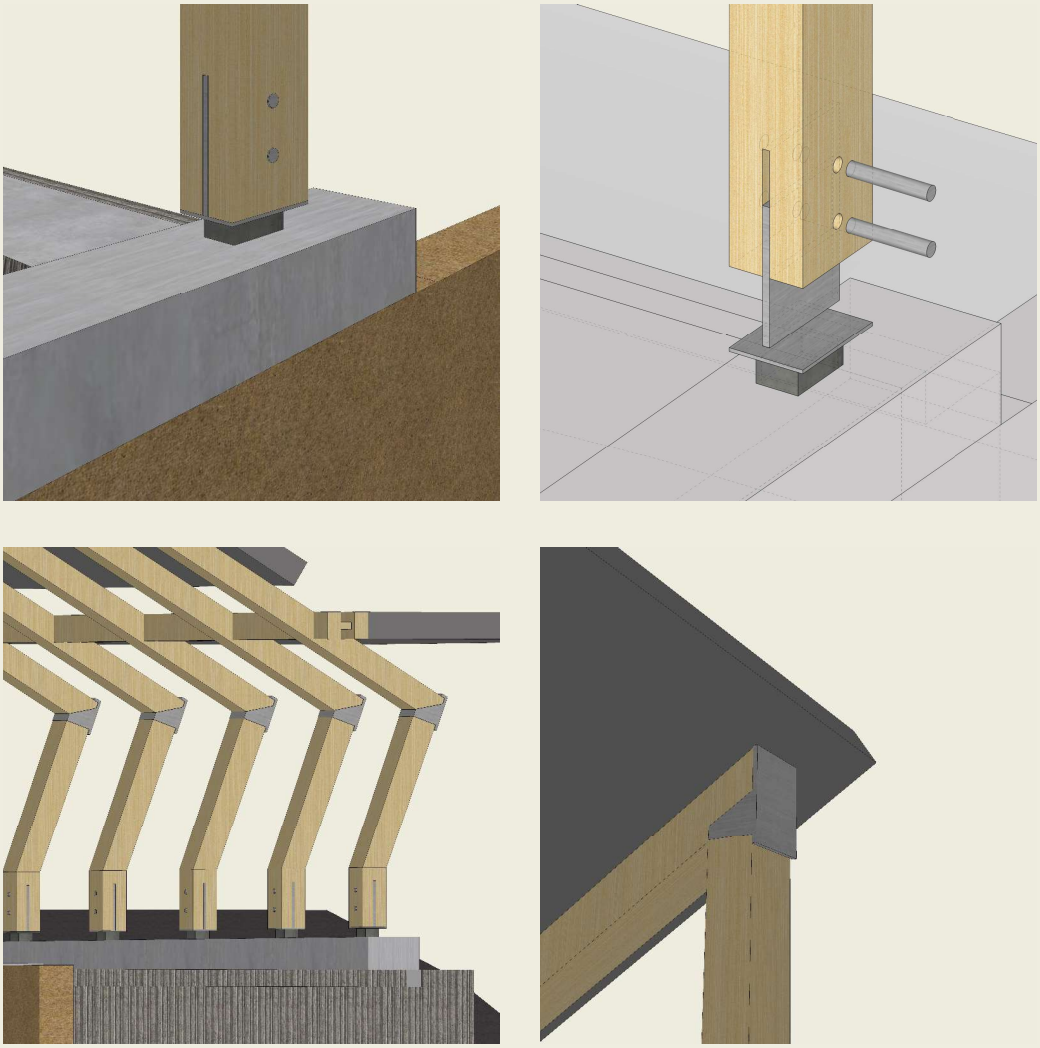


Figure 7.86: Details of the Joineries- design of contemplative pavilion

7.4.4 Detail of Pavilion

The pavilion design is also focused on a detailed scale. The pavilion has two parts of construction. Firstly, it has a concrete structure in the underground with contemplative spaces. The second part is the covered timber pavilion structure pinned above the underground. The joinery details were developed according to NZS 3604:2011 (Standards New Zealand, 2011). The timber post is connected to the underground concrete structure through an upstand welded to stirrup and base plate (Fig 7.87). Few details were conceptualised to mitigate the wind flow on the site (Fig 7.85). The concrete wall section of the underground is detailed to understand the ground and light relationship (Fig 7.88)

