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Min Joo Kim 306763

HEALING ARCHITECTURE

Exploring own mind and emotions in inner city of Seoul

This document is submitted in partial fulfilment for the degree: Master of Architecture [Professional] at the University of the Witwatersrand, Johannesburg, South Africa, in the year of 2016.

DECLARATION

I, [Min Joo Kim 306763] am a student registered for the course *Master of Architecture [Professional] at the University of the Witwatersrand, Johannesburg, South Africa*, in the year 2016. I hereby declare the following:

I am aware that plagiarism [the use of someone else's work without permission and/or without acknowledging the original sources] is wrong. I confirm that the work submitted for assessment for the above course is my own unaided work except where I have stated explicitly otherwise. I have followed the required conventions in referencing thoughts, ideas, and visual materials of others. For this purpose, I have referred to the Graduate School of Engineering and the Built Environment style guide. I understand that the University of the Witwatersrand may take disciplinary action against me if there is a belief that this is not my unaided work or that I have failed to acknowledge the source of the ideas or words in my own work.

This document is submitted in partial fulfilment for the degree: *Master of Architecture [Professional] at the University of the Witwatersrand, Johannesburg, South Africa*, in the year 2016.

Signature 

Min Joo Kim

Date 09. Sep. 2016

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My parents live in South Korea, and are extremely proud of my vision to study in South Africa. I know that they worry about me all the time. My health and my safety are the first things on their prayer list. I would like to thank my parents for their financial and emotional support during my studies. In doing this study, I have tried to be a role model for my younger sister, Min Woo and my younger brother, Min Seok. I am sad that I cannot be with them in South Korea to help them with whatever they may need. I thank them for their cheerful messages.

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ABSTRACT

The world is changing fast in every field of technology. As technology rapidly develops, humans need to adapt to excessive learning and work loads, in order to meet the current society demands. Extreme stress accumulates, and negatively affects peoples' physical health. Stress causes many mental illnesses as well. However, many people avoid going to mental hospitals, because of the stigma or the negative stereotype associated with mental illness.

Therefore, people try to relieve their stress in physical ways by exercising, travelling, or partaking in other leisure activities. They use psychology, religion, therapy, or meditation to relieve their stress. Today, in South Korea, many people work long hours into the night and on the weekend. Many of these people cannot afford treatments that relieve stress, because they do not have the time or the money.

Most South Koreans spend their days in their work space. In a highly competitive work environment and networking environment created by social media, the South Korean people lose self-esteem. People blame the social structure and hierarchy for the defective working culture. People get depressed or lose their self-esteem by being submissive, rather than fully expressing their opinions especially regarding the ruling class. As a result, many people plan or consider emigrating. South Koreans, often forget or lose their identities and essential qualities.

This document suggests that an urban meditation centre should be built close to the business districts in South Korea. People could visit the centre whenever they need a break from their tough working environment. Visitors to the meditation centre would use all their senses to feel alive, and to realise and reaffirm their existence. Through this sensory experience, they would also be able to meditate and find inner peace.

This report aims to research how architecture can help to release stress in an urban context and how this space could enhance peoples' various sensory experiences. Healing architecture explores all the human senses using the theory of phenomenology.

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CHAPTER 1: RELEVANCY

1.1 Background

1.2 Problem statement

1.3 Research questions

1.4 Architectural objectives

1.5 Aims

1.1 Background

Fast-growing technology has changed daily life. Humans try hard to learn new technologies and adapt to changing environments. However, humans are one of the slowest evolving animals (Giedion, 2002). They cannot keep up with the speed of growing technology during their limited lifespan. The original purpose of developing advanced technology is to make humans more comfortable but this fast-growing technology often causes stress.

Korean[1] culture and history developed from Confucianism.[2] Thus, courtesy is very important in Korean culture, especially courtesy between old and young people, of different classes[3], or within different job positions. Korean people are often hesitant in expressing their opinions and therefore they suppress their emotions in society. The social system and culture of Korea causes people to suppress their emotions and opinions, which results in a lot of stress. Consequently, Korean people are under stress globally and nationally. Stress leads to other physical diseases such as gastro-enteric trouble or mental diseases such as depression.

There are 350 million people with depression worldwide (Fig.1) (World Health Organization (WHO), 2015). In South Korea, one in eight people have depression (Visual Dive, 2014). Over 800,000 people die from suicide every year (Fig.2) (WHO, 2016). The Organisation for Economic Co-operation and Development (OECD) countries (OECD, 2015) list South Korea as the country with the highest suicide rate. These statistics show how bad the situation is in South Korea.

A more urgent problem is the way Koreans deal with depression. Koreans consider depression as a temporary feeling that does not require medical treatment (Ahn et al., 2012). Additionally, people hesitate to go to mental hospitals due to the stigma attached to these hospitals (Bell, 2009). For example, Korean people think that a medical record of mental illness may have a negative impact on their future. In Korea, psychological illnesses are common and should be addressed. Psychological illnesses cause physical illnesses, chronic fatigue or a decrease in work efficiency.

Many people try to overcome their psychological illnesses by themselves, because there is a social stigma attached to mental illness (Bell, 2009). Stress is the root of most mental illness. There are physical ways of releasing stress, such as physical exercise, travelling, and enjoying leisure activities. There are psychological ways of releasing stress through religion, therapy, or meditation.

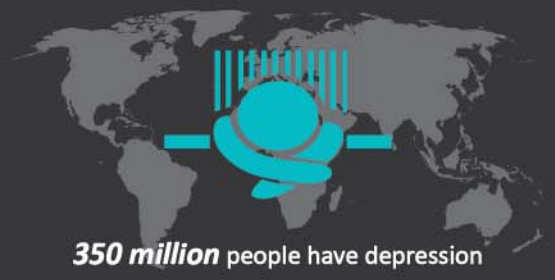


Figure 1_Depression worldwide (WHO, 2015)[4]



Figure 2_Number of suicide deaths (WHO, 2016)[5]

[1] 'Korea' hereinafter refers to South Korea in this research report.
[2] Confucianism is a system of philosophical and ethical sociopolitical teachings.
[3] There is no more the class system in Korea but there is new type of classes invisibly divided by income or assets due to one of side effects of capitalism.
[4] Reproduced by author with data extracted from (WHO, 2015).
[5] Reproduced by author with data extracted from (WHO, 2016).

1.2 Problem statement



Figure 3_Street of Seoul (Juhn, 2009)



Figure 4_A tired office worker (Taekwon V, 2013)

In Korea, there are four main social problems. The first problem is that as technology develops rapidly, humans get treated like tools or machines by their employees. Many Korean people have a low self-esteem (Lee, 2014). People in the workplace are pressurised to understand new technologies and information, and they are pushed to achieve and produce new ideas. For most Korean office workers, working overtime and long working hours is a habit, and it becomes part of their working-culture.

The second problem is that city dwelling Koreans are tired because they overuse their eyes or their visual sense rather than using all their senses equally. The Korean work culture is to work late even when people are self-employed. Many shops and restaurants are open late at night (Fig.3). The country runs 24 hours a day, 7 days a week. Although it is often convenient to have stores staying open late, this phenomenon contributes to light pollution and chronic fatigue in the city. Many people are exposed to an overabundance of artificial light and excessive visual marketing.

The third problem is that Korean people do not often show their emotions, and this originates from Korean Confucian ideas. Confucianism suggests that younger people should respect their elders and so if younger people express their opinion in front of elders, it is criticised or thought to be very rude. Money brings power, or money symbolises an upper class in modern day Korea (Jo, 2015). For example, recently in Korea, some wealthy people mistreated their servants in public, without caring for the servants' emotions (Ha, 2015). As employees need to get paid, they tolerate being treated badly in the workplace (Fig.4). Many people think that it is acceptable to work overtime, without extra benefits (Yoon, 2016). Therefore, many Koreans work and live suppressing their emotions. They get hurt emotionally when bad circumstances arise, and are easily discouraged because they lack emotional intelligence. These circumstances lead to poor and drastic decisions such as suicide (Ahn et al., 2012). The people of Seoul need to rest; they need to learn how to pause; and they need to learn how to verbalise their emotions.

The fourth problem is that in Korean cities there are very few places to go to relieve stress and purify the mind. A stress-relieving architectural space is missing in most Korean cities. These spaces allow city dwellers to experience their different senses and understand their existence. If people observe their existence, their self-esteem increases, and their self-importance is realised. People should be given the opportunity to use all five senses, in quality architectural spaces.

This research report researches and studies how these problems can be solved using architectural knowledge, and it highlights the role that architecture plays, in a Korean society, where visual senses are overused.

1.3 Research questions

These research questions arise from the problems stated earlier.

- How can architecture be used to influence human thoughts or emotions and release accumulated stress?
- What role can architecture play in reducing the dominant visual society in Korea?
- How can architecture and space be used to maximise all human senses?
- How can natural elements be used to contribute to creating sensory-experiential spaces?
- How can architecture draw in busy and stressed-out office workers?
- How can architecture interface the busy boundary of the city with a serene, green boundary of a park?

1.4 Architectural objectives

The architectural objectives of the project are:

- To create an urban meditation centre where tired office workers can pause in their modern day.
- To research social and cultural aspects in Korea; the status of mental health and plans to deal with mental health.
- To create a building with experiential spaces that recognise stress and contribute to healing the body using all the senses. To learn how the human body and mind relate to architecture.
- To analyse how architectural elements such as light or texture affect human sensory experiences.
- To research elements such as landscape, material, geometry, or proportion that enhance the quality of spaces. To examine whether these elements can influence the formation of character of spaces or not.

1.5 Aims

The aim of this research is to design an urban meditation centre in city of Seoul that demonstrates psychological well-being. This research investigates how architecture affects human sensory experiences and context with a purpose to design pause spaces where people can feel themselves in those spaces by using all their senses. This research applies different conceptual qualities of spaces using statistics, research literature, articles, and previous studies.

CHAPTER 2: THEORY

2.1 Introduction

2.2 Architectural solutions

2.3 Multisensory architecture

2.1 Introduction

Today, many people suffer from extreme stress. This is not to say that life was less stressful in the past. The problem is that many people cannot cope with today's level of stress. Stress causes physical and psychological health issues. This research report mainly focuses on minimising psychological health issues using architecture and space.

Psychological diseases make people chronically tired and they reduce work efficiency; they also affect humans' physical health. If stress is decreased or released effectively, people would be healthy.

Factors that cause stress

There are four factors that cause stress: social factors, environmental factors, physiological factors and psychological factors (Fig.5) (Samsung Medical Center, 2014).

1. Social factors include any emotional conflict between family, friends, personal relations, or occupational stress.
2. Environmental factors include weather, pollution, noise, excessive light, and a competitive society or living environment. These factors lead to limited spaces, overwork, insufficient sleep, or lack of exercise.
3. Physiological factors that may cause stress are physical diseases, aging, various hormonal disorders, nutrient deficiency, or malnutrition.
4. Psychological factors threaten self-esteem, and can result in depression, anxiety, and traits of character. These different traits of character include: an introspective nature, perfectionism, competitive character, and various dependences such as work, alcohol, game, gambling, or social media addictions.

These four factors interact and influence one another. The human body and mind cannot overcome accumulated stress and at a certain stage, the accumulated stress becomes a chronic illness. Therefore, it is important for Koreans to build up a strong mind-set or develop emotional intelligence, in order to be less affected by excessive stress. It is difficult to get rid of stress entirely but it can be managed therapeutically when recognised. One can stay healthy from all sorts of diseases without needing any chemical or pharmaceutical treatments (Kim et al., 2014).

Many people all over the world struggle with stress and they let stress develop into mental illnesses such as depression or social phobias. 350 million people suffer from depression in the world (World Health Organization (WHO), 2015).

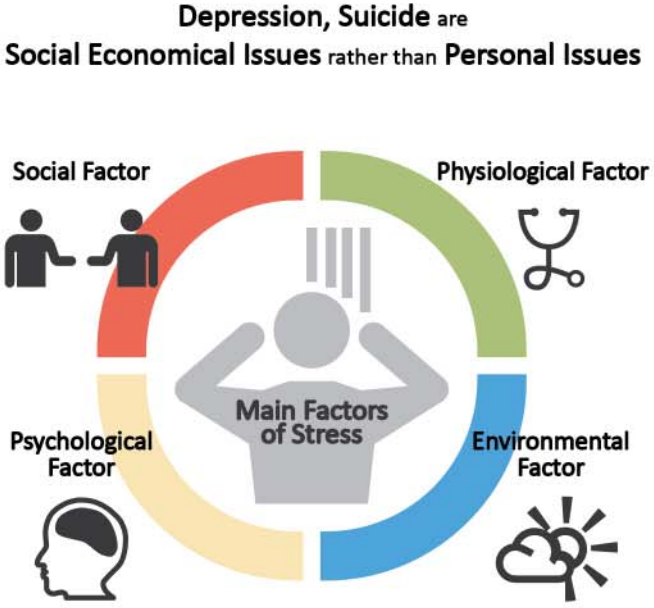


Figure 5_Factors that cause stress (Samsung Medical Center, 2014)[6]

[6] Reproduced by author with data extracted from (Samsung Medical Center, 2014).

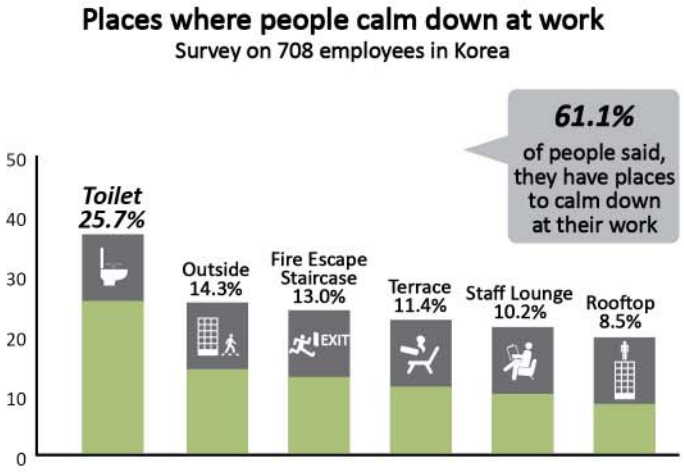


Figure 6_Places where people calm down at work (Visual Dive, 2014)[7]

The present status of South Korea

This report is an intensive case study on South Korea. The choice of country for the case study is motivated by the following factors:

1. Social Factors. Korea has the highest suicide rate among the OECD countries (OECD, 2015). Depression and suicide are socio-economic issues rather than personal issues. Suicide is not only one person's problem, but it affects a whole society. The socio-economic factors change for the immediate family. Their future income is lost, their financial business productivity is lost, they have direct medical expenses to pay, and loss in productivity from sick leave and other expenses (Visual Dive, 2014). As more cases of depression and suicide are reported, these socio-economic expenses also increase (Visual Dive, 2014). There is still a social stigma in Korea regarding mental illness. According to research conducted by the National Evidence-based Healthcare Collaborating Agency (NECA), 35.4% of all patients suffering from mental illnesses said that they actually felt handicapped due to mental illness. They experienced social prejudices or disadvantages when applying for a medical insurance policy (Ahn et al., 2012).

2. Environmental factors. The Korean working environment and resting spaces need to be improved. Research conducted by Visual Dive in 2014, states that 61.1% of the people working in Korea take time to rest. A quarter of these employees escape the tough work environment by spending time in the toilet (Fig.6) (Visual Dive, 2014). This is because their work place lacks 'pause' spaces and mediation areas.

3. Physiological factors. About 70% of patients that are treated by internists, have stress related illnesses (Ministry of Health & Wellfare, KAMS, KNPA, 2013)[8]. Stress often develops into several physical illnesses (Oh, 2014).

4. Psychological factors. A survey conducted by NECA[9] on 737 patients suffering from mental illness, in nine Korean university hospitals concluded that depression is the most common mental illness. This survey found that 67.4% of these mentally ill patients suffered with depression (Ahn et al., 2012). Depression can easily lead to suicide or psychiatric crime. Furthermore, depression and suicide become a social economic issue. However, the most serious problem is that even though Korea has a fast-growing number of mentally ill patients, very few of these patients use the mental medical service when compared with other developed countries (Ahn et al., 2012).

[7] Reproduced by author with data extracted from (Visual Dive, 2014).

[8] KAMS is the abbreviation for Korean Academy of Medical Sciences. KNPA is the abbreviation for Korean Neuro-Psychiatric Association.
[9] NECA is the abbreviation for National Evidence-based Healthcare Collaborating Agency.

The sense of *"us"* in Korean culture

South Korea's economy is developing faster than any other country in the world (Wikipedia, 2016). The New Community Movement or the Saemaeul Movement is one of the key reasons for the rapid development. This movement changed the mind-set of Koreans. In the 1970s, the Korean government promoted the notion of turning an individual identity into a collective identity, by marketing words such as *'us'* and *'family'* (Fig.7). People were encouraged to refer to their street as *our street*; and their place of work as *our factory or our office*. As individual identities turned into collective identities, the boundaries of the social environment were re-drawn and created into imaginary ownerships. This idea made people value and care for public spaces and collective social environments. In other words, Koreans began to think differently in a community spirit. If they worked hard in *'their'* street, and *'their'* work place, then the streets would be maintained, businesses would flourish, and the community would eventually all become richer. As a result of this movement, Koreans were driven to work diligently and fiercely for the greater good of everyone and this led to Korea's economy developing rapidly, in a short period of time.

The repercussion of the sense of *"us"*

The change in Koreans' mind-sets also changed working-culture in Korea. Workers were now expected to work harder, and working overtime became the norm. Today almost all Koreans spend most of their life time in their working environment. The impact of this is that it has led to other social problems, such as chronic fatigue, demotivation, inefficiency, and broken families. The most serious problem is that Korean businesses treat humans as tools or machines. Additionally the growth of the virtual world and social media has influenced ideas on self-identity. People use an internet name instead of their real names or they create their own digital persona, as a substitute for themselves in a cyber-society. On social media sites, people pretend to be completely happy and boast of their achievements. Others compare themselves with their friends and they may feel that they have not achieved the same things as their friends. Social media or the cyber society affects many people unconsciously resulting in low self-esteem (Reay, 2014).

Koreans dominantly use the visual sense and this raises another problem. The visual perception of an object or an idea dominates people's mentality and perception in Korea today. Excessive visual marketing, overwhelming visual media and data prevent people from developing their emotional intelligence and prevent them from exploring activities that use the other senses. For example, info-graphics are commonly used as one of methods of visualising data. Info-graphics help viewers to read information easily and quickly. However, there is a defective side to the overwhelming amount of data that is visualised. The outcome can be subjective and biased depending



Figure 7_"We" (Author, 2016)



Figure 8_No pause space for office workers (Sam, 2014)[10]

[10] Reproduced by author with data extracted from (Sam, 2014).

on the person collecting the data or posing the research questions. Visualisation makes it easy to read a lot of data at once but it also means that the data can be skewed to suit the data-collector. Therefore, data visualisation can drive people towards a biased political view or a biased social purpose (Parkin & Shamas, 2016). In other words, excessive use of the visual sense instils specific thoughts or opinions about a subject. A person's perceptions are limited, when the only visual sense is used (Ruckenstein, 2014).

Korea is also affected by light pollution. The majority of office workers constantly look at computer monitors, or smartphone screens. Excessive lighting in Korean cities causes overuse of visual senses. As a result, 54.8% of Koreans wear glasses or contact lenses according to the Korean Optometric Association (Kim, 2011). The dominant use of the visual sense, is serious in Korea, and eye health has deteriorated.

The current problems in Korea

This document studies the status of mental disorders such as depression and a low self-esteem in Korea. These problems are briefly analysed as follows:

1. Social factors. 60.5% of medical claims in Korea are related to psychological diseases (Ahn et al., 2012). Additionally, both mentally ill patients and medical specialists feel that some improvement must be made in alleviating the social prejudice around mental illness and they favour treatment away from medicines because of the negative stigma (Ahn et al., 2012). Therefore, many people try to relieve stress by exercising, travelling, enjoying hobbies, consulting with specialists or religious leaders, using various therapies, and meditating.
2. Environmental factors. Work environments in Korea do not have facilities for recreation or mediation (Fig.8). Offices are lit excessively with artificial light and this problem should be addressed.
3. Physiological factors. Koreans work long office hours and spend most of their time in their working space. They sit far too long in front of computer monitors and they do not have time to be outside in the sunlight. There should be spaces for people to see the sky and places for exercise. Also, eye rest should be encouraged.
4. Psychological factors. Stress is the root of all mental illnesses. It is not easy to get rid of all stress. Therefore, people should train themselves to keep a strong mind-set and meditate internally to realise their identities and self-importance.

This research report studies how these issues can be resolved architecturally.

2.2 Architectural solutions

Today, with advancing technology, Korean people use their eyes excessively and tend to forget about sound, touch, smell and taste. They lose the opportunities to enhance their other sensory systems. It is impossible to change this social structure or reach everyone's situation. This report suggests that the solution may lie in the design of an architectural space, where stressed people could unwind, feel alive and think about who they really are. The aim is to change peoples' ideas or thoughts about stress and provide them with a healing spatial experience. The consequence of this could be that their mentality becomes strong enough to manage any pressurised life situation.

> *"Architecture is the art of reconciliation between ourselves and the world, and this mediation takes place through the senses," – Juhani Pallasmaa* (Hargis, 2014)

Humans constantly get stressed from the pressures of society, their environment, and the developing world. Pallasmaa refers to architecture as a form of art that links humans into a society, through the medium of human senses (Fig.9) (Pallasmaa, 2012). In other words, architecture is an art-form compiled of multiple layers that one sees, hears, smells, touches, and moves (Lehman, 2009). The architectural design in this research report will provide Korean people with an opportunity to understand the different boundaries of a city and experience nature by way of a sequence of spaces, using the body and the five senses. The research is intended to set an example, and show people how to appreciate their environment or the society in which they belong. The architecture will give people the opportunity to use *all* the human senses, in order to accept any factor of stress as it is and alleviate the worry or fight with that specific stress.

The architectural solution might seem very romantic, but it is based on the theory of phenomenology. Phenomenology is a philosophical theory that stresses that an object should be defined with the human body at its centre (Kim, 2007). The theory is different from the modernism theory of the twentieth century, which pursues rationality and functional notions. Phenomenology brings humanity into the subject in order to determine spaces or an object.

Architectural solutions are explained with corresponding problems. These were stated earlier as follows:

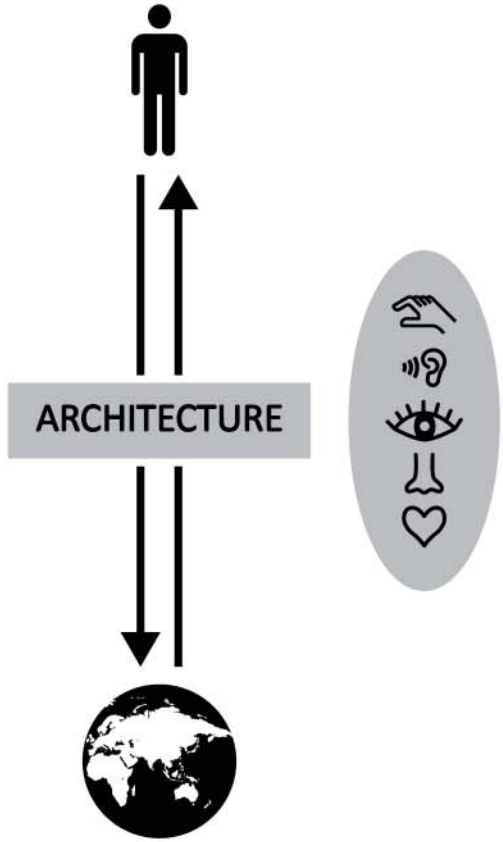


Figure 9_Architecture and human senses (Author, 2016)



Figure 10_Die Verwandlung (Barends, 2016)

Social factors

Meditation is used as a method to control stress and train one's own mentality (Luckoo, 2011). It does not aim to change the social prejudices of mental disease. Meditation is beneficial because contemplative thinking helps people clear their minds from worry and stress. Substantial thinking about one's existence makes people strong-minded. A strong mentality can alleviate stress.

Fukuhara said that philosophical thinking can solve problems that seem to have no answer. (Masahiro, 2016). The education system in Japan and Korea generally involve cramming enormous amounts of knowledge into learners, and training them to answer questions that only have one answer. Therefore, Fukuhara emphasised that the Japanese and the Koreans should learn to do philosophical thinking continuously (Masahiro, 2016). He said philosophical thinking would allow people to see what they haven't seen and it would also solve problems that seem to have no answer (Masahiro, 2016).

A novel called 'Die Verwandlung' (Kafka, 1998), is about a man who is suddenly transformed into a bug (Fig.10). The book makes readers rethink about their substance. The man's family hide their son from the world. Initially this behaviour is done to calm the man's shocked mother, and his sister feeds him and thinks what he would like to eat. However, as time goes by, the whole family does not care whether he eats or not. When the son dies, the family feels relieved rather than sad (Kafka, 1998). The book describes that the man is still the same, even though his body is that of a bug. He is still part of his family. Although his appearance or his shell transforms, the man *himself* does not transform or disappear. However, no one can blame his family, because the man cannot possibly get along with other humans. He prefers rotten fruit to fresh food. He is no longer human. If he had lived longer, he would have lived with a group of bugs, sharing the same body type. He could adapt to living as another species, create a new society, and learn different cultures and languages with similar living things. The book shows that in a crowd, people first divide themselves according to similar looks, or visual perceptions such as race, sex, or age. It is important to note that this behaviour has nothing to do with superiority such as racism or feminism. Common-visual elements easily create certain sub-cultures, as it is easy to initiate communication. In the book the problem is that the man cannot be judged on his transformation, because it is neither his fault nor any other person's fault. The novel emphasises that people should focus more on the man's real *self* or *themselves* and cherish who they are. Meditation is important because it focuses on *who we are*. Meditation does not include negative stigmas or social prejudices about mental illness or mental hospitals (Luckoo, 2011). The constant focus in meditation is on self-awareness. Meditation helps people realise that they should not judge others because they still do not know about themselves. It teaches people that they are all the same. Eventually, meditation helps abolish social prejudices.

In Korean-Buddhism[11], humans and animals stand trial for their own life after death and then they are reincarnated into a new body. The type of new body (either human or animal) is determined by how that person has lived and contributed to their life. In other words, if a person was kind-hearted, helping others and not hurting others, they will be reborn as a human. If a person was greedy and evil during their life, they will return in an animal or an insect body. Today, many people mistake Korean-Buddhism by encouraging people to do good things and they punish people for doing evil. However, this doctrine is actually influenced by Confucianism, which mainly focuses on righteousness. While *good or bad* is also a serious topic for people to think about, Buddhism is a philosophical idea where people are encouraged to think about *who they are* (Fig.11). The Korean practice of Hwadu meditation (Fig.12) also aims to answer this question. A person's name does not explain *who they are* because many other people share the same name. A name is only one of many identifying methods. It is believed that a person's body does not explain who they are, because after their death, that person gains another body. It is believed that the existing body is only a temporary shell covering the inner-self. A person's current thoughts or emotions are also not real because they are only temporary elements. People can be influenced by something or someone and change their thoughts. Everything that can be observed is an object and not the subject; not me. In other words, when a person's thoughts are changed or a temporary emotion disappears, it does not mean that the person disappears. Buddhism is about understanding your inner self. It trains people to think about one's *vessel*. The *vessel* symbolises the empty space that is left after the observed body, emotions, and thoughts are erased. These phenomena arise and disappear at any given moment. Buddhism meditation of self- awareness, changes a person's behaviour, and recovers their emotions or feelings through the understanding of themselves.

It does not mean that whatever a person sees is wrong or bad. It means that nothing should be judged only by sight. People easily relate to others who seem to have the same thoughts, and people create subjective prejudices or stereotypical ideas based on these observations. Therefore, people should be able to use their sensory systems to the full, so as to observe the outer and inner environment that surrounds *them*.

This study aims to design a meditation space along a boundary between the city of Seoul and a natural park. The aim is for people to observe and feel the difference between the two environments. Office workers will be able to leave their working space and pause and breathe in a meditation space.



Figure 11_Questioning meditation in Korean-Buddhism (Ha, 2010)



Figure 12_Hwadu meditation (HongikHd, 2013)[12]

[11] Buddhism has been developed with idea of Confucianism in Korea. Therefore, it is slightly different from Chinese, or Myanmar's Buddhism.

[12] Reproduced by author with data extracted from (HongikHd, 2013).

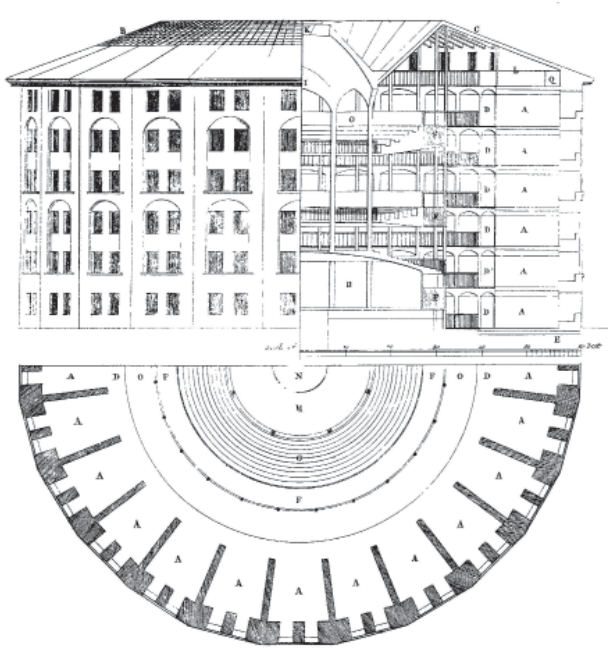


Figure 13_Panopticon (DieBuche, 2013)

Environmental factors

The Korean environment is predominantly visual. Dominant visualisation is categorised as follows: light pollution, excessive visual marketing, overwhelming visual media and press information. None of these elements are more significant than any other.

> *People are persistently being bombarded by fast moving, visual information in today's built environment and their minds are constantly distracted with having to process this information.* (Hargis, 2014)

Excessive visual marketing and visual media make use of shocking headings, images, or scenes. So it is sometimes unpleasant to look at excessive visual marketing and media.

Korean office workers and self-employed people all finish late. Many shops and restaurants stay open late into the night. Many signboards and neon signs market businesses, and glare brightly during night time. In other words, many cities in Korea never sleep. Therefore, almost every spot in the city is bright, even at night. Some people feel safe at night but a lot of power is wasted at the same time. Excess artificial light or light pollution makes peoples' eyes tired.

Dominant visualisation affects our mentality and unconsciously controls our minds. According to *'Discipline and punish'*, Michel Foucault said that modern epistemology is visual-central. Whatever humans see is what they know. Visual-central epistemology is further developed as a method of establishing social political power. Visual perception (as knowledge) and authority (as power) are in an inseparable relationship, reinforcing each other. It is natural that when a man has access to more information than another man he gains more power. When a man has more power and knowledge he is able to govern effectively (Han, 2012).

Panopticon[13] illustrates the idea of supervision and the power of supervisors very well (Fig.13). It was developed by a utilitarian theorist called, Jeremy Bentham (Lim, 2012). Panopticon is a double, rounded-shaped prison, where each cell is arranged around an outer circle and a watchtower is at the centre of the circle. This watchtower was specifically designed so that people could not see outside and prisoners did not know whether they are being

[13] Panopticon is a type of prison-in-the-round, invented by an English philosopher, Jeremy Bentham in the 18th century.

watched or not. The prisoners felt that they were constantly being watched. As a utilitarian theorist, Bentham tried to invent a miniature of an ideal society where optimal outcome is maximised with minimum costs and supervision. Bentham's panopticon design could be applied to factories, schools, hospitals, camps or prisons each resulting in a different outcome. (Lim, 2012). Foucault called Bentham's Panopticon a cruel prison, where prisoners' feelings were not considered as they felt that they were being watched all the time. Bentham's idea was aimed at maximising utility and practicality. His idea only enhanced the power of society. In the 18th Century, as industrialisation progressed, the population growth slowed down. Bentham visualised prisons as correctional centres where labour could be exploited and productivity enhanced (Lim, 2012). However, most prisoners became tired of constantly being watched; they became stressed and mentally weak.

As society has progressed towards becoming more information-oriented, it has become an electronic panopticon (Fig.14). The electronic panopticon suggests that today's society is constantly being watched through satellites and advanced computer technologies (Hong, 2001). The police at the centre of Bentham's panopticon watch prisoners in one-way. In the electronic panopticon *vision* has evolved to *information*. The original panopticon's with its central watchtower had a limited influence; the new electronic panopticon has no limit in its ability to scrutinise people's information (Hong, 2001). While Bentham's panopticon has a centralised surveillance point from which the police watch the prisoners, the electronic panopticon has many more than one surveillance point. Today, there are many cameras on every street corner and many people do not realise that they are being watched. In this case, the supervisor cannot discipline every person that is being watched. Gilles Deleuze, a philosopher, said that the current society is a *control society*. This comment differs from Foucault's disciplined society (Wikipedia, 2011). A disciplined society is dominated by industrialised factories, where people are watched and strictly regulated. The control society is dominated by computer technologies where people are watched and controlled through numbers and digital codes.

In February, 2016, there was a debate on the Anti-Terror Act in the National Assembly of Korea (CreativeComments, 2016) supposedly to prevent unpredicted terror. This act was passed and today it allows the National Intelligence Service (NIS) to watch everyone's online comments, photos on social media or their phones, and even approves of eavesdropping on phone calls. Several members of the opposition conducted a filibuster for 192 hours (Editor, 2015). The motivation behind the filibuster was to emphasise that all citizens should have freedom of speech and the right to protect their personal information. The watching of peoples' personal information controls people unconsciously and prevents them from expressing their views and opinions.

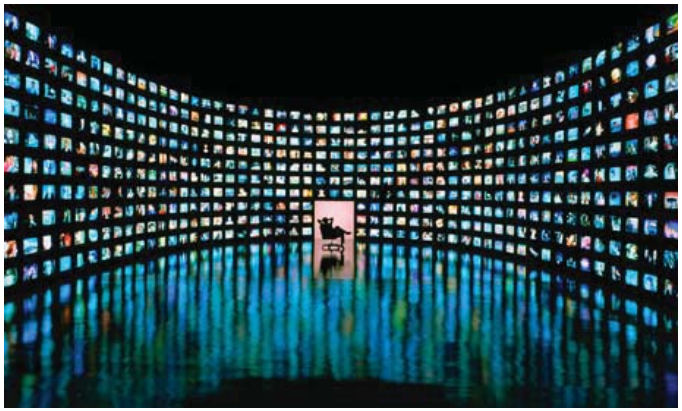
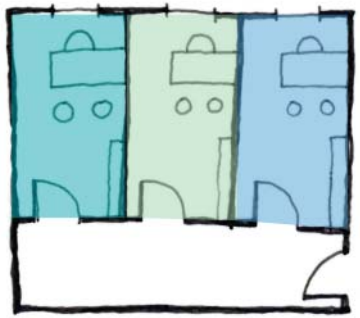
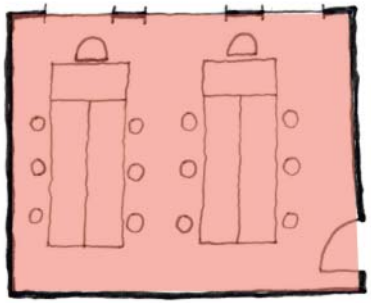


Figure 14_Electronic panopticon (Karp, 2011)



More privacy, less exhaustion



Less privacy, more exhaustion

Figure 15_Relationship between layout of office and level of stress (Author, 2016)

This act is an obvious invasion of a person's privacy. When people feel or realise that they are being monitored, they become very stressed. The research entitled *"My space": A moderated mediation model of the effect of architectural and experienced privacy and workspace personalisation on emotional exhaustion at work* discusses privacy in the work place (Slowik et al., 2013). This research shows that employees in open-plan offices have a low level of privacy, and are emotionally exhausted when compared with employees who work in a highly personalised space (Fig.15) (Slowik et al., 2013). Employers or senior colleagues manage employees more easily in an open-plan office design. However, this design limits social interaction and creates a low level of privacy (Slowik et al., 2013).

In conclusion, a panopticon-type design or an open-plan office design can have a strong negative effect on the employee's emotions. When an environmentally conducive space is designed, it makes occupants feel that they are not being monitored and they are free to explore a diverse sequence of spaces. This type of architecture aims to empower all the human senses. It is important to balance all the sensory systems because if the visual sense is too dominant it negatively affects the mind.

Physiological factors

Discipline according to Foucault, uses strategies and techniques to train people's bodies so that they are controlled by power (Kim, 2009). The three main methods of discipline are: observation, normative judgement and inspection. These methods were established in Korea during the Japanese colonial period, and they are still used extensively in Korean schools. Every school has a stage of command at the midpoint of the playground perimeter. All students are expected to line up before any teacher or principal arrives. Each student must be equally separated from the next student in the line. A teacher or normative judge has the power to watch and inspect all students from the stage of command. It is easy to control all the students because when the students' bodies are controlled, their minds are also controlled. Another form of discipline involves dictating and forcing common elements on students such as uniforms or similar hair length. Disciplined judgement creates the notion of standards. Thus, if one does not follow the discipline, one becomes disqualified or is considered the odd one out. This system in Korean society prescribes certain factors as being normal for everyone. If people use these disciplines, they create a normal student image. If they differ from that normal student image, they become abnormal and isolated from the society.

In conclusion, in Korea, nobody is free of discipline. There is an intangible stress in the country where people feel that they are being controlled. People have different characters and tastes and they therefore become stressed out when they are forced to conform to a certain standard. There should be some discipline in society, to avoid chaos. Some discipline may have a beneficial effect on society but it can cause individuals to become very stressed. People should be able to use all their senses and fully express their thoughts in their personal spaces without the feeling that they are being watched.

In a film called, 'Blindness'[14] (Fig.16), everyone in the city loses their sight except for the wife of an ophthalmologist (Blindness, 2008). The authorities in the city put the blind people into various wards of an asylum, and expect them to look after themselves. The ophthalmologist's wife isolates herself and does not tell people that she can see. She leaves her husband and others to do very basic physical chores by themselves. The film viewer watches the film though this woman's eyes. The people who have lost their sight,struggle for basic necessities like food and water, and a horrendous struggle ensues for power and control. The blind people resort to violence and panic and loose all sense of morals and values. The film shows the limitations and disintegration of a society, when humans are completely dependent on their sight.

Physiological problems can be solved by creating a space for people to pause from a busy, hectic life. They need to be alone and pause from being judged, pause from being disciplined, pause from sight dependency and pause from social friction. A wellness architectural space will be designed where people are able to experience spatial qualities through the human body. The architect's various spaces inspire people to enter and walk through each space in a specific way, rather than just walking in a straight line. Hence, design makes people experience every space, using all their senses.



Figure 16_Blindness (Guslarking, 2008)

[14] 'Blindness' is a movie based on a novel written by Jose Saramago in 1995.



Figure 17_One's vessel (Author, 2016)

Psychological factors

In our lifetime, we naturally get stressed and this can cause all types of illnesses. However, it is impossible to release all the things that are causing stress in our lives. Stress often results from troubled human relationships, but people cannot only live with people they like. They also cannot constantly live on their own. Therefore, the suggested solution to releasing stress is to train people's mind-sets to overcome stressful situations and solve their troubles.

Buddhist priests and laymen engaged in performing Buddhist austerities commonly refer to themselves as students, who study their own minds. This does not mean that they are always peaceful. As they are human, they have the same emotional feelings of hatred, want, and jealousy. However, they study their minds and they meditate in the present progressive tense. Most of the time, people who have strong mind-sets can resolutely endure adversity. Meditation in Buddhism is about continuously thinking about one's *vessel* (Fig.17). This *vessel* symbolises an intrinsic quality of one's self. In Buddhism, one's existence is the total combination of body, feeling, perception, psychological phenomenon and acquaintance. The most important thing is that everything that is observed is an object and not a subject. For example, one's body is observed by others. One can observe that emotions or thoughts appear and then disappear but one does not disappear with the emotions or thoughts. These objects, which appear and disappear, are temporary. One cannot be described with temporary things. The Buddhist person is present in a liberal empty space, or *vessel*, which is realised after erasing the body, the emotions, the feelings, and the knowledge. The first step of Buddhistic meditation takes place when one realises that emotions or feelings are raised in the mind. Advanced meditators realise that there is no point in being attached to one's body, emotions, feelings, and knowledge. Buddhistic meditation accepts all changes of those objects.

Buddhist meditation is a process of psychological and philosophical thinking. In an architecturally designed space, people could be encouraged to meditate, and find peace.

> *Space in building has a distinct character that affects man psychologically. This spatial quality is primarily dependent on actual dimensions, but is decisively tempered by light and shadow, line and contour, texture and color* (Engel, 1964).

Building materials, height, light, sound, and volume individually enhance many different characters into a building (Fig.18). These influence people's emotions. For example, a space with little or no privacy makes people anxious (Slowik et al., 2013). Nature also contributes to the atmosphere of places. A space or architectural design that contains specific earth and sky energies can positively influence people.

Architectural spaces allow humans to be aware of their body, and observe their senses. Once they accept their identity they develop a strong self-esteem and mentality.

In summary, the architectural design will solve stress by:

- Social factors – Designing a space for meditation, philosophical thinking and internalising in an urban context.
- Environmental factors – Designing private, hidden, multisensory spaces where people can be alone and fully express themselves.
- Physiological factors – Designing relaxing spaces where people can pause from the disciplined society and be *themselves*. Also, spaces where people can experience various spatial qualities with their bodies.
- Psychological factors – Designing spaces that increase self-esteem.

These are architecturally suggested solutions but they are briefly based on architectural programmes. They will be explained in more detail in a later section of this document.

