International Undergraduate
Program in Architecture
Final Architectural Design Studio

Pemodelan Arsitektur dan Perkotaan

DESIGN OF
RIVERSIDE COMMUNAL HUB
SPACE ACCOMMODATION FOR MICRO, SMALL, AND MEDIUM ENTERPRISES IN PONTIANAK WATERFRONT AREA

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Design of Riverside Communal Hub Space Accommodation for Micro, Small, and Medium Enterprises in Pontianak Waterfront Area

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Yogyakarta, August 5th 2022

Author,



Muhammad Daffa Fadhil Utama

Preface

Assalamualaikum Wr. Wb.

Praise the presence of Allah SWT, The One and Only God for abundance of grace, His gift, and His power as well as our prayers and greetings to our Prophet Muhammad SAW, his family, and his friends. Solely due to Their grace and blessings, the author was able to finish this undergraduate thesis or the Final Architectural Design Studio entitled "Design of Riverside Communal Hub Space Accommodation for Micro, Small, and Medium Enterprises in Pontianak Waterfront Area" in the most excellent outcome. The author receive tons of assistance, suggestions, supervision, and support from several parties in putting together this undergraduate thesis. The author would like to use this opportunity to express his sincere gratitude and appreciation to:

1. Allah SWT for all His mercy and grace, all His instruction and gifts, the process of writing this Bachelor's Final Project was given blessing and ease.
2. Parents with loving, who I adore with utmost respect and care, who provide prayers, support, motivation, and enthusiasm.
3. Dr.-Ing. Ir. Ilya Fadjar Maharika, MA., IAI. as supervisor who has an important role in the research and preparation of this final project report, with all his patience has provided guidance, inputs, and knowledge to the author.
4. Ir. Wiryono Raharjo, M.Arch., Ph.D. as first jury who has given input, criticism, and advice to the author that made the writing of this report can be better.
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Received a response from Allah SWT for all the prayers, encouragement, and assistance that has been offered. Since the author is aware that this work is far from perfect, therefore all helpful criticism and recommendations for improving this undergraduate final project are welcome. Hopefully, this final project is able to help readers gain knowledge and experience, serve as a resource, and enhance future learning materials and corrections.

Yogyakarta, August 5th 2022

Author,



Muhammad Daffa Fadhil Utama

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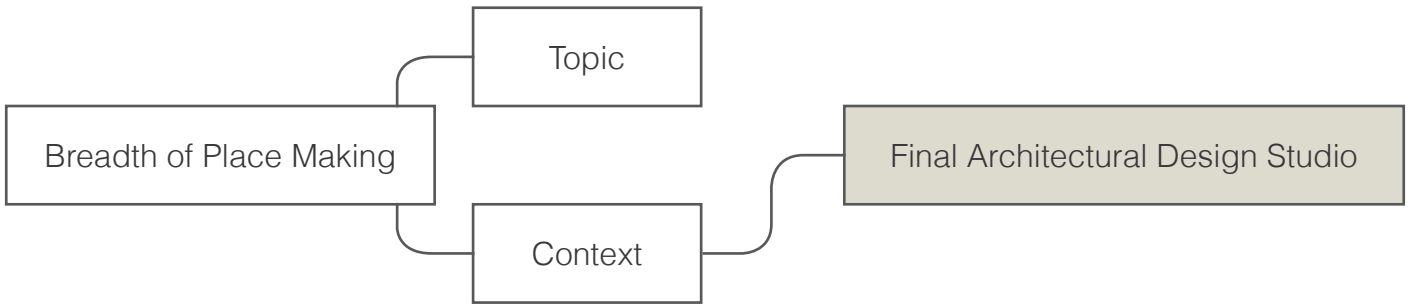
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ATTACHMENT

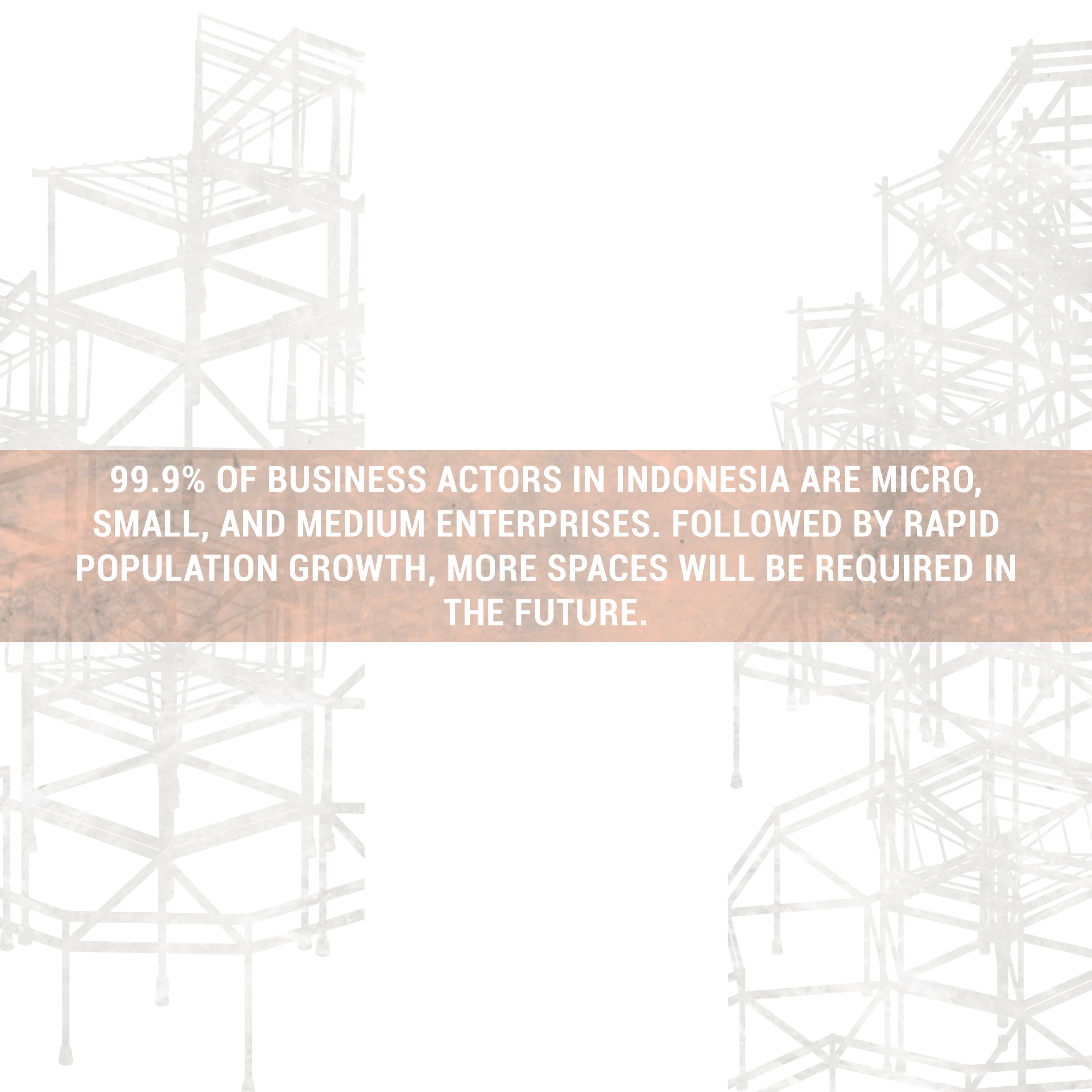
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Abstract

Micro, Small, and Medium Enterprises in Pontianak experienced several problems in aspects of product display, creativity, and marketing models. Beside the significant increase in the number of Micro, Small and Medium Enterprises, a representative exhibition space is needed to display the products being sold, said H. Sutarmidji, Governor of West Borneo. On the other hand, especially in the context of location in Pontianak Waterfront area, there are many Micro, Small, and Medium Enterprises that does not get a proper space to display their products, let alone a legitimate space for themselves to do business. In this Final Architectural Design Studio, this design brief propose a design to develop a riverside communal reservation area for Micro, Small, and Medium Enterprises, which are suitable for the context and appropriate according to the government, and more importantly, to the community of Pontianak Waterfront area. The final design is expected to provide a space that becomes a place for the local community to carry out activities, especially for the Micro, Small, and Medium Enterprises, so that they are able to display and selling products well and creatively. Furthermore, the architecture aspects displayed is in the from of local wisdom and culture elements and applying the principles of local water culture in such manner to avoid the foreignness in the eyes of the local community. Pontianak is known as a water friendly city, supported by its location, which occupies the Kapuas River area, the longest river in Indonesia. Therefore, it would be appropriate to design an architecture that applies the principles of water culture that is familiar to its citizens.

Keyword(s): Micro, Small, and Medium Enterprises, Riverside Communal Reservation Area, Water Culture, Local Wisdom, Pontianak Waterfront.



99.9% OF BUSINESS ACTORS IN INDONESIA ARE MICRO, SMALL, AND MEDIUM ENTERPRISES. FOLLOWED BY RAPID POPULATION GROWTH, MORE SPACES WILL BE REQUIRED IN THE FUTURE.

THE FUTURE OF SUSTAINABLE ECONOMIC GROWTH CAN BE RESPONDED THROUGH ARCHITECTURE.



01



Design Premise

1.1 Pontianak Waterfront: Occupied Public Space
1.2 Who are the Micro, Small, and Medium Enterprises (MSME)?
1.3 Indonesia Enterprise Profile Statistics
1.4 The Need for Innovation Among MSMEs at Present Time
1.5 Riverbank Settlements: A Lost Identity
1.6 Kapuas River's Society Economic Behavior: History of Seng Hie Port



1.1 Pontianak Waterfront: Occupied Public Space

The development of cities and riverside settlements is strongly influenced by the environmental and and social conditions of the community inhabiting it. Aquatic culture, or water culture, is reflected in the form of settlements that forms a pattern of community dependence on water (Kalsum, E., 2022). An area with water culture that has been developed long ago has turned into an area with its back against the water source itself. A large scale area nearby any water source such as a riverside city must regain its dignitiy towards water (Faturrahman, R., 2022). According to Raksadjaja (1999), cities in Indonesia today have lost their identity or original identity due to the proliferation of instant designs as a result of globalization, producing architectural form of buildings or regional planning and face of the city similarities between one city and another, resulting people to lost their grip on recognizing their own environment.