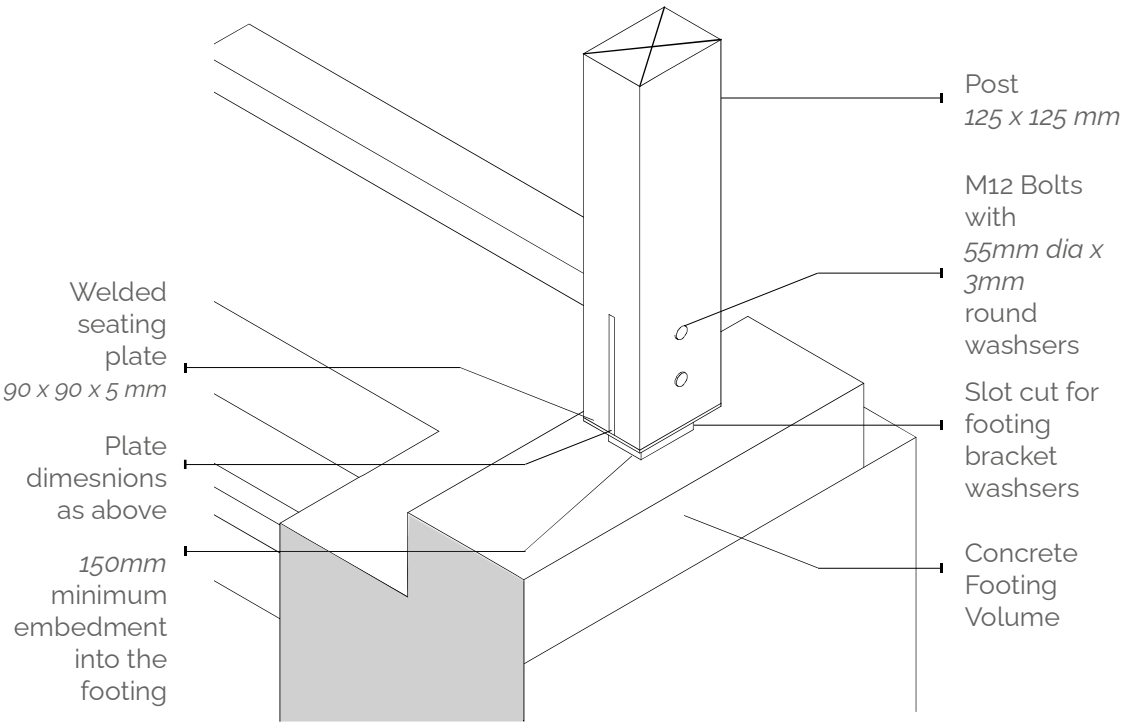


Figure 7.87: Post to ground detail

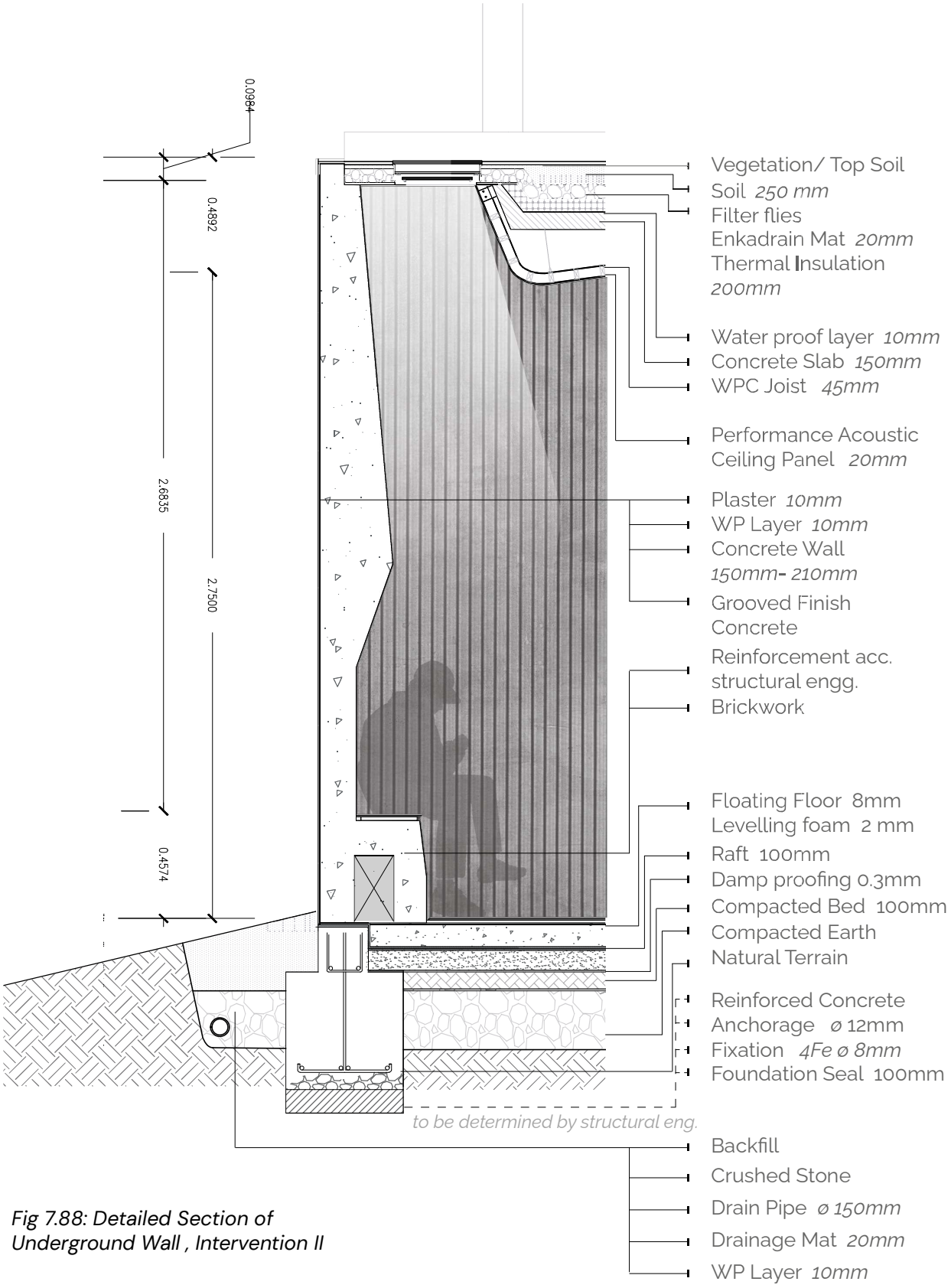


Fig 7.88: Detailed Section of Underground Wall , Intervention II

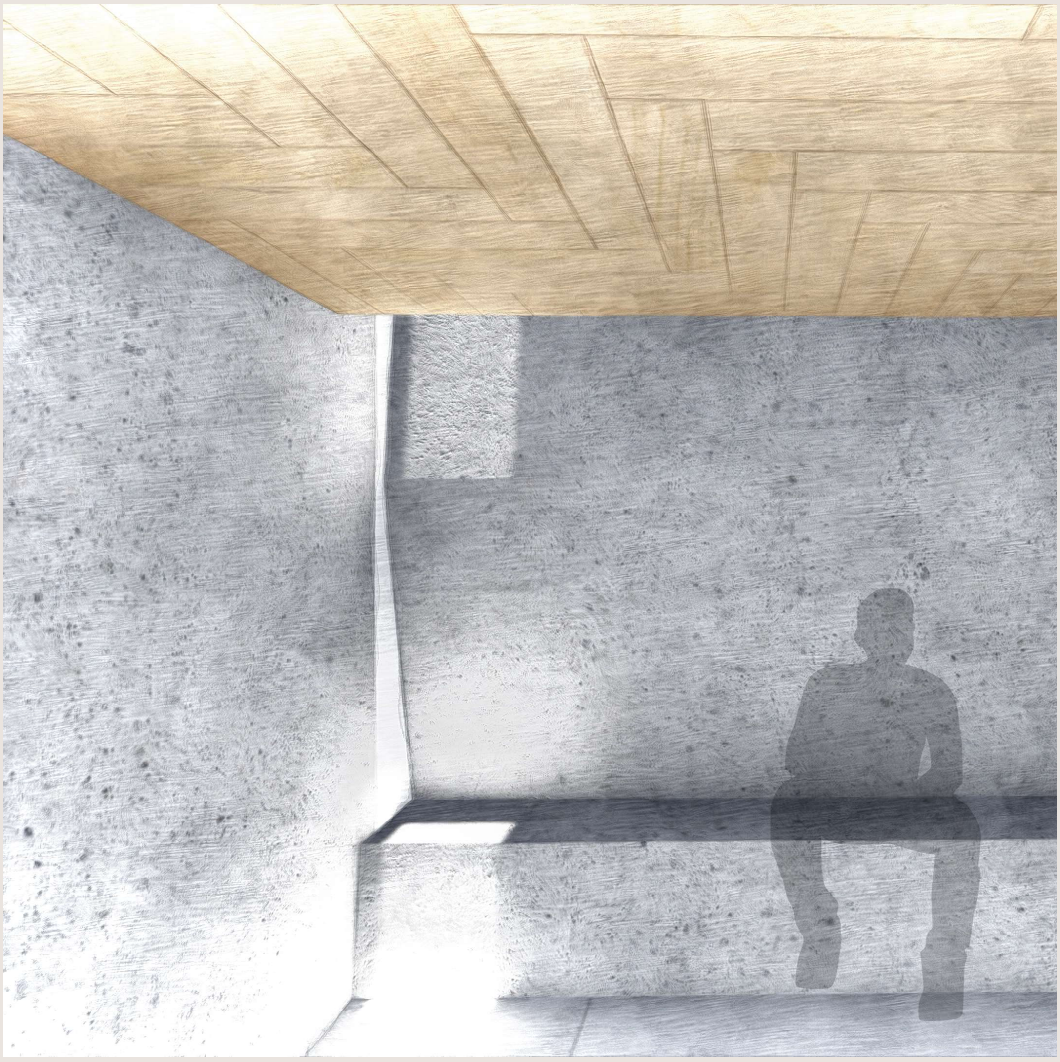


Figure 7.89: Underground contemplative space

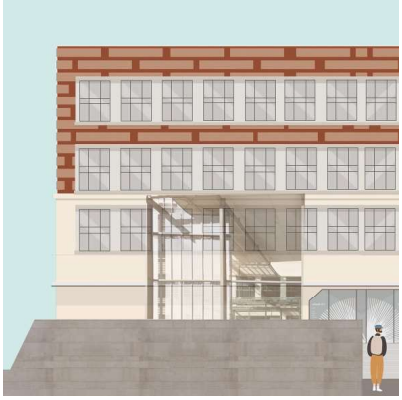
7.4.5 Reflection on Design II

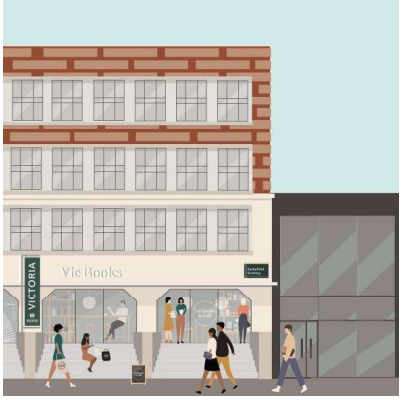
The previous interventions aim to speculate a practical possibility for Victoria University of Wellington, Kelburn Campus. They have been sensitively designed for responding to the existing context to avoid major re-development or disruption to the buildings on and around the campus site. The sites for intervention were carefully selected in order to seek such spatial possibilities.

The pavilions are hoped to appropriate the process of relaxation, interaction and contemplation. Therefore, these pavilions designed in this phase maximise spatial agency and opportunities for the students, thereby facilitating personal and social well-being with a sense of belonging in their campus.