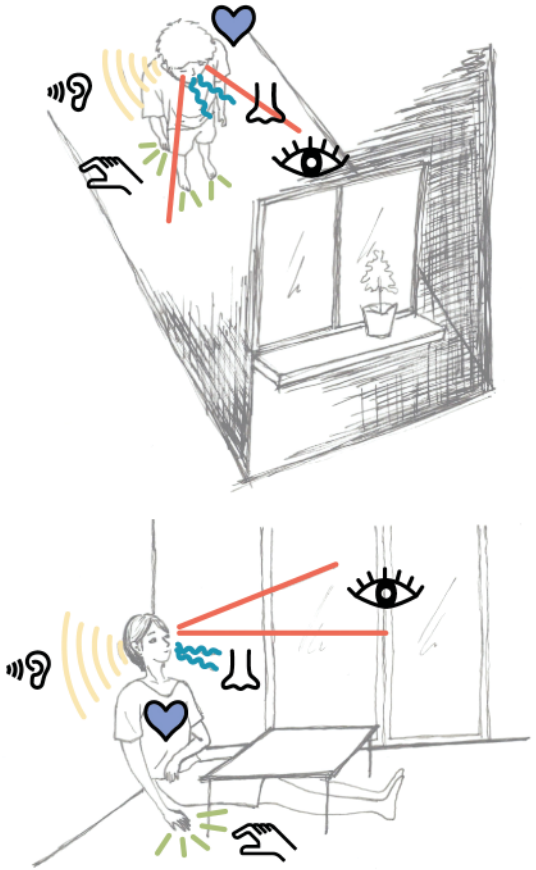


Figure 18_Architectural space and human senses (Author, 2016)

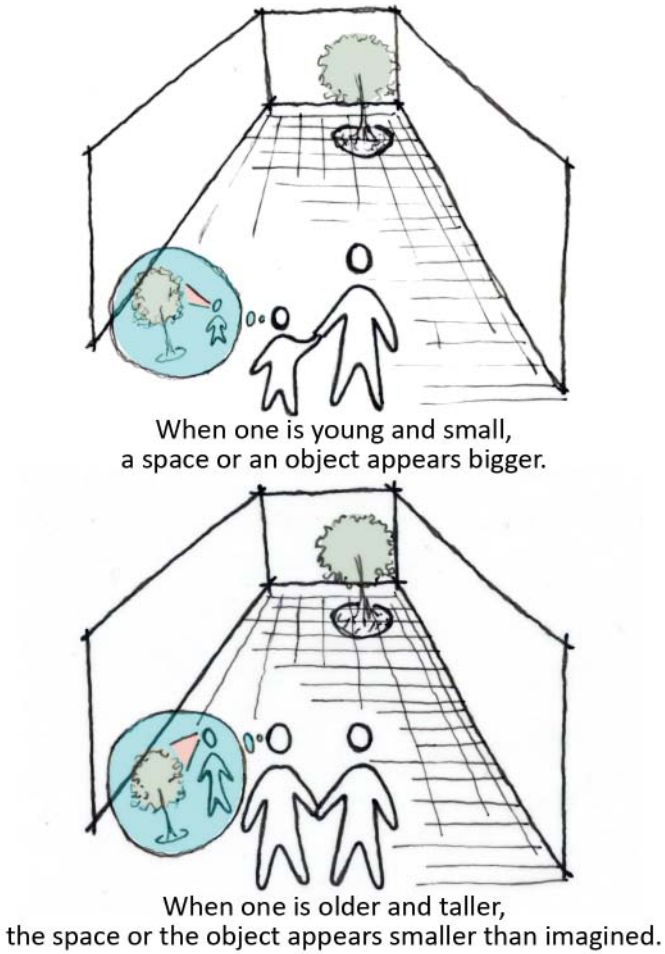


Figure 19_Scale of human body (Author, 2016)

2.3 Multisensory architecture

The body is restored when all the five senses are experienced concurrently in an architectural space (Lehman, 2009). When all the senses are used simultaneously, they create a mutual, harmonising, awareness experience (Kim et al., 2014). The senses interact with specific objects in certain environments or spaces. For example, the discomfort index of a human increases in hot and humid weather and a space without sharp angles makes some people feel secure. However, the sensory systems work subjectively, and depend on a person's sensitivity. Therefore, human-beings think and experience things differently (Pearson & Richards, 1994). The thinking process is continuously at work, and a person's thoughts are based on their sensory experiences and knowledge (Sternberg, 2009).

Architecture is frequently expressed only through the visual aspect. In fact, the short comings of every part of society is the overuse of the visual aspect. Therefore to console tired people, architecture should employ features that encompass all of the five senses. Hargis said that multisensory architecture connects spatial quality with consciousness and with sub consciousness (Hargis, 2014).

> *These subconscious connections enhance the existential experience of a space and are also ingrained deeper within a person's memory of place.* (Hargis, 2014)

Human senses are recognised through spatial experiences (Zaredar, 2015). Memories result from the human body's five sense experiences in space and time. The memory of a place may differ when one is young compared with when the one gets older (Fig.19) (Steudte, 2007). This is because a place might change as the time goes by, and as the human body changes so the scale of the main body changes. For instance, a child may look up to the trees in the street, but these trees will feel different when the child becomes an adult. This is because the human body is a tool of measurement and it gives a sense of scale. As a result, people experience spaces or places via their bodies and senses, and then they recreate subjective spaces or places in their memories. However, sometimes it works the other way round because experience depends on a person's memory, imagination, or sub consciousness (Kim, 2007). For example, someone who has experienced trauma in a certain space or someone who has a very clear memory about a certain environment will find that space reminds them of the way that they felt at the time (Libeskind, 2015).

> *There are emotional reactions to exposure and enclosure: being inside, entering or leaving spaces, being above or below. Places can be occupied or possessed by their users. They provide a wide variety of spatial and visual experiences and give identity to the area* (Chapman & Sparks, 1996).

Many architects and philosophers have discussed the relationship between senses and architecture. Merleau-Ponty[15] said that the real subject of perception is the human body (Lee & Kim, 2006). Humans perceive, think, or recognise their multisensory feelings from the movement of their bodies. Ando Tadao stated that architecture can be understood from the experience gained through the human body rather than through rational reasoning (Kim, 2007). Thomas Aquinas differentiated the external senses from the internal senses (Kim et al., 2014). He stated that vision, hearing, touching, tasting, and smelling were external senses. He referred to the internal senses as memory, imagination, and sensual thoughts (Lee, 2009, pp.23-24). Humans recognise a space as a medium that has the potential to cause an action. A space exists in a period of time, and a person has an interactive experience with this space through multiple senses and his/her own perceptions (Kim & Moon, 2011). People explore spatial quality using several senses at the same time. By using multiple senses a person's perception is wider and more deeply enhanced, than when they only use a single sense. Spaces encourage people to interact with several senses. This is therapeutic and it helps with understanding more about space and people in the space. Table 1 summarises the work of four researchers, who agreed that a space inspires people to activate all their various senses, and these spaces have healing power.

Gaston Bachelard said that walking in forest, is therapeutic because it is a multisensory space that is not limited or blocked by its volume. The word *space* in the East explains the idea of *space* as it is. In Chinese, *space* is written with two letters: 空間. The first letter means empty or void, and the second letter means in-between. In other words, a space refers to a specific volume in between other voids (Yoo, 2008). In Japanese, *space* is written as *yami* (闇). This letter symbolises darkness. However, besides *yami,* there are various words which describe space in Japanese.

> *Other Japanese words express space, which are more specific than yami, such as ma, meaning interval; tokoro, meaning place; ba, meaning field. These words express both time as well as space, a duality which is characteristic of the Japanese. Three more words for space, koko, soko, and asoko, mean respectively 'here', 'there', and 'over there.' The difference between these the English and Japanese place words is that the Japanese meaning includes not only physical distance but also psychological distance (Chang, 1984)*

Table 1_Precedent researches on multisensory and spatial curative properties (Kim et al., 2014)

Researcher	Research argument
Hope (1996)	A multisensory stimulus sub-consciously provides deeper communication with patients so it allows a human-centred approach.
Kewin (1994)	Essence of multisensory stimuli is to afford space and time of exploring the space in a way that individuals want. It helps maximise people's survival ability and self-regulation.
Alan Dilani (2000)	People's health improves in an environment where multiple senses are activated, balance between contrast and harmony of multiple senses.
Gaston Bachelard	Researched polyphonic properties of senses. Explained that walking in a forest has a curative strengthening effect because all sensory aspects constantly interact with each other.

[15] Maurice Merleau-Ponty (1908~1961) theorised naturalistic phenomenology.

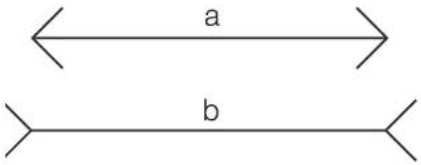


Figure 20_Muller-Lyer's optical illusion (Gamgag, 2008)



Figure 21_Roof of opening of the Pantheon (Eloquence, 2004)

Chang said that Japanese spatial concepts include both physical and psychological distances. Japanese spatial concepts come from the idea of human-centred words such as *here, there,* and *over there*. These words are used when a speaker assumes a certain distance from the point where he/she stands. Heidegger[16] said that a space only gains meaning after something has been placed there or some event has taken place there. Heidegger said that placing a building on a site defines the site as a certain functional place and that then falls under a particular functional district. The building does not add to things that have already been in that context. Because of the building, all things in that context become meaningful and become a *something.*

> *To borrow Heidegger's expression, building a shelter is gathering meanings form all existent things that talk to humans and solidifying these into a certain form* (Lee, 2012).

Phenomenology is a philosophical theory recognising that all events happen by movements of the human body. A phenomenon is not a solid object; it is the object of experience, which constantly changes in space and time (Kim, 2007).

Merleau-Ponty mentioned that an optical illusion does not have only one answer (Kim, 2007). People may debate that lines A and B are different lengths (Fig.20). However, Merleau-Ponty said that the length of the lines depend on how certain people see them. People recognise things by how they feel with their external and internal senses. An objective society forces people to choose an answer from the question, causing a lot of stress. Merleau-Ponty placed importance on peoples' subjective and objective perceptions. Things are perceived using external and internal senses. When a person realises that his/her body and his/her senses are all subject to perception they then realise how important they are. Self-belief increases self-esteem. Furthermore, when multisensory spaces are placed in certain progressions of meditation, these spaces give people an opportunity to think separately about their bodies and minds with the intention of healing and calming.

> *Winston Churchill said that 'first we shape our buildings and afterwards our buildings shape us'* (Richards & Pearson, 1994).

[16] Heidegger (1889~1976) theorised essential ontology and interpretive phenomenology.

The philosopher, Heidegger, implified dwellings down to the fundamental states of preserving, protecting, and feeling safe. He stated that being within a dwelling is being within the four objects: earth, sky, human, and the god. He depicted the earth as the variability of space; the sky as the permanence of things that cannot be controlled; the human as all our differences; the god as a permanence of endless truth. In this document the Pantheon (Fig.21) and Sokkuram grotto are compared with each other to illustrate how Heidegger's four objects of dwelling can be used and how spatial elements give diverse experiences to visitors.

The Pantheon

The Pantheon was a temple of the Roman Empire built in 125 in a Roman public square. It later became a Christian sacred hall and then had a religious function.

The Pantheon is made of concrete. It consists of an entry hall, passage, and main hall. The spatial planning is composed of a rectangular space in front and a circular space at the back (Fig.22). The elevated view of the Pantheon consists of a main wall, tabernacles, and the five-stepped dome roof (Fig.23). The main hall and the longitudinal section circle are both approximately 43 metres in diameter. In other words, the Pantheon has the same width as its height, whether one is viewing it from the top or the sides.

The entry hall works as a lobby for the main space. Therefore, the area of the entry hall is smaller than the main space. There is a series of columns made of stone in the entry hall.

The domed roof of the main room has an opening and sunlight penetrates through the concrete spaces. This opening aims to communicate with the absolute being. It gives an effect that people feel connected with the sky, and the changes of light cause them to feel differently (Kim, 2007).

The architectural elements of the Pantheon connect all the senses and each element blends and interacts with every other element to create a spatial experience.

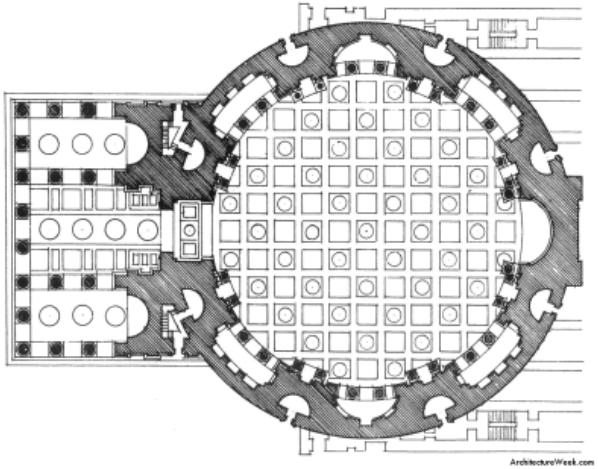


Figure 22_Plan of the Pantheon (Guest, 2014)

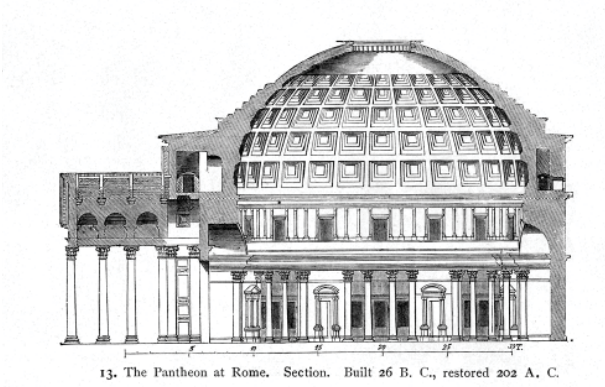


Figure 23_Section of the Pantheon (Library, 2007)

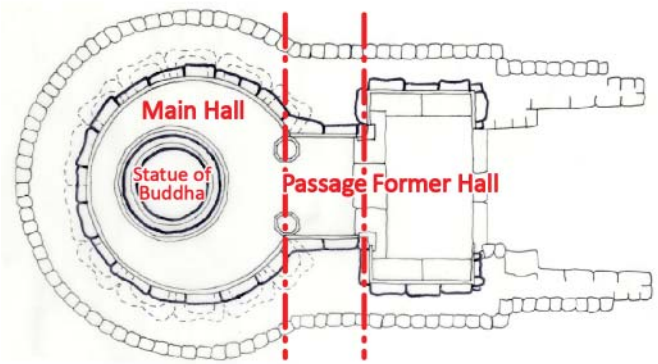


Figure 24_Plan of Sokkuram grotto (Mokin, 2011)[17]

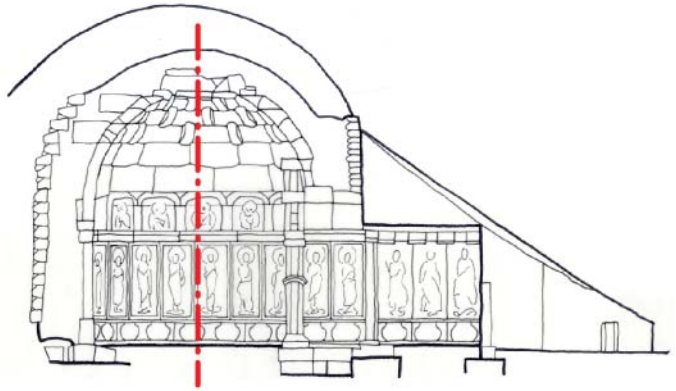


Figure 25_Section of Sokkuram grotto (Sung, 2010)[18]

Sokkuram grotto

The Sokkuram grotto is in Korea, and its architecture is a similar to the Pantheon. It does not have a clear history but it appears to have been built in the mid or late 8th century (Sung, 2014), and it is built in a man-made cave into Toham Mountain. Sokkuram grotto is a Buddhism temple and is still used for religious purposes.

Sokkuram grotto is totally different from the traditional architecture of Korea. Therefore, a few researchers insist that Sokkuram grotto has its own architectural style, drawn from various cultures including the Korean culture (Sung, 2014).

Sokkuram grotto is a man-made cave and the temple is built out of granite. The temple consists of an entrance hall, passage, and main hall, similar to the Pantheon (Fig.24). The front part of the temple is a rectangular space and the back is a circular space. Its elevation consists of a main wall (constructed with regular sized granite blocks), tabernacles, and a five-stepped dome roof. The dome of the main hall, excluding ten sets of tabernacles, is approximately 7.2 metres in diameter. In longitudinal section the dome is about nine metres high. The total width including ten sets of tabernacles is nine metres (Fig.25).

There are double columns at the entrance of the main hall. These two columns work as a boundary between the main hall and passage. At the same time, the two columns in the passage conceal the full space of the main hall, so as a person enters the main hall it is a surprise.

Another architectural difference from the Pantheon is that the area of the entrance hall is almost the same area as that of the main hall. The entrance hall is a spiritual procession space, so it is better to call it a former hall. Ascetic practices and worship take place in this former hall. There are usually more people in the former hall than the main hall.

The domed roof of the main room is closed off with a stone block (Fig.26). This gives the feeling of escaping from a mundane life. The section view of the dome is distorted. One part is a steep arc and the other part is a gentle and wider arc. The dome is therefore asymmetric with a non-standard hemisphere. Even the stone blocks, covering the top of the dome, are placed off from the central axis. Therefore, every stone block is of a different length, angle,

[17] Reproduced by author with data extracted from (Mokin, 2011).
[18] Reproduced by author with data extracted from (Sung, 2010).

and height forming individual steps within the dome. Because it is not a perfect dome, a worshiper who enters the main hall has to look up to the statue of Buddha, and the stone blocks covering the top of the dome (Fig.27).

Architecture of the Sokkuram grotto presents an existential philosophy of Buddhism. Its architecture and all elements of sculpture are on an equal footing and become one. In other words, its space and all its sculptures are inter-related. In Buddhism, all existences are related; through one existence, another exists. For example, there are two sculptures on both sides of the entrance of the former hall. These two sculptures are in contrast with each other. One is shaped as a young girl and the other as a monster with many heads (Sung, 2013). The meaning of this is that visitors enter the Sokkuram grotto through a space between a girl and a monster. As visitors pass the former hall and reach the main hall, they find one of sculptures, shaped as a young girl wearing a crown decorated with eleven incarnations. This sculpture is a consequence of the two sculptures at the entrance of the former hall. As it is, all sculptures are inter-related with various meanings. The statue of Buddha and the sculptures all have different postures, facial expressions and gazes. The pedestal, and halo behind the statue of Buddha, consists of differently positioned stone blocks that create a diverse atmosphere in the space.

In addition, the former hall symbolises mankind and the main hall symbolises Buddha. Both halls are of equal area and they are on the same level. This creates a feeling that mankind and Buddha are the same and they are different. Most Buddhism temples are generally built in a series of spaces, like the Sokkuram series of spaces. When people enter, or gather together, they cannot see inside the space the grotto, nor can they see where Buddha is positioned. Things are not revealed at once in Buddhism temples. Yet, as people go deeper into the space, they feel humbled and sometimes even scared. When people arrive inside the main hall, they feel protected and calm.

Personal experiences and feelings are subjective; it is therefore important to design a series of spaces where people can maximise their multisensory experience and pause from their tough work environments, i.e., urban context. A space itself has a specific character that influences personal emotions. Objects in the space blend into spatial character and bring about various feelings. When architecture is designed to incorporate multisensory spaces, it helps people to release their stress and recover from a low self-esteem. It has healing properties.



Figure 26_Granite dome - roof of main room (Sung, 2014)

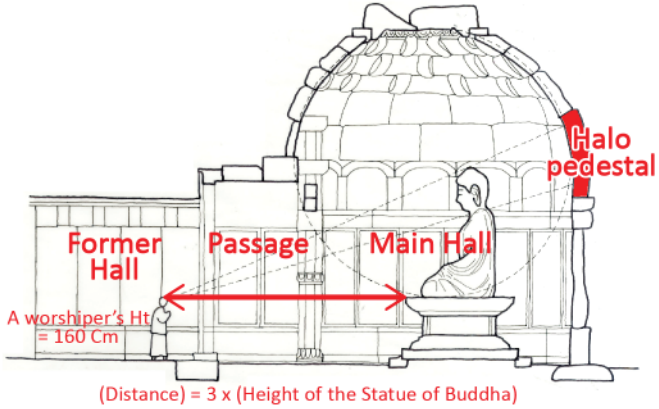


Figure 27_Angle of a worshiper's sight (Mokin, 2011)[19]

[19] Reproduced by author with data extracted from (Mokin, 2011).

CHAPTER 3: PRECEDENT STUDIES

3.1 Won Dharma Meditation Centre

3.2 Famen Temple Zen Meditation winning proposal

3.1 Won Dharma Meditation Centre

Won Dharma meditation centre (Fig.28) is built in 2011 for Won Buddhism[20].

Project brief

- Architect: Hanrahan Meyers architects
- Location: Lilli Pond, Hollowville, New York, USA
- Site Area: 500 acres
- Building Area: 28 000 ft^2

Won Dharma meditation centre (Fig.29) predominantly used natural materials and these harmonised into the rural region (ArchDaily, 2013). The centre is situated on a hill with a view of Catskill Mountains. The buildings are orientated such that the mountain views and the natural light are maximised. The symbol of Won Buddhism is a circle; the circle symbolises a void and infinite circulation or a feeling of returning.

The design is inspired by designs of Korean traditional houses. Korean traditional houses have a courtyard in the middle and they consist of individual building units connected by semi-open passages. Each unit has a different function. Korean traditional houses are built above ground level with an under-floor heating system. People can sit in the passages without entering the rooms. The passages (Fig.30) are



Figure 28_South façade of the meditation hall (ArchDaily, 2013)



Figure 29_Inside of the meditation hall (ArchDaily, 2013)



Figure 30_Passage (ArchDaily, 2013)

[20] Won Buddhism is a religious Korean organisation which derived from Buddhism.

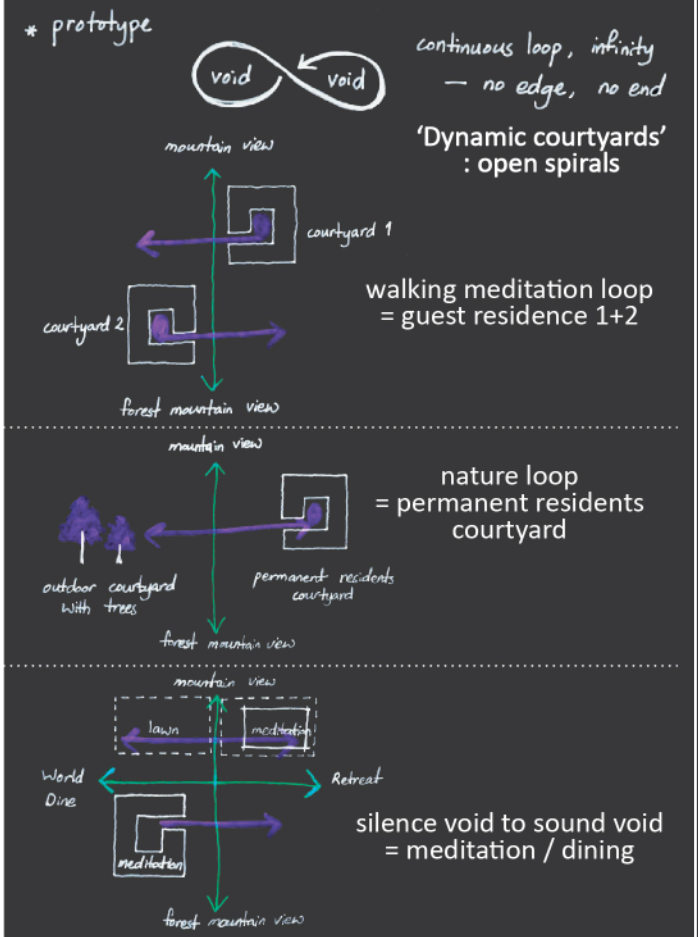


Figure 31_Diagrams of dynamic courtyards (Meyers, 2015)[21]

not fully closed but a series of columns cover these passages creating interesting half void spaces. In Korean culture, people take off their shoes before they enter a room, so people take off their shoes before they reach the passage. Many Korean people eat or iron in the passage. Guests sit astride the passage with their shoes on. Therefore these passages are neither outside, nor inside spaces in the Korean culture.

The passages of Korean traditional houses transmit a feeling of spaces. The passage of the Won Dharma meditation centre makes people walk around to the main entrance of the meditation hall. At the same time, this passage creates a phenomenal experience. The phenomenal experience means that people, walking to and from the meditation hall, feeling warm and calm from the quality of wood, and the views of the mountain and courtyard. Hanrahan Meyers Architects call this passage a meditation porch (ArchDaily, 2013). The programmes offered at the Won Dharma meditation centre assist visitors in reducing stress and depression. This is because of the phenomenal experiences gained when viewing the building materials, form of spaces, sequences of spaces, and the natural environment.

The Won Dharma meditation centre consists of five buildings. Each building unit embraces a courtyard and the courtyard suggests a different natural world opening out into nature and contrasting the two different worlds (Fig.31). The administration building and meditation hall are connected with a passage. This allows a silent walking experience before a person enters the meditation centre. Residential buildings are connected by an open courtyard. All the buildings, except the meditation hall building, can be opened with sliding doors allowing cross ventilation across those spaces (Fig.32) (Hanrahan Meyers Architects, n.d.). The western and eastern walls of the meditation hall building can be opened with sliding doors, which allow one direction of ventilation. This scheme brings the outdoor natural atmosphere into the buildings. The outdoor open natural environment links with the permanent inner courtyard. It symbolises that the outside world blends into a boundary of retreat (Meyers, 2015).

Yeouido linear park is chosen as the site of architectural design in this study, because the park is situated in the inner city of Seoul. The south edge of Yeouido Park is carefully chosen as a space where busy urban people can stop by and rest. The proposed meditation centre in Yeouido Park will become a buffer zone between the busy, compact city and a quiet, green park. The meditation centre will be a permanent link between the city of Seoul and the Yeouido Park. It is designed in a spiral form with two loops because it aims to connect the chaotic reality with the peaceful retreat, and it allows free movement from one side to the other.

[21] Reproduced by author with data extracted from (Meyers, 2015).

Additionally, the proposed meditation centre for this research report is inspired from designs of Korean traditional Buddhist's temples. The temple is designed in a progression of spaces for meditation. People will enter the centre and follow the central axis until they progress deeper into the building and reach the very quiet prayer spaces. People will easily be able to step onto the public interacting spaces, and they will gradually use all their senses to explore spaces. They will eventually realise how their bodies react as they progress into prayer spaces.

Yeouido meditation centre consists of many buildings with different functions inspired by the designs of Korean traditional houses. One of distinctive features of Korean traditional houses is cross ventilation, using sliding door on both sides of the house. Several buildings in the Yeouido meditation centre are designed for cross ventilation. Therefore, people can feel the difference between the outside world and the inner calming meditative side, because these elements flow into each other. This centre aims to train people how to change their minds. People do not need to escape from the chaotic city-life, because there is no boundary between city and nature. The use of the meditation centre, controls people's stress, and their mind and emotions become calm.

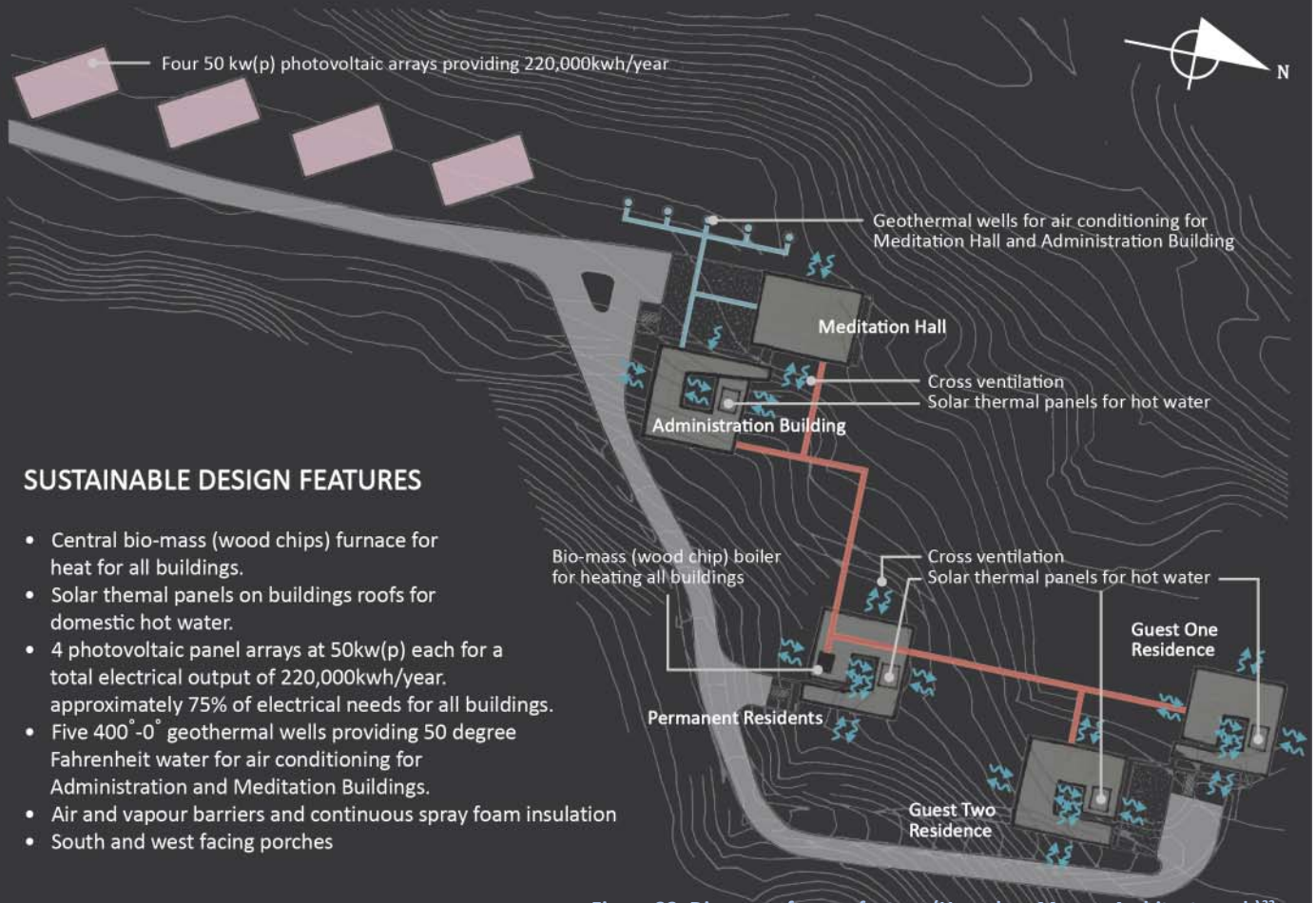


Figure 32_Diagram of green feature (Hanrahan Meyers Architects, n.d.)[22]

[22] Reproduced by author with data extracted from (Hanrahan Meyers Architects, n.d.).

3.2 Famen Temple Zen Meditation winning proposal

Architects, OAC won the international design competition for the master plan of the Famen Temple Zen Meditation Centre in 2012 (Fig.33).

Project brief

- Architect: OAC
- Location: Famen Buddhist Temple (aka Dharma Gate Temple) outside Xi'an, China
- Site Area: 1 250 000 m^2
- Building Area: 300 000 m^2

The edge of site is designed with a series of meditation spaces, which form part of the Famen Temple Zen meditation centre (Fig.34). These meditation spaces are designed longitudinally (Fig.35) and they aim to create a diverse set of feelings within each space. Famen temple Zen meditation centre consists of a main building, landscape features (Fig.36), experiential features (Fig.37) and art facilities for meditation (Fig.38) (Fig.39) (ArchDaily, 2013). The first phase of the design is a meditation square that is one kilometre in length.

The design allows both visitors and disciplinants to acquire an unconscious meditative mind-set as they walk across the square, experiencing and using all six senses. This meditation centre combines Buddhism cultures, and the



Figure 33_Famen temple: Eightfold path forest (ArchDaily, 2013)



Figure 34_Bird's eye view of Famen temple -1 (ArchDaily, 2013)



Figure 35_Bird's eye view of Famen temple - 2 (ArchDaily, 2013)



Figure 36_Famen temple - 1 (ArchDaily, 2013)



Figure 37_Famen temple - 2 (ArchDaily, 2013)



Figure 38_Famen temple: Manuscript hall (ArchDaily, 2013)



Figure 39_Famen temple: Theatre (ArchDaily, 2013)

philosophy of Zen meditation. The historical heritage of the site incorporates the Zhou and Tang dynasties of Chinese culture.

This design in this proposal uses the site at the edge of Yeouido linear park. The south-east section of Yeouido Park faces many high rise buildings and the roads carry heavy traffic most of the time. The buildings facing the north-west side of Yeouido Park are lower in height and there is less traffic and fewer pedestrians. This section of the park is also close to the Han River. This research report proposes that this setting will act as a successful interface between the busy boundary of the city of Seoul and the serene, green boundary of the park.

In addition, Yeouido Park used to be supervised by dignitaries during a military regime and at this time many citizens revealed their grievances. Therefore Yeouido Park was born from people's mental suffering from disciplinary tactics. It is significant to create multisensory experiential spaces in Yeouido Park.

It is also important to merge traditional Korean architectural style, Buddhism cultures and Korean cultures into Yeouido Park.

CHAPTER 4: SITE

4.1 Site selection

4.2 Site background

4.3 Macro site analysis

4.4 Micro site analysis

4.1 Site selection

The site for this research report is in Seoul, South Korea. South Korea has the highest suicide rate in the world (OECD, 2015) and much of the population suffers from depression. In downtown Seoul there are only a few places for busy urban people to rest. Three potential sites are suggested for an urban meditation centre with pause spaces (Fig.40).

Potential site_1: Gwanggyo Lake Park

The first potential site is Gwanggyo Lake Park (Fig.40). This park is surrounded by the metropolitan provincial government, public prosecutor's office, and high court .Thus, many office workers walk around this area. People exercise in the park and bring their families to experience nature. There are two separate lakes in the park that could help with meditation. Blue spaces such as rivers or the sea are more beneficial to health than green spaces (Nutsford et al., 2016).

Potential site_2: Yeouido Park

The second potential site is on the south-east edge of Yeouido Park bordering on the city of Seoul (Fig.40). Yeouido Park is surrounded by the Korean broadcasting station, telephone offices, various banks and stock-investment and financial

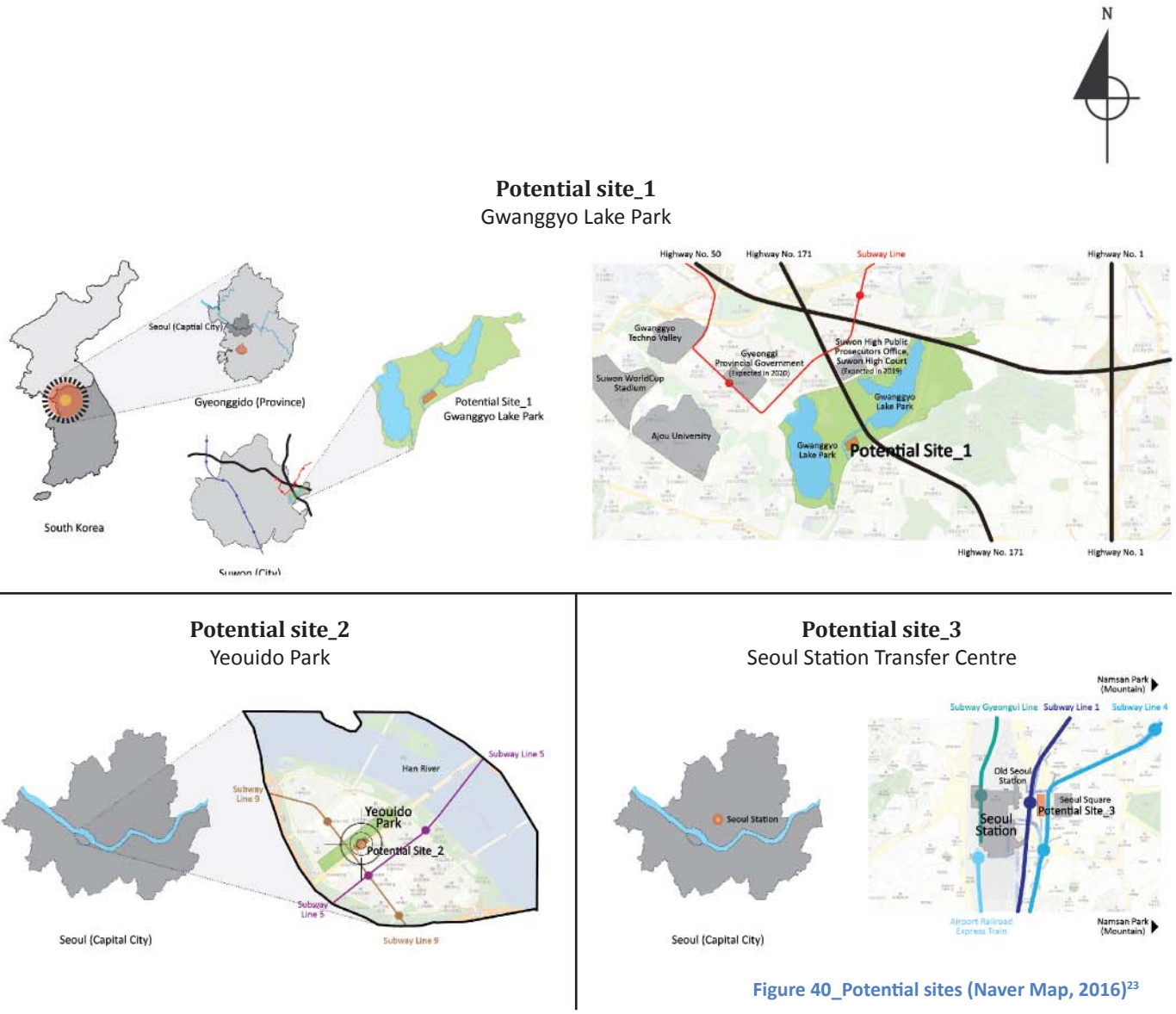


Figure 40_Potential sites (Naver Map, 2016)[23]

[23] Reproduced by author with data extracted from (Naver Map, 2016).



Figure 41_Bus transfer centre (Kim, 2015)

companies. There are many office workers who visit Yeouido Park during their lunch break. People walk across the park rather than around the park. Yeouido Park is free of numerous high-rise buildings. The actual site for the building is suggested at the south-eastern edge of Yeouido Park, opposite Yeouido bus transfer centre. People from other cities could visit easily, and people waiting for buses could interact with the greenery rather than just standing and looking at traffic on an asphalt road, and high-rise buildings.

There are four bus transfer centres that connect many different cities in Seoul. One is in Yeouido and another is in front of the Seoul subway station (Fig.41).

Potential site_3: Seoul station bus transfer centre

The third potential site is at the Seoul bus transfer centre, which connects with the Seoul subway station. This site is situated entirely in downtown Seoul. Therefore, if this site it used, some green features and pause spaces must be created between compact high-rise buildings and heavy traffic. Various types and groups of people crowd into the Seoul bus transfer centre every day, at any time of day. In rush hour, there are many queues for different buses. These commuters would benefit by having some sitting and resting places.

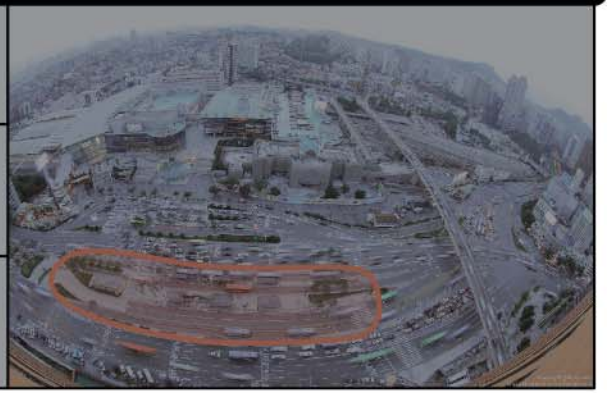
Conclusion

Gwanggyo Lake Park (Fig.40) is in a suburb of Seoul where the density of office workers is lower than within the actual city. Also, there are people who already visit the park for exercising or relaxing. As the site is totally situated within a green environment, it may be hard to draw busy office workers into the park.

The Seoul bus transfer centre site has a higher fluctuating target population than Gwanggyo Lake Park or Yeouido Park. However, as a design proposal site, the actual area is too small and there are too many restrictions because it is in-between a very busy road with a subway station, and dense high-rise buildings.

Therefore, Yeouido Park is appropriate for the design of an urban meditation centre. Yeouido is an island, situated on the Han River, which runs across the city of Seoul. Yeouido is surrounded by the river, parks, and it is a natural green district within a commercial district. The linear park across the island is called, ‘Yeouido Park’. The site selected for the project is on the border between the Yeouido Park and city of Yeouido.

Table 2_Criteria of potential sites (Naver Map, 2016)[24]

Potential site_1 Gwanggyo Lake Park		In Nature	5 - 8pm Family, Exercise	
Potential site_2 Yeouido Park		Inbetween Park & City	12-1, 6-8pm Office People	
Potential site_3 Seoul Station Transfer Centre		In Compact City	8am, 6-8pm All types	

[24] Reproduced by author with data extracted from (Naver Map, 2016).

4.2 Site background: Yeouido Park

Yeouido is an island on the Han River, which is the second longest river in South Korea. The island has an airport (Wikipedia, 2016). Seoul has an average rainfall of 892.1mm during summer: June, July, and August (Korea Meteorological Administration, 2010). This amount of rain accounts for approximately 61% of the annual precipitation of Seoul (Korea Meteorological Administration, 2010). The altitude of Yeouido Island is relatively low, so the island was regularly submerged, whenever the Han River flooded during summer (NamuWiki, 2016). Yeouido airport was constantly being repaired because of flooding (Fig.42). Yeouido has a very good location because it is in the middle of Seoul, and can be approached easily. However, because of the flooding a new airport was built in another city, and Yeouido airport is now a museum and a place for several national events.

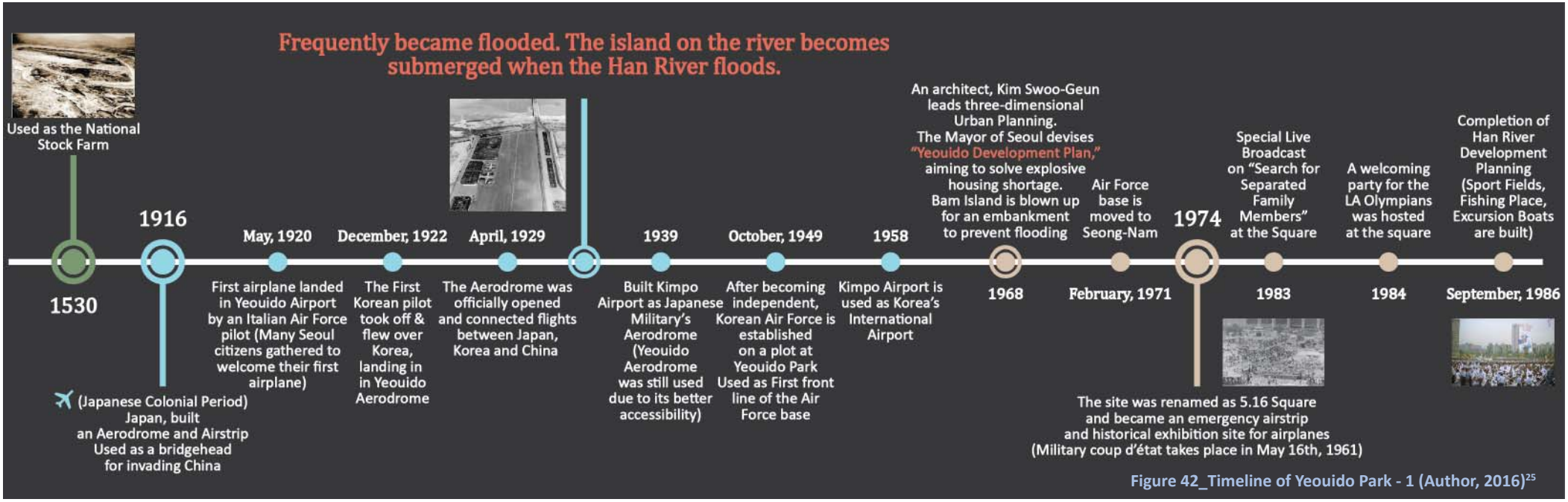


Figure 42_Timeline of Yeouido Park - 1 (Author, 2016)[25]

[25] Reproduced by author with data extracted from (NamuWiki, 2016), (National museum of Korean contemporary history, 2015).