In this case study, which is Pontianak City, is a city that is traversed by both the Kapuas River and the Landak River, making the city highly dependent on water. One of which, are the settlements of people who live along the river, such as Benting Village and the community inhabiting the Pontianak Waterfront Area. According to Perdana and Rahmi (2021), riverside settlements are problems that until today still needs special handling from various parties, both from the government and the community. Some of these problems are the physical condition of the environment, which has an unplanned spatial pattern and does not have public spaces to accommodate social activities and livelihoods such as labor and inadequate community services. One form of business occurred by the local community is the large number of Micro, Small, and Medium Enterprises (MSME) occupants counted in Pontianak City. However, according to H. Sutarmidji, Governor of West Borneo, MSME in Pontianak experienced several problems in aspects of product display, creativity, and marketing models. A representative exhibition space is needed to display the products being sold and a place for communication and business training discussions for the MSME occupants and online marketing spaces. Furthermore, West Borneo government is going to intervene in helping solving the issues faced by the UMKM occupants, such as accommodation funding. This is considered as one of the major background problem in this Final Architectural Design Studio topic. On the other hand, several problems such as sealed merchants vendors in the nearby market, the Kapuas Indah Market, and the demolished nearby local shops that are approximately built directly next to the Kapuas River, hence the demolition process. Making the situation even more confusing, the merchants in Kapuas Indah Market does not have the acknowledgement of the situation on why their vendors are being sealed by the government. They demand at least to accommodate them with a temporary space to allow them to sell their products. Furthermore, an annual flood is occuring yearly at the end of each year on Kapuas Indah Market, obstructing the work hour for the merchants there.



1.2 Who are the Micro, Small, and Medium Enterprises (MSME)?

Figure 1. Pontianak Waterfront Condition (previous page)
Source: Author (2022)

Figure 2. Micro Enterprise in Indonesia
Source: ukmindonesia.id (2019)

In chapter I Article 1 of Law No. 20 Year 2008 concerning Micro, Small, and Medium Enterprises (MSME), what is it meant by Micro, Small, and Medium Enterprises (MSME) are:
1. Micro business is a productive business belonging to individuals and/or entities individual businesses that fulfills Micro business criteria as regulated by the Law.

2. Small business are economic businesses stand-alone productive carried out by individuals or a business entity that is not subsidiary or not branch company owned, controlled, or be a good part directly or indirectly from Medium businesses or Large enterprises that meet the criteria for Small business as regulated by the Law.

3. Medium business are economic businesses stand-alone productive carried out by individuals or a business entity that is not a subsidiary or not branch company owned, controlled, or be a good part directly or indirectly with Micro businesses or Large enterprises with total wealth net or annual sales as regulated by the Law.

Based on the description above, the point of Micro, Small, and Medium Enterprises is form of productive economic venture that is implemented by person individuals or business entity individuals that meet the criteria for Micro, Small, and Medium Enterprises as regulated by the Law.



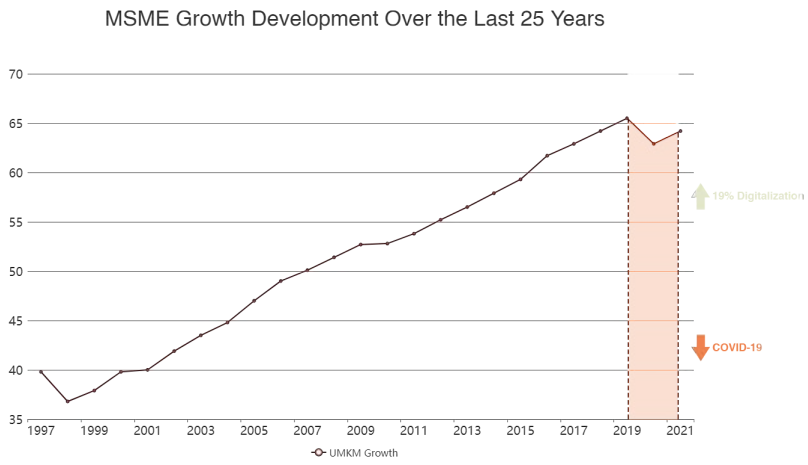


Figure 3. Micro Enterprises Occupying Public Seats in Pontianak Waterfront (Page 9).
Source: Author (2022)

Figure 4. Micro Enterprises Not Having a Properly-Designed Space.
Source: Author (2022)

Figure 5. MSME Growth Development Over the Last 25 Years Graph.
Source: Author (2022)
Adapted from databoks.katadata.co.id

Micro, Small, and Medium Enterprises in Indonesia increases in number every year. Moreover, MSME in Indonesia contributed to absorbing 119.6 million or 96.92% of the total workforce in Indonesian business units (databoks.katadata.co.id, 2021). The rapid amount of growth indicates that there are going to be many more physical spaces needed for the UMKM to represent their products, despite 19% of them are going digital due to the impact of COVID-19.

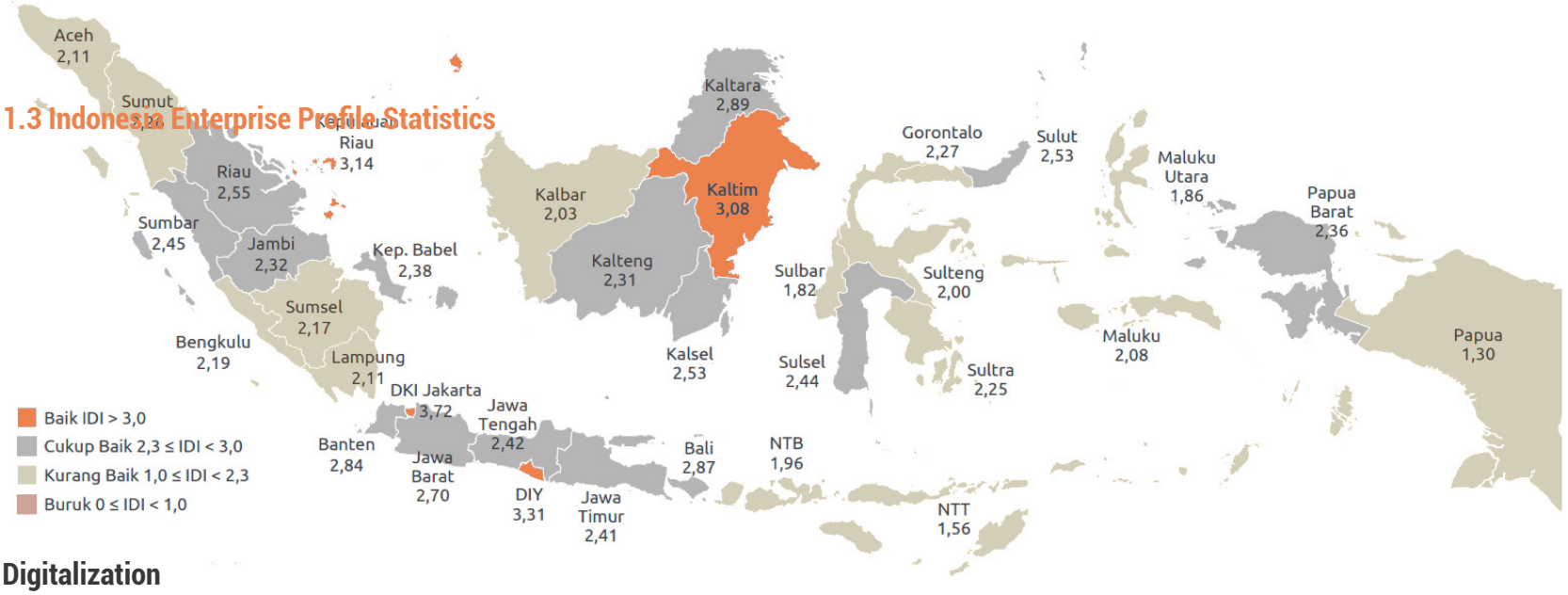


Figure 6. Indonesia's rate of digitalization (ICT Development *Index*-IDI).
Source: Bank Indonesia, adapted from Billon et al. (2010)

Digitalization

One of the challenges faced by MSMEs is the current rapid development of technology. Technology is able to help business actors, including MSMEs, to develop their business to compete and excel. Moreover, many people have switched to using technology, moving towards *cashless payment method*. The transition from manual to digital buying and selling inevitably makes MSME business actors to adapt. However, only about 13% of MSMEs are connected to the digital market. One of the reasons is due to low digital literacy around the business actors. However, MSME businesses are also able to develope their business through online sales platforms. By selling online, businesses can more easily reach customers from all over the country and increase sales. Not only as a platform for sales but for all business activities ranging from marketing, reaching customers, product information, maintaining loyalty, to serving customers in general. Thus, MSMEs are able to continue to adapt to existing changes and remain a strong economic support for the country.

Sustaining Local Economic Growth

With the large numeber of MSMEs, it is not surprising that MSMEs are one of Indonesia's pillar of growth. In the last 5 years, the contribution of MSMEs in Indonesia to Gross Domestic Product (GDP) increased from 57.8% to 61%. This makes MSMEs a safety net as well as an economic driver. This is due to MSMEs have a fast transaction cycle and their products tend to be directly related to the main needs of the community.

"99.9 persen pelaku usaha di Indonesia adalah UMKM."
- State Minister for Cooperatives Small and Medium Enterprises, Teten Masduki.

Occupy Labor Supply

The number of MSMEs is largely spread in various areas, from urban to rural areas. In addition, MSMEs are proven to be able to occupy labor supply, which is 97% of the entire national workforce and provie 99% of job opportunities. Furthermore, MSME job opportunities accommodates many workers who have low levels of education. This means that MSMEs are able to help local communities to be productive and reduce unemployment and poverty rates.