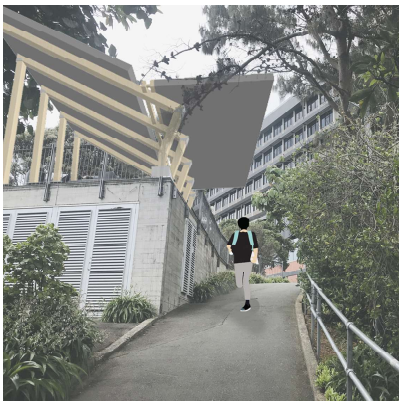
7.4.6 **The journey:** A typical weekday in the campus

9.00



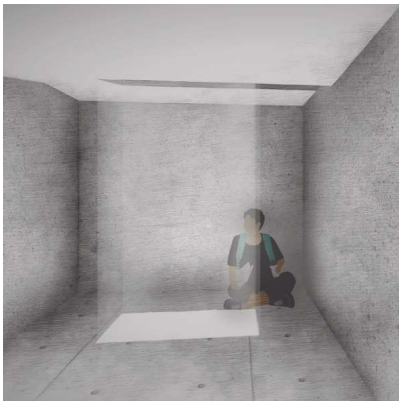


10.00



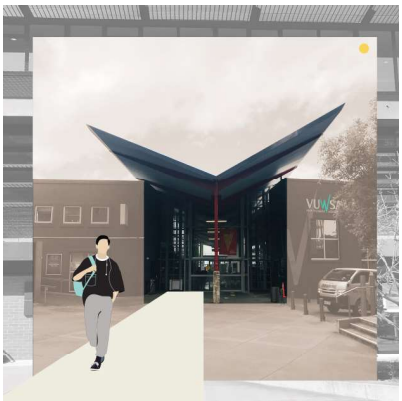
11.00

12.30



12.45

Below is a storyboard illustrating the journey of a student from morning to evening on a weekday. It potrays how students interact, relax and reflect.



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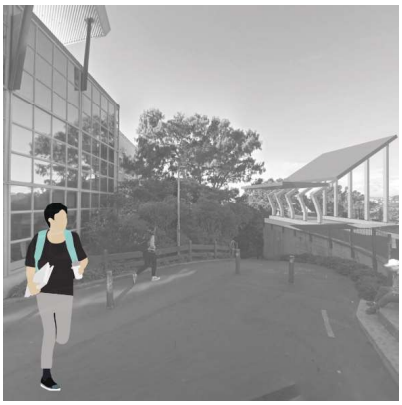
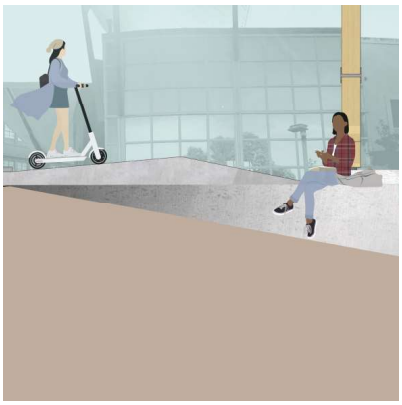
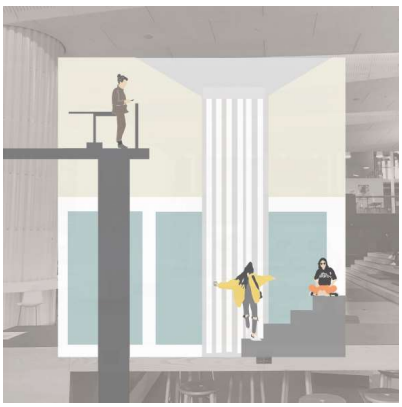




12.00

12.01



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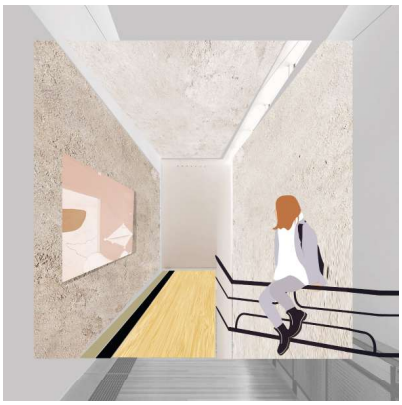

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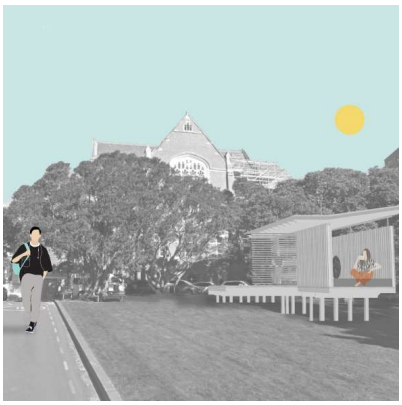

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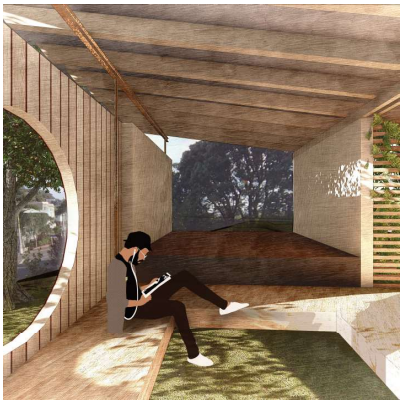

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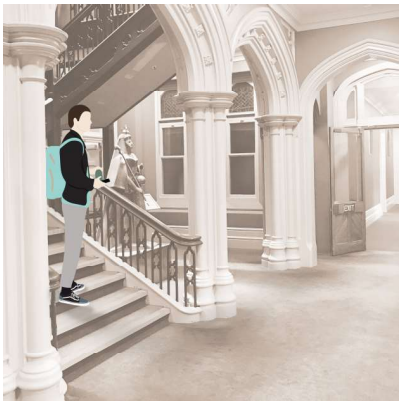


16.27

These icons indicate the positions of design in the journey in the university, the rest are the existing students spaces which are usually accomodated .

