

Final Architectural Design Studio (FADS)
2024



A Design of Recovery Center in Surakarta for Cardiovascular Outpatients with Javanese Wellness Architecture Approach

Mahadevi Effia Arkan | 20512240

Supervisor: Dr.-Ing. Putu Ayu Pramanasari A., S.T., M.A.



UNIVERSITAS
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INTERNATIONAL UNDERGRADUATE PROGRAM IN ARCHITECTURE



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they deserve a space to
feel whole once more.



International Undergraduate Program in Architecture
Final Architectural Design Studio

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Department of Architecture
Faculty of Civil Engineering and Planning
Universitas Islam Indonesia
2024

Program Sarjana Internasional Arsitektur
Studio Akhir Desain Arsitektur

Perancangan Pusat Penyembuhan di Surakarta untuk Pasien Rawat Jalan Penyakit Kardiovaskular dengan Pendekatan *Kejawen*

Mahadevi Effia Arkan | 20512240

Dibimbing oleh Dr.-Ing. Putu Ayu Pramanasari A., S.T., M.A.

Departemen Arsitektur
Fakultas Teknik Sipil dan Perencanaan
Universitas Islam Indonesia
2024



VALIDATION SHEET

Final Architectural Design Studio entitled:

A Design of Recovery Center in Surakarta for Cardiovascular Outpatients with Javanese Wellness Architecture Approach

Student's Full Name : Mahadevi Effia Arkan
Student's Identification Number : 20512240
Has been evaluated and agreed on : Thursday, August 15th 2024

Supervisor

Putu Ayu Pramanasari A.,
Dr.Ing, S.T., M.A.

1st Examiner

Arif Budi Sholihah,
S.T., M.Sc., Ph.D

2nd Examiner

Prof. Ilya Fadjar Maharika,
Dr.-Ing., Ar., Ir., MA., IAI.

Acknowledged by

Head of Undergraduate Program in Architecture



Hanif Budiman, Ir., M.T., Ph.D

ORIGINALITY STATEMENT

As the Author of this book, I, Mahadevi Effia Arkan, declare that all parts of this work except those mentioned in reference are the Author's original work. The ideas and processes involved in the writing and development of this final project were created by the Author, considering the supervisor's and examiners' input. The completed project has been submitted to the Department of Architecture at the Islamic University of Indonesia for educational use and publication, with the intellectual property rights retained by the Author.

Yogyakarta, August 16th 2024



Mahadevi Effia Arkan

PREFACE

Assalamualaikum Wr. Wb.

All praise and gratitude to Allah SWT for His mercy and love, enabling the Author to persevere and complete her education at the Department of Architecture at the Islamic University of Indonesia. The Author acknowledges that this project's journey would not have been possible without the support of many parties and individuals. Therefore, the Author wishes to express her sincere appreciation and gratitude to:

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11. Lastly, the Author sincerely thanks herself for overcoming her ego and remaining determined to complete this final project. Despite battling numerous burnouts, she persevered through the challenges and saw it through to the end. She is proud to have involved her grandmother's experience in the project, translating it into her own language and touches.

The Author believes that there is always room for improvement and growth. She acknowledges that both the preparation and the final design report are not flawless. Therefore, she is open to any constructive criticism and suggestions, hoping they will guide her on a better path in her future endeavors.

Wassalamualaikum Wr. Wb.

Yogyakarta, August 16th 2024



Mahadevi Effia Arkan

ABSTRACT

The idea departs from the growing number of heart disease patients in Indonesia, leading to a collaboration between the Indonesian government and the UAE to build a heart hospital in Surakarta. However, the recovery process is equally important as the medical treatment itself. Therefore, this project aims to create a space where outpatients can heal themselves by implementing Javanese wellness principles, extracted from values such as Serat Munasiyat Jati and Pesanggrahan Langenharjo. Diana Agrest's theory is used to transform these non-design values into architectural concepts. As a result, the design seeks not only to reflect these norms architecturally but also to break away from the conventional rectangular forms typical of hospitals or other common health facilities, instead embracing the natural flow.

Keywords: *cardiovascular outpatients, serat munasiyat jati, pesanggrahan langenharjo, undulating form*

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*Every positive thought is a silent
prayer which will change your life.*

Bryant McGill

01

Design Premise

Cardiovascular diseases (CVDs) are globally-leading causes of death whereas WHO stated that there are approximately 17.9 million individuals passed away from CVDs in the year of 2019, comprising 32% of the total deaths around the world. Among these high statistics, 85% of them are resulted from heart attacks and strokes.

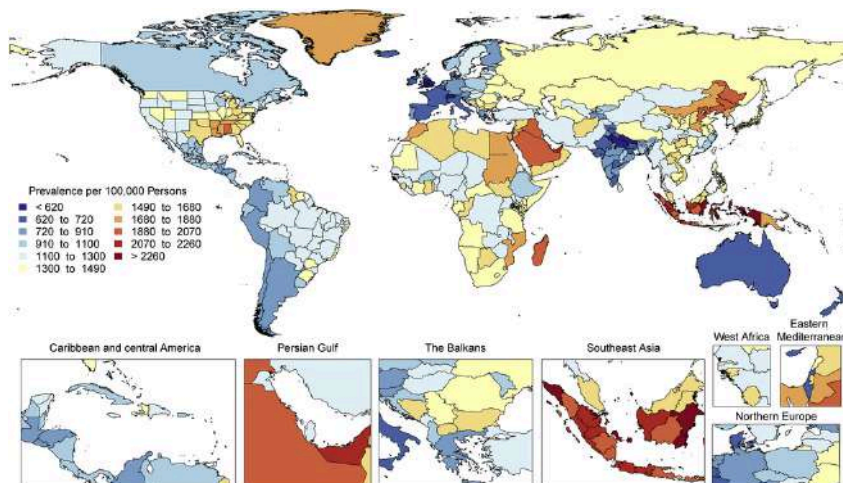


Figure 1.1 CVDs cases around the world
(American College of Cardiology, 2020)

The red color that covers Indonesia indicates the high rate of CVDs, with 1880 until > 2260 cases per 100.000 persons. This results made Indonesia being on the top 5 of the highest number of CVDs, along with China as the first one, India, Russia, and the U.S.

Then, how is it in Indonesia?

World Heart Federation claims Indonesia as a country that had 651,481 deaths from CVDs in 2019.

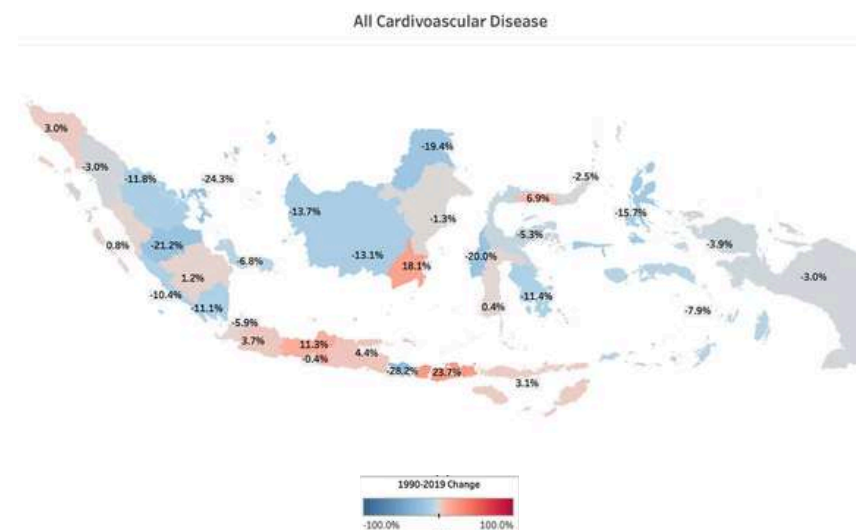


Figure 1.2 CVDs cases changes (1990–2019) in Indonesia
(Muharram et al., 2024)

The three provinces with the highest increasing numbers in 2019, compared to 1990, were West Nusa Tenggara with the highest statistics, 16.8%, South Kalimantan with 12.4%, and Central Java with 8.1%. As a way to mitigate, the even distribution of Cardiologists is possible to be done, especially in those areas that need them the most.

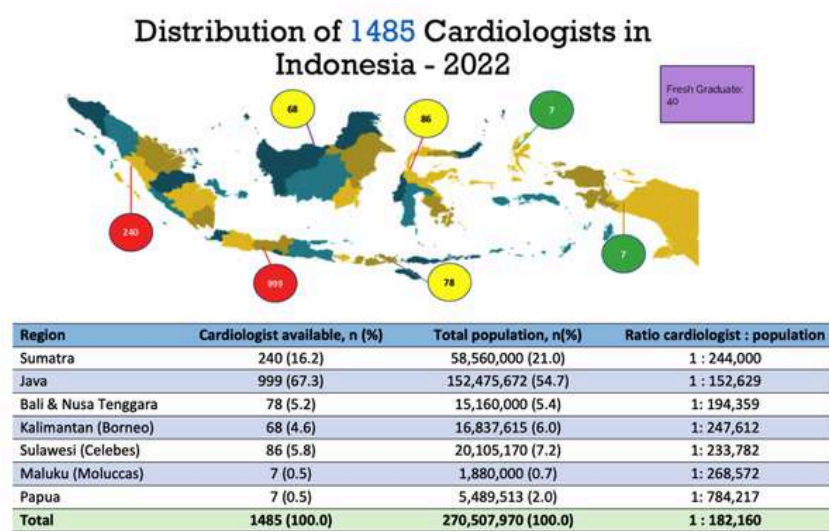


Figure 1.3 Cardiologist distribution in Indonesia (Qanitha, 2022)

As could be seen on the table, the number of cardiologists in top 3 highest provinces with CVDs increasement is not quite even. Central Java which is placed on top 3 has the best ratio of cardiologist and population of 1 : 152,629 compared to Nusa Tenggara and Kalimantan where they have higher rates of CVD cases.

Then, how is it going in Central Java?



Figure 1.4 Number of stroke patients from 2019–2023 (Open Data Kabupaten Sragen, 2023)

Based on the data provided by RSUD dr. Soehadi Prijonegoro Sragen as one of the hospitals in Central Java, it shows that the number of patients went higher in 2023, compared to 2021 and 2022, despite of its best ratio of cardiologists.

Government’s Action

Indonesia, UAE build heart hospital in Central Java's Surakarta

November 28, 2023 12:16 GMT+700

Economic Diplomacy
Indonesia and UAE to Collaborate on Solo Cardiology Hospital Construction
Thursday, 26/October/2023

THE GOVERNMENT OF THE UNITED ARAB EMIRATES
WILL CONSTRUCT EMIRATES-INDONESIA
CARDIOLOGY HOSPITAL IN SOLO

25/10/2023 10:00 AM

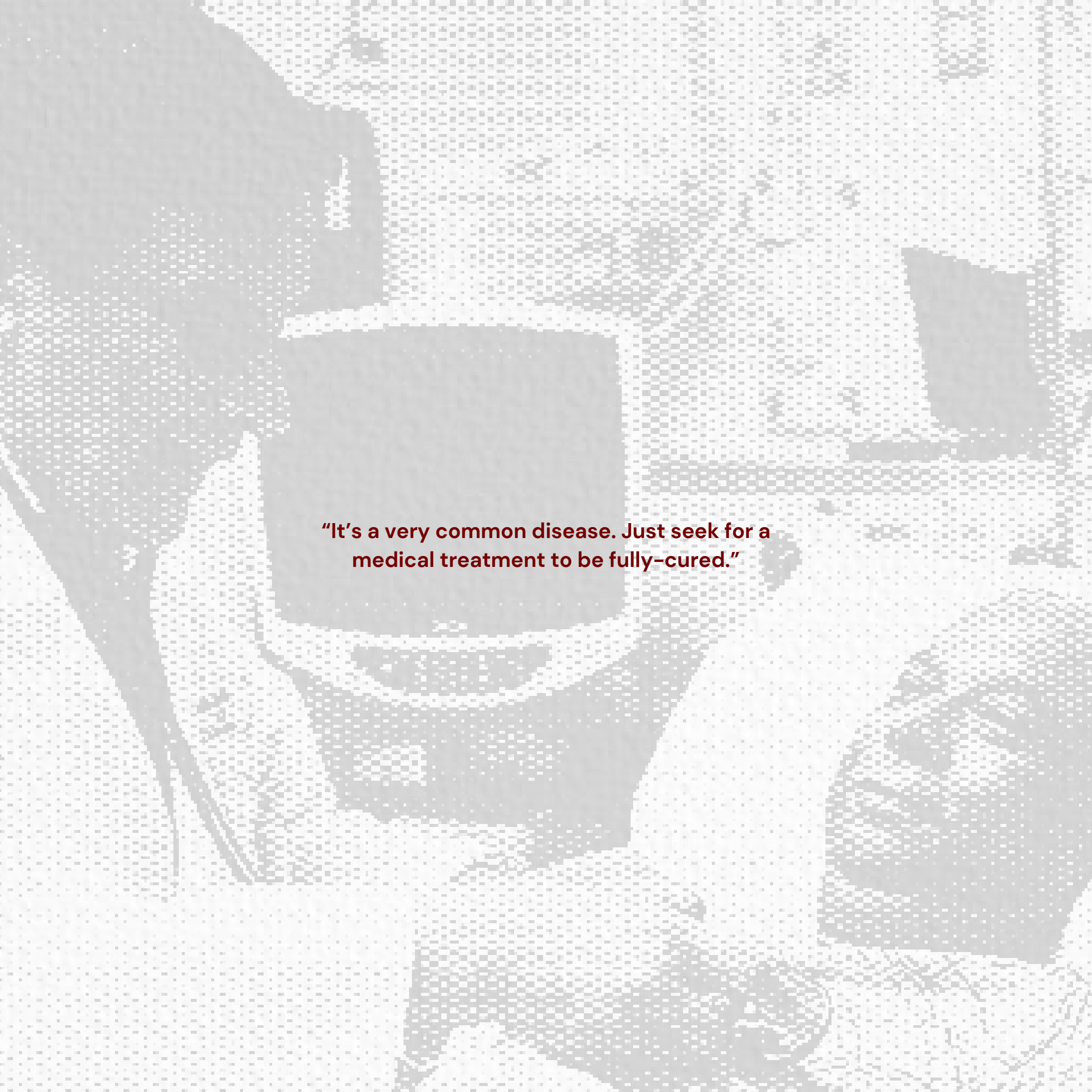
Reflecting on the high rate of CVD cases, the government has called an action. The construction of Emirates Hospital in Solo is one of the Indonesian government's efforts to improve the way healthcare facilities perform the heart disease and stroke treatment with the hope that later on in the future, people can get the best treatment without going abroad.

Cardiovascular Disease: What is it, actually?

Based on WHO, cardiovascular diseases (CVDs) revolve around various conditions that are affecting the heart and blood vessels, such as coronary heart disease, cerebrovascular disease, peripheral arterial disease, rheumatic heart disease, congenital heart disease, and deep vein thrombosis/pulmonary embolism. These conditions can result in acute events like **heart attacks and strokes**, typically triggered by blockages preventing adequate the flow of blood to the heart or brain, often due to fat that is accumulating in blood vessel walls.

The primary causes contributing to heart disease and stroke include an **unhealthy/uncontrollable diet, lack of physical activity, smoking, and alcohol consumption**. These behaviors can lead to escalating blood pressure, high blood sugar levels, increased blood lipid levels, and overweight/obesity in individuals. These things definitely could not be taken as granted, as they may trigger other related complications.





**“It’s a very common disease. Just seek for a
medical treatment to be fully-cured.”**

Howbeit, post-disease complication exists.

Post-cardiovascular disease depression is a common complication that can significantly impact an individual's health and quality of life. The prevalence of depression in patients with cardiovascular disease, for instance coronary heart disease (CHD), is between 20% and 40% (Lichtman et al., 2008).

This shows that the impact of post-cardiovascular disease depression on quality of life is very much significant. Depression can lead to a low quality of life and poorer clinical outcomes (Centers for Disease Control and Prevention, 2022).

Treatment for those people with post-cardiovascular disease depression typically involves a combination of psychological interventions, such as cognitive-behavioral therapy, and medications, such as antidepressants. However, it needs to be underlined that this typical treatment lasts temporarily. Not to mention the possibility of the patients to become drugs dependence.

Apart from the psychological side, there are also physical complications. For example, post-stroke pain, a common condition where the occurrence reaches 10% until 45.8% of the total cases (Pramana, 2022). However, due to cognitive and communication impairment from the patient, this occurrence is often overlooked. Even if the doctor does not actively ask for complaints, this is often kept secret by the patient.

Common types of post-stroke pain include Central Poststroke Pain (CPSP), Complex Regional Pain Syndrome (CRPS), shoulder pain, and so on. In addition to medical assistance, **physical and psychological therapy are very much needed in the recovery process.**

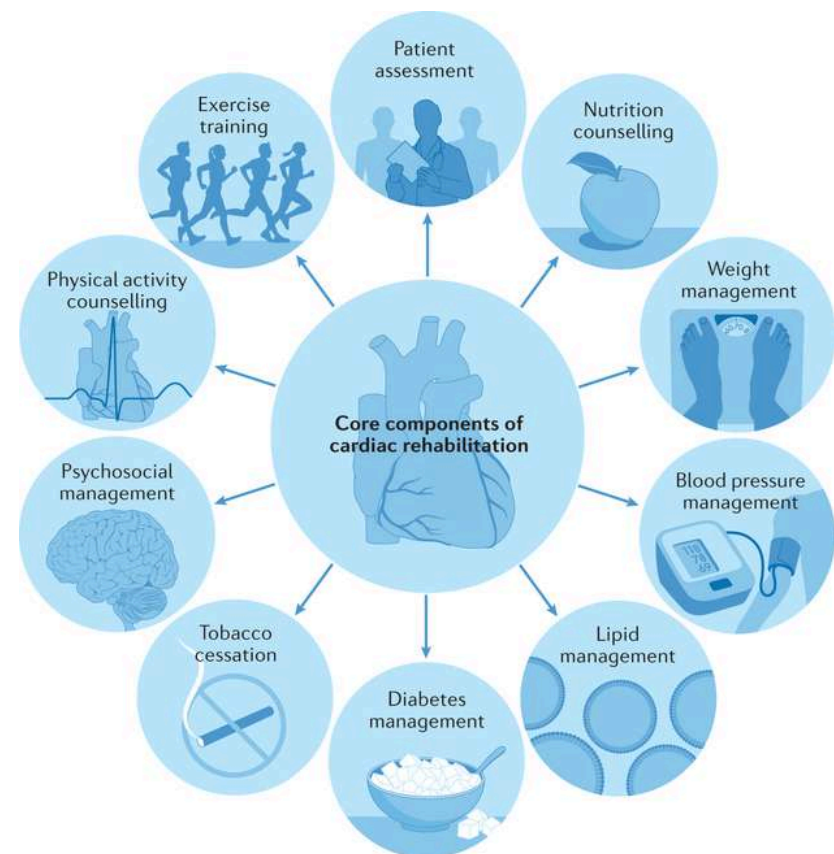


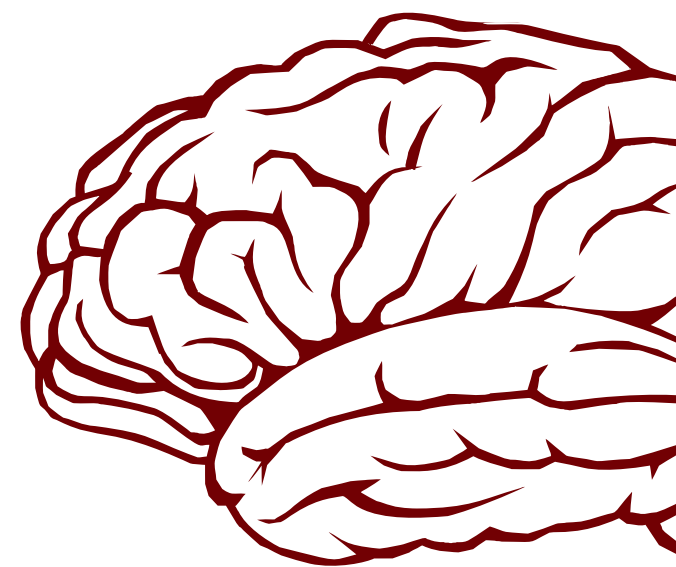
Figure 1.5 Rehabilitation components for cardiovascular patients
(Taylor et al., 2021)

A powerful way to recover: **Self-control.**

Self-control or self-discipline plays a crucial role in recovering from cardiovascular diseases, as it helps individuals adhere to the recommended lifestyle changes and treatment plans. Self-control is essential for managing emotional issues commonly associated with cardiac disease, such as anxiety and depression (Zaree et al., 2023).

Cardiac recovery/rehabilitation programs often incorporate psychological therapies, such as cognitive-behavioral therapy (a talking therapy) and mindfulness techniques, to provide patients with effective/tailored coping mechanisms to manage their emotional issues. These therapies can help reduce anxiety and depression symptoms, enhance emotional well-being, and promote functional capacity and independence.

To improve self-control, individuals can set specific goals, avoid temptations, focus on specific tasks, and remember the consequences of their actions. Seeking professional help, such as from a psychiatrist, can also be beneficial in managing emotional issues and maintaining self-control.

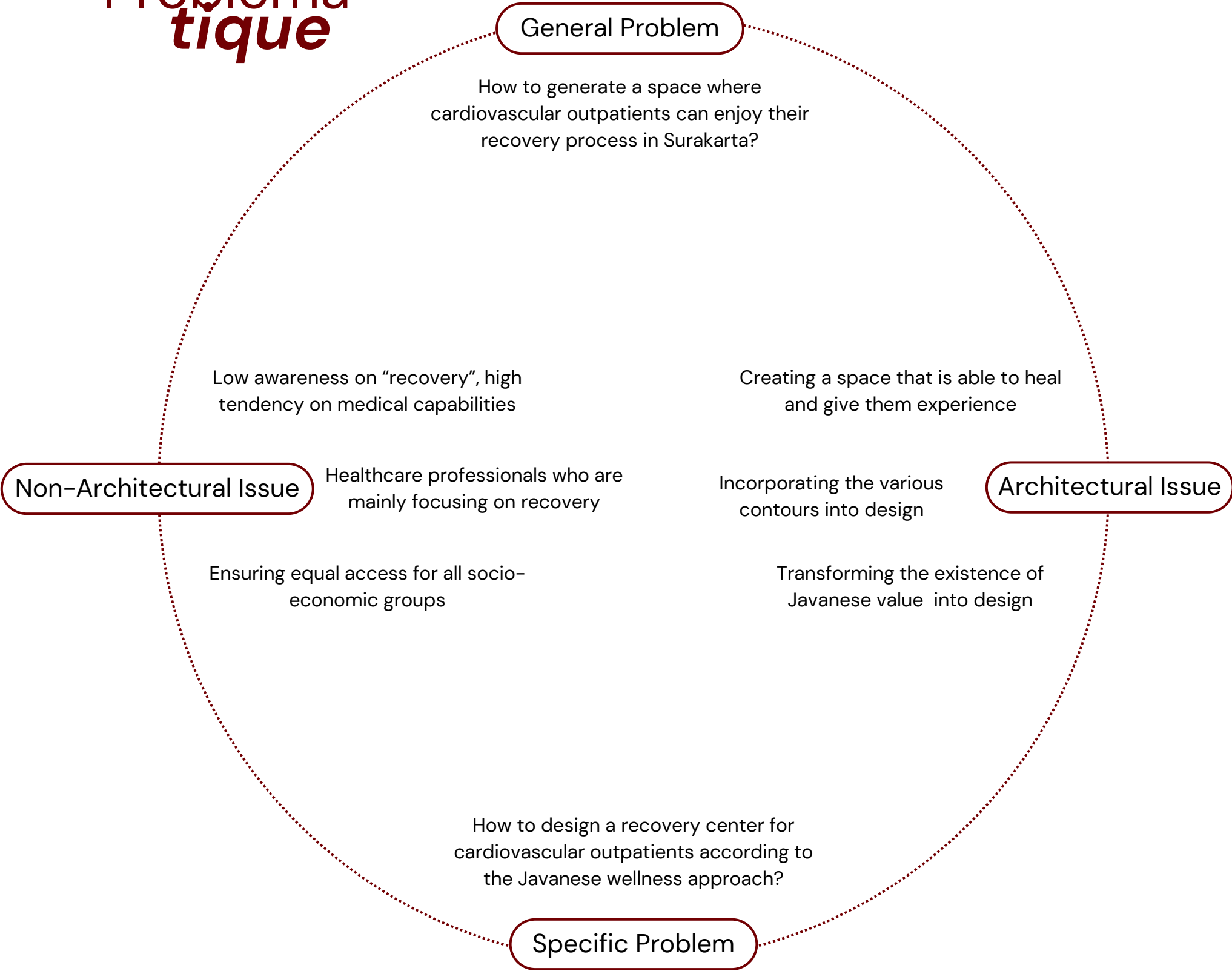


***Recognizing the need is the primary
condition for design.***

Charles Eames

02

Problematic



Design Method

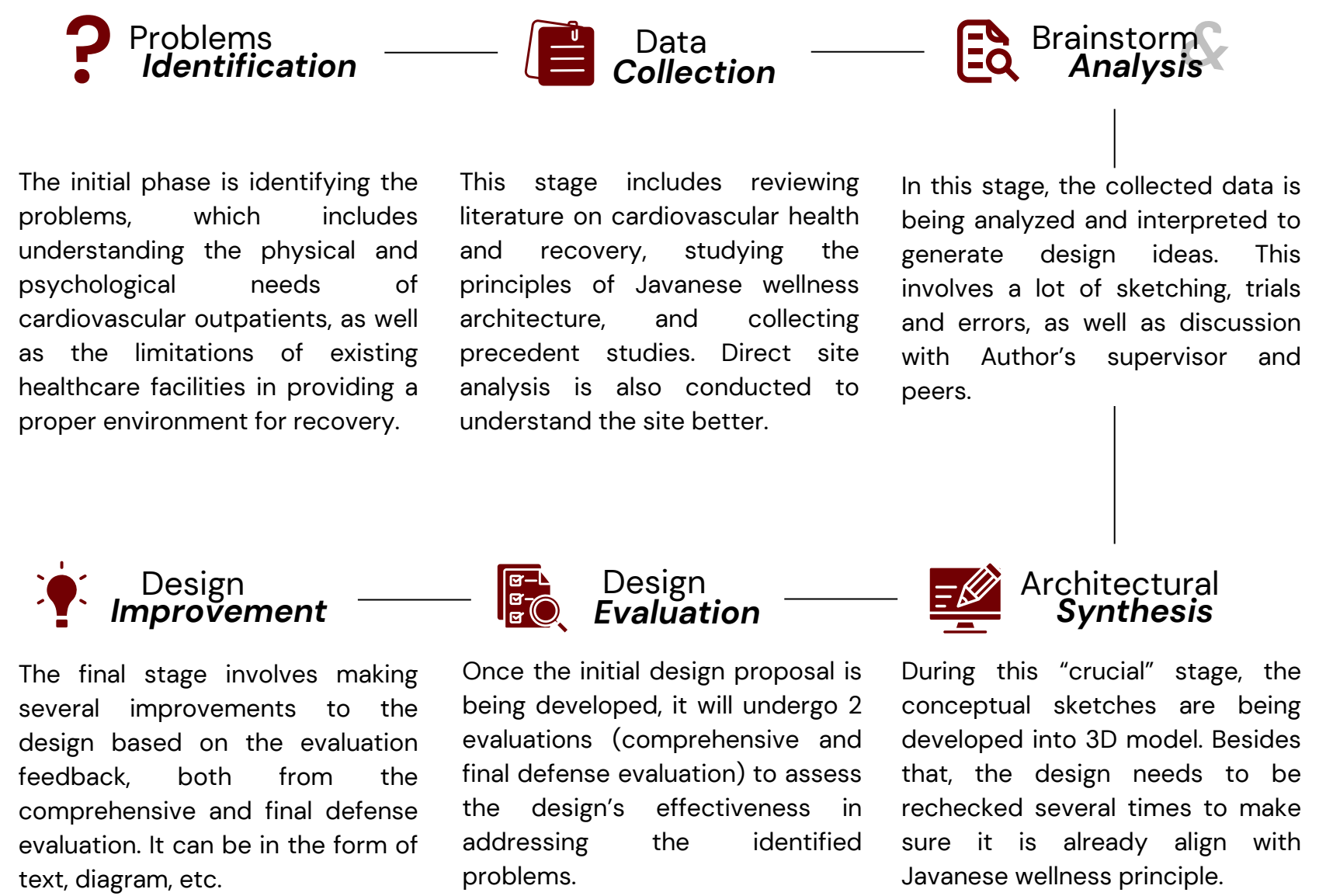


Table 2.1 Design Method
(Illustrated by Author)

The Matrix of Design Thinking	Practical Problem	Formal Problem	Symbolic Problem	Radical Problem
<div>The Regulations</div> <ul style="list-style-type: none">Government Regulation of the Republic of IndonesiaSurakarta City RegulationDecree of the Minister of Health of the Republic of Indonesia	<p>Government Regulation of the Republic of Indonesia Number 15 of 2021 concerning Implementation Regulations of Law Number 6 of 2017 concerning Architects</p> <p>In designing a stroke rehabilitation center, architects must pay attention to functional, safety, and comfort aspects for patients.</p>	<p>APPENDIX III, Surakarta City Regional Regulation No. 8 of 2016 concerning Buildings</p> <p>This regulation emphasizes building regulations, especially for Jalan Kyai Mojo, Jebres, Surakarta. BCR maximum 60%, maximum building height 30 floors (124 meters), minimum GBC 20%, and maximum FAR 1800.</p>	<p>Surakarta City Local Regulation (PERDA) No. 10/2013 on Cultural Heritage Preservation</p> <p>This regulation provides a legal basis for the Surakarta local government to ensure that building designs pay attention to traditional and cultural aspects in order to preserve cultural heritage.</p>	<p>Decree of the Minister of Health of the Republic of Indonesia No. HK.01.07/MENKES/1948/2022 concerning Stroke Service Network Hospitals</p> <p>One of the outcome indicators is the decrease in the rate of increase in stroke deaths to 0.4% or 138.7 deaths per 100,000 population per year.</p>
<div>The Users</div> <ul style="list-style-type: none">Emirates Hospital OutpatientsSpecialists, Therapists, and CaregiversSurakarta Local Community	<p>Developing day-to-day programs as well as protocols for emergency response and coordination with local healthcare providers (Emirates Hospital) to ensure timely access to emergency care for stroke patients.</p>	<p>Developing guidelines for patient education and self-management strategies to empower patients and their families to actively participate in their recovery process.</p>	<p>Organizing support groups, educational workshops, and social activities that foster connections among patients, caregivers, and members of the local community.</p>	<p>All of the users achieve their own inner peace through the programs, which also impacts their own wellness.</p>
<div>The Clients</div> <ul style="list-style-type: none">Emirates HospitalSurakarta City GovernmentMinistry of Health of Indonesia	<p>Addressing logistical challenges such as scheduling appointments, managing patient flow, and coordinating care transitions between the hospital and the recovery center.</p>	<p>Developing contractual arrangements and service agreements with Emirates Hospital and other stakeholders to clarify roles, responsibilities, and accountability mechanisms.</p>	<p>The recovery center serves as a symbol of collaborative efforts, commitment to community health, and leadership in advancing cardiovascular care.</p>	<p>Having a recovery center is an impactful solution to address the growing number of cardiovascular disease and improve health outcomes at the local and national levels.</p>
<div>The Designers</div> <ul style="list-style-type: none">Architect	<p>Inclusive Access</p> <p>Designing the center to be accessible to individuals with mobility impairments or disabilities, incorporating features such as ramps, wide doorways, etc.</p>	<p>Space Arrangement</p> <p>Efficient use of space to accommodate various functions of the recovery center while adhering to building codes and regulations, as well as site's character.</p>	<p>Cultural-Healing Environment</p> <p>Creating an environment that fosters a sense of calm and comfort by incorporating cultural elements that resonate with the local's cultural heritage.</p>	<p>Incorporating Technology</p> <p>Exploring newest technology to design a recovery center that challenges common healthcare architecture paradigms.</p>

Table 2.2 Design Matrix
(Illustrated by Author)

Excellency, Originality, and **Novelty**

Embedding Wellness Center: An Architecture that Promotes Healing and Well-Being

Kathryn Folger // Kennesaw State University // 2023

The author put constraints in mental health, as it gets concerning as the time goes by. In designing a Rehabilitation Center, she emphasized the importance of de-materialization and an anti-object approach which underscore a commitment to wellness, as well as promoting balance and safety.

Similar typology, same approach

Design of Children's Cancer Support Center in Ungaran with Healing Environment Application

Salwa Fathiya Sabrina // Universitas Islam Indonesia // 2020

Her work highlight the importance of hospice care for children with cancer and its different needs of pediatric patients in comparison to adults. It underscores the necessity of creating a supportive environment that could address physical, emotional, and spiritual needs to enhance the quality of patients' life.

Similar typology, different approach

Neuro-Architecture for New Psychiatric Ward in Tampan Psychiatric Hospital Pekanbaru

Abdul Razzak // Universitas Islam Indonesia // 2021

Departing from an inadequate number of mental health services, the author emphasizes the importance of implementing stress-reducing design features to mitigate patients' aggression and improve their well-beings, based on neuroscience research.

Similar typology, different approach

***The future of architecture
is culture.***

Philip Johnson

03



Surakarta, the Spirit of Java

As a country with diversity, Indonesia upholds the preservation of local culture along with its potentials. For instance, in Solo or Surakarta, where Javanese culture is being sustained as the city's identity, not only in physical forms but also in the way the people behave (Primasasti, 2022).

One important part of Surakarta's culture is its spiritual traditions, which blend Javanese mysticism and folklore. For instance, Serat Munasiat Jati is a Javanese manuscript that talks about these mystical aspects of Javanese beliefs. It explores things like the nature of life, spirituality, and how everything is connected. It's like a guidebook for those who want to understand life from a Javanese point of view. This kind of preservation shapes rituals, customs, and daily life, keeping the region's spiritual heritage alive and respected.

Thus, Surakarta is also called as the Spirit of Java, as they wanted to be known as the center of Javanese cultural development.



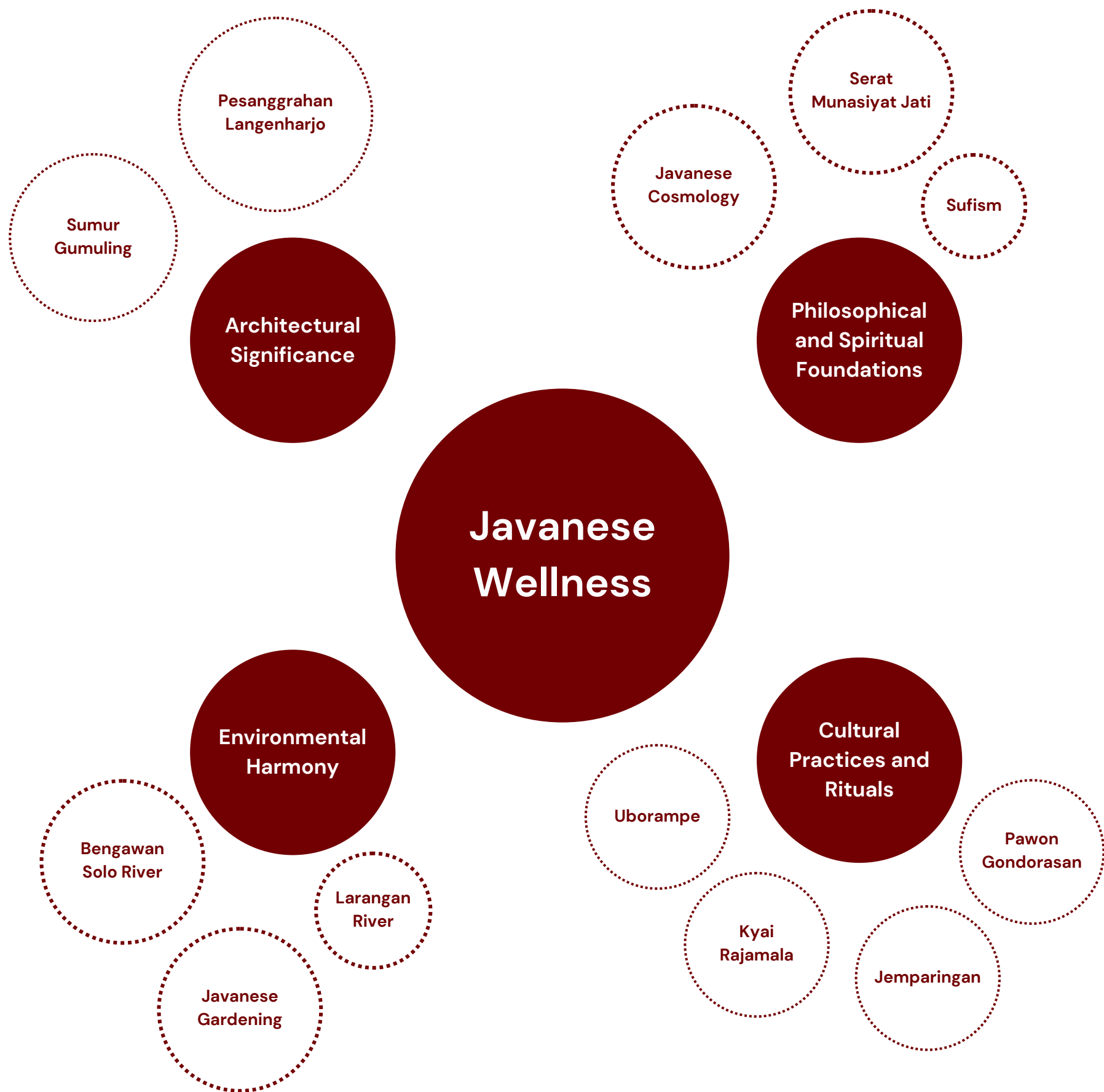
Figure 3.1 Kraton Kasunanan Surakarta
(Surakarta City Government, 2016)

“

*wong Jawa nggone rasa,
padha gulagening kalbu,
ing sasmita amrih lanthip,
kuwowo nahan hawa,
kinemat momothing driya*

”

Start with a feeling or sense, cultivated with the whole mind
that pays attention to the inner voice, in order to grasp the
meaning and values, accompanied by clear-headedness



Javanese Wellness:

Architectural Significance



Figure 3.2 Pesanggrahan Langenharjo
(Ministry of Education and Culture, 2018)

Finding Peace in ***Pesanggrahan Langenharjo***

Pesanggrahan Langenharjo is an old building which was built by Paku Buwono X, a king from Keraton Surakarta Hadiningrat from 1893 to 1939. This place is a physical, mental, and spiritual rest house for the kings and nobles that is usually located in an area with serene and calming atmosphere (Badriyah, 2018). The architecture of this place is closely related to how a visual cultural artifact becomes a result of the past rulers' creativity who's oriented to the outlook on life.

in order to achieve
an *inner peace*,



Figure 3.3 Activities at Pesanggrahan
(Collaged by Author)

they **meditate**. they **learn**. they do **music**. they interact with **water**. they **walk around** the courtyards while appreciating the nature.



Legend

- | | | |
|-----------------|-----------------------|---------------------|
| 1) Kuncungan | 5) Dalem Tengah/Ageng | 9) Sanggar Pamujan |
| 2) Probosono | 6) Pungkuran | 10) Bath House |
| 3) Panti Pinoto | 7) Kasatrian | 11) Swimming Pool |
| 4) Panti Tamu | 8) Keputren | 12) & 13) Courtyard |

Figure 3.4 Situation Plan Sketch of Pesanggrahan
(Redrew by Author)

1 Kuncungan

This front-est area acts as a checkpoint or access control to ensure that the people entering the Pesanggrahan are those who are authorized or who have an official interest in it.

2 Probosono

Located at the front, it serves as a place to welcome honored guests. This place is the most maintained compared to other parts of Pesanggrahan Langenharjo because it is most often used as a place to sit/gather.

3 Panti Pinoto

This place serves as a kitchen and is equipped with a *sumur* or well. It symbolizes the majesty of the *abdi dalem* in preparing meals for the guests.

4 Panti Tamu

Located in the north of Probosono's front Pendapa, it shows the openness and sincerity of spirit in receiving important state guests.

5 Dalem Tengah/Ageng

This place is the center of state of nation activities. Above it is another room called Sangga Buwana which functions as a place of meditation used by the King when he wants to spiritually contact Nyi Roro Kidul.

6 Pungkuran

It is a closed room for holding limited meetings of the Kraton family, a symbol of closed intimacy as well as a symbol of recognition of God.

7 Kasatrian

This room is reserved for the King's son or closest relative of the palace, symbolizing personal glory.

8 Keputren

This room is reserved for the King's daughter or closest relative of the palace, symbolizing personal glory.

9 Sanggar Pamujan

It was used not only by the King but also for the King's sons who needed it. Until now this meditation room has been closed to the public, but is still can be entered by descendants of Kasunanan Surakarta.

10 Bath House

This bathhouse is built at the back and is blocked with a fence. The water used contains high levels of sulphur and is used as a means of treating skin diseases.

11 Swimming Pool

Located adjacent to the bath house, Pesanggrahan Langenharjo also provides a swimming pool as another way to relax.

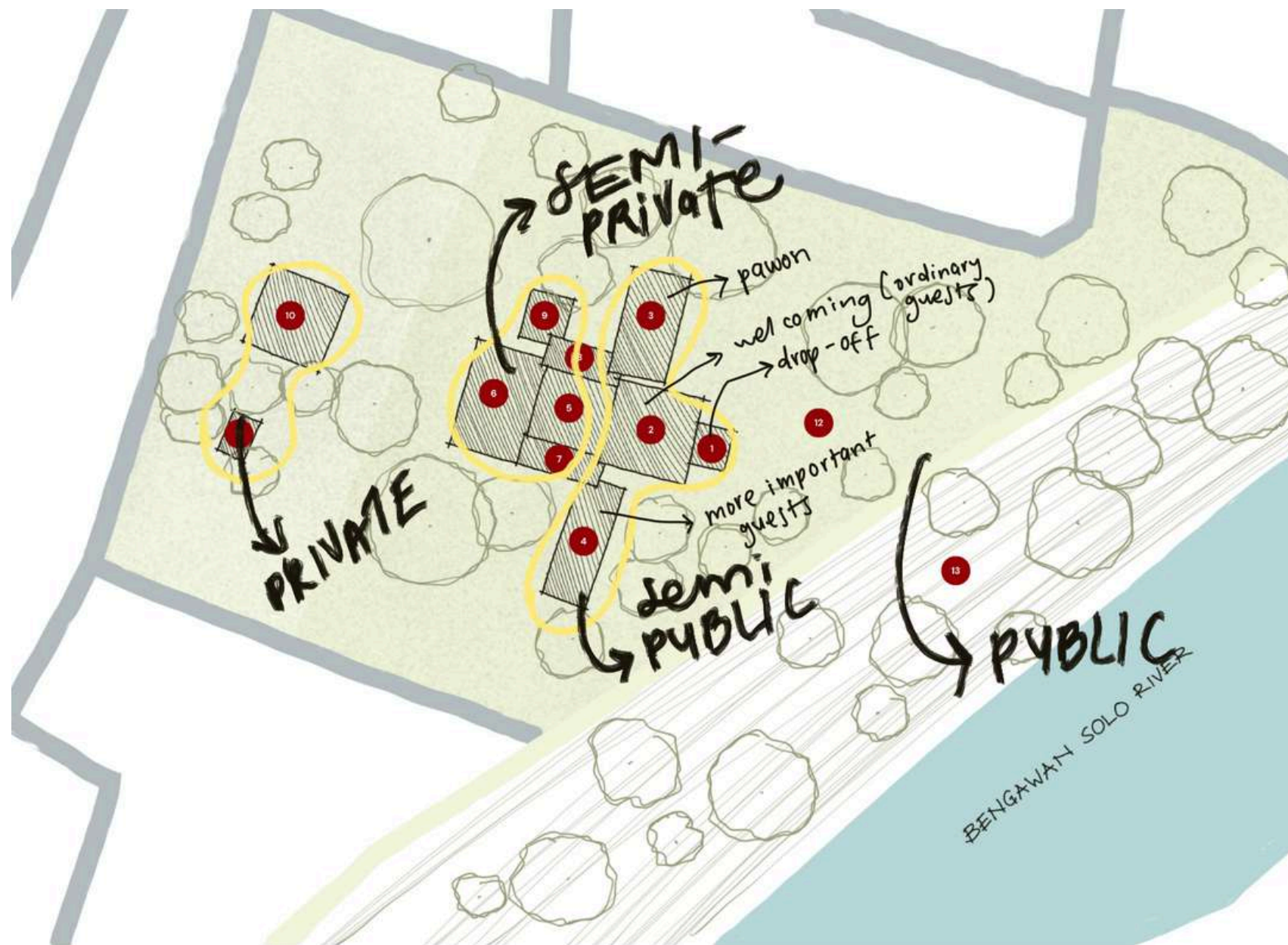
12 Courtyard (Inner)

This *plataran* is located inside the gate, serving as a place to meet guests informally and openly. This all symbolizes a sense of open-ness between the the people and the king.

13 Courtyard (Outer)

This *plataran* symbolizes the beginning of the journey for those who are facing the King. On this plataran there is a "ringin kurung sakembaran" or a pair of *beringin* or banyan trees which symbolizes the King's protection of his people and also indicates that the place is peaceful.

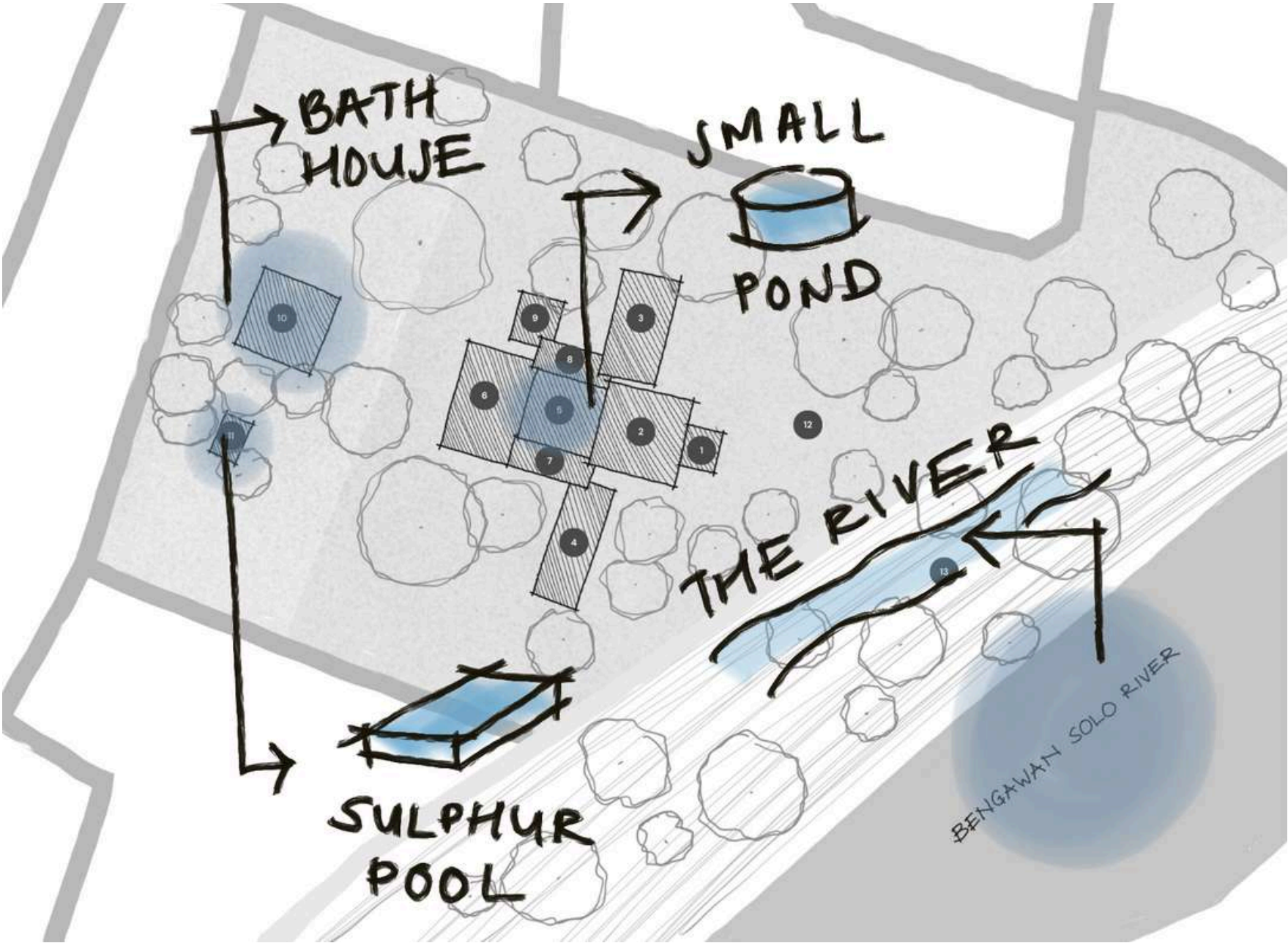
(Aditama, 2003)



Legend

- | | | |
|-----------------|-----------------------|---------------------|
| 1) Kuncungan | 5) Dalem Tengah/Ageng | 9) Sanggar Pamujan |
| 2) Probosono | 6) Pungkuran | 10) Bath House |
| 3) Panti Pinoto | 7) Kasatrian | 11) Swimming Pool |
| 4) Panti Tamu | 8) Keputren | 12) & 13) Courtyard |

Figure 3.5 Space Arrangement Sketch of Pesanggrahan
(Annotated by Author)

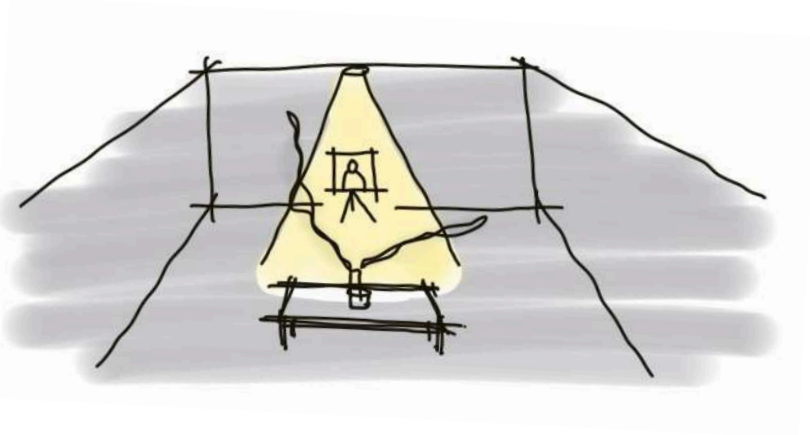


Identifying Pesanggrahan’s Water Bodies

Water holds an crucial role in maintaining the values of Pesanggrahan as a whole. Not only as a meditate, water is also being used as a way to remind us to appreciate the nature (through the river) as well as the way God is able to put sulphur in it that can cure people’s skin diseases. The water bodies are located in 3 points, namely front part, middle, and back which are being arranged accordingly to their own levels of privacy.