When South Korea was under a military regime, the Yeouido Square used to hold open political assemblies on a large scale. Parades and various events that promoted the military regime were held here (Fig.43). South Korea was under a military dictatorship for sixteen years. In the 1970's some people used to dislike Yeouido Square because it seemed to promote a particular political system aligned with North Korea. The Square was used to discipline people in a similar way to Foucault's discipline (refer 2.2 Architectural solutions: pp.24-25). The military used to line up and discipline citizens at the Yeouido Square. Citizens also used to observe politicians giving election speeches in the square.

After the regime changed to a civilian government, the asphalt square was changed into a green park. The Yeouido Park became one of Seoul municipal parks and was opened to the public in 1999 (Fig.43). Today Yeouido is the centre of finance in Seoul; there are many banks and numerous financial buildings. So many residents and office workers frequently use Yeouido Park for various purposes.

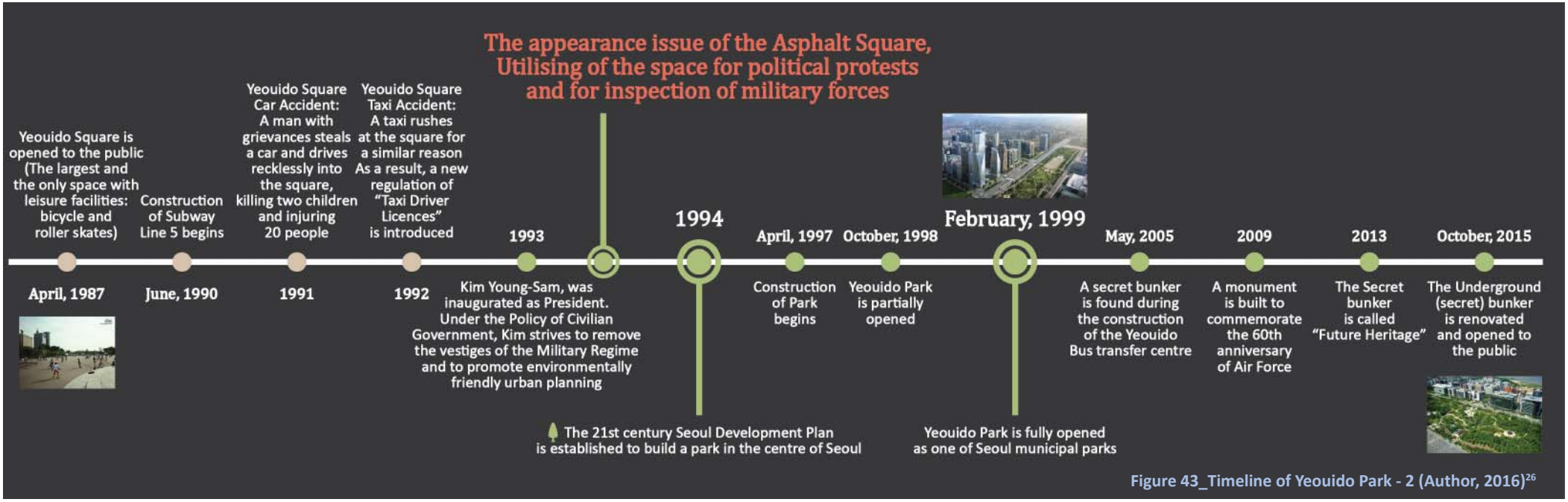


Figure 43_Timeline of Yeouido Park - 2 (Author, 2016)[26]

[26] Reproduced by author with data extracted from (Employee tok tok & Smart employee, 2014) (Seoul story, 2013) (Visit Seoul, 2014).

4.3 Macro site analysis



Figure 44_Map of Korea (Author, 2016)



Figure 45_Words of consolation (Buckwheat flower, 2013)

Background of South Korea, Seoul

Seoul has the highest population in South Korea. The population of Seoul is 16,343,000 people per km2 (Korean statistical information service, 2014). Busan has the second highest population density of 4,432,000 people per km2 (Korean statistical information service, 2014). There is a big difference in the population densities of these two cities. Almost 20% of South Koreans live in Seoul. However the city of Seoul covers a smaller area that the other cities (Fig.44). The metropolitan area which surrounds the city of Seoul is 11.8% of South Korea's area (Seoul traffic, 2015). Therefore, Seoul's population density is really high. The result of this is that there is tough competition for jobs and money. Hence, many Korean people in Seoul are extremely stressed trying to survive in a competitive society.

The Han River in Seoul

Seoul was the capital city of Korea before the division of the Korean peninsula. This is because the fourth longest river[27] of Korea, the Han River, runs through Seoul (Wikipedia, 2016). There are a few leisure activities or events on the Han River such as excursion boats, fireworks displays, swimming meetings, and a paper boat design competition. However, the Han River gets a lot of negative attention from the public and the media because 396 people committed suicide on the bridge in 2014 (Lee, 2015). There are 26 bridges over the Han River. Mapo Bridge has the most recorded suicides (Opengirok, 2013). In several Korean television series, the Mapo Bridge is depicted as an area of depression and sadness. Words of consolation are written on the balustrade of the Mapo Bridge in an attempt to prevent suicides (Fig.45). The Mapo Bridge is the main bridge that connects Yeouido Island with the north of Seoul. The Han River and the Mapo Bridge are metaphors for grief because stressed people use these bridges when they are depressed or when they think their lives are at an end. These stressed people need somewhere to meditate and release their stress. Therefore, the Yeouido site, on the island of the Han River, desperately needs an urban meditation centre for stressed people.

[27] The first and second longest rivers are in North Korea. So the Han River is the fourth longest river in Korea and the second longest river in South Korea (Wikipedia, 2016).

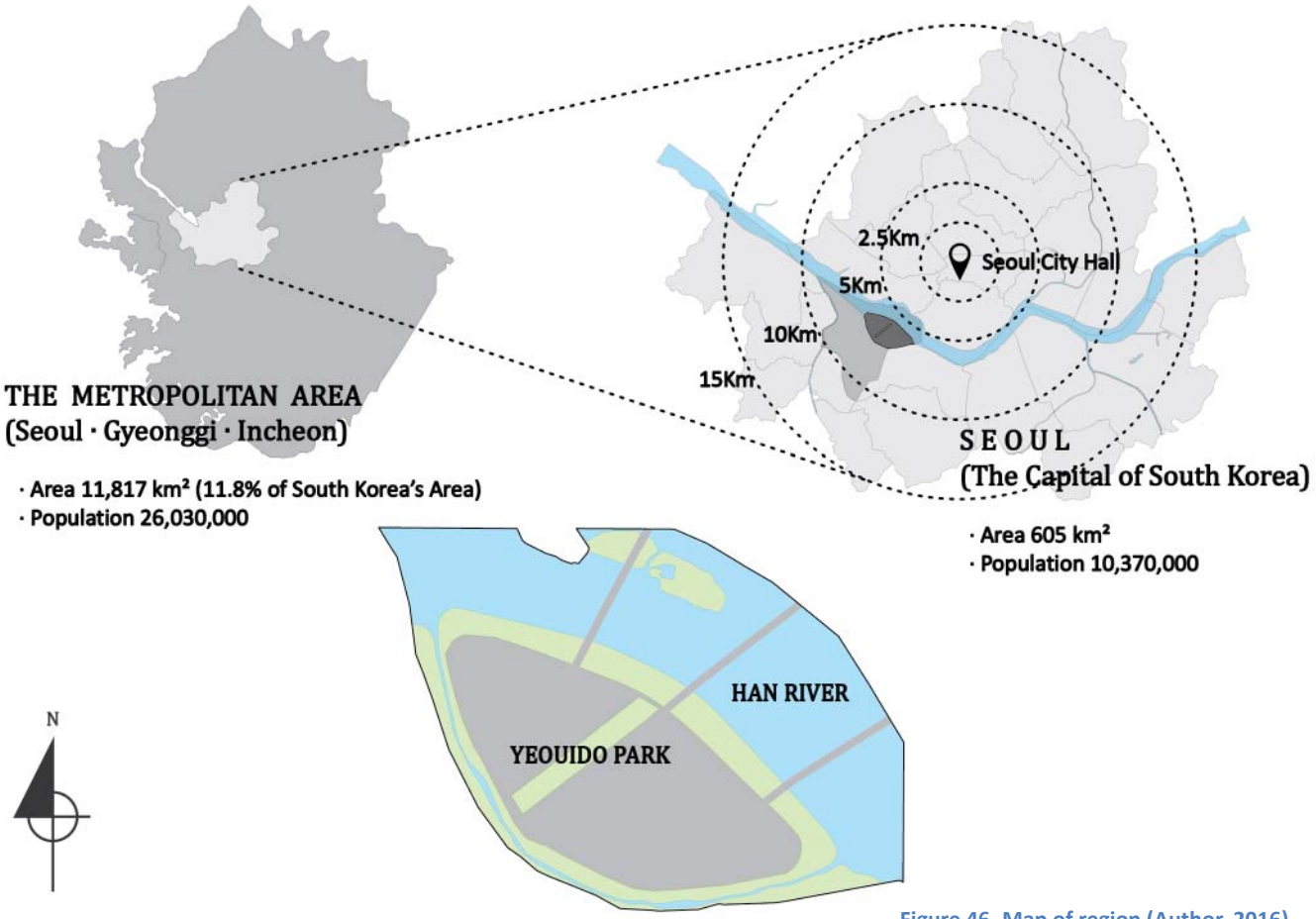


Figure 46_Map of region (Author, 2016)

The island, Yeouido in the Han River

The island on the Han River is called, Yeouido (Fig.46). Yeouido is the centre of finance in Seoul because there are many banks and various financially affiliated firms. The west end of Yeouido has the national assembly hall. Members of parliament and journalists gather at the national assembly hall. The east end of Yeouido has a high rise building called *63-building* which includes offices, a conference hall, an aquarium, and an observatory. People from other cities come to the conference hall to have meetings or conferences. People gather or pass Yeouido for many other reasons. Yeouido is approximately seven kilometres away from the Gyeongbokgung[28] palace. Some sport activities take place between the palace and Yeouido Park, which runs across the middle of Yeouido (Fig.47). For example, a marathon regularly takes place from the palace to Yeouido Park. Cycling races occur frequently along the Han River and in parks parallel to the river.

[28] Gyeongbokgung is a palace of Joseon dynasty. This is the main palace for a king and queen of Joseon and includes an assembly hall. The last king of the Joseon dynasty renamed the Korean Empire and after becoming independent from Japan, it becomes Republic of Korea (South Korea). Therefore, Gyeongbokgung has remained as a historical public building.

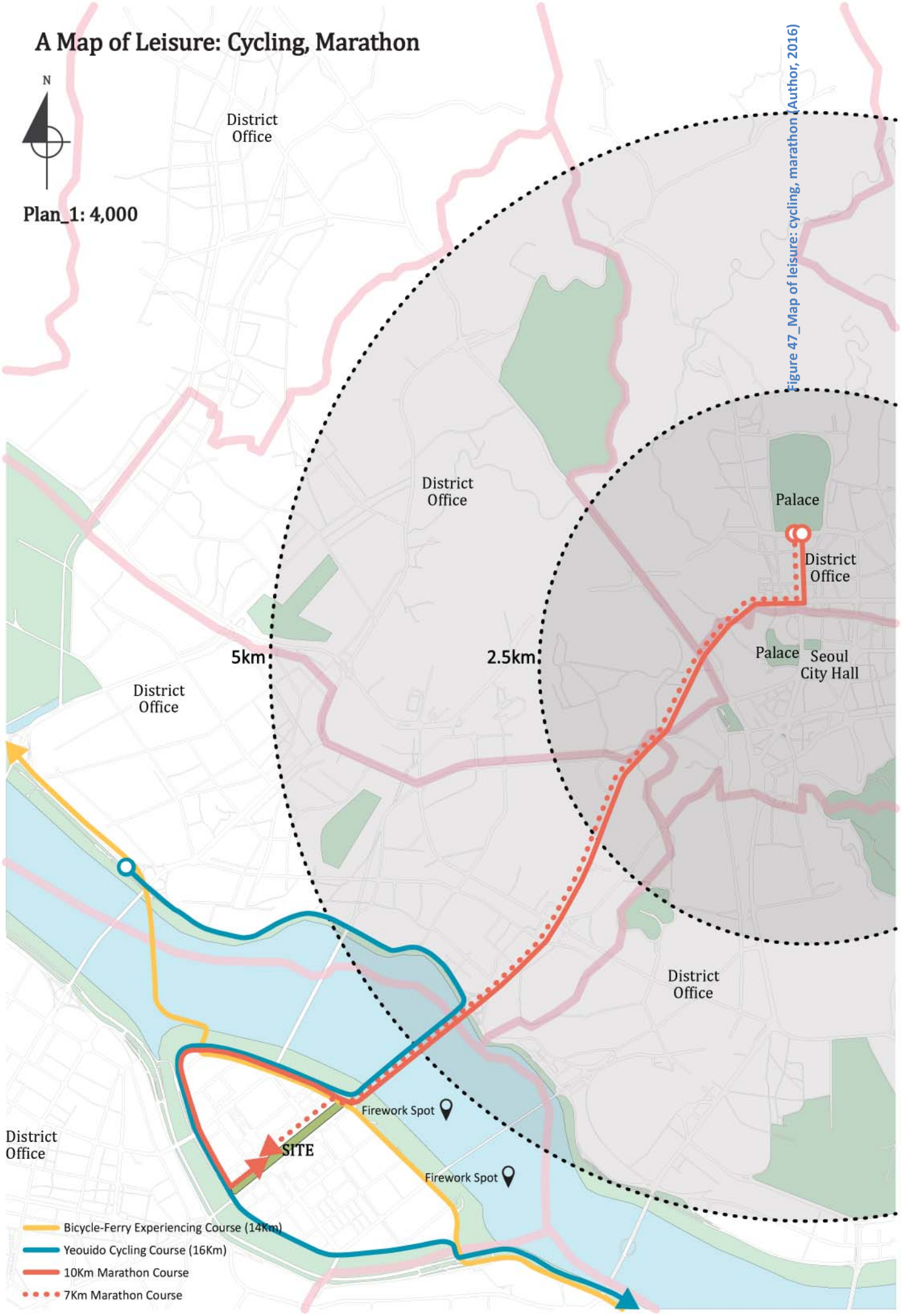


Figure 47_Map of leisure: cycling, marathon (Author, 2016)

General security in Korea

Police in South Korea are subdivided into four groups: police station, police patrol division, police substation, and police centre.

- **Police station** takes charge of a specific region and has national police authority. About 200 to 300 police officers work in administration, public safety, investigation, intelligence, and detective divisions in one police station (Shin et al., 2012). According to the national police agency's statistics for 2014, there were 250 police stations in Korea (Fig.48) (Korean national police agency, 2014).

- **Police patrol divisions** control two or three police substations because police substations are smaller and lack the facilities of the patrol divisions. There are approximately 40 to 60 officers in one police patrol division (Shin et al., 2012). The police patrol division is smaller than the police station but bigger than the police substation. In 2014 there were 1,438 police patrol divisions in Korea (Fig.48) (Korean national police agency, 2014).

- **Police substation** is the first front line of the police organisation. Each substation is different in each area, but generally the police substation has about 10 to 16 officers (Shin et al., 2012). In 2014, there were 515 substations in Korea (Fig.48) (Korean national police agency, 2014).

- **Police centre** administers civil affairs and is only open during day-time. There are only one or two officers in a police centre (Shin et al., 2012).

The number of police officers is increasing annually in Korea. According to the national police agency's statistics in 2014, there are 109,364 police officers in Korea (Fig.48) (Korean national police agency, 2014). 41.3% of these police officers work in either police patrol divisions or police substations (Fig.48) (Korean national police agency, 2014). The number of officers differs per region. Seoul has the most number of officers amounting to 26,147 (Korean national police agency, 2014). In diverse regions the national police agency dictates the ratio of police officers to people. A police officer in Seoul is in charge of 386 citizens (Fig.48) (Korean national police agency, 2014). Police officers from police patrol divisions and substations regularly patrol their areas looking for drunk, suspicious or homeless people and help them home safely. Otherwise, officers let homeless people go to temporary protective facilities, homeless rehabilitation facilities, or homeless sanatoriums.

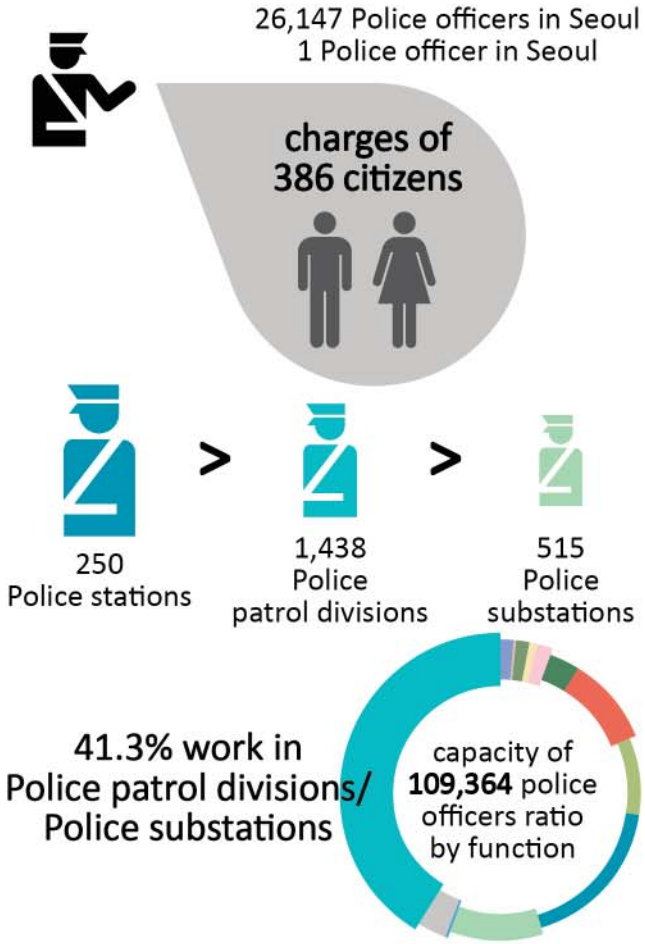


Figure 48_Korean police system (Korean national police agency, 2014)[29]

[29] Reproduced by author with data extracted from (Korean national police agency, 2014).



Figure 49_ The main entrance of Seoul National University (Namuwiki, 2016)



Figure 50_ The main entrance of Ehwa Womans University (Hahahohowoman, 2013)

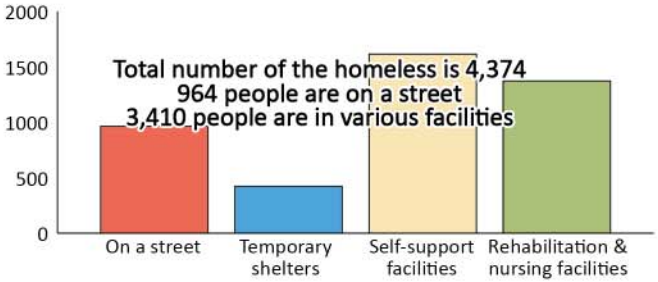


Figure 51_A graph of places where the homeless is (Ryu, 2013)[30]

Korea weather[31] is very hot in summer and very cold in winter, so police officers do not allow homeless people to stay on a street overnight. Seoul has many more homeless people compared with other cities. There are 4,374 homeless people in Seoul including people in protective facilities (Fig.51) (Ryu, 2013). 964 people are homeless in Seoul, and commonly live in the subway stations (Fig.51). Homeless people are not allowed to stay in public parks or public spaces and these areas are patrolled by security guards and police from the police substations. The public spaces in Korea are generally peaceful and managed relatively well because police groups are subdivided and many police substation officers frequently patrol. For example, public educational institutions are open to public (Fig.49) (Fig.50). Both figures 49 and 50 are the main entrances into two different universities. There are no booms or turnstiles at the gate and no public access control system. Any vehicle or person can enter any university in Korea. Korea is generally safe. Additionally, most facilities are owned and preserved by local authorities. The city of Seoul is well maintained by city cleaners, administrative assistants, and police officers. All primary schools teach children the Korean' mind-set, when they are very young. For example, public facilities are *ours* so *we* should clean *our* facilities (refer 2.1 Introduction: pp.17). As a result, homeless people or vagabonds rarely live in open public pavilions, and these spaces are safe and secure, and well maintained and preserved by occupants of the city.

Buddhism in Korean culture

A Korean professional investigation firm, Gallup, conducted five surveys during the period, 1984 to 2014 on the spread of the religious people in Korea. Buddhism is the most common religion in Korea (Lee, 2015). There are many Buddhist temples situated deep in mountainous regions. Some structures, pagodas, books or paintings in temples are national treasures. Besides Buddhist followers, mountain hikers, students or tourists visit these temples and find historic remains or treasures. Foreigners learn about the Korean culture by staying in temples. The people who come to stay in the temples have many different religious beliefs. By staying in these temples people can experience Korean culture and get in touch with nature. Therefore, the Korean tourism organisations support foreigners staying in temples. The stay in temples teaches people to empty their thoughts, meditate, and find true meaning of self. Emptiness or voids are dealt with very carefully and these are important in many Korean paintings, traditional houses, and Korean cultures. The meaning of a void is that it is not just an empty leftover space formed after a solid has been designed. A void means that nothing that we ever experience through our senses has a free presence. A solid is an element used to design a void. Korean culture signifies the emptiness and Koreans think a void is everything in a continuously changing landscape, full of nature and spirit without end.

[30] Reproduced by author with data extracted from (Ryu, 2013).

[31] Seoul's average temperature is 12.5°C, average humidity is 64.4%, and annual precipitation is 1,450.5mm. The coldest winter month is January. Seoul's average temperature in January is -2.4°C. The hottest summer month is August in Korea. Seoul's average temperature is August is 25.7°C (KMA (Korea Meteorological Administration), 2009).

4.4 Micro site analysis

Yeouido and Yeouido Park

One of four bus transfer centres in Seoul is placed close to Yeouido Park (Fig.52). Many buses connect Yeouido with many other cities. A lot of people stand under the bus shelter and wait for buses. Korean public transport system is well developed. One can use one traffic card to pay for all types of public transport: bus, subway, train, and tolls for highway (Fig.53) (MOLIT (Monistry of Land, Infrastructure and Transport), 2014). This traffic card calculates the transport fare according to the distance travelled, so the transport fare from A to B is always same. It does not matter how many times one transfers from a bus to the subway or transfers from an intra-city bus to a cross-city bus or whether one only uses one public transport system. Therefore, people who need to go to the north part of Seoul or to the outer Seoul suburbs come to Yeouido Park by subway line 9 and transfer to a bus at the Yeouido bus transfer centre.

The west side of Yeouido is an industrial district. It used to be a non-ferrous metal and machine industrial area but Yeongdeungpo-Gu[32] is still busy redeveloping the area (Yeongdeungpo-Gu, 2016). South-west of Yeouido is mostly a residential district. Some parts of the south-western side of Yeouido are also a residential district. However these two residential districts are covered with very different types of residences. The south-west area surrounding Yeouido is occupied mainly by low level residential buildings that are five stories or less in height. The majority of these low-level residential buildings are old and some areas are currently being redeveloped (Yeongdeungpo-Gu, 2016). However, inside Yeouido there are buildings and flats that are ten or more stories high. Some of these flats are new and tall.



Figure 52_Yeouido bus transfer centre (Author, 2016)



Figure 53_Traffic card (Jung, 2012)

[32] Yeong – deung – po – Gu is a Gu (ward, smaller unit of cities) in which Yeouido is belonged.

The altitude of Yeouido Island is relatively low. Steep slopes only occur at the edges of the island. Yeouido Park slopes from north-west to south-east seen in the 1m contour map (Fig.54). The National Assembly Hall is situated at the highest point in Yeouido. Some city blocks show prominence because of the low flat landscape. Yeouido-Han-River-Park has a gradual slope falling to the Han River. Tributary-Stream-Ecological-Park is close to the south of Seoul. There is a narrow tributary stream leading into the Han River and this gives Tributary-Stream-Ecological-Park steep slopes. Yeouido Park has an attractive natural landscape, and is conspicuous even though Yeouido Island is flat.

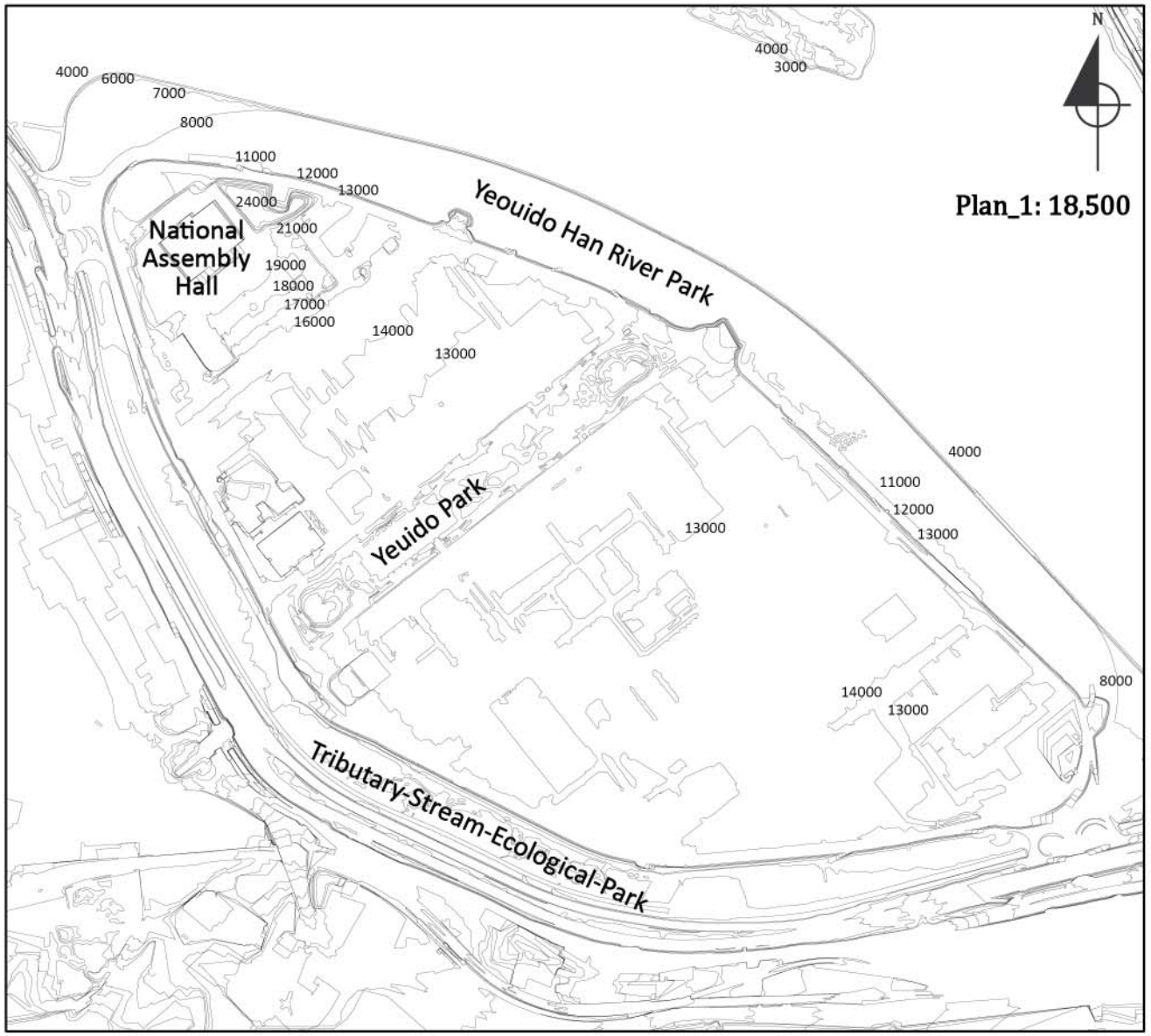


Figure 54_Land form (Author, 2016)

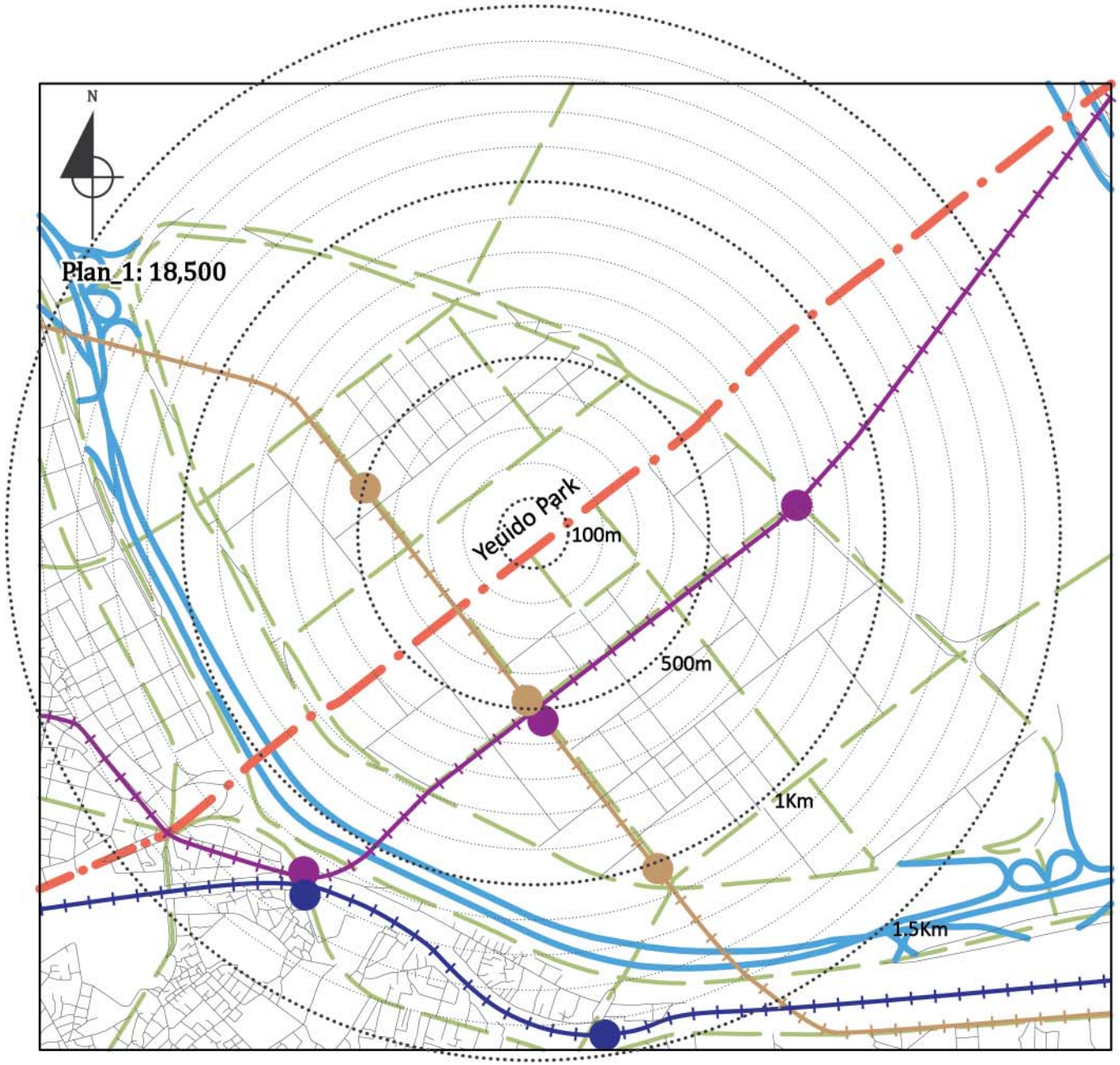
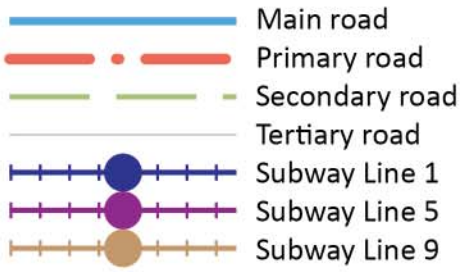


Figure 55_Movement structure (Author, 2016)

There are two subway lines: line five and line nine that run across Yeouido. Three subway stations of line nine are located in Yeouido (Fig.55). The distance from one station to the furthest station is approximately 1.7 Km, and a healthy adult can walk this distance in 30 minutes. If people use the subway, it takes about six minutes. Korean people generally walk a lot, so half an hour is not too long to walk especially as many office workers walk fast in Yeouido. Therefore, three subway stations are situated close together to cope with the busy fluctuating population.

The primary road passes through the south of Yeouido Park (Fig.55). This road has four lanes in each direction. If the extra lanes for Yeouido bus transfer centre are included, there are fourteen lanes in total. The width of the road is about 71.5metres. Many vehicles and buses use this primary road to go north and south of Seoul.



Grain tells city grid and types of buildings in Yeouido (Fig.56). Yeouido is surrounded by natural landscape; there is gap between Yeouido and the south part of Seoul, Yeongdeungpo-Gu. This area called, Yeongdeungpo-Gu has small and old housing types. The reason is that subway line 1 was built on the ground instead of underground. Therefore, development in this area has been restricted. In comparison with small grains in Yeongdeungpo-Gu, south-east part of Yeouido Island has some typical flat complexes. Residential flats are narrow, small and tall. Also, grains in Yeouido are divided with Yeouido Park in the middle. Most grains around Yeouido Park are much bigger. It indicates that there are many office blocks around Yeouido Park.

Besides some residential areas the south-west of Yeouido is a commercial district (Fig.57). The entire island is surrounded with natural green districts. Yeouido is an oval shape; the length from north-east to south-west is shorter than the length from north-west to south-east. One linear park runs across the centre of Yeouido, from north-east to south-west. The natural environment of Yeouido is adequate to encourage more people for meditation.

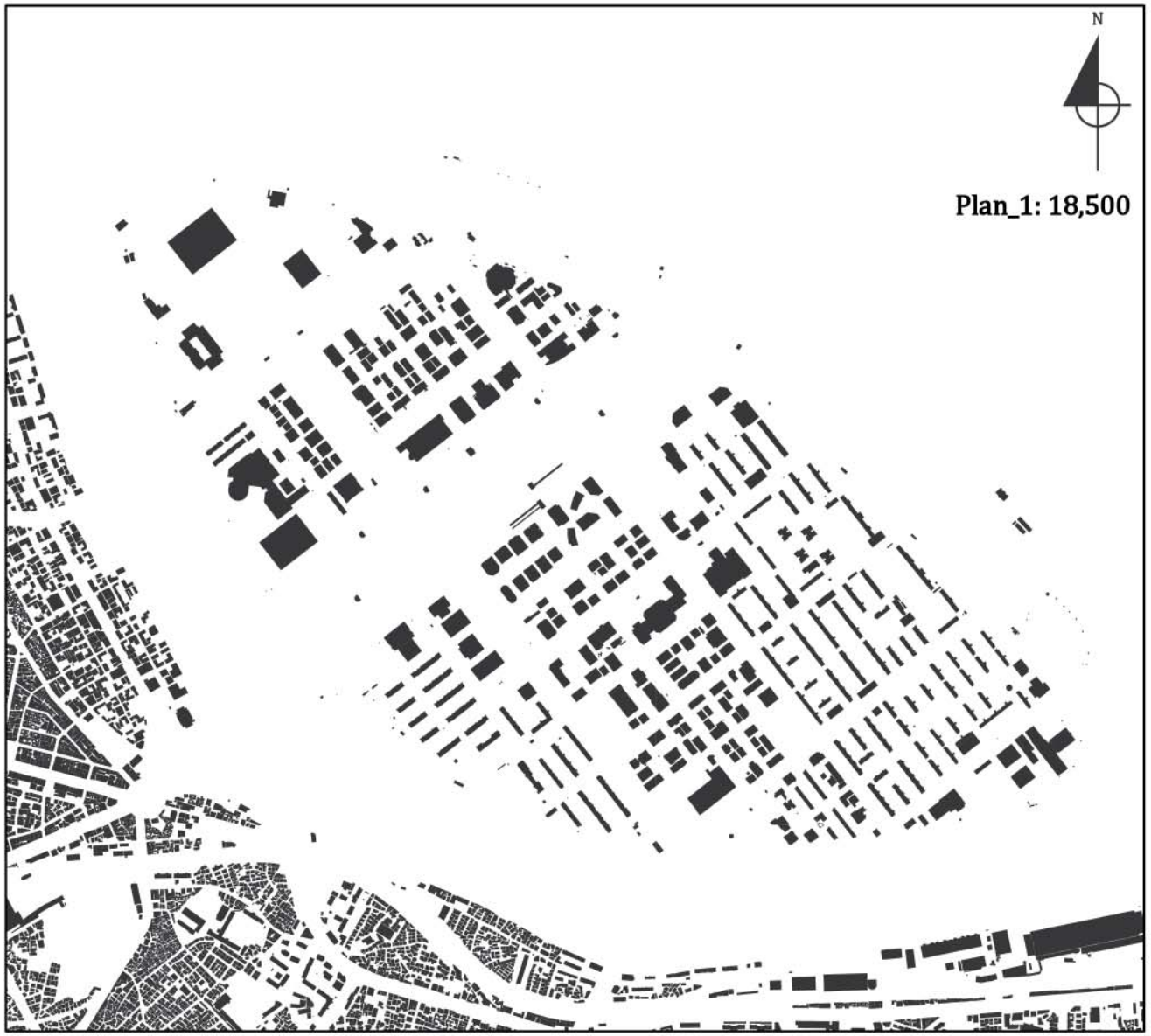


Figure 56_Grain (Author, 2016)

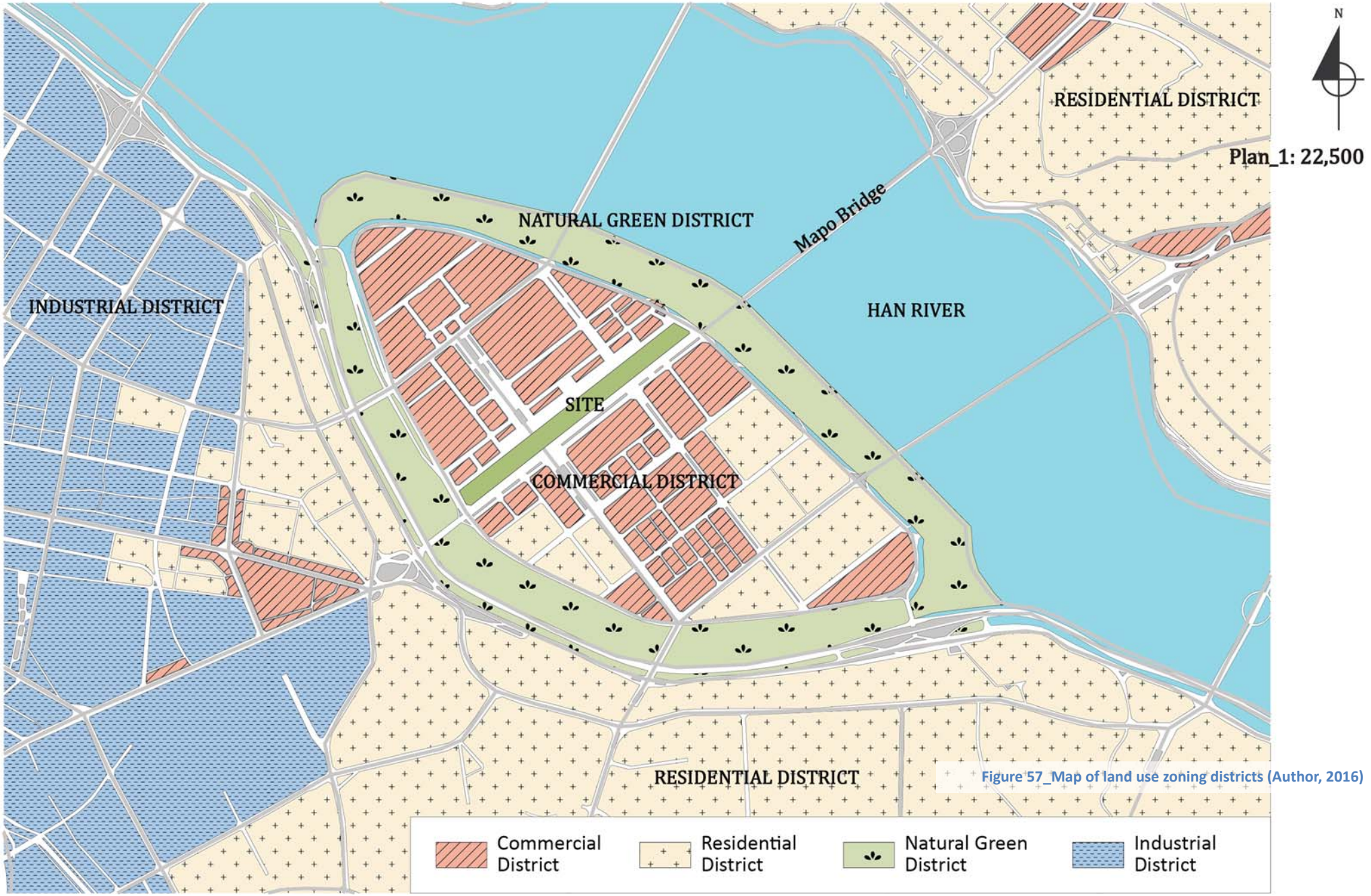


Figure 57_Map of land use zoning districts (Author, 2016)

Seoul has been planning to reduce the amount of vehicles on the roads in order to ease traffic congestion and environmental problems. Seoul metropolitan government built 403 public bicycle rental stations at the entrances of subway lines, bus stops, housing complexes, government and municipal offices, schools and banks in 2015 (Seoulbike, 2015) (Seoulbike & Sung, 2016). Most of Yeouido's city blocks are covered with roads that only bicycles can use (Fig.58). A road for bicycles and pedestrians makes a loop in Yeouido-Han-River-Park and Tributary-Stream-Ecological-Park. The map of the public bicycle rental stations is not shown because these two loops are not part of Seoul's plan for public bicycles. There are two different loops of bicycle lane and a pedestrian road in Yeouido Park. Bicycle use helps traffic and environmental issues. Public bicycle systems allow citizens to exercise at any time. Exercise is one of the best methods to reduce stress (Han, 2016). Also, all Yeouido citizens and visitors can easily obtain access to the proposed meditation centre in Yeouido Park.





Public Bicycle Rental Stations

Station no.	No. of bicycle	Station no.	No. of bicycle
200	20	214	20
201	15	215	10
202	15	216	10
203	15	217	10
204	13	218	20
205	15	219	12
206	20	220	30
207	20	221	10
208	14	222	10
209	12	223	20
210	12	224	20
211	13	225	26
212	35	226	20
213	15		

Figure 58_Map of public bicycle rental stations (Seoulbike, 2015)[33]

[33] Reproduced by author with data extracted from (Seoulbike, 2015).