"Every time a student walks past a really urgent, expressive piece of architecture that belongs to his college, it can help reassure him that he does have that mind, does have that soul."

Louis Kahn

Louis Kahn Quotes. (n.d.). BrainyQuote.com. Retrieved October 9, 2021, from BrainyQuote.com Web site: https://www.brainyquote.com/quotes/louis_kahn_114813

the epilogue.

Conclusions and reflections

Chapterwise reflections, final conclusions and further research.

Chapter Two **08.**

"Architecture is really about well-being. I think that people want to feel good in a space... On the one hand, it's about shelter, but it's also about pleasure."

Zaha Hadid

8.1 Overview Conclusion

In what ways can architecture facilitate personal and social well-being of tertiary students?

This thesis explored the spatial and psychological opportunities of designing to improve well-being in student environments. This research directly critiqued the status quo in fully addressing the mental health issues of tertiary students in New Zealand and offered a design based avenue. Furthermore, the design-led research methodology enabled a broader discussion of the architectural response to tertiary students' mental health crises. This research adhered to the principles of sensory engagement and spatial atmospheres to provide learning spaces where students can relax. It also focused on the sites' strategies to reinforce their identity. Applying sensory spatial theories and environmental phenomenology to the sited design thinking intended to positively impact students' mental health.

The following section summarises and reflects the findings of each chapter in order to answer the research question.

8.2 Chapters in Reflection

01

The introduction chapter presented the motive for the research. It demonstrates the critical issues about the current state of tertiary students' mental health. The chapter forms the basis for the primary research question: How can architecture facilitate personal and social well-being for tertiary students?
Following the discussions of various options and methodologies, the scope of research was outlined.

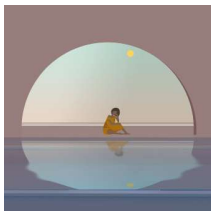
02

The 'grounds' chapter started by detailing the problem statement. Then, it elaborated on current issues to understand the origin of mental health problems. Mental health issues, factors leading to these, existing treatments and services were also examined. From there, this chapter looked for pathways to provide solutions from the initial research explorations.

For example, the well-being services of other institutions could have been chosen to examine meaningful relationships between institutions and students. However, this review provided vital insights that indicated the need to establish architectural solutions through this design-led research.

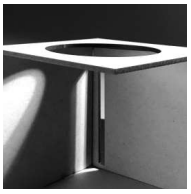
03

The premise chapter demonstrates the evidence to devise solutions for the problem from relevant literature. Three fundamental theories were investigated, and a design framework was synthesised to derive architectural responses. Some research gaps were identified. These include particularly about designing for students' holistic personal comfort [spatial well-being]. This research had the scope to address this gap through a process of research and design tests.



04

The pre-design is conceptualised along with guidelines from literature in this first design exploration chapter. A greater emphasis was placed on understanding how to design space and atmospheres for stillness, social interaction and contemplation. In order to explore how the intangible qualities of an atmosphere are crucial to improving users' mental health and well-being, digital explorations of graphical, visual and spatial concepts were utilised.



04a

The 'light' chapter is an additional exploration chapter that included a set of maquette explorations and realisations during the research and design process. Drawing on Bohme's notions of light and space, the Light Exploration looked at forms iterated with various fenestrations. A primary finding from this physical study was the introduction of purposeful variation of lights in space. Finally, designed spaces facilitated spatial and visual variety necessary for well-being.

05

The 'album of chapters' is a compilation of findings from project reviews such as case studies and precedents, focusing on the design approaches that have addressed similar issues. These were followed by a series of siteless explorations that helped focus on designing specific atmospheres of stillness, interaction and contemplation. This chapter acts as a visual guide and is an essential step towards developing architectural responses in the context of existing institutional settings.

06

This chapter introduces the Cambridge Terrace as the proposed site and its contextual recommendations, such as building code and regulations. The first iteration aimed to provide a well-being centre viable to the Wellington student community as a whole. Te Aro is exclusively situated in the institutional neighbourhood. The site was used to imagine ways to devise well-being spaces for students. This design, however, reflected upon the students' accessibility. Therefore, for the second design test, the Kelburn campus was chosen as the site.

07

The proposed designs are developed in the 'assemblage' chapter. Later, they were detailed into two design tests which were individually investigated in this research. These designs embrace spatial opportunities to improve well-being, tested through designing in detail throughout these chapters, illustrated in two sections. The outcome was observed to be less efficient in the first design test when these findings were applied to the larger scale of the designed well-being centre. An intermediate scale strategy and the human-scale interventions within the large-scale strategy would have improved the overall design response of the first test. However, the second test brings together the efficient response over the first one. It positions a set of pavilions into an existing campus setting, thereby introducing a spatial, visual and engaging built environment into existing student spaces. It is seen as a transition from independent to sited design and an initial milestone for further research.

8.3 Concluding Reflection

This thesis has demonstrated that tertiary students' mental health issues in New Zealand can be mitigated by designing spaces that specifically facilitate their well-being. Future architects and designers could mitigate these issues by assisting the institutional design process with a heightened awareness of students' personal and social well-being. The design explored in this research emphasises the relationship between spatial comfort and well-being. Spatial comfort can enable students to relax, interact and just be. As mentioned before, personal well-being and mental health issues comprise highly personal factors. This thesis promotes the idea that mental problems cannot be solved by clinical solutions alone. As tertiary students spend more than 15 weeks in a year in their institution, their mental health issues can be mitigated by facilitating better spaces around their institutions alongside clinical solutions.