Figure 3.6 Body of Water Sketch of Pesanggrahan
(Annotated by Author)

the **meditation spaces**,
around the pesanggrahan.

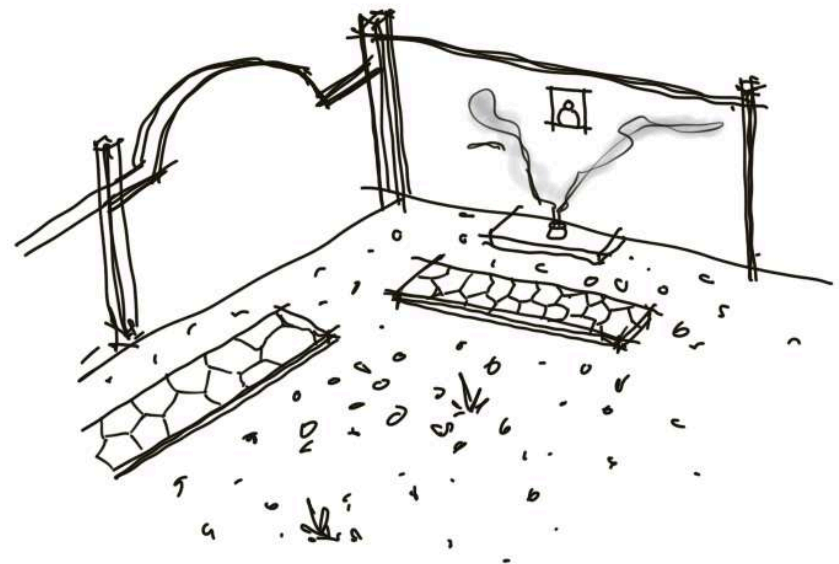
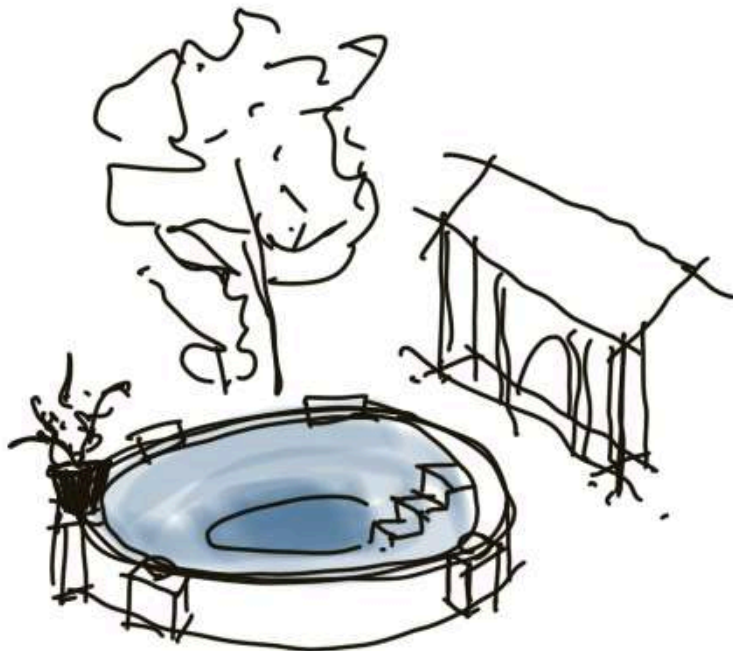


The Indoor

Dark room with warm light that supports the *sesajen* on the table, the sultan painting, and the incense smoke that is diffused all across the room.

The Semi-Outdoor

A space with half-walls, gravel land, and concrete block pathways.



Meditating in The Water

Located at Dalem Tengah, people can also meditate by soaking themselves into the water, surrounded by trees.

Figure 3.7 Pesanggrahan's Meditation Space
(Illustrated by Author)

the *growing trees*,
around the plataran.

Beringin/Banyan Tree

Symbolizes the King's protection of his people and also indicates that the place is peaceful.

Sulastri Tree

Its leaves are believed to bring harmony in a relationship.

Keben Tree

As a poison repellent, and the fruit is used as a remedy for eczema and stomachache.

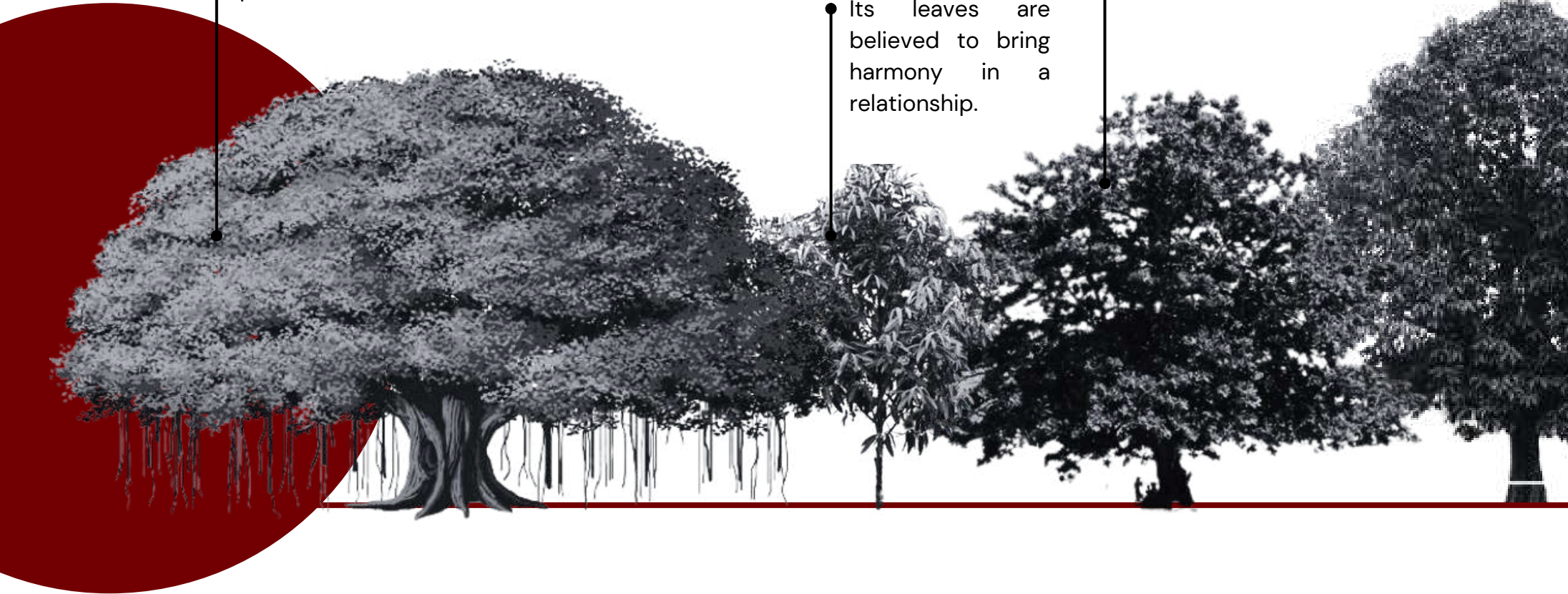


Figure 3.8 Trees at Pesanggrahan
(Collaged by Author)

Jambu Dersana Tree

Brings out the affectionate nature of others.

Mango Tree (*Pelem*)

Pelem means *pada gelem* or equally willing, reflecting togetherness.

Belimbing Wuluh Tree

Makes us easier to get divine revelation or guidance.

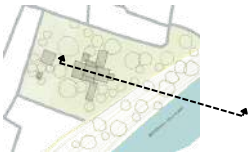
Gayam Tree

As a water-retaining filter.

Waru Tree

Has the power to weaken enemy forces when planted around the fort.





The arrangement of the vegetations at the riverside is giving an impression of intriguing-disguised river, inviting the people to look at what's behind.

Figure 3.9 Section Sketch of Pesanggrahan
(Illustrated by Author)

Figure 3.10 Pesanggrahan Riverside
(Kisah Tanah Jawa, 2021)

The Underground Circular Wonders,

Sumur Gumuling



Figure 3.11 Sumur Gumuling
(Wikipedia, 2016)

Sumur Gumuling is an underground mosque located in Yogyakarta, Indonesia. It was built during the time of the Kasultanan Yogyakarta in the mid-18th century. The mosque has a central courtyard with a large circular well in the middle, which is where it gets its name, "Sumur" meaning well and "Gumuling" meaning to roll or rotate. Surrounding the well, there are four staircases that lead up to the second level, forming a cross shape when viewed from above.

One of the most interesting features of Sumur Gumuling is its acoustics. The circular shape and the design of the walls create a special echo effect. This helped the worshippers hear the prayers clearly, even when they were in different parts of the mosque. Since the mosque is located underground, this adds to its mysterious and cool environment. Natural light enters through small openings, creating a dim and calming atmosphere. Therefore, no wonder if this place became a perfect spot for quiet reflection/contemplation and prayer.

Sumur Gumuling is also upholding a crucial value related to its underground location, whereas it is very beneficial for the worshippers when the war happened--as they can still do their worships/meditations. In today's era, this could be seen as a way to take a break from the noisy world. By going underground, we can be more focus on ourselves and God--letting the universe take control of our life for some moment.

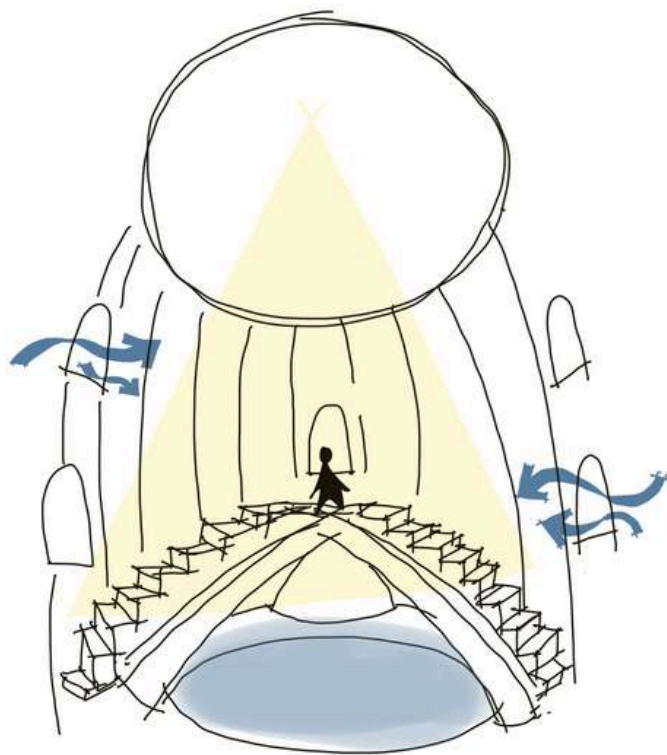


Figure 3.12 Sketch of Sumur Gumuling (Illustrated by Author)

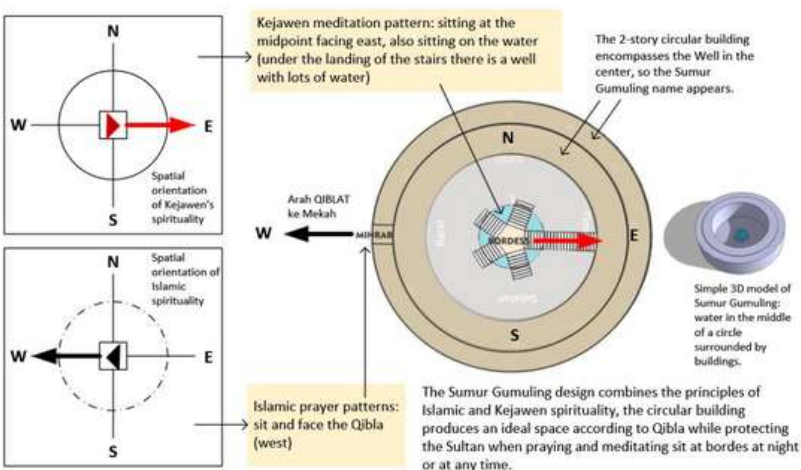
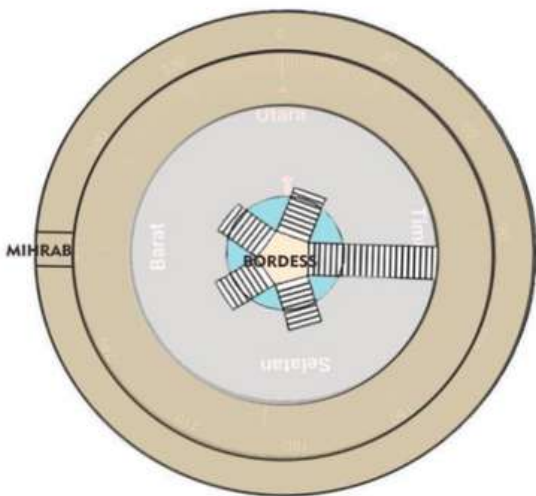


Figure 3.13 Sumur Gumuling Concept (Savitri, 2020)

Doing a meditation at night is one of the habits that the King practiced at that time and it is reflected on the design of Sumur Gumuling. It utilized geometrical shape, integrating the spatial pattern of the mosque because Sultan himself is performing Islamic thoughts and prayers. Then, it is being combined with what Kejawen/Javanese value holds, reflected by the existence of "bordess" or landing that is used for meditation space. The combination could be seen from how the Qibla during the Islamic prayer and Javanese spiritual practice are being integrated into the same space. Performing Islamic prayers is facing to the west meanwhile based on *Kejawen*, meditation is facing to the east.

Javanese Wellness:

***Philosophical & Spiritual
Foundations***

Serat *Munasiyat Jati*

Serat Munasiyat Jati is a classical Javanese mystical text, commonly known as a *kitab tasawuf* (sufism) that discusses moral teachings, ethical conduct, and spiritual practices. It emphasizes the importance of **inner purification** and **self-control** which are revolving around health teachings and medical concepts. It is directly translated as *wasiat wasiat yang sejati* or the true wills/testaments of how individuals can achieve the perfection of life (Sudardi, 2021).

What is this manuscript talking about?

You Are What You Eat

Healthiness can be achieved by paying attention to what we eat, drink, and consume. For instance, people who's avoid rice, meat, and salt make them healthy and disease-free. Another examples, acidic foods loose muscles and sweet food makes the body unhealthy.

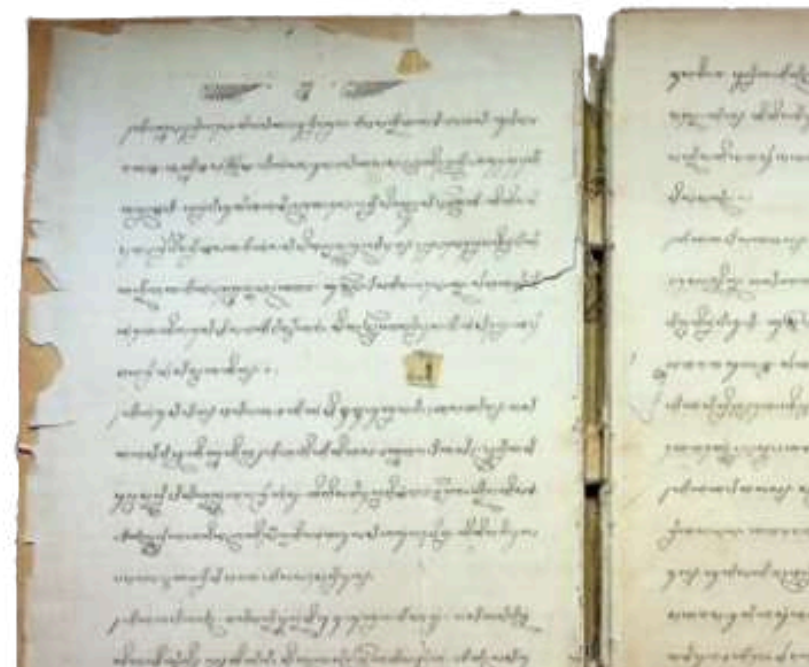
It Is Not Good to Have Too Much of Anything

Just like the phrase "work-life balance", it is also applicable to human's health. We can eat, sleep, exercise, socialize, but not too much. Everything must be in a balance measure.

Certain Days Can Cause Certain Diseases

- Sunday: water-related diseases
- Monday: diseases come from foods
- Tuesday: diseases come from root/tuber foods
- Wednesday: diseases come from leaves/leafy vegetables
- Thursday: diseases can be caused by anything
- Friday: diseases caused by quietness and late nights
- Saturday: diseases caused by the universe/the whole body

Figure 3.14 Serat Munasiyat Jati
(Indonesian National Library, 2022)



The Art of *Sufism*

Tasawuf, also known as Sufism, is a teaching on how to purify the soul, clarify morals, and build the inner and outer being in order to obtain eternal happiness. **It's all about getting closer to God and practice modesty.** The people who believe in this teaching are called **sufis**.

There are several principles that being performed by Sufis in implementing Sufism teaching as a way to achieve their inner peace.

Dzikr

Sufis believe that Dzikr is the most powerful action to purify our heart. They divide Dzikr into 4 types:

- Dzikr with loud voice
- Dzikr fi'ly (while doing social activities)
- Breathing Dzikr
- Dzikr of Affirmation

Fikr/Meditate

They also practice meditation in order to overcome overthinking.

Shumt/Enjoying the Silence

As a way to calm the nerves, especially our heart and brain.

Khalwat

Be alone/quiet by ourselves.



Figure 3.15 Sufi Dance
(The Washington Post, 2019)

Sufism is also closely related to their very well-known “spinning around” dance. This dance has valued as a movement of the human soul in approaching the Creator. Sufi dancers are part of the practice of releasing all worldly anxiety, which is a psychological condition that is being shaken and has certain emotions. Therefore, this dance needs to be done by someone who is physically and emotionally strong.

They dance to take a break from the worldly noises and focus more on themselves and God.

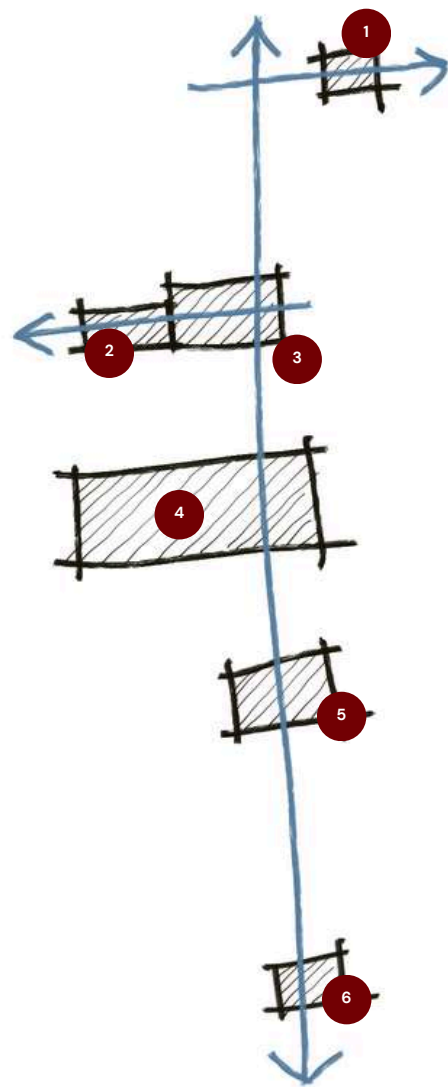


Figure 3.16 Catur Gatra Tunggal Axis
(Illustrated by Author)

Javanese Cosmology

Catur Gatra Tunggal

Catur Gatra Tunggal means four lines (referring to the north, south, east, and west directions) that center on one point, the Kraton. To the west is the Great Mosque, to the east is the market, and to the north and south are the squares or *alun-alun*.

- 1) Pasar/Market
- 2) Masjid Agung/Great Mosque
- 3) Alun-Alun Utara/The North Square
- 4) Kraton Surakarta/Palace
- 5) Alun-Alun Selatan/The South Square
- 6) Pesanggrahan Langenharjo

Kiblat Papat Lima Pancer

This orientation is believed to be the harmony between the human world and the universe, where the north to south cardinal axis is spiritually sacred and the east to west is profane.

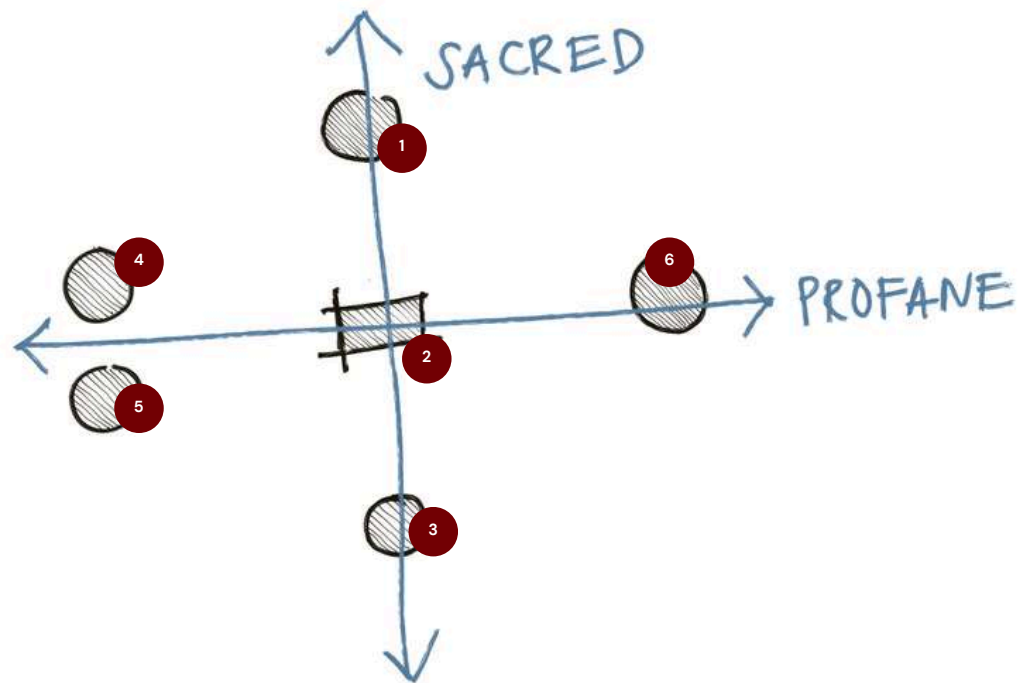


Figure 3.17 Kiblat Papat Lima Pancer Axis
(Illustrated by Author)

- 1) Alas Kendrowahono
- 2) Kraton Surakarta
- 3) Southern Sea
- 4) Merbabu Mountain
- 5) Merapi Mountain
- 6) Lawu Mountain

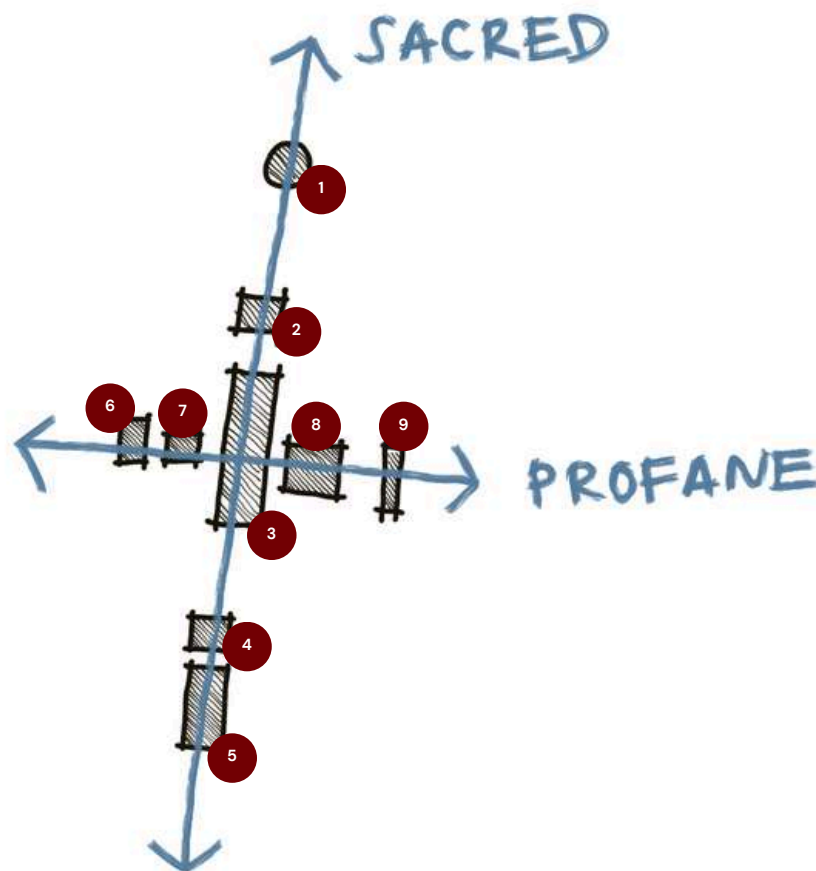


Figure 3.18 Tamansari Axis
(Illustrated by Author)

- 1) Sumur Gumuling
- 2) Pongangan Peksi Beri
- 3) Pasiraman Umbul Binangun
- 4) Pasarean Ledoksari
- 5) Gedhong Blawong
- 6) Gapura Agung
- 7) Gedhong Lopak-Lopak
- 8) Gapura Panggung
- 9) Gedhong Temanten & Gedhong Pangunjukan

Kiblat Papat Lima Pancer: Tamansari

The sacred and profane aspects also could be seen from Tamansari, a historical place near Kraton Jogja which was known as the Sultan's garden. At the most upper part (north) there's Sumur Gumuling, a worship and meditation place for Sultan. Meanwhile Pongangan Peksi Beri functioned as a parking area for Sultan's boat in the past and Pasiraman Umbul Binangun is for his bathing activity. At the lower part (south), there are Pasarean Ledoksari or Sultan's relaxing area and Gedhong Blawong which is used to prepare the meals for Sultan and his family. Horizontally, there are Gapura Agung as the main entrance, Gedhong Lopak-Lopak as an access control area, Gapura Panggung or a gate that has a stage, and Gedhong Temanten or the Abdi Dalem's area. The relationship between the masses from the north to the south are sacred meanwhile the ones from the west to the east are considered as profane.

Javanese Wellness:

Environmental Harmony

along the
Bengawan
Solo river

Bengawan Solo River is an approximately 600km river in Java, making it called as the longest one. It is an important watercourse that flows through central and eastern Java, passing through major cities such as Surakarta (known locally as Solo) and releasing into the Java Sea northwest of Surabaya. The river's basin covers 16,100 km² and has an average discharge of 684 m³/s.

The river is surrounded by mountains and has been a significant part of the Javanese historical value, whereas its drainage basin is an important agricultural area, dominated by paddy fields. The river also has played a crucial role in transporting fertile volcanic soil to the lower part, creating a very heathy soil for farming.

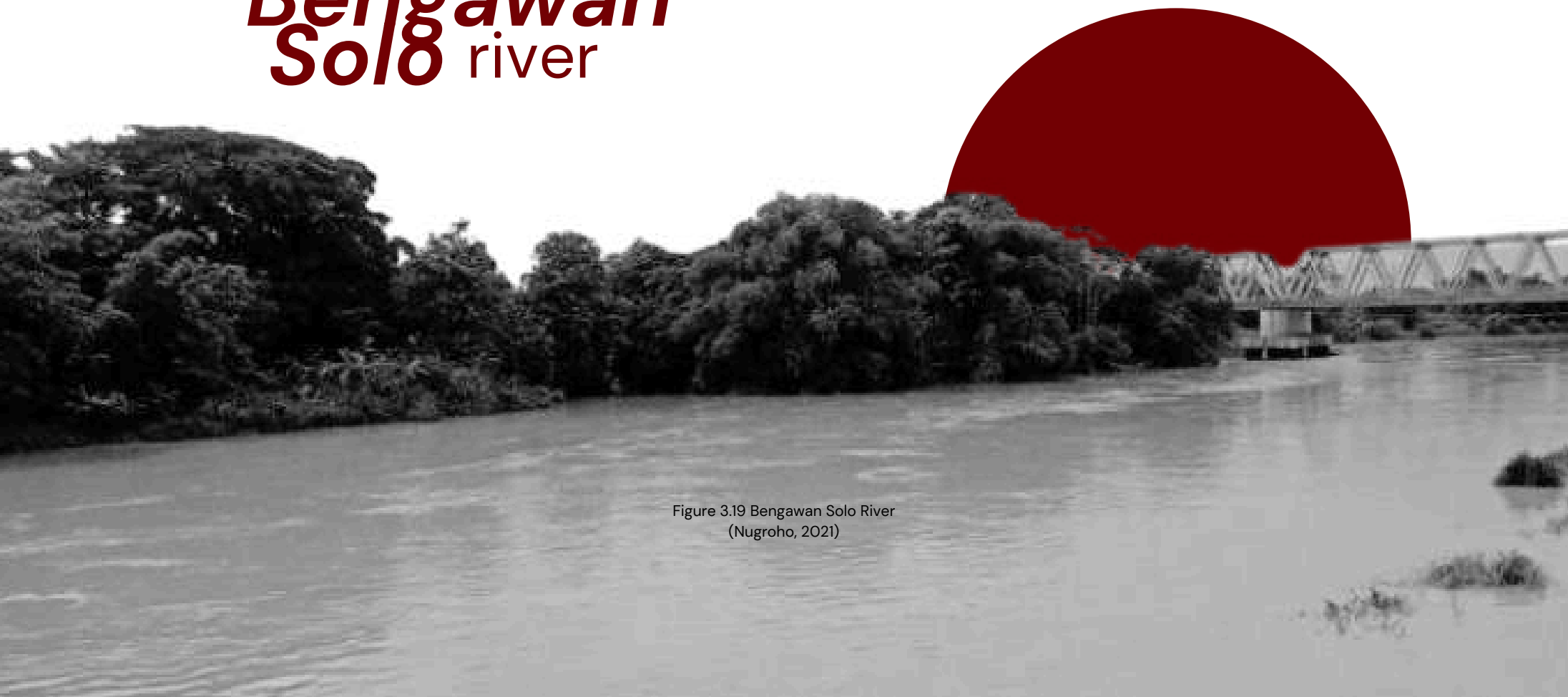


Figure 3.19 Bengawan Solo River
(Nugroho, 2021)

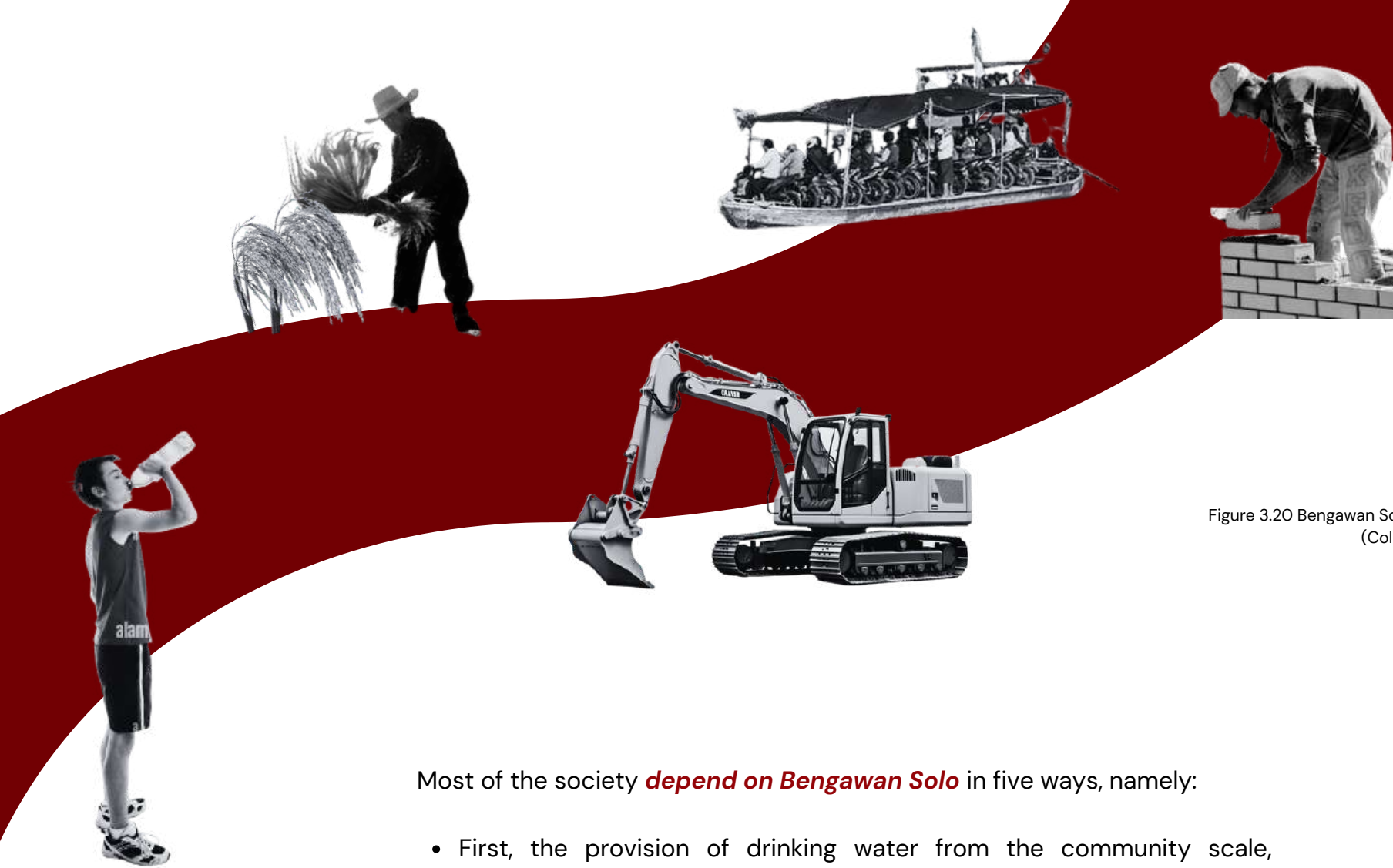


Figure 3.20 Bengawan Solo River Benefits
(Collaged by Author)

Most of the society *depend on Bengawan Solo* in five ways, namely:

- First, the provision of drinking water from the community scale, regional drinking water companies, to industry by PT Petrokimia Gresik.
- Second, water supply for agriculture, ranging from small scale in the form of simple dams and pompanization to giant dams such as Gajah Mungkur Reservoir in Wonogiri, Colo Dam in Sukoharjo, or Gerak Kendal Dam in Lamongan.
- Third, sand mining activities from those that are manually cultivated to massively utilized using running suction machines.
- Fourth, transportation activities by boat.
- Fifth, household industry activities in the form of bricks.

smaller rivers with big roles;
kali anyar and kali larangan

Kali Anyar and Kali Larangan are two streams that have important connections with the Bengawan Solo River. Kali Anyar, as a tributary, flows directly into the Bengawan Solo River and plays an important role in the drainage system of the Surakarta area. Meanwhile, the Kali Larangan, which has been closed, used to function as a flood control, along with the Kali Anyar.

Although Kali Larangan is no longer active, its history remains closely tied to the Bengawan Solo River and the river system in Surakarta.

Due to its cleanliness, Kali Larangan had a crucial function for Kraton Kasunanan Surakarta and Kraton Yogyakarta. The name itself, “Larangan” or prohibition means that the river was prohibited to be touched by the society so the cleanliness was maintained.

In Surakarta, Kali Larangan is a stream that originates from Umbul Pengging in Banyudono, Boyolali (Nuky, 2022). Meanwhile in Yogyakarta, it flows from the lower side of Winongo River. In both regions, they have the same purpose: to irrigate the palace. Besides that, the water also drains the blumbang (pond) of the Gedhe Kauman Mosque, which is used for ablution before entering the mosque. The stream was also mainly used for Tamansari’s water supply (Mantra, 2020).

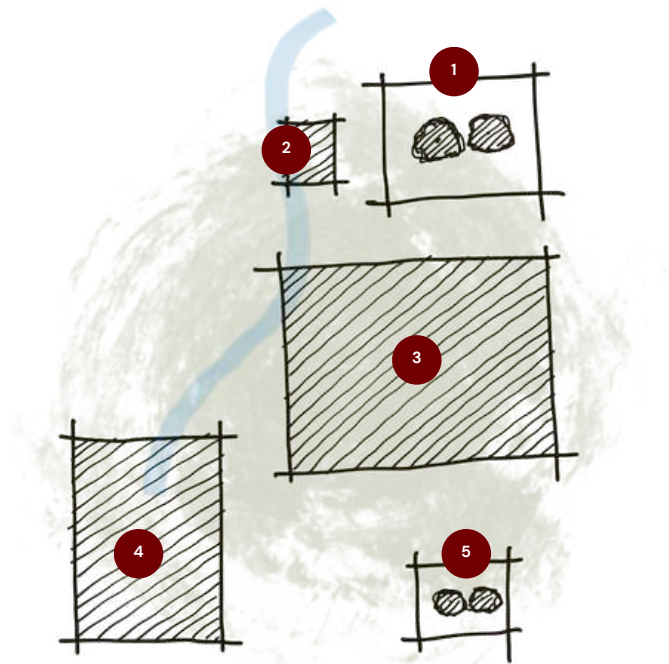


Figure 3.21 Kali Larangan Flow
(Redrew by Author)

- Legend**
- 1) Alun-Alun Lor (North Square)
 - 2) Gedhe Kauman Mosque
 - 3) Kraton Yogyakarta
 - 4) Tamansari Water Castle
 - 5) Alun-Alun Kidul (South Square)



Figure 3.22 Kali Larangan
(Mantra, 2020)

Javanese Gardening

Javanese gardening focuses on creating a balanced and serene space using natural elements. The garden design promotes tranquility and encourages a connection with nature, providing a peaceful area for **relaxation and contemplation**. Another unique thing about Javanese gardening is that they do believe in numerous values, such as the things shown on some diagrams below.

HARI TANAM	PON 7	WAGE 4	KLIWON 8	WAGE 5	PAHING 9
MINGGU 5	BUAH 12	AKAR 9	AKAR 13	POHON 10	POHON 14
SENIN 4	DAUN 11	BUAH 8	BUAH 12	AKAR 9	AKAR 13
SELASA 3	POHON 14	DAUN 7	DAUN 11	BUAH 8	BUAH 12
RABU 7	POHON 14	DAUN 11	DAUN 15	BUAH 12	BUAH 16
KAMIS 8	DAUN 15	BUAH 12	BUAH 16	AKAR 13	AKAR 17
JUMAT 6	AKAR 13	POHON 10	POHON 14	DAUN 11	DAUN 15
SABTU 9	BUAH 16	AKAR 13	AKAR 17	POHON 14	POHON 18

Figure 3.23 Javanese Gardening Schedule
(Kendal City Government, 2022)

Akar

Sweet potato, ginger, and turmeric

Pohon

Teak, acacia, sengon, bamboo

Daun

Basil, lettuce, spinach

Buah

Tomat, mangga, pepaya,

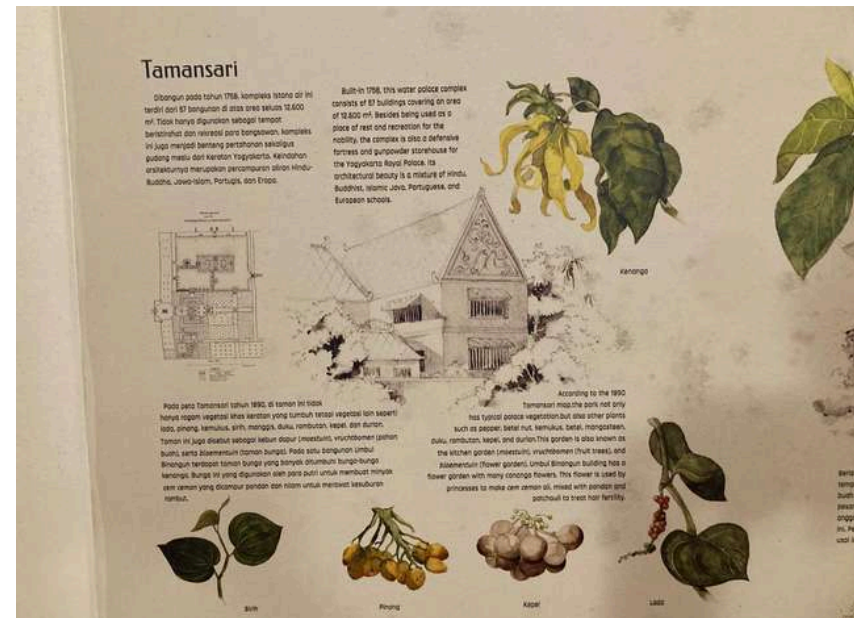


Figure 3.24 Tamansari's Royal Garden
(Documented by Author, 2024)

For instance, Tamansari in Yogyakarta, which also called as the Water Castle, is a historic garden that served as a royal garden for the Keraton Yogyakarta. Built in the mid-18th century, it features a combination of pools, waterways, and pavilions. It has its own characteristics in terms of plantations that are being planted around the area, which are defining a "garden" into these 3 main values:

Kebun Dapur

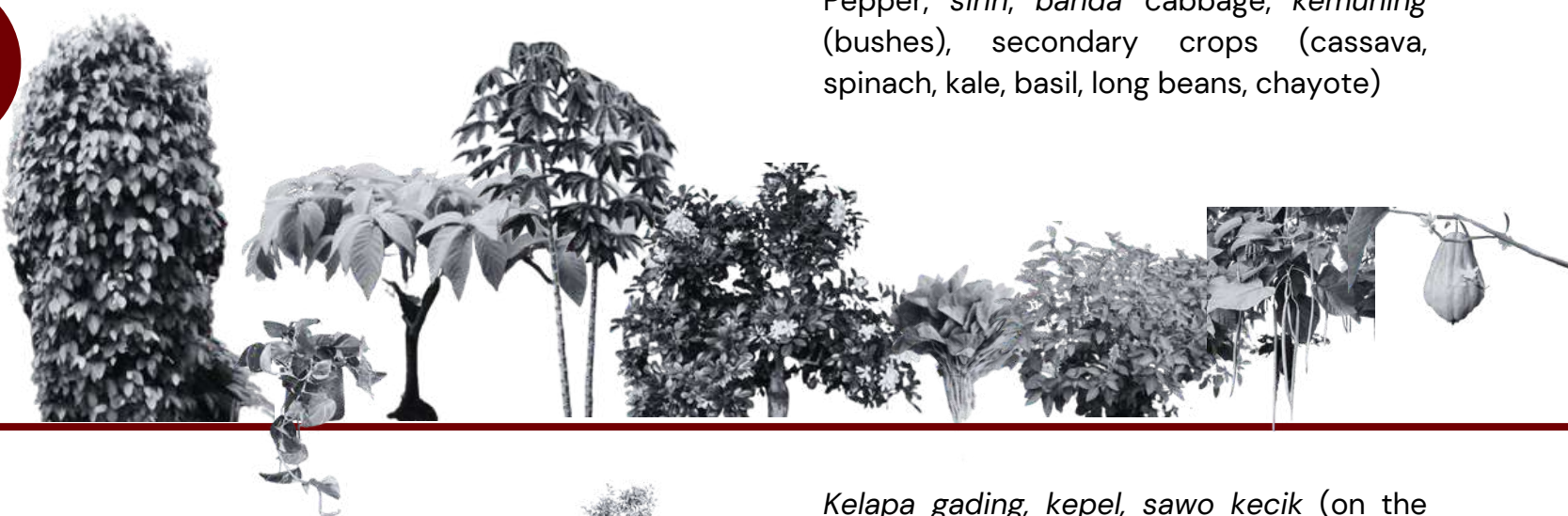
Pohon Buah

Taman Bunga

A "Kebun Dapur" (kitchen garden) is a practical space where vegetables and herbs are grown for daily cooking needs, ensuring fresh, home-grown produce. "Pohon Buah" (fruit trees) add another dimension, providing seasonal fruits and enhancing the garden's utility and beauty. Lastly, a "Taman Bunga" (flower garden) focuses on aesthetic appeal, with a variety of colorful blooms creating a visually pleasing environment. Together, these elements make a garden a versatile space that is both functional and attractive.

Kebun Dapur

Pepper, *sirih*, *banda* cabbage, *kemuning* (bushes), secondary crops (cassava, spinach, kale, basil, long beans, chayote)



Pohon Buah

Kelapa gading, *kepel*, *sawo kecil* (on the sand), mangosteen



Taman Bunga

Kembang Setaman (Ylang-ylang, rose, jasmine, canthus, orchid)



Figure 3.25 Royal Garden Vegetations
(Collaged by Author)

Javanese Wellness:

***Cultural Practices
and Rituals***

the Crucial Role of *Uborampe*

Uborampe/sesajen or offering is a set of food, beverages, and other valuable things that are used for a ritual in Javanese tradition (Sholihah et al., 2022). Offering has an ongoing meaning as an effort to maintain the values and norms of community life, namely seeing the teachings of ancestral traditions as an approach to God.



Figure 3.26 People Arranging Offerings
(Surakarta City Government, 2022)

Kendi

Philosophically translated as *kendalining diri* (self-control) of humans' bad traits in life. Pouring water from the kendi symbolizes the peacefulness and serenity (Wulandari, 2023).

the values that *uborampe* holds.

Kemenyan

Kemenyan is a symbol for conveying a message, a means of praying, and asking for salvation. Kemenyan that is burned and emits smoke depicts the attachment between man and God (Millennial, 2020).

Incense Sticks

Similar to Kemenyan, incense sticks or *dupa* can be burned and emits smoke that delivers our prayers to God, up above.

Coconut

The presence of coconuts in offerings symbolizes the planet Earth. Kalapa means *Kala* (time) and *Pa* (space), thus "kalapa" means space and time (Hendrawan et al., 2015).



Kembang Setaman

Kembang setaman contains 5 types of flowers, namely red roses, white roses, ylang-ylang, jasmine, and *kantil*. The fragrance of the flowers represents the hope that we will always receive the fragrance of our ancestors. The fragrance in question is in the form of advice, lessons, blessings, and spiritual wealth that is expected to be passed down from generation to generation (Millennial, 2020).

Egg

Eggs in Javanese tradition hold an important meaning as a symbol of something that is expected to happen according to the purpose of the ritual or in a simpler way, a symbol of success (Desa Grudo, 2022).



Figure 3.27 Uborampe Details
(Collaged by Author)

Surakarta also has its own kind of offering, **Sajen Pepak**, preserved by Kraton Kasunanan Surakarta.



Figure 3.28 Sajen Pepak
(Surakarta Tourism, 2023)

Sajen Pepak are divided into 2, Ageng and Alit. The difference lies only in the contents, where Sajen Pepak Alit does not have bekakak and living chicken (Purnomo et al., 2019). However, both offerings have the same meaning, namely as a form of manifestation of prayer to the One Almighty God.



Tumpeng

Both in Sajen Pepak Ageng and Alit, the offerings are completed with *tumpeng* that consists of golong rice with tempeh chips, fried *sambal*, chicken *pecel*, spinach soup, grilled chicken, and red crackers.