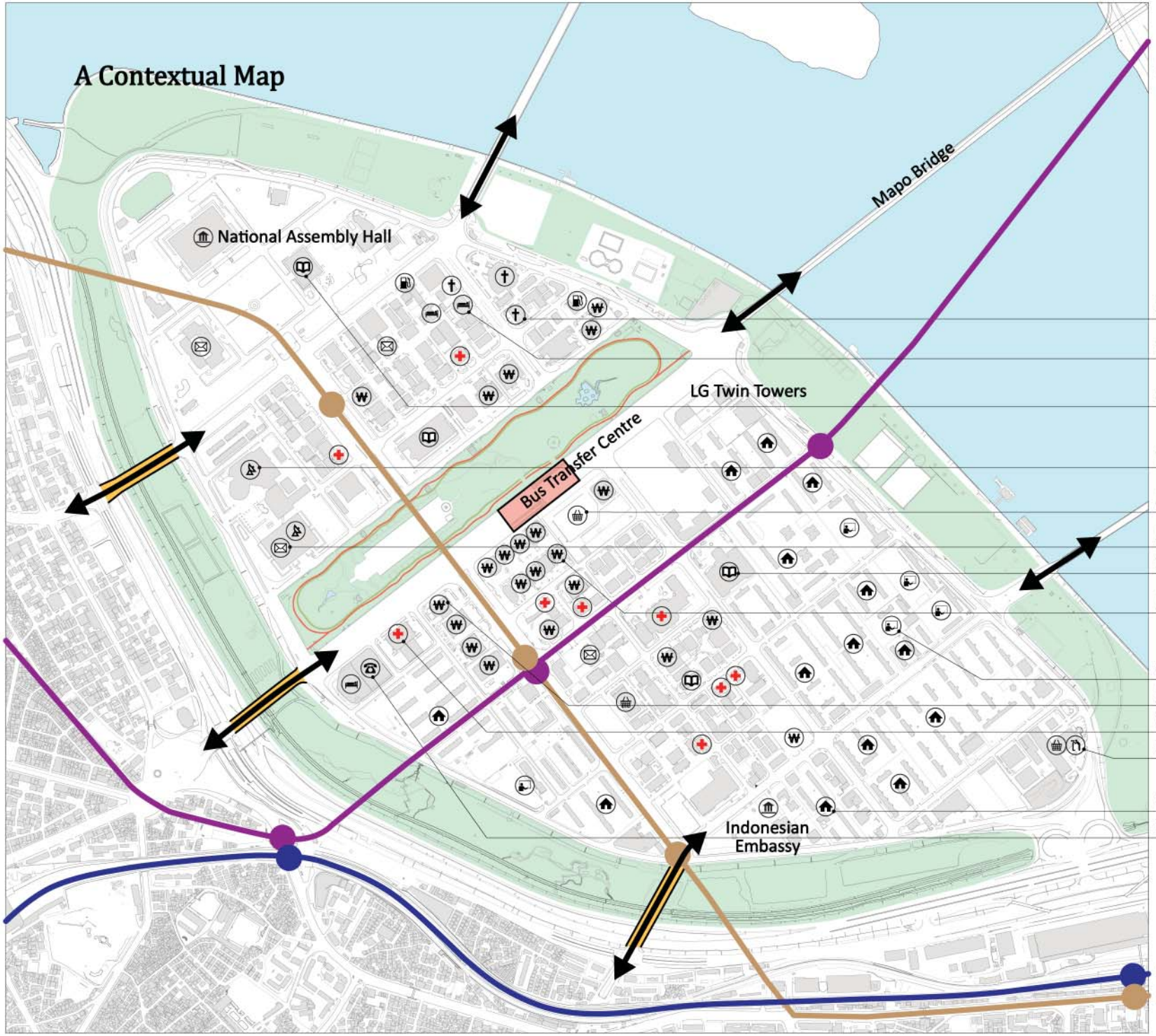


Figure 59_Contextual map (Author, 2016)

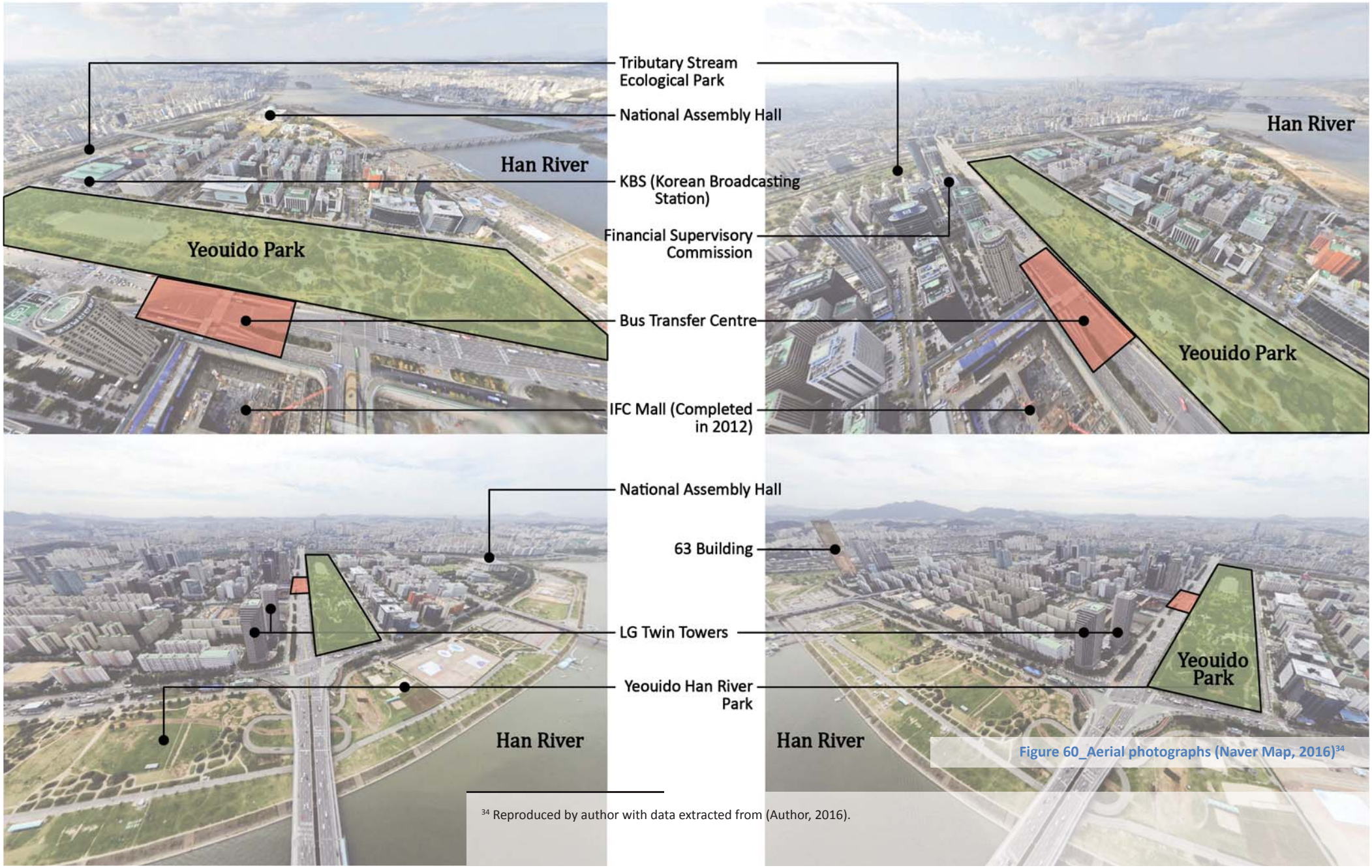
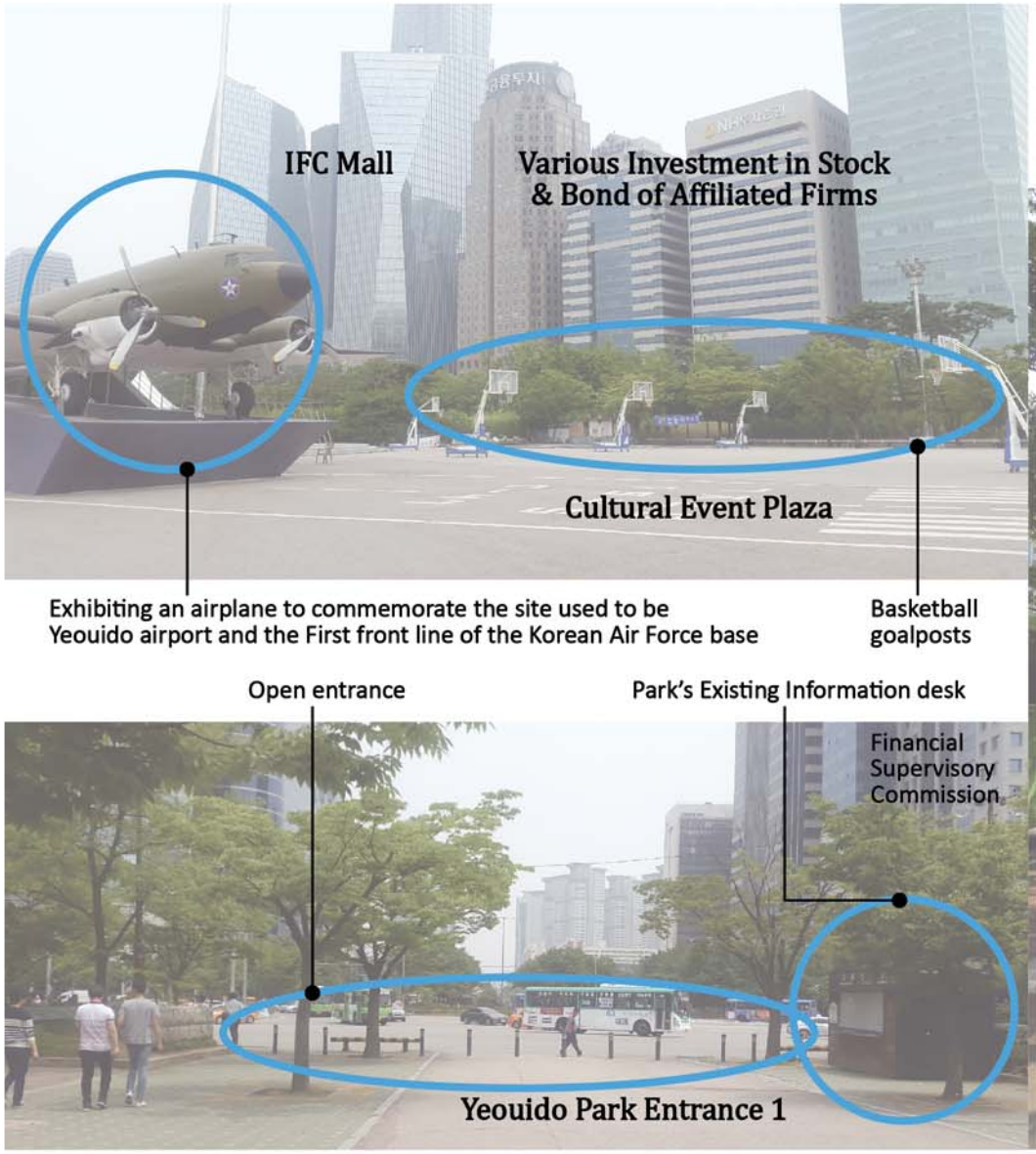


Figure 60_Aerial photographs (Naver Map, 2016)[34]

[34] Reproduced by author with data extracted from (Author, 2016).



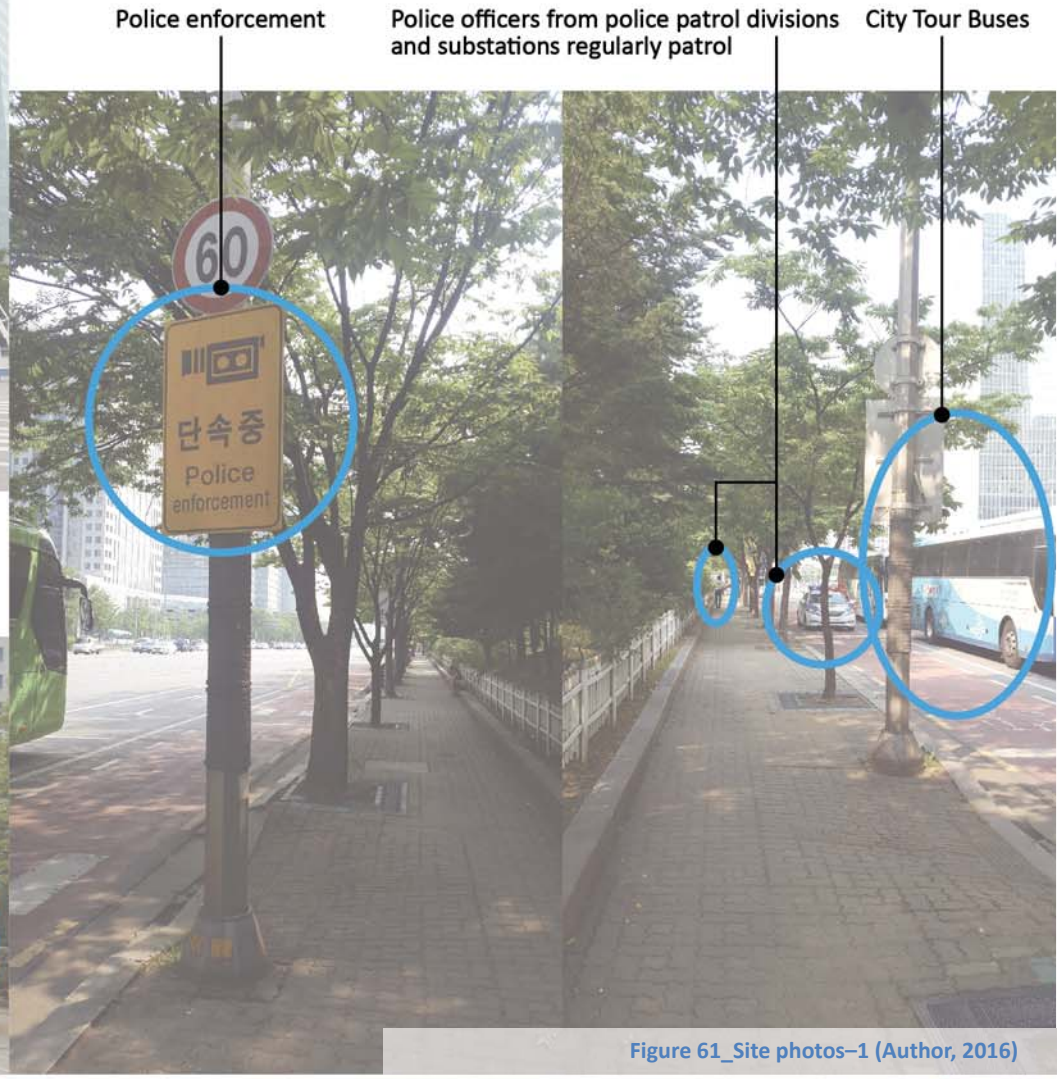


Figure 61_Site photos–1 (Author, 2016)

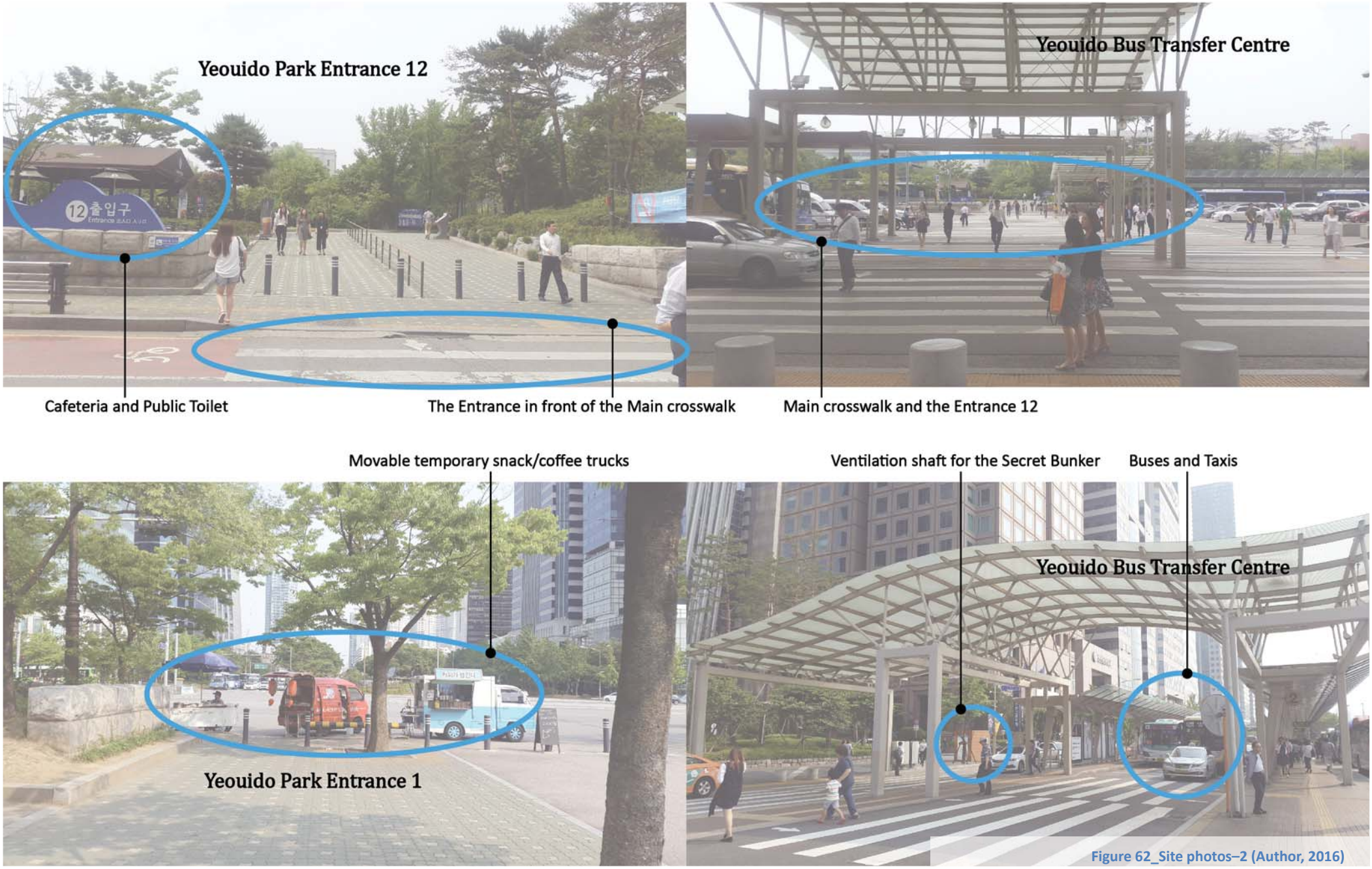


Figure 62_Site photos–2 (Author, 2016)

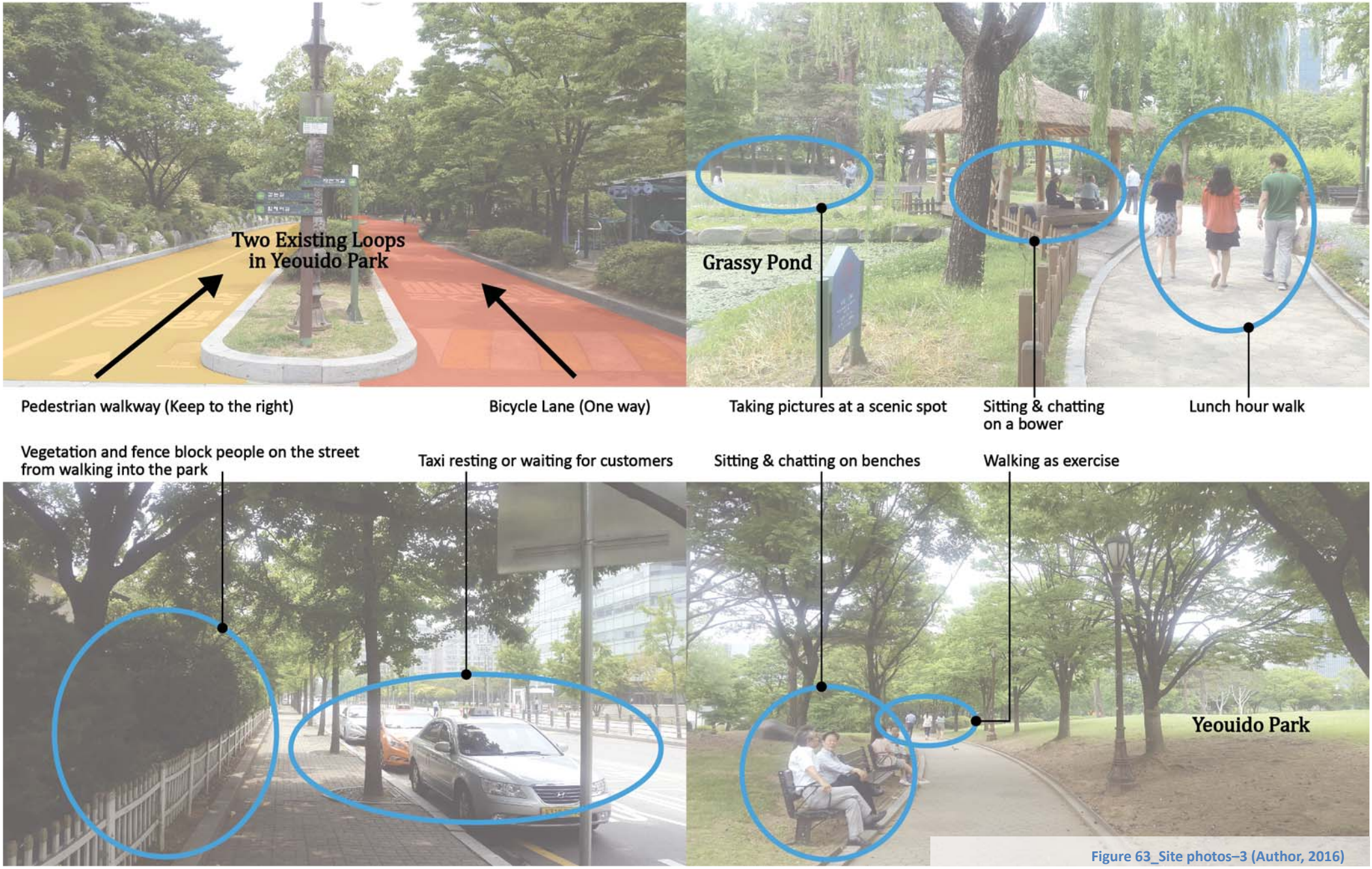


Figure 63_Site photos–3 (Author, 2016)

CHAPTER 5: VIABILITY

5.1 Executive Summary

5.2 Client

5.3 Project

5.4 Implementation

5.1 Executive Summary

This project proposes that pause spaces are necessary in an urban context of South Korea. Stress is a natural phenomenon and an essential element in a human's life. Stress strengthens a person's defence system. There are very few places in Seoul where stressed people can release the build-up of stress. The Korean society is extremely competitive and the cities of South Korea are crowded with concrete high-rise buildings. Several Korean city governments have plans for the redevelopment of infrastructures; building new higher buildings in place of old low buildings, in order to solve the heavy traffic and housing problems in an increasing population. Additionally, Korea's main metropolitan area Gyeonggi-Do, which includes the capital city, Seoul, has the highest population density. Korean people often say they are tired of people and buildings. Korean people commonly use the word *healing* when they are referring to a trip into the countryside to rest, or when they are planning to go somewhere to eat something delicious and rare, such as an indigenous food. Many Korean people want to escape from their city. In addition, they also want to find somewhere, where they can feel nature and maximise the senses that they don't often use. Even the word of *rest* is written as 休息[35] in Chinese: 休 is combined with human (人) and tree (木); and 息 is combined with self (自) and mind (心) (Fig.64). It means that when Chinese and Korean people are with a tree (which symbolises the nature) and when they know their own mind, they call this phenomenon the *rest*. However, not everyone has the time, money, or composure to take a break from a stressful life. Therefore, this project proposes rest and pause spots in a compact city, Seoul. So many office workers can prevent the build-up of stress by exploring their minds and senses at any time, in a diverse sense-experiential space.



Figure 64_'REST' in different languages (Author, 2016)

[35] Many Korean words are originated from Chinese, therefore meaning of the word is same and pronunciation of the word is similar as well.

5.2 Client



Figure 65_Seoul's plan for moving-labours (Author, 2016)[36]

In 2009, an ordinance Law of Development for Taxis no. 13492 (15) was passed in Korea. This law related to building or operating welfare facilities for taxi drivers in Korea (National law information center, 2015) (Baek, 2009). Taxi drivers, delivery and proxy drivers do not have a fixed working space and most their work is done in their vehicles. Korean taxi drivers work an average working day of 15 hour and 10 minutes (Fig.65). This is almost double the hours compared with other countries. New York and London taxi drivers work an average seven hours per shift; whereas taxi drivers in Tokyo work a 6.4 hour shift (Lee, 2016). In Korea they have no place to rest. They rest in toilets or 24-hour fast food restaurants and convenience stores. Proxy or substitute taxi drivers generally work through the night for customers who have been drinking. As much as the International Agency for Research on Cancer (IARC) states that working at night is very harmful and could be the cause some cancers (Park, 2016). The provisional office of the Korean metropolitan area, Gyeonggi-Do, plan to use 7.8 billion won (equal to R 102 million) over the period 2016 to 2018 (Fig.65) (Lee, 2016). This money will be used to build sixteen pause spots for people who work in vehicles (Lee, 2016). These people need resting places. This project proposes that resting spaces are necessary and should be provided for office-workers as well as vehicle drivers. In Korea these people have nowhere to release their stress or to escape from their tough working environment.

[36] Reproduced by author with data extracted from (Lee, 2016).

5.2.1 Profile of an organisation

Many local governments in the city of Seoul should budget for several pause spots, because these are not available for office-workers. The project argues that office-workers also require meditation centres similar to those proposed for vehicle-workers.

Name: Seoul special city (Fig.66)
Type: Government organisation
Mayor of Seoul: Park Won-Soon (From 27.October.2011)
Location: 110 Sejong daero, Jung-Gu, Seoul special city
Responsible department: Facilities corporate team under 'Public welfare department'
Competent minister: Lee Kyoung-Bok (Seoul metropolitan government, 2016)

- Plan and assess Seoul social welfare facilities
- Build *managerial system of corporative facilities* and propel the second phase
- Operate social welfare facilities aid exclusive card system
- Operate social welfare facilities administration supporting system
- Manage social welfare facilities common service policy
- Develop a common manual for guide and inspecting social welfare facilities
- Supervise safety of social welfare facilities

I·SEOUL·U
너와 나의 서울

Figure 66_Logo of Seoul
(Seoul metropolitan government, 2016)

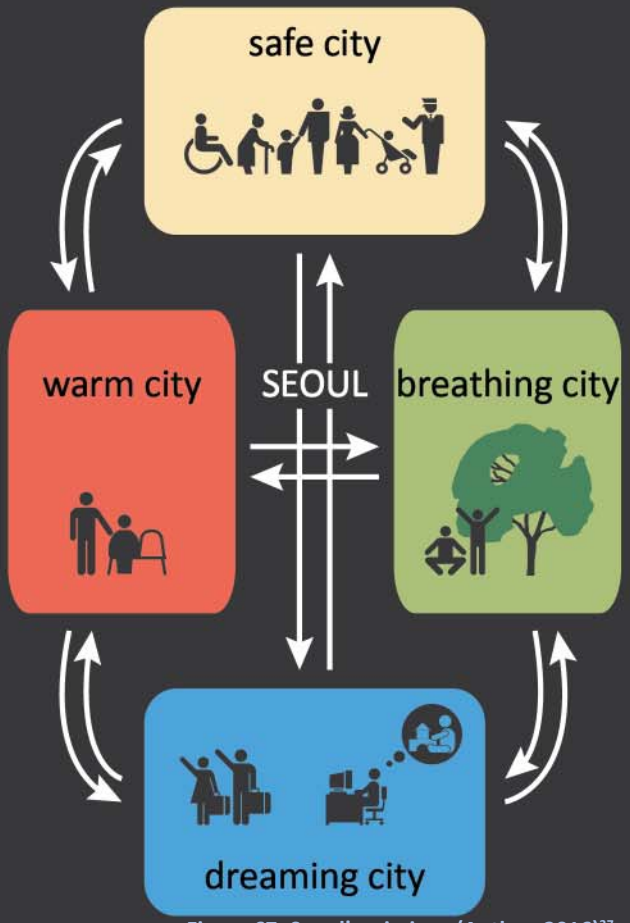


Figure 67_Seoul's missions (Author, 2016)[37]

5.2.2 Objectives and mission

The mission of the Government of Seoul concentrates on improving the quality of life of the citizens. Seoul is an innovative growing city that moves and evolves with the times.

- **The safe city** – Seoul metropolitan government ensures a safety budget for citizens in the city streets and in their homes. Seoul especially embodies children's safety. This is illustrated by the high number of police in Seoul (Fig.67) (Seoul citizens, 2014).
- **The warm city** – Seoul Government provides substantial aid for individuals. These aids include local welfare, medical services, educational and cultural resources. The citizen's quality of life, their dignity, and their basic living conditions are considered important. The Government also works towards expanding the welfare and employment of women. Seoul needs a special system to provide for an increasing elderly population (Fig.67) (Seoul citizens, 2014).
- **The breathing city** – Seoul cooperates with neighbouring cities, such as Beijing, to prevent air pollution and the removal of fine or ultrafine dust that harms bronchial tubes. Seoul also tries to create green forests close to urban areas. Seoul plans to use a substitute form of energy and transform the city from a consuming city to an energy producing city (Fig.67) (Seoul citizens, 2014).
- **The dreaming city** – Seoul is divided into two regions; north of the Han River and south of Han River. The region north of the Han River is generally called old Seoul because many places have not been upgraded for a long time. The region south of the Han River has developed fast. The real estate south of the Han River is expensive and more high-rise buildings are being constructed. Seoul has allocated R.1.2 billion of the city's expenditure to boost local growth and create a five point plan to create a good economy (Citizens' coalition for economic justice, 2014). The Seoul city budget is allocating R.5.6 billion to construct three hubs of Asian technology (Citizens' coalition for economic justice, 2014). The aim is to develop the north and south regions of the Han River equally. The city also aims to vitalise the economies of local wards and increase job opportunities. As enterprises gather in each hub, they share productivity information and technology and this increases competition (Fig.67) (Seoul citizens, 2014).

The Seoul metropolitan government aims to improve the safety and welfare of the city by creating greenbelts, unpolluted air, better job opportunities, and a growing technology.

[37] Reproduced by author with data extracted from (Seoul citizens, 2014).

5.2.3 Organisational structure

The organisational structure of the city of Seoul is divided into four parts: government affairs section, the first administrative section, the second administrative section, and the planning section. These sections all fall under the Mayor of Seoul. The first administrative section takes control of the welfare department (Fig.68) (Seoul metropolitan government, 2016).

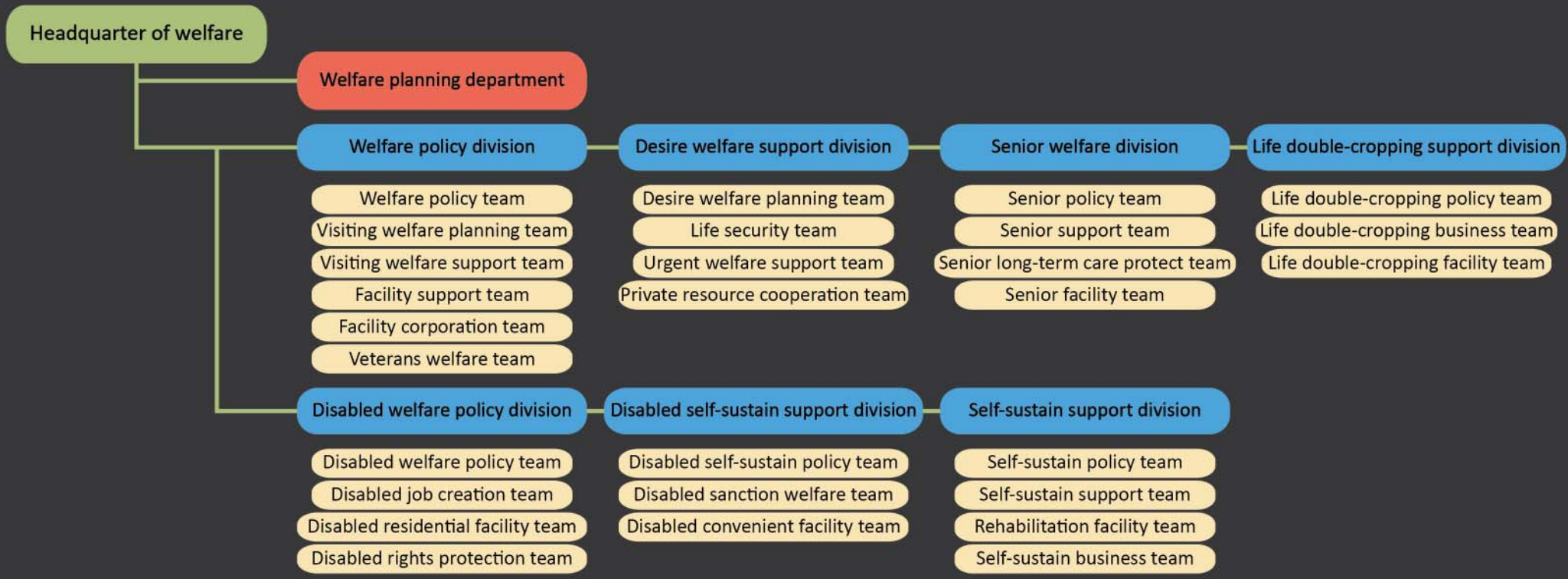


Figure 68_Structure of Seoul Welfare department (Seoul metropolitan government, 2016)[38]

[38] Reproduced by author with data extracted from (Seoul metropolitan government, 2016).

5.3 Project



Figure 69_Programmes (Author, 2016)

5.3.1 Brief

The project proposes pause spots for stressful people to go to in their working day. Seoul's people are exposed to an overwhelming amount of visual stimulation and this adds more stress. The other senses such as touch, feel and sound are suppressed. Therefore, this project aims to maximise individual multisensory experiences and encourage stressful people to find their inner self through meditation.

This project prioritises inner peace through self or group meditation. The project is not about making a profit on citizens. The brief is formulated to encompass elements that help in finding quiet spaces for meditation in a busy city where people walk very fast and are not ready to calm down. Meditation is divided into two groups: self-meditation and group meditation.

5.3.2 Programmes

Group meditation and self-meditation programmes will be available in this project (Fig.69). This project aims to act as a buffer between the harsh city environment and the adjoining natural park environment. Public group meditation spaces will lead into quiet meditation spaces in a gradual progression so as to blend these two different environments. The following areas are proposed:

- **Spaces for group healing:** performing arts spaces, audio-visual space, group meditation space, gathering space, yoga space, massage rooms, public speech space, lecture rooms, auditorium
- **Spaces for self-meditation:** sense-experiential spaces, gallery, bowers (resting spaces), reading spaces, meditation space, consulting room, chapel, prayer space
- **Supporting spaces:** bus stop waiting room, bicycle rental room, cafeteria/tea house, kitchen, technical control room, storage, information desk, administrative office, security room, public toilets

5.3.3 Site selection

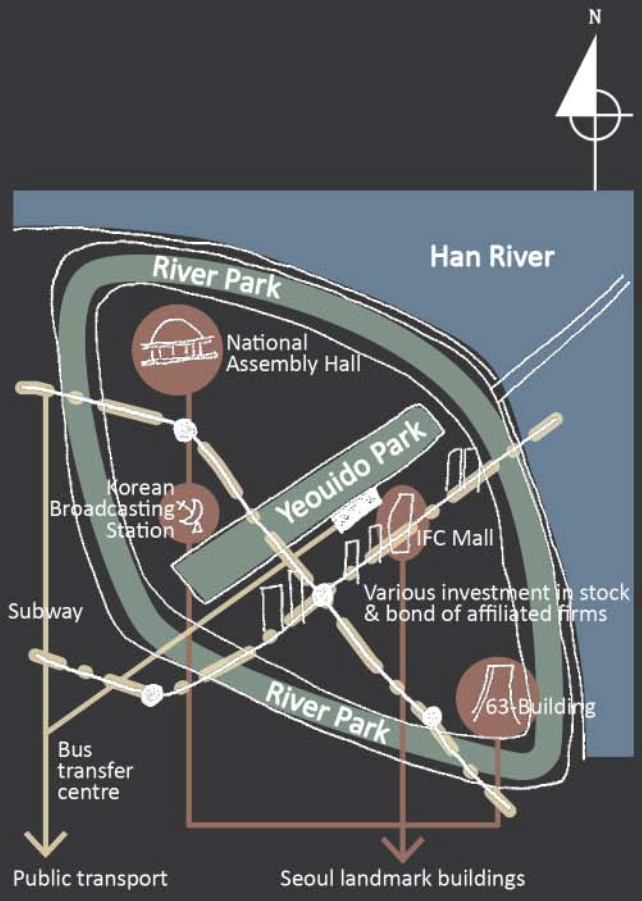
South Korea has the highest suicide rate in the world. Many Korean people are very stressed and cannot release stress because calming environments are limited in Seoul. These city people live very busy lives and barely make a living, so this project aims to create a respite for stressed people in Seoul, Korea. The site is chosen at the south-east boundary of Yeouido Park because Yeouido is the centre of finance in Seoul. Therefore, there are a lot of tired office workers in Yeouido. In the middle of Yeouido, there is a linear park called 'Yeouido Park' across Yeouido. It is an adequate location to have both of cityscape and park's natural landscape. This project intends to act as a buffer between these two different environments and entice citizens into the park for a period of meditation.

The factors that influenced the site selection are as follows (Fig.70):

- Proximity to natural features such as park, mountains, or river
- Proximity to compact cityscape with high-rise buildings and office workers
- Easy access to public transport
- Historically the site is where many citizens were inspected and supervised during the dictatorship

5.3.4 Operational functionality

The budget for the city of Seoul allocates money to build various welfare facilities in order to create a safe and welcoming city. A meditation centre will greatly enhance the city and assist people with stress. It is expected that the meditation centre will help in reducing the high suicide rate in Seoul. As a result, the meditation centre will go a long way towards making Seoul a safe and welcoming city. Suicide is a social rather than an individual problem in Seoul and so the Yeouido meditation centre will be a place to come and find peace and tranquillity. The Yeouido meditation centre will metaphorically breathe relaxation into people's lives. Additionally, the centre actually makes the citizen breathe in the smells from the surrounding natural environment, because the design of the building uses cross ventilation and solar energy. This project is a sustainable part of the green Yeouido Park and part of the breathing city. Yeouido meditation centre needs people to run it and maintain it, so the centre will be an opportunity for new jobs. In addition, the centre will train, and offer lectures on meditation. People will then pass this training on to others, in other places. Courses will be run in different stages and steps so different people can



- Proximity to natural features
- Proximity to compact cityscape with high-risers and office workers
- Easy access to public transport
- Historical site

Figure 70_Advantages of Yeouido's location (Author, 2016)



Figure 71_ Firework with view of Yeouido from Seoul north (ClubinKorea, 2014)



Figure 72_South eastern view of Yeouido (WIDA WCEPS, 2015)

reach their different dreams. In other words, Yeouido meditation centre will work with self-meditation and group courses on meditation. The different courses will allow people to register, attend, learn, practise and complete techniques on meditation. After the completion of the course, people have a new ability to teach someone else about meditation. Therefore, the centre will create a new experience in the city of Seoul.

This project is a self-operating business, where anyone can pass, enter and leave individual open pavilions without being instructed. Instructors will be provided for people who need to be helped with the various spaces, administration, office locations or guidance in meditation. This open approach of design will help in achieving the client's intentions because it will allow more people to enter and create an interest in meditation. People will find a feeling of calmness without going through the procedure of meditation.

The location of Yeouido meditation centre is ideal because it is placed by the Yeouido bus transfer centre. Many cross-city buses stop at this transfer centre. The centre is at the boundary of Yeouido Park and city of Yeouido. The city of Seoul and many organisations open diverse events in Yeouido so many people visit Yeouido for these functions (Fig.71). Yeouido Park is famous for its cherry blossoms trees. Therefore, large crowds are attracted to Yeouido Park during spring.

Yeouido, itself is the landmark of Seoul. Many videos or postcards of Seoul tourism include views of Yeouido (Fig.72). The project will be tendered by the city government, and publicly announced. Many contractors are likely to compete for this open tender because it helps with their reputation. Their names will be published by the city government of Seoul both before and after the project. It is an opportunity for contractors to have an honourable record of service and improve the value of their brand or name.

The Yeouido meditation centre would be operated and smoothly constructed in the city of Seoul.

5.3.5 Utilisation of funds

The funding for this project will come from the Seoul metropolitan government. Initially, most of funds will be allocated to construct the building. Instructors and administrative staff will run the project, and will be employed and paid. Instructors will introduce and teach meditation to visitors of the meditation centre. Additional funding will be required for maintaining the centre. As the project starts to operate, a maintenance fee will be sponsored by the city of Seoul and some venues, such as lecture venues will be rented by various religious groups.

5.4 Implementation

5.4.1 Target market

Office workers and bus commuter will be targeted to benefit from the centre (Fig.73). It is expected that the target market will expand to other groups of people wanting to find inner peace via meditation, once it becomes known.

5.4.2 Competitive edge

This project does not single out any particular religion, so it does not limit people by religion. In addition, it is not located in the middle of a deep mountainous area. It will be built close to the Yeouido bus transfer centre, which many people visit.

5.4.3 Marketing strategies

The project will be advertised using website/social networking sites (SNS) and publicity.

- Website and social networking sites – Online marketing reaches many people. The project will be on a website and promoted though SNS. People will inform others about this project and the information will spread globally.
- Publicity – All new businesses or projects are publicly announced if the Seoul expenditure budget is used. The administrative people in control of the budget of Seoul publicise these projects on the city's website and on every form of media and social media. Posters will be erected on street poles near Yeouido Park.



Figure 73_Distribution of office workers near Yeouido Park (Author, 2016)

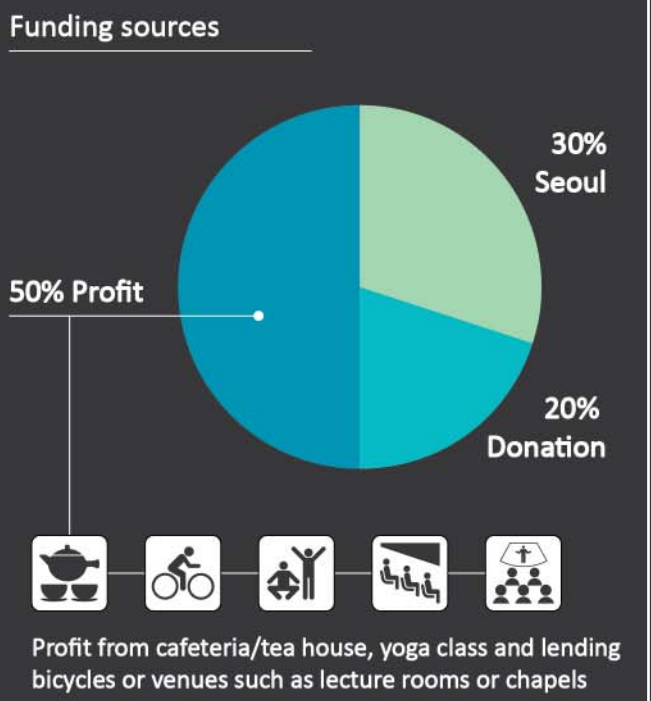


Figure 74_Funding sources (Author, 2016)

5.4.4 Funding sources

Most of funding will be carried by the city of Seoul. The first phase of the project will be to conceptualise a design in the context of Yeouido Park, and break up the design into different programmes, planning the outcomes proposed to the city of Seoul. During the first phase, the developers of the project need to know all the diverse forms of meditation in the different religions. This information will be published to attract religious Non Profit Organisations (NPOs). These religious NPOs will have a chance of growing their religions, teachings, and ways of meditation. It is expected that these NPOs will subsidise the project for this reason. As a result, it is expected that 60% of the funding will be sourced by the city of Seoul and 40% will be funded by diverse religious NPOs.