The preliminary investigations from the literature review found that the students require spaces to accommodate themselves according to their mood and preferences to improve their well-being. Therefore, the first design test, the 'well-being centre', focused on creating student spaces that are closely packed together while still leaving choices for them. The second design test, 'campus interventions,' sought to create a place within an institution with high chances of making the design accessible to students. The aim was to situate students at the forefront of design through pavilions and interventions. The findings [i.e., the designed spaces] from test one was spread across the campus, considering the current student activity patterns. While establishing the design language, light, material, space, journey and setting were crucial considerations to designing both pavilions' designs.

Finally, positioning the architectural response with the initial objectives, the study examined how spatial well-being can be introduced in student spaces through moments of stillness, interaction, and contemplation.

The second objective of the research was to achieve affective architectural interventions by tying physical and sensory notions to the place/site. The investigation implied that tying sensory notions to a space can positively impact well-being in spatial experience. The design tests explore these notions through multiple iterations. Each design test was iterated with variable, subtle light and sensory experience change through the design framework inputs. Thus, the well-being spaces were produced with building details for higher architectural resolution, adhering to the design framework.

Recognising the mental needs of users [students] in space is not a subject of abstractive systems. Instead, it is an essential requirement for positive well-being in spaces. Architectural practice has plenty of scopes to facilitate such well-being for students. Therefore, sufficient research is required while aiming to improve spatial well-being, and personal comfort is necessary while designing spaces for students.

8.4 **Key Findings**

The ‘utilitarian world’ keeps the students’ life busy. The need to pause, interact and reflect is essential to connect with oneself and the community. The thesis addresses ways that architects and designers could integrate phenomenological thinking to inform the results.

Sensory design becomes the bridge to access the consciousness of self. Nature and light being the important triggers of the sublime tool making oneself to reflect in contemplative state.

Visual engagement to varying light levels and bodily engagement with nature, landscape and other materials prepare the users for a sensory experience to access the inner self.

This thesis does not attempt to answer existential questions but passively tests to provoke the journey by inner self to achieve a heightened state of personal and social wellbeing.

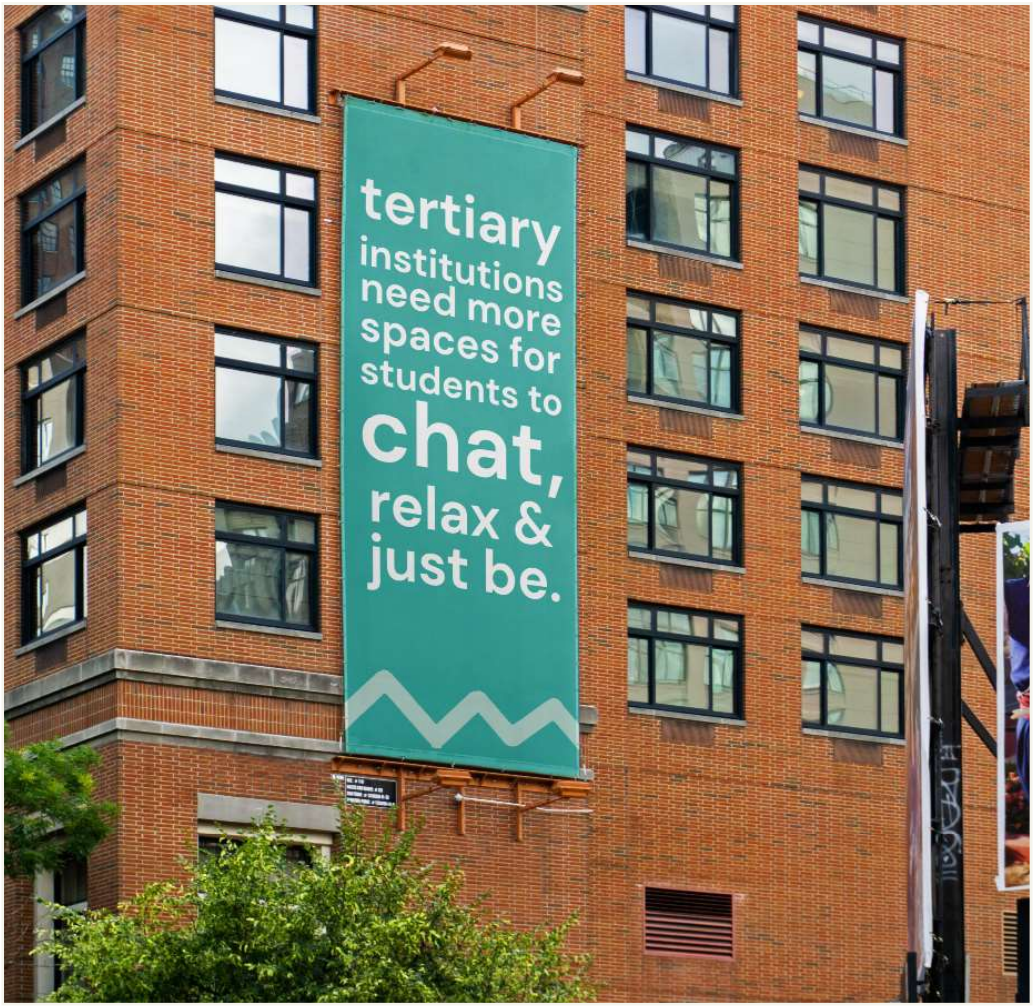


Figure 8.0 : Poster mock-up outside public buildings, Author (2021)