Jajan Pasar

People are still using the same as what they had in the past, but to make it more efficient, everything that exists in the market or *pasar* are allowed to be used. However, the sticky rice or *ketan* can't be replaced because it's important. *Ketan* can be directly translated as "kraketan" or "ngraketke ikatan", interpreted as a symbol of strengthening the bonds between human beings.



Keleman

Keleman is a type of traditional snack that includes serabi, colorful sticky rice, and hawuk-hawuk (a traditional snack made from sticky rice flour, grated coconut, and sugar).

Bekakak

Bekakak is a traditional dish crafted from glutinous rice, shaped to resemble the imagery of a couple. The forms/figures of a man and a woman evoke the essence of human connection and harmony.



Figure 3.28 Sajen Pepak
(Surakarta Tourism, 2023)

Pawon Gondorasan

The term "Pawon" translates to "kitchen" in Javanese, and "Gondorasan" refers to a specific type or section within the royal kitchen complex. Pawon Gondorasan is traditionally known as the place where food is prepared, particularly for royal ceremonies and daily meals for the royal family and court. There's a special occasion called Tingalan Jumenengan Dalem, being held once in 8 years whereas the pawon has greater responsibilities. preparing a sacred cooking procession involving the King. The presence of Kyai Dudha, or the court's heirloom in the form of Dhandhang, is believed to have the power that can provide virtuosity to the universe.

During this occassion, Kyai Dudha is being cleaned/showered, flowered, wrapped with white cloth and lurik and being escorted from inside the court (Kedhaton) to Pawon Gondorasan (interpretation: after 8 years residing, it's time for Kyai Dudha to go out/*miyos*). Kyai Dudha has its own room to "take a rest" and after that, there will be a *siraman* procession, accompanied by *tembang*, the King will pour rice into it. The steps of this procession symbolize the human beings' journey toward the better life level in his/her relation to God as the Almighty and to his/her surroundings (fellow human beings and nature).



Figure 3.29 Pawon Gondorasan Top View
(Purnomo et al., 2019)

Figure 3.30 Pawon Gondorasan Interior
(Purnomo et al., 2019)

Focus Training through *Jemparingan*



The Jemparingan tradition has been around since the royal era hundreds of years ago. In ancient times, this tradition was played by royal nobles and their families. The King of Mataram Kingdom also made this game a mandatory competition in the royal territory at that time. However, over time, this tradition began to be played by ordinary people as part of entertainment and also the preservation of a very valuable culture. Unlike archery games in general which are done in a standing position, jemparingan is done sitting cross-legged. Participants usually sit in mataraman style forming two rows facing west. This sitting position does not appear without reason. It is said that this sitting position is because in the past, nobles used to shoot archery while chatting about business while enjoying coffee, tea or snacks. Therefore, the sitting position was deemed most suitable and comfortable.

Figure 3.31 Playing Jemparingan
(Antarafoto, 2021)

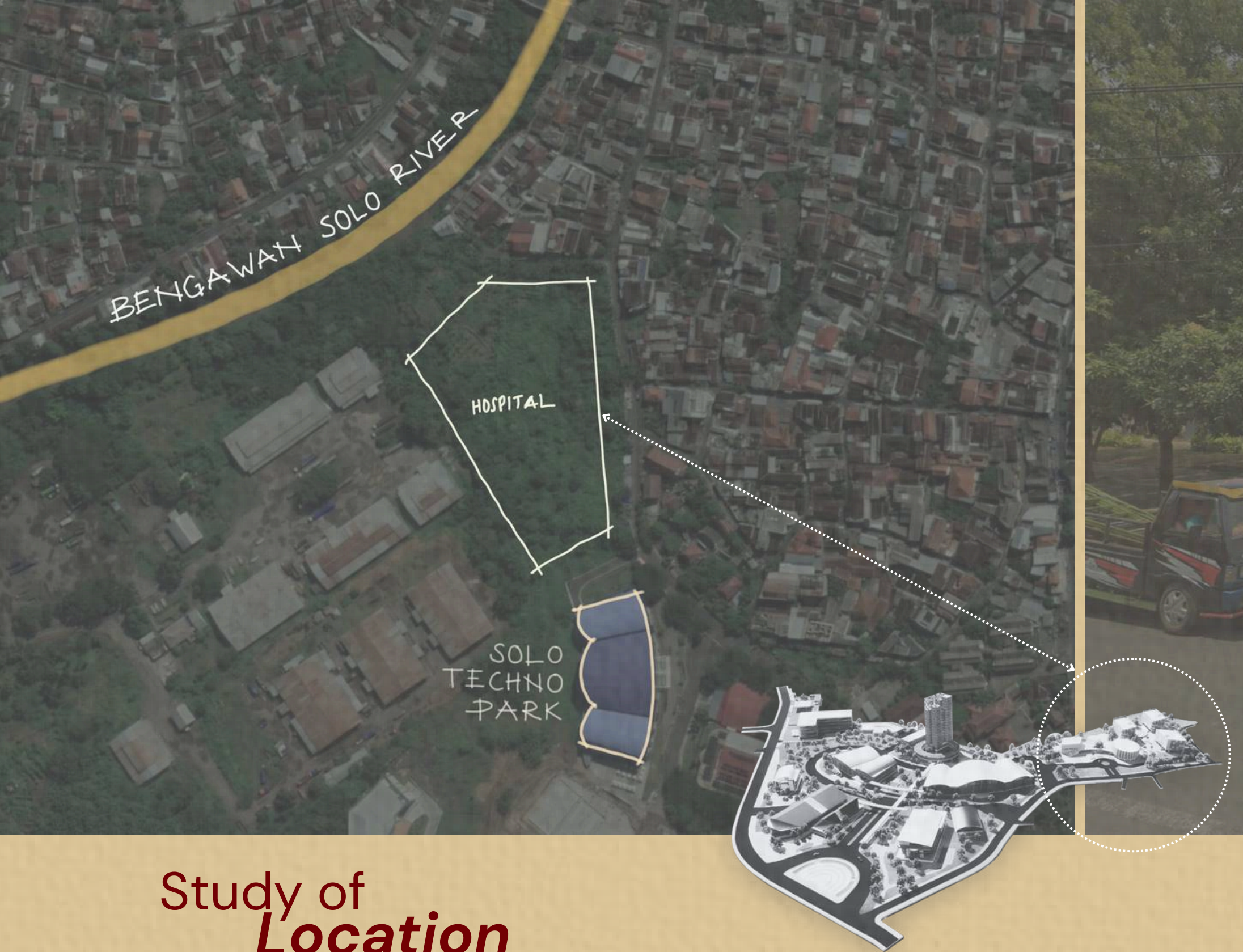
Essence of Water for *Kyai Rajamala*

In ancient times, the Bengawan Solo River was a vast river. The river became a means for ships **transporting consumer** and **commercial goods** to the interior of Java Island (Primasasti, 2023). So it is not surprising that at that time the civilization on the river became advanced because of the many large ships that passed through. One of the large ships was the **Kyai Rajamala**, owned by the Keraton Surakarta or Surakarta Palace.

On November 19, 1809, the Governor of the Dutch East Indies General William Daendels presented Pakubuwana IV with a large boat. At the end of the boat, there is a canthik or decoration in the form of a Dutch virgin.



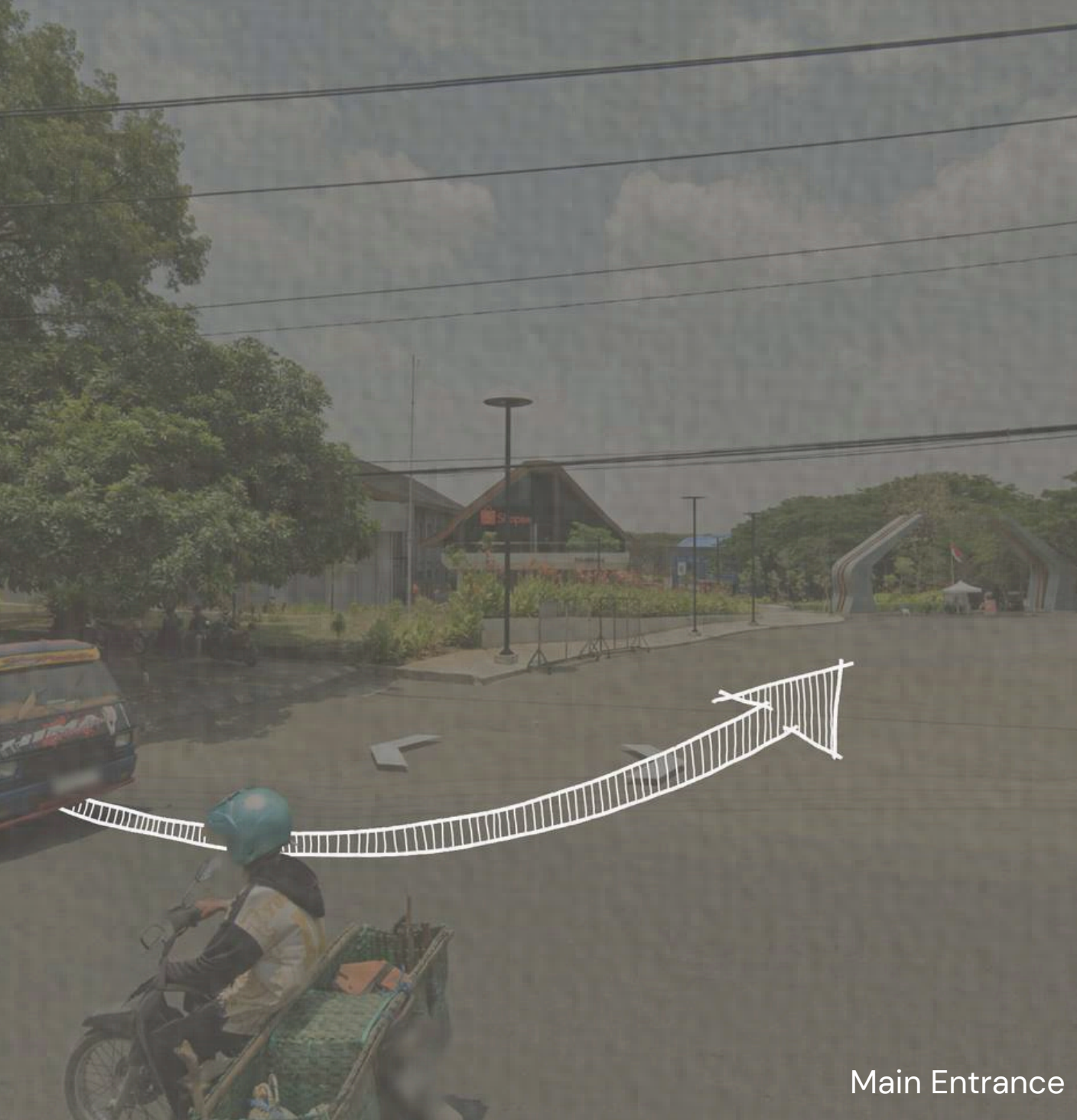
Figure 3.32 Kyai Rajamala
(Estu, 2022)



Study of *Location*

Solo Technopark is the result of a collaboration between the city government, academics, and practitioners. The program initially aimed to improve the skills of SMK graduates. With 8.9 hectares of land, the UAE Government chose the Solo Technopark area and its surroundings as the location for the construction of the **Emirates Cardiology Hospital**, which is planned to be built on 2 hectares of land.

Figure 3.33 Emirates Hospital Surakarta
(Collaged by Author)



Main Entrance



Solo Technopark's Edu Center



Street Vendors



Abandoned Green Area

The chosen site later on will serve as a **complementary facility** to the hospital. This arrangement allows the hospital to concentrate on its core functions, such as providing advanced medical care and utilizing cutting-edge technology, while the recovery center designed in this project will be dedicated to the healing and recovery of outpatients. By separating the medical treatment from the recovery process, the hospital can efficiently handle acute care, and outpatients can focus solely on their recovery journey in a space specifically designed to support their well-being.

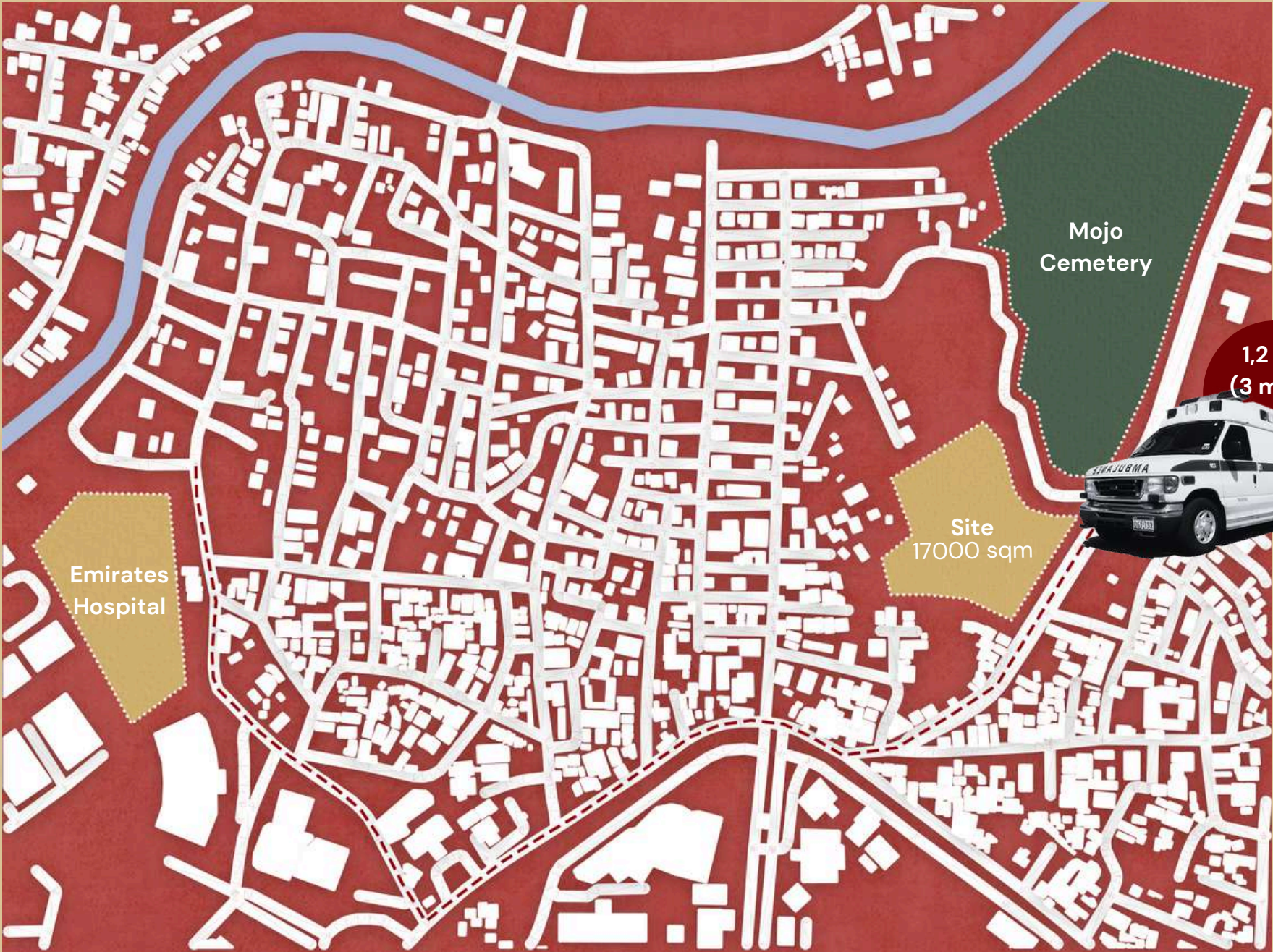
Figure 3.34 Around Emirates Hospital Surakarta
(Annotated by Author)



The Growing Jebres

Jebres sub-district in Surakarta is undergoing rapid development. Some signs of increased development include the construction of the Bengawan Solo Museum of Culture, Science and Technology, educational sites that include several universities, as well as statistical data showing the social, economic and infrastructure conditions in this area. Jebres sub-district has a maximum air temperature of around 28.6°C and a minimum of around 24.9°C. This temperature range indicates that the area has a climate that supports development activities and community welfare (Prasetyo et al., 2020). With various development projects and improving the quality of education, Jebres Sub-district continues to strive to improve the welfare of the community and strengthen the potential of the region.

Figure 3.35 Surakarta Map
(Redrew by Author)



Emergency Accessibility

A rehabilitation center especially the one that is dedicated for post-stroke care plays a crucial role in helping patients recover impaired body functions. One of the things that must be considered is the distance between the hospital and the rehabilitation center, which will be significantly affected at **critical times**. Thus, easy and quick access between the hospital and the stroke rehabilitation center is very important to ensure optimal recovery for the patient.

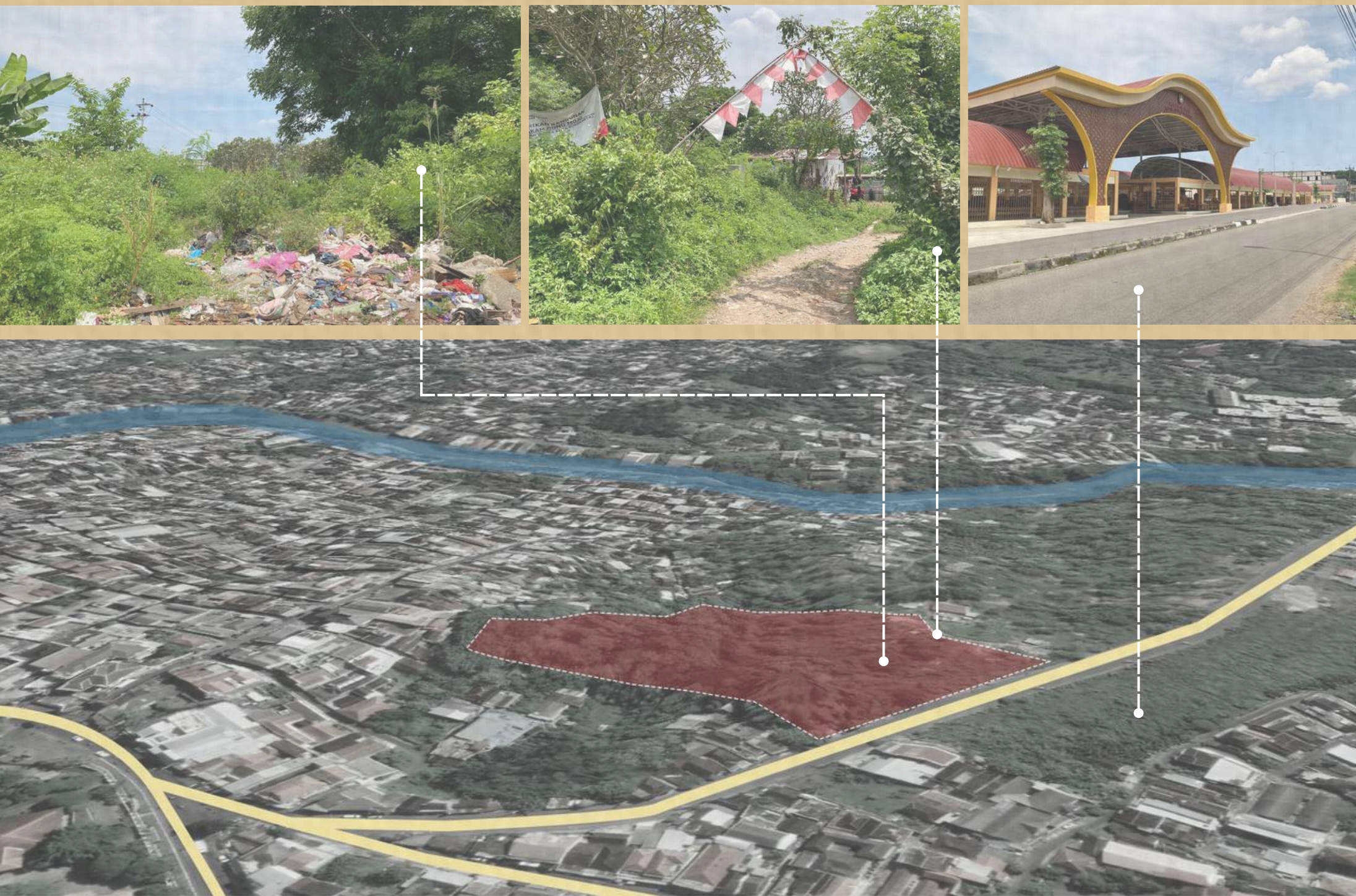
Figure 3.36 Jebres Map
(Redrew by Author)



Get Inspired by Langenharjo

The chosen site has several contours that were possibly caused by its past function: cemetery. The land was being dug multiple times, creating the most efficient layout to lie the deceased ones. This site condition is actually quite similar with Pesanggrahan Langenharjo which they have natural contours on Bengawan Solo's riverside. Moreover, the communities around Pesanggrahan have utilized the natural contours to build houses and communal facilities, creating a unique settlement pattern that is harmonious with the environment. They have also maintained native vegetation and natural waterways, showing a deep respect for nature. Over time, Pesanggrahan Langenharjo has evolved into a symbol of sustainability and harmony between man and nature.

Figure 3.37 Site Location
(Illustrated by Author)



Around the site, we can still find lush greeneries, a traditional soil pathway, and a furniture market which was finished being built not too long time ago. The existence of this market could benefit the furniture-sourcing process (related to carbon footprint) as well as in terms of empowering the community.

Figure 3.38 Site Condition
(Documented by Author, 2024)

Design Study

Preliminary

Maggie's Cancer Centre Manchester

Typology

Rehabilitation Center – Manchester, United Kingdom

Architect: Foster + Partners

Area: 1922 sqm

year: 2016

Maggie's Cancer Center aims to provide a welcoming 'home away from home' – where people affected by cancer can find emotional and practical support. The design aims to set **up domestic-like surroundings, with an additional garden setting and a hospital within walking distance**. The building has a single story, keeping its profile low and reflecting the residential scale of the surrounding streets and areas. The materials palette combines warm, natural wood and tactile surfaces.

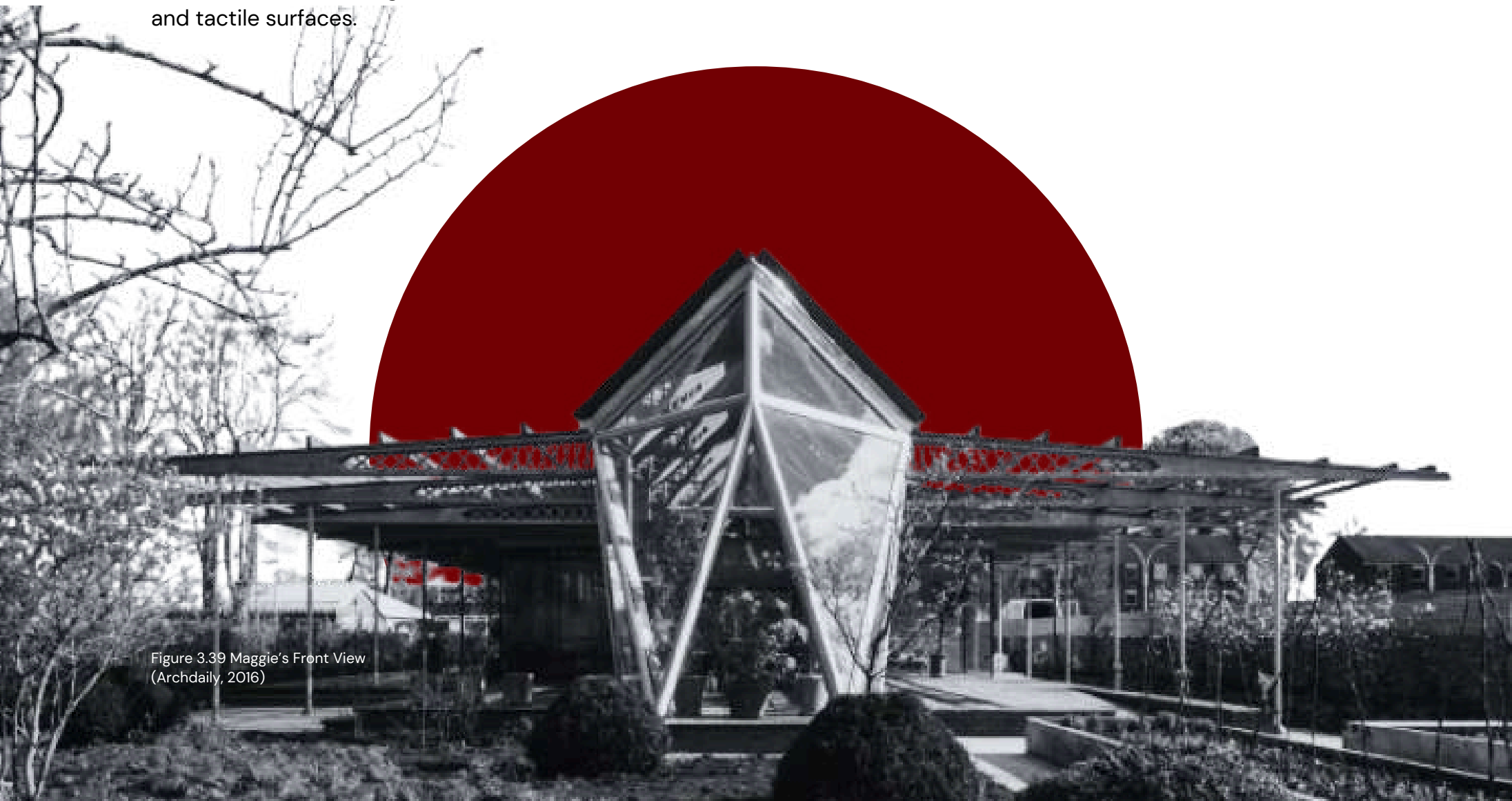


Figure 3.39 Maggie's Front View
(Archdaily, 2016)

The building plays a round with a mix of various spaces, including a library, exercise rooms, and places to gather and share a cup of tea. Common references, such as straight corridors and hospital signs, have been erased to create **home-like spaces**. Support offices are placed on a mezzanine level, with toilets and storage spaces below, maintaining natural visual connections across the building.

Garden-facing
consultation rooms

Permaculture that gives a
sense of purpose in life

The heart of the building is the
kitchen, which is centered on a large
communal table.



Figure 3.40 Maggie's Site Plan
(Annotated by Author)

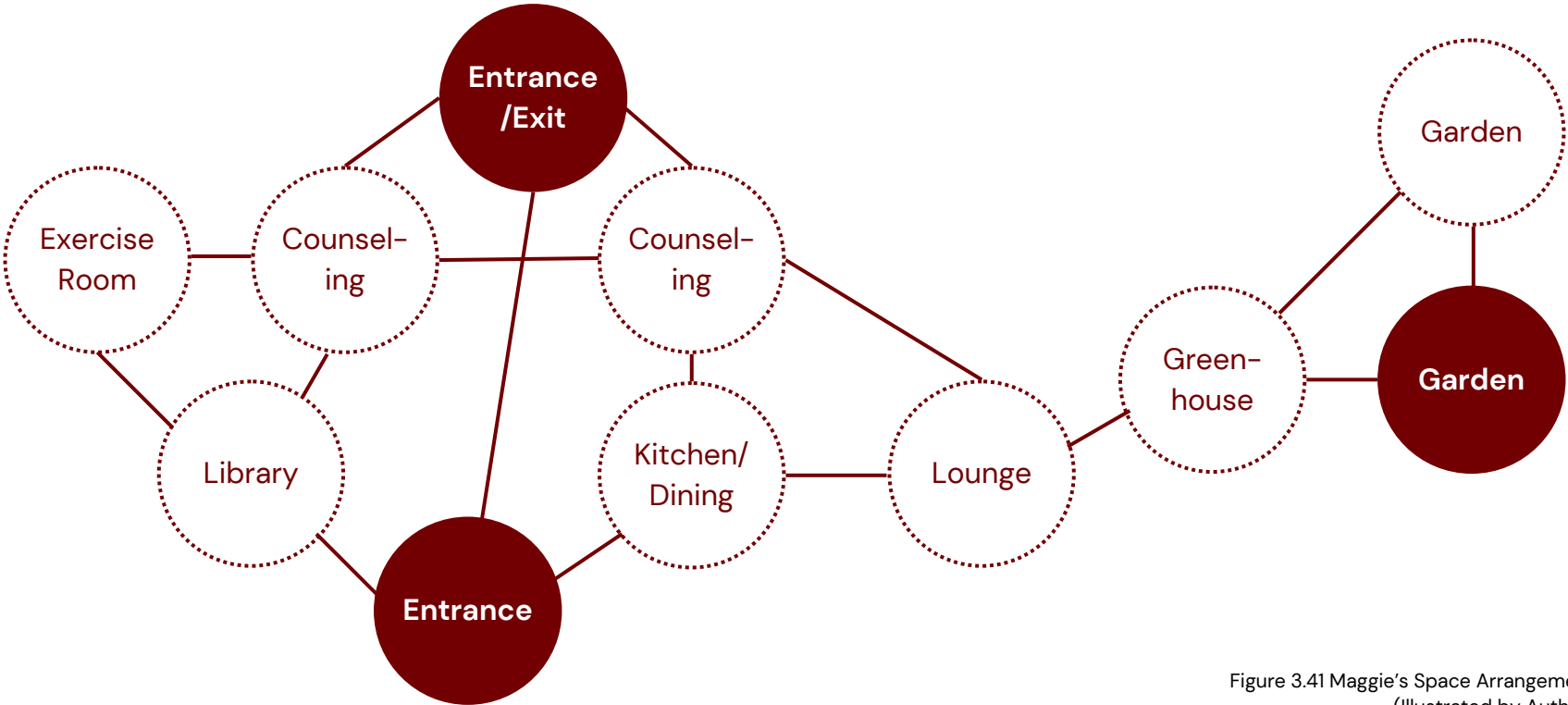


Figure 3.41 Maggie’s Space Arrangement
(Illustrated by Author)

Viveda Wellness Retreat

Typology

Wellness Center – Trimbak, India

Architect: A for Architecture

Area: 3900 sqm

year: 2019

Situated between the gigantic Sahyadri mountain range, the project's first intention was to design spaces that responded to this setting's hot and dry climate. Most of the spaces are designed to create shade with minimum walls to allow maximum **natural light and ventilation**. All the buildings are perforated with courtyards and green pockets, making the project **breathable**.

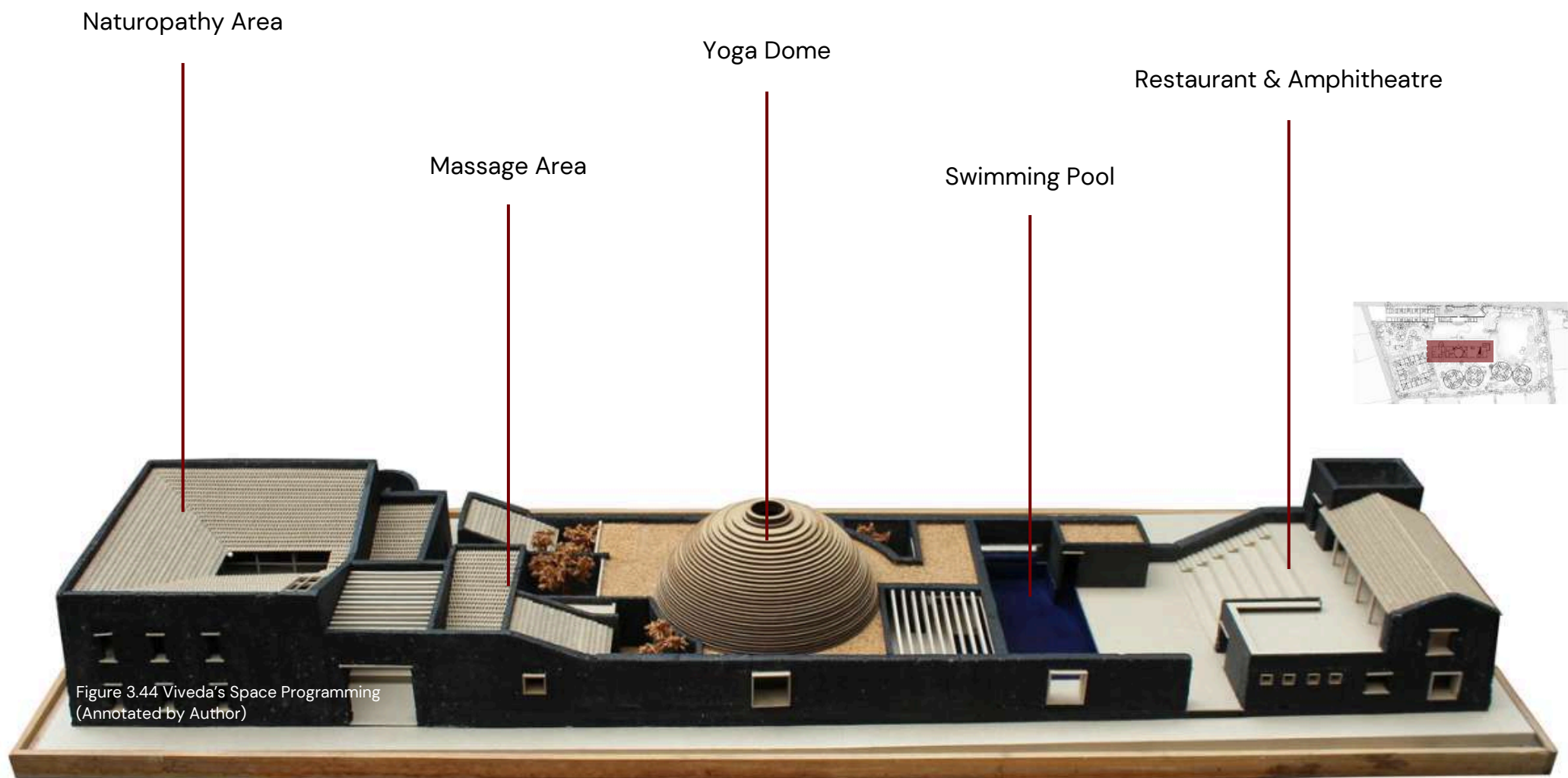


Figure 3.42 Viveda's Perspective View
(Archdaily, 2022)



Figure 3.43 Viveda's Stone Wall
(Archdaily, 2022)

The second intention of the project was to understand the localities. For instance, learning from Beze Village's building practices. The local craftsmen are invited to work along with familiar materials (outside concrete and steel) that have been **locally-sourced** (within 20-50 km). This aspect has proved the reduction of embodied energy/carbon footprint.



The other thing that could be learned from the place's spatial arrangement and programming since every single building mass has their own function whereas each functions are separated with one another.

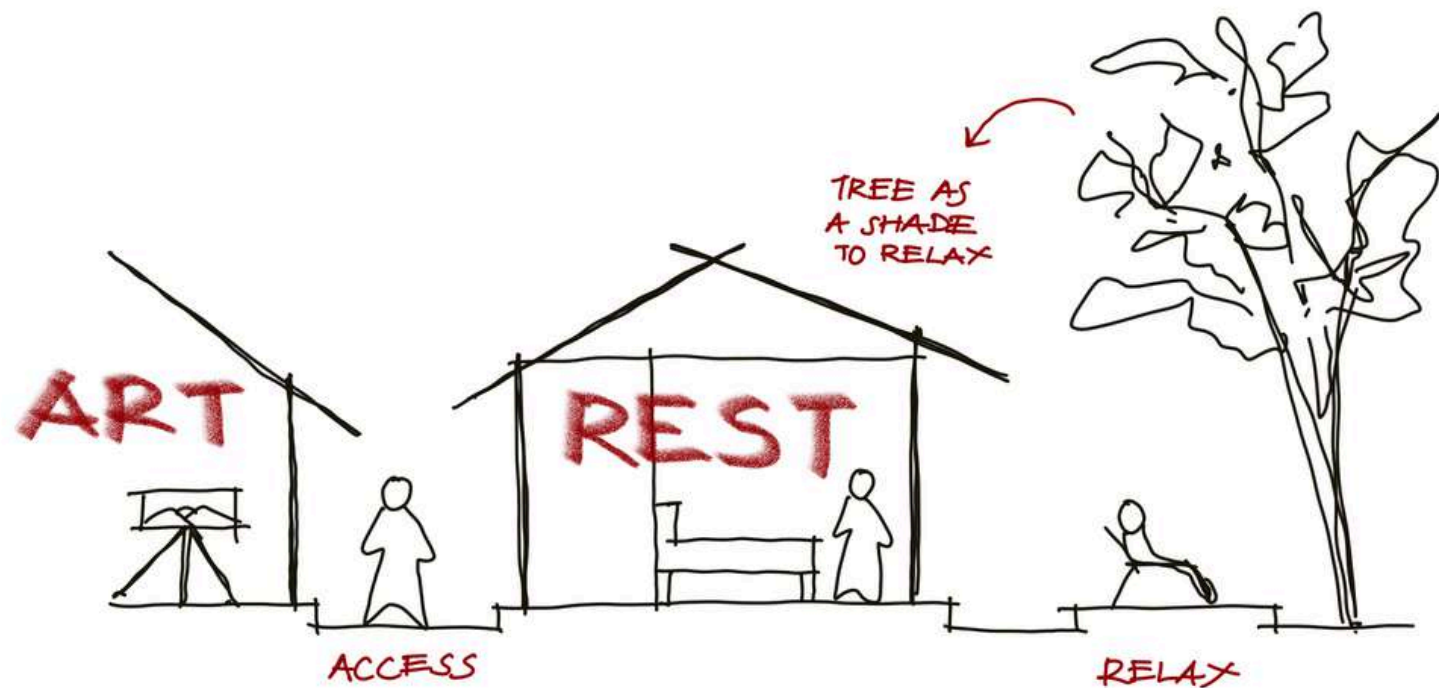


Figure 3.45 Activities at Viveda
(Illustrated by Author)

KANEKA Wellness Center

Typology

Wellness Center – Takasago, Japan
Architect: Kengo Kuma & Associates
Area: 625 sqm
year: 2021

Located in Awaji Island, Japan, the Kaneka Wellness Center is a facility dedicated to promoting health and well-being through various activities and amenities. It incorporates elements of traditional Japanese architecture and materials, blending seamlessly with the environment. The design of the Kaneka Wellness Center emphasizes harmony with nature, with features such as **open-air spaces, natural lighting, and greenery** integrated throughout the building.

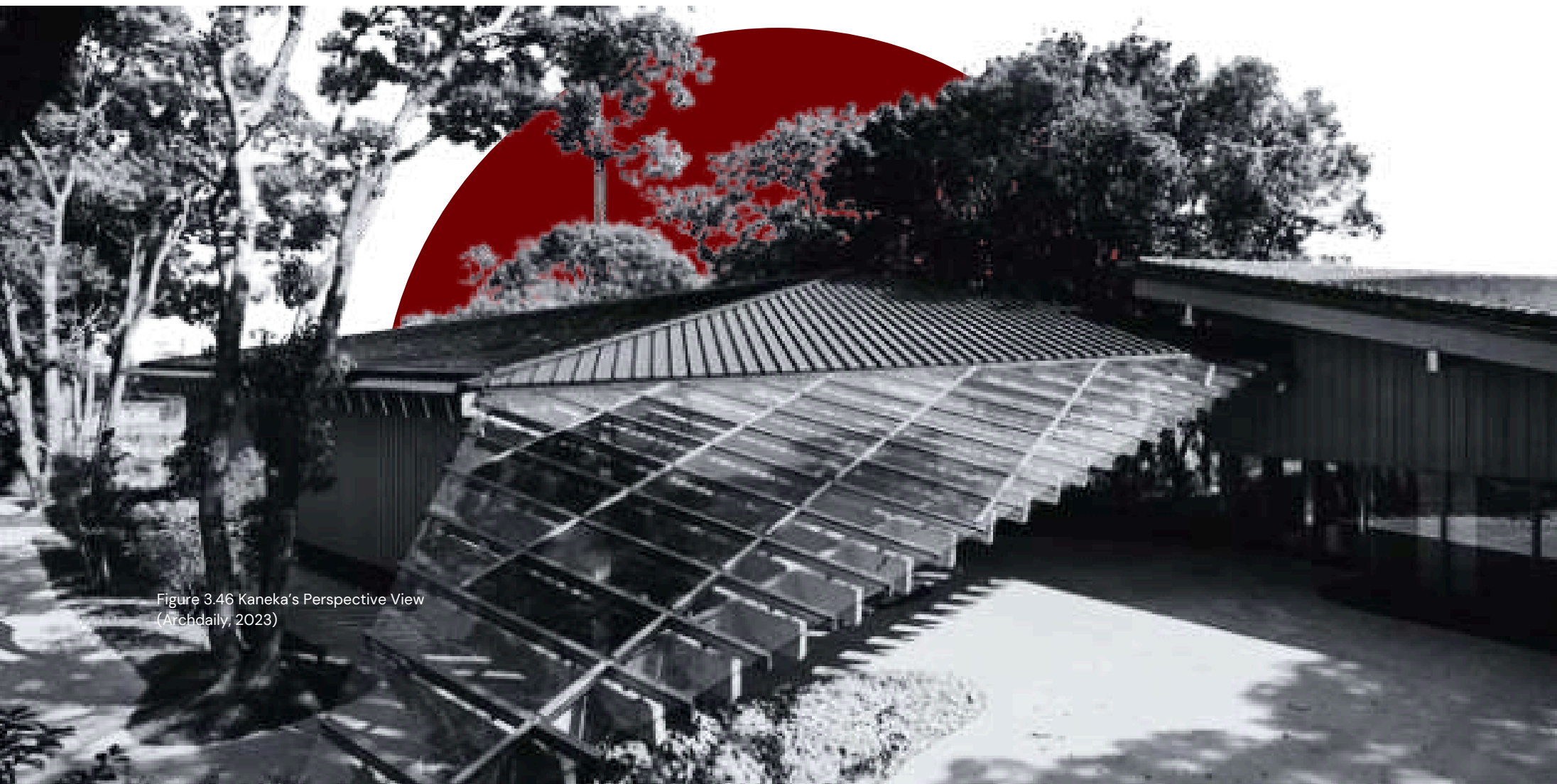


Figure 3.46 Kaneka's Perspective View
(Archdaily, 2023)

This approach improves the space's aesthetic charm and encourages a sense of connection to the surrounding landscape, fostering a serene and calming atmosphere for relaxation, contemplation,

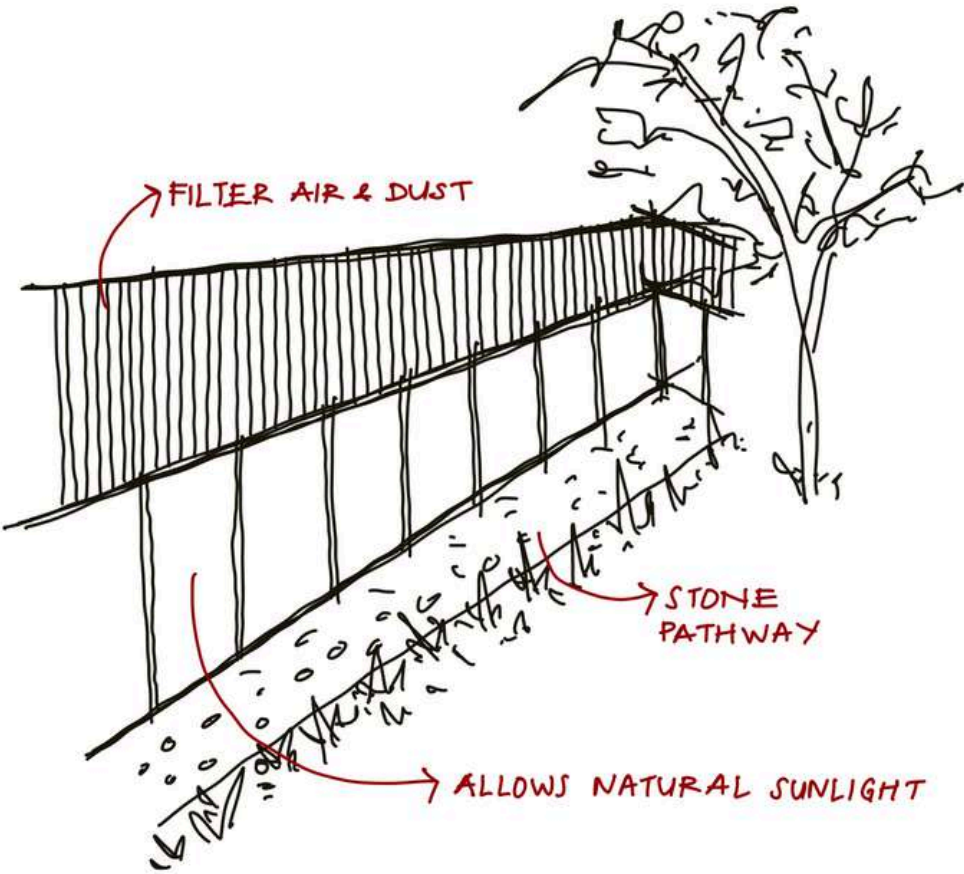
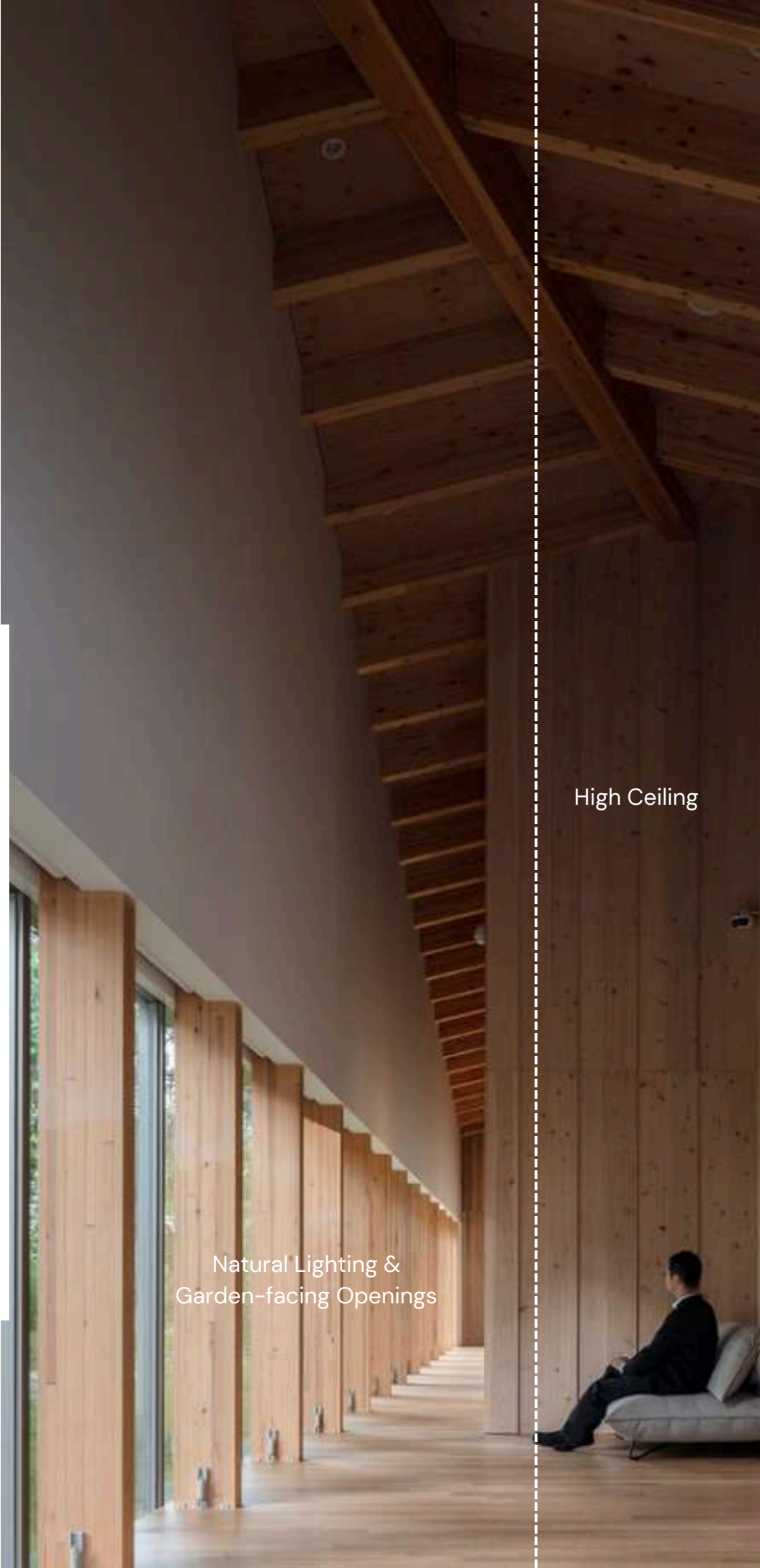


Figure 3.47 Sketch of Kaneka's Landscape
(Illustrated by Author)

Figure 3.48 Kaneka's Interior
(Annotated by Author)



High Ceiling

Natural Lighting &
Garden-facing Openings

Center Groot Klimmendaal

Typology

Rehabilitation Center – Arnhem, The Netherlands

Architect: Koen van Velsen

Area: 14000 sqm

year: 2011

This building showcases how architecture can play a crucial role in healthcare. Designed by Architectenbureau Koen van Velsen, this center offers more than just rehabilitation services—it's a place where innovative design meets healing. With its modern look, featuring curved lines and dynamic facades, it challenges the traditional idea of what a healthcare facility should be. By paying close attention to detail and understanding how space can impact healing, this center sets a new standard for patient-focused design, emphasizing the importance of creating spaces that nurture well-being and recovery.