Once the centre has been built, the project will operate on its own. There is no limitation or restriction in exploring this centre. Group meditation courses will be given by instructors and administrative staff. The wages and maintenance costs will be funded in the following ratio: 30% from the city of Seoul's budget, 20% from donations, and 50% drawn from cafeteria profits and renting of venues such as lecture rooms or chapels (Fig.74).

5.4.5 Construction procurement

Role of the architect

The architect will design the layout of the centre and its facilities. The architect will study the brief beforehand and include all the specified building requirements. The architect decides the layout of the various spaces and rooms, according to the context.

- Self-regulating
- Specialised body of knowledge and skills
  - Intellectual aspects – philosophy and approach to design
  - Practical skills – being able to represent and communicate
  - Design skills
  - Technology – practical aspects of putting buildings together
  - Environmental considerations

- Cultural aspects
- Legal and statutory frameworks – own planning, environment
- Professional practice – the way you operate / deliver the product
- Office management – the vehicle through which you practice

- High level of autonomy
- High ethical standards
- Independent and committed to well-being of others

The professional team

The professional team is organised as follows:

- Legal team – attorney
- Design team – architect, engineers (structural, mechanical, electrical, and civil), interior designer, landscape architect, fire consultants, agricultural engineers
- Management team – project manager, construction manager, principal agent
- Planning team – land surveyor, town planner, urban designer, quantity surveyor
- Construction team – contractors, sub-contractors, suppliers

Roles of professionals during construction procurement

The land surveyor will examine the site and advise the architect of anything that may restrict the process of building on the site or anything that may influence the building design. Once the site investigation has been completed and approved, the procurement process of sourcing and pricing local labour and materials begins.

The procurement process of sourcing and pricing local labour and materials will be announced in an open tender. An advertisement or an official announcement will be addressed in public media and the tender period will be mentioned and the tender will be open to everyone. After the tender period is over, the client and the professional team will evaluate the tender documents that have been received and award the contract. Since the client is the city government of Seoul, they are likely to consider lower tenders and turnaround time, ahead of the other factors. The costs and the turnaround time will favour the local contractors and construction labourers. Local contractors have more experience with local materials. It is a nice opportunity to keep local people employed since it is a public and government project in Yeouido. Yeouido is the landmark of Seoul, so this project will be repeatedly publicised in any venture that markets Seoul tourism. In addition, the professional team involved in building the project will be published as a list of local contractors and they will be spontaneously recognised by the public.

CHAPTER 6: ARCHITECTURAL DESIGN

6.1 Brief

6.2 Design process

6.3 Design development

6.4 Technical design

6.1 Brief

6.1.1 Project brief

A lot of people in the world want to release stress or have a better self-esteem. Stress causes physical and psychological diseases. On a social level, stress causes problems such as suicide, crime, or mental disorders. These social issues frequently arise in South Korea. Therefore, places to heal the mind or improve mental health are very popular in South Korea (Fig.75). These places are often in the countryside so as to be close to nature, or they are on the outskirts of the main cities. This project has identified that stressful people cannot use these places every day because they are far from the city business district. City workers need a place to heal their mind in close proximity to the busy city of Seoul, close to their work environment. This project aims to design a meditation centre in the urban context of Seoul, Korea (Fig.75).

The technology industries within Korea and more particularly in Seoul exhaust people's visual senses in various ways. In Seoul the light pollution is high, there is excessive visual marketing, and an overwhelming amount of visual media and use of data through technology. The overuse of sight causes stress. This project aims to provide an architectural building where city workers can use all their senses and experience a feeling of inner peace. In the past, Korean people were exposed to military parades, political propaganda and disciplined judgement. Public squares were openly used to cause harm to people's stress levels. The Korean government reformed the square into the public park, called Yeouido Park. Yeouido Park is a beautiful natural district in the bustling city of Seoul but its history is dark as it symbolises a space where in the past, citizens expressed grievances to society or the Korean government. The proposed architectural site is in Yeouido Park, by the Yeouido bus transfer centre. It aims to change the perceptions of the Yeouido square and make it into a recreation space. An urban meditation centre, which presents multisensory experiences, is proposed at the place where excessive visualisation has occurred in the past.



Figure 75_Stress and architecture (Author, 2016)

6.1.2 Programmes

This project proposes the design of an urban meditation centre. The programmes offered in the centre will encompass different types of meditation. Programmes are divided into categories: open-air spaces and closed indoor spaces; group meditation spaces and self-meditation spaces. The centre will offer open group meditation spaces, outdoor self-meditation spaces, indoor group meditation spaces and closed self-meditation spaces.

The idea is to separate the various types of meditation rather than to design a single large centre in the middle of park (Fig.76).

The meditation centre aims to encourage stressful people from the city of Seoul to come spontaneously and investigate the centre, and the different types of meditation, and to return regularly. The aim is that people will eventually enter the main meditation centre without hesitating. Busy people can sit in the open group meditation area, such as the gathering space or they can pass by the open gallery without entering the main meditation centre. In other words, they do not need to enter the main centre and join the sequence of meditation techniques.

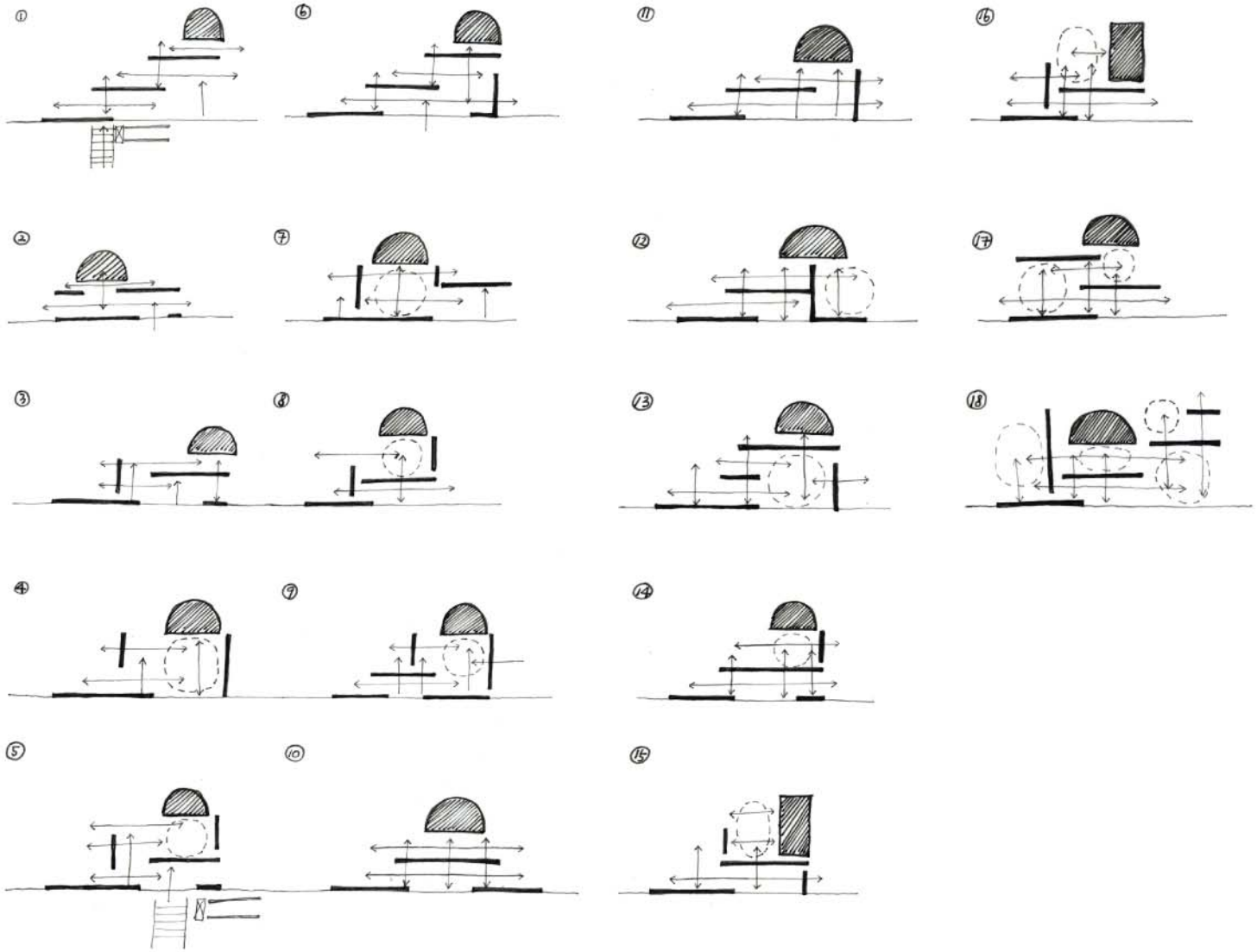


Figure 76_Alternatives of programme layouts (Author, 2016)

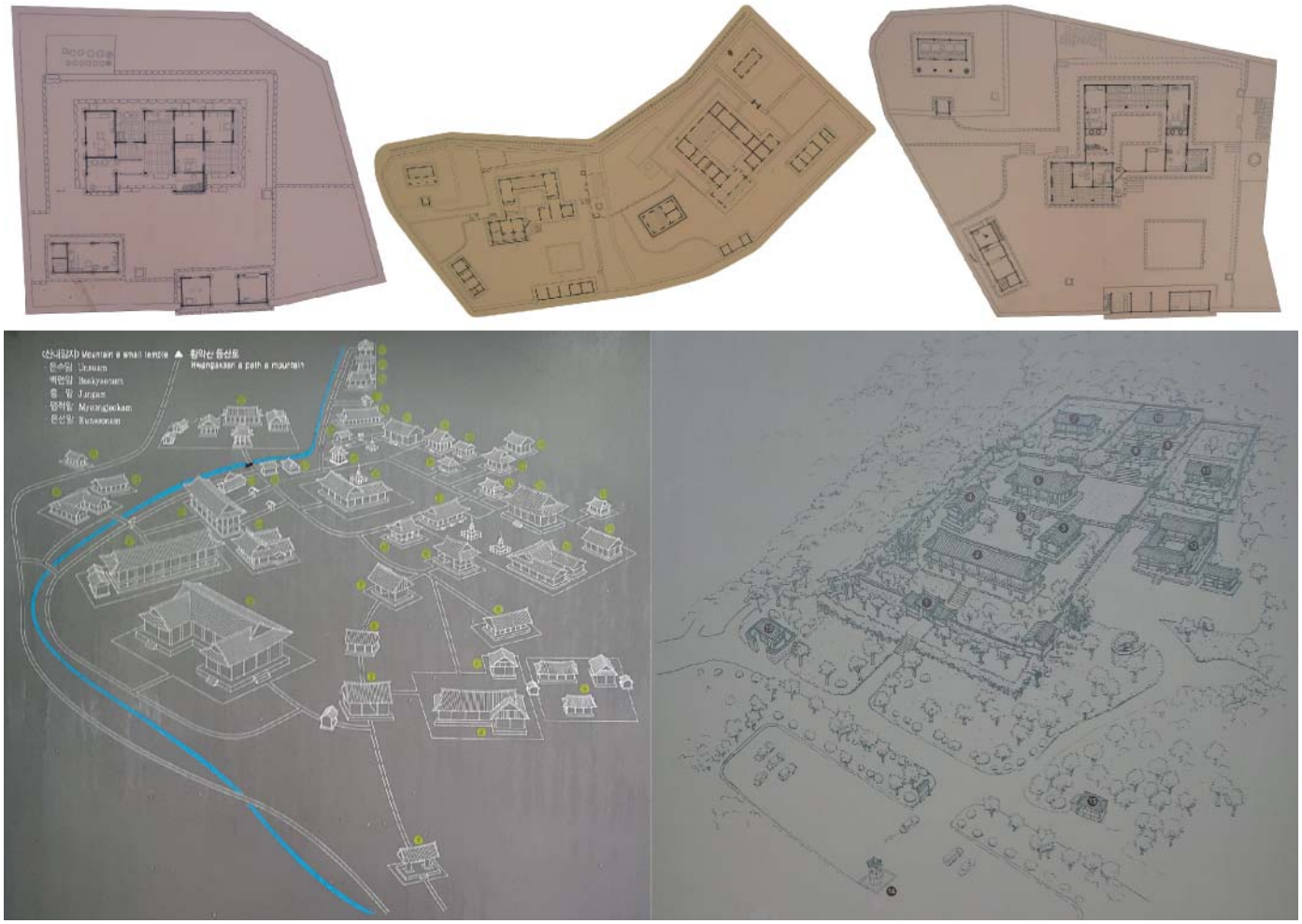


Figure 77_Various layouts of Chae-s in Hanok (Author, 2016)

The segregation of programmes is inspired from the layout of Hanok[39]. Hanok consists of a few separate buildings in one dwelling. The detached buildings are meant as several units of the house. These units are called as 'Chae' or 'Gan' in Korea. In other words, one Hanok consists of a few Chae-s[40] and those Chae-s have different functions (Lee & Suh, 2013). Chae-s are arranged separately or connected with raised wooden passages. The layout of each Chae is influenced by the Korean climate (Fig.77). In the northern parts of Korea the Hanok has a square-shaped layout of Chae-s with a courtyard in the middle. This is because it is much colder in northern Korea, and the design helps to minimise heat loss (Wikipedia, 2012). In southern Korea the Hanok is designed in a line of Chae-s with many open courtyards. This design maximises cross ventilation and cools the buildings, because this part of Korea is much hotter and buildings need more ventilation and open spaces (Wikipedia, 2012). The idea of the division of 'Chae' is thought to have been influenced by Confucianism. Chae-s are placed at a comfortable distance from one another and the privacy of each programme or occupant is respected. Some scientific journals give an interesting opinion on the division of Chae-s (Fig.77); when the privacy of each space is secured, the private space affects the moulding

[39] Hanok indicates a Korean traditional house.
[40] There were more Chae-s in noble's Hanok or rich person's Hanok than the common people's Hanok in old times of Korea.

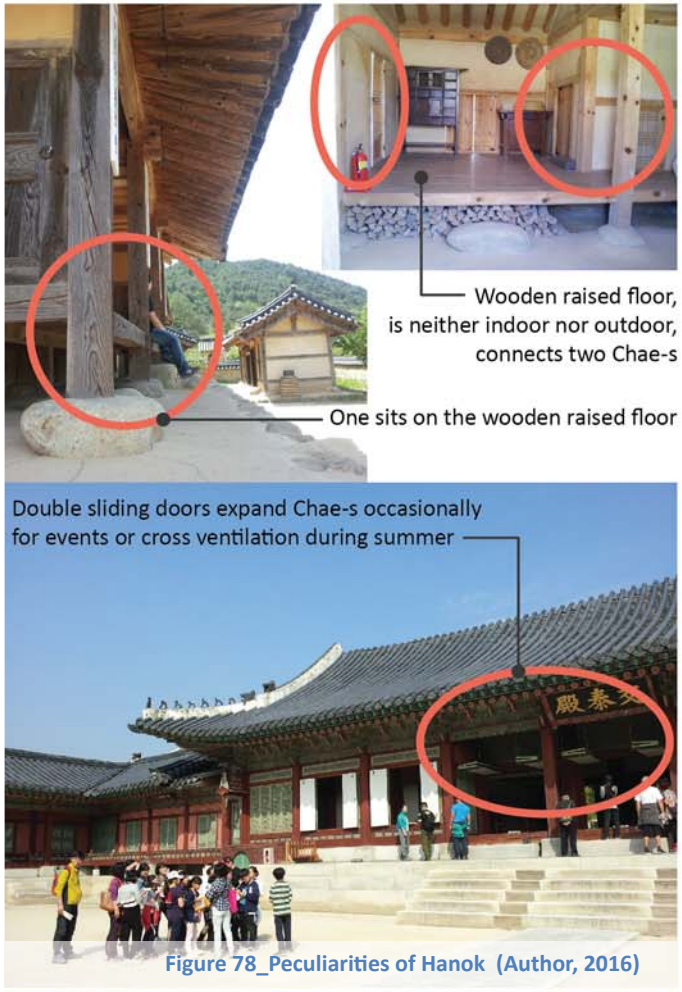


Figure 78_Peculiarities of Hanok (Author, 2016)

of human nature in children (Lee & Suh, 2013). People feel stressed today because they don't have enough of their own private space to think or rest.

Hanok have a diverse layout of Chae-s that illustrate spatial hierarchy according to class, gender and generation (Ko, 2013). They express Korean culture and history. There is no longer a status or class system in Korea except that younger people should respect their elders. There was gender discrimination in Korea in the past. Therefore, the design of Hanok is considered carefully so that occupants of each Chae are positioned according to class, gender and generation (Ko, 2013). Each space is respected for its privacy but some Chae-s are connected if requested. The Hanok is designed to be adaptable and easily extended. Hanok's indoor or outdoor boundaries are ambiguous (Ko, 2013). For example, all the floors are raised and a wooden floor connects some Chae-s as a passage (Fig.78). However, this wooden passage is not covered with walls or doors while all Chae-s are covered with walls and doors. Since the floor is raised, people can sit on the wooden floor without taking off their shoes. When people enter a Chae, they must take off their shoes, because it is indoors. This is part of Korean culture. The wooden floor is not indoors because it is not enclosed by walls but this floor is not outdoors either because people can walk there without their shoes. Hanok's have double sliding doors; they slide open and Chae-s are then completely open (Fig.78). So some Chae-s are extended to the wooden floor and used occasionally as a bigger space.

The special features of Hanok are replicated in this proposed urban meditation centre project. Around the main meditation centre, various spaces of meditation are designed. Those spaces are referred to as a meditation intervention. This intervention consists of various small pavilions with different heights and volumes like the various layouts of Chae-s. This intervention assists the route to the main building and it is part of the procedure of meditation. This intervention and its special hierarchy links the busy city's movement to the gentle park's movement. Also, some spaces offer experiences of in-between or ambiguous spatial boundaries.

Therefore, this project divides programmes by the size of the group of people or individuals, or the indoor or outdoor programmes. The programmes can be arranged from the active, public, boundary of Yeouido Park, into the inner, quieter, more private, greener park. In addition, the division of programmes helps create various courtyards in-between those programmes. Office workers usually walk in Yeouido Park during lunch break, at noon when the sun is almost directly overhead.

6.1.3 Accommodation schedule

Table 3_Accommodation schedule (Author, 2016)

Space/Room		Public/Private	No. of Units	Area (m²)	Total Area (m²)
Open spaces for group healing	Open gallery, open display pavilion	Public	2	128, 300	428
	Gathering & resting space	Public	2	156	312
	Cafeteria (+ Kitchen)	Public	1	130 (+28)	158
	Information desk & bicycle rental office	Public	1	132	132
	Bus waiting zone	Public	1	83	83
	Performing arts space	Public	1	400	400
		Public			**1,641**
Open spaces for self-meditation	Senses-experiential space	Semi-private	1	200	200
	Prayer space (Stupa)	Semi-public	2	70	140
	Open former hall	Semi-public	1	96	96
	Open chapel	Semi-private	1	24	24
		Semi-private			**460**
Spaces for group healing	Auditorium	Public	1	125	125
	Yoga studio	Public	1	172	172
	Dining hall	Public	1	110	110
	Tea house	Public	1	45	45
	Lounge	Semi-public	2	16	32
	Chapel	Semi-public	1	187	187
		Semi-public			**671**
Spaces for self-meditation	Massage room	Semi-private	1	50	50
	Reading spaces	Private	8	4	32
	Self-meditation spaces	Private	8	6.5	52
	Prayer spaces	Private	16	2	32
	Consulting room	Semi-private	1	35	35
		Private			**201**
Amenities	Kitchen/Servery	Private	1	25	25
	Technical/Control Room	Private	1	12	12
	Reception	Public	1	12	12
	Administrative office	Private	1	18	18
	Caretaker's space	Private	1	35	35
	Public toilets	Public	4	50	200
	Circulation	Public	4	103	412
		Private			**714**
Total	Total Building Area				**3,687**
	Total Coverage (Including Bicycle lane + Running Route + Open Park Spaces)				**12,095**
					12,095

Summer in Korea is very humid and hot, and people will come to the shade and sit on benches close to open group meditation spaces. They will observe different views of the main meditation centre and the diversity of the park. People will have different experiences as they walk through some of the open space programmes and reach the main meditation centre. Many doctors suggest that these factors reduce stress: restricting the use of SNS, exercising, breathing deeply, taking notice of something else besides the actual situation or real life, and finding a mind-resting space (Han, 2016). The variety of meditation programmes offered in a natural environment will help release stress as well.

6.2 Design process

6.2.1 Conceptual design

The complexity of emotions was explored through elements of the built form during the conceptual phase. It was during this phase that the relationship between spaces and emotion was established. This resulted in the exploration of interlinking spaces that create a whole and lead into one another. These spaces will play on the emotions of the users of the facility. The interlinking spaces combine spatial characters and create new spatial character. This allows constant movements of spatial atmospheres, which blend into one another. Similarly, when visitors move between different spaces, the visitors experience changes in their emotions (Fig.79). This translates into the design in that there is no single enclosed space and there is no constant fixed space. Adjacent spaces or the nature of surrounding environments flow into a space, and then the spatial character is defined with these flowing atmospheres.

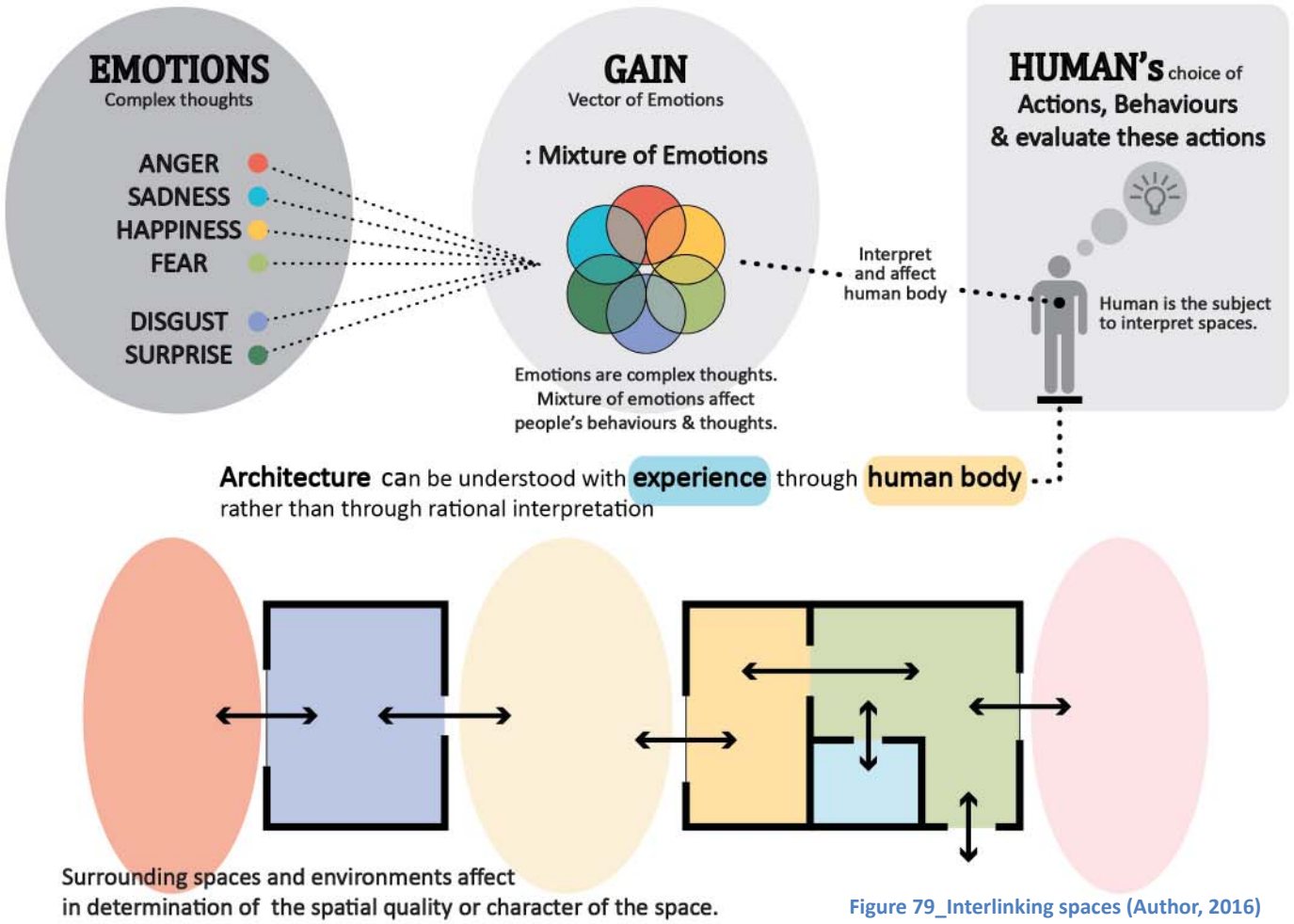


Figure 79_Interlinking spaces (Author, 2016)



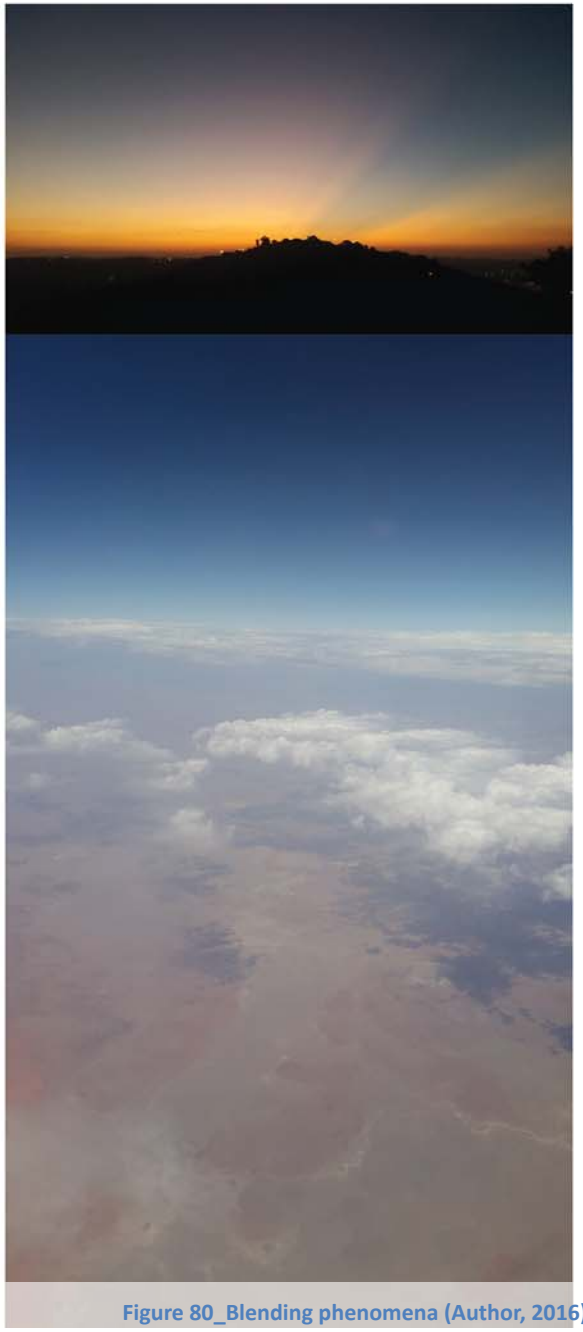


Figure 80_Blending phenomena (Author, 2016)

Emotions are complicated thoughts. Many emotions blend into one another and the mixture of emotions affects a person's choices and actions or how they evaluate these actions. Emotions are temporary thoughts that arise and disappear at different times.

People can observe blended phenomena at the boundaries of two different zones or two different times for instance: day and night, sky and sea, sun and clouds (Fig.80).

To illustrate the blending phenomena, the zones should penetrate or overlap one another. Initially conceptual models are represented with flexible materials such as water-colour paints. As water-colour paints mix, new colours are created. Subsequently, this concept is represented in three-dimensional form with papers (Fig.81). When one cube penetrates another cube, a new space is created as is demonstrated by the water-colour paints. The overlapping cubes also have a new spatial character.

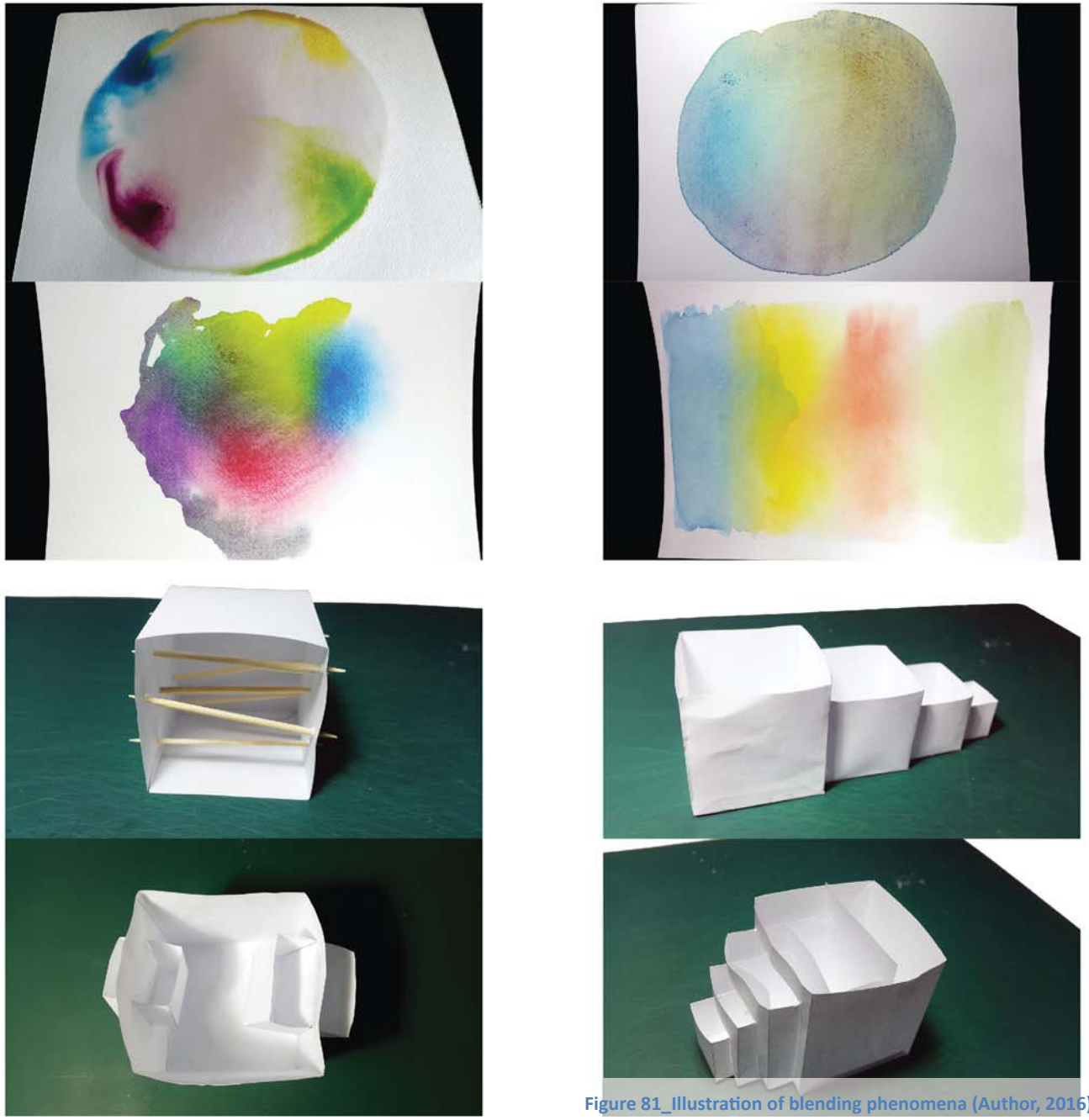


Figure 81_Illustration of blending phenomena (Author, 2016)

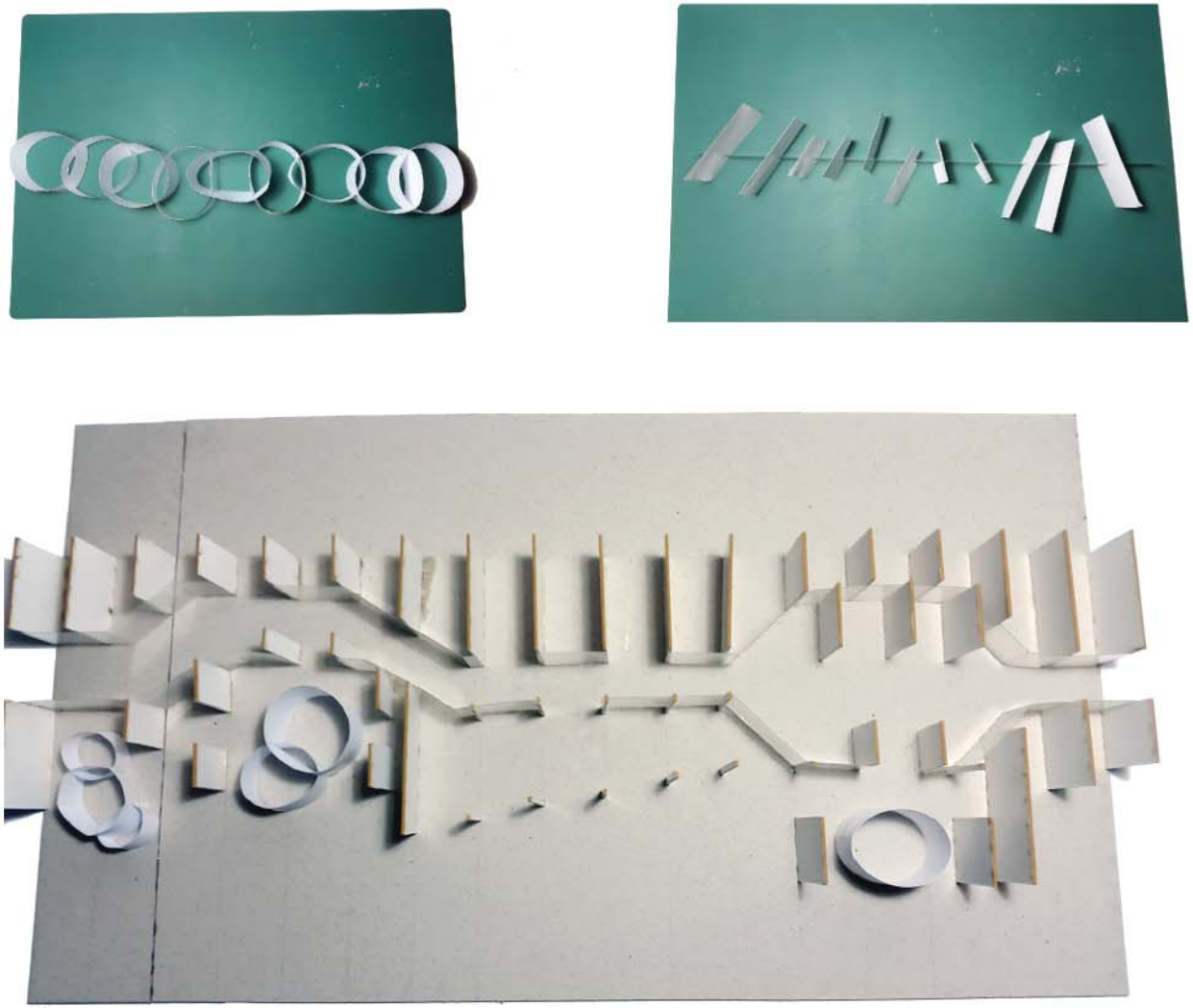


Figure 82_Models of blending phenomena (Author, 2016)

Another study creates models in both horizontal and vertical movements rather than in one single movement (Fig.82). The movements in both directions symbolise the continuous movement in the park and the city. While two movements are made in different directions, one side has firm walls with specified gaps, and another side has flexible shaped walls and columns with bigger gaps. The rigid walls represent the regular grid of the city; the curved walls and columns with larger openings signify the quiet and free atmosphere of the park.

The design is inspired by Korean culture, which is influenced by Confucianism. Design concept is a continuous loop (Fig.84). It symbolises that every life circulates, is related and connected. Events and emotions in people's lives are affected by their relationship with their surroundings. Everything exists in a continuous loop; when positives and negatives are balanced, everything circulates or works well. This idea is very important in Korean culture as it helps to understand how Korean people think. This idea is illustrated on the Korean flag as well. In the middle of the Korean flag, red and blue make one circle (Fig.83). This circle is called the T'aegŭk symbol. T'aegŭk symbol is the source of the dual principle of Yin and Yang (Ministry of the Interior, 2012). Red symbolises positive energy, which is called Yang in Korean and Chinese language; blue symbolises negative energy which is called Yin in Chinese and Eum in Korean (Ministry of the Interior, 2012). All universal things are created and developed by the mutual interaction of positive and negative energy (Ministry of the Interior, 2012).

The continuous loop is also inspired from transmigration or reincarnation, the idea of Buddhism (Fig.84). One lives in a certain status because of one's charity in past life. After one dies, one is reborn by retribution or the system of cause and effect. Therefore, everything and everyone are connected and related to each other.



Figure 83_Korean flag (Ministry of the Interior, 2012)

Figure 84_Concept sketches (Author, 2016)

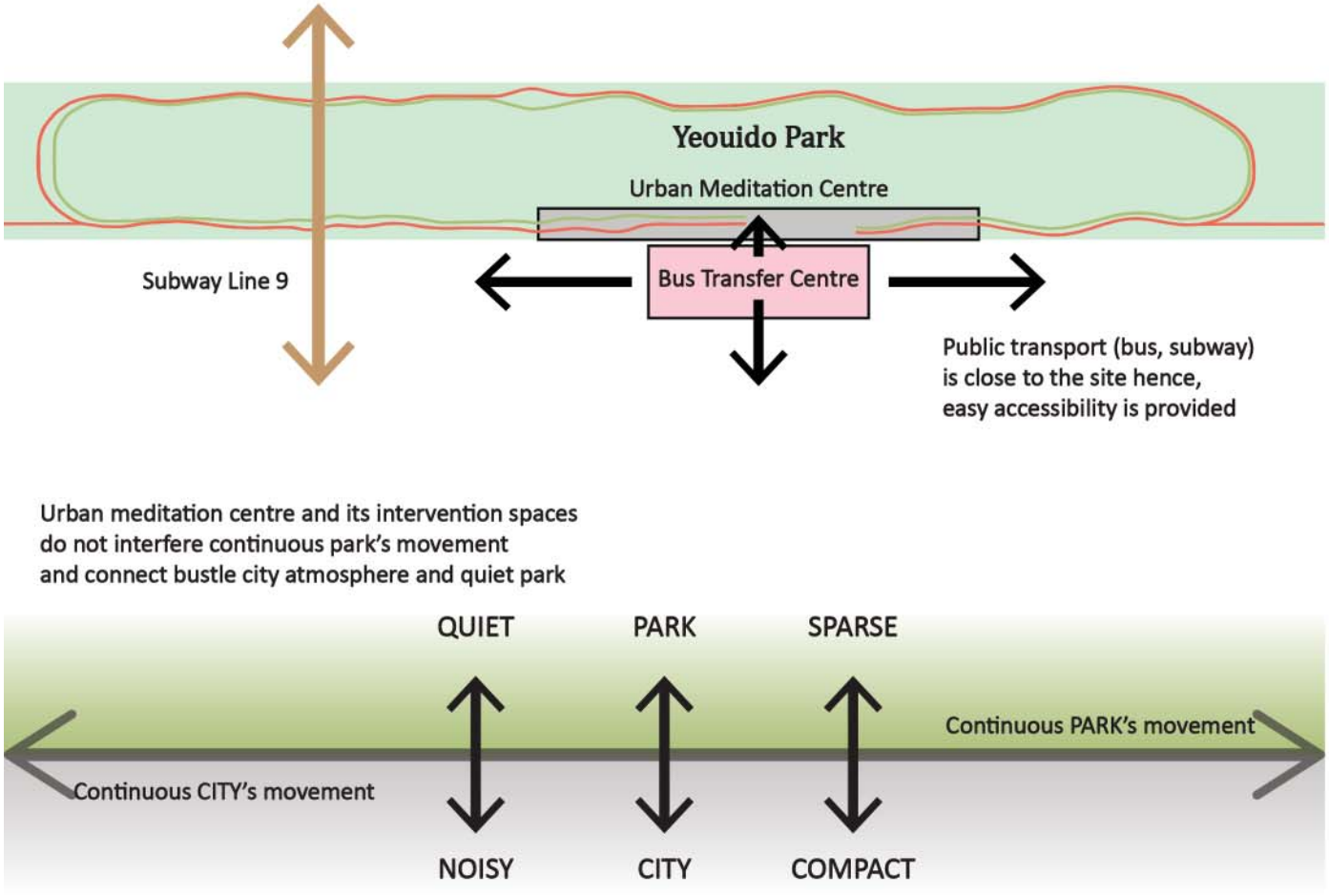


Figure 85_Design diagram-1 (Author, 2016)

6.2.2 Design planning

The project consists of open meditation intervention and the main meditation centre. The intervention is intended to catch business people from the pedestrian pathway by Yeouido Park and encourage people waiting for buses in the bus transfer centre. Therefore, the urban meditation centre is proposed in between the bus transfer centre and Yeouido Park (Fig.85). Yeouido bus transfer centre is a transit hub and transport interchange; it highlights the fast pace and hustle and bustle of the city. Public transports such as buses and subways are close to the site providing easy accessibility. The main access to the site is in front of the bus transfer centre. Besides stressed office workers, there are many taxi and bus drivers who park on the street and wait for customers. Drivers will be able to rest in the open intervention spaces.

The main axis of the design connects the park and the compact city. The secondary axis is the continuous movement between the park and the city (Fig.85). The choice of site uses the concept of interlinking spaces. The proposed intervention is situated on the edge of the site between the transport interchange and the park, which behaves like the linking of two spaces,

creating very different emotional environments for users. The proposed intervention seeks to blend the experience of users by creating a space, which accommodates the transport interchange and its users whilst providing the service of being a breakaway space rather than just a busy transport interchange. The urban meditation centre and its intervention spaces do not interfere in the park's existing running track and bicycle lane. The meditation centre connects the busy city atmosphere with the quiet Yeouido Park through the use of diverse meditation spaces.

Programmes are laid out in a hierarchy, so that public noisy areas move into private and quiet areas. Small open pavilions will gradually inspire people to move from the bustle of the city to the open green boundary of Yeouido Park and finally to the calm meditation centre, which is designed as if it arises from a water feature (Fig.86).
The project provides people with transition experiences or phenomenal experiences with their full senses as they move through spaces and the procedure of meditation.