8.5 **Further Research**

Mental health issues among the student community continue to persist in Aotearoa. This research has addressed a contextualised well-being issue specifically for tertiary students. This research, as it stands, has a specific direction from the perception of the author, which is distinct and relevant to the current situation. It is hoped that this research would stimulate further studies that could be developed in three different directions. They are as follows:

Firstly, the use of participatory design for the research design discussion would be critical for understanding the context while forming the brief programme. However, input from users and testing their ideas during the design process would have further strengthened the direction of the design proposal. For additional investigation, the imagery of the proposed intervention should be taken through AR/VR experiences to the students on the Kelburn Campus of Victoria University of Wellington to engage with this imagery, critique it and provide feedback. It could then develop further iteration of the design and improve validity to its awareness being built. Furthermore, using the Delphi method, a peer review for group opinion through surveying a panel of experts could provide critical insights to this design-led research (Twin, 2021).

Secondly, the proposal could be taken in an alternate direction by including the Te Whare Tapa Whā - Māori well-being model. This holistic model can be overlayed with existing research methodology to extend the notions of well-being in spaces with the help of mātauranga Māori.

Finally, the research findings should be shared as a case study for the potential implications of this type of work on government, especially informing the Youth Council of the Wellington City council. Architects and designers should keep examining and attempting alternative ways of executing architecture to transform our practice, demonstrate its relevance to face significant issues, and create relaxed, joyful, and more equitable student communities and campus environments.

8.6 Spreading the word

An important aspect of this research was to create conversations about it around the institutions. Since the start of this research, I have sought opportunities to create conversations about his research within Victoria University of Wellington and through Youth Council meetings at Wellington City Council (Me Heke Ki Pōneke).

I was invited to my alma mater back in India,where I was able to raise awareness about students' mental health and what students and institutions can do about it.There is much more scope in spreading word about the research and explore in it which I will puruse at my best interest.

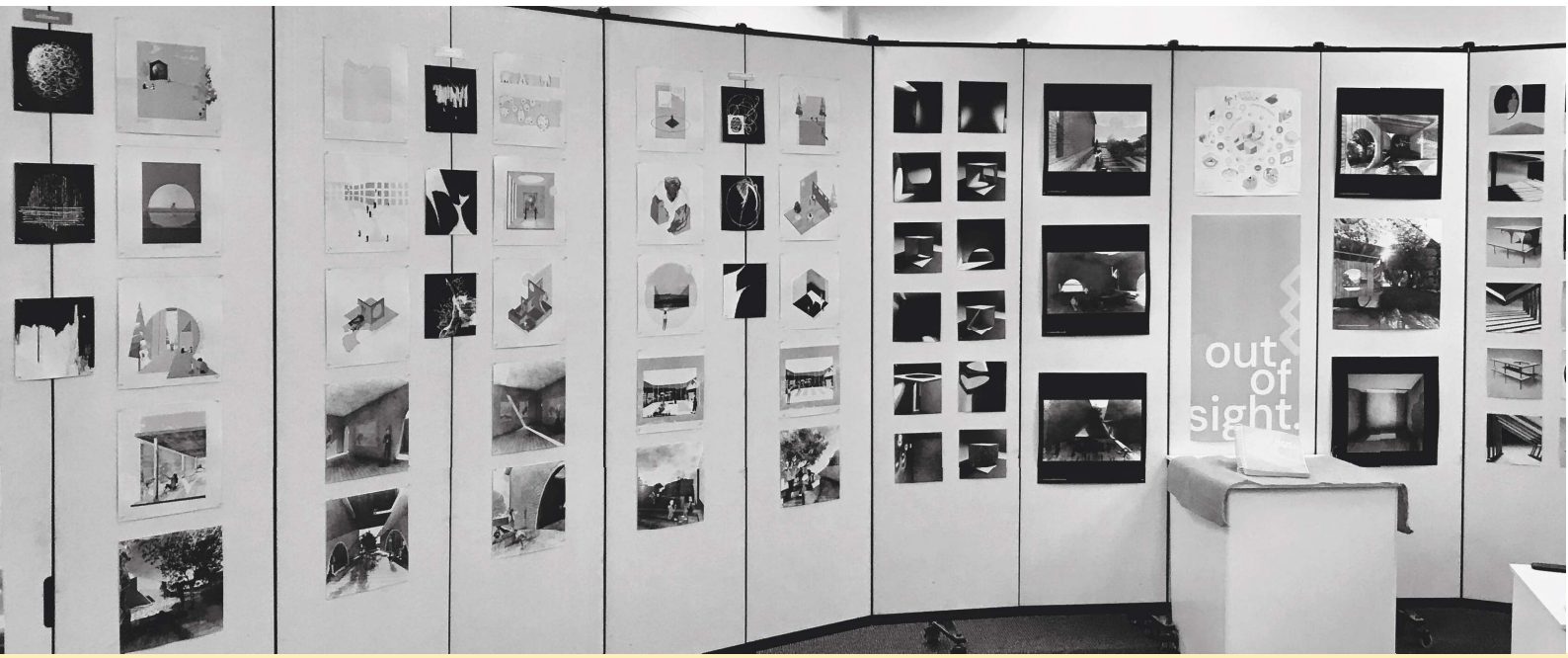


Figure 8.1 :
Creating conversations about the research in and around institutions

Opposite Page :
Presenting thesis research at On-site in Wellington Faculty of Architecture December 2021

Read more at
https://www.wgtn.ac.nz/wfadi/about/news/out-of-sight-not-out-of-mind

Top + Bottom :
Creating conversations about the research in alma mater. Periyar Maniammai University, Tanjore, India.

out of sight
out of sight
out of sight
out of sight
out of sight
out of sight
our mental health is out of sight.