Continues to Grow Yearly

From year to year, the total number of Micr, Small, and Medium Enterprises (MSME) units in Indonesia and its GDP continues to grow. The total number of MSME units in Indonesia as of earlier year 2022 has reached around 62.9 million units spread across various sectors. Around 99.9 % of business in Indonesia are MSMEs. Apart from GDP and business units, the investment value of MSMEs from year 1999 to 2013 also increased rapidly, by 963% to be exact. As of 2018, MSMEs accounted for 58.18% of the total investment. These figures represents the rapid growth of MSMEs in Indonesia.

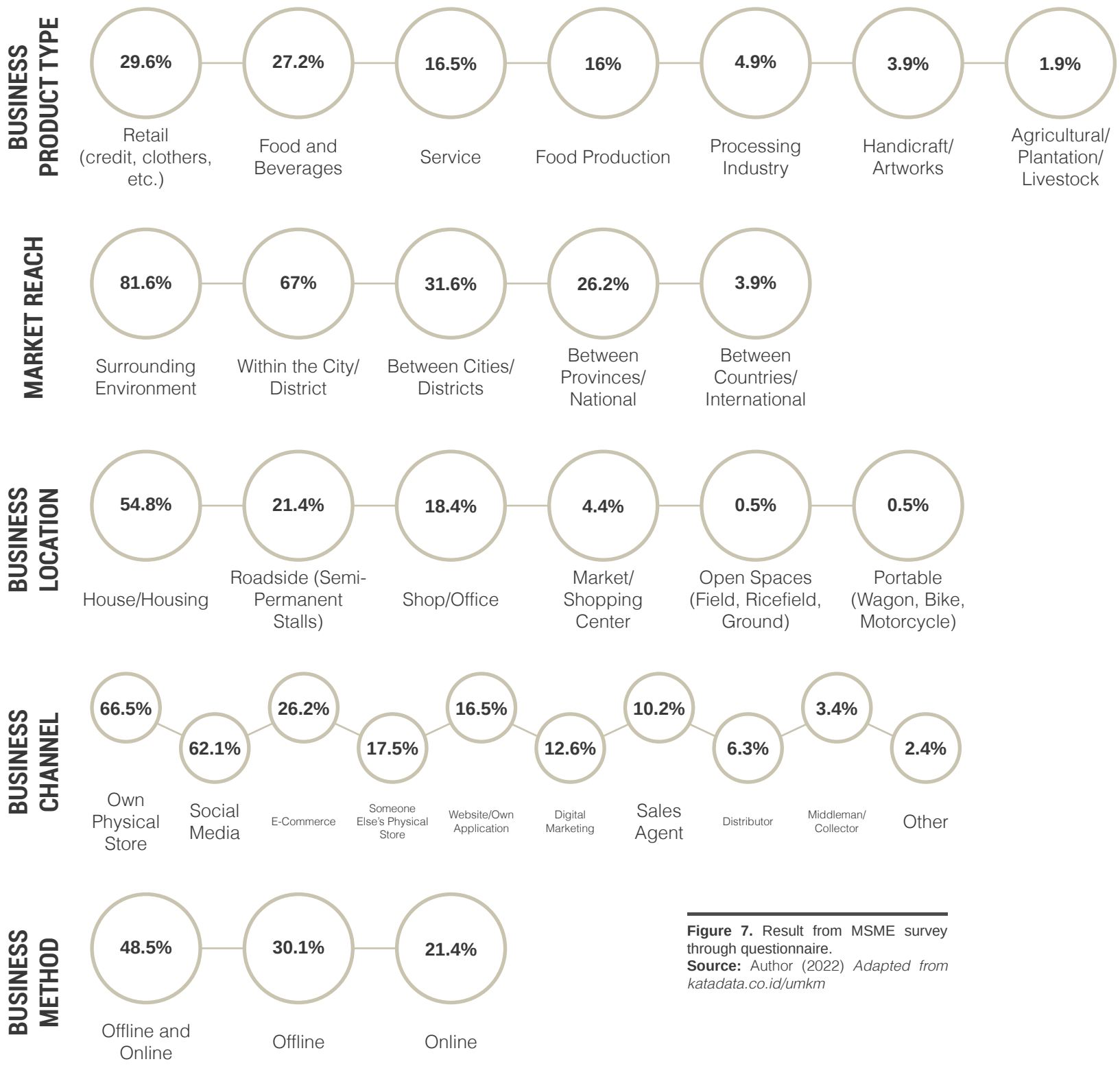


Figure 7. Result from MSME survey through questionnaire.
Source: Author (2022) *Adapted from katadata.co.id/umkm*



1.4 The Need for Innovation Among MSMEs at Present Time

Increasing MSME productivity has the opportunity to continue to be optimized through strengthening innovation. Problems that arise in the increase in MSME productivity is limited access to financial institutions formal, production technology, resource capacity, human resources capacity, raw materials, and marketing (Irjayanti M., Azis, A.M., 2012). Along with it, MSMEs that dominate business units in Indonesia, generally managed informally, with low level of management education, and workforce skills that are not optimal (BPS, 2019). This affects the ability of MSMEs to increase business productivity. Enterprises with lower scale of businesses in general are less likely to innovate, even some of them are not able to innovate independently (OECD, 2018). Strengthening innovation for MSMEs will support the achievement of inclusive growth by reducing the productivity gap between MSMEs with other larger-scale businesses. Increased innovation in MSMEs can be optimized by taking advantage of economic developments and increasingly accelerated digital finance.

Figure 8. Government's effort to promote and support Micro Enterprises business in Pontianak Waterfront area through a physical space, a *food corner.*
Source: Author (2022)



1.5 Riverbank Settlements
A Lost Identity

Regions in Indonesia today, one of which is riverbank areas, has been sealed shut of the identity due to the proliferation of instant designs as a result of globalization. Which, caused the architectural form of the buildings or the regional layout feels incompatible with the surroundings, which causes an identity crisis for an area (Raksadjaja, 1999). Furthermore, many of the developments forced the local community to become only as 'spectators' or even victims, which they are the residents of the area itself. This is caused by the development that occurs in a certain area cannot be followed by the economic potential of the community and the absence of a development plan that involves the local community as a part of the development.



Figure 9. Pontianak Waterfront Community Behavior.
Source: Author (2022)

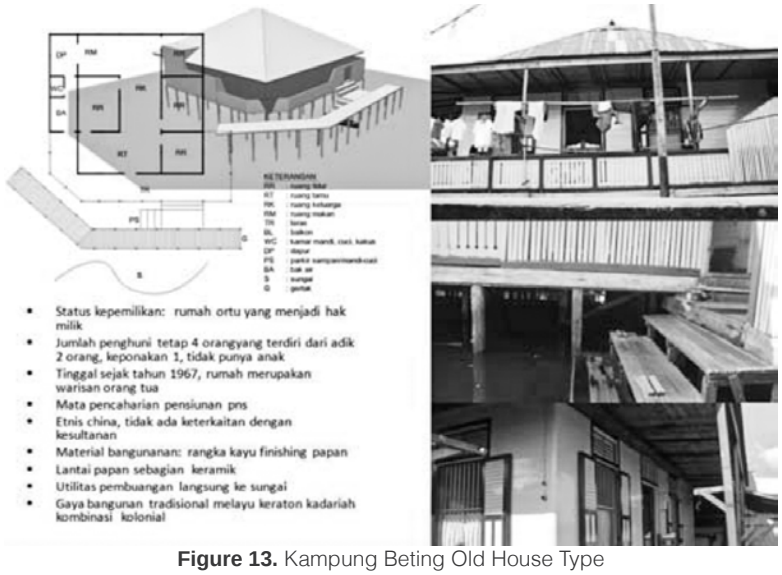
Figure 10. Kampung Beting in Pontianak.
Source: rizkyjayarentcar.com (2017)



Figure 11. Kampung Beting Urban Layout
Source: Artmeyn De (2020)

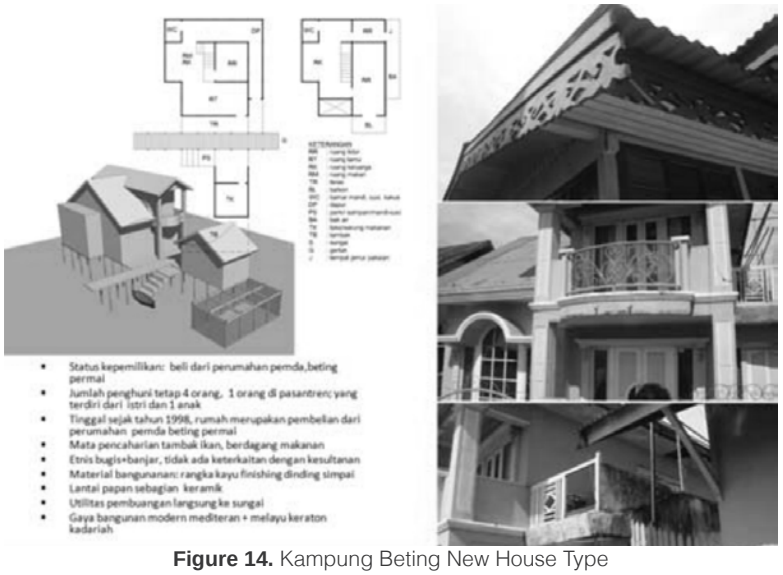


Figure 12. Kampung Beting Urban Layout
Source: Artmeyn De (2020)



- Status kepemilikan: rumah ortu yang menjadi hak milik
- Jumlah penghuni tetap 4 orangyang terdiri dari adik 2 orang, keponakan 1, tidak punya anak
- Tinggal sejak tahun 1967, rumah merupakan warisan orang tua
- Mata pencaharian pensiunan pns
- Etnis china, tidak ada keterkaitan dengan kesultanan
- Material bangunanan: rangka kayu finishing papan
- Lantai papan sebagian keramik
- Utilitas pembuangan langsung ke sungai
- Gaya bangunan tradisional melayu keraton kadariah kombinasi kolonial