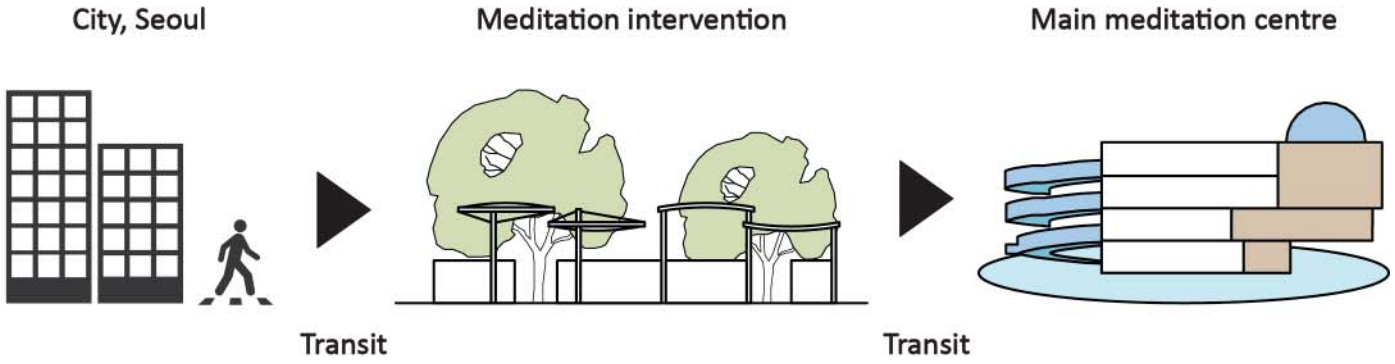


Figure 86_Design diagram-2 (Author, 2016)

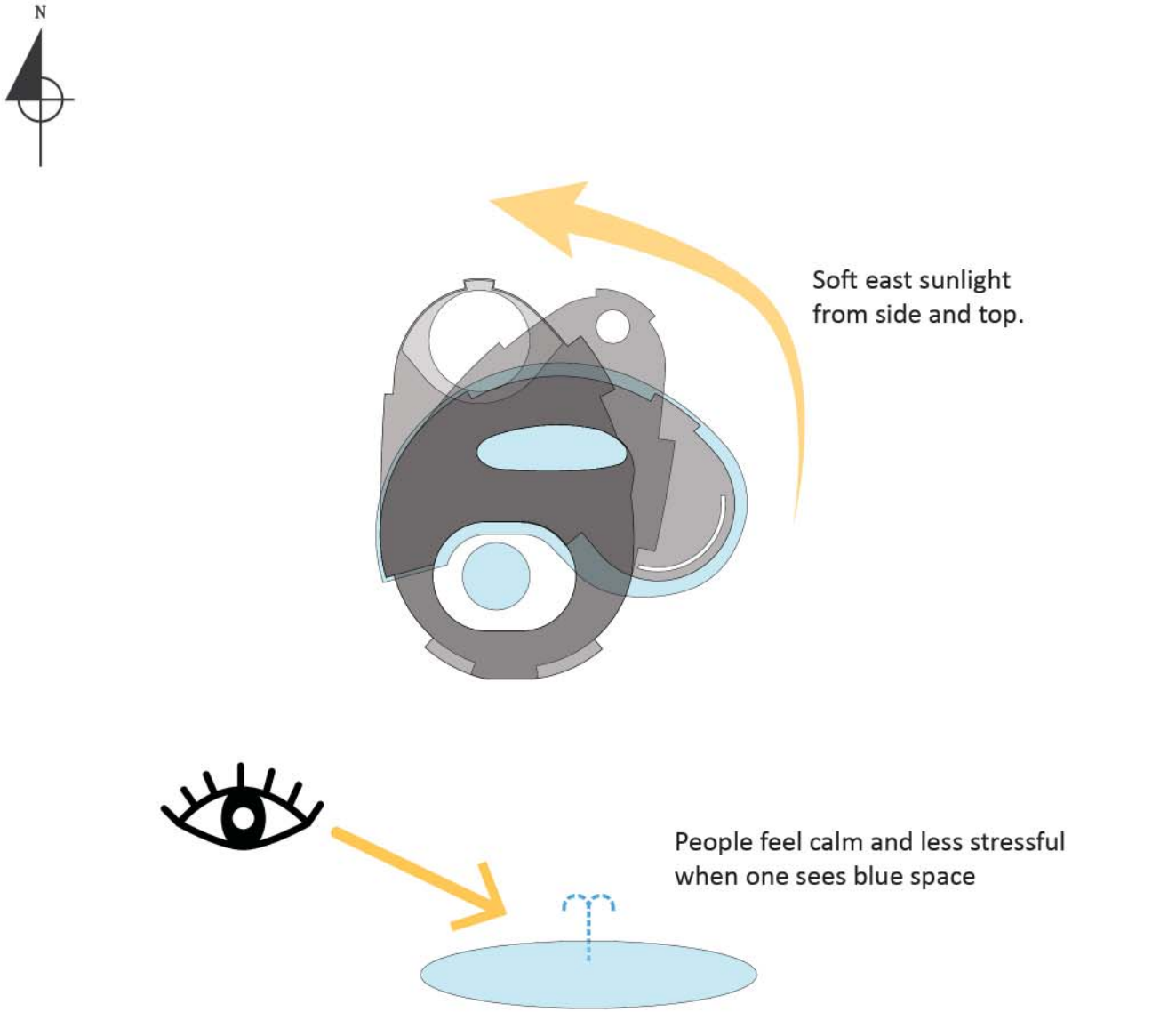


Figure 87_Design diagram-3 (Author, 2016)

Design plan is aimed at mimicking the regular grid and rigidity of the city and its fast paced life. Design programmes juxtapose this regular grid and break away from its rigidity. People will pass the open pavilions and gradually reach the meditation centre. The design of the meditation centre creates a sense of serenity in its series of walls and columns. The main meditation centre uses organic free form and offers occupants a feeling of being in a different world. This helps to relieve people of stress and encourages them to focus on meditation.

Each floor of the urban meditation centre is shaped in a free form, to provide a flowing feeling. The soft edges of the spaces embrace people and relieve stress. The higher floors spiral up facing north-west to appreciate the soft eastern sunlight on each rooftop (Fig.87). A main space per floor protrudes out and has a roof window to allow soft natural light from the side and the top.

The blue space such as the water feature has a more calming effect than green space. This can be seen on every floor (Fig.87) (Nutsford et al., 2016).

The idea of dualism is represented on both horizontal and vertical levels. Each main space on every floor and circular ramp symbolises a continuous loop respectively and these two loops represent both positive and negative spaces; each main space on every floor has an opening above it, so void flows into solid spaces (Fig.88). The circular ramp is open, and attached by solid walls, resulting in solid areas flowing into void spaces (Fig.88). The circulating space and vertical void space at the water feature connect the two continuous loops.

The circular and spiral structure of the main building is designed to allow people to move out of the city's straight lines and into more calming circular spaces. The architectural design has many curved accesses rather than straight-line boundaries. The idea for the curved spiral design was motivated and inspired by designs of other Korean Buddhist temples. Most Korean Buddhist temples are located on top of mountains and so the route to the main prayer space cannot be built on a straight axis. Therefore, the main building is not exposed because the route to the temple is curved and surrounded with trees. An interpreter of the temple, Jikjisa said on the 24th of June, 2016, that Korean Buddhist temples and their walkways are designed for a reason. When people walk towards a Korean Buddhist temple, they become humble and curious because the temple is sometimes seen and sometimes not seen.

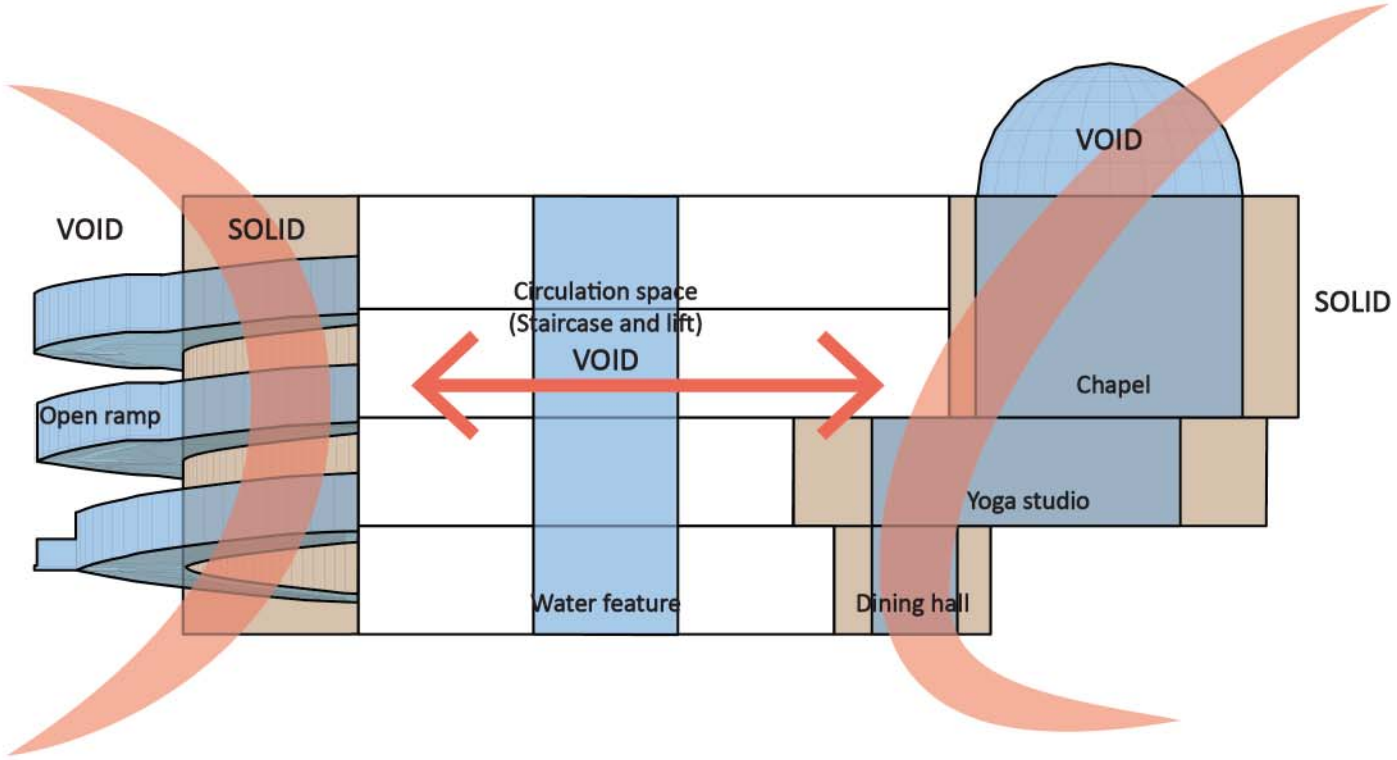


Figure 88_Design diagram-4 (Author, 2016)

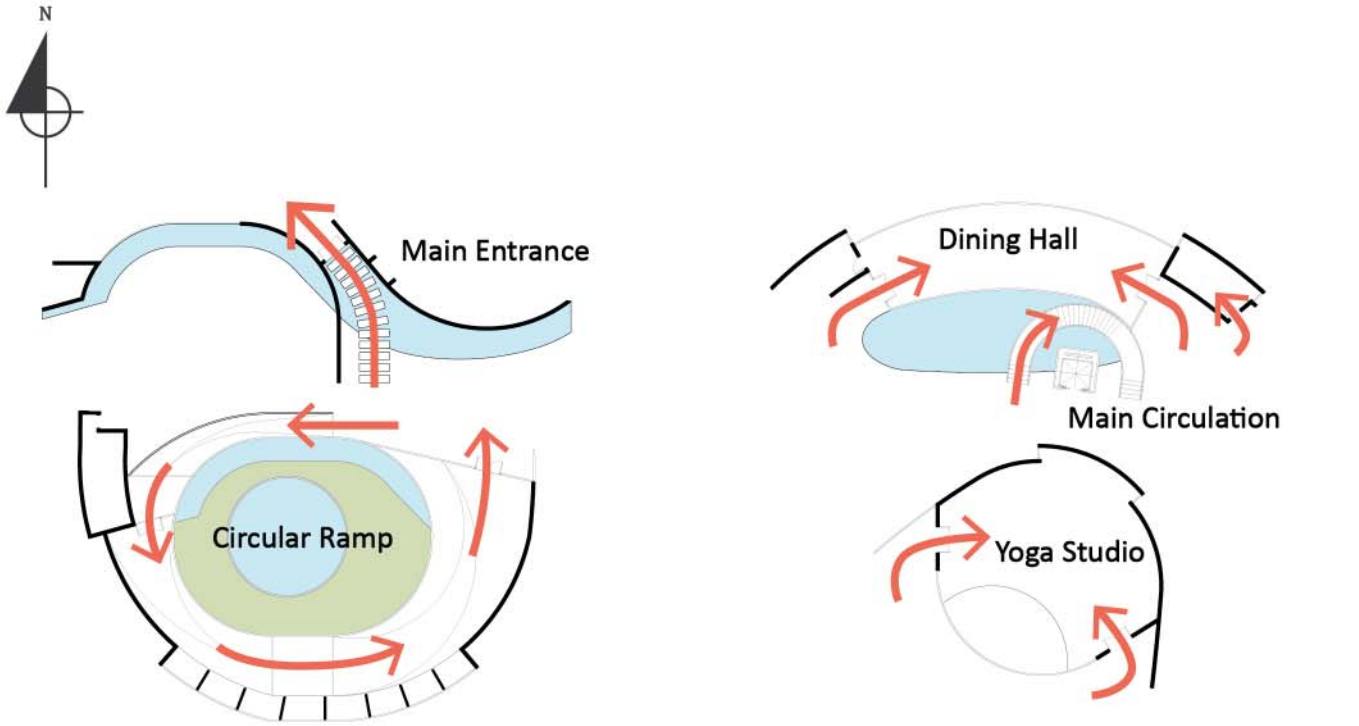


Figure 89_Design diagram-5 (Author, 2016)





Figure 90_Mineral springs (Author, 2016) (YeonjuDad, 2013)

Design form influences the emotions of occupants (Browning et al., 2014). Therefore, an organic form is designed for the main meditation centre. Besides physical building forms, even circulation between spaces and vertical circulation are designed to make occupants and visitors walk in a circular motion (Fig.89) (Mohammadabadi & Massoud, 2013). All rooms can be entered from the sides rather than a straight entrance. This offers more privacy for each room and makes people calm and humble. Before one enters the meditation hall or chapel, the circular journey makes a person's vision of the hall or chapel different all the time. A circular line helps to release stress and gives warm feelings from the embracing features. Accordingly, people feel calm and lower themselves to go into God or Buddha's world.

In addition, walking on the labyrinth path makes people look at their inner true self and this changes a depressive mood (Friedman, 2012). In Korean culture, one should drink the water from a mineral spring when one goes up a mountain. There is a mineral spring for people to drink at almost every mountain retreat. Korean people call these waters, medicinal waters. People believe the water from a mineral spring purifies them. Therefore, before entering the main meditation centre, the water labyrinth is designed for people to feel healing (Fig.90).

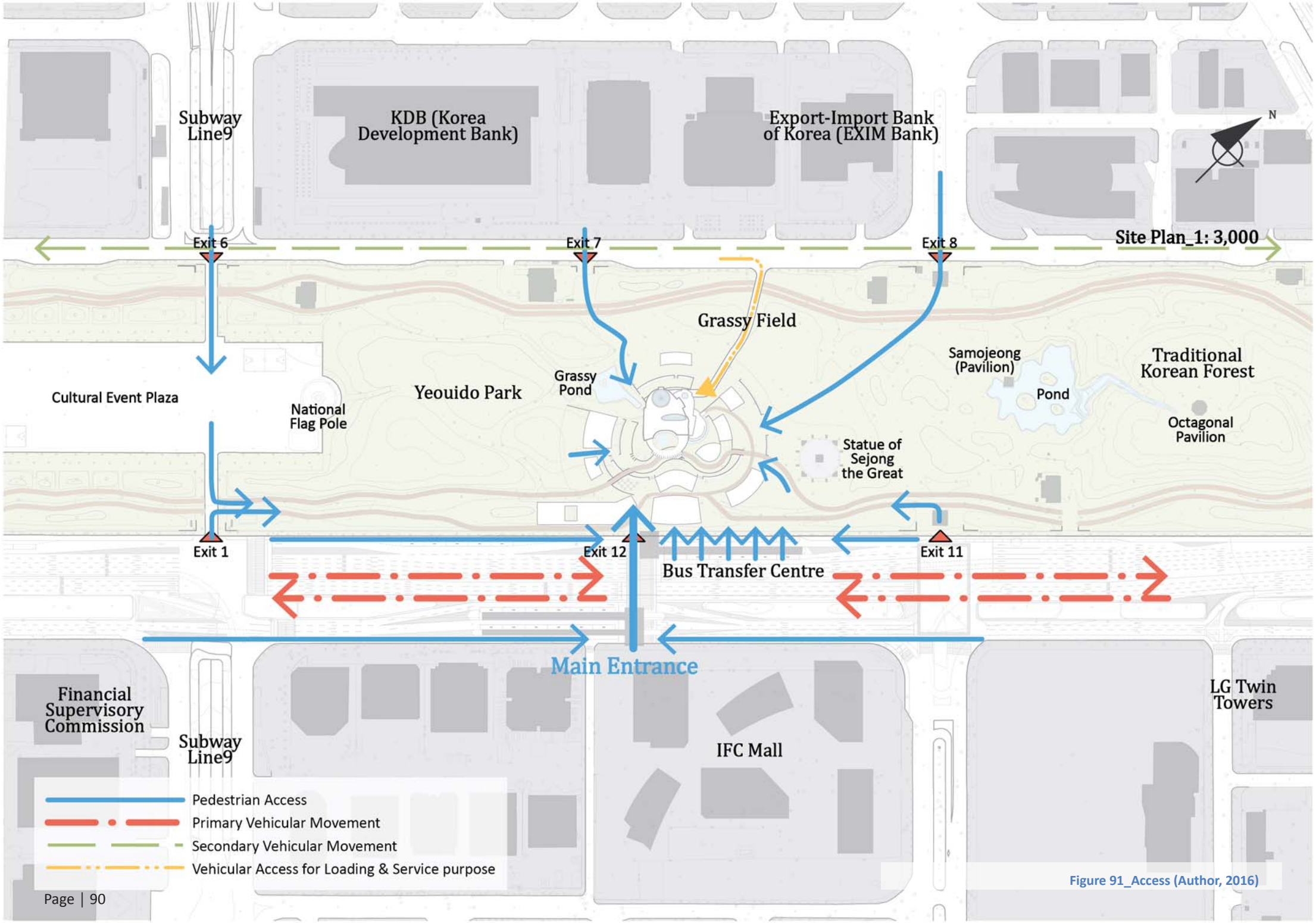


Figure 91_Access (Author, 2016)

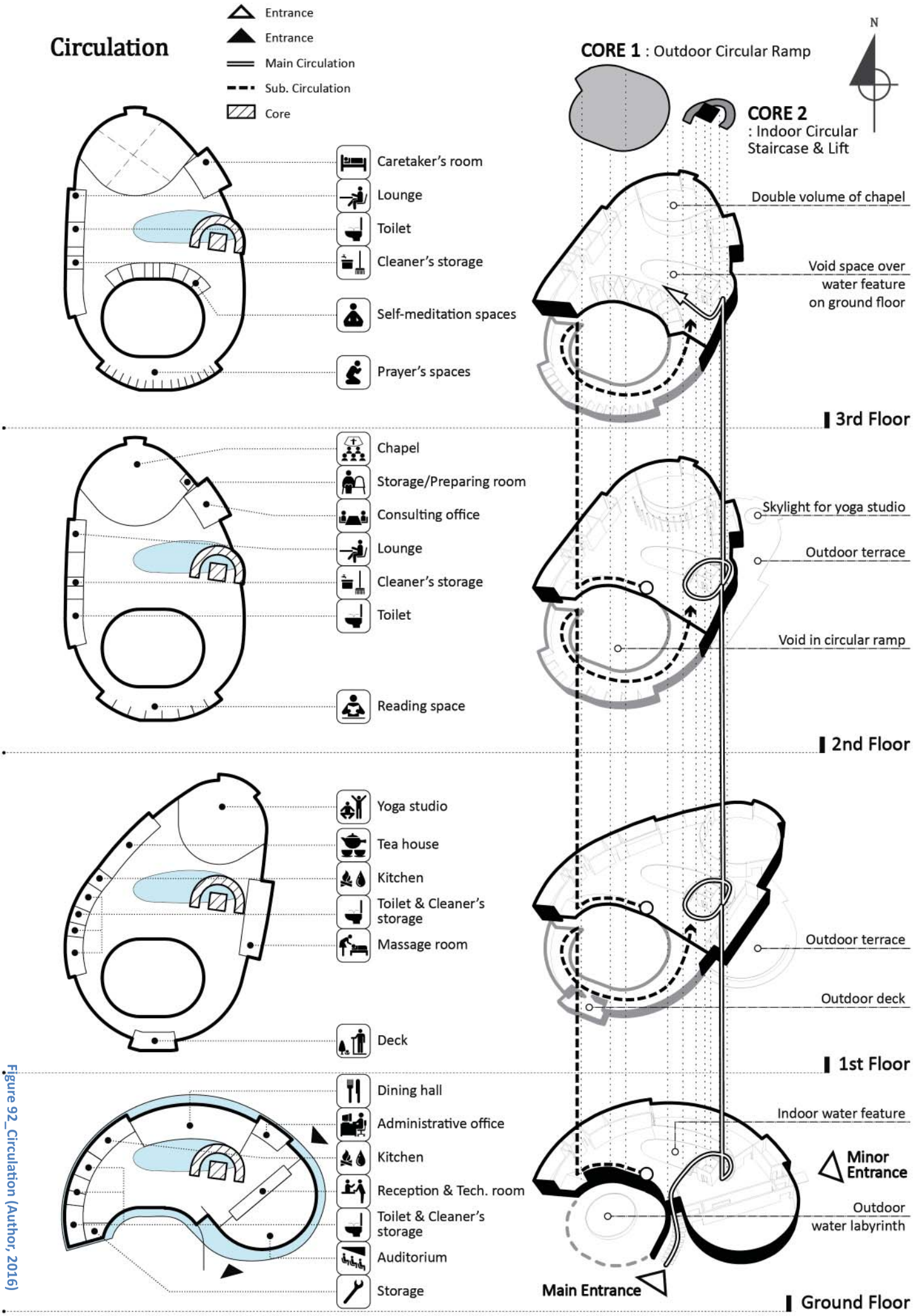


Figure 92_Circulation (Author, 2016)

6.3 Technical design

6.3.1 Materials

Material is important when people feel and perceive spatial quality with their senses (Mohammadabadi & Massoud, 2013). People remember how a space felt and what they did in that space. Façade of buildings and indoor materials tell a lot and contribute to create their memory. Building materials influence the mood of the occupants; hence they affect their efficiency and method of operating in a building (Susorova, 2015) (Mohammadabadi & Massoud, 2013).

The main meditation centre is built in steel with a two-way truss system, in order to support cantilevered floors.

Façade materials use red soil terracotta panels and timber panels (Fig.101). Red soil and timber are usually used in Korean traditional buildings. They are locally delivered and eco-friendly building materials. Red soil/loess is a material used for well-being because it is not detrimental to health. Red soil terracotta panels do not change their colours and are renewable (Fig.102). Red soil controls humidity very well. Additionally, wood generates positive effects on the emotions and health of the dwellers (Wallenius, 2014).



Figure 93_Timber (StockSnap, 2015) (Alter, 2011) (Arki, 2011) (Wang, 2014)

"Wood has psychological effects on people and a similar stress-reducing effect to nature," – Marjut Wallenius (Wallenius, 2014)



Figure 94_Red soil terracotta panel (Uryagi, 2012) (Tobkor, n.d.) (Administrator, 2016) (Lopo International Limited, 2011)

6.3.2 Technical drawings

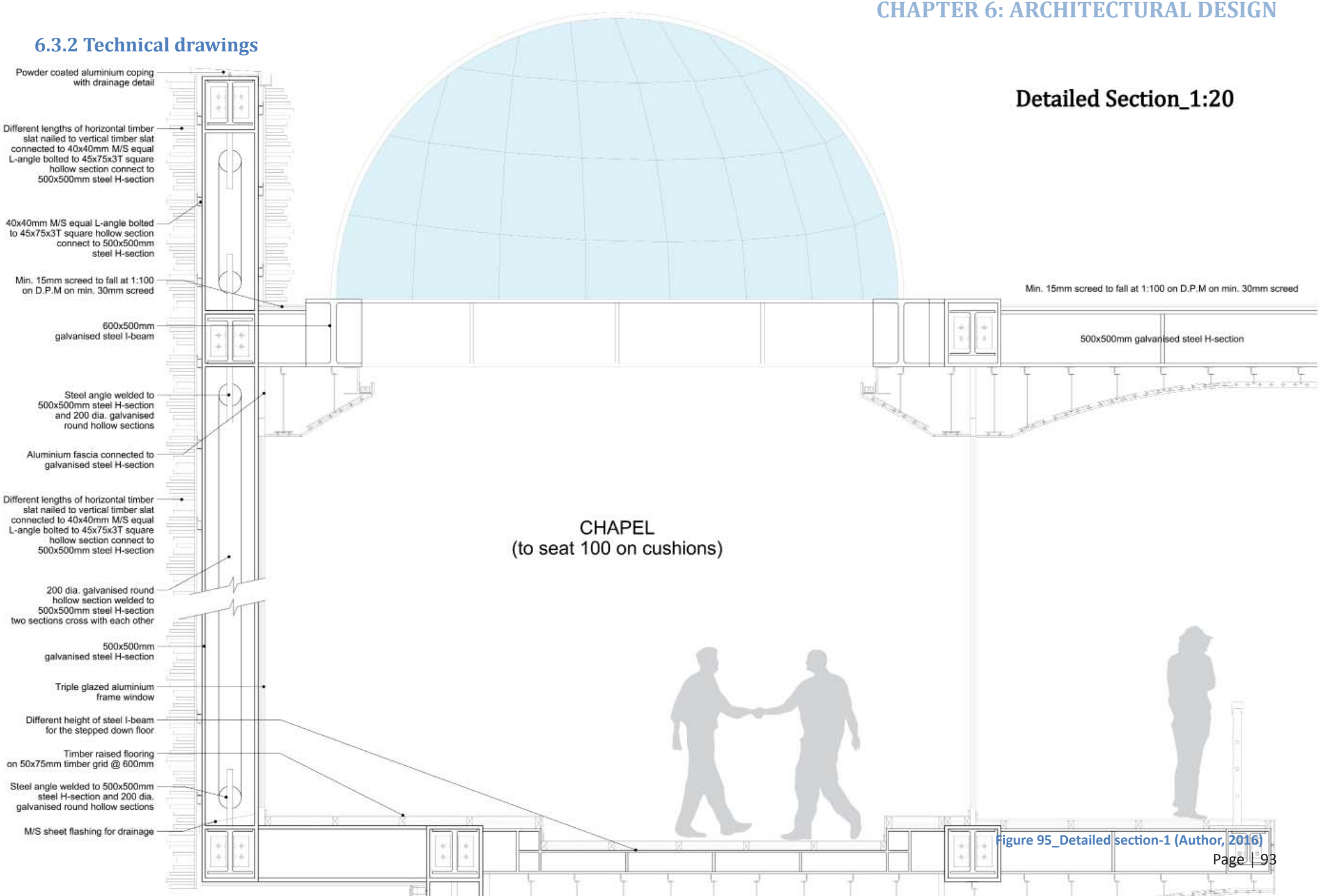


Figure 95_Detailed section-1 (Author, 2016)

Details_1:10

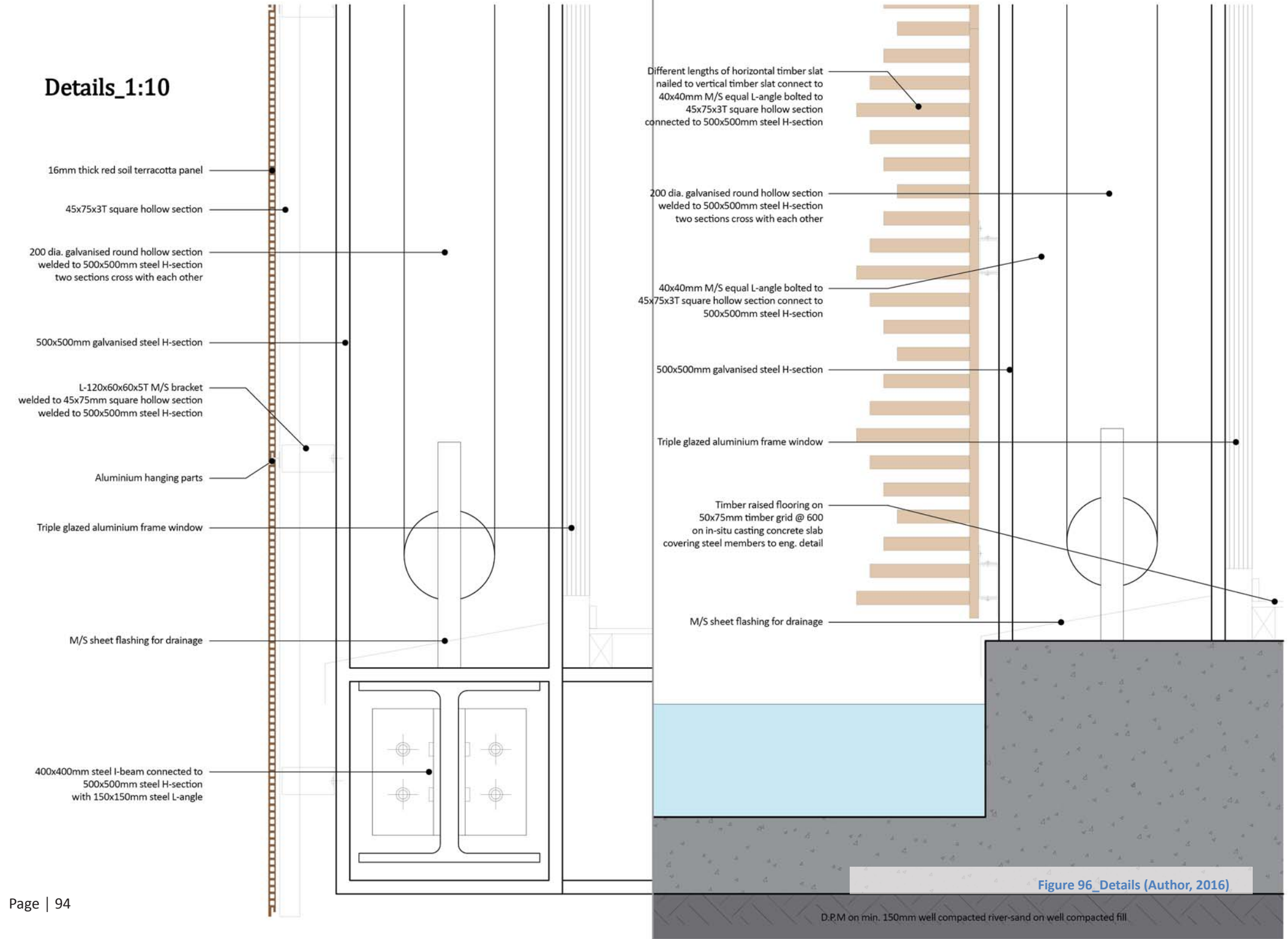


Figure 96_Details (Author, 2016)

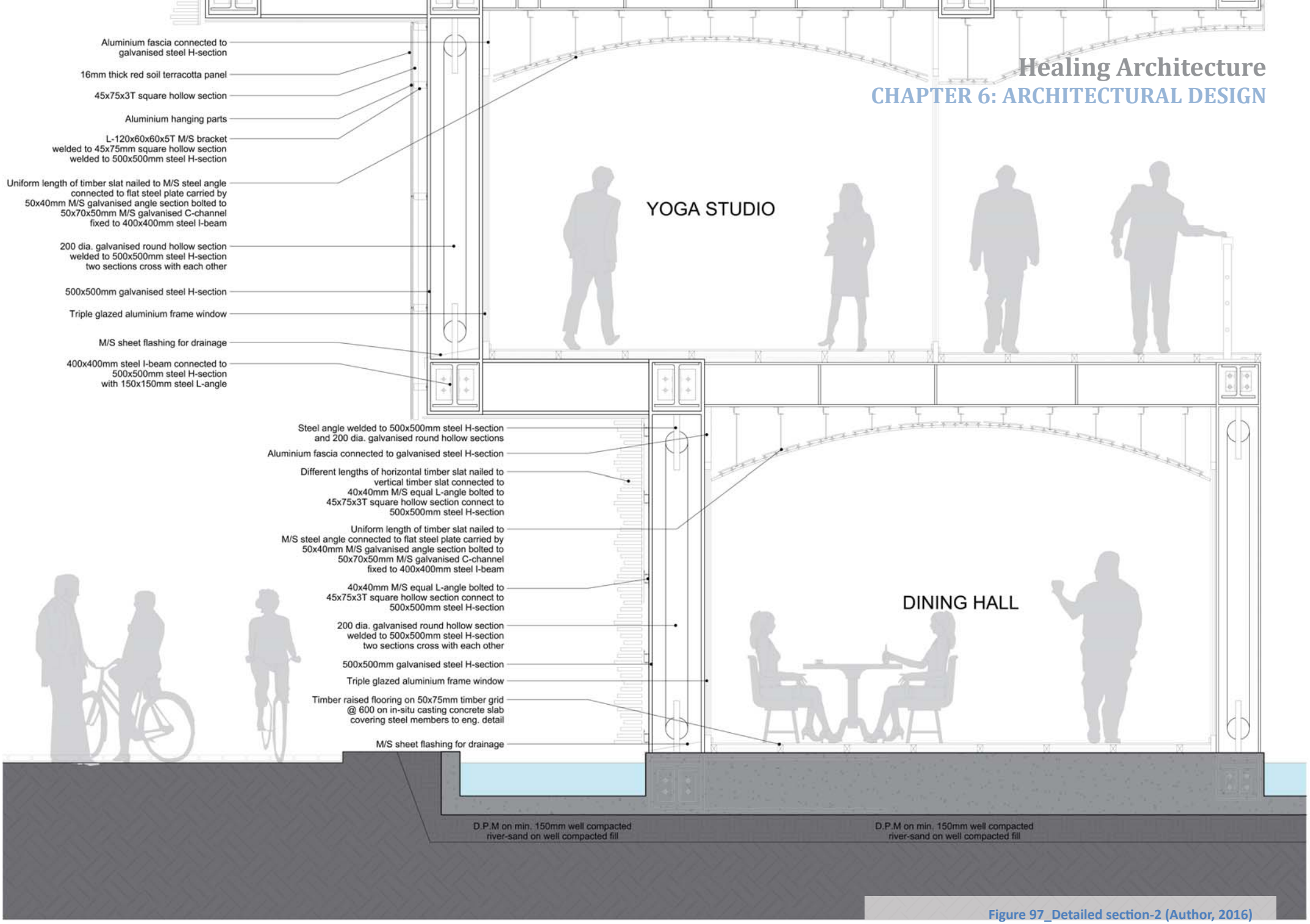
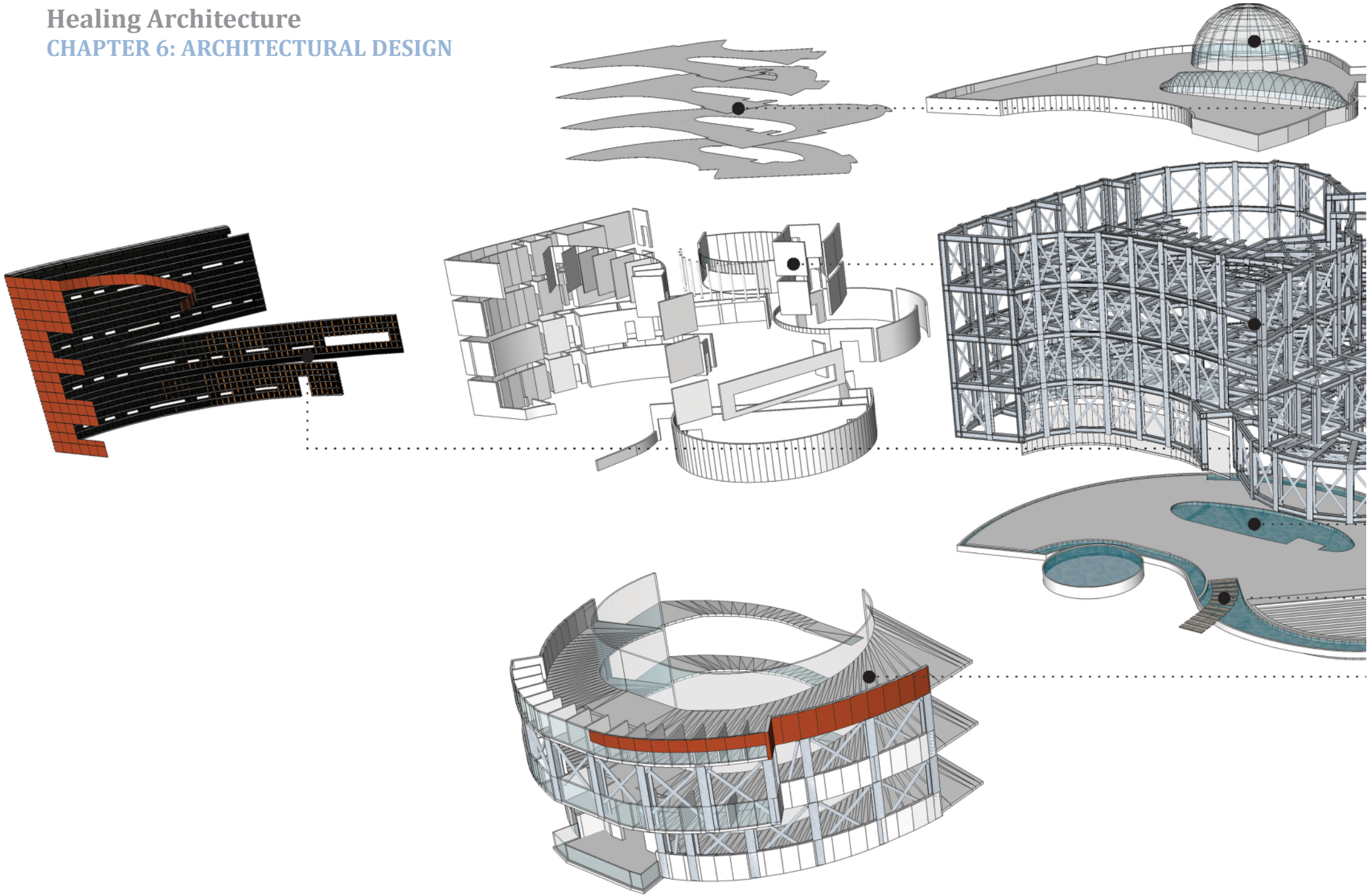


Figure 97_Detailed section-2 (Author, 2016)



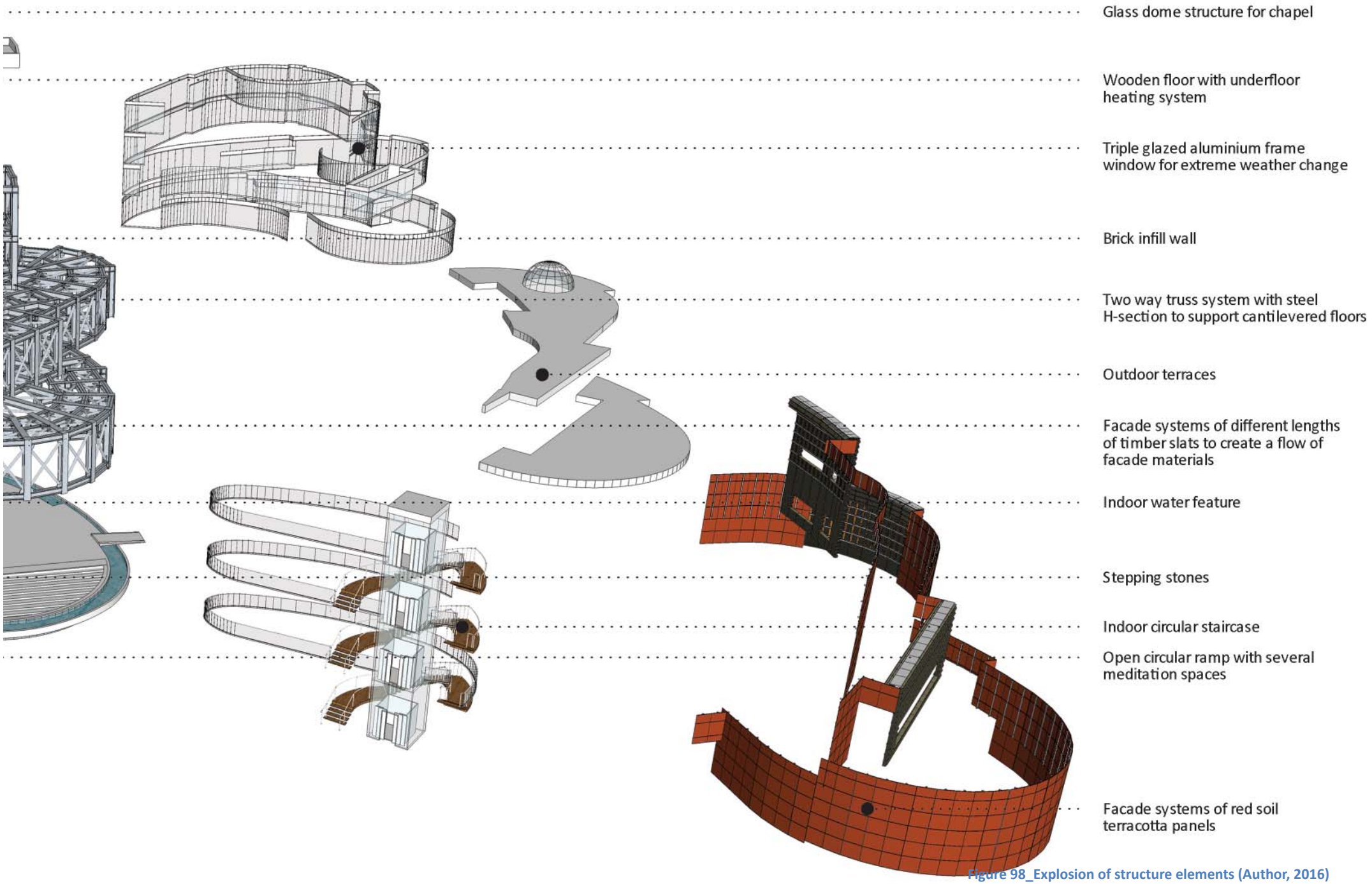


Figure 98_Explosion of structure elements (Author, 2016)