" I want to be out of sight of everyone."

out of sight , there are other senses.

"out of sight , out of mind."

best things dwell out of sight.

out of sight
out of sight
out of sight
out of sight
out of sight
out of sight

Closing statement

Mental health and well-being problems are often out of sight, and responses to an individual's mental health cannot be compressed into a "one size fits all" approach.

This design-led research has identified that architecture can be used as an ideal tool to increase the well-being of tertiary students. Thus, Architecture can help diminish the gravity of students' mental health issues, through small steps, it has the power to address issues that are **out of sight**.

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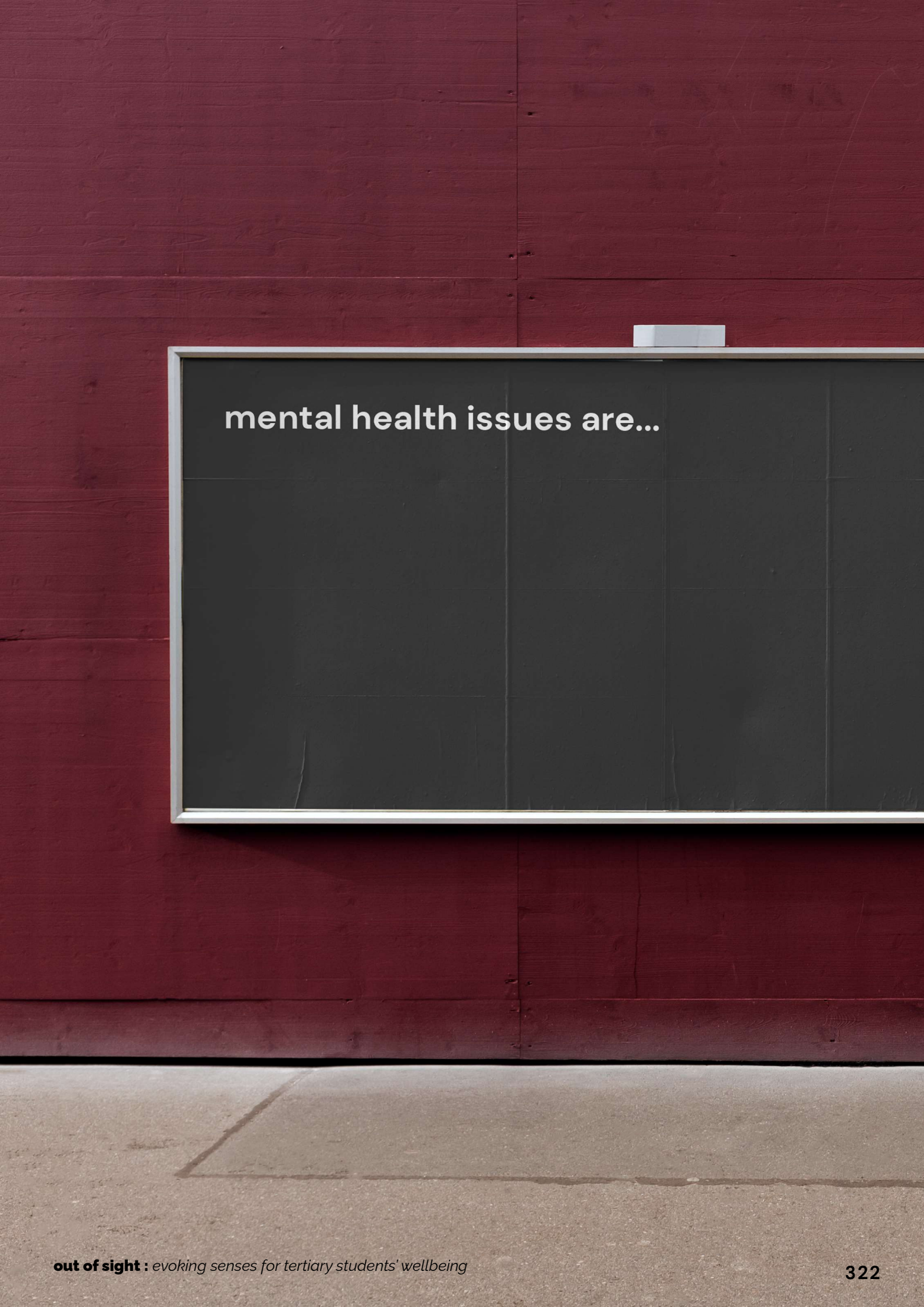
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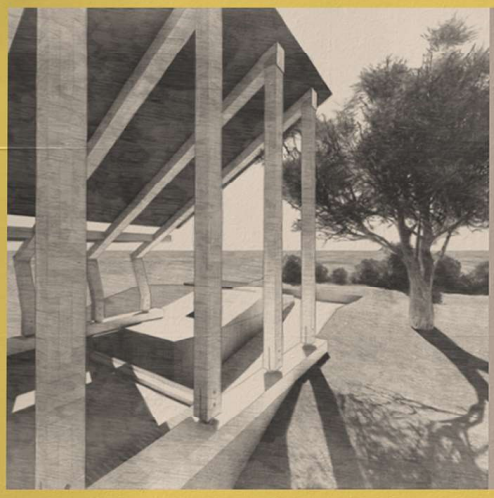

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