Figure 13. Kampung Beting Old House Type
Source: Khaelish, H., Putra, G.A., (2012)



- Status kepemilikan: beli dari perumahan pemda,beting permai
- Jumlah penghuni tetap 4 orang, 1 orang di pasantren; yang terdiri dari istri dan 1 anak
- Tinggal sejak tahun 1998, rumah merupakan pembelian dari perumahan pemda beting permai
- Mata pencaharian tambak ikan, berdagang makanan
- Etnis bugis+banjar, tidak ada keterkaitan dengan kesultanan
- Material bangunanan: rangka kayu finishing dinding simpai
- Lantai papan sebagian keramik
- Utilitas pembuangan langsung ke sungai
- Gaya bangunan modern mediteran + melayu keraton kadariah

Figure 14. Kampung Beting New House Type
Source: Khaelish, H., Putra, G.A., (2012)

Kampung Beting has a historical connection with the early settlement of Pontianak, which is the capital of West Kalimantan Province. The kampung, or village, itself has its own uniqueness compared with other early settlements, because of the relation to its location on a riverside, is related to the history of the settlements establishment that formed spontaneously based on the people's desires. Unlike the other early settlements that are generally formed by the royal government policy at the time. (Khaelish, H., Putra, G.A., 2012)



Figure 15. Kampung Beting Urban Layout
Source: Artmeyn De (2020)



Figure 16. Kampung Beting Urban Layout
Source: Artmeyn De (2020)

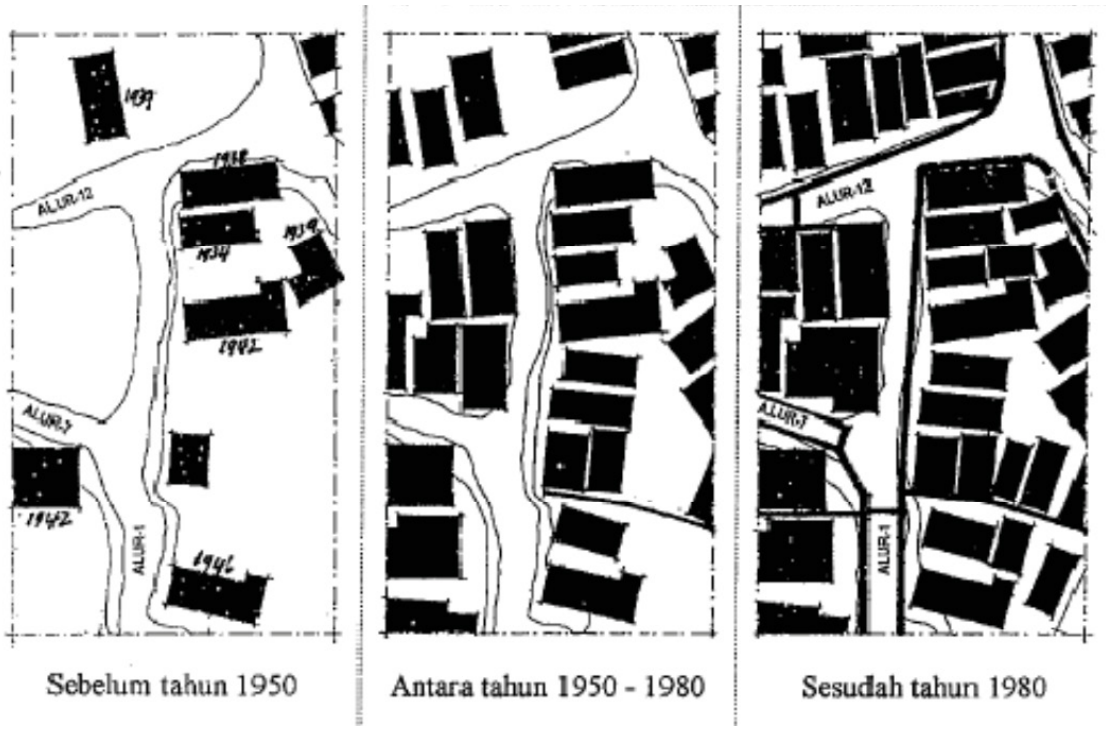


Figure 17. Land Occupancy Process in Kampung Beting
Source: Hasyim (1999)



1.6 Kapuas River's Society Economic Behavior

History of Seng Hie Port

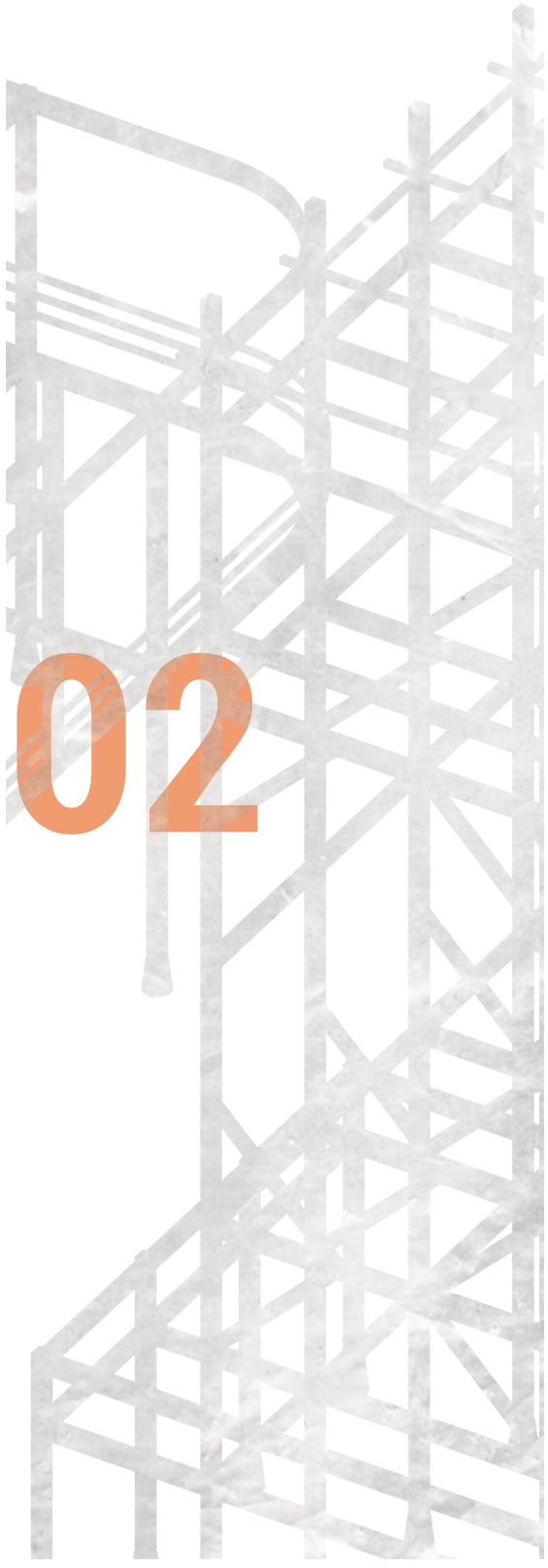
Pontianak, founded in 1771, is situated in a vital location, with international and local (Nusantara) commerce lines passing through. On the riverside area of the Kapuas River, trading activity is one of the busiest. Because, trade in Pontianak City is more oriented on the sea route than the land route with the presence of a port or a pier has grown increasingly important over time. The existence of a river within the city contributes to the residents of Pontianak City's way of life, such as bathing, drinking water sources, buying and selling activities, and river transportation utilizing canoes or boats, which are still utilized today. One of the ports is Seng Hie Port. Considered as one of the oldest port in the city, Seng Hie Port is also regarded to be the most strategically located. Theng Seng Hie, a Chinese merchant who grew up in Pontianak, is the name that underlies the port and is located close to Pontianak Waterfront. This makes Seng Hie Port more visible and known to the public, including the author himself. Had been claimed by the Dutch during the colonial era, Seng Hie Port was also used by the Japanese to help send and receive stockpiles of weapons during World War 2. Until now, the historic port has been owned by the Pontianak City government through the Pontianak City Transportation Agency for its management and authority.

Figure 18. Seng Hie Port
Source: Author (2022)