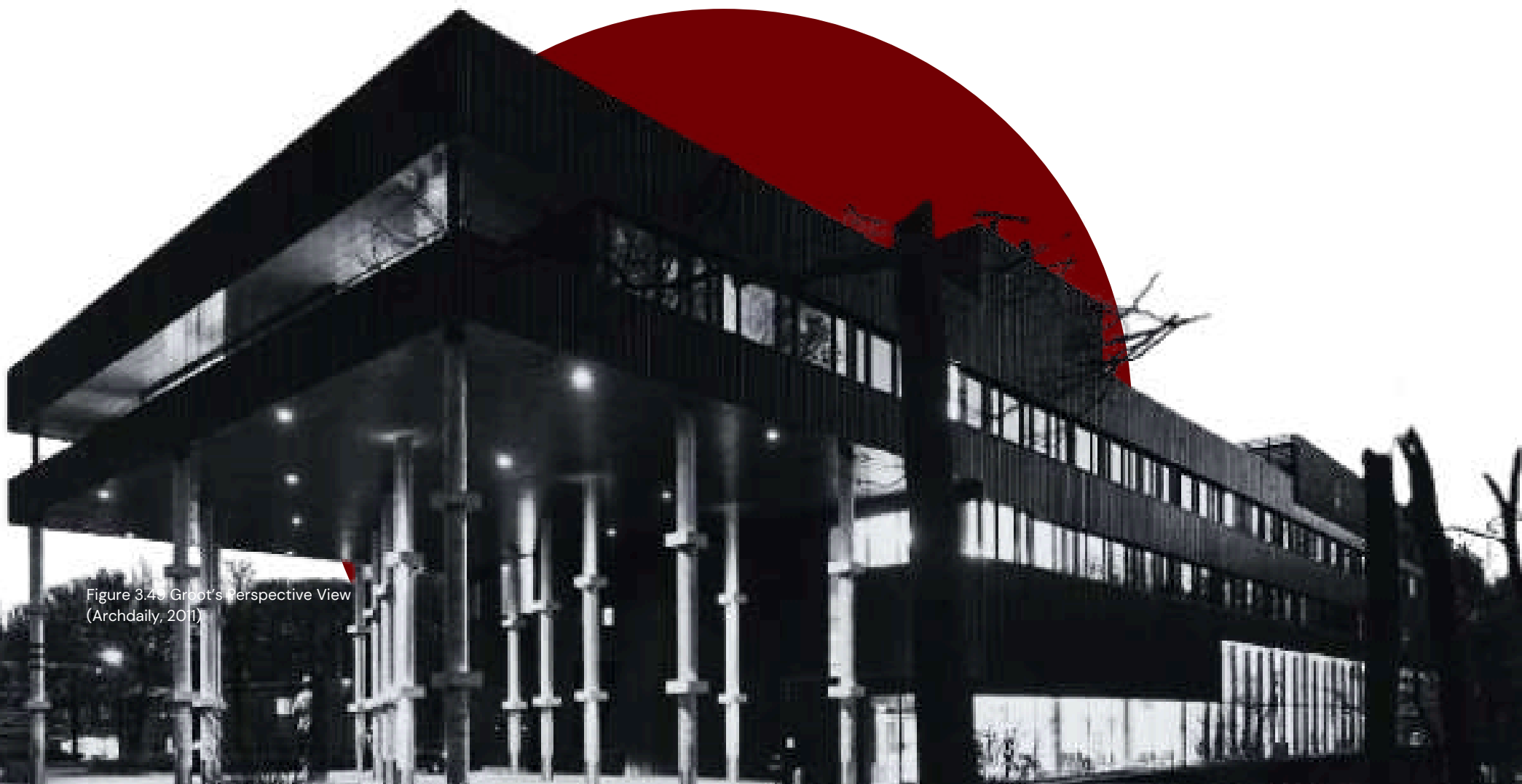


Figure 3.43 Groot's Perspective View
(Archdaily, 2011)

Integration with Nature: The center's design incorporates natural elements seamlessly, enhancing the healing environment. The use of curved forms and dynamic façades creates a visual connection with the surrounding landscape, promoting a sense of tranquility and well-being for patients.

Innovative Use of Materials: The center showcases innovative approaches to material use, such as the use of glass and other translucent materials to maximize natural light and create a sense of openness within the interior spaces. This demonstrates how thoughtful material selection can contribute to the overall therapeutic environment.

Functional Layout: The layout of the center is designed to facilitate the rehabilitation process effectively. Spaces are organized to promote movement and interaction while providing privacy and comfort for patients. This highlights the importance of considering functional requirements and user needs in healthcare designs.

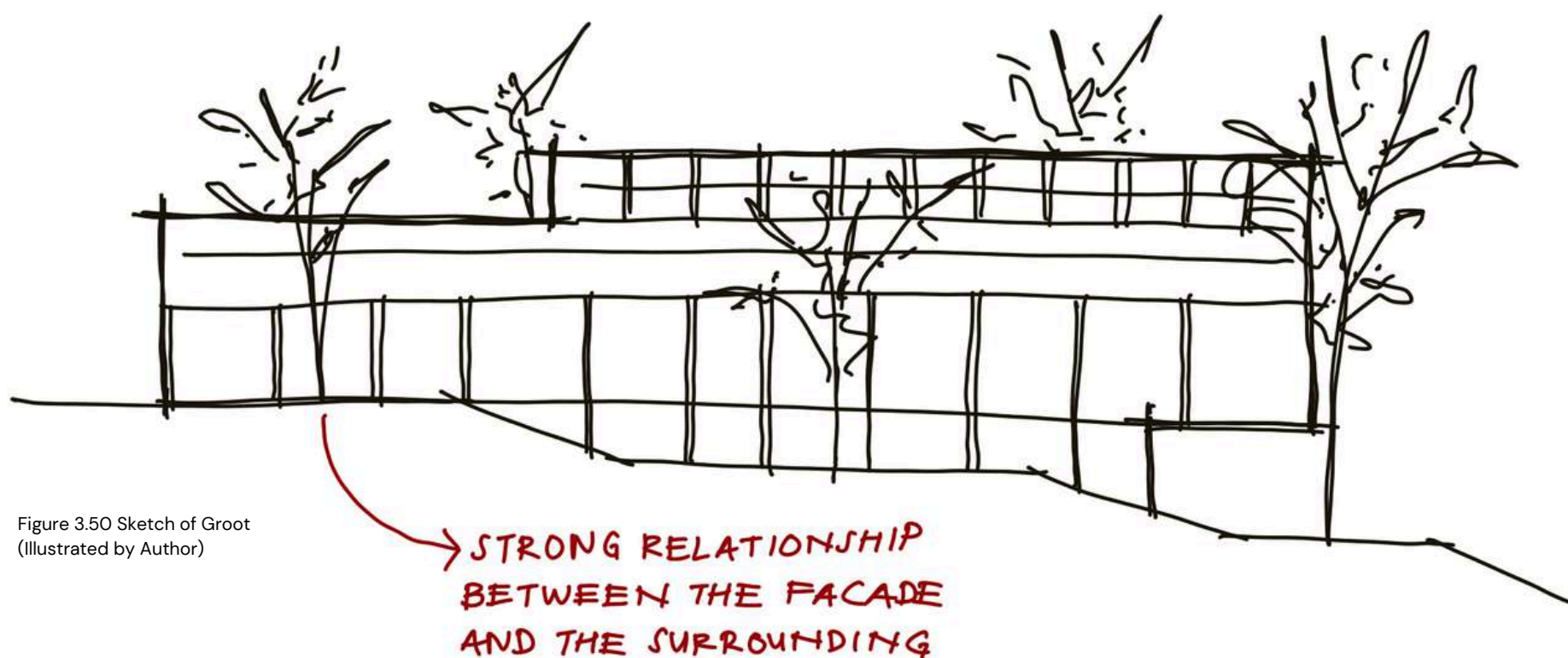


Figure 3.50 Sketch of Groot
(Illustrated by Author)

Khoo Teck Puat Hospital (KTPH)

Approach

Site Condition

Hospital – Singapore
Architect: CPG Consultants
Area: 35000 sqm
year: 2010

Khoo Teck Puat Hospital (KTPH) introduces an innovative approach to healthcare architecture through its concept of 'hospital in a garden, garden in a hospital.' Embracing its surroundings, the hospital harmonizes with a **nearby lake** and features a large **courtyard** that floods the lower levels with **natural light and greenery**. Incorporating aluminum sunshades and light shelves for weather protection, rooftop gardens, and extensive glazing for sufficient daylight and ventilation, the design creates a welcoming and environmentally conscious atmosphere.



Figure 3.51 KTPH's Perspective View
(RMJM, 2017)

They uphold 5 principles in this design:

- **Sight**, visual access to greenery and water;
- **Smell**, selection of scented plants;
- **Sound** of falling water;
- **Diversity** of plants, birds and butterflies;
- **Community**, public space situated within blue-green areas.

The heart of the development, which makes these principles work, is the **green court**. Designed to be 'forest-like', it includes water features with aquatic species and plants that attract birds and butterflies.

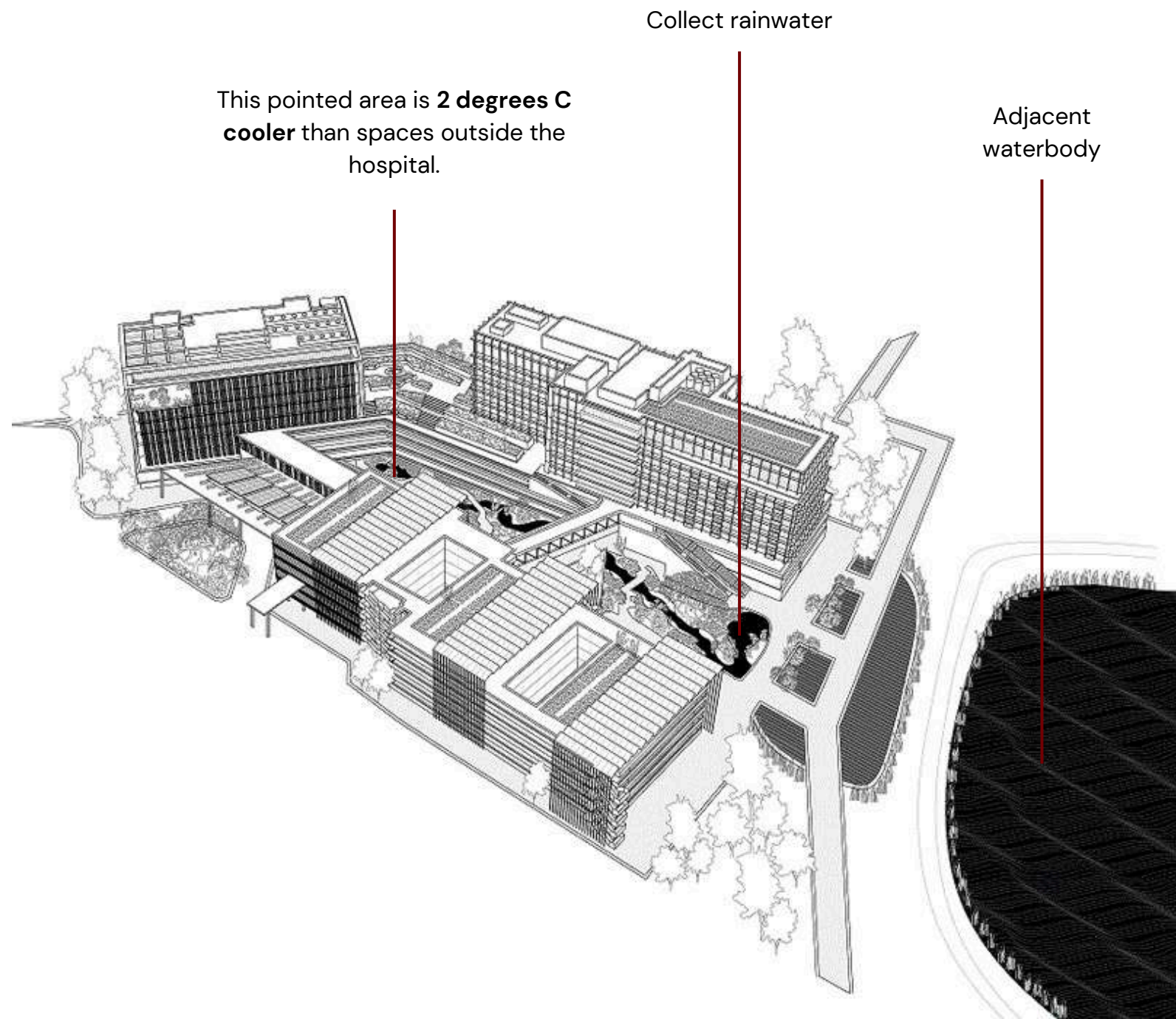


Figure 3.52 KTPH's Axonometric
(Annotated by Author)



The hospital maximized the potential of the local species, so there is now sufficient greenery and habitat within the hospital grounds. As a result, this area serves as a core for the native species to reproduce. The descendants of plants, birds, and butterflies conceived here can spread to find their colonies in the larger park across the road and into the waters of the adjacent waterbody.

Embracing the natural color

Figure 3.53 Biodiversity at KTPH (RMJM, 2017)

Figure 3.54 KTPH's Water Body (Annotated by Author)



Shanghai Houtan Park

Site Condition

Park – Shanghai, China

Architect: Turenscape

Area: 140000 sqm

year: 2010

Shanghai Houtan Park is a remarkable architectural project situated beside a polluted river, the Huangpu River in Shanghai, China. The Huangpu River, like many urban rivers in China, has faced significant pollution due to industrialization and urbanization. Shanghai Houtan Park emerged as a response to this environmental challenge, aiming to restore the ecological health of the river while providing recreational space for the city's residents. The design of Houtan Park incorporates various sustainable features and innovative strategies to improve water quality and enhance biodiversity such as constructed wetlands, biofiltration ponds, and ecological corridors that help filter pollutants and promote habitat restoration along the riverbank.



Figure 3.55 SHP's Perspective View
(Archdaily, 2011)

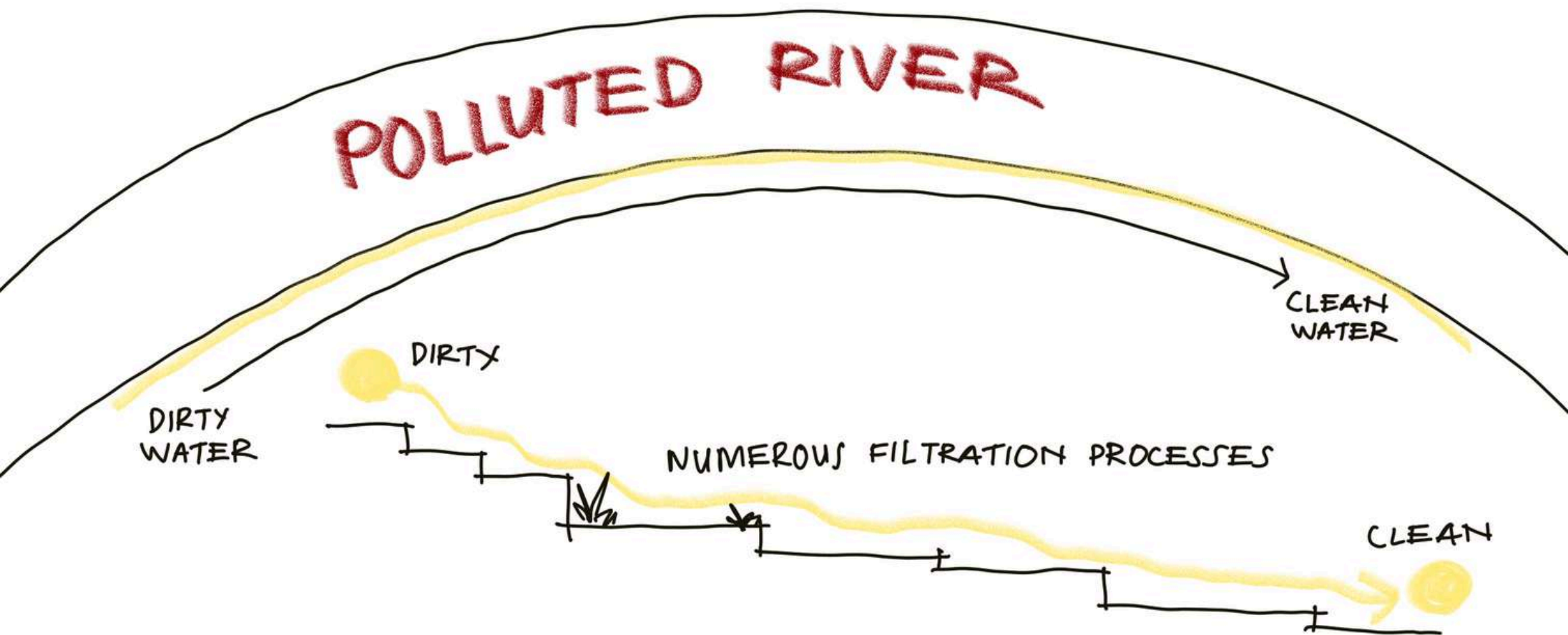


Figure 3.56 Sketch of Water Filtration
(Illustrated by Author)

In addition to its ecological functions, Houtan Park offers a range of recreational amenities and cultural attractions, including walking paths, viewing platforms, and outdoor amphitheaters. These features provide opportunities for visitors to connect with nature while enjoying panoramic views of the city skyline and the revitalized waterfront.



Figure 3.57 SHP's Masterplan
(Designboom, 2010)

Windhover Contemplative Center

Typology

Wellness Center – Stanford, United States

Architect: Aidlin Darling Design

Area: 4000 ft²

year: 2014

Combining the typical characteristics of a spiritual sanctuary, an art gallery, and a contemplative garden, the architects have created a unique typology for contemplation and reflection that will benefit Stanford University for years. The center's minimalist design fosters an atmosphere of simplicity and tranquility, allowing visitors to focus inwardly without distraction.

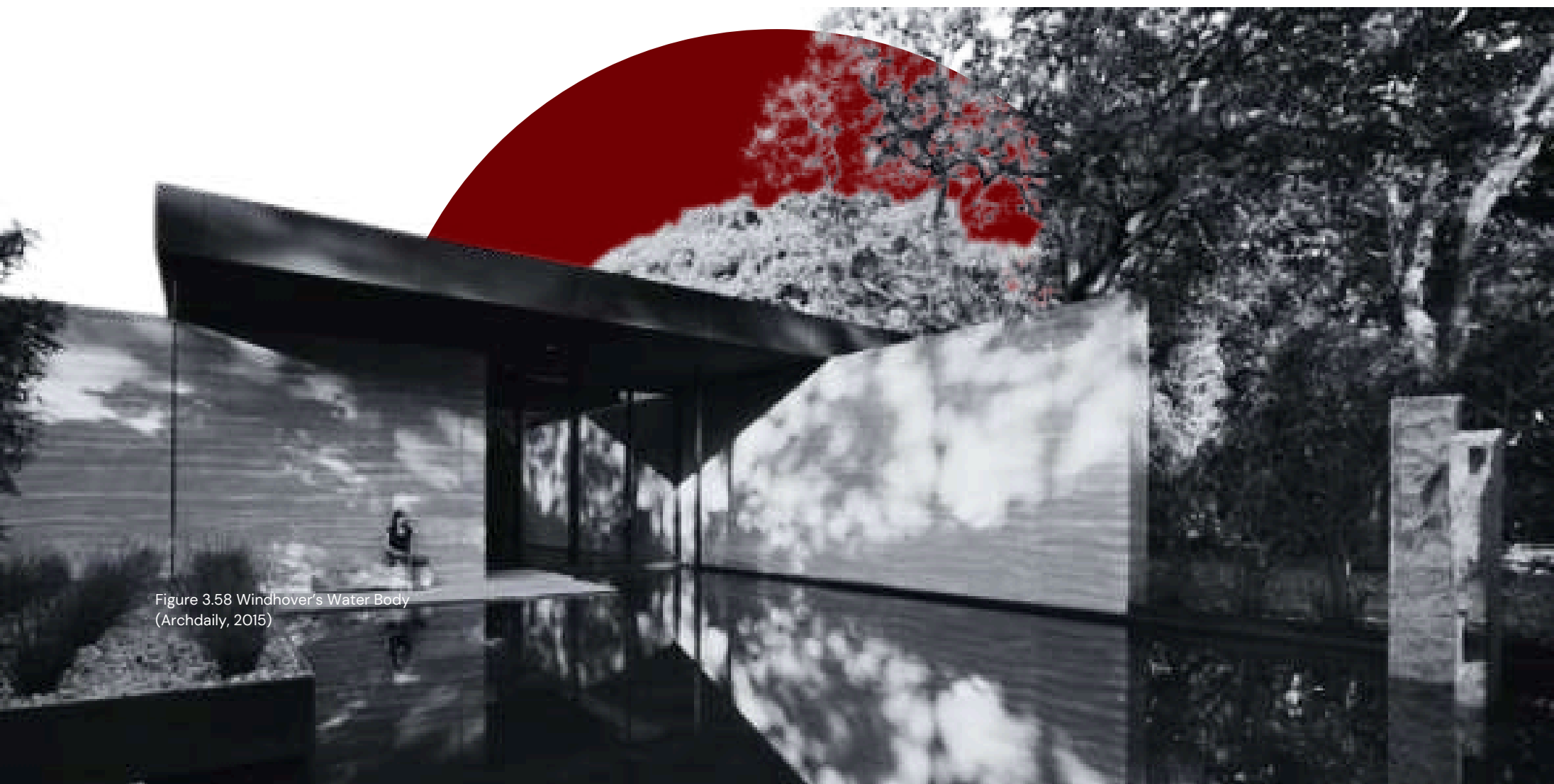


Figure 3.58 Windhover's Water Body
(Archdaily, 2015)



Figure 3.59 Windhover's Interiors
(Archdaily, 2015)

Implementing natural elements such as trees and water creates sound effects with contemplative properties. Here are some of the **sonic effects** used in this building:

- The sound produced by the water movement provides a background sound (drone effect) that creates instability, imageability, detachment, and security properties.
- The building, located adjacent to a natural oak forest, naturally filters outside sound, creating tranquility and detachment.
- The presence of natural elements around this building also creates a setting that allows the atmosphere of sounds that exist in nature to form. Animals and insects can come around the area to create an imitation of the atmosphere similar to nature. This imitation creates a comfortable, tranquil, and detached atmosphere from the outside world.

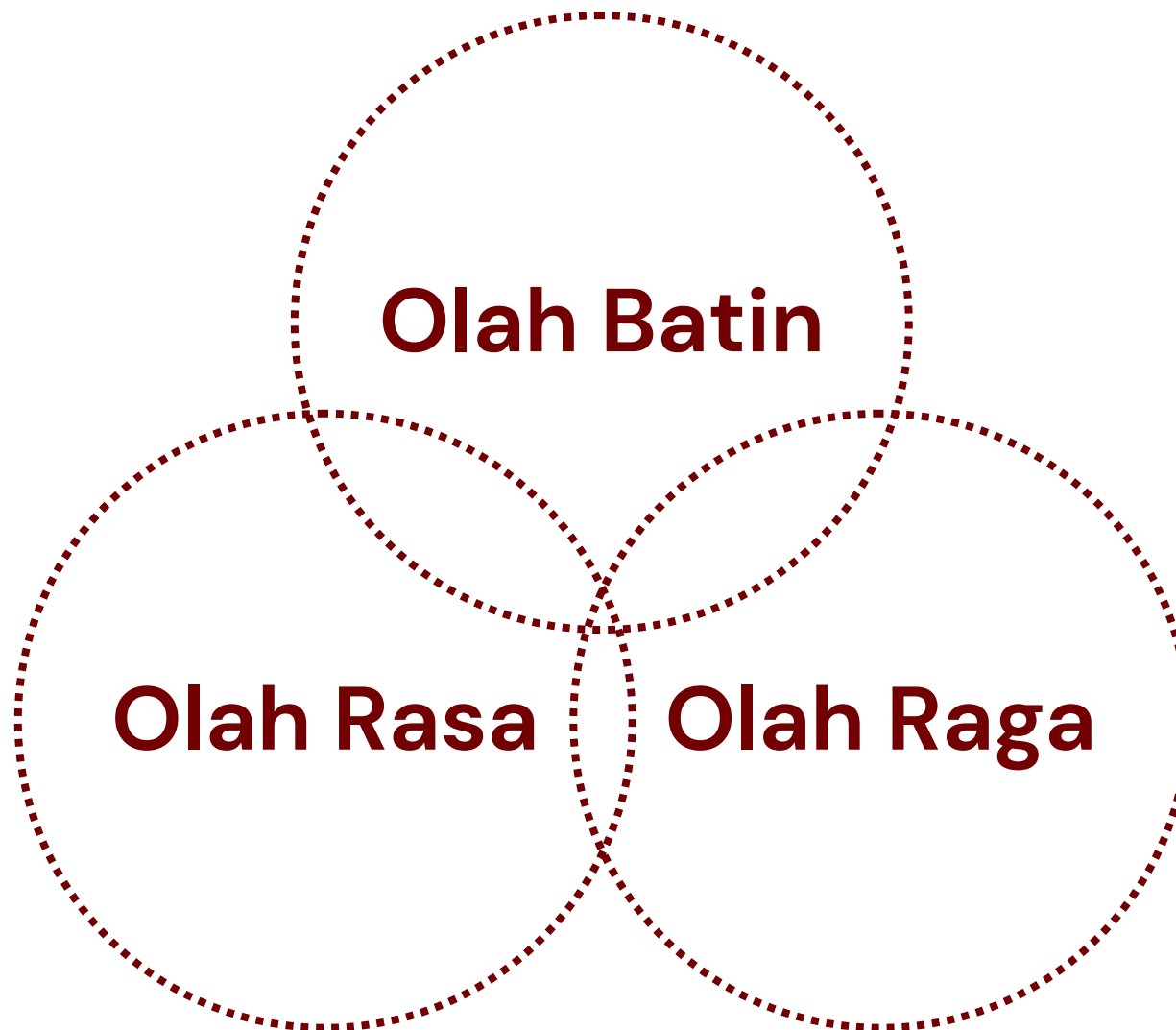




***Architecture is really
about well-being.***

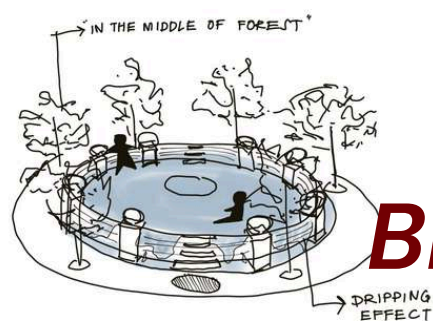
Zaha Hadid

04



Based on the lessons learned from the Javanese wellness theories, the concept of the architectural programme will be based on these 3 main values which are Olah Batin, Olah Rasa, and Olah Raga. Olah Batin means refining the relationship with God (meditation, religious prayers, etc.), Olah Rasa means practicing empathy towards the other people (human to human connection), and last but not least is Olah Raga to not only maintain the health but also as a way to purify ourselves.

Figure 4.1 Olah Concept
(Illustrated by Author)



Design *Brainstorming*

Based on the Pesanggrahan Langenharjo as well as other Javanese wellness values, several explorations were being made especially in terms of dividing the public, semi-public, and private areas. However, these explorations are not yet showing the essence of Javanese wellness and its strong values.

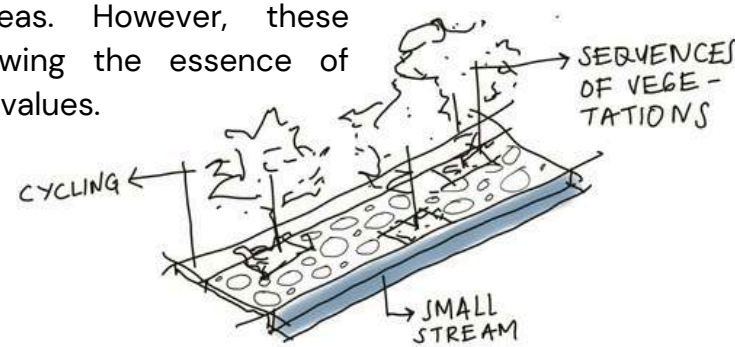
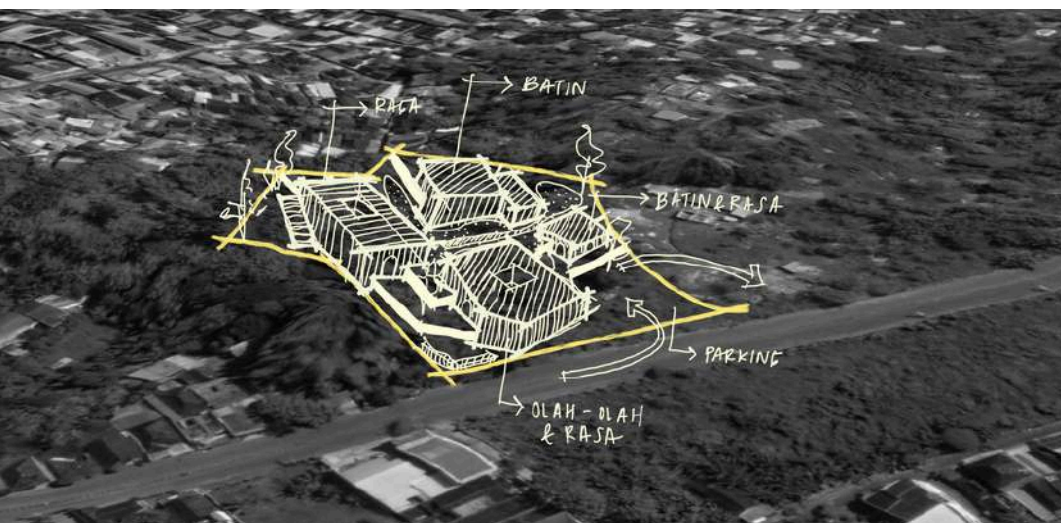
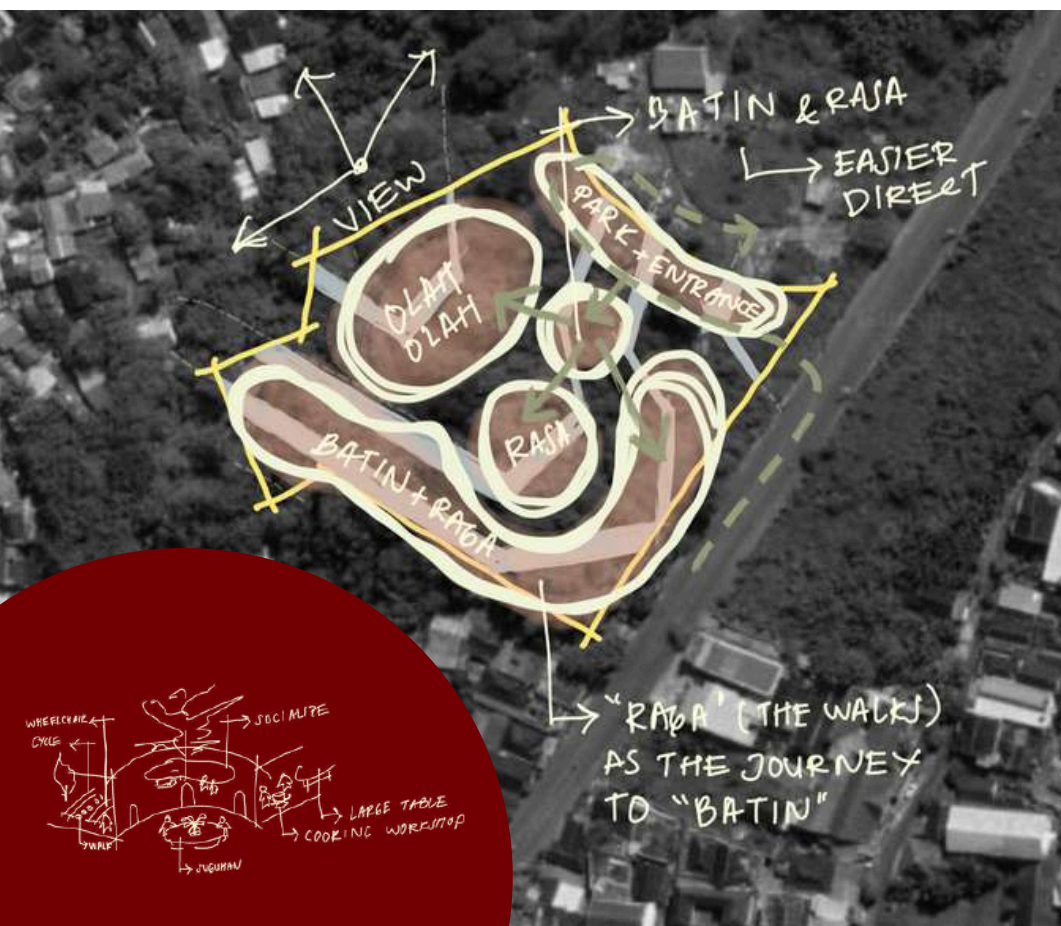
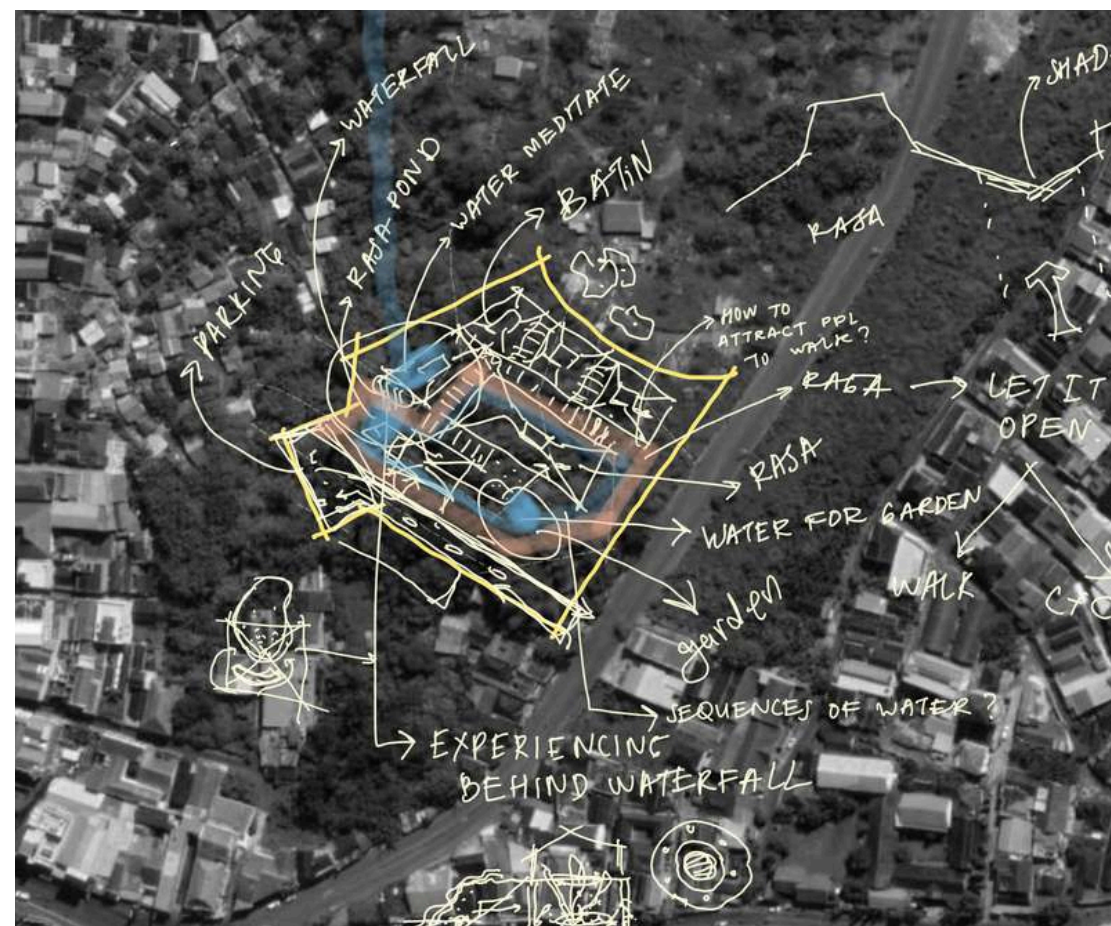


Figure 4.2 Parti Diagram
(Illustrated by Author)

Figure 4.3 Exploration Sketches
(Illustrated by Author)



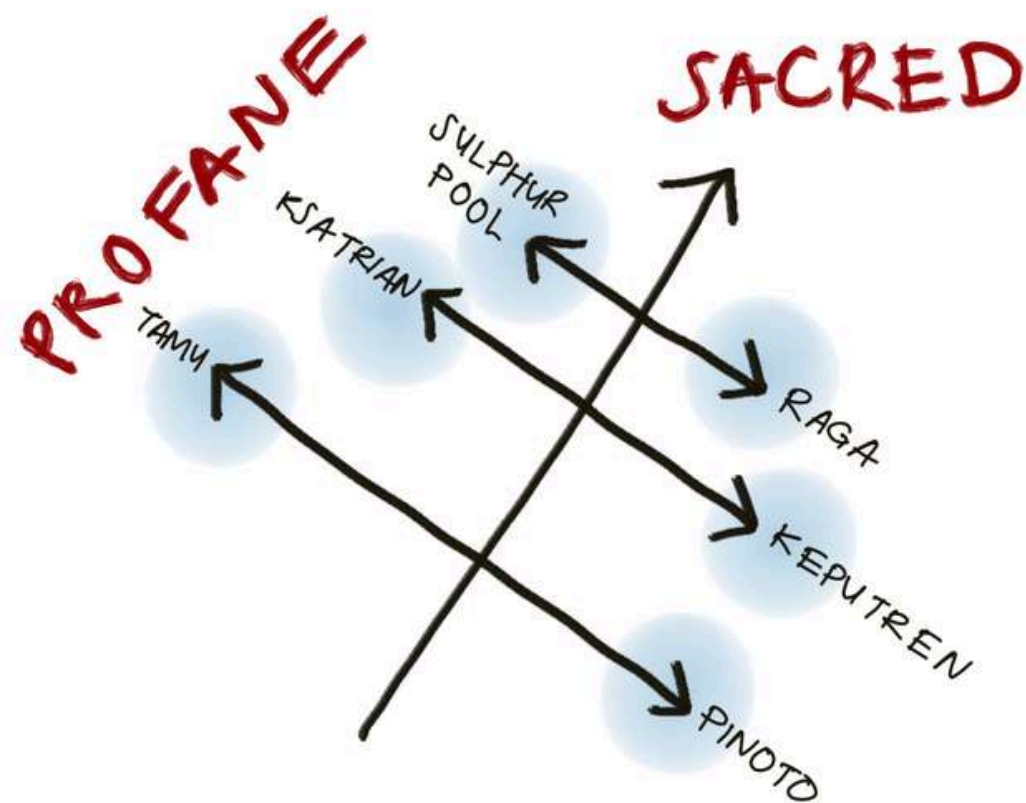


Figure 4.4 Cosmology Axis
(Illustrated by Author)

Following the Javanese cosmology, the design concept is highly considering the axis of sacredness and profane-ness.

Design Requirements

Olah Rasa

Program	Space	Standard	Quantity	Minimum Area (sqm)
Rawuh Lounge	Entrance	4 sqm/person	1	4
	Suguhan Area	3 sqm/person	10	30
	Gathering Area	3 sqm/person	10	30
	Performance Area	3 sqm/person	20	60
	Management Office	3 sqm/person	10	30
	Circulation (40%)	-		
Support Cove	Reception	8 sqm	1	8
	Screening	9-24 sqm	1	9
	Psychological Area	9-24 sqm	1	9
	Physiological Area	50 sqm	1	50
	Exam Area	9-24 sqm	1	9
	Circulation (40%)	-		
Gastronomy Nook	Communal Table	3 sqm/person	10	30
	Utensils Storage	3 sqm/person	10	30
	Pantry	3 sqm/person	10	30
	Dish Washing	3 sqm/person	2	6
	Garden	-		
	Circulation 40%	-		

Table 4.1 Space Requirements for Olah Rasa
(Illustrated by Author)

Design Requirements

Olah Raga

Program	Space	Standard	Quantity	Minimum Area (sqm)
Kayuh	Cycling Lane	7 sqm	1	7
	Cycling Point	0,68 sqm	1	0,68
Lampahan	Sensory Walking Trail	7 sqm	1	7
Semediyan	Indoor Semediyan	1,02 sqm/person	10	10,2
	Outdoor Semediyan	1,02 sqm/person	10	10,2
Jemparingan	Jemparingan Area	2 sqm/person	3	6
	Storage	1 sqm/person	3	3
	Audience Area	1 sqm/person	10	10
Dolan	Guyub (Boardgames)	2 sqm/person	10	20
	Ayun	2 sqm/person	4	8
	Dayung	2 sqm/person	2	4
Baringan	Sand Bathing	2 sqm/person	5	10

Table 4.2 Space Requirements for Olah Rasa
(Illustrated by Author)

Design Requirements

Olah Batin

Program	Space	Standard	Quantity	Minimum Area (sqm)
Solace Retreat	Ablution (Men)	0,9 sqm/person	5	1,8
	Ablution (Women)	0,9 sqm/person	5	1,8
	Prayer's Area (Men)	0,72 sqm/person	10	7,2
	Prayer's Area (Women)	0,72 sqm/person	10	7,2
	Storage Area	1 sqm/person	5	5
Garden Oasis	Kungkum Pool	1,26 sqm	20	252
Banyu Sanctuary	Swimming Pool (Men)	24,7 sqm	10	24,7
	Swimming Pool (Women)	24,7 sqm	10	24,7
	Bath Chambers (Men)	1,26 sqm/person	5	6,3
	Bath Chambers (Women)	1,26 sqm/person	5	6,3
	Changing Area (Men)	6 sqm/person	15	90
	Changing Area (Women)	6 sqm/person	15	90
Masculine Cosmos	Birds Aviary	2,34 sqm/person	5	11,7
	Brain Area	1,92 sqm/person	10	19,2
	Relax and Meditate Area	2 sqm/person	5	10
Feminine Cosmos	Beauty and Brain Area	2 sqm/person	10	20
	Relax and Meditate	1,92 sqm/person	5	9,6
	Flowers Garden	2 sqm/person	10	20

Table 4.3 Space Requirements for Olah Batin
(Illustrated by Author)



Figure 4.5 Cosmology Axis Implementation
(Illustrated by Author)

The sacred ones are consisting of spaces that are related to “welcoming”, meditation, worshipping, as well as *kungkum* or soaking our bodies into the water.



Figure 4.5 Zoning Exploration
(Illustrated by Author)

The basic Javanese concept of privacy is then being processed and adjusted to what the design aims for: Olah Raga, Olah Rasa, and Olah Batin. Olah Raga means an effort to move our body such as walking or training our focus with Jemparingan as a way to be thankful for the body that God has given to us. Olah Rasa means practicing empathy with the fellow human beings and Olah Batin is practicing self-focus to be more connected to the divine creator.

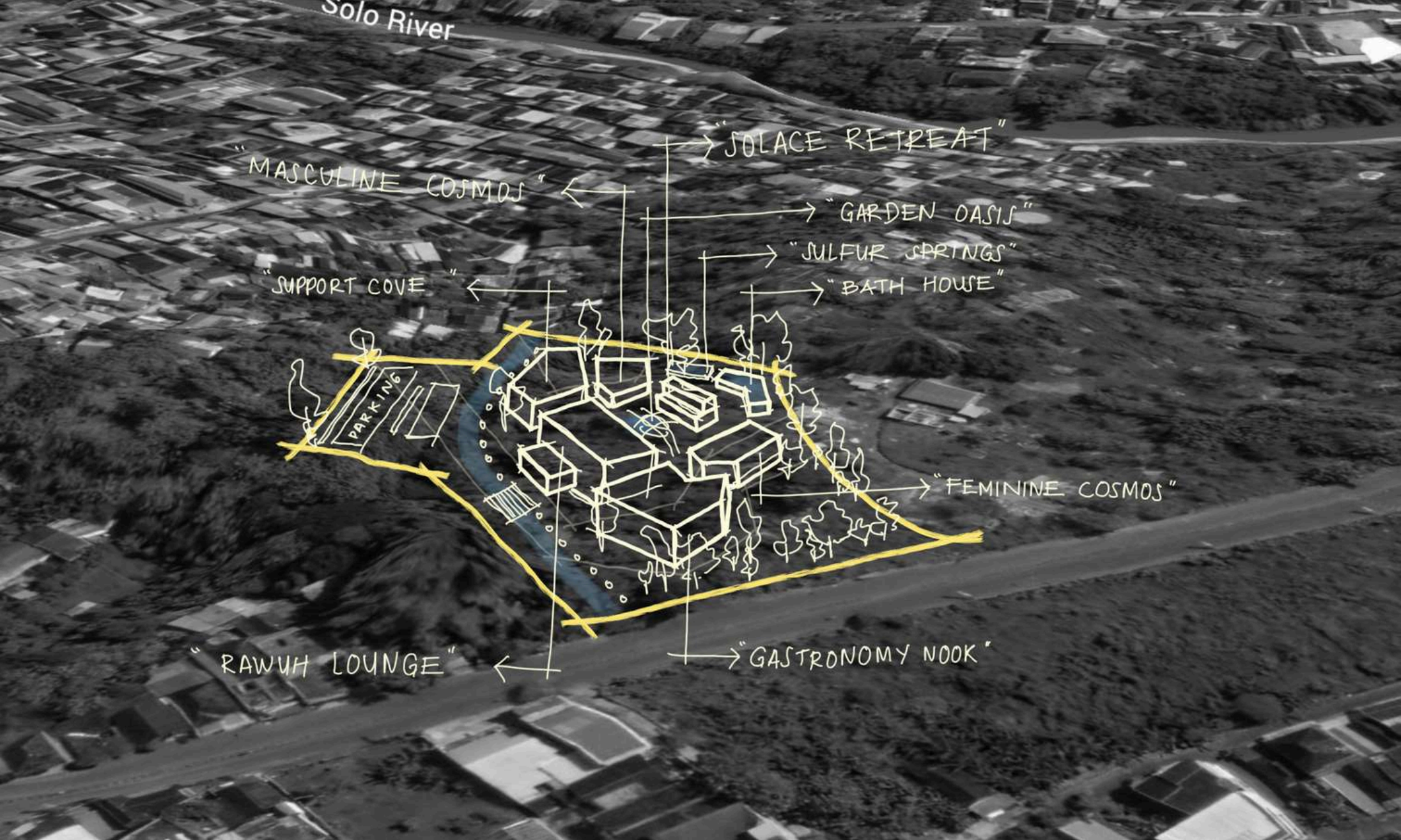


Figure 4.6 Massing Concept Exploration
(Illustrated by Author)

Programs are being generated based on the Javanese theories that have been curated before. However, the spatial arrangement is mainly adapting from Pesanggrahan Langenharjo.