6.4 Design development

6.4.1 Site plan

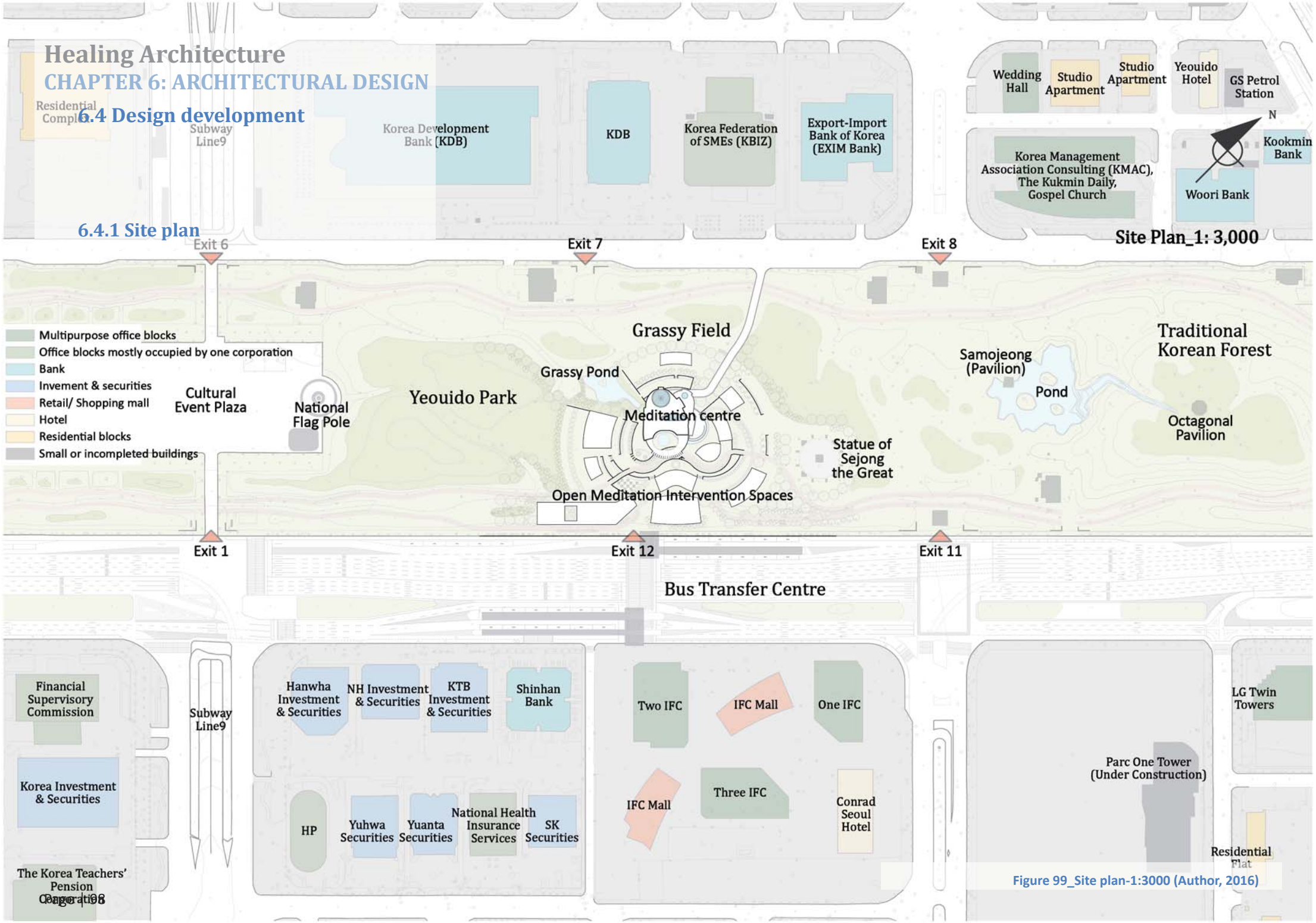


Figure 99_Site plan-1:3000 (Author, 2016)

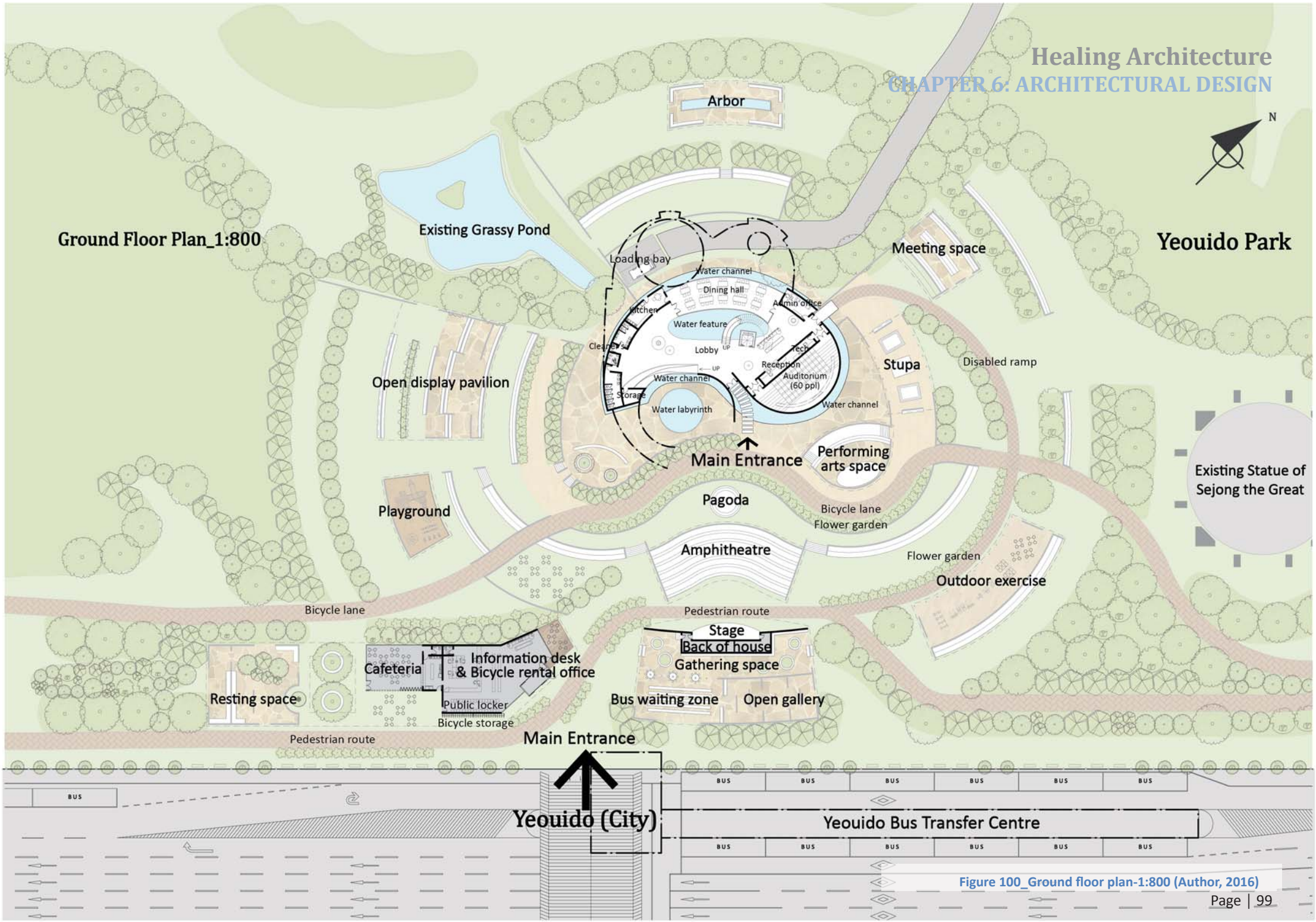


Figure 100_Ground floor plan-1:800 (Author, 2016)

6.4.2 Design plans

This project is designed on the Yeouido Park, Seoul. This project is in the context of high-rise office buildings (Fig.93). One of methods used to reduce stress is to deceive the brain, so that it actually controls a situation or a phenomenon (Sternberg, 2009). Therefore the design aims to help anyone who wants to release stress. They can choose to access freely from any direction of the park. The south edge of the park has a very wide and busy road. Therefore, the meditation intervention space is situated on the boundary of the park with the intention of absorbing noises from the city. So, the main meditation centre is surrounded by a quieter atmosphere.

The architectural plan shows how urban development and nature merge with the meditation centre in Yeouido (Fig.94). The mediation intervention consists of various open platforms and pavilions. The intervention space symbolises a busy urban area with compact vibes. It also pulls those vibes from the city of Seoul and carries them onto the Yeouido Park. In contrast, the meditation centre, which is designed in an organic form, symbolises the free and soft senses of nature (Fig.95).

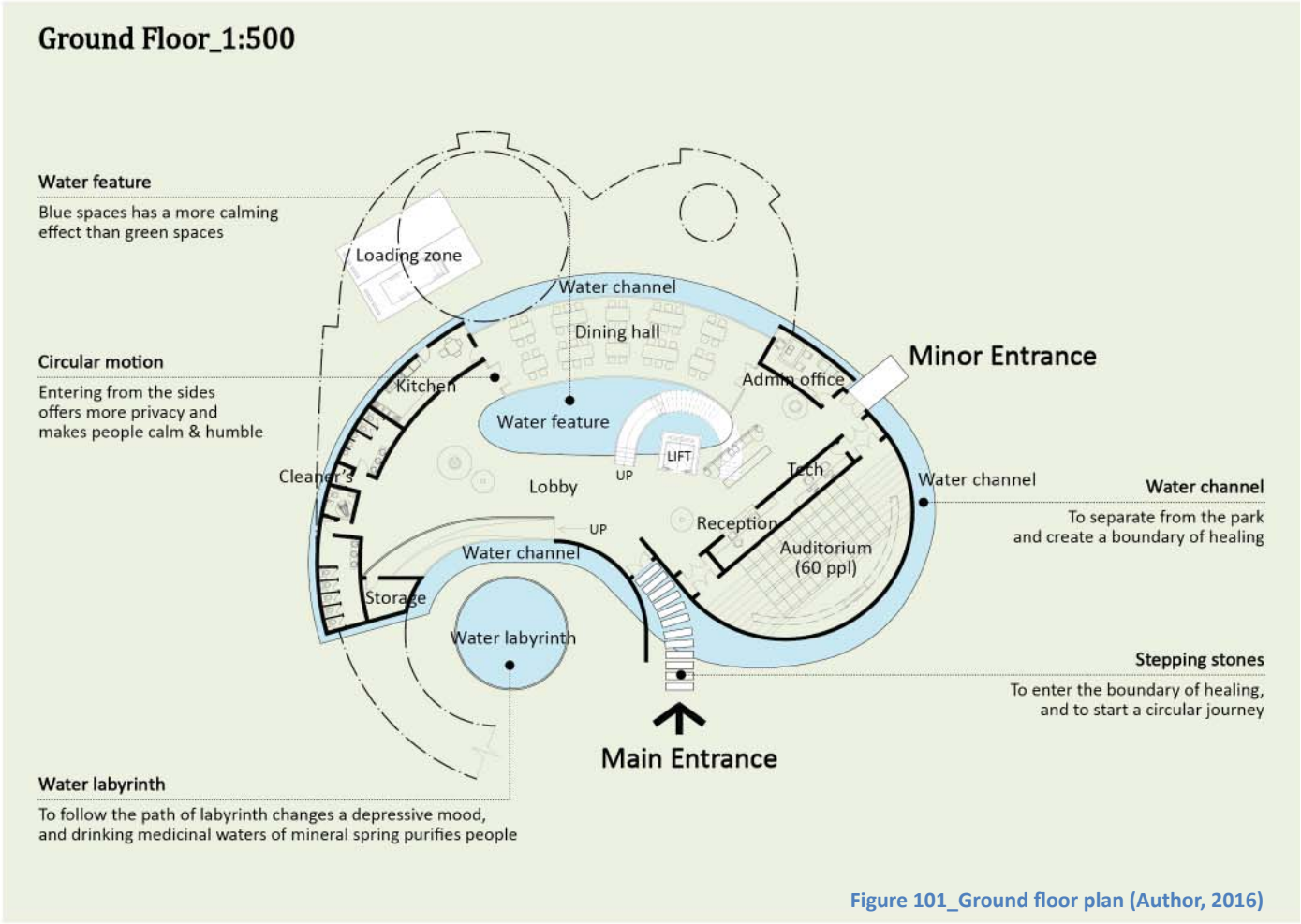


Figure 101_Ground floor plan (Author, 2016)

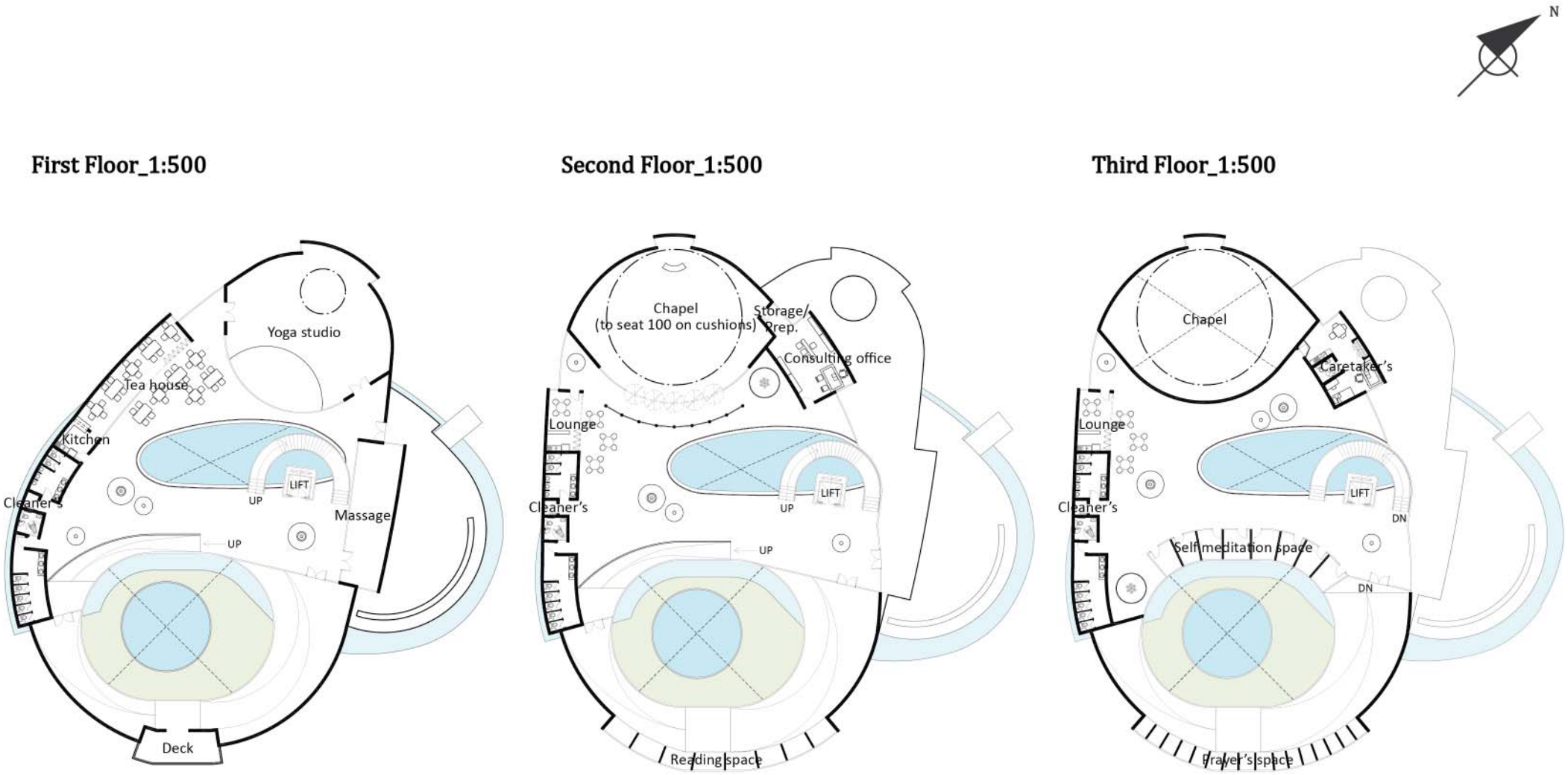


Figure 102_Upper floor plans (Author, 2016)

6.4.3 Design sections

When a person walks into the same maze over and over again, their stress level decreases (Sternberg, 2009). Similarly, when a person walks up a circular ramp, he/she concentrates on the route in front of themselves. People can control their breath because they breathe with the pace of steps as they walk. Additionally, each floor plan has a similar circular form moving from east to west. The main circular staircase and circular ramp form a continuous spiral (Fig.96). This creates a feeling of walking in succession and experiencing different volumes of spaces. Section (Fig.97) more clearly shows open volume of spaces such as a circular ramp, chapel and indoor circulation space, which includes a lift shaft and staircases by the water feature. Vertical volumes of spatial qualities are represented. As a consequence, exploring the main meditation centre helps in reducing stress.





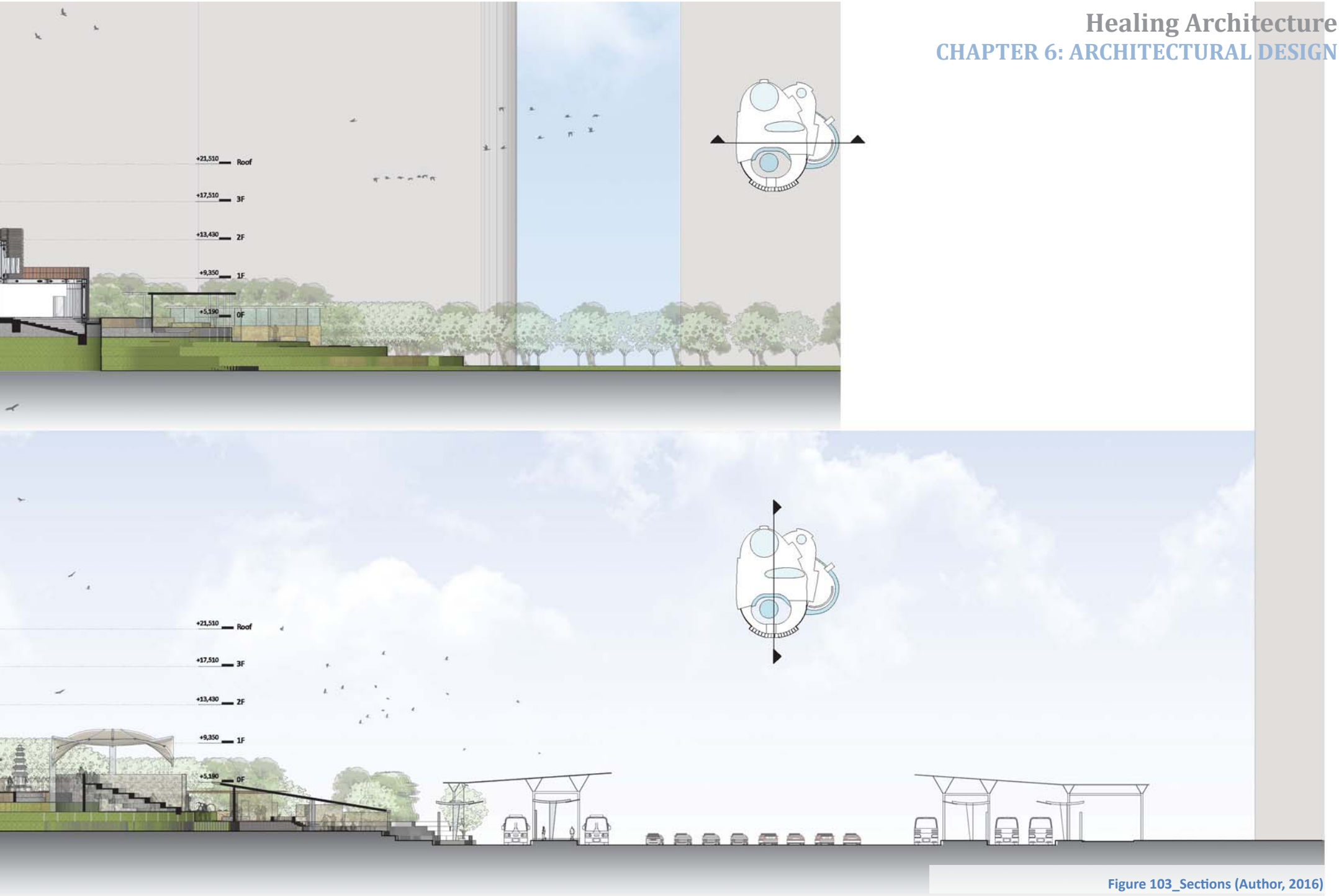


Figure 103_Sections (Author, 2016)

6.4.4 Design elevations



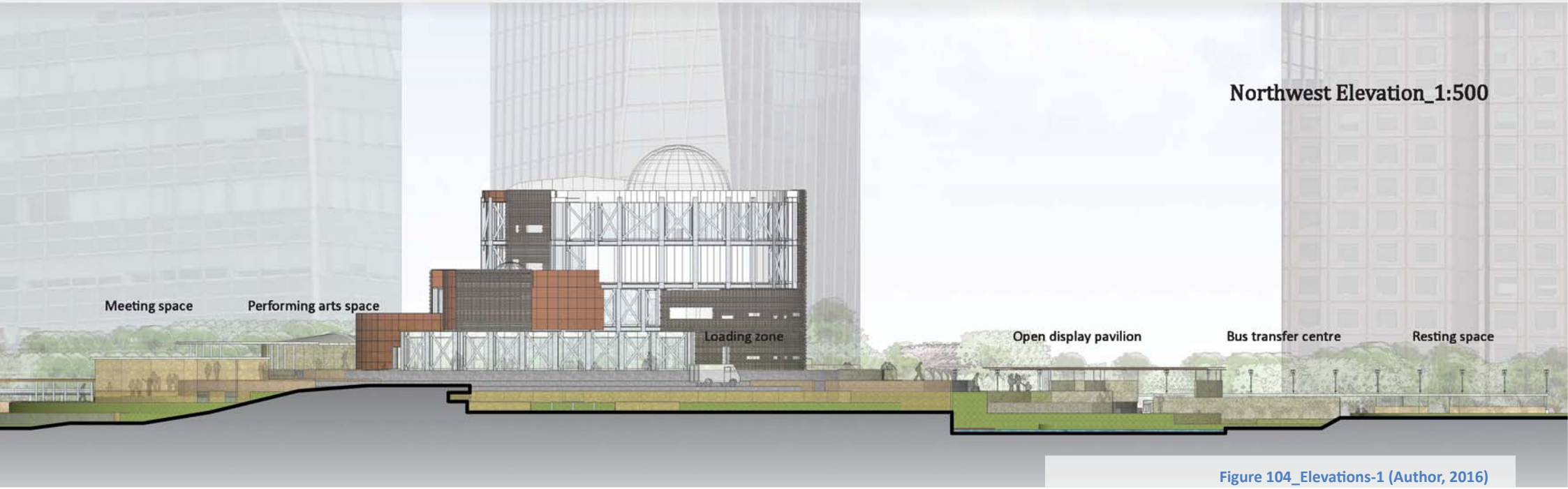
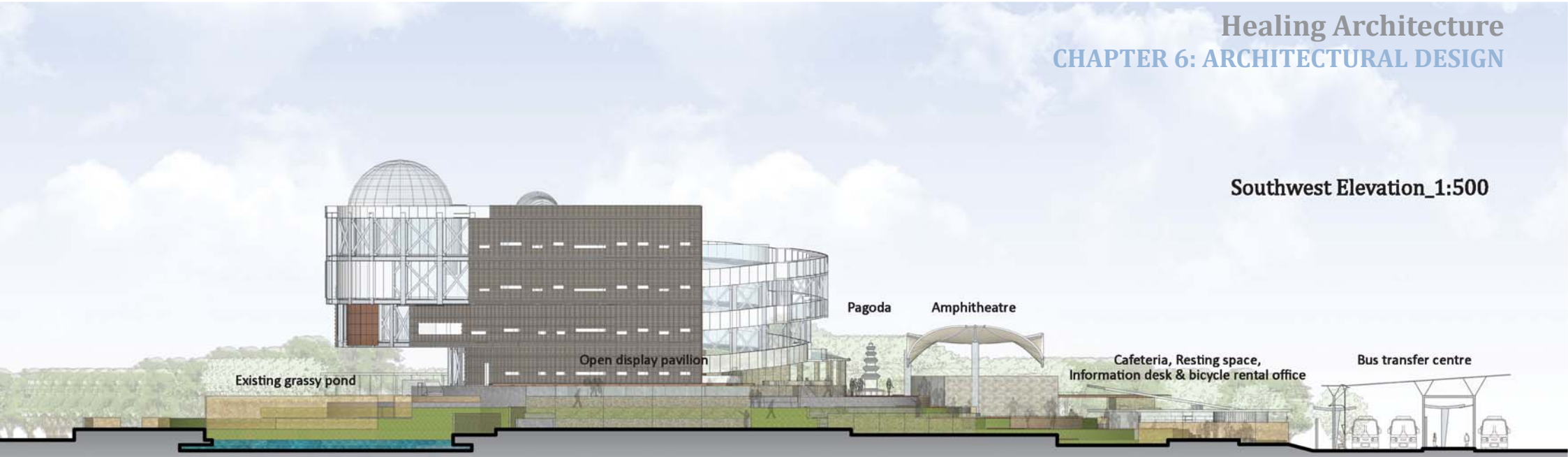


Figure 104_Elevations-1 (Author, 2016)



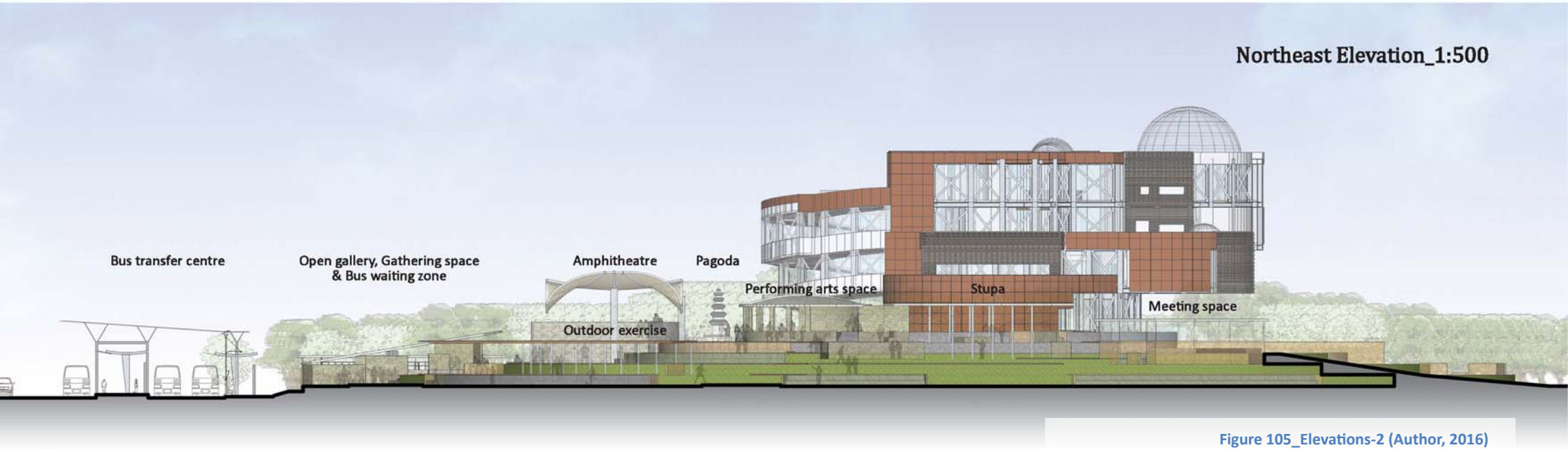


Figure 105_Elevations-2 (Author, 2016)

6.4.5 Perspectives

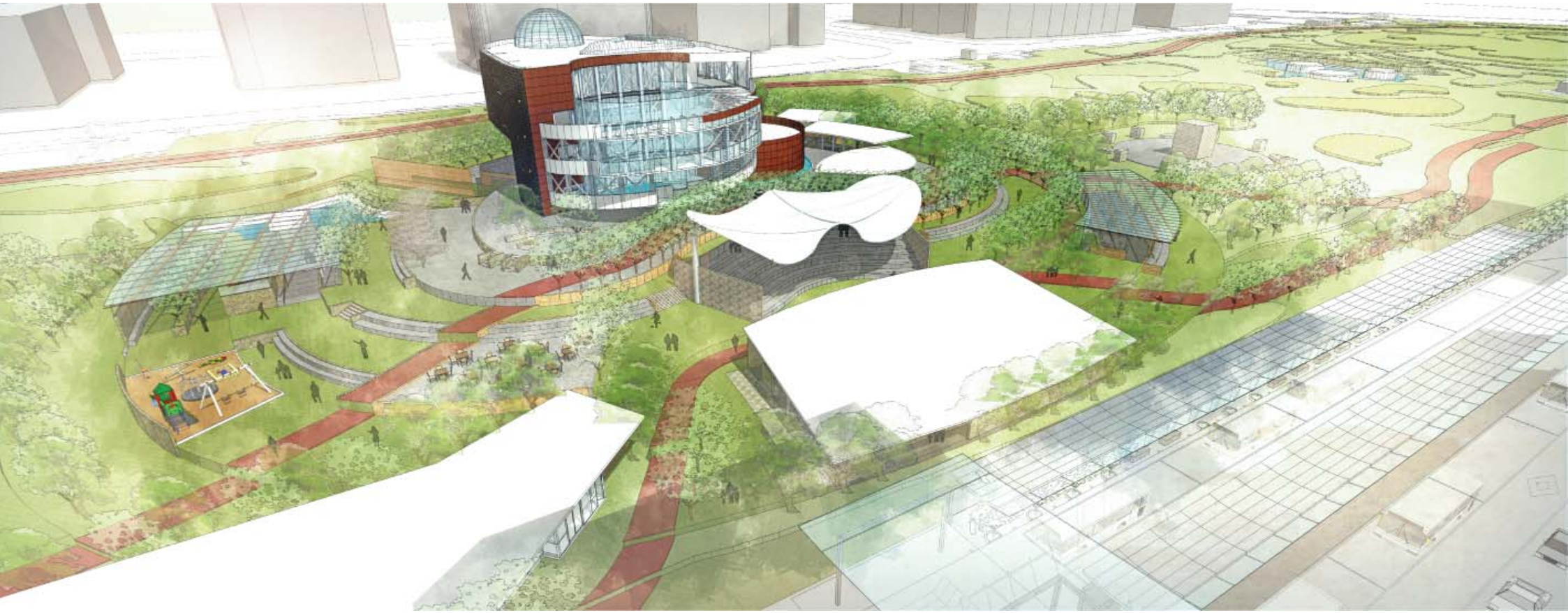


Figure 106_Perspectives-1 (Author, 2016)



Figure 107_Perspectives-2 (Author, 2016)



Figure 108_Perspectives-3 (Author, 2016)



Figure 109_Perspectives-4 (Author, 2016)

CHAPTER 7: CONCLUSION

7.1 Conclusion

7.1 Conclusion

Since 2003, the suicide rate in South Korea is higher than any other OECD countries (Lim et al., 2016). There are an average of 38 suicides in Korea daily (Lim et al., 2016). A few social services and welfare professors said that suicide is a social problem. Therefore, the Korean government should find the fundamental reason for suicide and plan some programmes to prevent suicide in cities.

People naturally get all kinds of stresses in all situations. Intense stress leads people to hate the society and the world. At the end, people decide to give up on their lives. It is impossible to eliminate all stress from the world. However, this research report suggests Korean people of today should meditate and find inner peace and use this as one of the methods to reduce stress. Herbert Benson who has researched mind-body intervention, and especially meditation, has documented the effects of meditation on oxygen consumption, body temperature, heart rate, respiratory rate and even blood pressure (Benson et al., 1974) (Sternberg, 2009).

This research report introduces a natural break point in Seoul, the capital city of Korea. Yeouido Island is the landmark of finance in Korea. There is a linear park across the island. Many office workers take breaks in the park. Historically, the park symbolises a place where people went to express pent-up feelings. Therefore, the meditation centre is designed in Yeouido Park so that stressful people can free their suppressed emotions and senses through diverse steps of meditation.

From an architectural aspect, spatial elements of the meditation centre lead visitors to perceive natural features or physical elements according to the movement of the visitor's body. These elements generate phenomenal memories between the city and the park. If this practice takes place regularly people will realise how their body is a subject of their perception. Hence, this spatial experience increases people's self-esteem and decreases their stress.

Healing space can be made in our emotions, our memory and our inner-self (Sternberg, 2009). The brain and mind are powerful. A person with a strong mind-set and a good self-image can push through difficult situations.

BIBLIOGRAPHY

8.1 Bibliography

8.2 Bibliography of Figures

8.1 Bibliography

Ahn, J.H., Han, C.S., Woo, J.M. & Kim, K.M., 2012. *Gugnae Jeongsin Jilhwan gwanlyeon Yeongu hyeonhwang paag mich Uuljeung Jasal-e daehan Yeongu 국내 정신질환 관련 연구현황 파악 및 우울증 자살에 대한 연구 [Research about Depression, Suicide and Understanding Research related with National Mental Diseases]*. [Online] National Evidence-based Healthcare Collaborating Agency (NECA) Available at: https://yhs.cdc.go.kr/upload/thesis/20130104144715180.pdf [Accessed 5 April 2016]. [In Korean].

ArchDaily, 2013. *Famen temple Zen meditation center winning proposal / OAC*. [Online] Available at: http://www.archdaily.com/364645/famen-temple-zen-meditation-center-winning-proposal-oac [Accessed 12 March 2016].

ArchDaily, 2013. *Won Dharma / hanrahanMeyers architects*. [Online] Available at: http://www.archdaily.com/371099/won-dharma-hanrahan-meyers-architects/ [Accessed 10 March 2016].

Baek, M.K., 2009. *Taegsi gisa Jeon-yong Swimteo Saeng-ginda 택시기사 전용 쉼터 생긴다 [A taxi driver's Exclusive Resting Space Opens]*. [Online] Available at: http://www.seoul.co.kr/news/newsView.php?id=20090512026011 [Accessed 3 June 2016]. [In Korean].

Bell, A., 2009. *[Psyche]*. Master Thesis. Johannesburg: Retrieved from http://wiredspace.wits.ac.za/handle/10539/45/browse?value=Bell%2C+Andrew&type=author University of the Witwatersrand.

Benson, H., Rosner, B.A., Marzetta, B.R. & Klemchuk, H.P., 1974. Decreased blood pressure in borderline hypertensive subjects who practiced meditation. *Journal of Chronic Diseases*, 27(3), pp.163-69.

Blindness, 2008. [Film] Directed by Fernando Meirelles. Brazil, Canada: Focus Features Miramax Films.

Browning, W.D., Ryan, C.O. & Clancy, J.O., 2014. *14 Patterns of Biophilic Design*. New York: Terrapin Bright Green LLC.

Chang, C.Y., 1984. *Japanese spatial conception-1*. The Japan Architect, April, pp.62-68.

Chapman, D. & Sparks, L., 1996. *Creating neighbourhoods and places in the built environment*. London: E & FN Spon, an imprint of Chapman & Hall.

Citizens' coalition for economic justice, 2014. *Seoul Sijang Hubo 3dae Haegsim Gong-yag 서울시장 후보 3대 핵심 공약 [Mayor of Seoul's three main public promises]*. [Online] Available at: http://vote.ccej.or.kr/%EC%84%9C%EC%9A%B8%EC%8B%9C%EC%9E%A5-%EB%B0%95%EC%9B%90%EC%88%9C-%ED%9B%84%EB%B3%B4-3%EB%8C%80-%ED%95%B5%EC%8B%AC-%EA%B3%B5%EC%95%BD/ [Accessed 1 July 2016]. [In Korean].

CreativeComments, 2016. *2016nyeon Teleobangjibeob Bandae Filibuster 2016년 테러방지법 반대 필리버스터 [Filibuster against Anti-Terror Act in 2016]*. [Online] Available at: https://namu.wiki/w/2016%EB%85%84%20%ED%85%8C%EB%9F%AC%EB%B0%A9%EC%A7%80%EB%B2%95%20%EB%B0%98%EB%8C%80%20%ED%95%84%EB%A6%AC%EB%B2%84%EC%8A%A4%ED%84%B0 [Accessed 15 April 2016]. [In Korean].

Editor, N., 2015. *Yadang-i Teleobangjibeob-eul Bandaehaneun-Iyu 야당이 테러방지법을 반대하는 이유 [Reasons why the opposition party stands against Anti-Terror Act]*. [Online] Available at: http://www.newsquare.kr/issues/1132/stories/4577 [Accessed 15 April 2016]. [In Korean].

Engel, H., 1964. *The Japanese House: A Tradition for Contemporary Architecture*. Rutland: Tuttle.

Friedman, M., 2012. *Healing Spaces: Incorporating gemstone and chakra healing into architecture*. Master Thesis. Maryland: Retrieved from http://drum.lib.umd.edu/handle/1903/13867 University of Maryland.

Giedion, S., 2002. *Space, Time and Architecture: The growth of a new tradition*. USA: Cambridge, Massachusetts Harvard University Press.

Ha, S.T., 2015. *'Geugeos-i algo sipda', Uliga mollassdeon 'Ttangkong Hoehang'ui Imyeon '그것이 알고싶다', 우리가 몰랐던 '땅콩 회항'의 이면 ['It wants to know,' the dark side of 'Nut Rage Incident' that we don't know]*. [Online] Available at: http://star.ohmynews.com/NWS_Web/OhmyStar/at_pg.aspx?CNTN_CD=A0002071398 [Accessed 11 September 2016]. [In Korean].

Han, H.J., 2012. *Michel Foucalt-ui Panopticism-eseo Insig, Gwonlyeog, Yunliui Gwangye 미셸 푸코의 파놉티시즘에서 인식, 권력, 윤리의 관계 [The Relation between knowledge, power, and ethics in Michel Foucalt's Panopticism]*. KSI (The Korean Association for Philosophy of Medicine), Thirteen, pp.75-104. [In Korean].

Han, A.R., 2016. *Geugsimhan Seuteuleseu Jul-ilyeomyeon-eotteohge haeya halkka 극심한 스트레스 줄이려면 어떻게 해야 할까 [How to Reduce Excessive Stress]*. [Online] Available at: http://www.kormedi.com/news/article/1219536_2892.html [Accessed 6 September 2016]. [In Korean].

Hanrahan Meyers Architects, n.d. *Projects - masterplans and landscapes: Won Dharma Center*. [Online] Available at: http://www.hanrahanmeyers.com/wonmasterplan.html [Accessed 21 April 2016].

Hargis, D., 2014. *Architecture for the Senses: Thesis*. [Online] Available at: http://cargocollective.com/dwhargis/Architecture-for-the-Senses-Thesis [Accessed 5 March 2016].

Hong, S.W., 2001. *Bentham-ui Panobtikon-eseo Jeonja Sinobtikonkkaji 벤담의 파놉티콘에서 전자 시놉티콘까지 [From Bentham's Panopticon to Electronic Synopticon]*. Journal of the Korean History of Science Society, 23(1), pp.69-96. [In Korean].

Jo, M.S., 2015. *Gabjil-eun hagseubdoenda.'Gabjilsahoe' 갑질은 학습된다…'갑질사회' [Gahp-jil is learnt and repeated.'A society based on Gahp-jil']*. [Online] Available at: http://www.asiae.co.kr/news/view.htm?idxno=2015060811145305049 [Accessed 11 September 2016]. [In Korean].

Kafka, F., 1998. *Byeonsin, Sigol Uisa 변신, 시골의사 [Die Verwandlung, Ein Landarzt (Transformation, Rural doctors)]*. Seoul: Minumsa. [In Korean].

Kim, K.B., 2007. *A Study on the Design Methodology of Phenomenological Architecture based on Influences of Phenomenology on Architectural Discourse*. Journal of Architectural Institute of Korea, 23(12), pp.19-28.

Kim, B.Y., 2009. *Michel Foucalt Sahoe-Insiglon-ui Jeonglib Ganeungseong-eul-wihan Silon 미셸 푸코 사회인식론의 정립 가능성을 위한 시론 [Essay on Possibility of establishing Michel Foucult's Social Epistemology]*. Institute of philosophy, Seoul national university, 31, pp.337-73. [In Korean].

Kim, Y.J., 2011. *2 myeong jung 1 myeong-eun 'angyeong, lenjeu' 2명중 1명은 '안경, 렌즈' [One in two people uses 'glasses or lenses']*. [Online] Available at: http://m.hani.co.kr/arti/society/health/472502.html [Accessed 8 April 2016]. [In Korean].

Kim, H.J., Kim, J.Y. & Lee, J.S., 2014. *A Study on the Art Care Space applying Multi-Sensory stimulating elements*. Journal of the Korea Institute of the Spatial Design, 9(1), pp.63-72.

Kim, M.Y. & Moon, J.M., 2011. *Analysis of Property of Spatial Affordance for Emotional Experience*. Journal of Korean Institute of Interior Design, 20(4), p.96.

Ko, U.G., 2013. *HanoK-ui Teugseong 한옥의 특성 [Peculiarities of Hanok]*. [Online] Available at: http://contents.kocw.net/KOCW/document/2013/hanyang/KoUngi/08.pdf [Accessed 6 September 2016]. [In Korean].

Korea Meteorological Administration, 2010. *Gugnae Gihu Jalyo 국내기후자료 [National climate information]*. [Online] Available at: http://www.kma.go.kr/weather/climate/average_regional.jsp#a1 [Accessed 22 June 2016]. [In Korean].

Korean national police agency, 2014. *Police Statistical yearbook 2014*. [Online] Korean national police agency Available at: http://www.police.go.kr/portal/main/contents.do?menuNo=200141 [Accessed 16 June 2016].

Korean statistical information service, 2014. *Jiyeogbyeol Ingu mich Ingu Mildo 지역별 인구 및 인구밀도 [Regional Population and Population Density]*. [Online] Available at: http://www.index.go.kr/potal/main/EachDtlPageDetail.do?idx_cd=1007 [Accessed 22 June 2016]. [In Korean].

Lee, S.Y., 2009. *Understanding of 'concept' raised on Thomas Aquinas's epistemology*. Master Thesis. Incheon: Retrieved from Incheon Catholic university.

Lee, J.G., 2012. *Gong-gan-ui hyeonsanghag, Pung-gyeong geuligo Geonchug 공간의 현상학, 풍경 그리고 건축 [Spatial phenomenology, scene and architecture]*. Korea: Sungkyunkwan University publisher. [In Korean].

Lee, M.J., 2014. *(Sayu-wa Seongchal) Nuga 'Gamjeong' eul Musi haneunga (사유와 성찰) 누가 '감정'을 무시하는가 [(Thinking and self-reflection) Who disregards 'my Emotion']*. [Online] Available at: http://news.khan.co.kr/kh_news/khan_art_view.html?artid=201410172035445&code=990100 [Accessed 11 September 2016]. [In Korean].

Lee, J.M., 2015. *Choegeun 30 nyeongan Jong-gyo Ingu Bunpo 1 wineun 'Bulgyo' 최근 30년간 종교인구 분포 1위는 '불교' ['Buddhism' is the Top of spread of Religion Population in recent 30 years]*. [Online] Available at: http://www.ohmynews.com/NWS_Web/view/at_pg.aspx?CNTN_CD=A0002076854 [Accessed 30 June 2016]. [In Korean].

Lee, H.J., 2015. *Jinanhae Hangang Tusin Jasal 396 myeong.1 wineun Mapo Daegyo 지난해 한강 투신자살 396명…1위는 마포대교 [Last year, 396 people drowned themselves in the Han River: Mapo bridge is the Highest]*. [Online] Available at: http://www.newsis.com/ar_detail/view.html?ar_id=NISX20150212_0013476818&cID=10201&pID=10200 [Accessed 28 June 2016]. [In Korean].