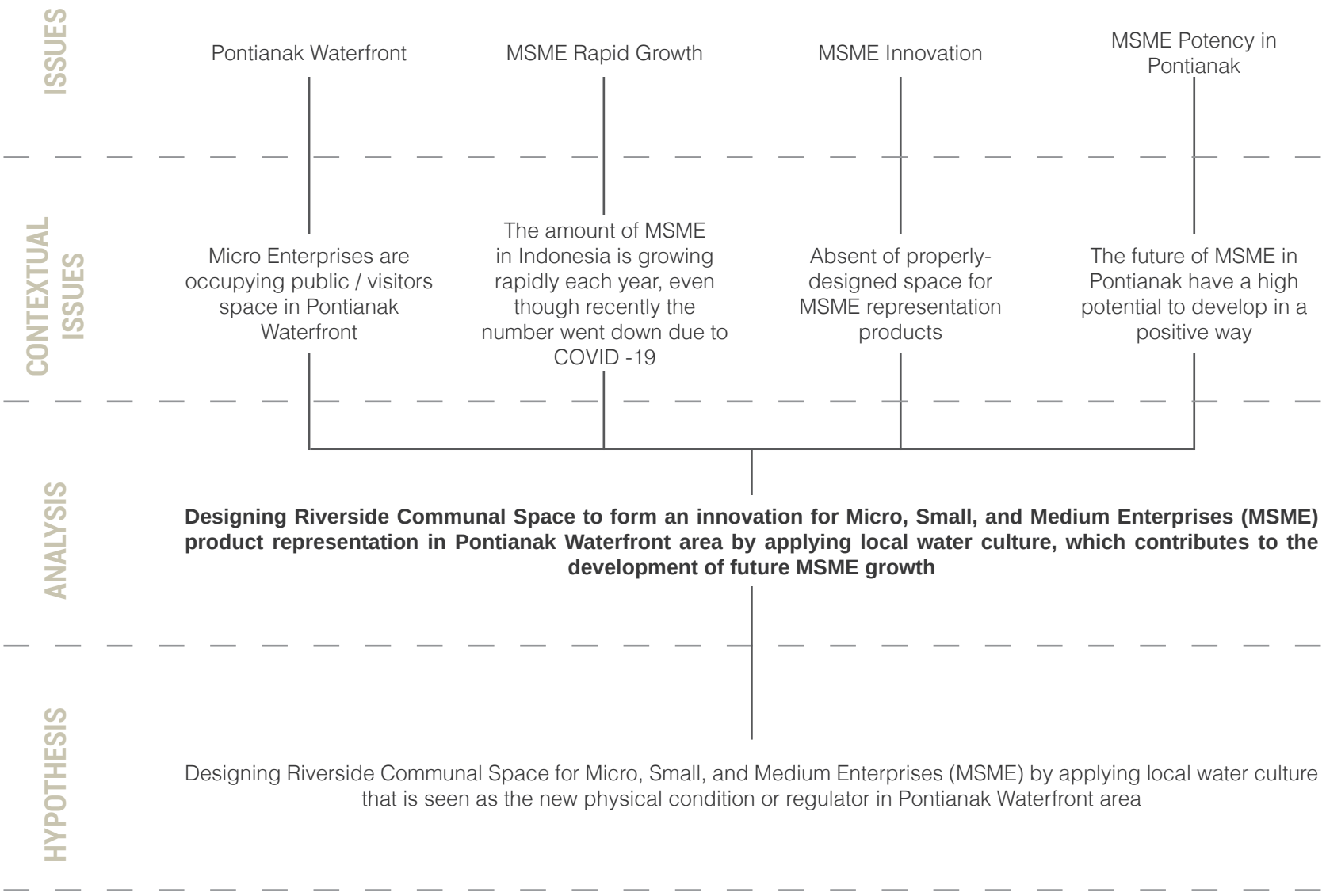
Based on the City Spatial Plan Year 2013-2033, Seng Hie Port is mentioned as on of the strategic areas in terms of the economic development of Pontianak City. Up to this point, loading and unloading ships as well as express ships have been accessible for distribution from various places, since they represent the lifeblood of the community's economy. The goods distributed are items such as groceries and basic necessities which are then distributed to the regions using existing people's ships or cargo ships. Due to its historical value, the government of West Kalimantan Province has designated Seng Hie Port as one of the cultural heritages in Pontianak City. Seng Hie Port has grown from a small wooden-structued port to a concrete structure that has been renovated to date, including an area expansion of 1.8 hectares, opening up opportunities for large ships to distribute a larger number of products. This opens up prospects for express ships to transport passengers to other cities, not just in West Kalimantan Province but all the way to Jakarta. Unfortunately, due to fierce competition, express ships are no longer running in 2018.

Figure 19. Seng Hie Port.
Source: Pontinesia (2021)


02

Problem Formulation

2.1 Problem Thinking
2.2 Problem Formulation
2.3 Problem Statement
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2.5 Secondary Data Gathering: Internet Articles
2.6 Literature Review: Waterfront Terminology
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2.12 Literature Review: Product Dispaly / Product Showcase
2.13 Precedent Study
2.14 Originality & Novelty



2.1 Problem Thinking

Issues does not usually come in one package, or even only one issue in the surface. There are actually several issues that contributes to the solution of those issues, a chain of connected issues. The main challenge is to find the core issue or to find the correct problem. This is usually the most difficult part of design, in this case, it is. After knowing the correct problem to solve, the solution answers for itself, it's what defines a good design. Micro, Small, and Medium Enterprises is a huge field to discover and to find the problem. However, it is still contextual, which differs the issue from one area to the other. Narrowing down from the macro issue of rapid MSME growth, the main issues that are faced by Pontianak's MSME are quite simple: the lack of innovation and the lack of space to represent the products that they sell.

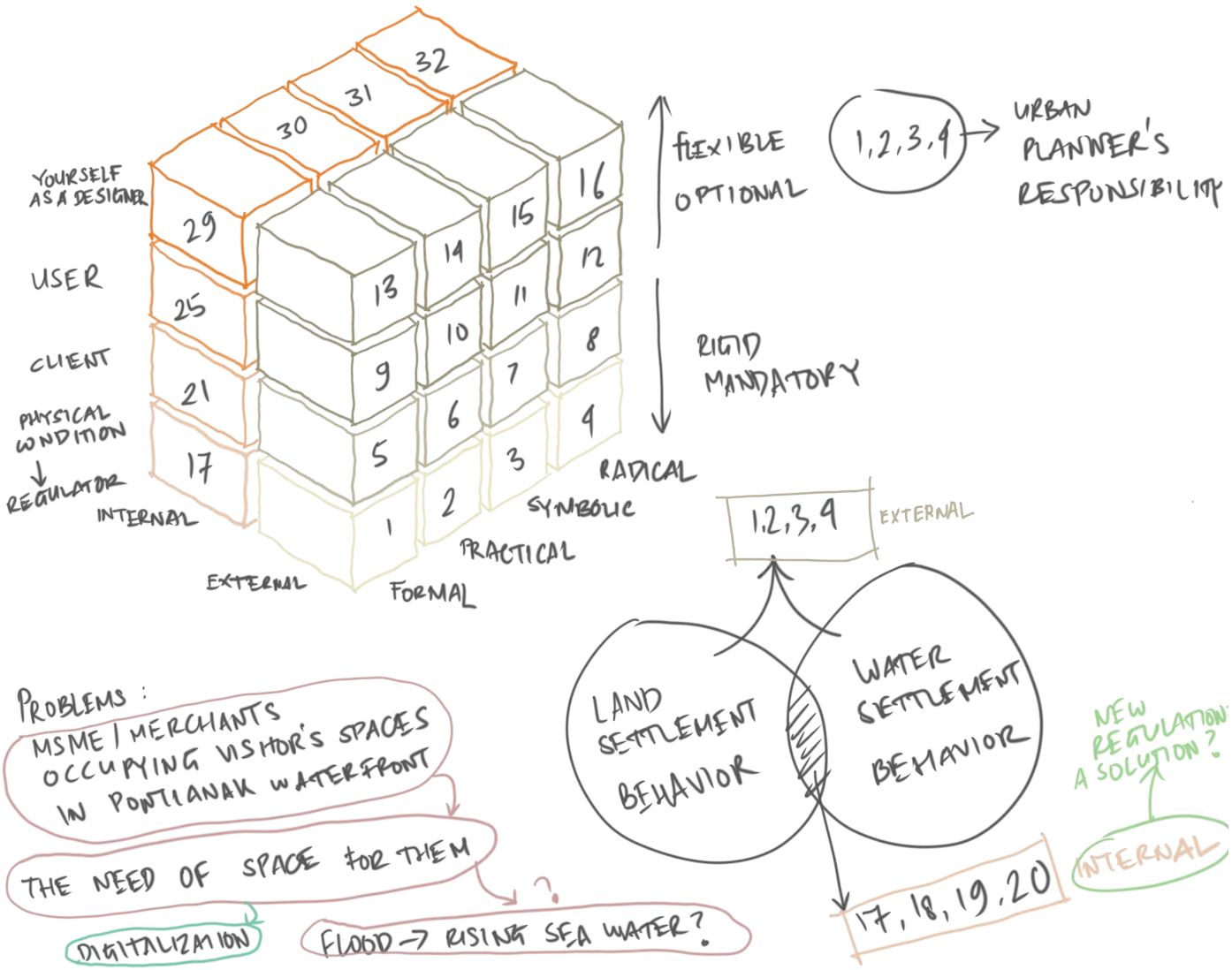


Figure 20. A hand sketch of the model of design problems by Bryan Lawson.
Source: Author (2022) *Adapted from How Designers Think: The design process demystified by Brian Lawson, 2005*

2.2 Problem Formulation

The current condition of Pontianak Waterfront is crowded, filled with micro businesses, or merchants, that are occupying the visitors spaces. The spaces are not properly designed for them to comfortably sell their products. As mentioned by H. Sutarmidji, the governor of West Kalimantan, spaces are needed to creatively display MSME products and to conduct social training among the participants. Furthermore, digitalization of the product display is occurring in the current situation, even though not to be seen as a negative impact to socity and architecture, if the future scenario is linearly focused on digitalization, will the need of space is no more needed? then, will the value of architecture would decrease or even vanish completely? On the other hand, annual flood is occured yearly in the nearby market, making merchants unable to properly do their economic activities.

2.3 Problem Statement

Problem Statement
Based on the background that has been studied, there are several problem formulations obtained.

General Problems
How is the design of Riverside Communal Hub Space Accommodation for Micro, Small, and Medium Enterprises in Pontianak Waterfront Area with the main concept of Open Architecture is able to provide an attractive and creative spaces to sell products that is sustainable?

Specific Problem
How to design Riverside Communal Hub for Micro, Small, and Medium Enterprises (MSME) by applying open architecture concept that contributes to the future development of the city of Pontianak and responds to the issue of lack of space to represent MSME products and rapid MSME population growth in Pontianak Waterfront Area.

Goals and Objective

Goals
Designing a Communal Hub that responds to the issue of lack of space to represent MSME products creatively and attractively, and responds to rapid MSME population growth in Pontianak Waterfront Area.

Design is able to be the prime example of conceptual application in Pontianak Waterfront area.