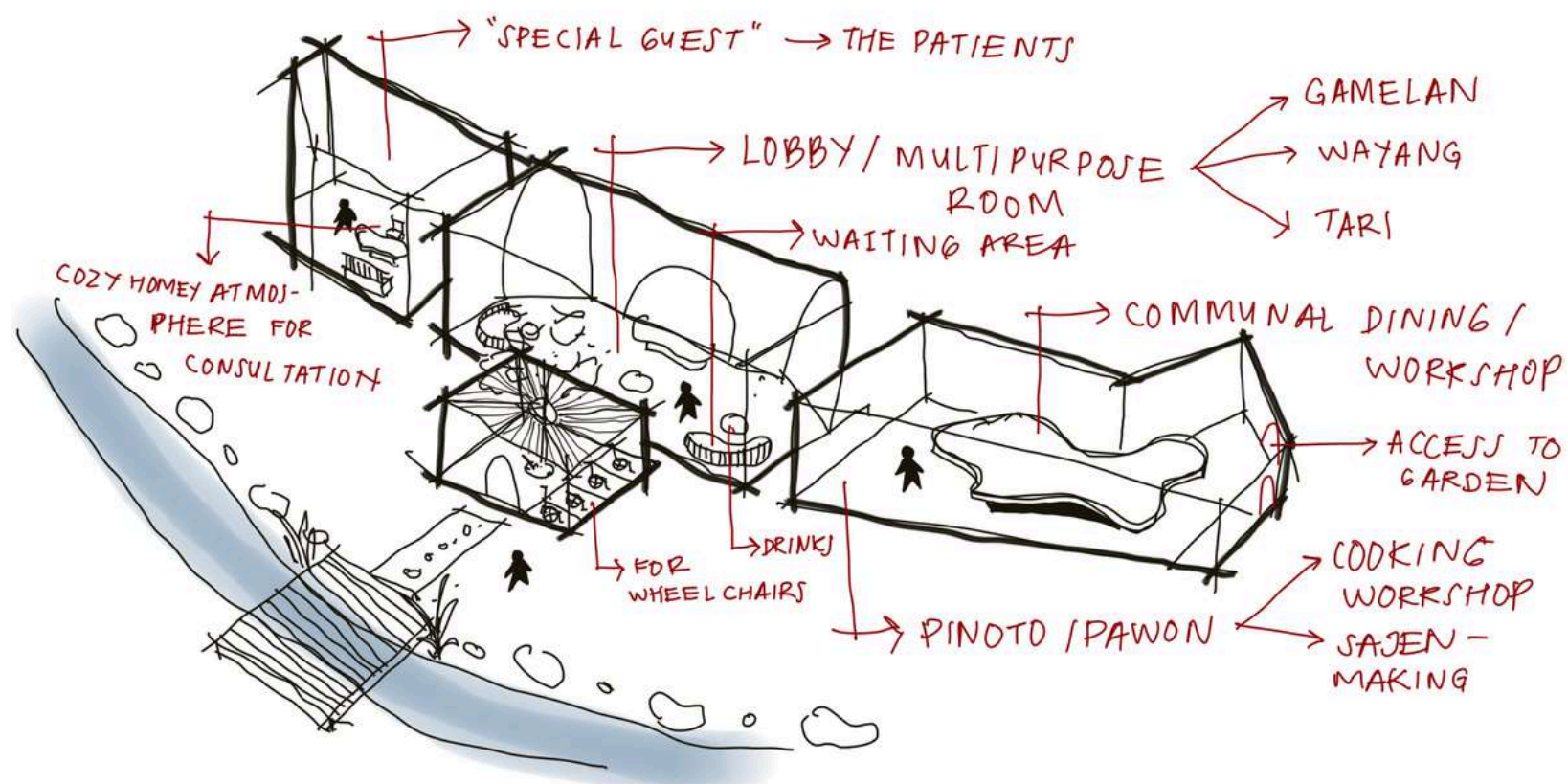
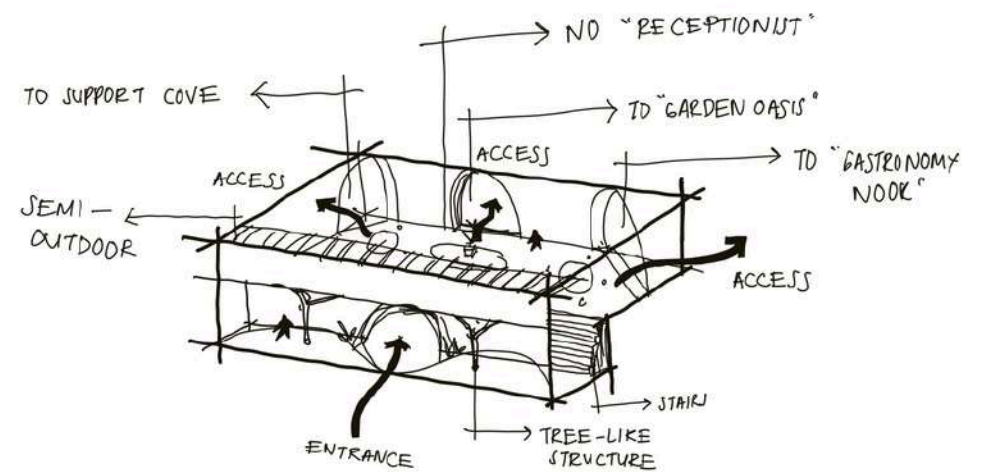


Figure 4.7 Parti Diagram for Olah Rasa
(Illustrated by Author)



Art
Performance

Wheelchair
Park

Waiting Area

Olah Rasa

Transforming *Pesanggrahan's Kuncungan* and *Prabasana* into a *Rawuh Lounge*

Gupuh means the feeling of enthusiasm and joy in receiving guests while Rengkuh means welcoming guests with warmth. The host should not only invite the guest to enter the house, but also invite the guest to Lungguh or sit down. After sitting down, the host will generally Aruh, which means greeting, asking for news or opening a conversation. And finally, Suguh, where guests who come will usually be given treats or dishes by the host. This is a form of appreciation to guests who are willing to come and have traveled to visit our homes. By applying these concepts, this room does not have a receptionist because visitors who come will be treated like guests at home.

Figure 4.8 Rawuh Lounge Concept Exploration
(Illustrated by Author)

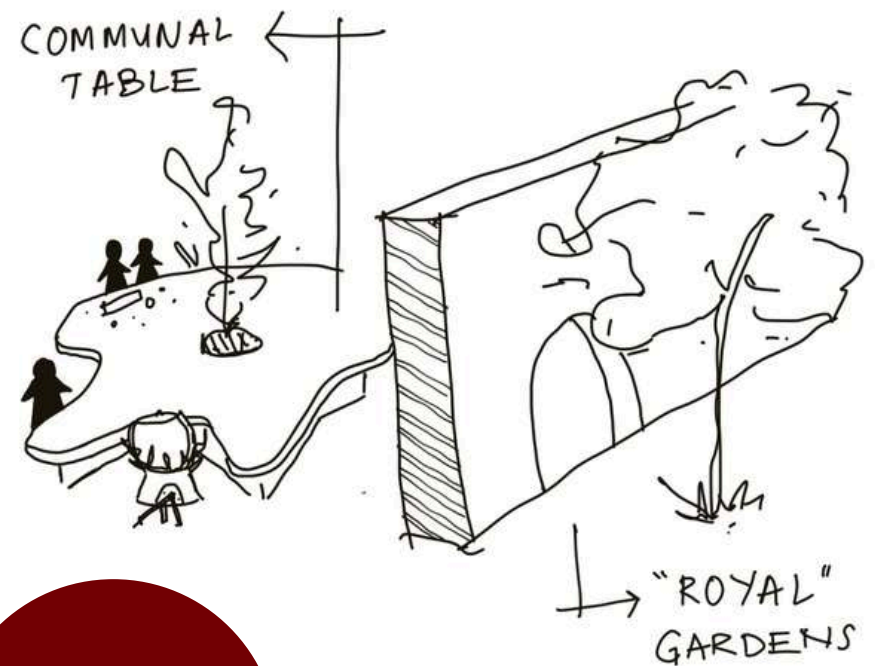


Figure 4.9 Gastronomy Nook Concept Exploration
(Illustrated by Author)

Olah Rasa

Transforming *Pesanggrahan's* *Panti Pinoto* into a *Gastronomy Nook*

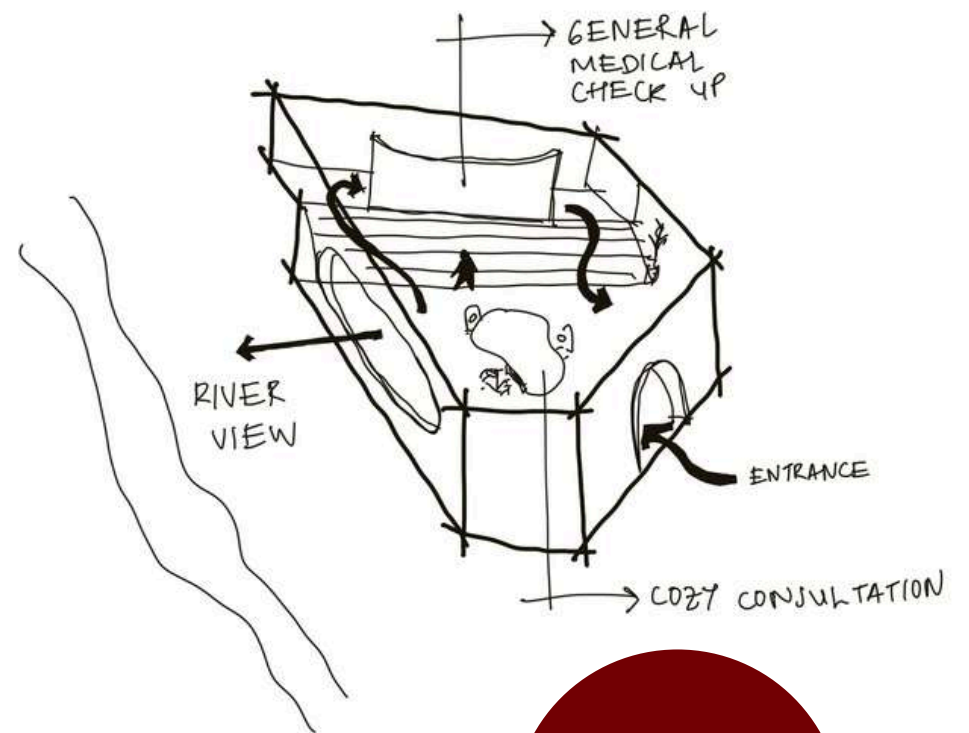
Serat Munasiyat Jati has told us many values that are related to the way we consume things, and how it affects and defines us as a human being. Therefore, a gastronomy nook will be a space for the users to harvest their own vegetables/fruits and cook them together along with the others. Besides cooking, this space also serves as a communal space to create sajen or uborampe, which is only being used as a way to mastering craftsmanship and creating the peaceful ambiance all around the spaces in the building. There will be also a jamu making, to be specific, Jare Guwo. This herbal medicine consisting of various spices was the favorite drink of GBPH Poedjokoesoemo, son of Sultan HB VIII. This herb is effective in relieving coldness in the feet and hands commonly experienced by elderly people. In addition, this drink can prevent hardening of the arteries, which is one of the causes of stroke.



Cooking
Workshop

Sajen and
Jamu Making

Harvesting



Program
Consultation

Psychological
Counseling

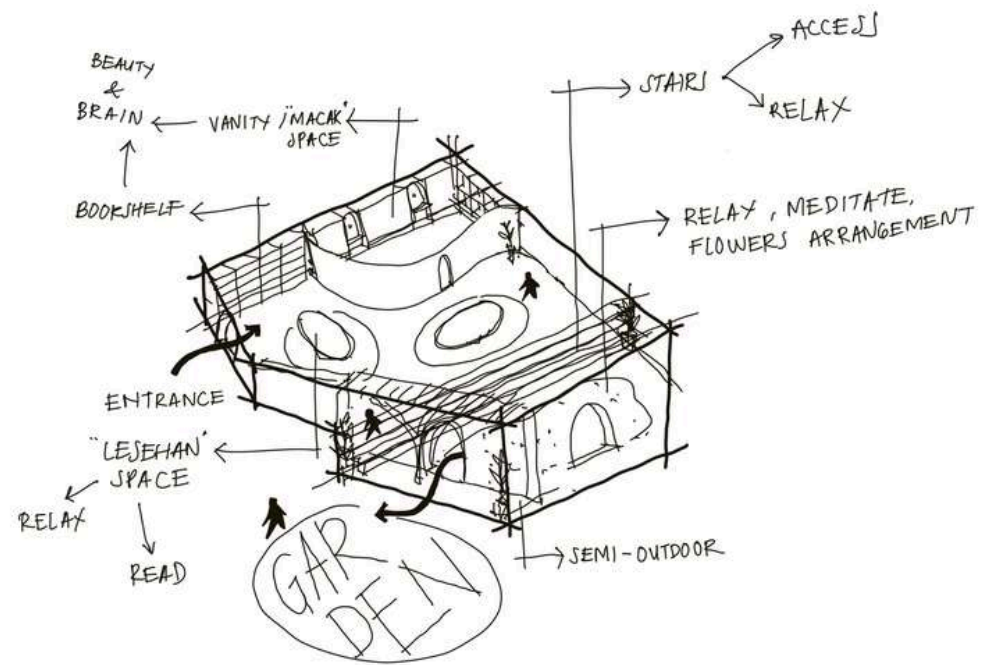
General
Medical
Check-Up

Olah Rasa

Transforming *Pesanggrahan's Panti Tamu* into a **Support Cove**

Despite of being located nearby a hospital, it's still important to have a special room to treat the patients in terms of programs tracking, especially from the psychological side. It's also important to have a space for general medical check-up because complications can happen anytime and anywhere.

Figure 4.10 Support Cove Concept Exploration
(Illustrated by Author)



Vanity/Ruang Rias

Flowers-Arranging

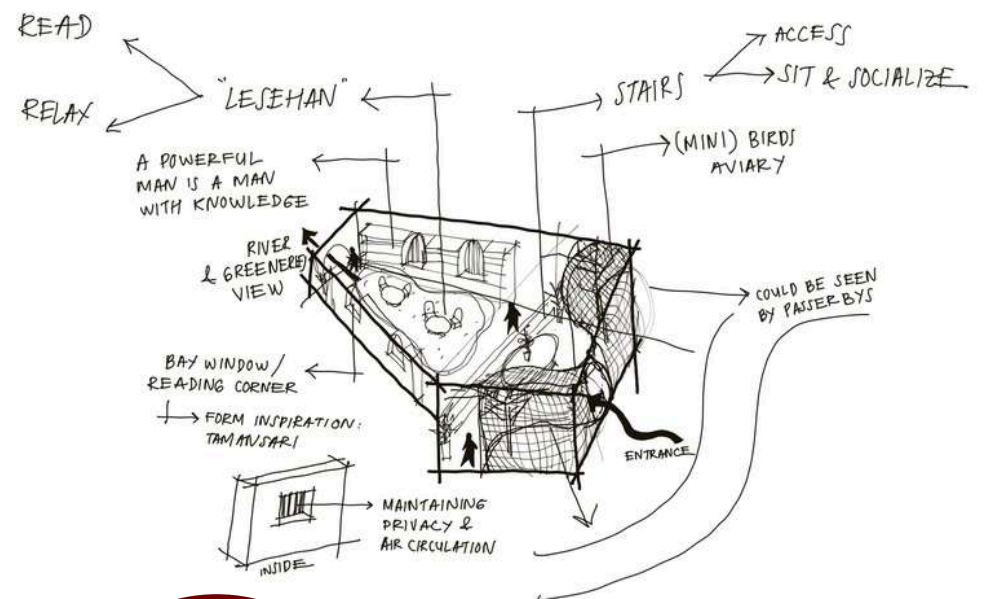
Resting/Relax Area

Olah Batin

Transforming *Pesanggrahan's Keputren* into a *Feminine Cosmos*

This feminine cosmos, which is adapted from Keputren, will have a dedicated space for vanity/taking care of their appearances, reading as a way to add their values as a woman (beauty and brain), meditating, as well as a space to conduct a flower-arranging workshop, directly connected to the garden (following the Kraton's culture).

Figure 4.11 Feminine Cosmos Concept Exploration
(Illustrated by Author)



Birds Aviary

Meditation

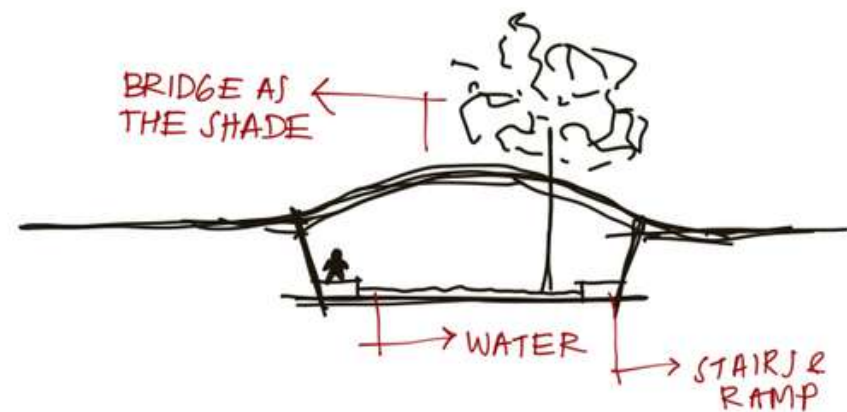
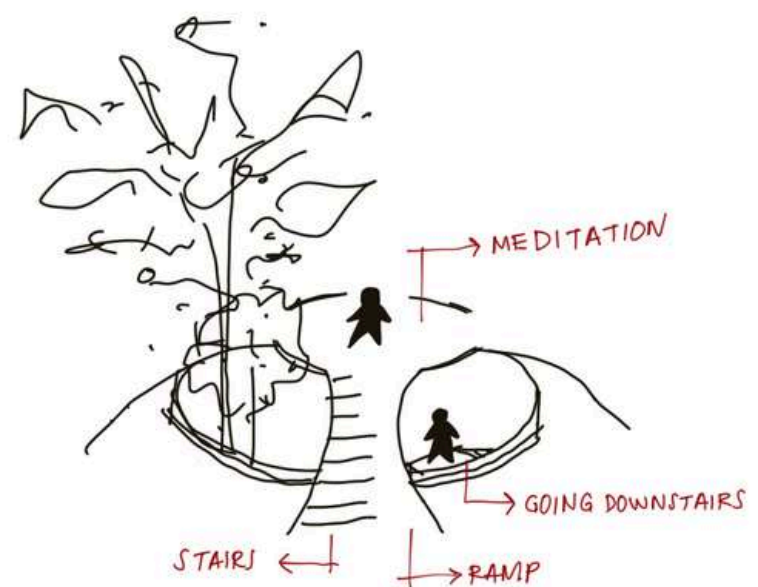
Resting/Relax
Area

Olah Batin

Transforming *Pesanggrahan's Ksatrian* into a **Masculine Cosmos**

Keeping animals, especially birds, in traditional Javanese culture is more often a male activity. This activity is not just a hobby, but also has significant social and cultural value. Keeping birds, especially those considered exotic or expensive such as perkutut, cucak rowo and kacer, is often a symbol of social status and prestige for Javanese men.

Figure 4.12 Masculine Cosmos Concept Exploration
(Illustrated by Author)

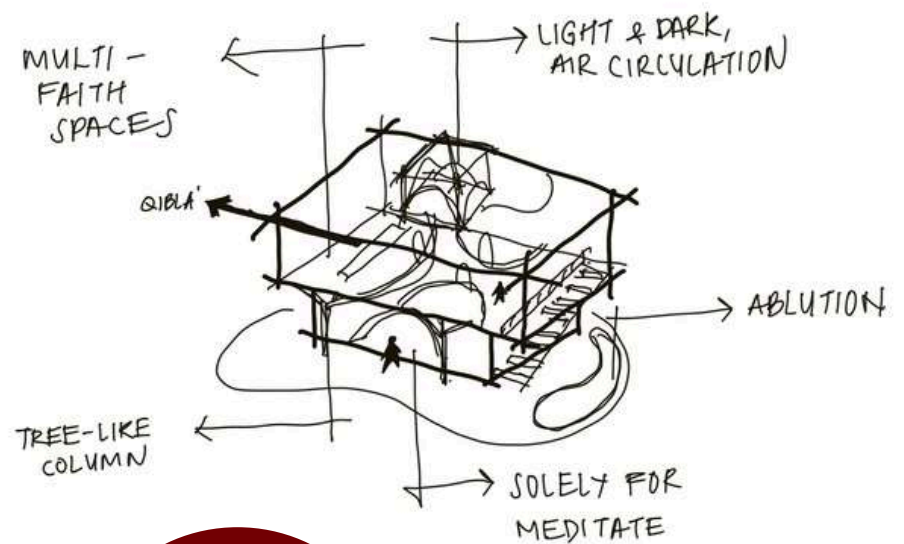


Olah Batin

Transforming **Pesanggrahan's Meditation Pond** in Ageng Dalem into a **Garden Oasis**, Inspired by **Sumur Gumuling**

During the war the sultan can still do the meditation and worship (protected by the shade). Finding peace under the noise of the world.

Figure 4.13 Garden Oasis Concept Exploration
(Illustrated by Author)



Meditation

Ablution

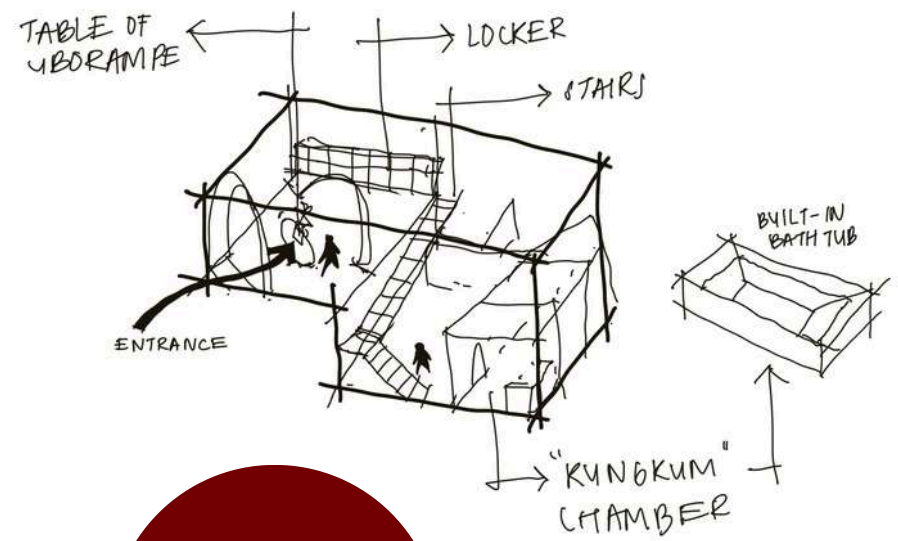
Worship

Olah Batin

Transforming *Pesanggrahan's Pungkuran* and *Sanggar Buwana* into a *Solace Retreat*

Adapting from Pesanggrahan, the lower floor will be used for meditation purposes and the upper part is for worship-related activities. To become an inclusive space, the worship area will not only provide for one religion but it's going to be a multi-faith space, embracing everyone's diversity.

Figure 4.14 Solace Retreat Concept Exploration
(Illustrated by Author)



Changing
Room

Built-In
Bathtubs

Individual
Rooms for
Kungkum

Olah Batin

Transforming *Pesanggrahan's Bath House* into a *Banyu Sanctuary*

Kungkum or soaking our bodies into the water is one of the most important values in Javanese meditation since it practices our skill in focusing on ourselves with God.

Figure 4.15 Banyu Sanctuary Concept Exploration
(Illustrated by Author)

Design *Exploration* **1**

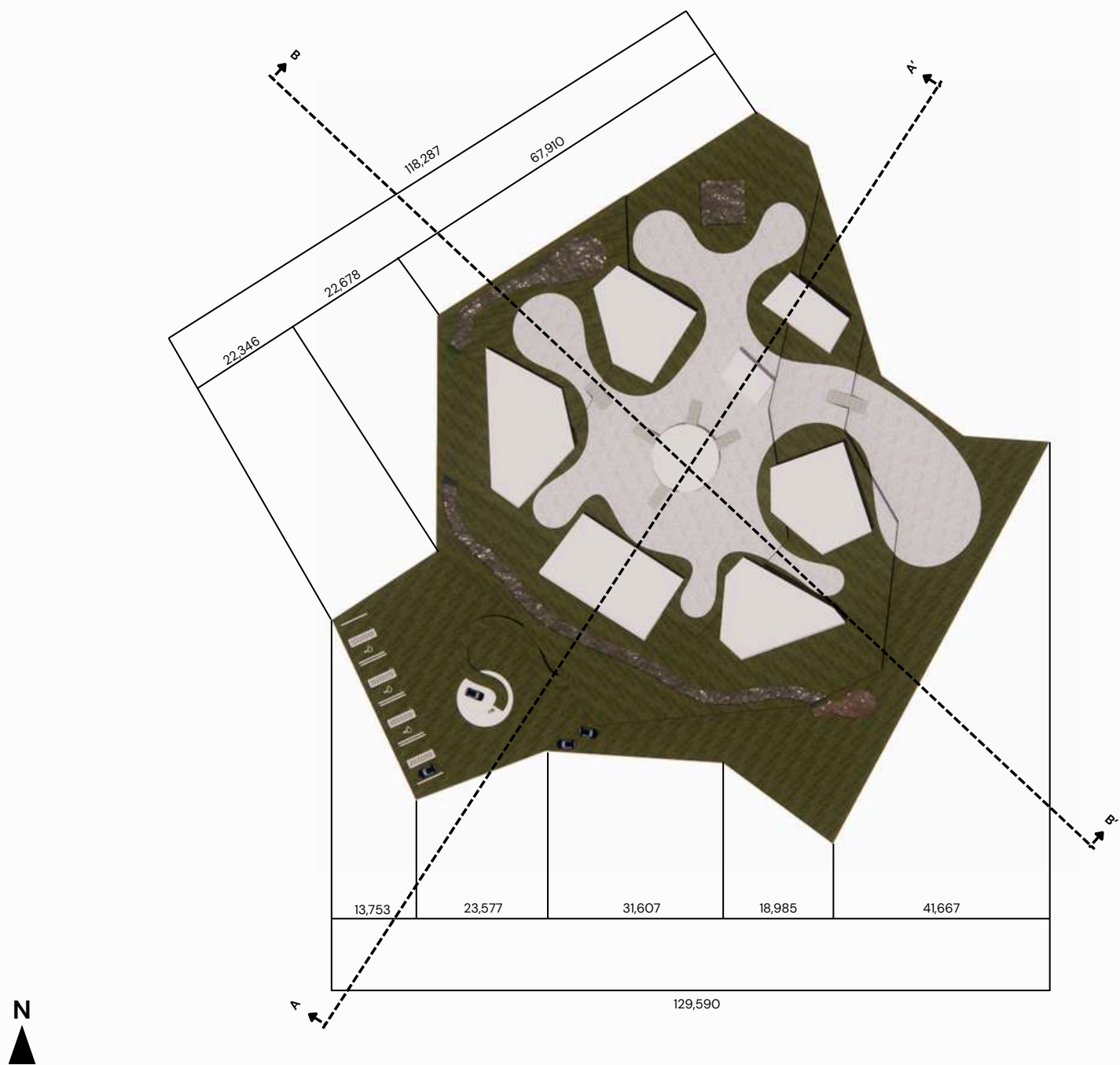
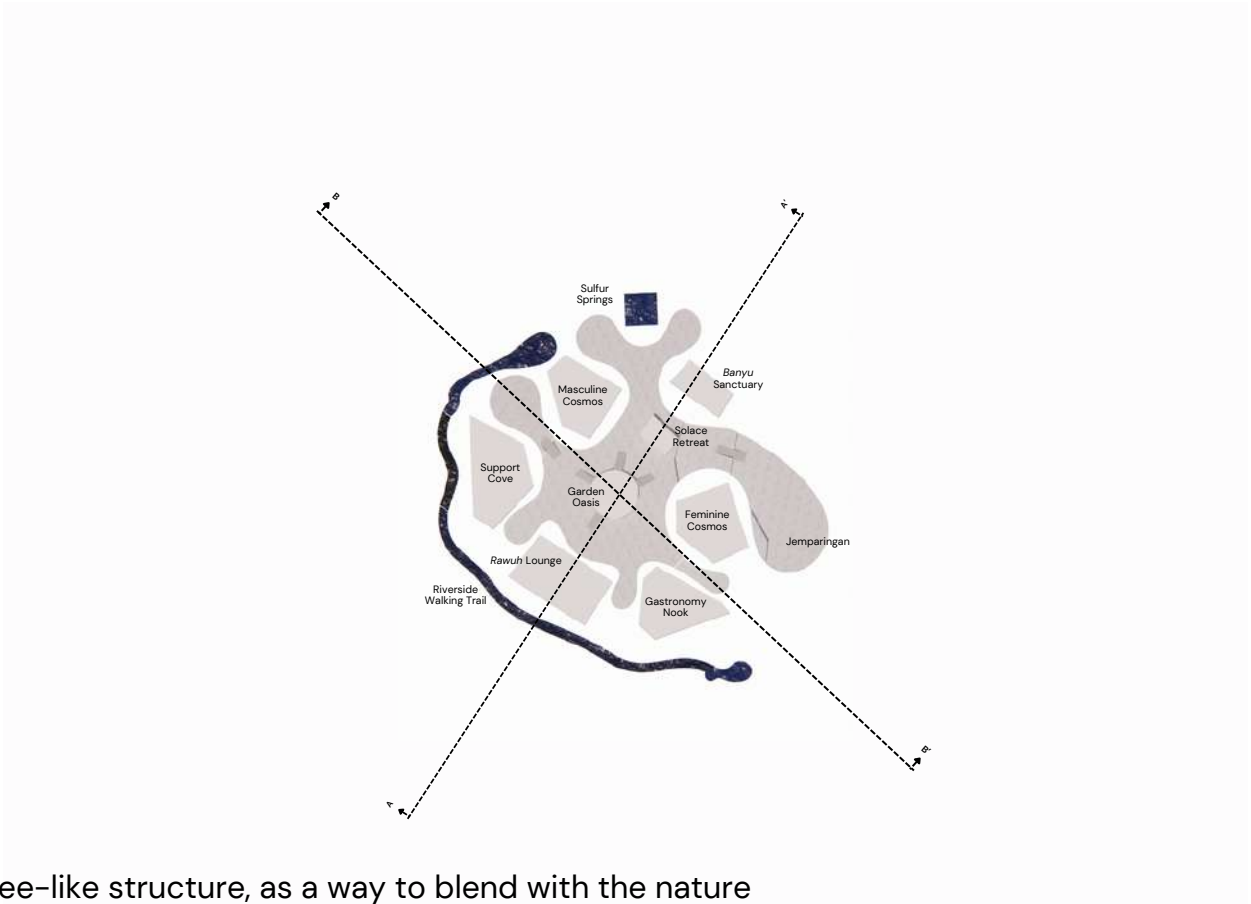
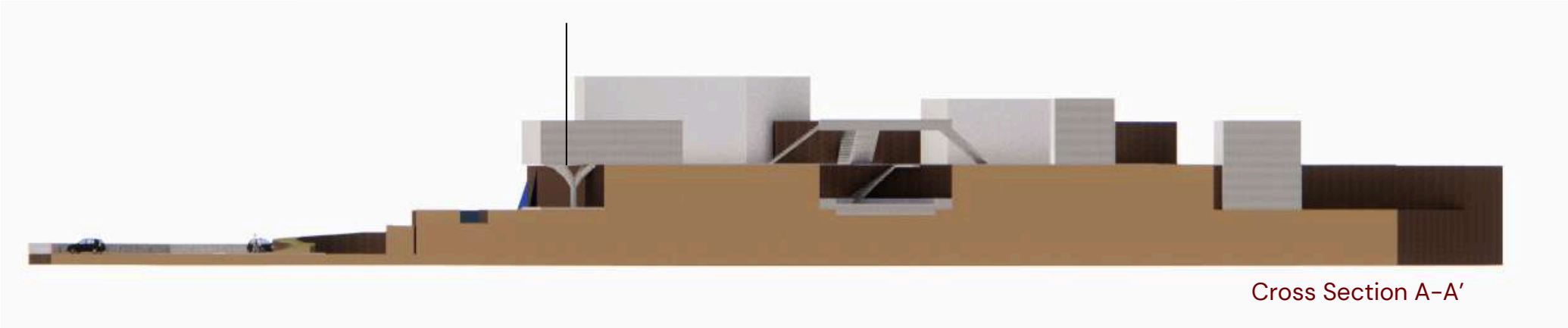


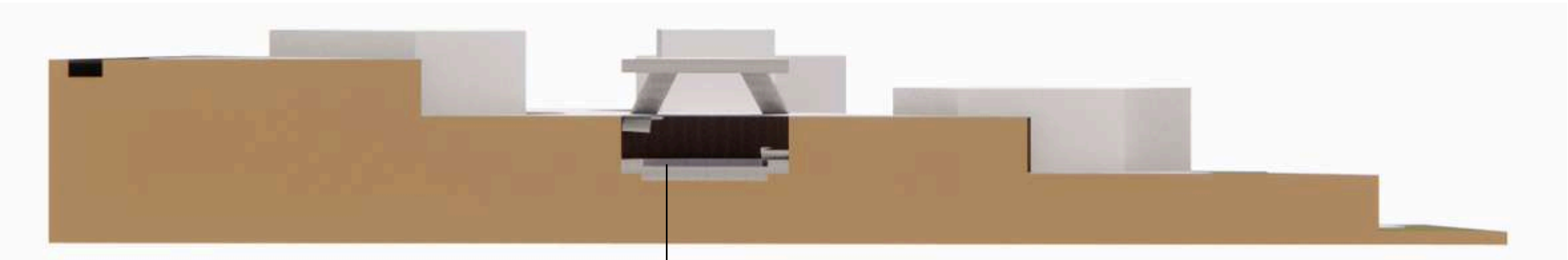
Figure 4.16 Design Exploration 1 - Top View
(Modelled by Author)



Tree-like structure, as a way to blend with the nature



Cross Section A-A'



Cross Section B-B'

Underground water well, which will be called as Garden Oasis

Figure 4.17 Design Exploration 1 - Keyplan and Sections
(Modelled by Author)

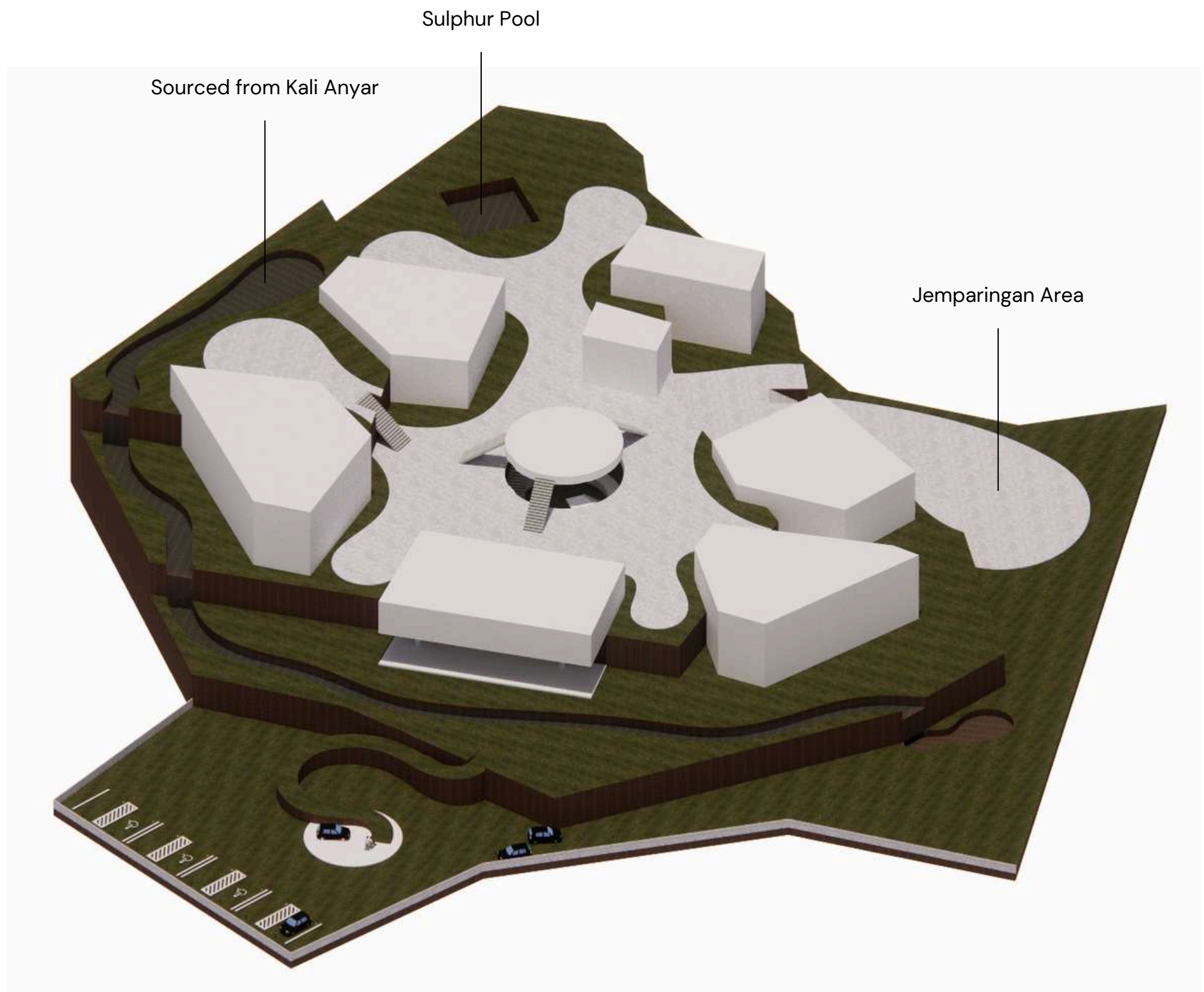


Figure 4.18 Design Exploration 1 - Axonometric
(Modelled by Author)

Design *Exploration* 2

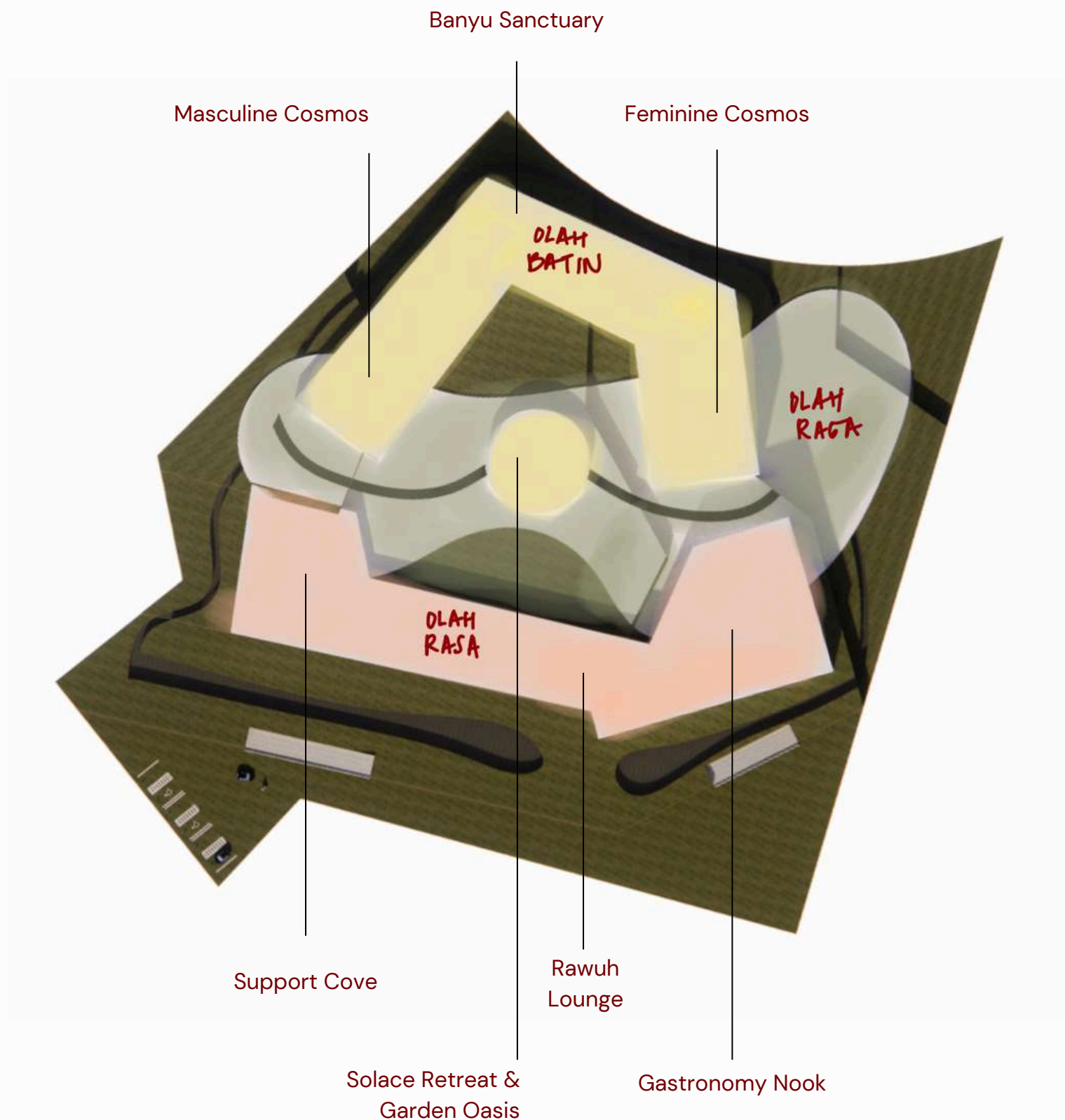
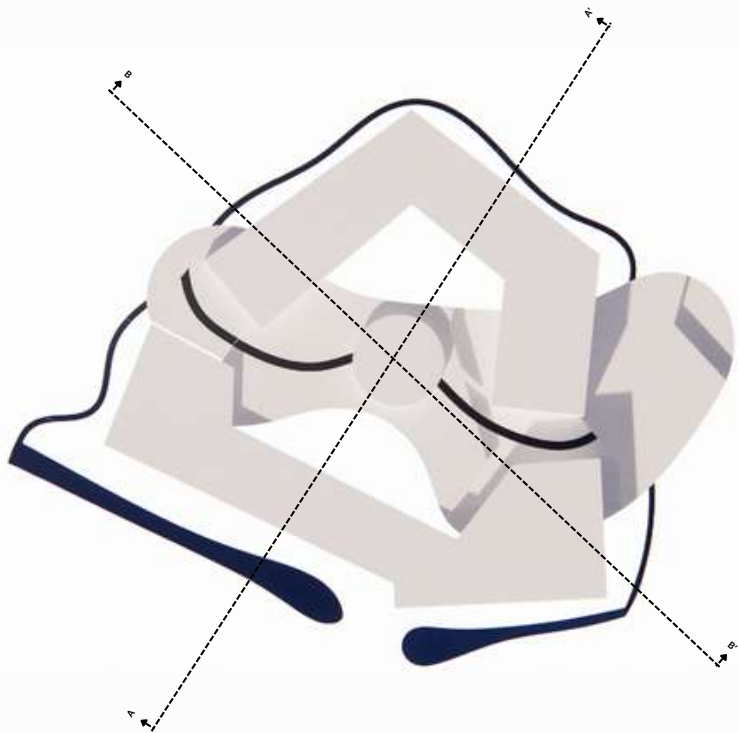
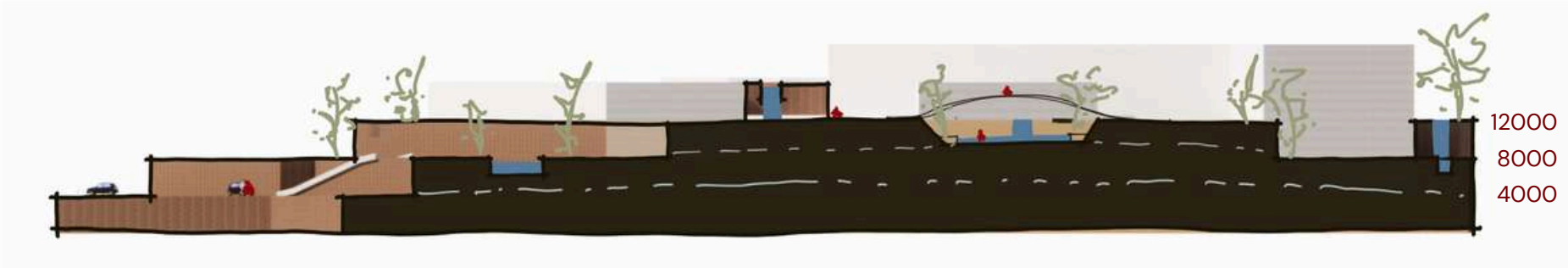
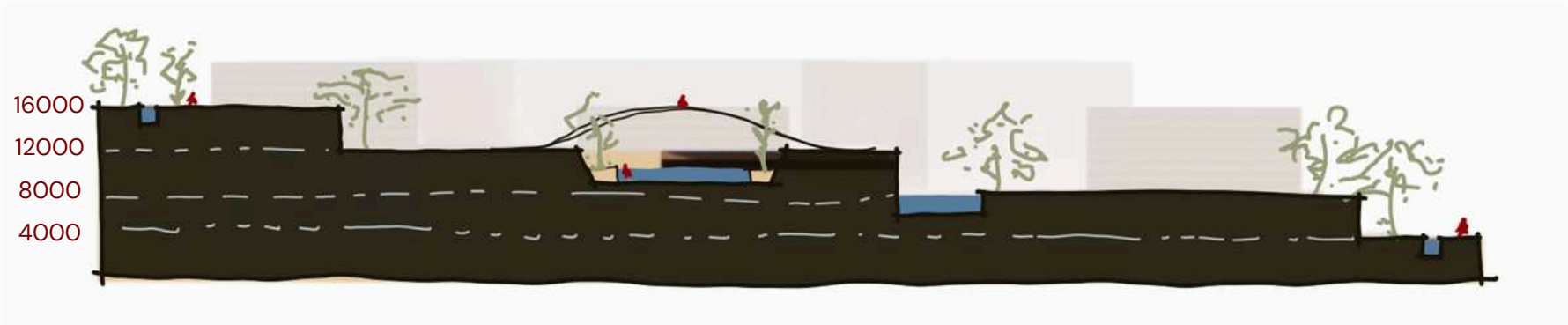


Figure 4.19 Design Exploration 2 - Top View
(Modelled by Author)



Section **A-A'**



Section **B-B'**

Figure 4.20 Design Exploration 2 – Keyplan and Sections
(Modelled by Author)

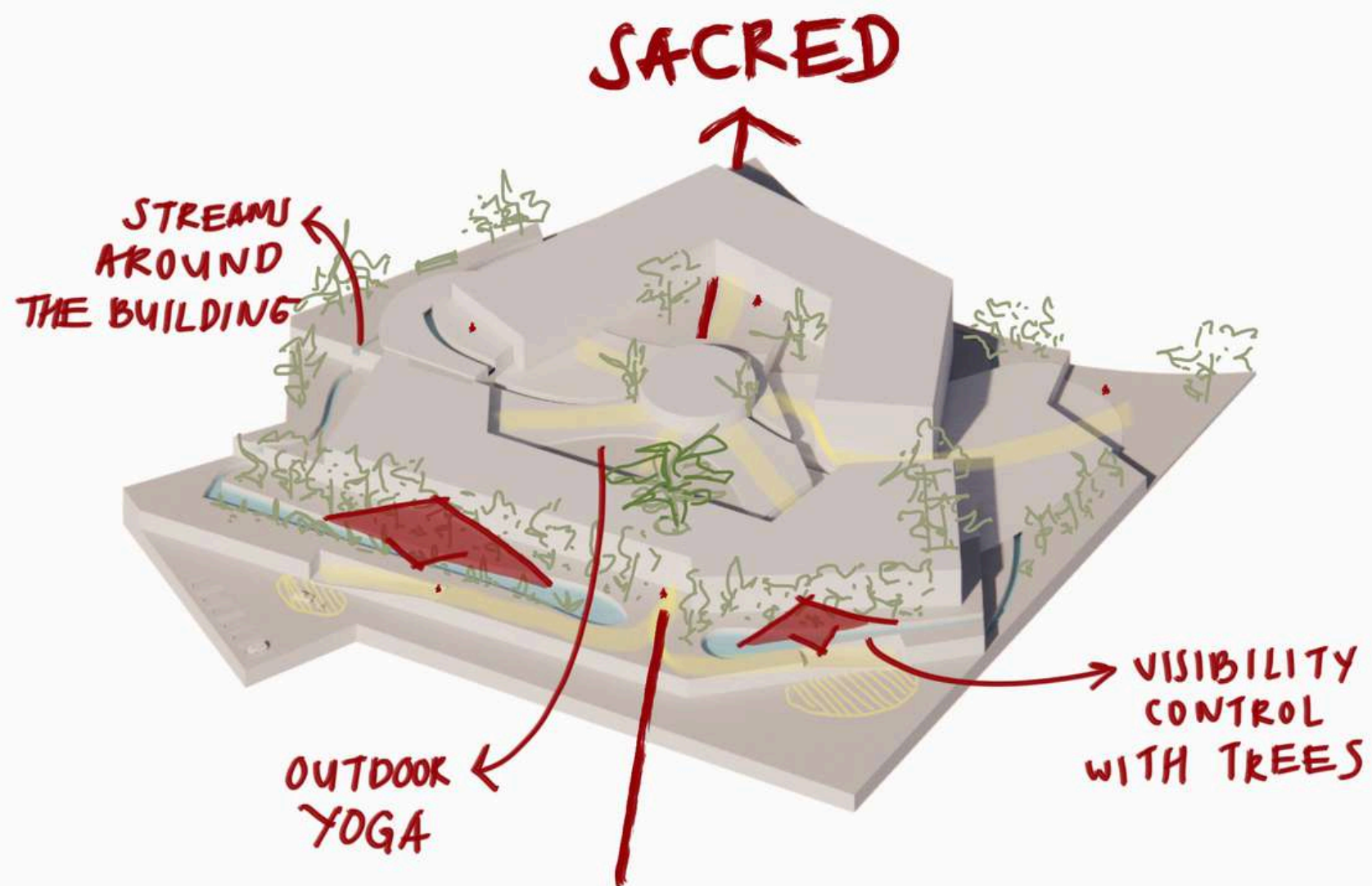
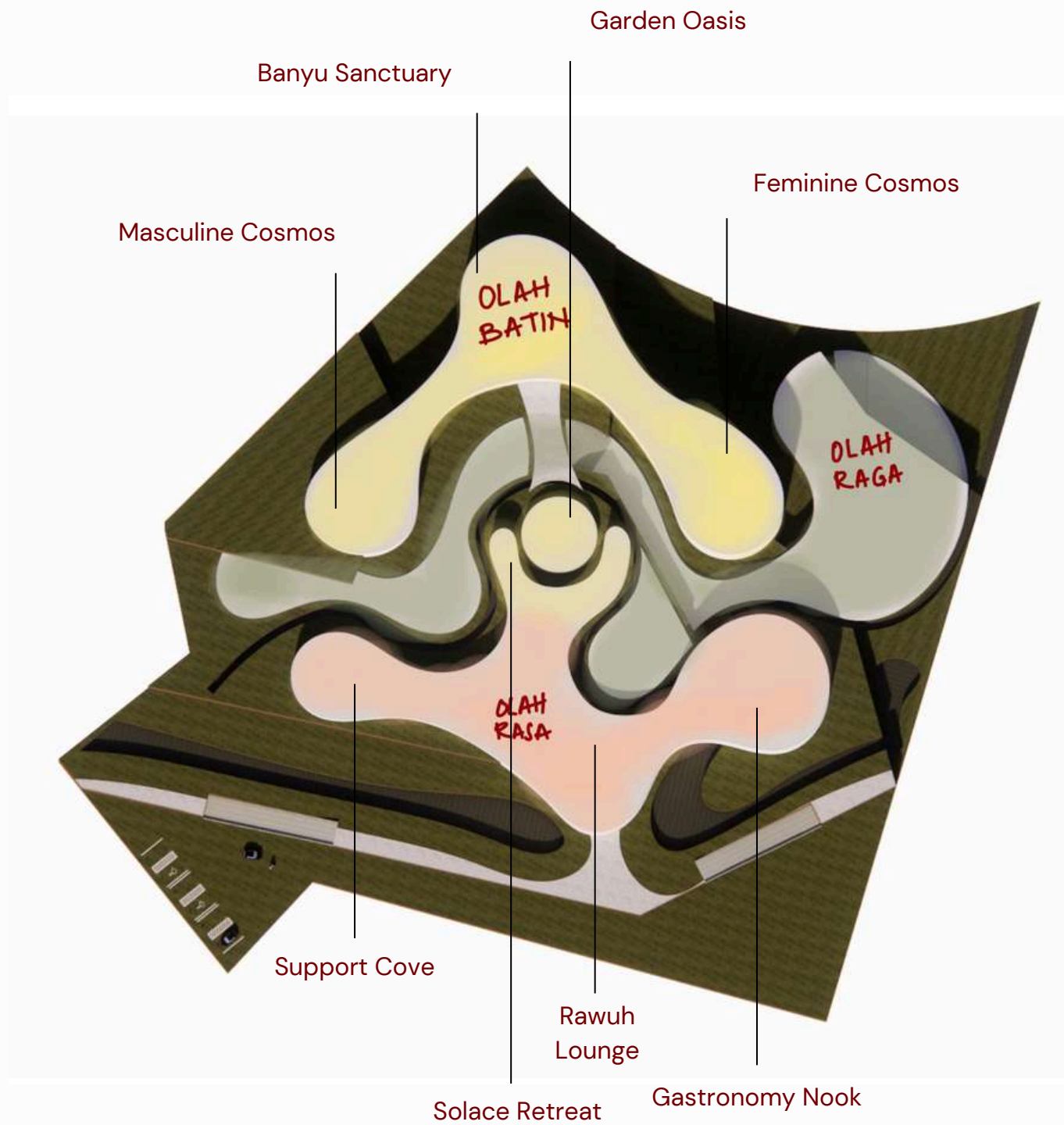


Figure 4.21 Design Exploration 2 - Axonometric
(Modelled by Author)

Design
*Exploration*3



With the same concept (Olah Batin, Olah Rasa, and Olah Raga), the masses are being merged to create a more integrated composition of each concept.