Lee, M.S., 2016. *Jangsigan Unhaeng-e Jichin Taegsi Gisadeul-ui Swimteo, olhae 5 gae Seolchi 장시간 운행에 지친 택시기사들의 쉼터, 올해 5개 설치 [Five Pause Spots of Taxi Drivers tired from run for long, will be built in this year]*. [Online] Available at: http://www.bcksngn.com/news/articleView.html?idxno=3648 [Accessed 3 June 2016]. [In Korean].

Lee, C. & Kim, T.W., 2006. *A Study on the Characteristics of Korean Traditional Space through Merleau-Ponty's Phenomenology*. Journal of Korean Institute of Interior Design, 15(6), pp.11-18.

Lee, M.S. & Suh, K.S., 2013. *The modern housing design based on spatial elements of traditional Hanok - Focusing on space for moulding human nature of children*. The Korean Housing Association, 2(25), pp.349-54.

Lehman, M.L., 2009. *Architectural Building for all the senses: Bringing Space to life*. [Online] Available at: http://sensingarchitecture.com/585/architectural-building-for-all-the-senses/ [Accessed 5 March 2016].

Libeskind, D., 2015. *We mustn't forget the deep emotional impact of the buildings around us*. [Online] Available at: http://www.cnn.com/2015/06/30/architecture/daniel-libeskind-architecture-emotions/index.html [Accessed 2 March 2016].

Lim, S.J., 2012. *Gigyega doen Momgwa Hyeondae Geonchug-ui Tansaeng 기계가 된 몸과 현대 건축의 탄생 [Mechanized Human Body and the Birth of Modern Architecture]*. Seoul: Man and Thought Press. [In Korean].

Lim, T.W., Kim, M.H. & Kim, E.J., 2016. *12 Nyeon Yeonsog Jasallyul 1wi."Salmanhan Sesang-i Anida" 12년 연속 자살률 1위…"살만한 세상이 아니다" [No. 1 Suicide Rate for Consecutive 12 years. "It is not a Livable place"]*. [Online] Available at: http://news.naver.com/main/read.nhn?mode=LSD&mid=sec&oid=055&aid=0000455544&sid1=001 [Accessed 21 September 2016]. [In Korean].

Luckoo, V.S.K., 2011. *Spiritual practice and its influence in architecture: the design of a meditation centre in Chatsworth*. Master Thesis. Durban: Retrieved from http://researchspace.ukzn.ac.za/xmlui/handle/10413/8619 University of KwaZulu-Natal.

Masahiro, F., 2016. *Philosophical thinking*. Seoul: 21st century books.

Meyers, V., 2015. *Hanrahan Meyers architects: Won Buddhist retreat: walking paths - courtyard to courtyard: walking, moving, thinking*. [Online] Available at: http://www.victoriameyers.com/2015/03/my-entry.html [Accessed 21 April 2016].

Ministry of Health & Wellfare, KAMS, KNPA, 2013. *Seuteuleseuga Geongang-e michineun Gyeolgwa 스트레스가 건강에 미치는 결과 [The Effect of Stress on Health]*. [Online] Available at: http://health.mw.go.kr/HealthInfoArea/HealthInfo/View.do?idx=3540&subIdx=2 [Accessed 8 April 2016]. [In Korean].

Ministry of the Interior, 2012. *Taeguk-gi 태극기 [National flag]*. [Online] Available at: http://www.moi.go.kr/frt/sub/a06/b08/nationalIcon_2/screen.do [Accessed 8 September 2016]. [In Korean].

Mohammadabadi, M.A. & Massoud, M., 2013. *Advances in Civil Engineering and Building Materials: The role of green architecture on environment relaxation of hospital users*. New York: CRC Press.

MOLIT (Monistry of Land, Infrastructure and Transport), 2014. *Gyotong/Jadongcha Jeongchaeg 교통/자동차 정책 [Policy of Traffic/Motor Vehicle]*. [Online] Available at: http://www.molit.go.kr/USR/WPGE0201/m_35408/DTL.jsp [Accessed 30 June 2016]. [In Korean].

NamuWiki, 2016. *Yeouido Gong-won 여의도 공원 [Yeouido Park]*. [Online] Available at: https://namu.wiki/w/%EC%97%AC%EC%9D%98%EB%8F%84%EA%B3%B5%EC%9B%90 [Accessed 18 March 2016]. [In Korean].

National law information center, 2015. *Taegsi Unsong Sa-eob-ui Baljeon-e gwanhan Beoblyul 택시운송사업의 발전에 관한 법률 [Law of Development for Taxi Industry]*. [Online] Available at: http://www.law.go.kr/%EB%B2%95%EB%A0%B9/%ED%83%9D%EC%8B%9C%EC%9A%B4%EC%86%A1%EC%82%AC%EC%97%85%EC%9D%98%EB%B0%9C%EC%A0%84%EC%97%90%EA%B4%80%ED%95%9C%EB%B2%95%EB%A5%A0/(13492,20150811) [Accessed 30 June 2016]. [In Korean].

National museum of Korean contemporary history, 2015. *Geu ttae geu gos-eseo, Seoul-Yeouido gong-won 그 때 그 곳에서, 서울 여의도공원 [Seoul Yeouido park, at that place at that time]*. [Online] Available at: http://muchkorea.tistory.com/377 [Accessed 18 March 2016]. [In Korean].

Nutsford, D., Kingham, S., Reitsma, F. & I. Pearson, A., 2016. Residential exposure to visible blue space (but not green space) associated with lower psychological distress in a capital city. Health & Place, 39, pp.70-78.

OECD, 2015. *"Suicide", in Health at a Glance 2015: OECD Indicators*. [Online] OECD Publishing, Paris Available at: http://www.oecd-ilibrary.org/sites/health_glance-2015-en/03/06/index.html?contentType=&itemId=%2fcontent%2fchapter%2fhealth_glance-2015-11-en&mimeType=text%2fhtml&containerItemId=%2fcontent%2fserial%2f19991312&accessItemIds= [Accessed 2 March 2016].

Oh, S.G., 2014. *Manbyeong-ui Geun-won Seuteuleseu Jilhwan 만병의 근원 스트레스 질환 [Stress may lead to all kinds of illness]*. [Online] Available at: http://sem.zonecj.com/board/contentsView.php?idx=930941&hl=22275&npg=11&spg=1 [Accessed 11 September 2016]. [In Korean].

Pallasmaa, J., 1996. *The Geometry of Feeling: A Look at the Phenomenology of Architecture*. In K. Nesbitt, ed. Theorizing a New Agenda for Architecture. New York: Princeton Architectural Press. pp.447-53.

Pallasmaa, J., 2012. *The Eyes of the Skin: Architecture and the Senses*. UK: A John Wiley & Sons Ltd.

Park, J.E., 2016. *"Igos-eseo Swiseyo".Seoul-si, Idong Nodongja-wihan Swimteo Malyeon "이곳에서 쉬세요"… 서울시, 이동노동자 위한 쉼터 마련 ["Please rest in here".Seoul provides a Resting Space for Moving Labours]*. [Online] Available at: http://www.visualdive.com/2016/03/%EC%9D%B4%EA%B3%B3%EC%97%90%EC%84%9C-%EC%89%AC%EC%84%B8%EC%9A%94%EC%84%9C%EC%9A%B8%EC%8B%9C-%EC%9D%B4%EB%8F%99%EB%85%B8%EB%8F%99%EC%9E%90-%EC%9C%84%ED%95%9C-%EC%89%BC/ [Accessed 3 June 2016]. [In Korean].

Parkin, J.M.K. & Shamas, N., 2016. *Four types of biased in data visualization*. [Online] Available at: https://alshams.github.io/responsibledata/bias-in-data-viz/ [Accessed 11 September 2016].

Pearson, M.P. & Richards, C., 1994. *Architeture and Order: Approaches to Social Space*. London and New York: Routledge.

Reay, J., 2014. *Psychological and long-term effects of social media*. [Online] Available at: http://www.slideshare.net/jreay925/julie-reay-personallearningassignmentdeliverable [Accessed 15 March 2016].

Richards, C. & Pearson, M.P., 1994. *Architecture and Order: Approaches to social space*. London and New York: Routledge.

Ruckenstein, M., 2014. *Visualized and interacted life: Personal analytics and engagemens with data doubles*. Societies, 4(1), pp.68-84.

Ryu, K.M., 2013. *Nosugjaui Balsaeng-gwa Daechaeg 노숙자의 발생과 대책 [Occurrence and Countermeasure of Homeless].* [Online] Available at: https://prezi.com/yfhut4mnpute/presentation/ [Accessed 18 June 2016]. [In Korean].

Samsung Medical Center, 2014. *Seuteuleseu Yoin 스트레스 요인 [Stress Clinic: Factors of Stress]*. [Online] Available at: http://www.samsunghospital.com/healthMedical/contents/view.do?VIEW_CODE=E35&SUB_MENU=T03#.VwU32MvRbqA [Accessed 15 March 2016]. [In Korean].

Seoul citizens, 2014. *Yeongsang-eulo bon Seoul 영상으로 본 서울 [Vision of Seoul]*. [Online] Available at: http://www.seoul.go.kr/v2012/seoul/seoul_movie/movie.html [Accessed 30 June 2016]. [In Korean].

Seoul metropolitan government, 2016. *Jojigdo 조직도 [Chart of the organisation]*. [Online] Available at: http://namesearch-app.seoul.go.kr/main/org/org_chart_bon.jsp?dept_cd=12310000 [Accessed 30 June 2016]. [In Korean].

Seoul traffic, 2015. *Salam Useonui Anjeonhago Pyeonlihan Seoul Gyotong 사람 우선의 안전하고 편리한 서울 교통 [Human-preferred, safe and convenient Seoul traffic]*. [Online] Available at: http://traffic.seoul.go.kr/files/2015/11/5644513a08dd41.37324411.pdf [Accessed 12 March 2016]. [In Korean].

Seoulbike, 2015. *Seoul Jajeongeo Gyotong Jido 서울 자전거 교통지도 [Map of Seoul Bicycle Transport]*. [Online] Seoul Bike Available at: http://bike.seoul.go.kr/page/s2p3.html [Accessed 16 May 2016]. [In Korean].

Seoulbike & Sung, E.J., 2016. *Cheon-won-ui Haengbog 'Ttaleung-i' 천원의 행복 '따릉이' [Happiness from R10, 'Seoul Bicycle'].* [Online] Available at: http://mediahub.seoul.go.kr/archives/1027905 [Accessed 21 September 2016]. [In Korean].

Shin, H.G. et al., 2012. *Gyeongchalhag Sajeon 경찰학 사전 [Dictionary of Police Science]*. Korea: Beobmoonsa. [In Korean].

Slowik, L.H., Fried, Y. & Laurence, G.A., 2013. *"My space": A moderated mediation model of the effect of architectural and experienced privacy and workspace personalization on emotional exhaustion at work*. Journal of Environmental Psychology, 36, pp.144-52.

St John, P., 2000. *The Feeling of Things: Towards an Architecture of Emotions*. In Shaping Earth. Wolverhampton, UK: MS Associates and the University of Wolverhampton. pp.78-81.

Sternberg, E.M.M.D., 2009. *Gong-gan-i Ma-eum-eul Sallinda 공간이 마음을 살린다 [Healing Spaces: The Sciences of Place and Well-being]*. Korea: TheQuest, the imprint of Gilbut Publishers. [In Korean].

Steudte, B., 2007. *Architecture and Human Senses - Pre-school in Alexandria Old Town, Virginia*. Master Thesis. Virginia: Retrieved from https://theses.lib.vt.edu/theses/available/etd-01152008-235622/unrestricted/ArchitectureAndHumanSenses.pdf. Virginia Polytechnic Institute & State University.

Sung, N.J., 2010. *Je 2bu Wonhyeong Nonjaeng-ui Jeongae 제2부 원형 논쟁의 전개 [The Second Argument of the Round Form]*. [Online] Available at: http://blog.daum.net/_blog/BlogTypeView.do?blogid=0W595&articleno=39&categoryId=104&regdt=20101229154144 [Accessed 20 April 2016]. [In Korean].

Sung, N.J., 2013. *(Beseto) gigo 'Sokkuram geu bulhuui seongjeon' (베세토) 기고 '석굴암 그 불후의 성전' [(Beseto) Contributes 'Sokkuram grotto, the immortal sacred shrine']*. [Online] Available at: http://blog.daum.net/chakraba/453 [Accessed 15 April 2016]. [In Korean].

Sung, N.J., 2014. *Asia Myujieom Yeonguso, Je 3hoe Gugje Hagsulhoeui: Jijunghae Geonchug-gwa Sokkuram 아시아뮤지엄연구소, 제3회 국제학술회의: 지중해 건축과 석굴암 [Institute of Asian museum, The third International Academic Conference: Mediterranean architecture and Sokkuram grotto]*. [Online] Available at: http://blog.daum.net/chakraba/511 [Accessed 11 April 2016]. [In Korean].

Visual Dive, 2014. *Jigjang-in "Na uulhae" 직장인 "나 우울해" [Employees "I am depressed"]*. [Online] Available at: https://za.pinterest.com/pin/498351514988920769/ [Accessed 2 March 2016]. [In Korean].

Visual Dive, 2014. *'Seong-in 12.8%' Uuljeung.Yeoseong, Noin, Nongchon, Jeosodeugcheungseo Manh-a '성인 12.8%' 우울증.여성,노인,농촌,저소득층서 많아 ['12.8% of adults' have Depression: Women, the Elderly, Rural districts, the Low-income classes have Depression More]*. [Online] Available at: http://www.visualdive.com/2014/09/%EC%84%B1%EC%9D%B8-12-8-%EC%9A%B0%EC%9A%B8%EC%A6%9D%EC%97%AC%EC%84%B1%C2%B7%EB%85%B8%EC%9D%B8%C2%B7%EB%86%8D%EC%B4%8C%C2%B7%EC%A0%80%EC%86%8C%EB%93%9D%EC%B8%B5%EC%84%9C/ [Accessed 2 March 2016]. [In Korean].

Visual Dive, 2014. *'Uuljeung·Jasal' Gaein-ui munjega anin Sahoegyeongjejeog munje '우울증·자살' 개인의 문제가 아닌 사회경제적 문제 (Inforgraphics) ['Depression·Suicide' social economic problem rather than personal problem]*. [Online] Available at: http://www.visualdive.com/2014/01/%EC%9A%B0%EC%9A%B8%EC%A6%9D%C2%B7%EC%9E%90%EC%82%B4-%EA%B0%9C%EC%9D%B8%EC%9D%98-%EB%AC%B8%EC%A0%9C%EA%B0%80-%EC%95%84%EB%8B%8C-%EC%82%AC%ED%9A%8C%EA%B2%BD%EC%A0%9C%EC%A0%81-%EB%AC%B8%EC%A0%9C/ [Accessed 2 March 2016]. [In Korean].

WHO, 2016. *Mental health: Suicide data*. [Online] Available at: http://www.who.int/mental_health/prevention/suicide/suicideprevent/en/ [Accessed 16 March 2016].

Wikipedia, 2011. *Panopticon*. [Online] Available at: https://ko.wikipedia.org/wiki/%ED%8C%8C%EB%86%89%ED%8B%B0%EC%BD%98 [Accessed 9 April 2016].

Wikipedia, 2012. *Hanok*. [Online] Available at: https://ko.wikipedia.org/wiki/%ED%95%9C%EC%98%A5 [Accessed 6 September 2016].

Wikipedia, 2016. *Economy of South Korea*. [Online] Available at: https://en.wikipedia.org/wiki/Economy_of_South_Korea [Accessed 2 March 2016].

Wikipedia, 2016. *Hangug-ui Gang 한국의 강 [Rivers of Korea]*. [Online] Available at: https://ko.wikipedia.org/wiki/%ED%95%9C%EA%B5%AD%EC%9D%98_%EA%B0%95 [Accessed 22 June 2016]. [In Korean].

World Health Organization (WHO), 2015. *Depression*. [Online] Available at: http://www.who.int/mediacentre/factsheets/fs369/en/ [Accessed 14 March 2016].

Yeongdeungpo-Gu, 2016. *Jutaegjaegaebal/Dosihwangyeongjeongbi Sa-eob Jeonchehyeonhwang 주택재개발/도시환경정비 사업 전체현황 [Overall State of Housing Redevelopment/Urban Environmental Renewal Business]*. [Online] Available at: http://www.ydp.go.kr/main/page.do?mCode=D020020000 [Accessed 28 June 2016]. [In Korean].

Yoo, H.J., 2008. *Modernism: as a hybrid of Eastern and Western culture*. Korea: Miseaum publisher.

Yoon, J.G., 2016. *Hangug Sahoe Gabjil Eodieseo saeng-gina? 한국사회 갑질 어디에서 생기나? [Korean Society, Where does Gahp-jil come from?]*. [Online] Available at: http://nlearners.org/gnuboard4/bbs/board.php?bo_table=nlearning&wr_id=935&page=1 [Accessed 11 September 2016]. [In Korean].

Zaredar, A., 2015. *Considering the Five Senses in Architecture*. Current World Environment, 10(1), pp.138-43.

8.2 Bibliography of Figures

Most of diagrams, photographs and other graphic works in this research report are produced by the author: Min Joo Kim. All figures produced by the author and others are referenced below:

Fig.1 – World Health Organization (WHO), 2015. *Depression*. [Online] Available at: http://www.who.int/mediacentre/factsheets/fs369/en/ [Accessed 14 March 2016].

Fig.2 – WHO, 2016. *Mental health: Suicide data*. [Online] Available at: http://www.who.int/mental_health/prevention/suicide/suicideprevent/en/ [Accessed 16 March 2016].

Fig.3 – Juhn, M., 2009. *Christmas yeonmal bun-wigiga mulssin 크리사마스와 연말 분위기가 물씬 [Strong feeling of Christmas and Year-end]*. [Electronic Print] Available at: http://markjuhn.com/attach/1/XFkAsP3wKW.jpg [Accessed 12 July 2016]. [In Korean].

Fig.4 – Taekwon V, H., 2013. *Chulgeun-man hamyeon Uulhae? Deombyeo! Jigjang-in Uuljeung 출근만 하면 우울해? 덤벼! 직장인 우울증 [Whenever being at work, get depressed? Come on! Office Workers Depression]*. [Electronic Print] Available at: http://static.news.zum.com/images/55/2013/01/04/MCWKNPT9ALJ1Z1FMN97R.jpg [Accessed 12 July 2016]. [In Korean].

Fig.5 – Samsung Medical Center, 2014. *Seuteuleseu Yoin 스트레스 요인 [Stress Clinic: Factors of Stress]*. [Online] Available at: http://www.samsunghospital.com/healthMedical/contents/view.do?VIEW_CODE=E35&SUB_MENU=T03#.VwU32MvRbqA [Accessed 15 March 2016]. [In Korean].

Fig.6 – Visual Dive, 2014. *Jigjang-in "Na uulhae" 직장인 "나 우울해" [Employees "I am depressed"]*. [Online] Available at: https://za.pinterest.com/pin/498351514988920769/ [Accessed 2 March 2016]. [In Korean].

Fig.7 – Kim, M.J., 2016. *"We"*. [Image] (Kim's own private collection).

Fig.8 – Sam, 2014. *Jigjang-in Uuljeung, ileohge Daecheohaja 직장인 우울증, 이렇게 대처하자 [Cope with Depression of Office Workers as following]*. [Electronic Print] Available at: http://blog.samsung.co.kr/4475 [Accessed 12 July 2016]. [In Korean].

Fig.9 – Kim, M.J., 2016. *Architecture and human senses*. [Image] (Kim's own private collection).

Fig.10 – Barends, B., 2016. *Kafka - Die Verwandlung 02*. [Electronic Print] Available at: http://bbarends.deviantart.com/art/Kafka-Die-Verwandlung-02-185425756 [Accessed 12 July 2016].

Fig.11 – Ha, J.E., 2010. *Seonjong josa Seunimdeul-ui Beobmun.Kkaedal-eum eodgiwihan 'Gong-an' 선종 조사 스님들의 법문.깨달음 얻기 위한 '공안' [Several Buddhistic monks' words of Buddhism.'Gongan' for Perceiving a Truth]*. [Electronic Print] Available at: http://www.ibulgyo.com/news/photo/201104/103426_39042.jpg [Accessed 12 July 2016]. [In Korean].

Fig.12 – HongikHd, 2013. *"Hwadu Seon-eulo Gyeonseong-e ileuneun Gil" Yegopyeon 2 "화두선으로 견성에 이르는 길" 예고편 2 [Trailer 2 of "Realising true-self through Hwadu meditation"]*. [Electronic Print] Available at: https://i.ytimg.com/vi/BoMSjGxLyIw/maxresdefault.jpg [Accessed 12 July 2016]. [In Korean].

Fig.13 – DieBuche, 2013. *Panopticon blueprint by Jeremy Bentham, 1791*. [Electronic Print] Available at: https://en.wikipedia.org/wiki/Panopticon_(album)#/media/File:Panopticon.jpg [Accessed 15 April 2016].

Fig.14 – Karp, V., 2011. *The Third Screen: Larry Gelbart on the Future of Media*. [Electronic Print] Available at: http://www.huffingtonpost.com/vickie-karp/the-third-screen-larry-ge_b_109593.html [Accessed 12 July 2016].

Fig.15 – Kim, M.J., 2016. *Relationship between layout of office and level of stress*. [Image] (Kim's own private collection).

Fig.16 – Guslarking, 2008. *Another blindness poster*. [Electronic Print] Available at: https://movieposteraddict.com/2008/07/30/another-blindness-poster/ [Accessed 12 July 2016].

Fig.17 – Kim, M.J., 2016. *One's vessel*. [Image] (Kim's own private collection).

Fig.18 – Kim, M.J., 2016. *Architectural space and human senses*. [Image] (Kim's own private collection).

Fig.19 – Kim, M.J., 2016. *Scale of human body*. [Image] (Kim's own private collection).

Fig.20 – Gamgag, G.-i., 2008. *Design-gwa Chagsi 디자인과 착시 [Design and Optical illusion]*. [Electronic Print] Available at: http://blog.daum.net/_blog/BlogTypeView.do?blogid=0NCoM&articleno=483&categoryId=47&regdt=20081216131745 [Accessed 22 April 2016]. [In Korean].

Fig.21 – Eloquence, 2004. *The interior of the Pantheon, Rome by Giovanni Paolo Panini*. [Electronic Print] Available at: https://en.wikipedia.org/wiki/Giovanni_Paolo_Panini#/media/File:Pantheon-panini.jpg [Accessed 20 April 2016].

Fig.22 – Guest, 2014. *Pantheon Plan*. [Electronic Print] Available at: http://galerija.metropolitan.ac.rs/var/albums/GD2013-2014/AD111%20Istorija%20umetnosti%20starog%20i%20srednjeg%20veka/Marija-Jevtic---Rimska-arhitektura-/Panteon-05/51_pantheon-plan.jpg?m=1396815472 [Accessed 20 April 2016].

Fig.23 – Library, P.S.U.L.A.a.L.A., 2007. *Pantheon: Section*. [Electronic Print] Available at: https://c2.staticflickr.com/6/5274/5833317924_692c987d43_b.jpg [Accessed 20 April 2016].

Fig.24 – Mokin, 2011. *Sokkuram-ui Gyumowa Myeongching 석굴암의 규모와 명칭 [Sokkuram grotto's Size and Terminology]*. [Electronic Print] Available at: http://blog.daum.net/_blog/BlogTypeView.do?blogid=0NAnw&articleno=76&_bloghome_menu=recenttext [Accessed 20 April 2016]. [In Korean].

Fig.25 – Sung, N.J., 2010. *Je 2bu Wonhyeong Nonjaeng-ui Jeongae 제2부 원형 논쟁의 전개 [The Second Argument of the Round Form]*. [Electronic Print] Available at: http://blog.daum.net/_blog/BlogTypeView.do?blogid=0W595&articleno=39&categoryId=104&regdt=20101229154144 [Accessed 20 April 2016]. [In Korean].

Fig.26 – Sung, N.J., 2014. *Asia Myujieom Yeonguso, Je 3hoe Gugje Hagsulhoeui: Jijunghae Geonchug-gwa Sokkuram 아시아뮤지엄연구소, 제3회 국제학술회의: 지중해 건축과 석굴암 [Institute of Asian museum, The third International Academic Conference: Mediterranean architecture and Sokkuram grotto]*. [Electronic Print] Available at: http://blog.daum.net/chakraba/511 [Accessed 11 April 2016]. [In Korean].

Fig.27 – Mokin, 2011. *Sokkuram-ui Gyumowa Myeongching 석굴암의 규모와 명칭 [Sokkuram grotto's Size and Terminology]*. [Electronic Print] Available at: http://blog.daum.net/_blog/BlogTypeView.do?blogid=0NAnw&articleno=76&_bloghome_menu=recenttext [Accessed 20 April 2016]. [In Korean].

Fig.28 – ArchDaily, 2013. *Won Dharma / hanrahanMeyers architects*. [Electronic Print] Available at: http://www.archdaily.com/371099/won-dharma-hanrahan-meyers-architects/ [Accessed 10 March 2016].

Fig.29 – ArchDaily, 2013. *Won Dharma / hanrahanMeyers architects*. [Electronic Print] Available at: http://www.archdaily.com/371099/won-dharma-hanrahan-meyers-architects/ [Accessed 10 March 2016].

Fig.30 – ArchDaily, 2013. *Won Dharma / hanrahanMeyers architects*. [Electronic Print] Available at: http://www.archdaily.com/371099/won-dharma-hanrahan-meyers-architects/ [Accessed 10 March 2016].

Fig.31 – Meyers, V., 2015. *Hanrahan Meyers architects: Won Buddhist retreat: walking paths - courtyard to courtyard: walking, moving, thinking*. [Electronic Print] Available at: http://www.victoriameyers.com/2015/03/my-entry.html [Accessed 21 April 2016].

Fig.32 – Hanrahan Meyers Architects, n.d. *Projects - masterplans and landscapes: Won Dharma Center*. [Electronic Print] Available at: http://www.hanrahanmeyers.com/wonmasterplan.html [Accessed 21 April 2016].

Fig.33 – ArchDaily, 2013. *Famen temple Zen meditation center winning proposal / OAC*. [Electronic Print] Available at: http://www.archdaily.com/364645/famen-temple-zen-meditation-center-winning-proposal-oac [Accessed 12 March 2016].

Fig.34 – ArchDaily, 2013. *Famen temple Zen meditation center winning proposal / OAC*. [Electronic Print] Available at: http://www.archdaily.com/364645/famen-temple-zen-meditation-center-winning-proposal-oac [Accessed 12 March 2016].

Fig.35 – ArchDaily, 2013. *Famen temple Zen meditation center winning proposal / OAC*. [Electronic Print] Available at: http://www.archdaily.com/364645/famen-temple-zen-meditation-center-winning-proposal-oac [Accessed 12 March 2016].

Fig.36 – ArchDaily, 2013. *Famen temple Zen meditation center winning proposal / OAC*. [Electronic Print] Available at: http://www.archdaily.com/364645/famen-temple-zen-meditation-center-winning-proposal-oac [Accessed 12 March 2016].

Fig.37 – ArchDaily, 2013. *Famen temple Zen meditation center winning proposal / OAC*. [Electronic Print] Available at: http://www.archdaily.com/364645/famen-temple-zen-meditation-center-winning-proposal-oac [Accessed 12 March 2016].

Fig.38 – ArchDaily, 2013. *Famen temple Zen meditation center winning proposal / OAC*. [Electronic Print] Available at: http://www.archdaily.com/364645/famen-temple-zen-meditation-center-winning-proposal-oac [Accessed 12 March 2016].

Fig.39 – ArchDaily, 2013. *Famen temple Zen meditation center winning proposal / OAC*. [Electronic Print] Available at: http://www.archdaily.com/364645/famen-temple-zen-meditation-center-winning-proposal-oac [Accessed 12 March 2016].

Fig.40 – Naver Map, 2016. *Seoul*. [Image] Available at: http://map.naver.com/ [Accessed 16 March 2016].

Fig.41 – Kim, H.W., 2015. *Seoul-si Daejung Gyotong Jinanhae 40-eogmyeong Iyong 서울시 대중교통 지난해 40억명 이용 [Last year 4billions Seoul Citizens used Public Transport]*. [Electronic Print] Available at: http://mtest.newstomato.com/ReadNews.aspx?no=552393 [Accessed 12 July 2016]. [In Korean].

Fig.42 – NamuWiki, 2016. *Yeouido Gong-won 여의도 공원 [Yeouido Park]*. [Online] Available at: https://namu.wiki/w/%EC%97%AC%EC%9D%98%EB%8F%84%EA%B3%B5%EC%9B%90 [Accessed 18 March 2016]. [In Korean].

National museum of Korean contemporary history, 2015. *Geu ttae geu gos-eseo, Seoul-Yeouido gong-won 그 때 그 곳에서, 서울 여의도공원 [Seoul Yeouido park, at that place at that time]*. [Online] Available at: http://muchkorea.tistory.com/377 [Accessed 18 March 2016]. [In Korean].

Fig.43 – Employee tok tok & Smart employee, 2014. *(Seoul deiteu koseu) Yeon-ingwa Seoul-ui Bomgil-eul Geol-eoboja (서울 데이트 코스) 연인과 서울의 봄길을 걸어보자 [(Seoul Date Course) Let's walk on Seoul's streets in spring with lovers]*. [Online] Available at: http://eagonblog.com/666 [Accessed 18 March 2016]. [In Korean].

Seoul story, 2013. *Gwangjang-eseo Gong-won-eulo, Yeouido Gong-won - Gong-gan 광장에서 공원으로, 여의도공원 – 공간 [Yeouido Park, from Square to the Park]*. [Online] Available at: https://www.seoulstory.kr/story/album/2/1368 [Accessed 18 March 2016]. [In Korean].

Visit Seoul, 2014. *Yeouido Gong-won 여의도 공원 [Yeouido Park]*. [Online] Available at: http://korean.visitseoul.net/attractions/%EC%97%AC%EC%9D%98%EB%8F%84-%EA%B3%B5%EC%9B%90_/2161 [Accessed 18 March 2016]. [In Korean].

Fig.44 – Kim, M.J., 2016. *Map of Korea*. [Image] (Kim's own private collection).

Fig.45 – Buckwheat flower, 2013. *Mapodaegyo Saengmyeong-ui dali – Huimang-gwa Yong-gileul jeonhaneun Geodgi joh-eun gos* 마포대교 생명의 다리 – 희망과 용기를 전하는 걷기 좋은 곳 *[Mapo bridge of life - a nice walking place to spread Hope and Courage]*. [Electronic Print] Available at: http://www.12go.co.kr/story?idx=2032 [Accessed 28 June 2016]. [In Korean].

Fig.46 – Kim, M.J., 2016. *Map of region*. [Image] (Kim's own private collection).

Fig.47 – Kim, M.J., 2016. *Map of leisure: cycling, marathon*. [Image] (Kim's own private collection).

Fig.48 – Korean national police agency, 2014. *Police Statistical yearbook 2014*. [Online] Korean national police agency Available at: http://www.police.go.kr/portal/main/contents.do?menuNo=200141 [Accessed 16 June 2016].

Fig.49 – Namuwiki, 2016. *Seouldae 3 dae Babo* 서울대 3대 바보 *[Three fools of Seoul National University]*. [Electronic Print] Available at: http://kmug.co.kr/board/data/image/SEOUL_University.jpg [Accessed 19 July 2016]. [In Korean].

Fig.50 – Hahahohowoman, 2013. *Ihwa Yeodae Tambang (2013.3.26) - 82Jang* 이화여대 탐방 (2013.3.26) – 82장 *[Report of Ehwa womans university (2013.3.26) - Chapter 82]*. [Electronic Print] Available at: http://cfile239.uf.daum.net/image/245FF03C515842F622581D [Accessed 19 July 2016]. [In Korean].

Fig.51 – Ryu, K.M., 2013. *Nosugjaui Balsaeng-gwa Daechaeg* 노숙자의 발생과 대책 *[Occurrence and Countermeasure of Homeless]*. [Online] Available at: https://prezi.com/yfhut4mnpute/presentation/ [Accessed 18 June 2016]. [In Korean].

Fig.52 – Kim, M.J., 2016. *Yeouido bus transfer centre*. [Photograph] (Kim's own private collection).

Fig.53 – Jung, S.U., 2012. *Gyotong kadeu* 교통카드 *[Traffic card]*. [Electronic Print] Available at: http://jjlife.joins.com/club/club_article.asp?mode=CLIP&total_id=7419303 [Accessed 30 June 2016]. [In Korean].

Fig.54 – Kim, M.J., 2016. *Land form*. [Image] (Kim's own private collection).

Fig.55 – Kim, M.J., 2016. *Movement structure*. [Image] (Kim's own private collection).

Fig.56 – Kim, M.J., 2016. *Grain*. [Image] (Kim's own private collection).

Fig.57 – Kim, M.J., 2016. *Map of land use zoning districts*. [Image] (Kim's own private collection).

Fig.58 – Kim, M.J., 2016. *Map of public bicycle rental stations*. [Image] (Kim's own private collection).

Fig.59 – Kim, M.J., 2016. *Contextual map*. [Image] (Kim's own private collection).

Fig.60 – Naver Map, 2009. *Aerial photographs*. [Photograph] Available at: http://map.naver.com/ [Accessed 2 August 2016].

Fig.61 – Kim, M.J., 2016. *Site photos–1*. [Photograph] (Kim's own private collection).

Fig.62 – Kim, M.J., 2016. *Site photos–2*. [Photograph] (Kim's own private collection).

Fig.63 – Kim, M.J., 2016. *Site photos–3*. [Photograph] (Kim's own private collection).

Fig.64 – Kim, M.J., 2016. *'REST' in different languages*. [Image] (Kim's own private collection).

Fig.65 – Lee, M.S., 2016. *Jangsigan Unhaeng-e Jichin Taegsi Gisadeul-ui Swimteo, olhae 5 gae Seolchi 장시간 운행에 지친 택시기사들의 쉼터, 올해 5개 설치 [Five Pause Spots of Taxi Drivers tired from run for long, will be built in this year]*. [Online] Available at: http://www.bcksngn.com/news/articleView.html?idxno=3648 [Accessed 3 June 2016]. [In Korean].

Fig.66 – Seoul metropolitan government, 2016. *Beulaendeu 브랜드 [Brand]*. [Electronic Print] Available at: http://www.seoul.go.kr/v2012/seoul/symbol/brand.html [Accessed 30 June 2016]. [In Korean].

Fig.67 – Seoul citizens, 2014. *Yeongsang-eulo bon Seoul 영상으로 본 서울 [Vision of Seoul]*. [Online] Available at: http://www.seoul.go.kr/v2012/seoul/seoul_movie/movie.html [Accessed 30 June 2016]. [In Korean].

Fig.68 – Seoul metropolitan government, 2016. *Jojigdo 조직도 [Chart of the organisation]*. [Online] Available at: http://namesearch-app.seoul.go.kr/main/org/org_chart_bon.jsp?dept_cd=12310000 [Accessed 30 June 2016]. [In Korean].

Fig.69 – Kim, M.J., 2016. *Programmes*. [Image] (Kim's own private collection).

Fig.70 – Kim, M.J., 2016. *Advantages of Yeouido's location*. [Sketch] (Kim's own private collection).

Fig.71 – WIDA WCEPS, 2015. *WIDA International academy - Seoul, Korea - October 15-18, 2015*. [Electronic Print] Available at: https://wisc.wceps.org/Conference/InternationalAcademy [Accessed 21 July 2016].

Fig.72 – ClubinKorea, 2014. *World's firework festival @ Korea, Seoul, Yeouido*. [Electronic Print] Available at: http://www.clubinkorea.com/worlds-firework-festival-korea-seoul-yeouido/ [Accessed 21 July 2016].

Fig.73 – Kim, M.J., 2016. *Distribution of office workers near Yeouido Park*. [Photograph and Sketch] (Kim's own private collection).

Fig.74 – Kim, M.J., 2016. *Funding sources*. [Image] (Kim's own private collection).

Fig.75 – Kim, M.J., 2016. *Stress and architecture*. [Image] (Kim's own private collection).

Fig.76 – Kim, M.J., 2016. *Alternativs of programme layouts*. [Sketch] (Kim's own private collection).

Fig.77 – Kim, M.J., 2016. *Various layouts of Chae-s in Hanok*. [Photograph] (Kim's own private collection).

Fig.78 – Kim, M.J., 2016. *Peculiarities of Hanok*. [Photograph and Image] (Kim's own private collection).

Fig.79 – Kim, M.J., 2016. *Interlinking spaces*. [Image] (Kim's own private collection).

Fig.80 – Kim, M.J., 2016. *Blending phenomena*. [Photograph] (Kim's own private collection).

Fig.81 – Kim, M.J., 2016. *Illustration of blending phenomena*. [Photograph] (Kim's own private collection).

Fig.82 – Kim, M.J., 2016. *Models of blending phenomena*. [Photograph] (Kim's own private collection).

Fig.83 – Ministry of the Interior, 2012. *Taeguk-gi 태극기 [National flag]*. [Electronic Print] Available at: http://www.moi.go.kr/frt/sub/a06/b08/nationalIcon_2/screen.do [Accessed 8 September 2016]. [In Korean].

Fig.84 – Kim, M.J., 2016. *Concept sketches*. [Sketch] (Kim's own private collection).

Fig.85 – Kim, M.J., 2016. *Design diagram–1*. [Image] (Kim's own private collection).

Fig.86 – Kim, M.J., 2016. *Design diagram–2*. [Image] (Kim's own private collection).

Fig.87 – Kim, M.J., 2016. *Design diagram–3*. [Image] (Kim's own private collection).

Fig.88 – Kim, M.J., 2016. *Design diagram–4*. [Image] (Kim's own private collection).

Fig.89 – Kim, M.J., 2016. *Design diagram–5*. [Image] (Kim's own private collection).

Fig.90 – Kim, M.J., 2016. *Mineral springs*. [Photograph] (Kim's own private collection).
YeonjuDad, 2013. *Gayasan Cheonnyeon Gochal Sim-Won-Sa-eseoui Yeoleum Hyuga - Temple Stay 가야산 천년고찰 심원사에서의 여름휴가 – 템플스테이 [Summer vacation in a thousand years of study, Simwonsa in Gaya Mountain - Temple Stay]*. [Online] Available at: http://cfile3.uf.tistory.com/image/216C3E4052077FA431478F [Accessed 26 September 2016]. [In Korean].

Fig.91 – Kim, M.J., 2016. *Access*. [Image] (Kim's own private collection).

Fig.92 – Kim, M.J., 2016. *Circulation*. [Image] (Kim's own private collection).

Fig.93 – Alter, L., 2011. *More proof that Wood is the Greenest Building Material.* [Online] Available at: http://media.treehugger.com/assets/images/2011/10/gehry-ramp.jpg [Accessed 26 September 2016].

Arki, 2011. *Jaehwal-yong Mogjaelo Intelieo doen Kape 재활용 목재로 인테리어 된 카페: Slowpoke Cafe by Sasufi [A cafe designed with recycled timber: Slowpoke Cafe by Sasufi]*. [Online] Available at: http://cfile7.uf.tistory.com/image/124FB3434EB3EB2624DC50 [Accessed 26 September 2016]. [In Korean].

StockSnap, 2015. *Trees/Stems/Timber*. [Online] Available at: https://pixabay.com/p-926727/?no_redirect [Accessed 26 September 2016].

Wang, L., 2014. *Curved wooden Kamppi Chapel of Silence provides quiet Sanctuary in Helsinki*. [Online] Available at: http://assets.inhabitat.com/wp-content/blogs.dir/1/files/2014/10/Kamppi-Chapel-by-K2S-Architects-1-537x422.jpg [Accessed 15 September 2016].

Fig.94 – Administrator, 2016. *Pannel & Telakota Sigong Salye 판넬&테라코타 시공사례 [A Construction example of Panel & Terracotta]*. [Online] Available at: http://chamnet.homepiman.kr/data/cheditor4/1603/d80dc960b0ea3e6b300f6f902f7eebe7_QQkSlHtXboST.png [Accessed 26 September 2016]. [In Korean].

Lopo International Limited, 2011. *Gallery - Lopo China*. [Online] Available at: http://www.lopochina.com/loponew/upload/20140304160716.jpg [Accessed 26 September 2016].

Tobkor, n.d. *Tob Facade Panels - Natural*. [Online] Available at: http://www.tobkor.com/surface-natural.gif [Accessed 26 September 2016].

Uryagi, 2012. *Jayeon Gaseub - Hwangto-bol (Haideulo-bol) Cheon-yeon Gaseubgi 자연가습–황토볼(하이드로볼) 천연가습기 [Natural Humidifier - Red soil balls (Hydro-ball) Natural Humidifer]*. [Online] Available at: http://www.uryagi.com/uryagig4/data/cheditor4/1209/KZsHlN7G.jpg [Accessed 26 September 2016]. [In Korean].

Fig.95 – Kim, M.J., 2016. *Detailed section–1*. [Image] (Kim's own private collection).

Fig.96 – Kim, M.J., 2016. *Detail*. [Image] (Kim's own private collection).

Fig.97 – Kim, M.J., 2016. *Detailed section–2*. [Image] (Kim's own private collection).

Fig.98 – Kim, M.J., 2016. *Explosion of structure elements*. [Image] (Kim's own private collection).

Fig.99 – Kim, M.J., 2016. *Site plan–1:3000*. [Image] (Kim's own private collection).

Fig.100 – Kim, M.J., 2016. *Ground floor plan–1:800*. [Image] (Kim's own private collection).

Fig.101 – Kim, M.J., 2016. *Ground floor plan*. [Image] (Kim's own private collection).

Fig.102 – Kim, M.J., 2016. *Upper floor plans*. [Image] (Kim's own private collection).

Fig.103 – Kim, M.J., 2016. *Sections*. [Image] (Kim's own private collection).

Fig.104 – Kim, M.J., 2016. *Elevations–1*. [Image] (Kim's own private collection).

Fig.105 – Kim, M.J., 2016. *Elevations–2*. [Image] (Kim's own private collection).

Fig.106 – Kim, M.J., 2016. *Perspectives–1*. [Image] (Kim's own private collection).

Fig.107 – Kim, M.J., 2016. *Perspectives–2*. [Image] (Kim's own private collection).

Fig.108 – Kim, M.J., 2016. *Perspectives–3*. [Image] (Kim's own private collection).

Fig.109 – Kim, M.J., 2016. *Perspectives–4*. [Image] (Kim's own private collection).

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SCHOOL OF ARCHITECTURE AND PLANNING
HUMAN RESERCH ETHICS COMMITTEE

SCHOOL OF ARCHITECTURE PLANNING

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PROJECT TITLE:	Healing Architecture: Exploring own mind and emotions in inner city Seoul
INVESTIGATOR/S:	Kim Minjoo (Student no# 306763)
SCHOOL:	Architecture and Planning
DEGREE PROGRAMME:	Master of Architecture Professional (MArch Prof)
DATE CONSIDERED:	22 August 2016
EXPIRY DATE:	22 August 2017
DECISION OF THE COMMITTEE:	Retrospective Acknowledgement

CHAIRPERSON
(Professor Daniel Irurah)

DATE: 24·08·2016

cc: Supervisor/s: Mohammed Munchi

DECLARATION OF INVESTIGATORS
I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to endure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee.

29. 08. 2016

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