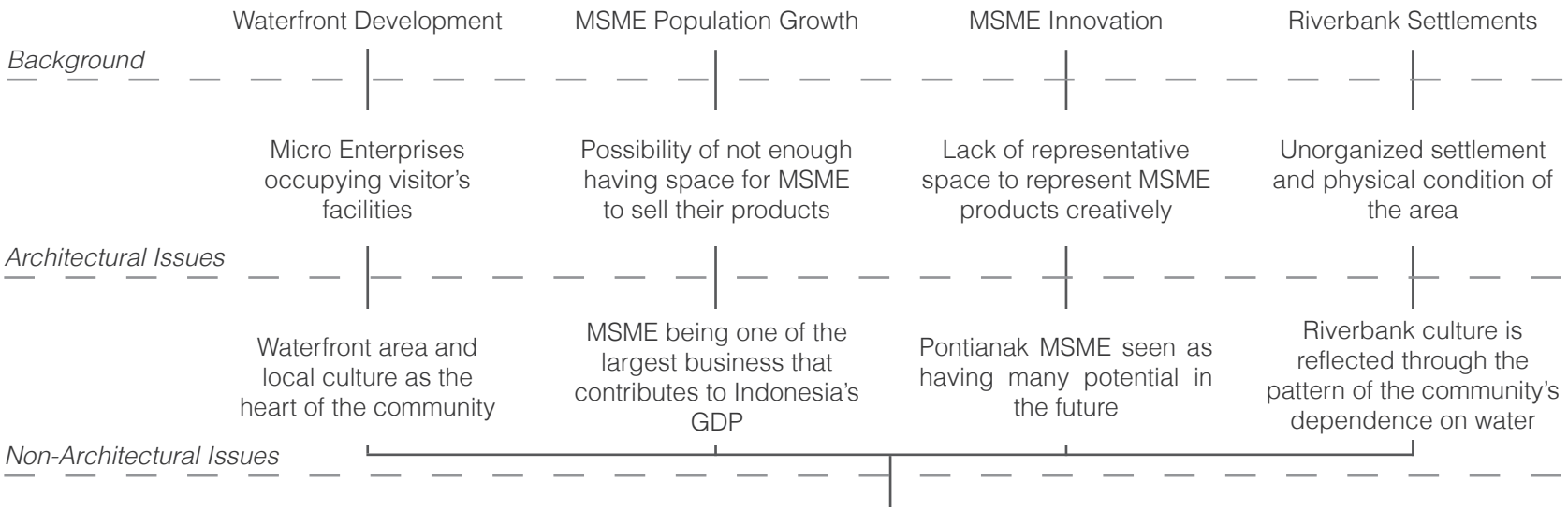
Provide solutions for the future that solved the lack of space for enterprises in small land availability and to help them attract more consumers by designing an attractive and creative spaces.

Objective

Develop an underdeveloped area into a fully-functional ecosystem of human and water activities. This includes the socio-economic and the environmental condition of the Pontianak Waterfront area, turning slums into a sustainable and water-friendly area by making it permeable.

Water behavior reflected through sustainable urban planning

Below is the framework and/or the problem formulation in the design thinking that are going to form the final decision and the final design of this Final Architectural Design Studio.

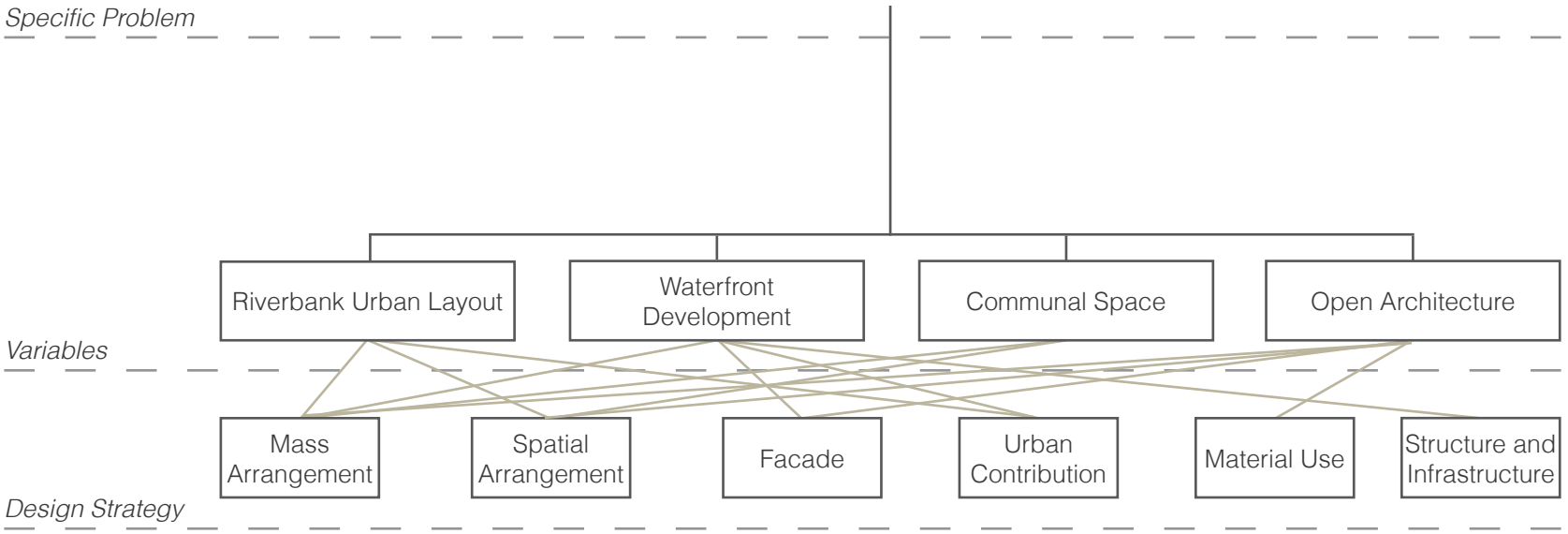


How to design Riverside Communal Hub for Micro, Small, and Medium Enterprises (MSME) by applying open architecture concept with the culture that is seen as the new physical condition or regulator in Pontianak Waterfront area

Primary Problem

How to design **Riverside Communal Hub** for Micro, Small, and Medium Enterprises (MSME) by applying open architecture concept that contributes to the future development of the city of Pontianak and responds to the issue of lack of space to represent MSME products and rapid MSME population growth in Pontianak Waterfront area

Specific Problem



	Formal Constraints	***Practical Constraints***	***Symbolic Constraints***	***Radical Constraints***
Designer *Architect*	***New Architecture*** *Forming a building typology that accommodates adequate and suitable spaces mainly for the local community of Pontianak Waterfront, Merchants, and UMKM.*	***MSME Growth in Indonesia*** *Based on real data, the number of MSME in Indonesia is increasing each year at the rate of 1.5% to 4%.*	***New Regulation*** *Forming a mediator between land settlement behavior and water settlement behavior.*	***MSME Innovation*** *Necessity to form an innovation for the good of society.*
User *MSME, Merchants, Visitors*	***Creative Representation*** *A space to provide creative and innovative representation of UMKM products.*	***Comfortable Space*** *Comfortable spaces for all users, to design a universal design.*	***Settlement Behavior*** *Communmal space as society interacts with each other, with visual aspects of the architecture that does not aliante itself from the eyes of the local community.*	***Communal + Commercial*** *Accommodating spaces to represent products and communal space to innitiate social activities.*
Client *The Government of West Kalimantan Province, Dinas Koperasi, Usaha Kecil dan Menengah Provinsi Kalimantan Barat*	***Pontianak in the Future*** *Forming new spatial form between land settlement behavior and water settlement behavior.*	***Thriving Environment*** *Space arrangement to integrate social activities and product display.*	***Government's Demand*** *Instagrammable (representative) face of the architecture.*	***Current State of MSME*** *Lack of innovation in UMKM product display and representation sector. Furthermore, MSME is increasing rapidly throughout the last 25 years.*
Physical Condition, Regulator *Government Regulation of the Republic of Inonesia Number 34 Year 2009* *European Commission: Human Rights for Small and Medium-Sized Enterprises*	***New Regulation and Physical Condition: Mediator Between Land Settlement Behavior and Water Settlement Behavior*** • *Provide adequately-designed spaces for merchants and MSME to sell and represent their products* • *Maintaining the value of local architecture* • *Rather than seeing digitalization as the combatant against the value of spaces, it is seen as a newly-regulated aspects of design*	***GOVERNMENT REGULATION OF THE REPUBLIC OF INDONESIA NUMBER 34 YEAR 2009 ABOUT GUIDELINES FOR MANAGEMENT OF URBAN AREAS*** *Chapter 23* *(1) Rural areas can be planned to become new urban areas.* *(2) New urban area planning is prioritized for:* *a. provide residential space;* *b. provide new space for the need of industry, trade, and services;* *c. provide space for government services; and/or* *d. provide space for the development of national, provincial, and district strategic activity centers.*	***The Future of MSME*** *As one of the major economy accelerator in Indonesia, the higher the number of UMKM the higher the chance to make more thriving quality of life for society in the future.*	***European Commission: Human Rights for Small and Medium-Sized Enterprises*** *(Written by a team from GLOBAL CSR and BBI International)* *(1) Freedom of association* *(2) Right to equal pay for equal work* *(3) Right to organize and participate in collective bargaining* *(4) Right to equality at work* *(5) Right to non-discrimination* *(6) Right to just and favourable remuneration* *(7) Abolition of slavery and forced labour* *(8) Right to a safe work environment* *(9) Abolition of child labour* *(10) Right to rest and leisure* *(11) Right to work* *(12) Right to family life* *(13) Right to life, liberty and security of the person* *(14) Right of peaceful assembly* *(15) Right to an adequate standard of living (including adequate food, clothing, and housing)* *(16) Freedom from torture or cruel, inhuman or degrading treatment* *(17) Right to marry and form a family* *(18) Right to physical and mental health* *(19) Equal recognition and protection under the law* *(20) Freedom of thought, conscience, and religion* *(21) Right to education* *(22) Right to a fair trial* *(23) Right to hold opinions, freedom of information and expression* *(24) Right to participate in cultural life, the benefits of scientific progress, and protection of authorial interests* *(25) Right to self-determination* *(26) Right to political life* *(27) Right to social security* *(28) Freedom of movement* *(29) Right to privacy*