Figure 4.22 Design Exploration 3 – Top View
(Modelled by Author)

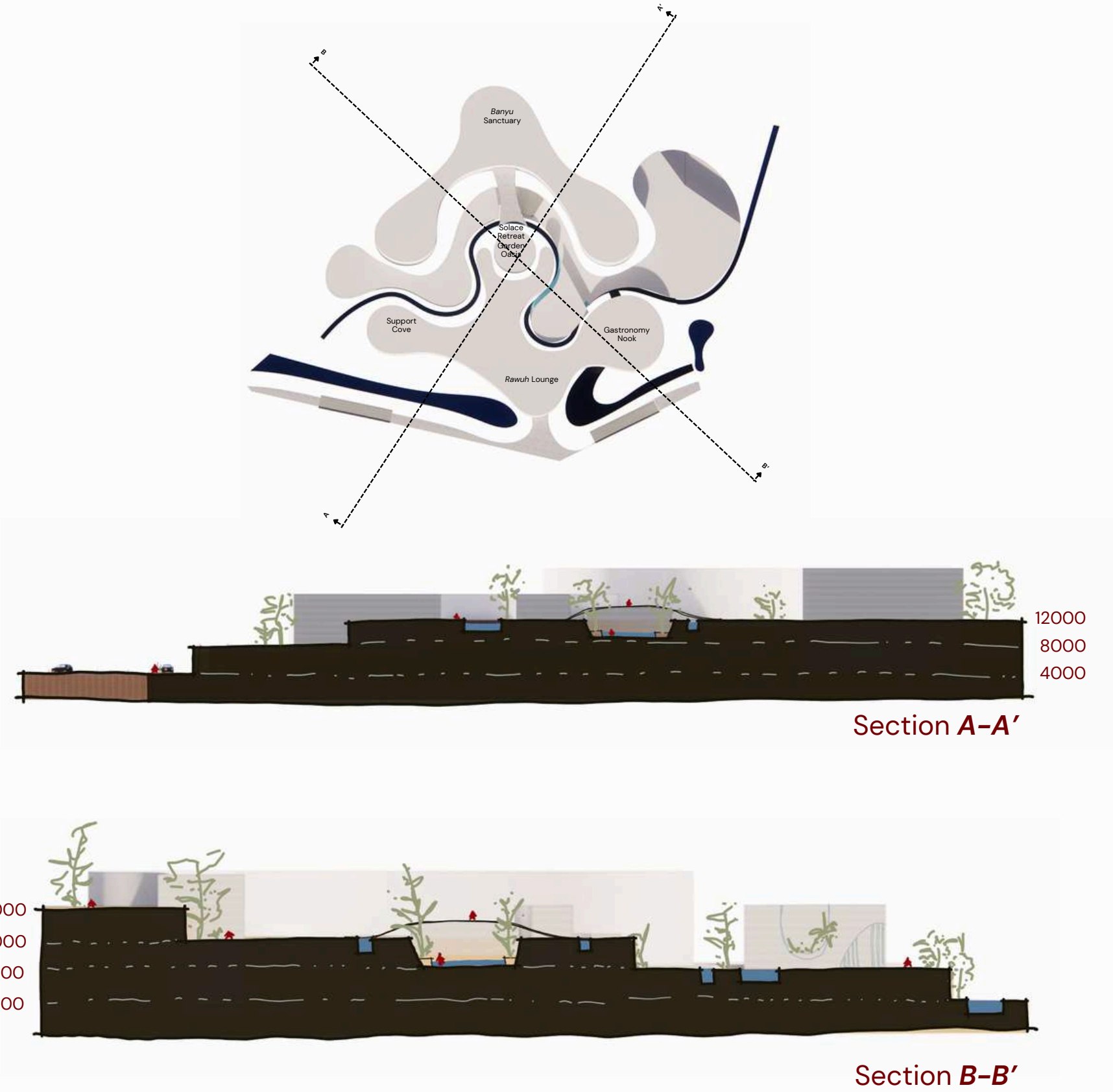
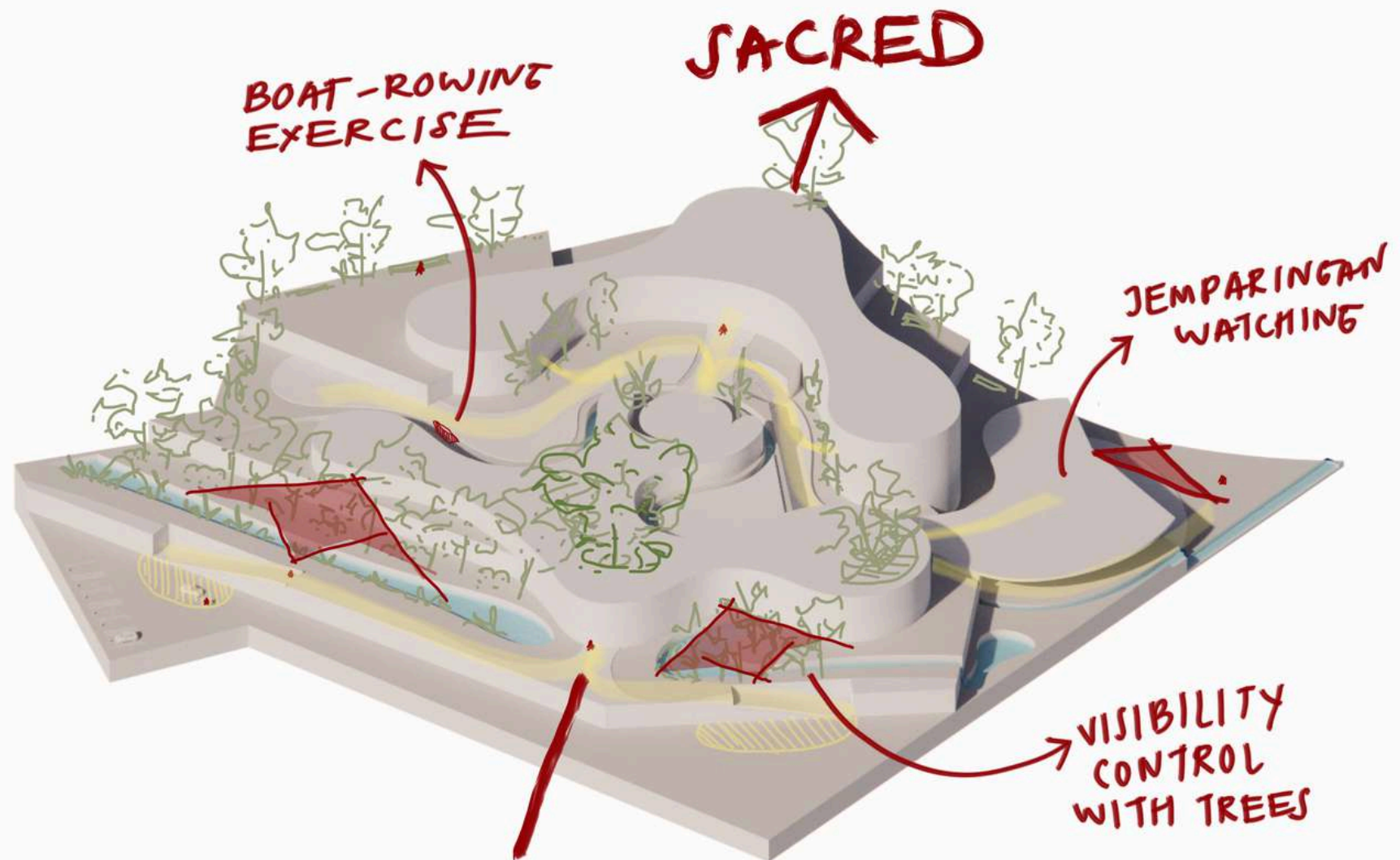


Figure 4.23 Design Exploration 3 – Keyplan and Sections
(Modelled by Author)



The jemparingan watching area is elevated, supported by a tree-like column, and the lower area could be used for other exercises especially when we need to take a rest from playing Jemparingan.

Figure 4.24 Design Exploration 3 – Axonometric
(Modelled by Author)

The implementation of the “sacred” vegetations or trees that have certain meanings in the Javanese culture.

Since Sulastri Tree is believed to maintain the relationship between people, this tree is being placed around communal spaces, whereas interactions could occur.



Waru Tree has the power to weaken “enemy forces” when it’s being planted at the fort area. Therefore, this tree is being placed at each corner of the site to “deflect” the negative spirits so they won’t go inside the building.

Figure 4.25 Design Exploration 3 – Schematic Visualization
(Modelled by Author)

(Final) Design *Development*

Based on the comprehensive evaluation, **Design Exploration 3** has been selected as the concept that will be further developed and refined.



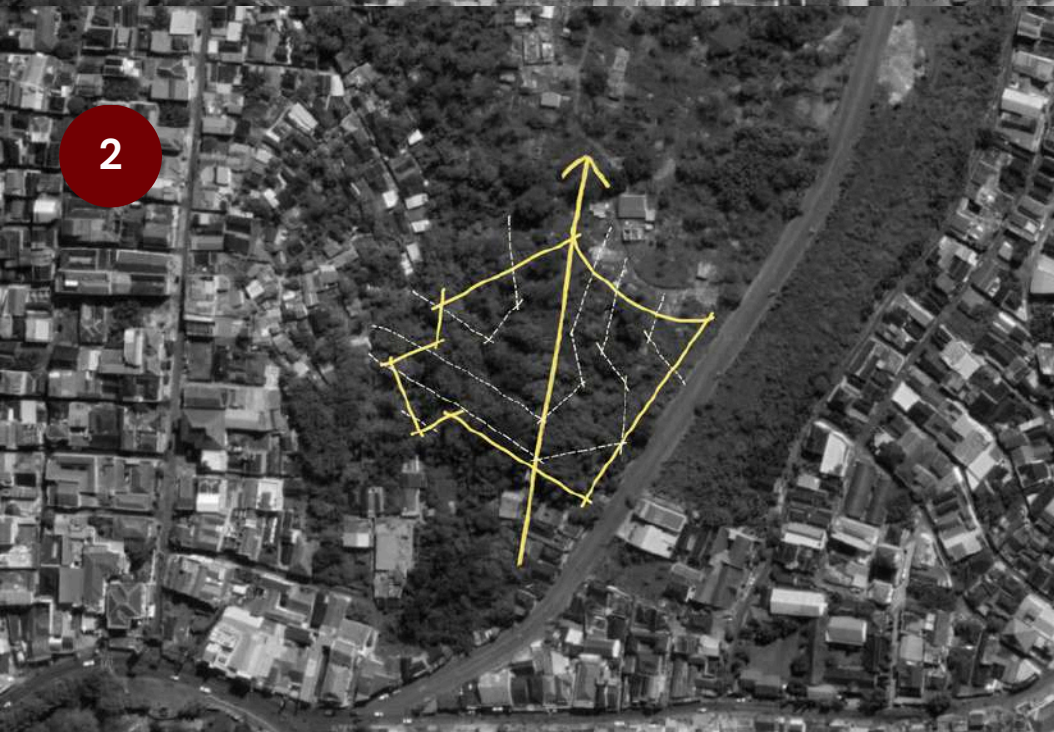
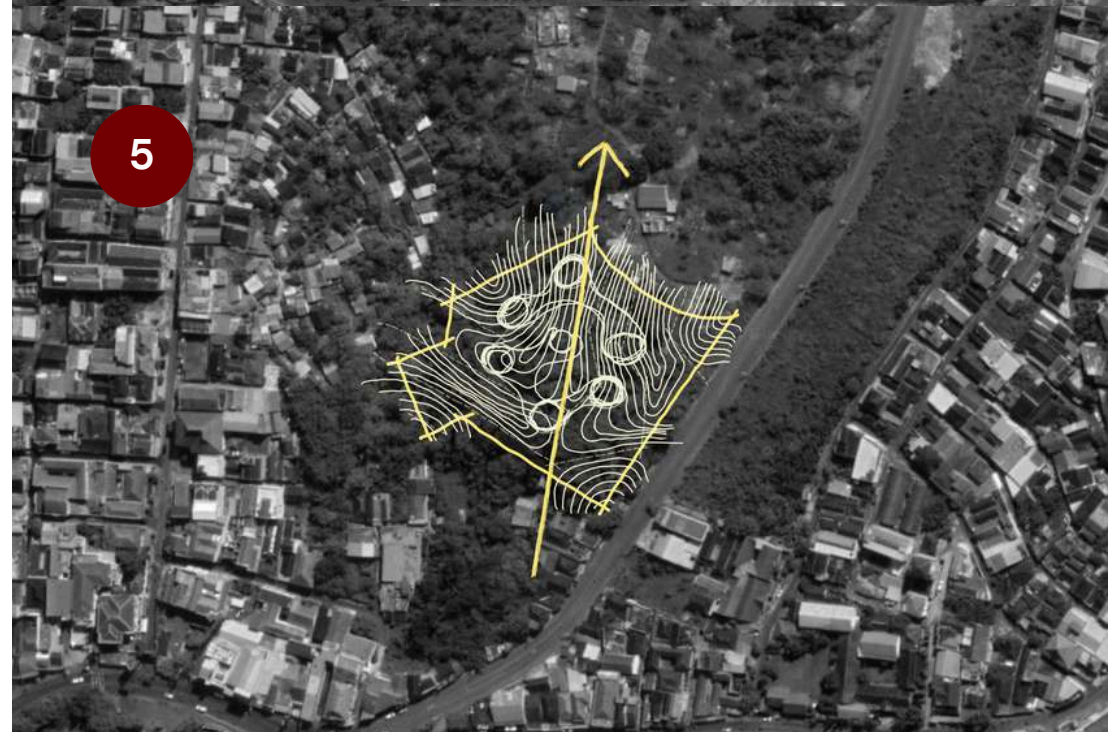


Figure 4.26 Serat Concept
(Illustrated by Author)

Design Concept

Utilizing *Diana Agrest's* formula in transforming non-design values into design

1

Pesanggrahan Codes

Column

Boundary

:

Landscape

Movement, Intentions

:

Axis

Body of water

2

Serat Codes

Layers

Slices of meaning, movement, boundary

:

Health

Diet, greens, water

:

Sufficient

Inner peace, self-control, intentions

3

Pesanggrahan Column

Serat Layers

x

Serat Layers

Slices of meaning, movement, boundary

=

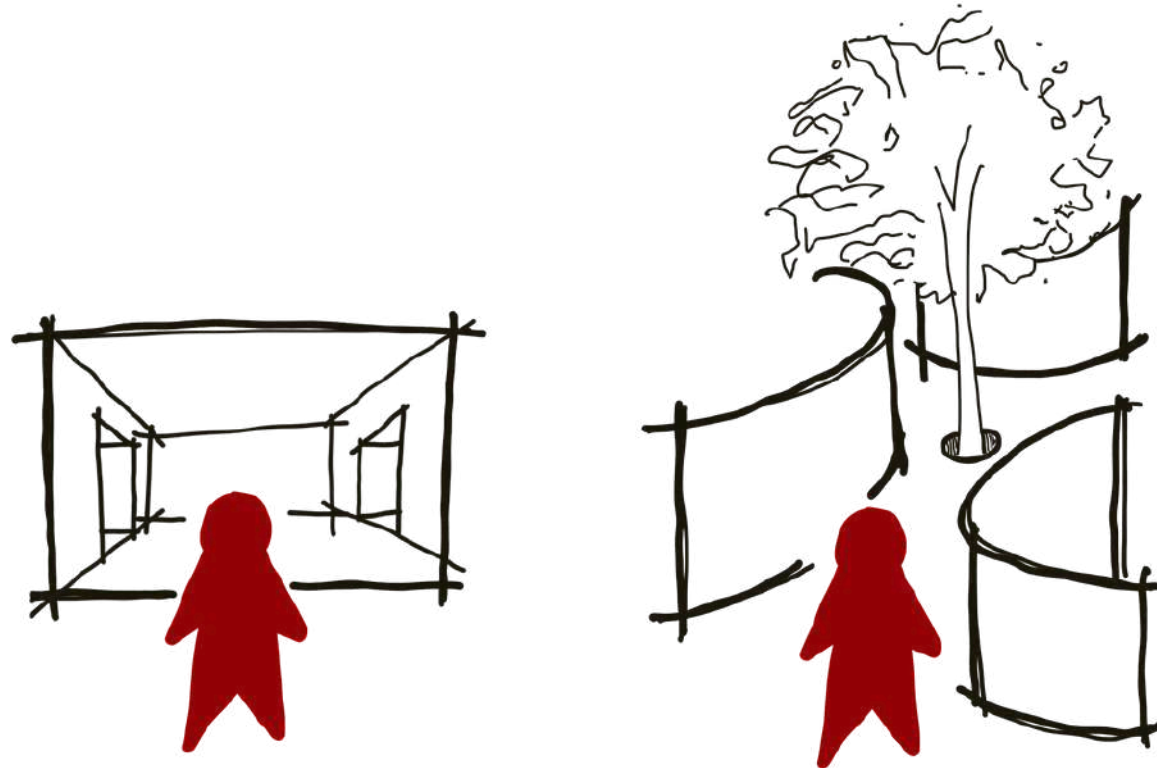
Pesanggrahan Column

Slice of meaning, movement, boundary

Table 4.4 Diana Agrest's Formula Implementation
(Illustrated by Author)

Design Concept

Breaking the rectangularity,
Embracing the natural flows.



How is the design of the common
healthcare facility?

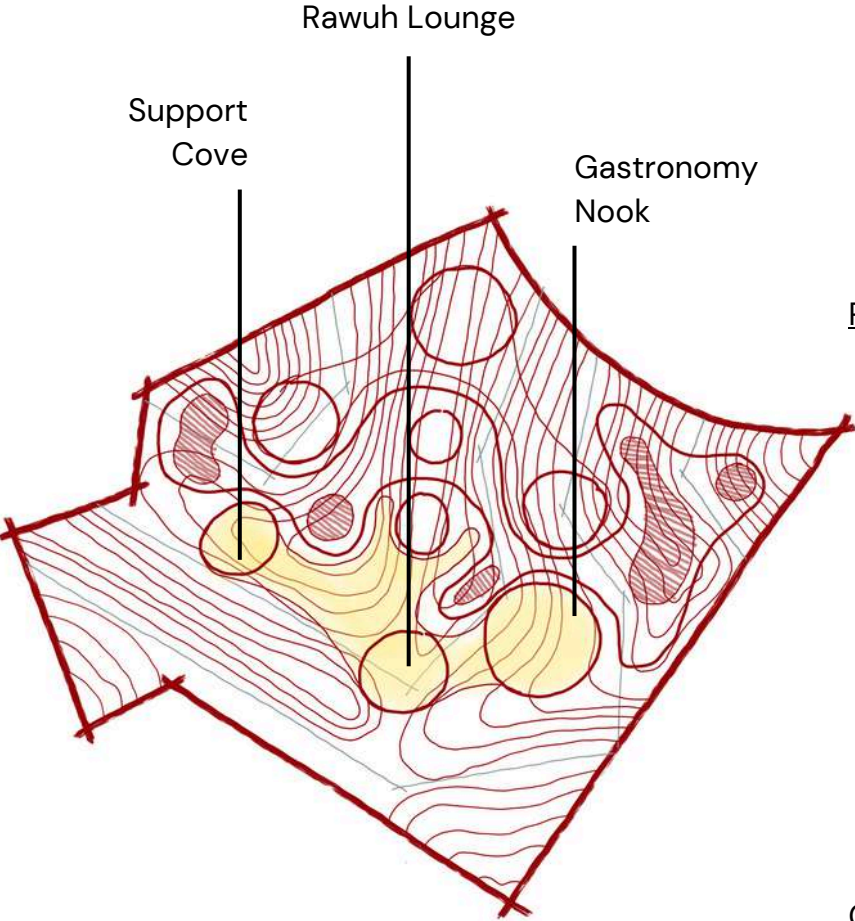
Rectangular
White
Bright
Plastered Wall
Enclosed Space
Surrounded by vegetations

In contrast to that, this recovery
center design is aiming for:

Undulating
Warm colors
Dimmed
Exposed Wall
Open Space
Vegetations are incorporated

Figure 4.27 Undulating Concept
(Illustrated by Author)

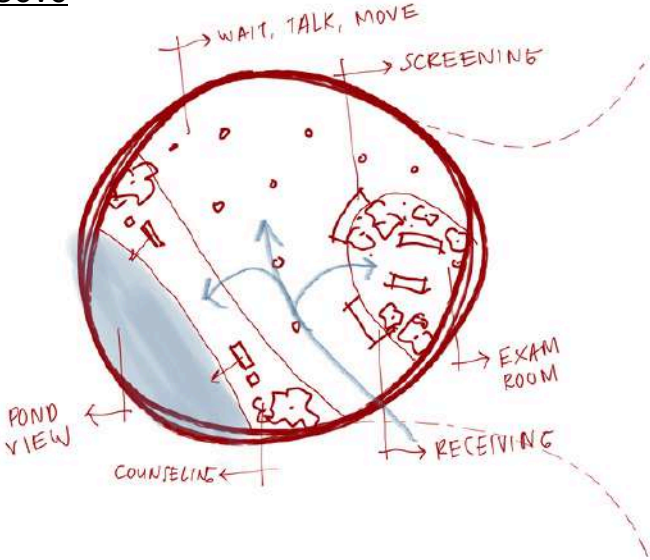
Olah Rasa



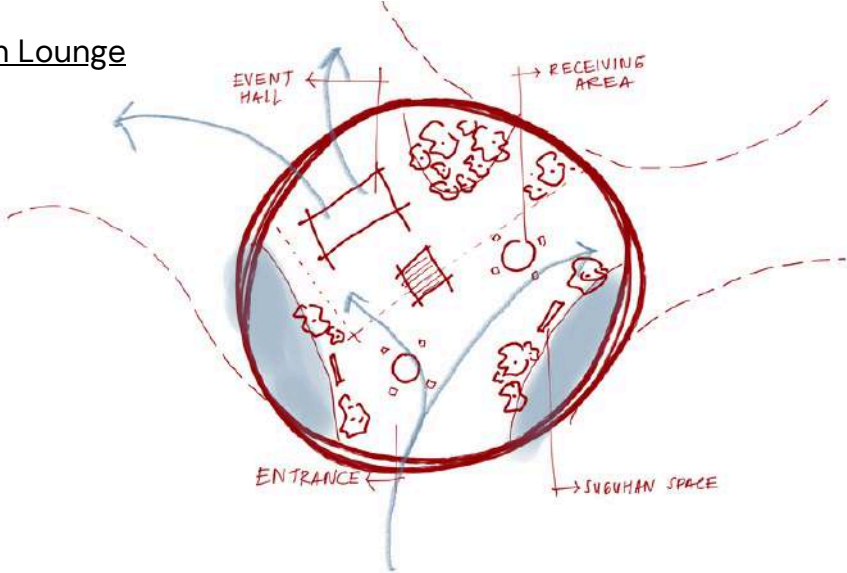
The previous series of program that have been generated are being adjusted to the undulating-shaped spaces, maintaining the same values and elements.

Figure 4.28 Olah Rasa's Space Concept
(Illustrated by Author)

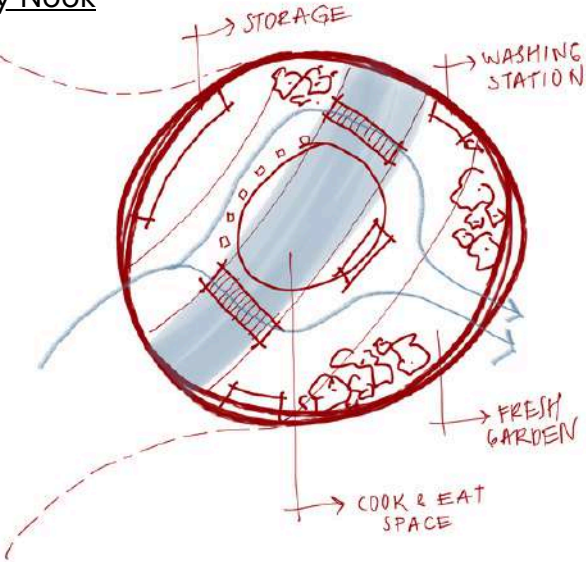
Support Cove



Rawuh Lounge



Gastronomy Nook



Olah Raga

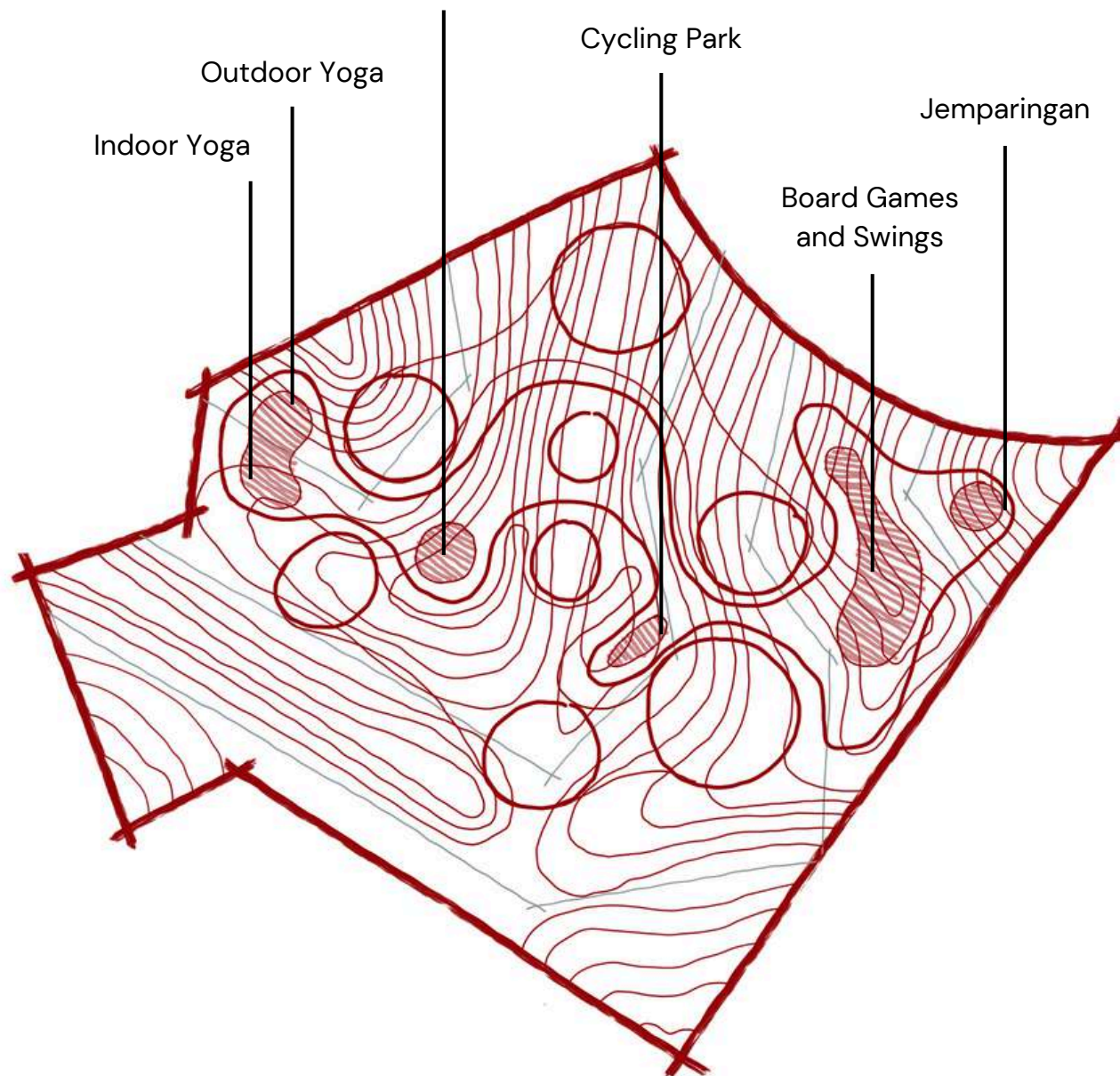
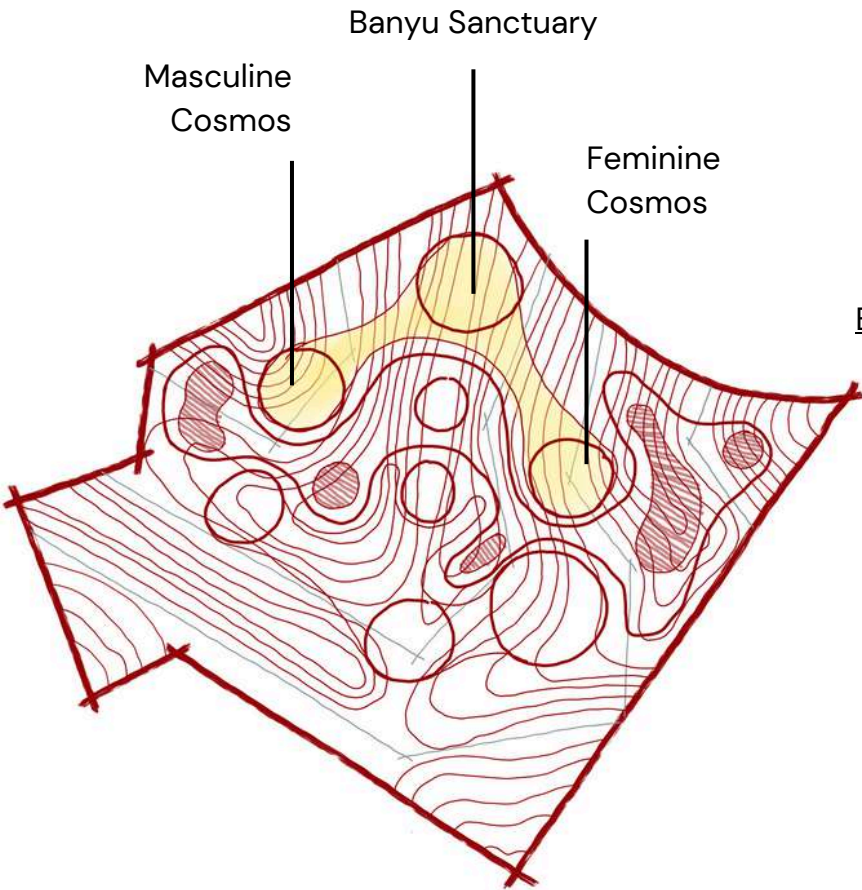
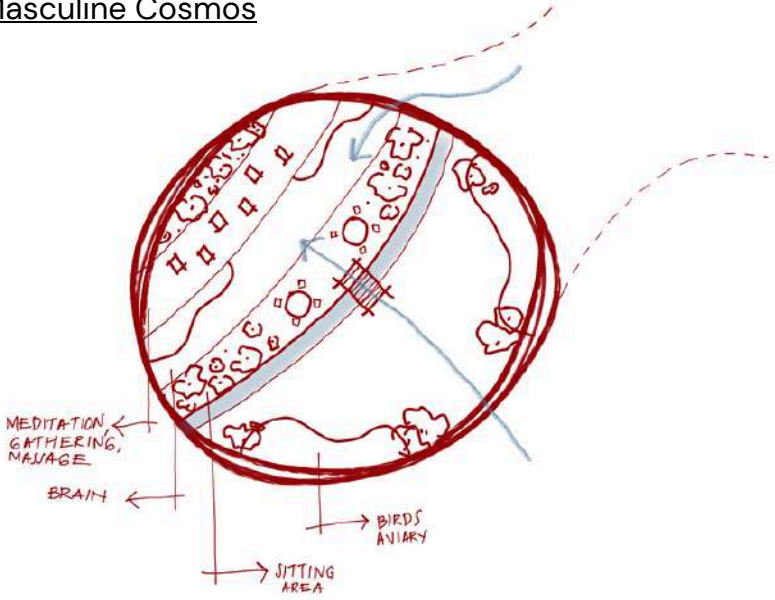


Figure 4.29 Olah Raga's Space Concept
(Illustrated by Author)

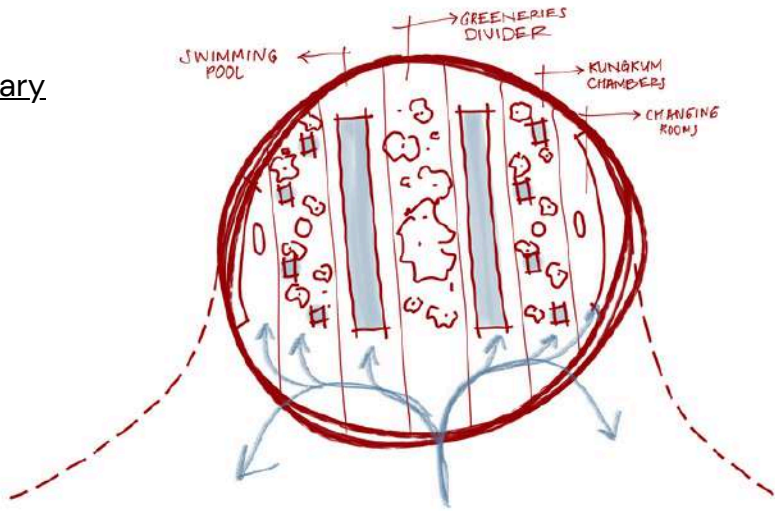
Olah Batin



Masculine Cosmos



Banyu Sanctuary



Feminine Cosmos

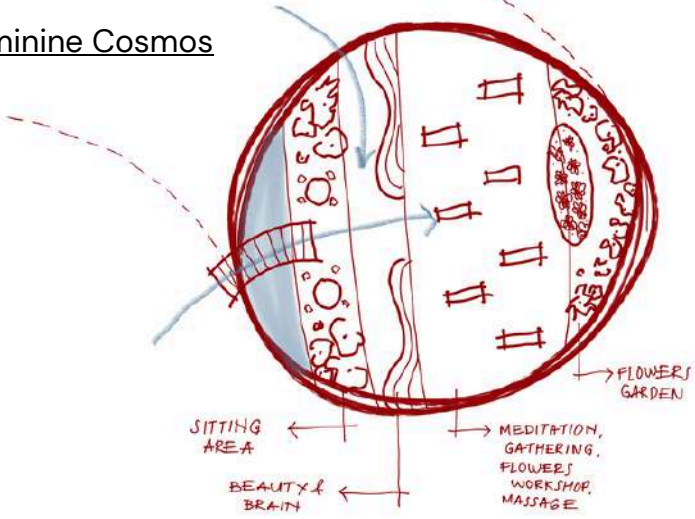
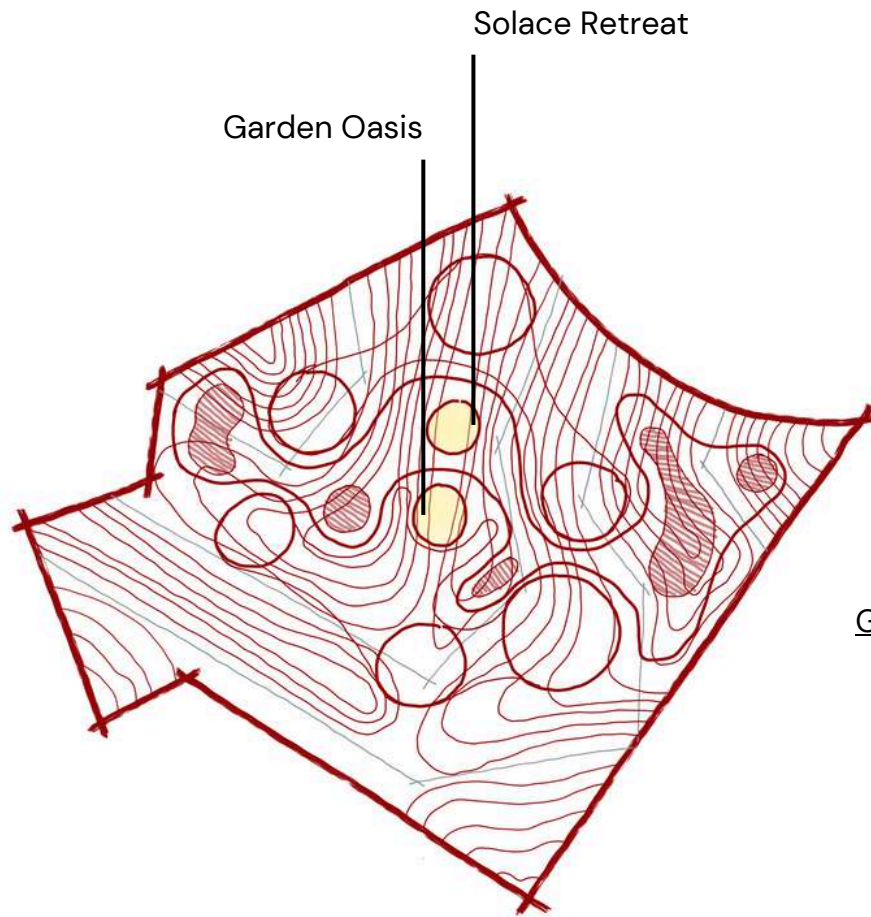
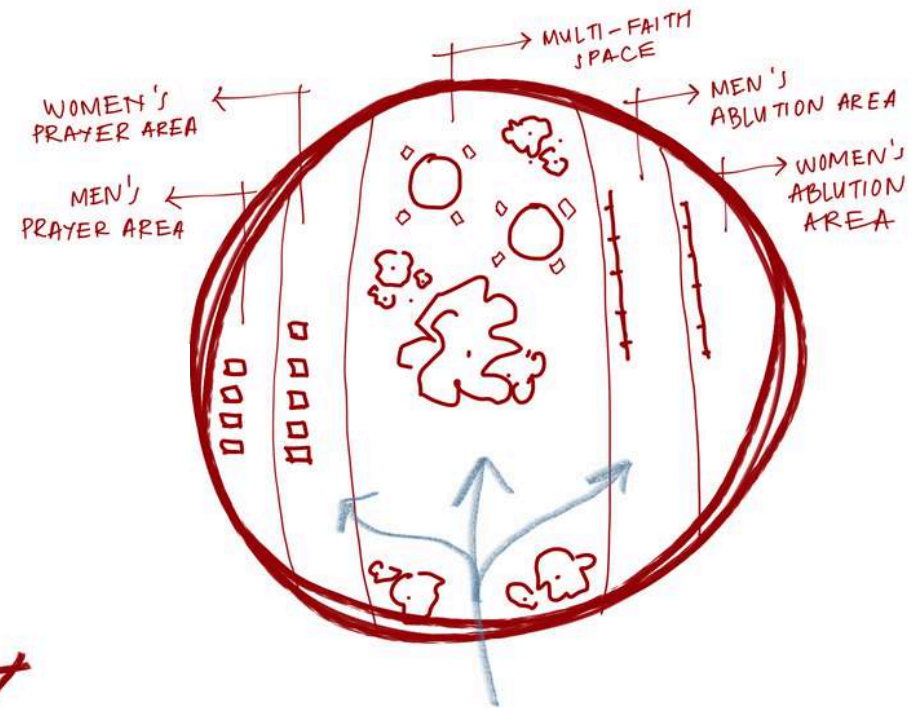


Figure 4.30 Olah Batin's Space Concept
(Illustrated by Author)

Olah Batin

Solace Retreat



Garden Oasis

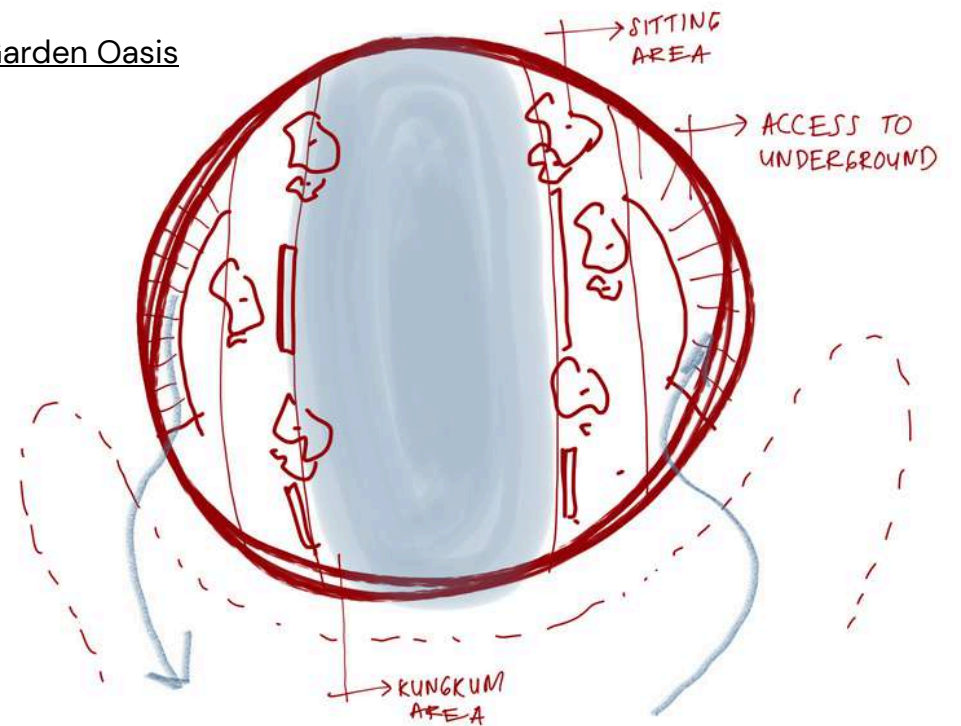


Figure 4.31 Olah Batin's Space Concept (2)
(Illustrated by Author)



Figure 4.32 Olah Rasa Programs
(Illustrated by Author)



Transforming *Pesanggrahan's Kuncungan and Prabasana* into a *Rawuh Lounge*

Gupuh means the feeling of enthusiasm and joy in receiving guests while **Rengkuh** means welcoming guests with warmth. The host should not only invite the guest to enter the house, but also invite the guest to **Lungguh** or sit down. After sitting down, the host will generally **Aruh**, which means greeting, asking for news or opening a conversation. And finally, **Suguh**, where guests who come will usually be given treats or dishes by the host. This is a form of appreciation to guests who are willing to come and have traveled to visit our homes. By applying these concepts, this room does not have a receptionist because visitors who come will be treated like guests at home.



Transforming *Pesanggrahan's Panti Tamu* into a *Support Cove*

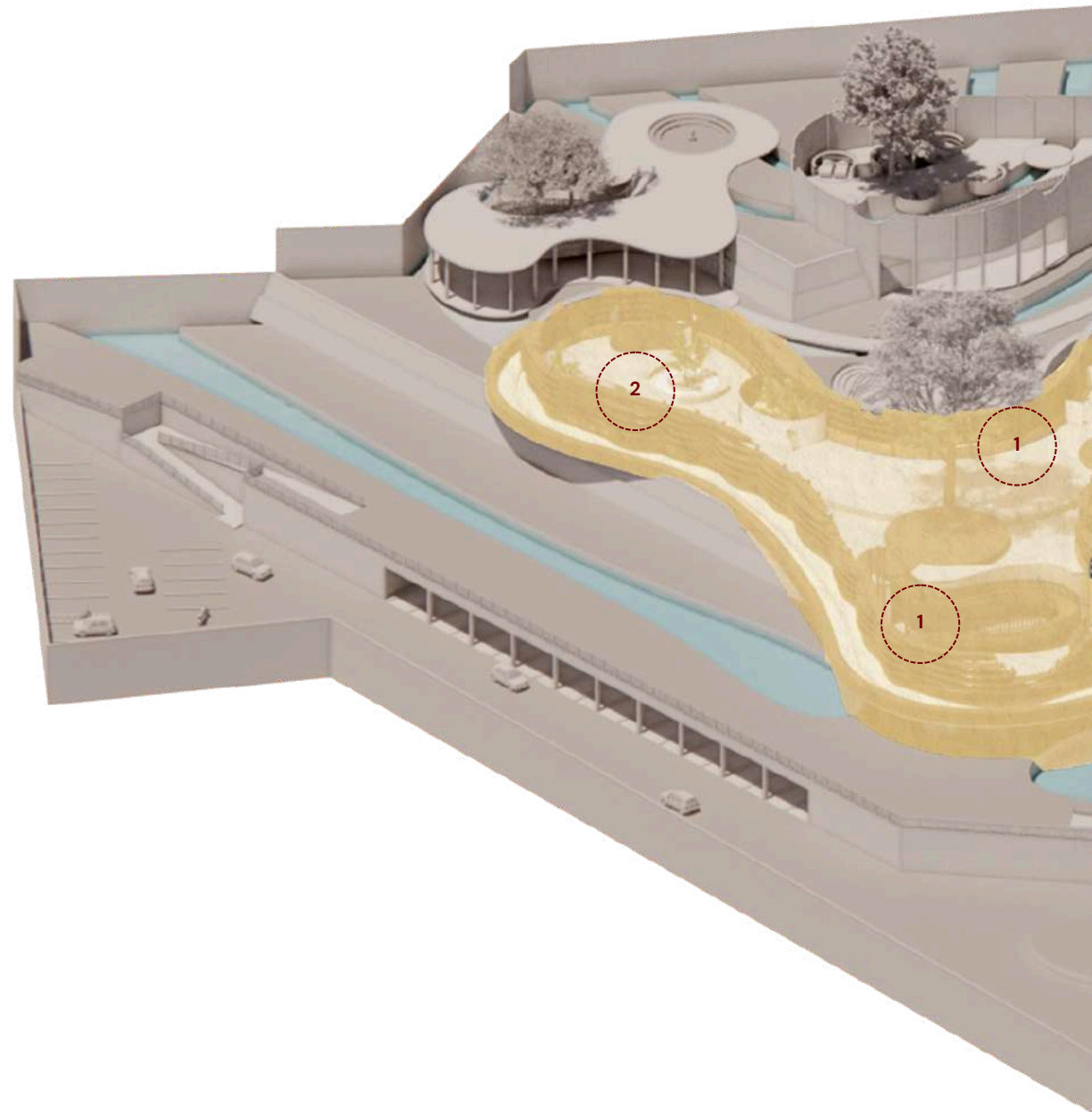
Despite of being located nearby a hospital, it's still important to have a special room to treat the patients in terms of **programs tracking**, especially from the **psychological and physical** side. It's also important to have a space for general medical check-up because complications can happen anytime and anywhere.



Transforming *Pesanggrahan's Panti Pinoto* into a *Gastronomy Nook*

Serat Munasiyat Jati has told us many values that are related to the way we consume things, and how it affects and defines us as a human being. Therefore, in this space, the users will harvest their own vegetables/fruits (based on the royal garden's principles) and cook them together along with the others. Besides cooking, this space also serves as a communal space to create offerings or *uborampe*, which is only being used as a way to master craftsmanship and create a peaceful ambiance all around the spaces in the building. There will be also a jamu making, to be specific, Jare Guwo. This herbal medicine, consisting of various spices, was the favorite drink of GBPH Poedjokoesoemo, son of Sultan HB VIII. This herb is effective in preventing the hardening of the arteries, which is one of the causes of stroke.

Figure 4.33 Olah Rasa Programs (2)
(Illustrated by Author)



- 1) Rawuh Lounge
- 2) Support Cove
- 3) Gastronomy Nook

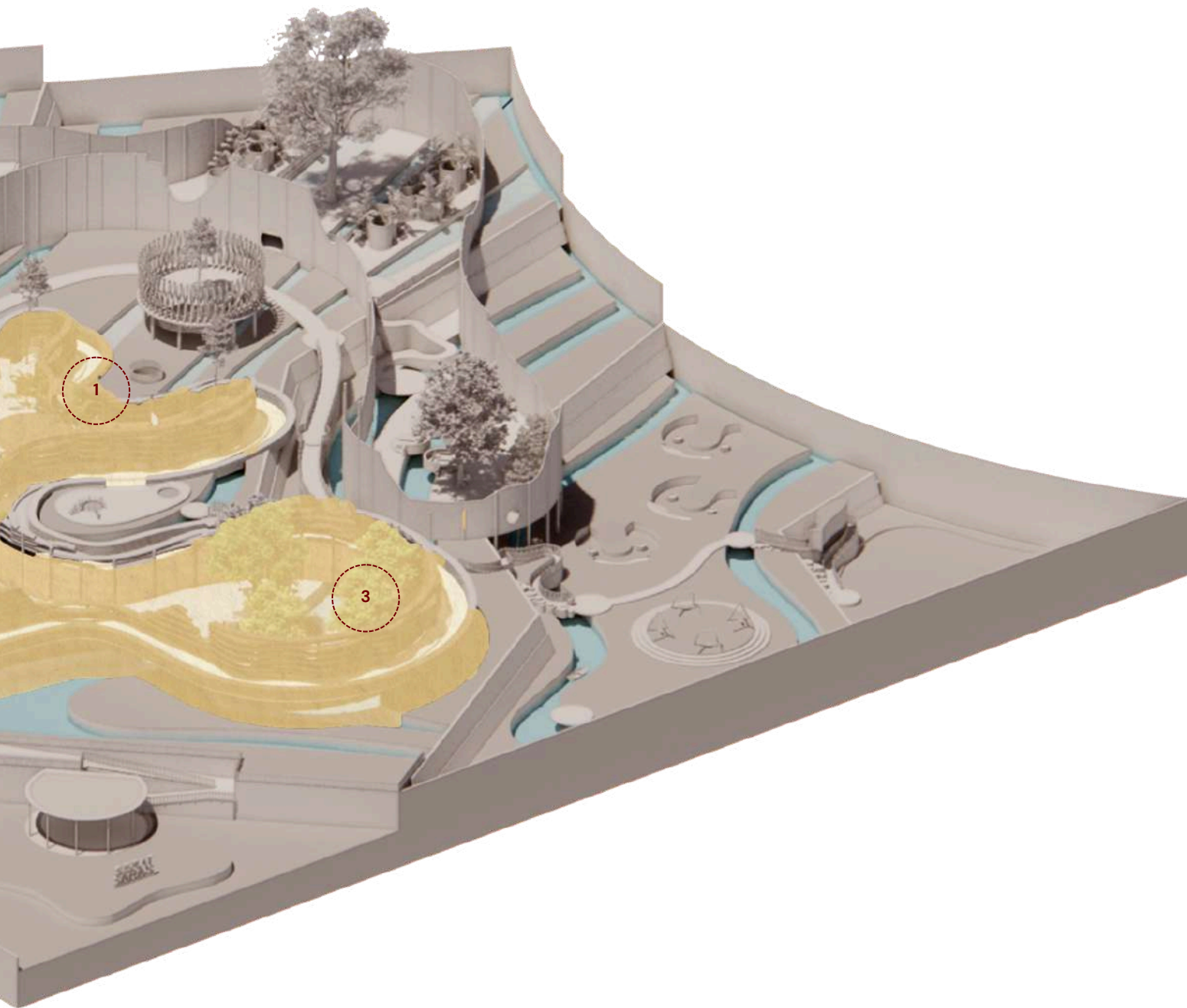


Figure 4.34 Olah Rasa Axonometric Visualization
(Illustrated by Author)

- 1) Rawuh Lounge
- 2) Support Cove
- 3) Gastronomy Nook

Olah Raga



Semediyan

The space for semediyan (modern term: yoga) is located in the west part, where the ambiance is the most serene. There will be 2 types of semediyan area, indoor and outdoor. The indoor one is very open, whereas the shade is supported by columns with no wall, so the air could circulate freely. Meanwhile the outdoor semediyan is wrapped by lush greeneries, creating an “yoga in the forest” effect.

Baringan

Sand is one of most possible mediums in improving blood flow, when it is being warmed. Users can soak their feet while sitting and socialize with other people, even soaking themselves—just like kungkum but in different medium. This kind of “therapy” is usually being done at the southern sea (beach/sea shore) or in a modern term it’s called psammotherapy.

Kayuh

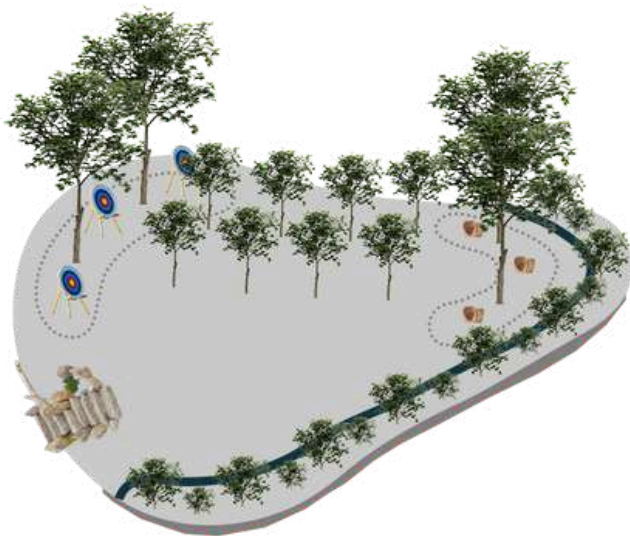
The outpatients also need to be less worried and overcome their fears, which can be done by cycling on an elevated lane at Kayuh.

Figure 4.35 Olah Raga Programs
(Illustrated by Author)



Dayung, Ayun, Guyub

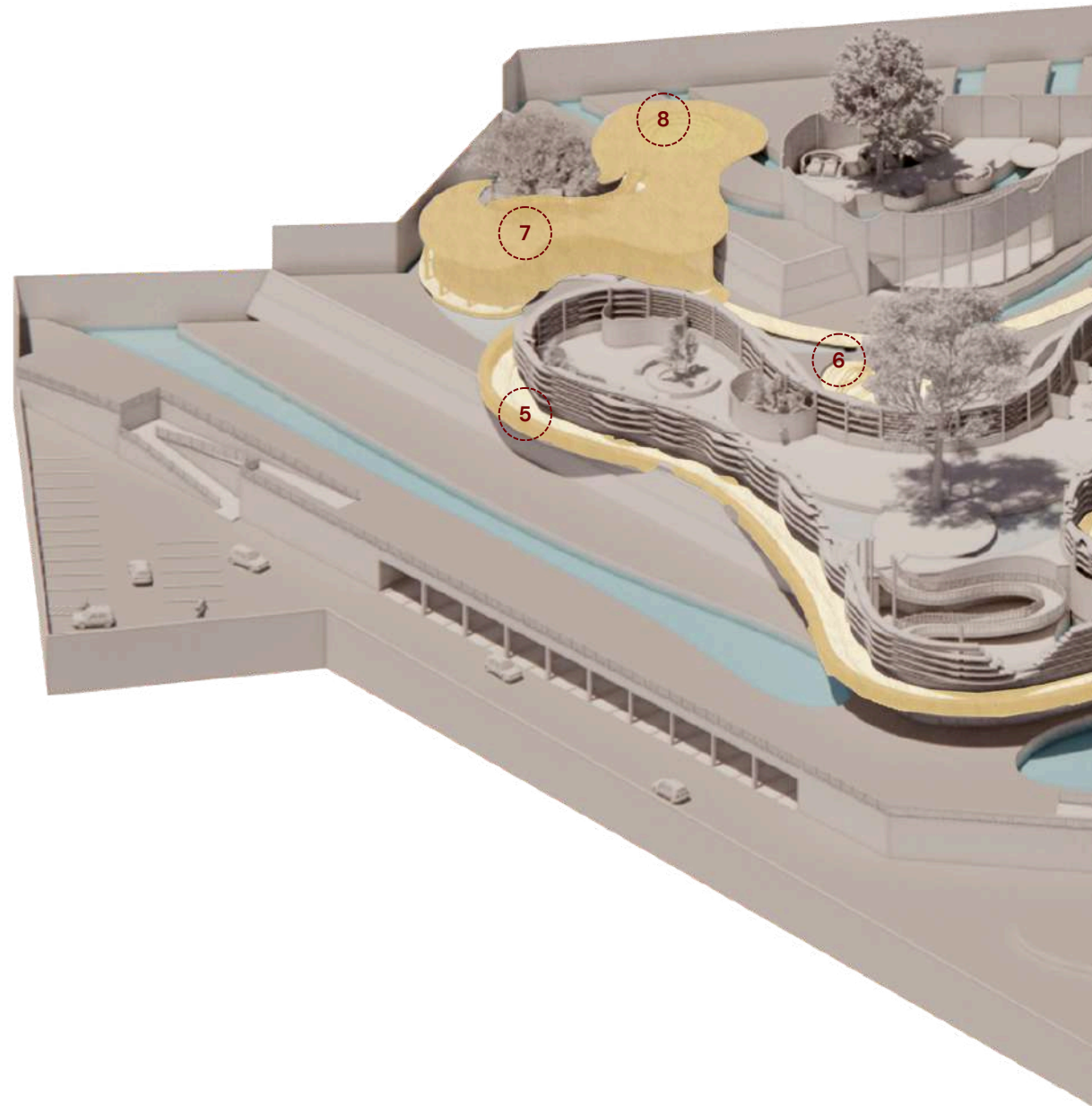
This space is dedicated to facilitating some activities such as playing “Surakarta” board games, swings, boat-rowing, and walking on gravel. The board game areas are sunken meanwhile, the swings area is a bit elevated, surrounded by a small stream to accommodate the boat-rowing activity,



Jemparingan

Not only to preserve the traditional heritage/local wisdom of Kraton, jemparingan is also a way to train the users’ ability to focus, especially on themselves. The direction is facing to the west, some trees are being aligned between the sitting area to the target to ease the users in targeting the circular target. A small stream flows at the back part and additionally there are shady trees to keep the users cool, so they will be able to do the activity in a calm manner.

Figure 4.36 Olah Raga Programs (2)
(Illustrated by Author)



- 1) Jemparingan
- 2) Dayung
- 3) Ayun
- 4) Guyub
- 5) Kayuh
- 6) Baringan
- 7) Indoor Semediyan
- 8) Outdoor Semediyan

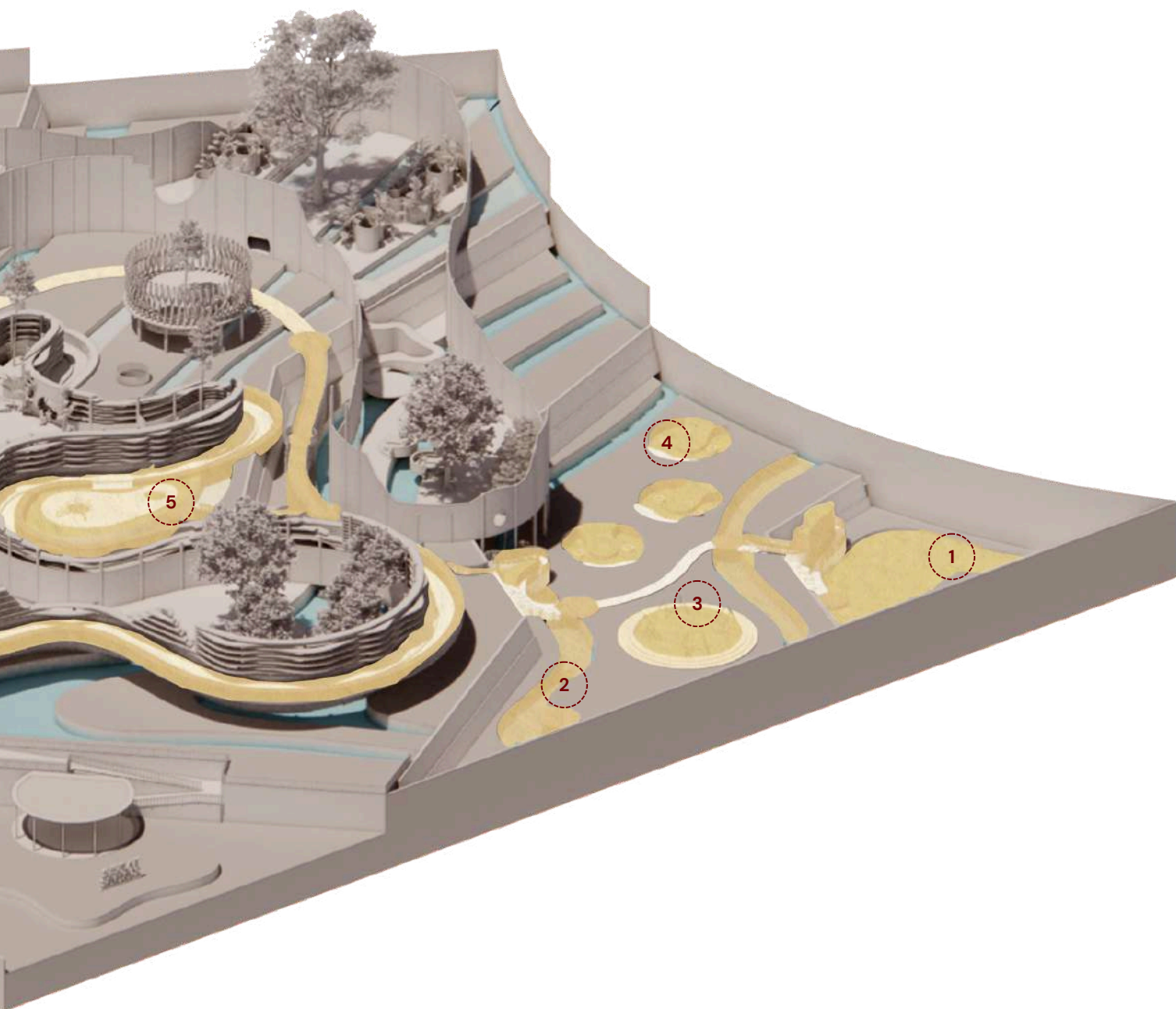
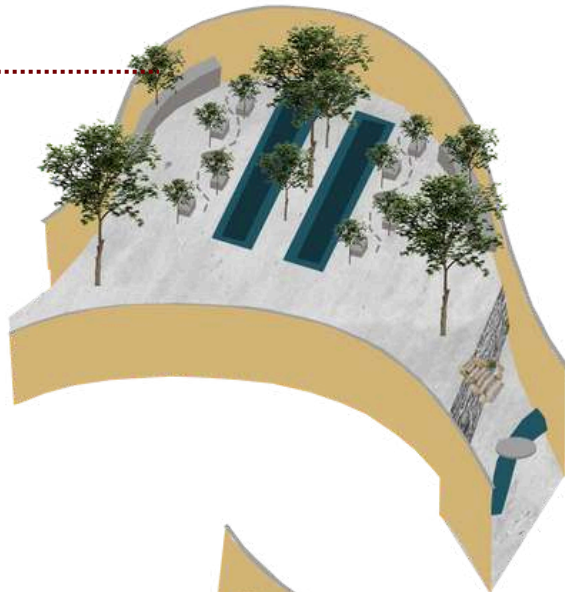


Figure 4.37 Olah Raga Axonometric Visualization
(Illustrated by Author)

- 1) Jemparingan
- 2) Dayung
- 3) Ayun
- 4) Guyub
- 5) Kayuh
- 6) Baringan
- 7) Indoor Semediyan
- 8) Outdoor Semediyan

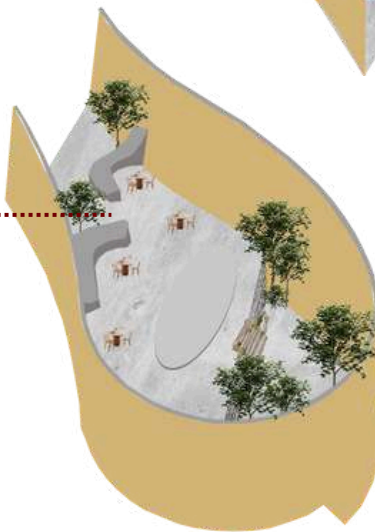


Figure 4.38 Olah Batin Programs
(Illustrated by Author)



Transforming *Pesanggrahan's Bath House* into a *Banyu Sanctuary*

Kungkum or soaking our bodies into the water is one of the most important values in Javanese meditation since it practices our skill in focusing on ourselves with God. In this space, there will be a **swimming pool** where the users can meditate while moving (swimming), as well as **individual bath chambers** to do a relaxing kungkum.



Transforming *Pesanggrahan's Keputren* into a *Feminine Cosmos*

This feminine cosmos, which is adapted from Keputren, will have a dedicated space for vanity/taking care of their appearances, reading as a way to add their values as a woman (**beauty and brain**), **meditating**, as well as a space to conduct a **flower-arranging** workshop, directly connected to the garden (following the Kraton's culture).



Transforming *Pesanggrahan's Ksatrian* into a *Masculine Cosmos*

Keeping animals, especially birds, in traditional Javanese culture is more often a male activity. This activity is not just a hobby, but also has significant social and cultural value. **Keeping birds**, especially those considered exotic or expensive such as perkutut, cucak rowo and kacer, is often a symbol of social status and prestige for Javanese men, as well as a way to express their affections toward living creatures.

Both cosmos are equipped with daybeds on top of a flowing water, adapting from Pasarean Ledhoksari, as a natural cooling and calming effect during their rest time.

Figure 4.39 Olah Batin Programs (2)
(Illustrated by Author)

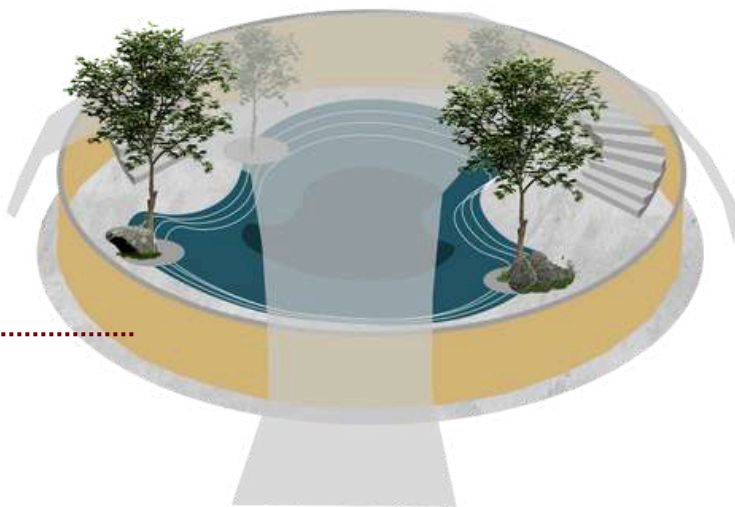


Figure 4.40 Olah Batin Programs (3)
(Illustrated by Author)



Transforming *Pesanggrahan's Pungkuran and Sanggar Buwana* into a **Solace Retreat**

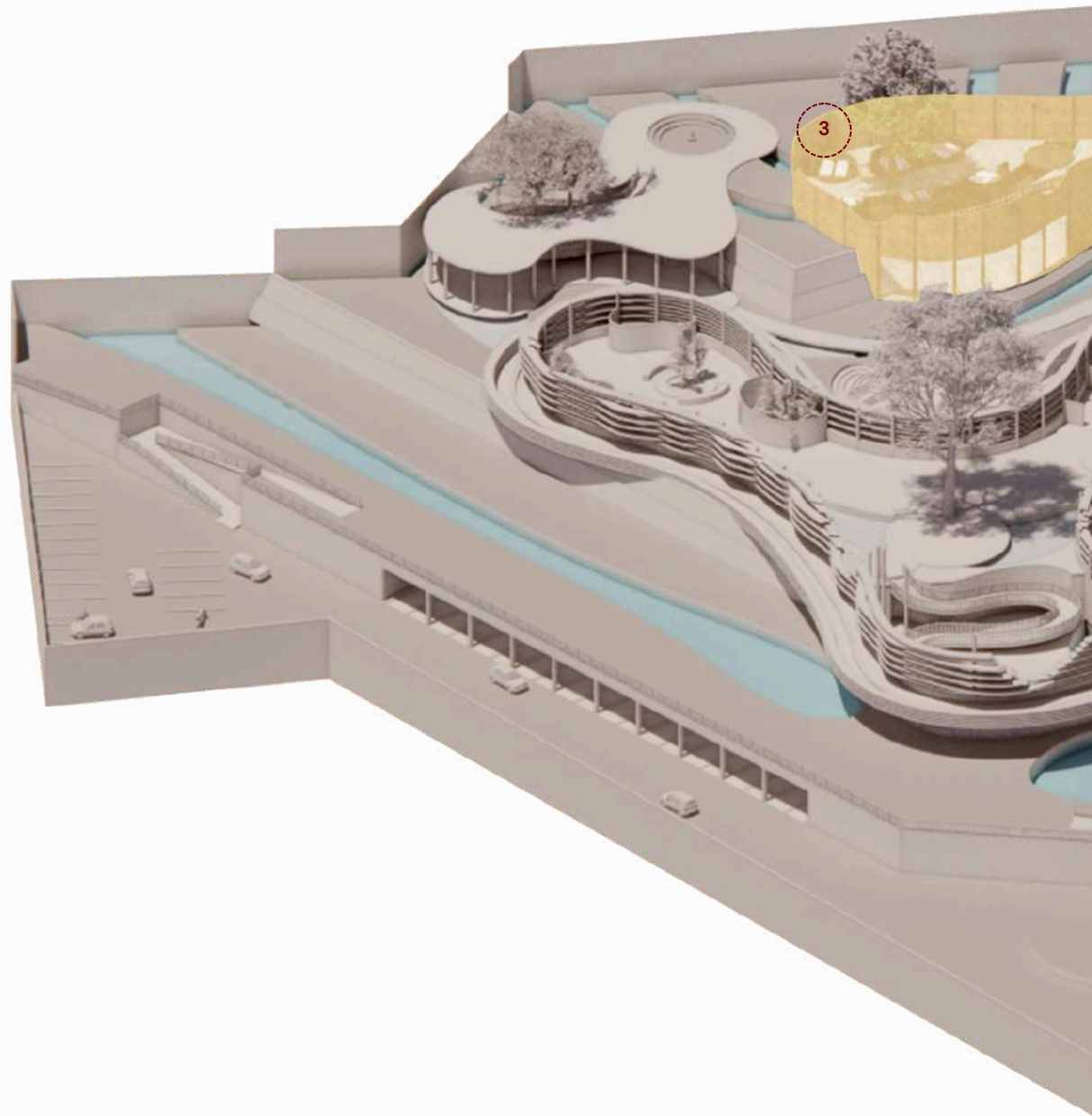
Adapting from Pesanggrahan, the lower floor will be used for circulation purposes and the upper part is for worship-related activities. To become an inclusive space, the worship area will not only provide for one religion but it's going to be a multi-faith space, embracing everyone's diversity.



Transforming *Pesanggrahan's Meditation Pond in Ageng Dalem* into a **Garden Oasis**, Inspired by *Sumur Gumuling*

Even during the war, the Sultan was able to meditate and worship, protected by the shade. It allowed him to find peace despite the noise and chaos around him. The word "oasis" itself is trying to emphasize the existence of the space, similar to the one that can be found in a desert, which provides life-sustaining water and shelter.

Figure 4.41 Olah Batin Programs (4)
(Illustrated by Author)



- 1) Banyu Sanctuary
- 2) Feminine Cosmos
- 3) Masculine Cosmos
- 4) Solace Retreat

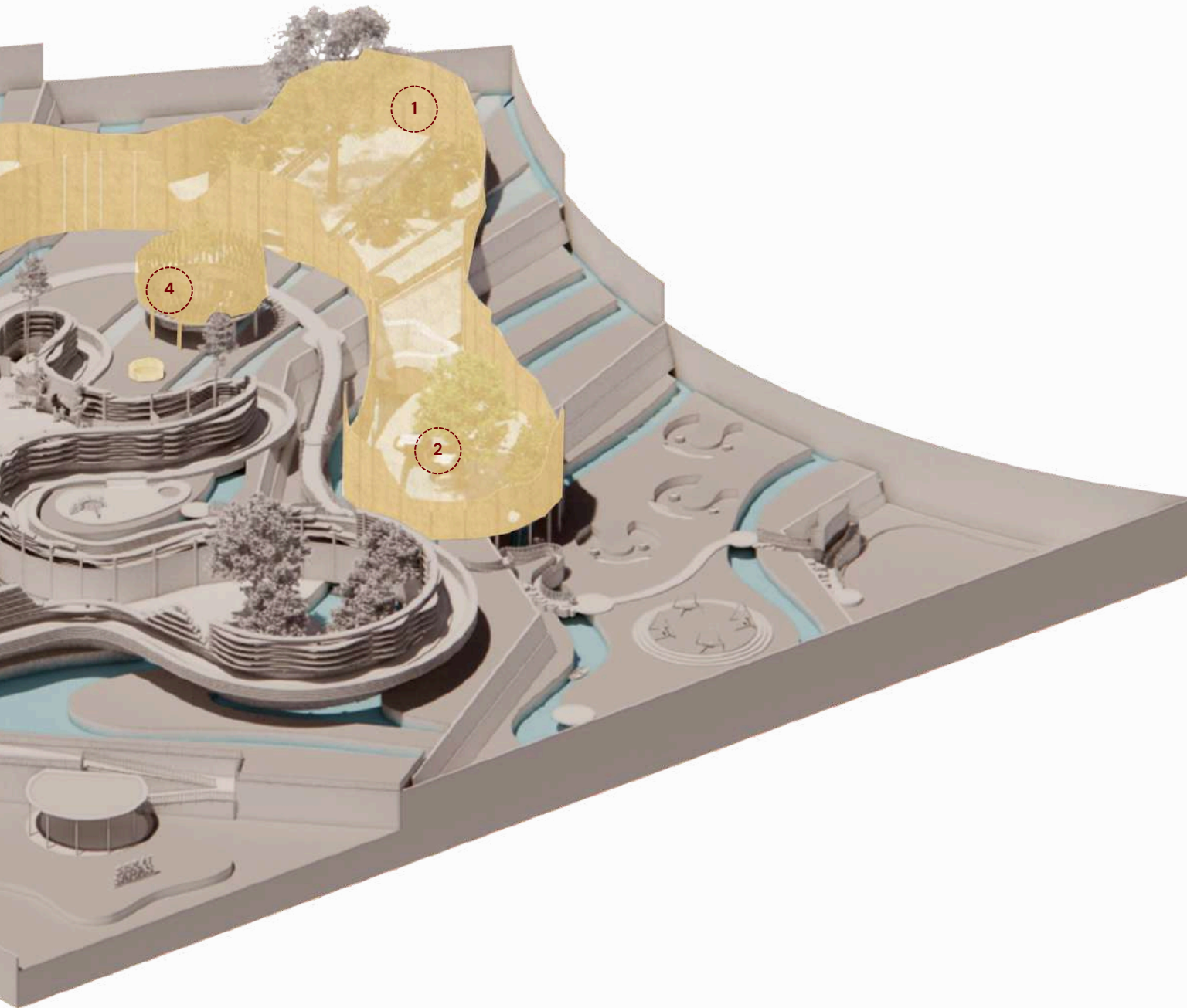


Figure 4.42 Olah Batin Axonometric Visualization
(Illustrated by Author)

- 1) Banyu Sanctuary
- 2) Feminine Cosmos
- 3) Masculine Cosmos
- 4) Solace Retreat



Figure 4.43 Design Development - Situation Plan
(Modelled by Author)

⊕ SITUATION PLAN
1:500



Figure 4.44 Design Development – Site Plan
(Modelled by Author)

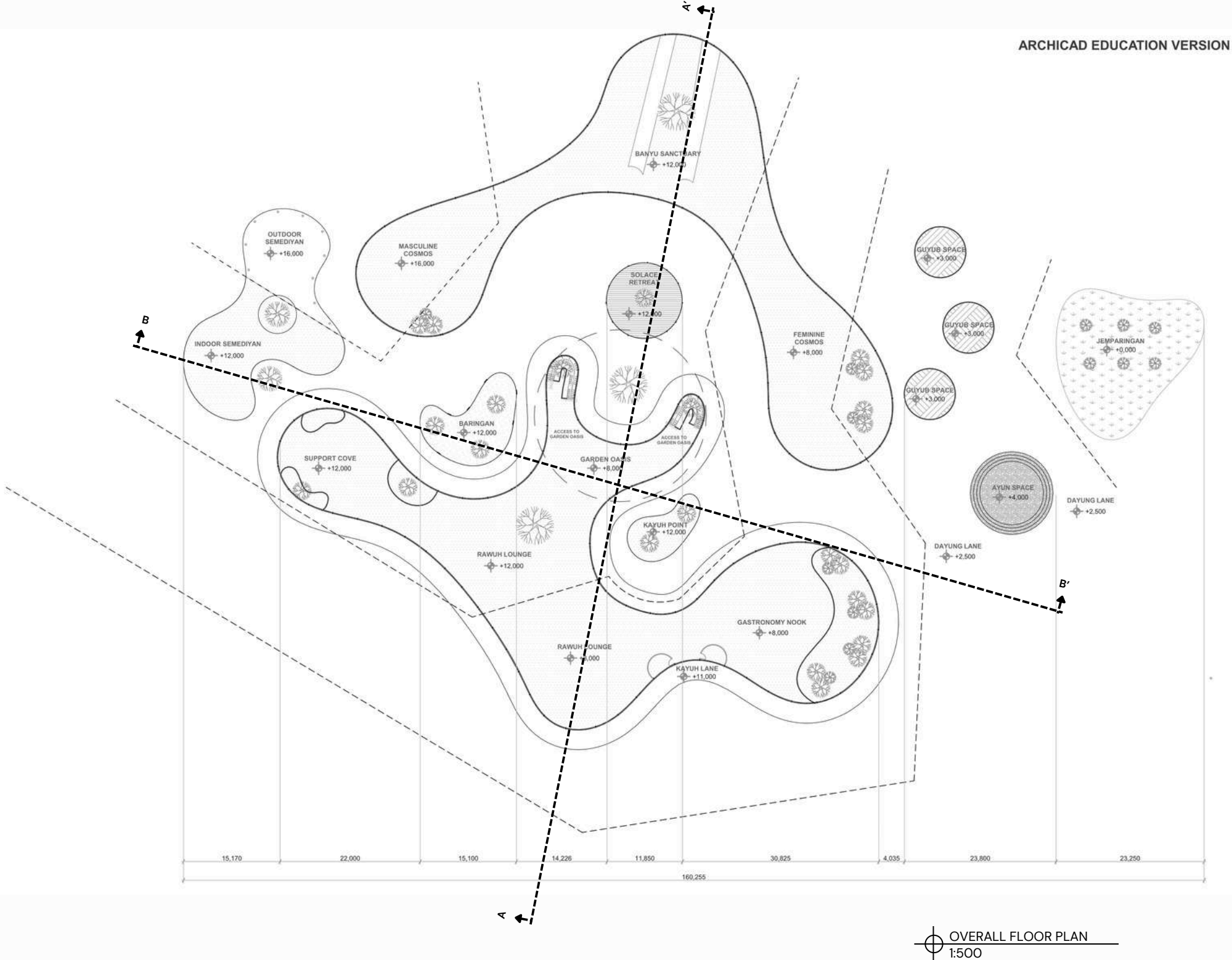
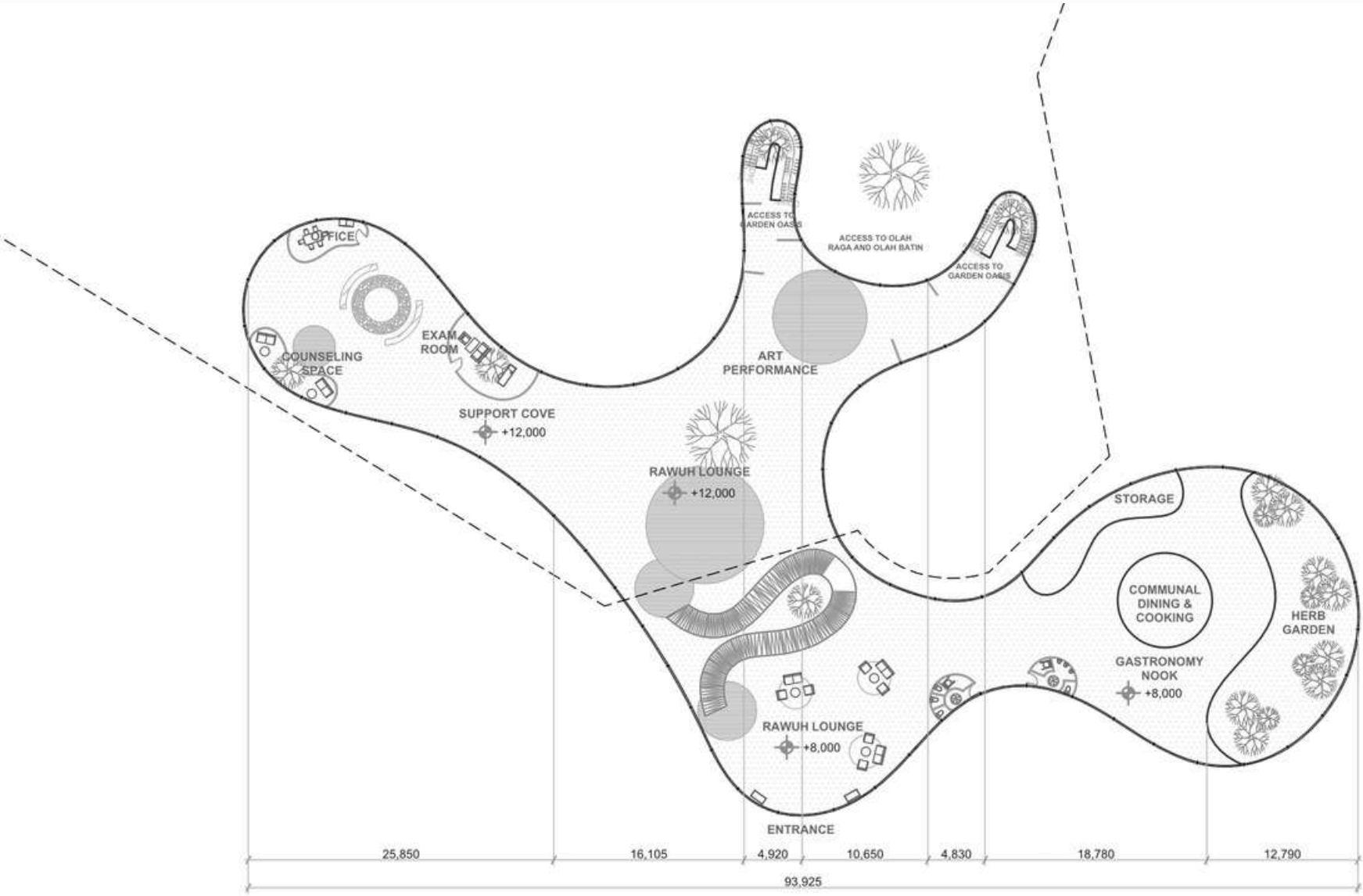
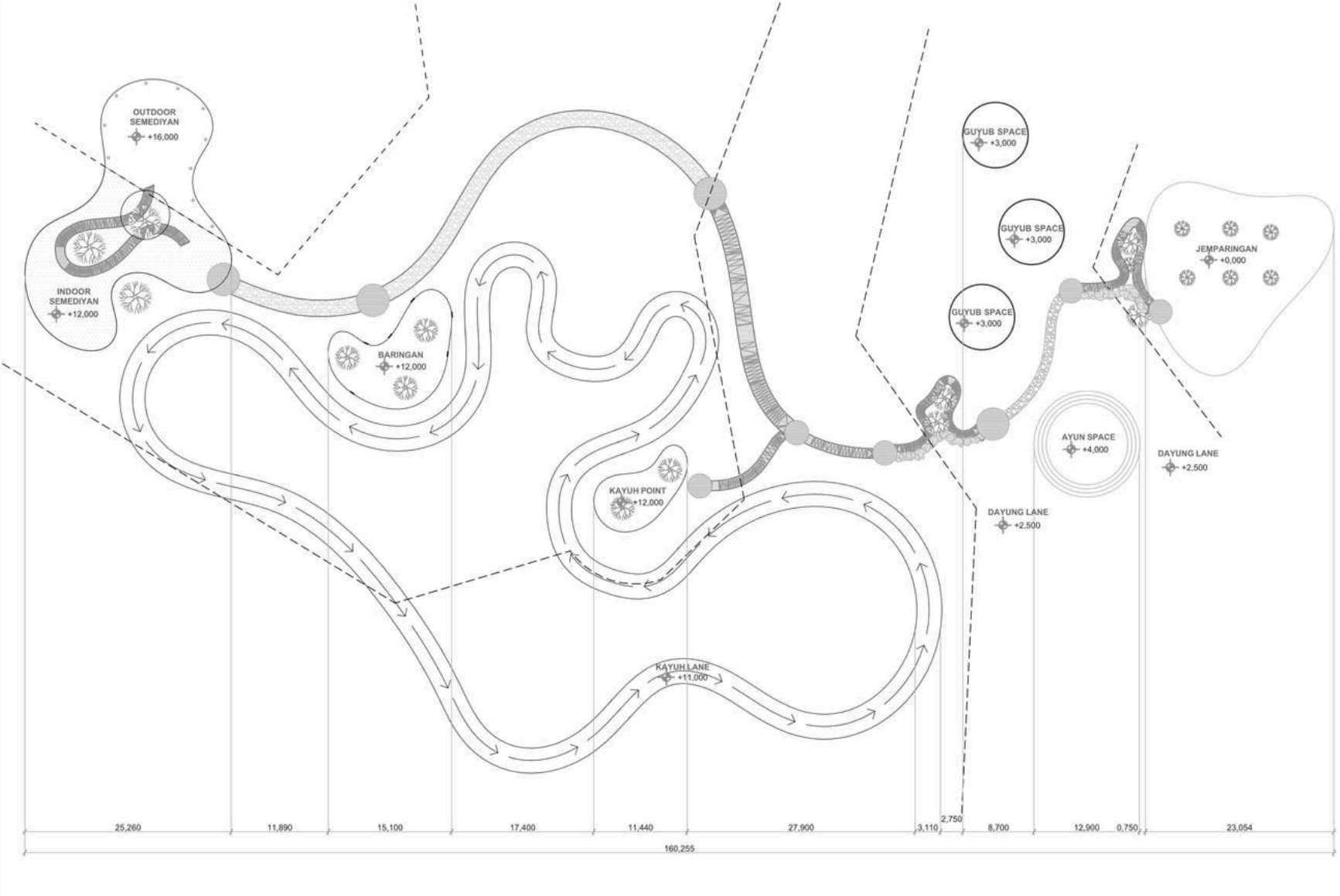


Figure 4.45 Design Development – Overall Floor Plan
(Modelled by Author)



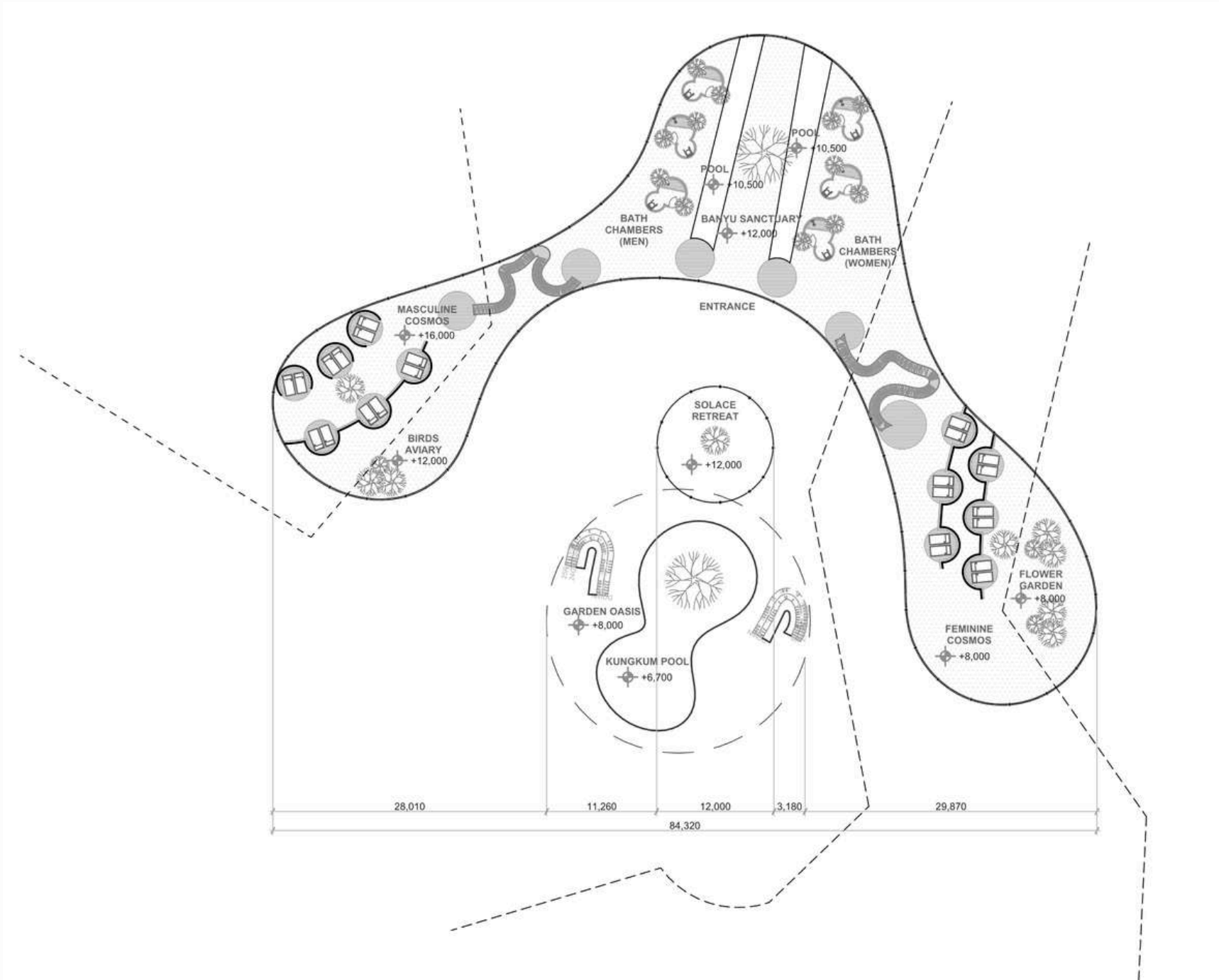
OLAH RASA FLOOR PLAN
1:500

Figure 4.45 Design Development – Olah Rasa Floor Plan
(Modelled by Author)



OLAH RAGA FLOOR PLAN
1:500

Figure 4.45 Design Development – Olah Raga Floor Plan
(Modelled by Author)



OLAH BATIN FLOOR PLAN
1:500

Figure 4.45 Design Development – Olah Batin Floor Plan
(Modelled by Author)



South Elevation



East Elevation

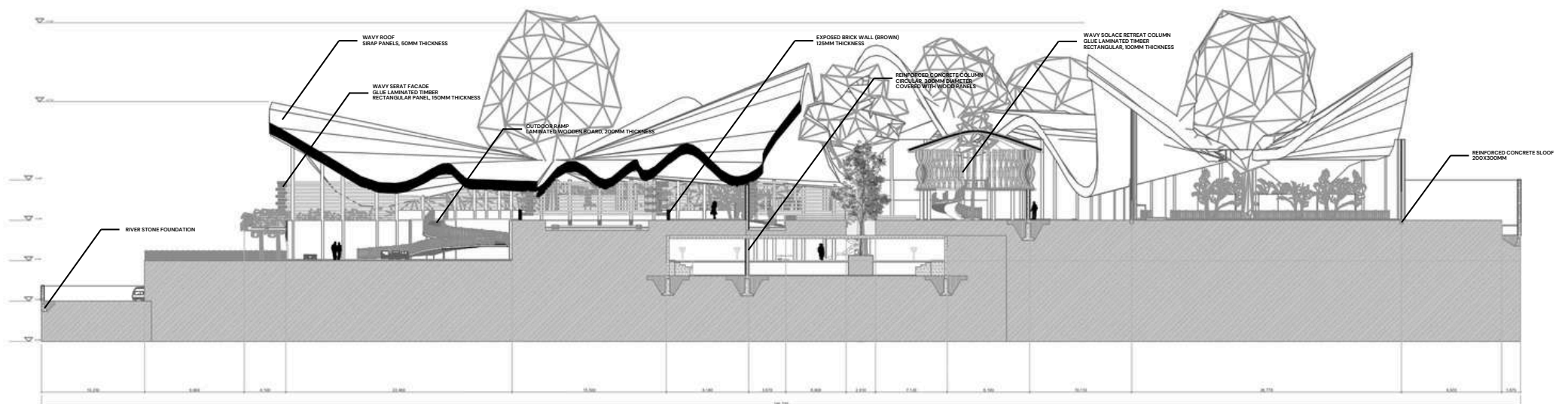


North Elevation

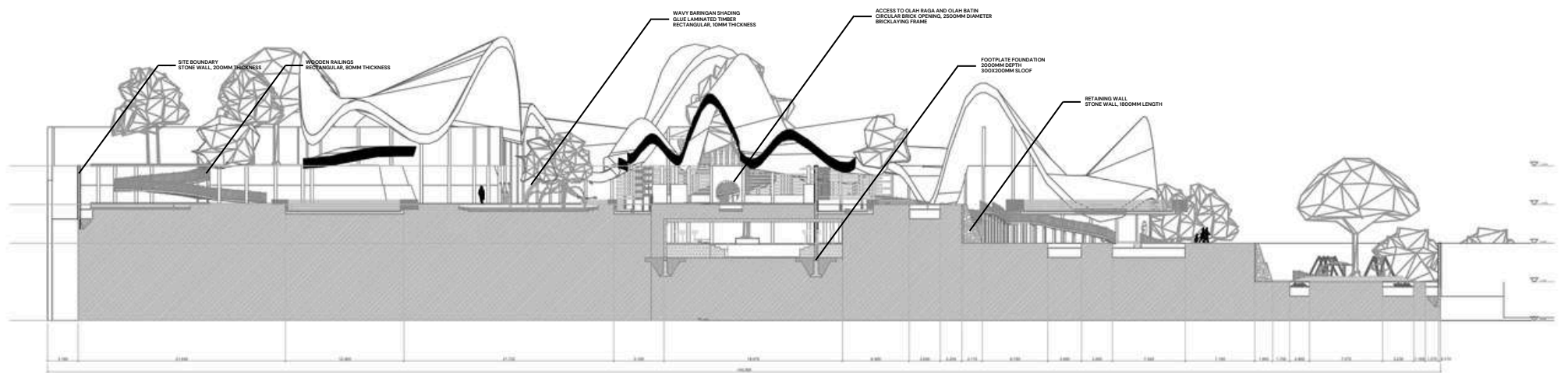


West Elevation

Figure 4.46 Design Development – Building Elevations
(Modelled by Author)



CROSS SECTION A-A'
1:500



CROSS SECTION B-B'
1:500

Figure 4.47 Design Development – Cross Sections
(Modelled by Author)

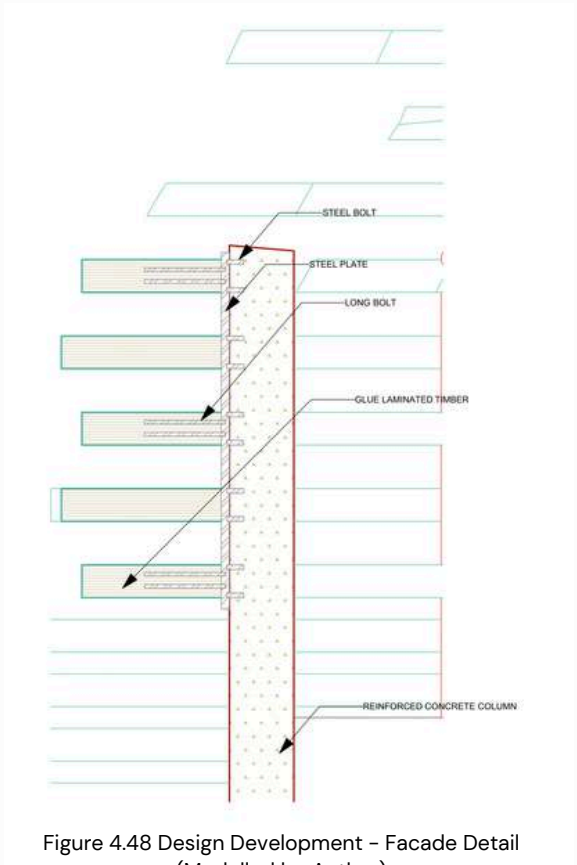


Figure 4.48 Design Development – Facade Detail
(Modelled by Author)

The wavy facade, or called as **serat facade** is being arranged based on *langgam* of a traditional song from Surakarta, “Bengawan Solo”, which aims to emphasize on the flow of the river as well as its importance for the community.