What *Describe "imaginative" building that fulfill the most important design problem in the matrix.*	***How*** *Describe the design strategies/framework (concept, pattern, force based).*	***Value*** *Describe expected value/additional value, goals with your design.*
Alternative 1 ***Modular Vertical Communal Complex*** *Focusing on the growth of MSME, the main point of the design is to accommodate spaces for the future MSMEs with properly-designed spaces merged into one neighbourhood or complex.*	***Alternative 1*** *Modular building concept, adapting to existing physical condition of the land spatial pattern of the city. Learning from existing historical kampung located in the middle of Pontianak, the spatial pattern is adapting based on it. This is done to stray away from alienation for the local community, however still sustainable for the future.*	***Alternative 1*** *Sustainable communication and bonds between local community and other building users. A space for the enterprises to call home and work. Making the communal complex as one of the landmark or face of the city in Pontianak.*
Alternative 2 ***Open Communal Market*** *Creative and representative space to display MSME products along with communal spaces where the activity of MSME commercial and building user's communal activities are integrated to each other.*	***Alternative 2*** *Forming a spacious empty room of a building that might be located on a riverside (not obstructed vertically by any buildings nearby), to maximize sunlight penetration to display the products. The empty room opens to an adaptive sets of product display arrangements.*	***Alternative 2*** *Reliable building to accommodate MSME to have spaces to represent their products creatively and more importantly, to accommodate spaces for them through the future development of MSME.*
Alternative 3 ***Floating Modular Space*** *Architecture on water with creative and representative MSME product display supported with river / water view surroundings, increasing the invite value or attractiveness to visitors to visit the area. Adaptable to future urban development on water.*	***Alternative 3*** *Building on water with a floating / bouyant foundation or to attach the foundation to the existing waterfront. Furthermore, the architecture formed a new physical condition from the combination of local land settlement culture and local water settlement culture, creating a new face of the city for the future.*	***Alternative 3*** *Thriving community of MSME, local people, and visitors, performing proper life ecosystem within the area between the land and water settlers. Newly regulated physical conditions or regulations are expected to be sustainable and suitable for the future. Furthermore, maintaining the growth of MSME contribution to Indonesia's Gross Domestic Products (GDP).*
Alternative - accumulation of three alt. ***Riverside Communal Enterprise Reservation Area*** *A complex or an area that accommodates MSME mainly the Micro Enterprises to represent their products creatively to increase the sale value, thus contributing more to the country's GDP.*	***Alternative 3 - accumulation of three alt.*** *Implementing modular concept vertically or horizontally to provide creative and representative MSME products whilst accommodating the Micro Enterprises with spaces to live. Moreover, looking at the nearby Beting Village as a case study to learn local spatial culture.*	***Alternative 3 - accumulation of three alt.*** *Furthermore, the spatial arrangement of the design is expected to contributes to the future of the city's urban development, forming an innovative and sustainable urban pattern for the future.*

2.4 Method - Data Collection

Primary Data

Secondary Data

Direct Field Observation

Primary Data

Primary data is the information gathered by the researcher/ author, including as surveys, interviews, and experiments, with the goal of better understanding the background formulation of the project and solving the study topic at hand. Interviews between the researcher/author and the community of Pontianak Waterfront is conducted to gather informations based on the perspective of the residents to achieve what is needed from them. Information gathered is such as the historical background, occupant activities and livelihood, condition of the current residential, and the government's accommodation in the Pontianak Waterfront.

Secondary Data

Secondary data is used to extract information and data from journals, books, internet articles, websites, and other relevant literary sources. The data that is collected is such as the historical background to learn further to formulate the background from literature perspective and literature review data regarding design strategies in order to form adequate design to the concept. Furthermore, other data that supports include the urban fabric analysis, geological data, and the surrounding environment.

Direct Field Observation

Direct field observation is necessary in order to have the "feel" of the contextual ambiance and atmosphere. Furthermore, the social activities of Pontianak Waterfront's occupants is able to be interaced if direct field observation is occurred. The data gathered is mainly pictures taken with a digital single-lens reflex camera. Other than to analyze the life in the site, the environmental elements is also observed such as the environmental conditions and the activities conducted by the occupants of Pontianak Waterfront based on the site's environmental conditions. Furthermore, MSME conditions based on the gathered secondary data is also proved and can be seen directly by doing direct field observation.

1



Source: Antaranews (2022)

- Pontianak Municipal Government
- Infrastructure Improvement
- Slum Settlement Management
- Socio-Economic Resiliance due to COVID-19
- Economy Recovery
- Overcome High Unemployment
- Puddles and Floods Response
- Waste and Trash Response
- Malnutrition and Stunting
- Increase in Regional Competitiveness Management
- Smart City and Smart Government Implementation
- Handling Child Prostitution in Slum Area
- Taking Opportunities from the Existence of Kijing Port

2



Source: Tribun Pontianak (2021)

- Kapuas Indah Market Merchants
- The Merchants Need a Temporary Place During the Construction of the Renovation of Kapuas Indah Market
- The Merchants Need Source of Income

Figure 21. News Regarding Pontianak Government Target
Source: Antaranews (2022)

Figure 22. News Regarding Problems Afflicting Merchants in Kapuas Indah Market
Source: Tribun Pontianak (2021)

3



Source: iNewsKalbar.id (2021)

- Pontianak's Government Demands
- Properly-Designed Face of the City Nuanced With Local Wisdom
- Strategic Waterfront Location
- Local Shop Demolition

- Infrastructure
- Urban
- Social

Figure 23. News Regarding Government Demand on Future Pontianak Waterfront Development
Source: iNewsKalbar.id (2021)

2.5 Secondary Data Gathering: Internet Articles

Articles are proven to be of high use in any research project. In this thesis, the author seek several informations regarding the issue at the Pontianak Waterfront and the government's future plan of the area through internet articles. Furthermore, the informations are categorized into several points with three groupings: informations regarding infrastructure, informations regarding urban, informations regarding social structure, contextually.

4



Annual Flood

Annual Flood Reminiscing in Kapuas Indah Market

Annual Flood Causes Local's Motorcycle to Break Down

Annual Flood are the Remainings of December 2021 Flood which Occurs Every Year

Source: Tribun Pontianak (2022)

5



Local Shop Demolition

Local Shops in Sultan Moh. Road River Bank are Pushed Back

To Make the Waterfront Area Neat

15m From Kapuas River is Building Free

Source: iNewsKalbar.id (2021)

6



UMKM/MSME Innovation

Weak Product Display, Creativity, and Marketing Model

A Representative UMKM/ MSME Product Exhibition Space is Needed

A Space for Training and Discussing UMKM/MSMSE Performance is Needed

The Intervention of West Kalimantan Provincial Government Helps UMKM/ MSME to Invest by Opening Access to Banks

Source: Antaranews (2022)

Infrastructure

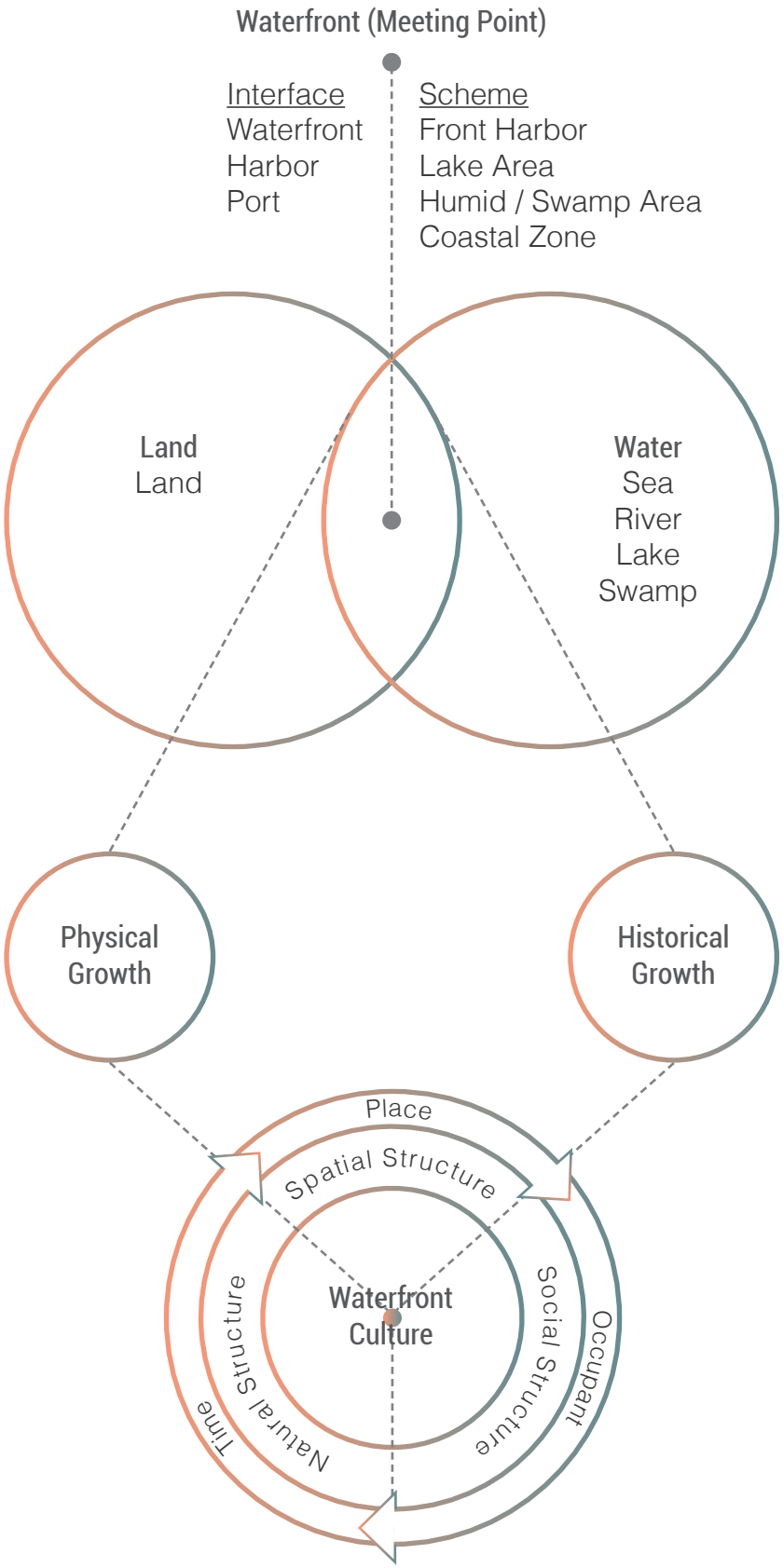
Urban

Social

Figure 24. News Regarding Annual Flood Hit on Kapuas Indah Market in Pontianak
Source: Tribun Pontianak (2022)