Figure 4.49 Langgam Bengawan Solo
(Not Angka Jawa, 2024)



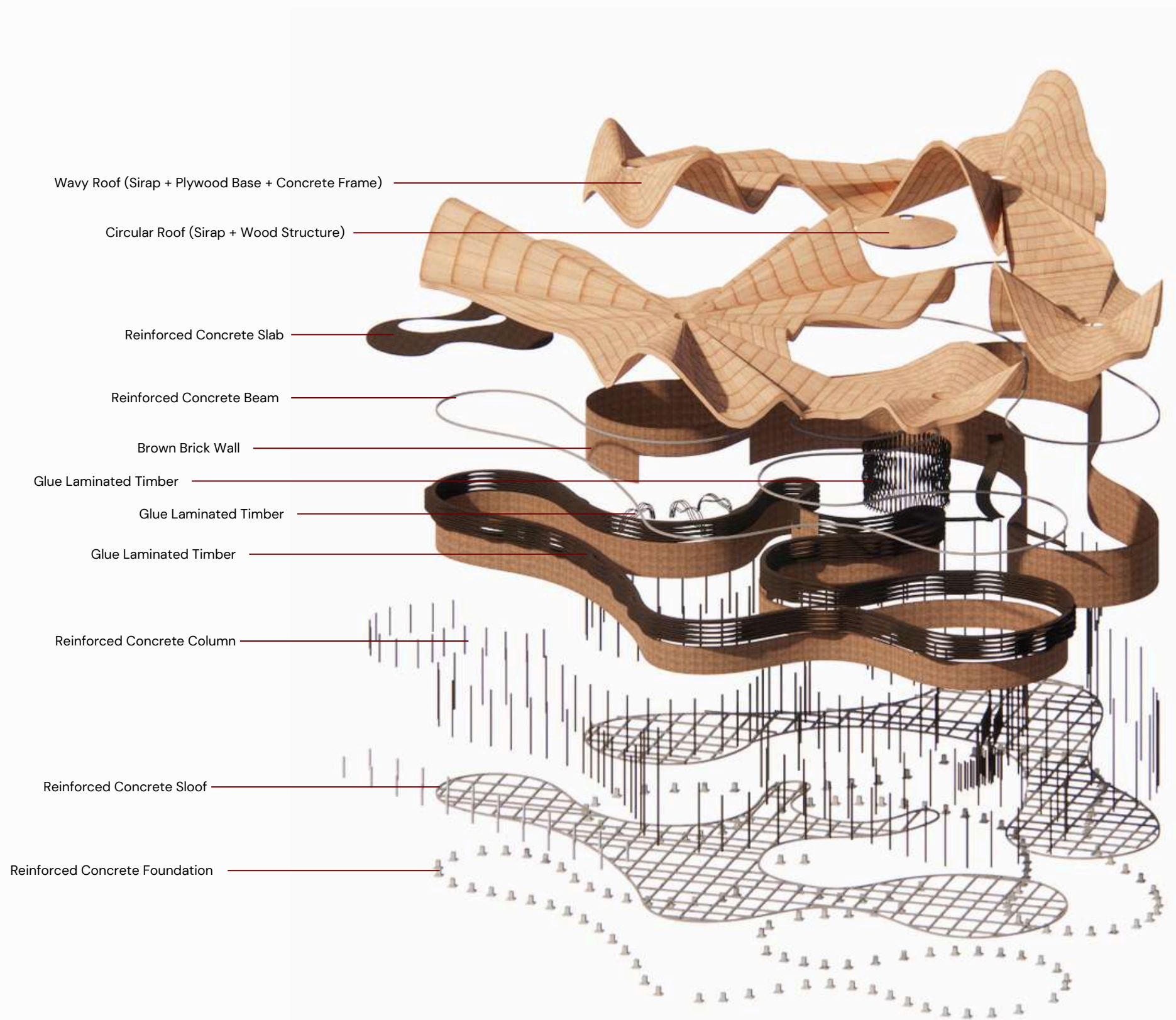


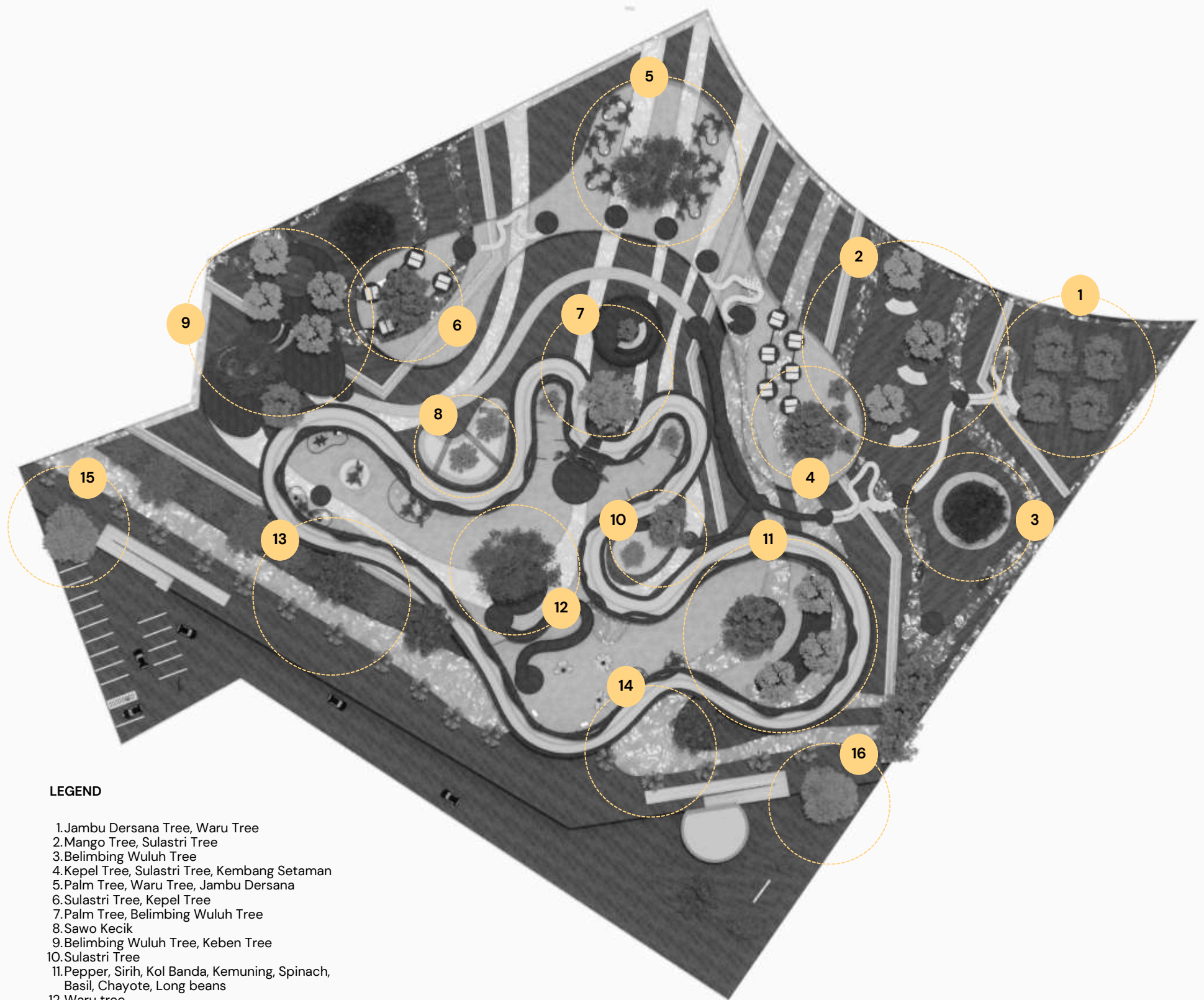
Figure 4.50 Exploded Axonometric
(Modelled by Author)



The roof design is trying to adapt from the Javanese architecture value, whereas it usually emphasizes the importance of **natural ventilation**. Buildings are often designed with openings on opposite sides to facilitate cross-ventilation, allowing fresh air to flow through the spaces freely. This not only cools the building naturally but also keeps the indoor air quality high, which is crucial for cardiovascular outpatients, where a fresh, oxygen-rich environment is highly needed.



Figure 4.51 Exterior Visualizations
(Modelled by Author)



LEGEND

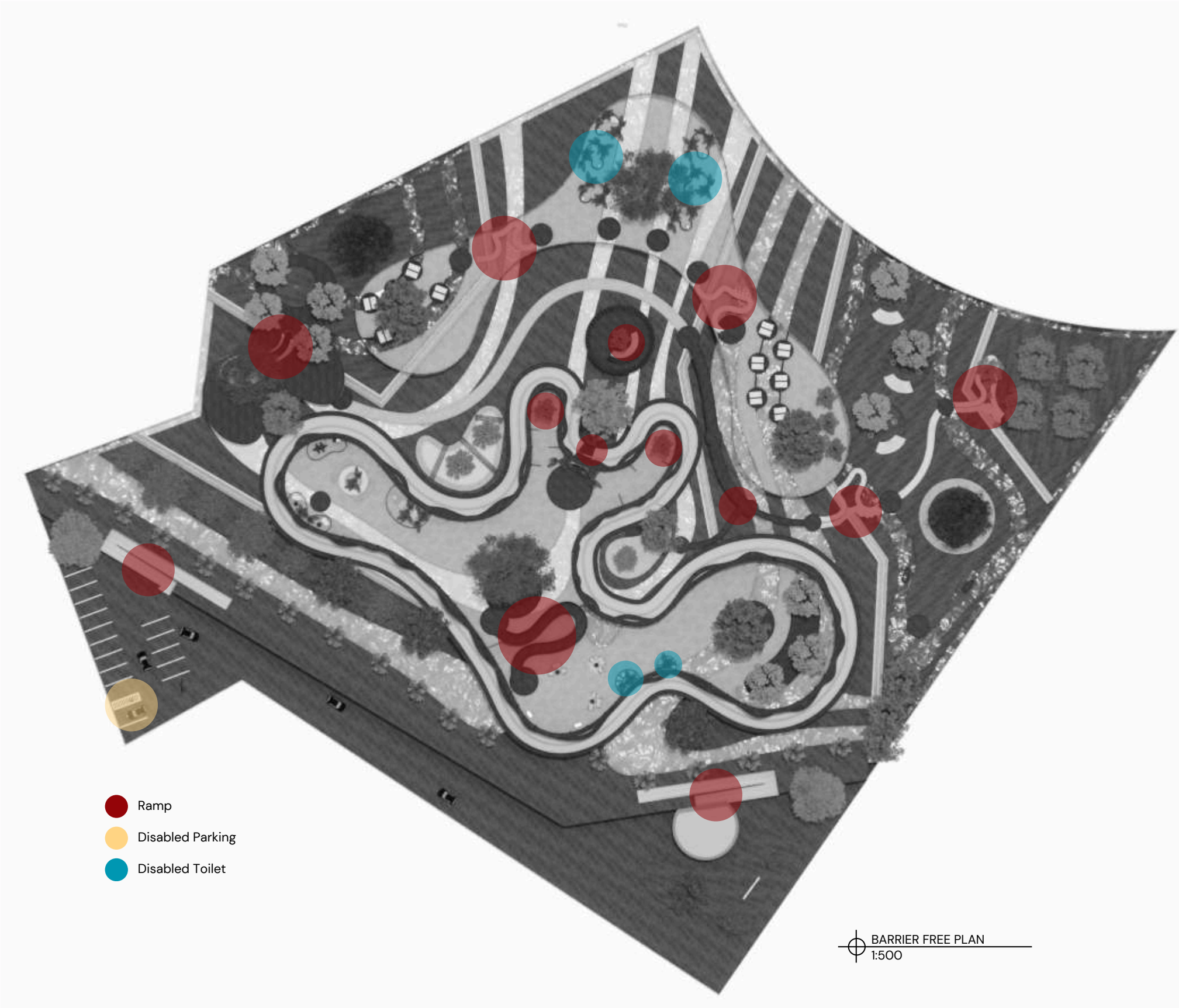
1. Jambu Dersana Tree, Waru Tree
2. Mango Tree, Sulastrri Tree
3. Belimbing Wuluh Tree
4. Kepel Tree, Sulastrri Tree, Kembang Setaman
5. Palm Tree, Waru Tree, Jambu Dersana
6. Sulastrri Tree, Kepel Tree
7. Palm Tree, Belimbing Wuluh Tree
8. Sawo Kecil
9. Belimbing Wuluh Tree, Keben Tree
10. Sulastrri Tree
11. Pepper, Sirih, Kol Banda, Kemuning, Spinach, Basil, Chayote, Long beans
12. Waru tree
13. Gayam Tree, Banana Tree
14. Gayam Tree, Banana Tree
15. Waru Tree
16. Waru Tree

VEGETATION PLAN
1:500



- Clean Water Flow
- Septic Tank
- Clean Water Tank

WATER PLAN
1:500



- Ramp
- Disabled Parking
- Disabled Toilet

BARRIER FREE PLAN
1:500

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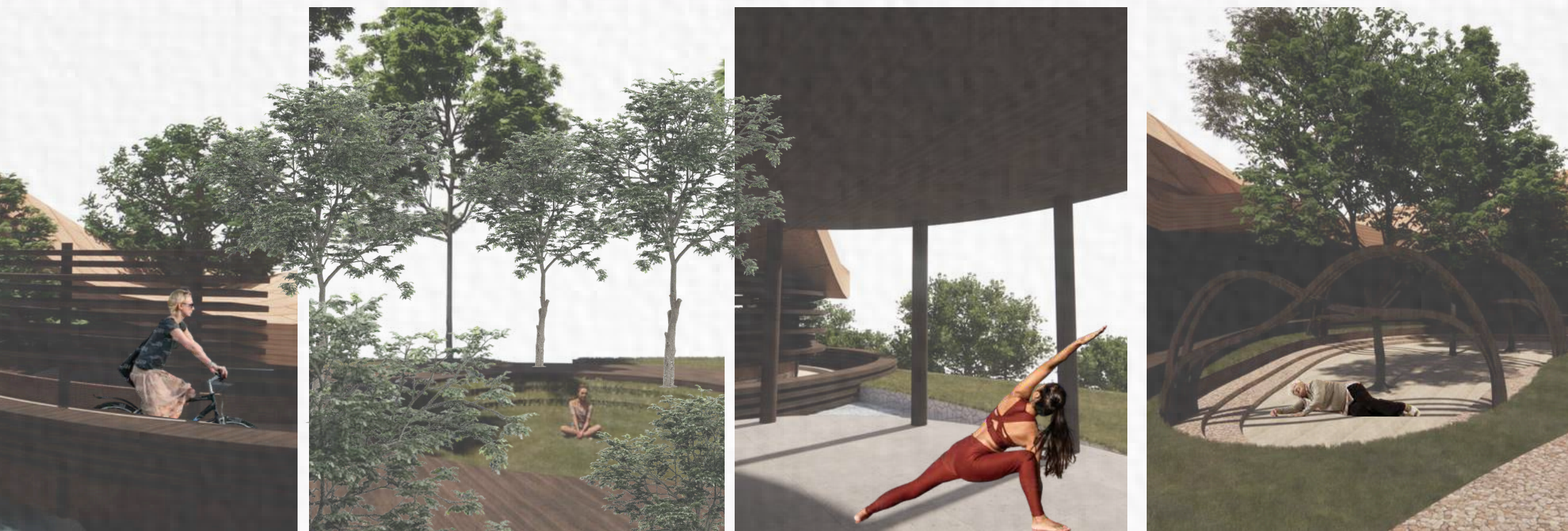
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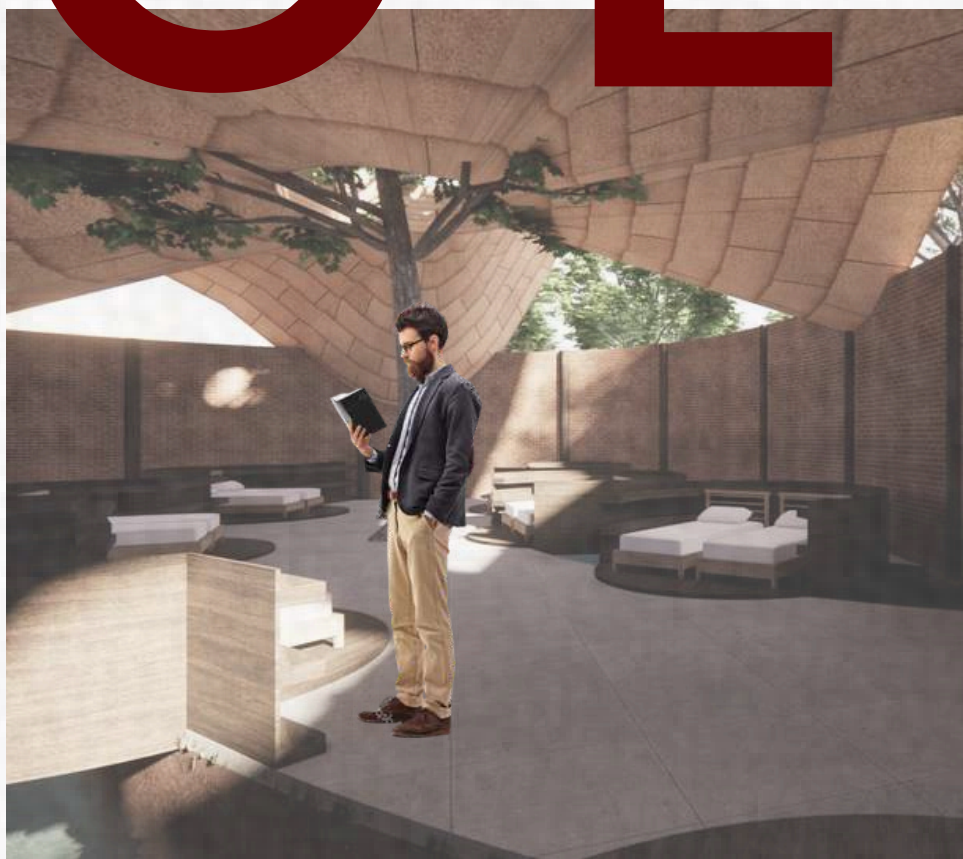
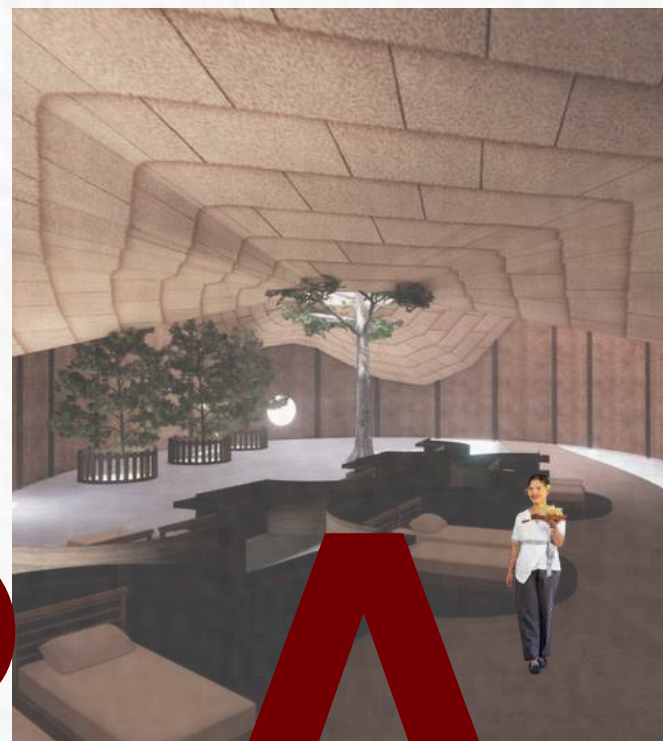
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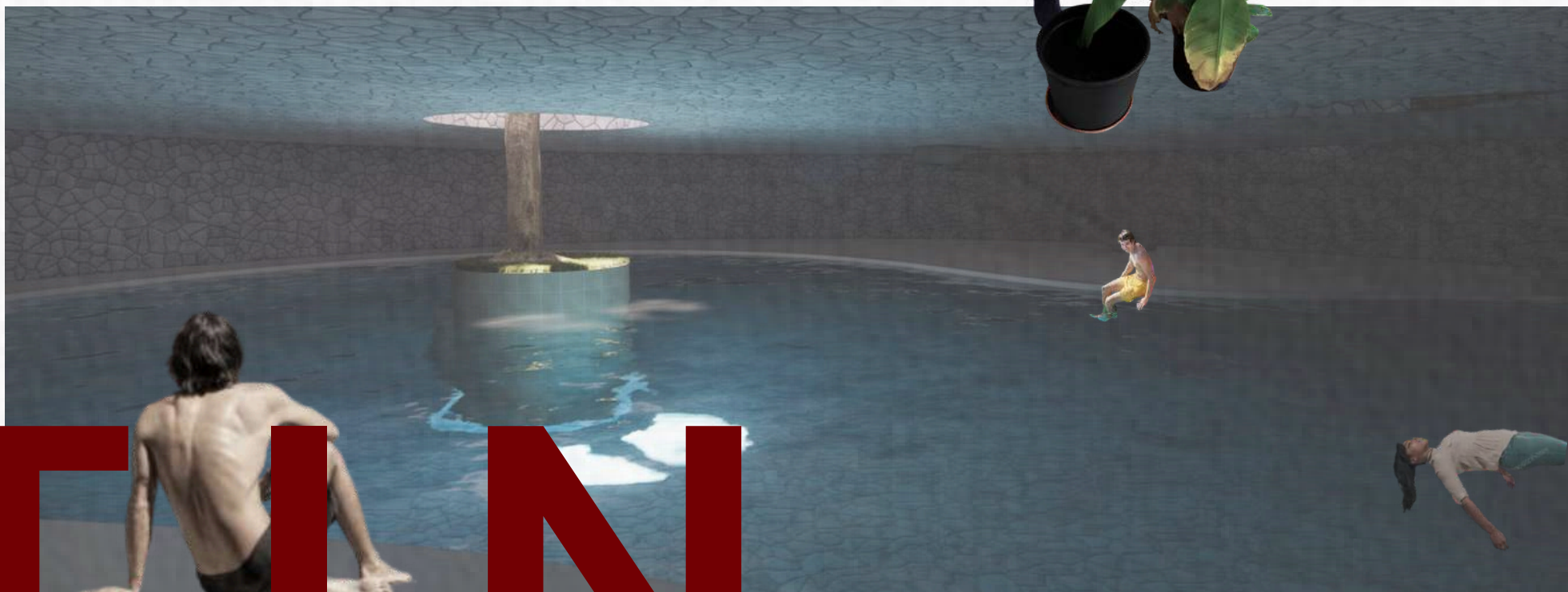
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TIN

***You have to accept to be
exposed to criticism.***

Renzo Piano

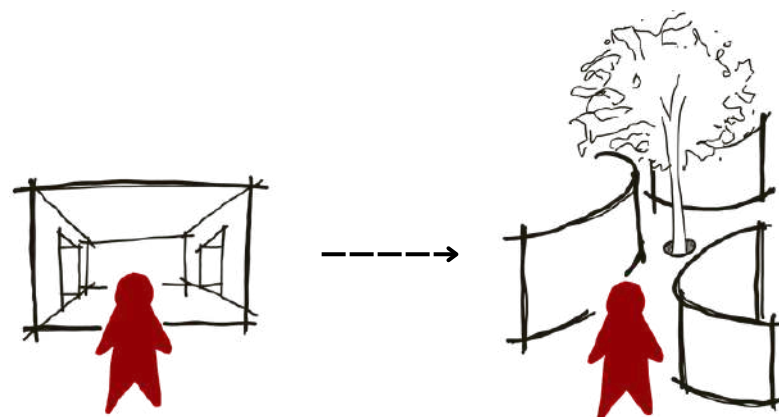
05

Design *Reflections*

Attractive forms as part of the wellness concept need to be explained.

- Arif Budi Sholihah, S.T., M.Sc., Ph.D -

1) Stress Reduction through Undulating Form: The undulating forms of the building are soothing to the eye and mind, contrasting with the rigid lines of the “usual” medical facilities or healthcare. This design helps reduce stress, which is crucial for cardiovascular patients who need a calm environment to prevent their condition from worsening. Will they feel intimidated by the form? There are some architectural features that can intimidate the users such as building scale, sharp angles, and aggressive forms (Betsky, 2015). Indeed, the building scale is quite big, as it aims to cover all of the programs needed (where everyone is well-shaded). **However, sharp angles and aggressive form are nowhere to be found** due to the fluid concept of the building.



2) Connection to Nature: Access to nature is known to lower blood pressure, reduce anxiety, and promote overall well-being, which is very beneficial for patients recovering from cardiovascular diseases. Additionally, activities like spending time in nature, engaging in nature-based activities, and involving nature in the programs are particularly effective in managing the patient’s well-being (Sheffield et al., 2022).

3) Sense of Natural Flow: The flowing, interconnected spaces create a sense of continuity and ease of movement, which can help patients feel more relaxed as they move through the building. This ease of navigation is important for cardiovascular patients who may have limited mobility or who benefit from gentle, stress-free environments.

4) The Use of Organic Materials: The design is using brick as its main architectural element and reinforced concrete as its main structural element. The brick itself is able to provide a sense of warmth and blending to the nature, meanwhile the concrete has a great enduring ability but not sharing the same aesthetical value with brick. Therefore, to bridge the gap between these materials, wood panels are used to cover the reinforced concrete elements (e.g. columns).



Figure 5.1 Exterior Visualization
(Modelled by Author)

The idea can be represented by the design, but it still lacks detailing for constructibility. It is suggested that one drawing showing LOD 300 be added

– Prof. Dr.-Ing. Ir. Ar. Ilya Fadjar Maharika, MA., IAI. –

One of the Author's shortcomings during the final defense was her inability to provide several details, including the plan of my Garden Oasis and a section that could show its structure. Therefore, the drawings have been revised and added, which are provided on this page. In the plan drawing, the division of dry and wet area can be seen. Starting from the stairs and ramp access from both sides, going through a textured stone ceramic flooring, and the organic form of pool with a little "island" of a tree in the upper center. Meanwhile in the section, it could be seen that there are 2 types of column, whereas the bigger one is a continuous column from the upper floor and the smaller columns are solely to support Garden Oasis area.

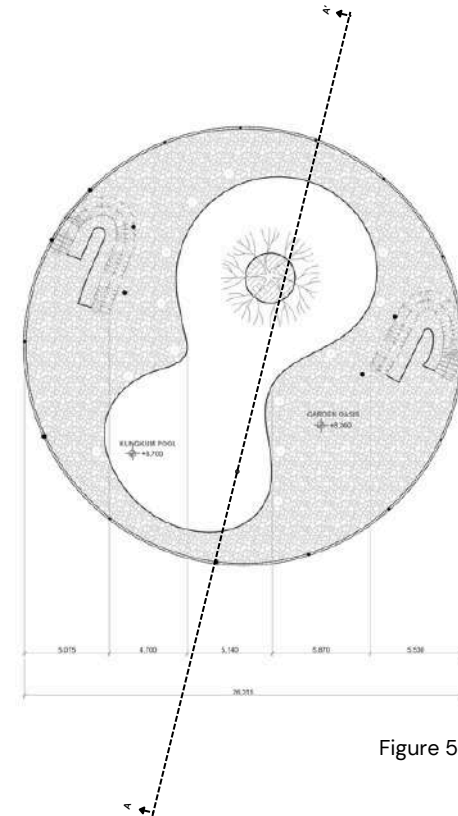
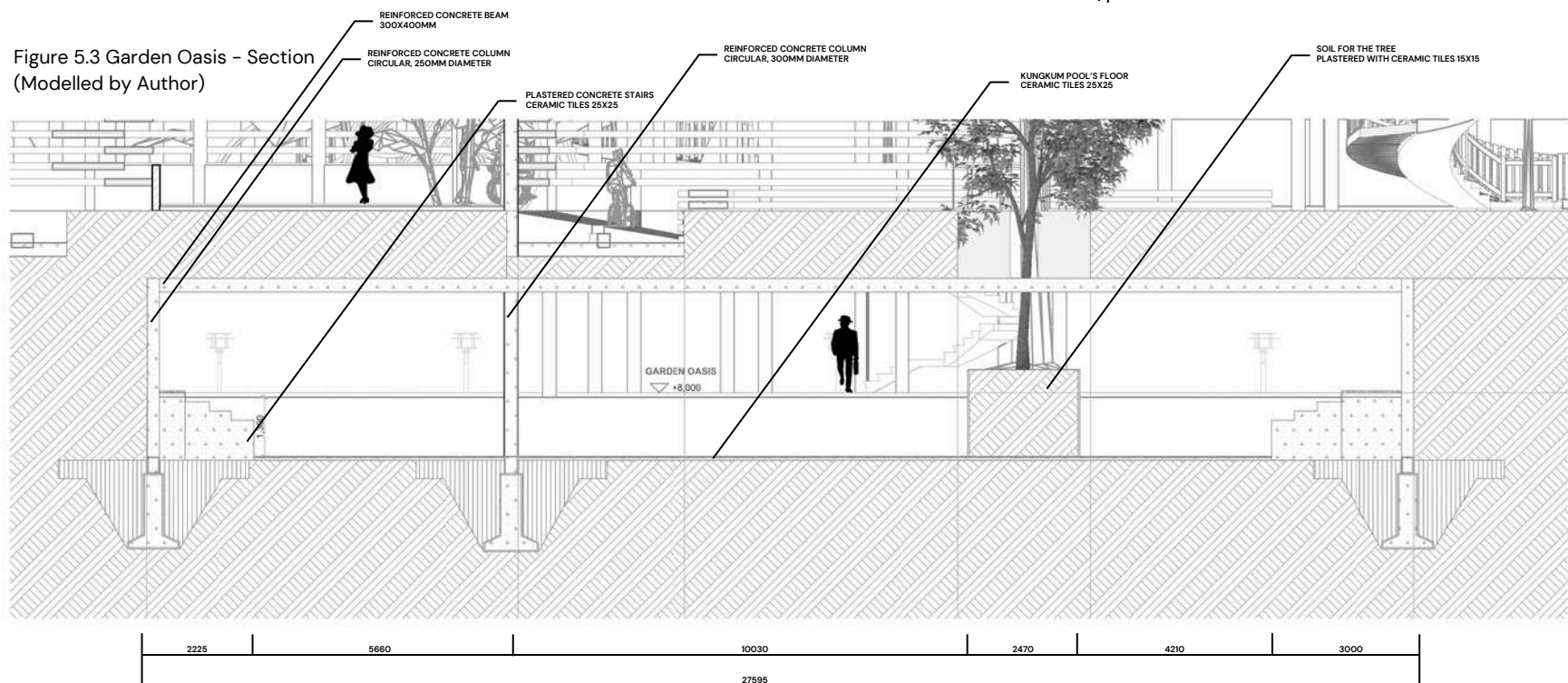


Figure 5.2 Garden Oasis - Plan
(Modelled by Author)



The form of the streams need to be more natural.
- Arif Budi Sholihah, S.T., M.Sc., Ph.D & Prof. Dr.-Ing. Ir. Ar. Ilya Fadjar Maharika, MA., IAI. -

The design consists of many streams, which are trying to represent the serat layers. In the design, the streams indeed having wavy flows. However, the micro design is being the main issue in this matter. The Author's streams design is too rigid, too rectangular, and needs more improvement to make it more natural and align to the initial concept of undulating and connected to the nature. Therefore, the rectangular form is being reshaped to make it more similar to the natural river. If previously the design only has grass on the sides of the streams, based on the inputs, several things also could be added such as rock (which is not an aesthetical element but also functional since people can sit on it), bushes, and small trees.

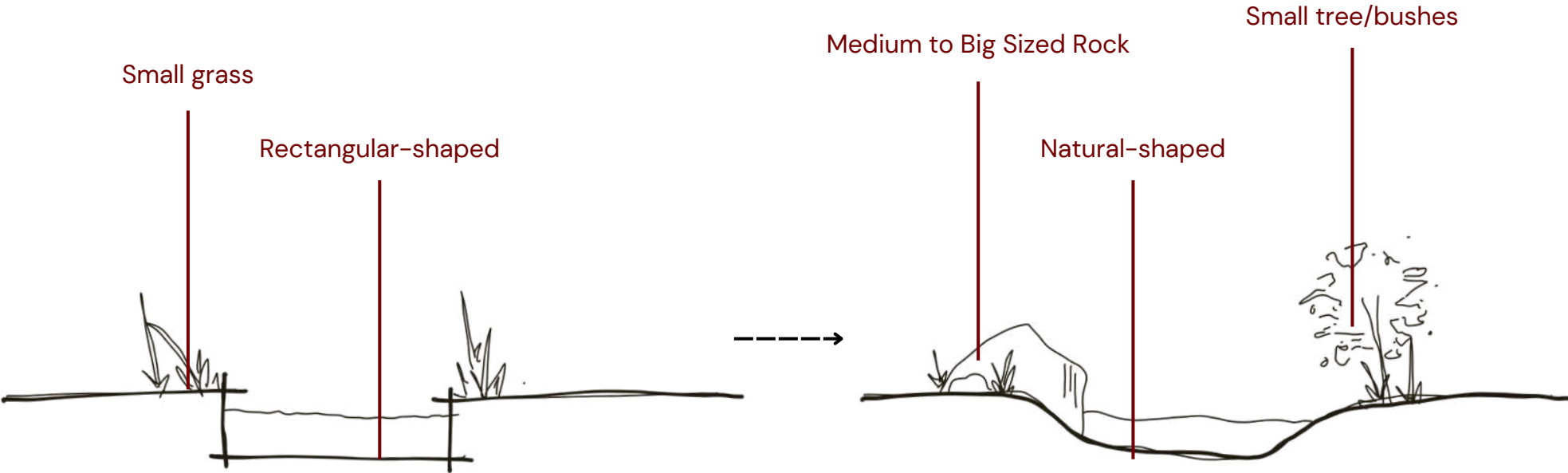


Figure 5.4 Streams Design
(Modelled by Author)

Attachment

06

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Assalamualaikum Wr. Wb.

Dengan ini, menerangkan Bahwa:
Nama : Mahadevi Effia Arkan
Nomor Mahasiswa : 20512240
Pembimbing : Dr.-Ing. Putu Ayu Pramanasari A., S.T., M.A
Fakultas / Prodi : Teknik Sipil dan Perencanaan/ Arsitektur
Judul Karya Ilmiah : A Design of Recovery Center in Surakarta for Cardiovascular Outpatients with Javanese Wellness Architecture Approach

Karya ilmiah yang bersangkutan di atas telah melalui proses cek plagiasi menggunakan **Turnitin** dengan hasil kemiripan (*similarity*) sebesar **2 (Dua) %**.

Demikian Surat Keterangan ini dibuat untuk dapat dipergunakan sebagaimana mestinya.

Wassalamualaikum Wr. Wb.

Yogyakarta, 8/20/2024
Direktur

Muhammad Jamil, SIP.



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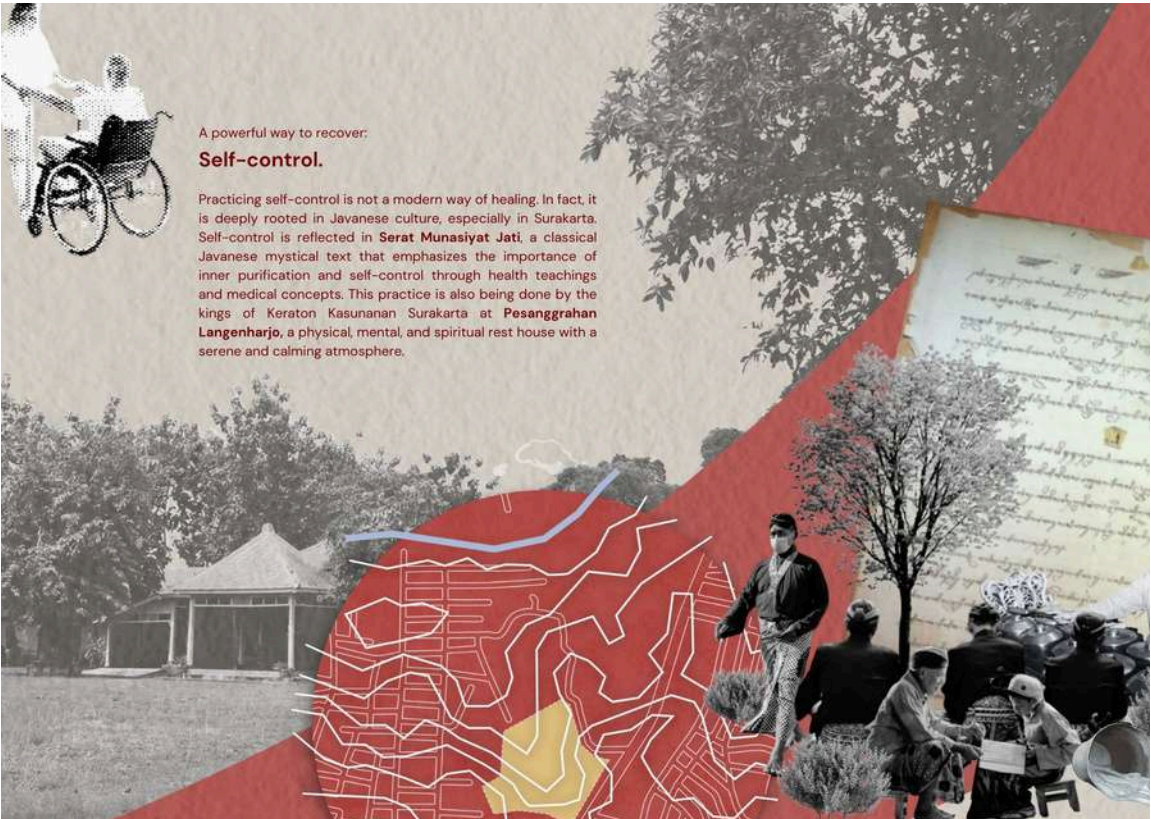


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A powerful way to recover:
Self-control.

Practicing self-control is not a modern way of healing. In fact, it is deeply rooted in Javanese culture, especially in Surakarta. Self-control is reflected in **Serat Munasiyat Jati**, a classical Javanese mystical text that emphasizes the importance of inner purification and self-control through health teachings and medical concepts. This practice is also being done by the kings of Keraton Kasunanan Surakarta at **Pesanggrahan Langenharjo**, a physical, mental, and spiritual rest house with a serene and calming atmosphere.



OLAH BATIN



OLAH RASA



OLAH RAGA



Surakarta, The Spirit of Java.

This phrase is not merely a city slogan. It's seen as a hope; they wanted to be known as the center of Javanese cultural development. Jebres is one of Surakarta's sub-districts undergoing rapid growth to improve community welfare, including the construction of the UAE hospital. Located 3 minutes away from the hospital, the chosen 17000 sqm site at Mojo Street unexpectedly has many layers of contours.

Utilizing **Diana Agrest's** formula in transforming non-design values into design

1	Pesanggrahan Codes	Column Boundary	Landscape Movement, Intentions	Axis Body of water
2	Serat Codes	Layers	Health	Sufficient
		Slices of meaning, movement, boundary	Diet, greens, water	Inner peace, self-control, intentions
3	Pesanggrahan Column	Serat Layers	Pesanggrahan Column	
	Serat Layers	Slices of meaning, movement, boundary	Slice of meaning, movement, boundary	

Based on the Pesanggrahan's spatial arrangement, Serat principles, and other extracted Javanese values the building will be divided into three zones: Olah Rasa, Olah Raga, and Olah Batin.



A Design of Recovery Center in Surakarta for Cardiovascular Outpatients with Javanese Wellness Architecture Approach

Supervisor Dr.-Ing. Putu Ayu Prameswari A., S.T., M.A.
Jury 1: Aul Baid Sholah, S.T., M.Sc., Ph.D.
Jury 2: Prof. Dr.-Ing. Ir. Ari Rya Febjar Mahwika, M.A., IRI

Mahadevi Elia Arkan
20222240

2

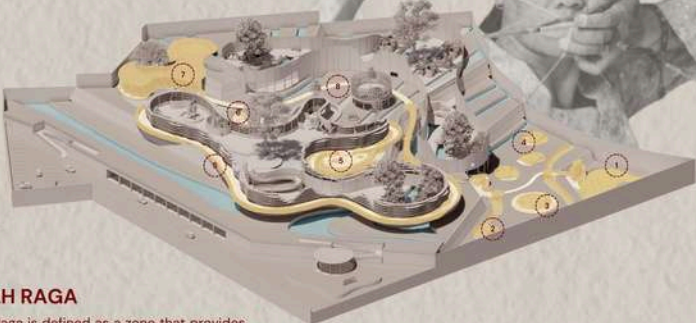
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OLAH RASA

Olah Rasa is defined as a zone to practice empathy towards other people (human-to-human connection). It embraces togetherness and awareness of their own well-being as well as others. Olah Rasa is divided into 3 spaces, which are (1) Rawuh Lounge, (2) Support Cove, and (3) Gastronomy Nook. Rawuh Lounge is a transformation of Pesanggrahan's Kuncungan and Prabasana. It serves as a space to welcome guests based on the Javanese concept of Gupuh, Rengkuh, Lungguh, Aruh, and Suguh. Meanwhile, Support Cove is transforming Pesanggrahan's Panti Tamu, which provides general medical check-ups and program tracking for outpatients. Lastly, Gastronomy Nook is a transformation of Pesanggrahan's Panti Pinoto. It has a self-harvest herb garden and workshops on cooking and uborampe-making. This space is crucial, as it is the main lesson learned from Serat Munasiyat Jati, "you are what you eat".



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OLAH RAGA

Olah Raga is defined as a zone that provides spaces to encourage movement and focus. The zone is divided into several areas namely (1) Jemparingan, (2) Dayung, (3) Ayun, (4) Guyub, (5) Kayuh, (6) Baringan, (7) Semediyan, and (8) Lampahan.

Jemparingan is an archery game from Keraton that trains the outpatients' focus, whereas Guyub also has the same goal but in the form of a board game called Surakarta. To loosen up the muscles, the outpatients can walk around Lampahan, do boat-rowing exercises in the Dayung area, do psammotherapy at Baringan, as well as Semediyan to do indoor or outdoor yoga. They also need to be less worried and overcome their fears, which can be done by swinging at Ayun or cycling on an elevated lane at Kayuh. The areas are all scattered, so they can wander around, just like the kings do at Pesanggrahan's landscape area.



ARCHITECTURAL PRESENTATION BOARD (APREB)



ARCHITECTURAL PRESENTATION BOARD (APREB)



Breaking the rectangularity,
Embracing the natural flows.

The undulating building form of Serat Saras emphasizes the effort to move away from the usual rigid/rectangular look of "healthcare" by maximizing the use of natural shapes. Thus, this design aims to help the outpatients to feel relaxed and at ease, creating an enjoyable healing experience that is supported by the programs, greeneries, and surrounding area that are rooted to Javanese wellness.

South Elevation

East Elevation

North Elevation

West Elevation



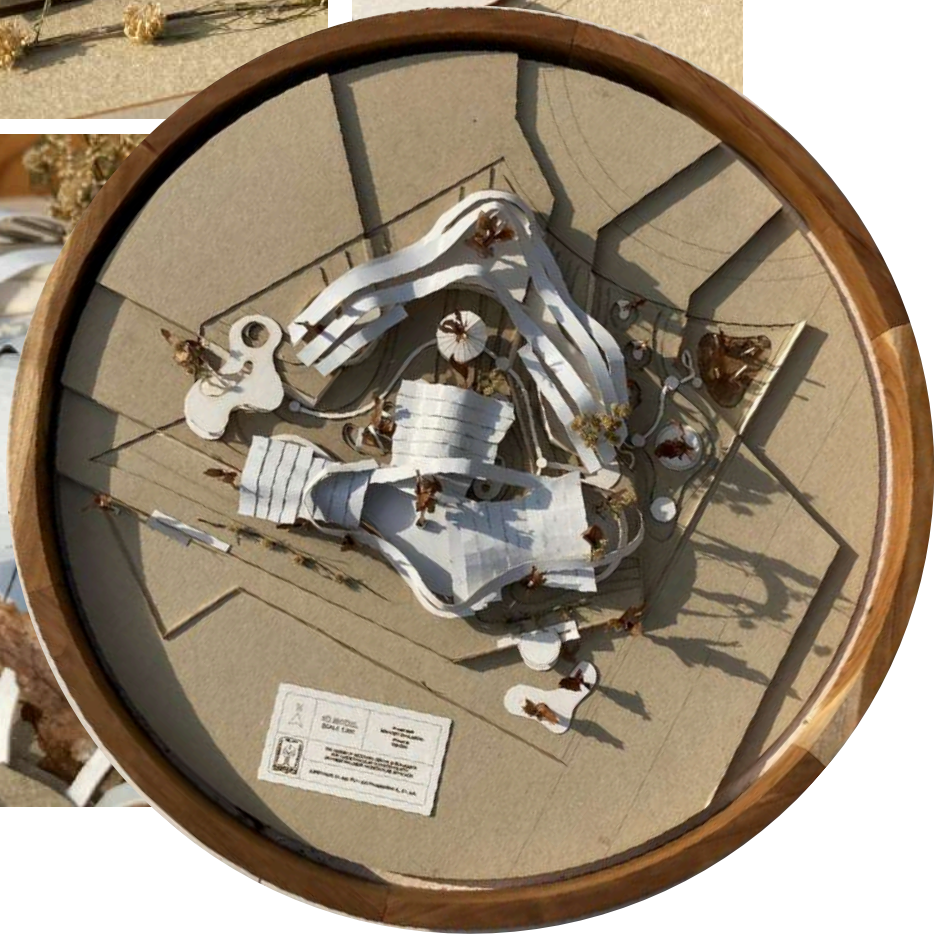
A Design of Recovery Center in Sukakarta for Cardiovascular Outpatients with Javanese Wellness Architecture Approach

Supervisor Dr.-Ing. Putu Ayu Premasari A., S.T., M.A.
Jury 1: Airl Badi Sholah, S.T., M.Sc., Ph.D.
Jury 2: Prof. Dr.-Ing. Ir. Ari Rya Fadjar Mahwika, M.A., M.Sc.

Mahadevi Elia Arkan
2052240

6

3D MODEL/MAQUETTE





In loving memory of
Wayan Tjikini.

This thesis is dedicated to my grandmother, my *Uti*. Her strength in battling stroke inspired me to work on this project. Her memory continues to guide me, and this FADS project is a small way to honor her and everything she taught me.



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