Figure 25. News Regarding Demolished Local Shops for Development Process
Source: iNewsKalbar.id (2021)

Figure 26. News Regarding Local MSME Innovation
Source: InfoPublik (2022)



2.6 Literature Review: Waterfront Terminology

Various riverside area researchers have defined waterfront in various definitions, with one of the most well-known being "The dynamic area of the cities and towns where the land and water meet," as according to Bren and Rugby (1994) and "Interface between land an water" by Wreen (1983). The presence of water in waterfront areas not only reflects the historical journey of land and water life from various big cities and towns around the world, but it also provides ecological, economic, and social benefits to a city as a whole. Furthermore, as part of a larger scheme, waterfront areas are visually, historically, or physically interconnected to water. According to Wreen (1983), the waterfront as a waterfront area is an inseparable part of land and water whose habitat is formed according to a pattern, with the initial growth of the waterfront area from the direction of the waters, which is then gradually inhabited by a group of people from various local and non-local areas. Based on community trust and available resources, the local community encourages the emergence of visual bonds and character of the waterfront area. Viewed from the social aspect, according to Wu and Gao (2002), the waterfront area is an integrated system consisting of several features, with the water serving as the focal point and being surrounded by substantial objects. Furthermore, According to Akköse (2007) and Timur (2013), there are three important factors that make up an area: natural structure, physical structure, and social structure, which explain the characteristics of the riverbank area in the form of a space that allows settlements, humans, and the environment to interact: water and nature. Then, as time passed, it was transformed into a historic and urban port area with a mix of land uses. The presence of space, time, and occupants are three important factors that influence the formation of a waterfront area, according to Timur (2013), which creates a spatial and social space that shapes culture. In the context of riverbank areas, aquatic culture is formed by the interactions that occur between spatial space, social space, and natural structures in the area.

Figure 27. Waterfront and Waterfront Culture Definition.
Source: Author, *adapted from Primadella, Ikaputra* (2022)



2.7 Literature Review: The Process of Forming a Waterfront Area

As the beginning of the growth of waterfront settlements, the formation of civilizations and witnesses to important events and historical developments along water bodies or waterfront areas are part of the main resources of human life for food, irrigation, and transportation. Riverfront and/or costal areas were developed earlier in some countries than land areas because they were thought to have a higher natural attractiveness for human settlement. According to Mentayani and Priyatno (2011), waterfront communities have historically been divided into two groups. First, people who have a history of settling and developing in waterfronta reas with a strong aquatic culture. Second, community groups who live on limited land or in what are known as marginal communities live in waterfront areas as a result of the urbanization process based on cultural considerations. When a group of people occupy an environment, there will always be a reciprocal relationship, because living and living in a place indirectly illustrates the relationship between humans and their environment. As a result, a defined space is created. It also applies to people who liven ear water; waterfront ecosystems are formed as a result of how people live in their community in response to their surroundings.

The presence of a waterfront area denotes a large city or a small town where the area is used to develop a variety of activities. However, since the beginning of the industrial era, some areas began to change their functions into large ports, commercial, industrial, warehouse, and transportation, causing the existing relationship to break down. Transportation facilities underwent internal changes as evidence of the industrial era's traces. As a result of increased urban pressure, public awareness grew and waterfront areas received a lot of attention as the city grew as well, and this is where the phenomenon of waterfront regeneration began. The waterfront area of the harbor, which is located in a waterfront area, becomes a place of identity that is always placed in the distribution flow of people, ideas, and goods before becoming a location for trade and production, is one of the focal points in the development of a creative and sustainable city. For this reason, waterfront development is a place where environmental and social values, as well as economic and cultural values related to the living needs of its residents, become the primary process of territorial planning in order to grow and develop well, attracting residents, tourists, and developers. It is explained at this stage that waterfront culture becomes a distinctive forming factor for the waterfront area, where the culture grows and develops in response to the needs of people's lives and their natural characteristics in accordance with the times.

Figure 28. Pontianak Waterfront Resident's Front Porch.
Source: Author (2022)

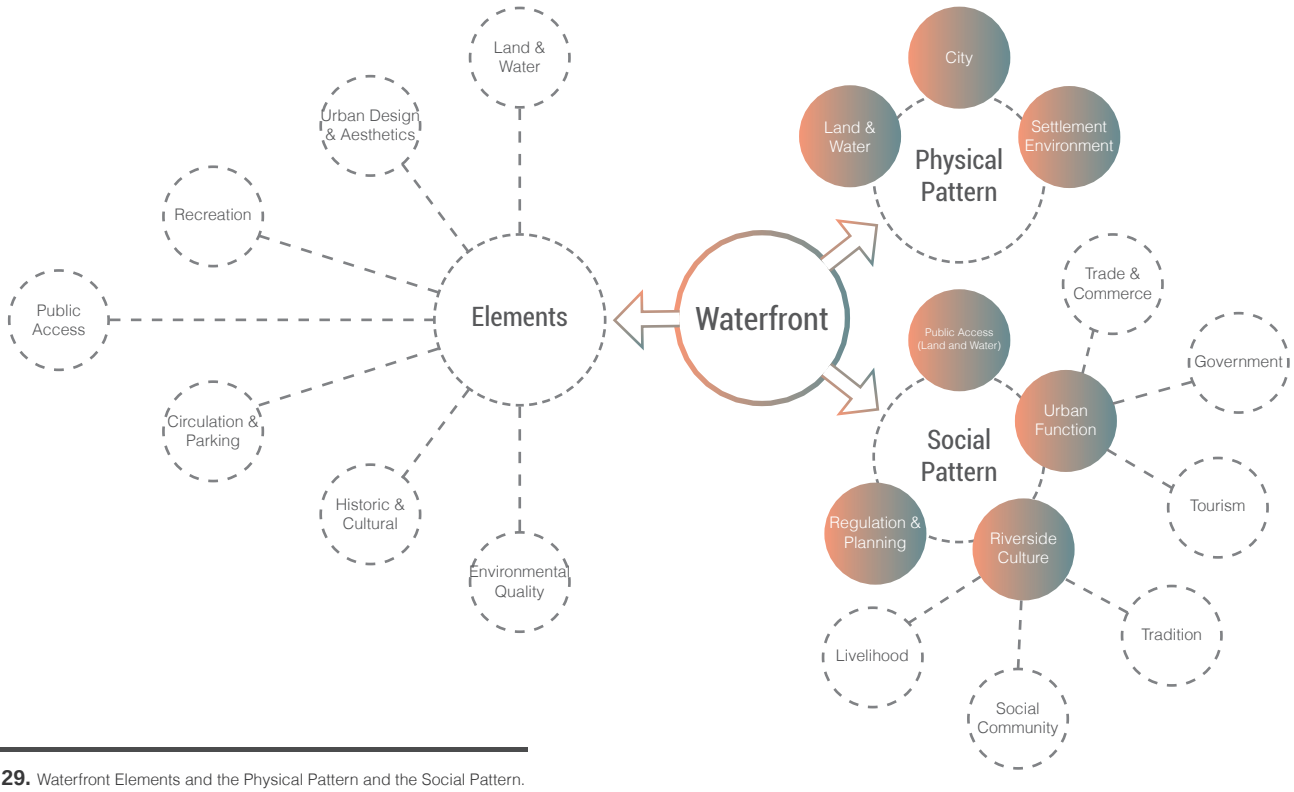


Figure 29. Waterfront Elements and the Physical Pattern and the Social Pattern.
Source: Author, *adapted from Primadella, Ikaputra* (2022)

2.8 Literature Review: Waterfront Elements

There are seven elements that must be developed in waterfront planning, as explained on pages 38-45 of the book *Waterfront Revitalization for Small Cities*: (1) Land and Water Use Element. The fundamental elements that intended to be used and regulated in the future are land and water use elements, which are closely related to other elements such as economic development, recreation, public access and circulation and parking. It establishes the demands placed on the city's streets, utilities, parks, trails, and other public services. (2) Urban Design and Aesthetics Element. In this element, by rectifying the negative characteristics of the district, the design may instill a good image of the waterfront in the community. (3) Recreation Element. Due to the community's affinity with water, waterfront settings are though to provide distinct joys. Creating a waterfront that is a good built environment necessitates presenting an appealing and striking image to the user of the space. (4) Public Access Element. There is no concern for visitors or the aesthetics of waterfront landscape design without public access. Physical access to and in the waterfront areas, visual access to water from various perspectives to help connect communities to their water, and interpretive access are the three interrelated aspects of accesibility through programs and signs to create an understanding and appreciation of the waterfront, both from its history, folklore, and natural environment. (5) Circulation and Parking Element. The surrounding streets, paths, and parking facilities is going to be more active if the waterfront is well-used. In this feature, the creation of a pedestrian route across the arterial highway to connect the waterfront to the city center is a challenge in itself. (6) Historic and Cultural Element. The meaning of waterfront goes deeper into the mental and emotional associations the community have with places and spaces, not just as a work of art. (7) Environmental Quality Element. A good quality waterfront environment is defined by the economic premise of development and recreation. It is critical to suustain good health and recover deteriorated environmental resources.

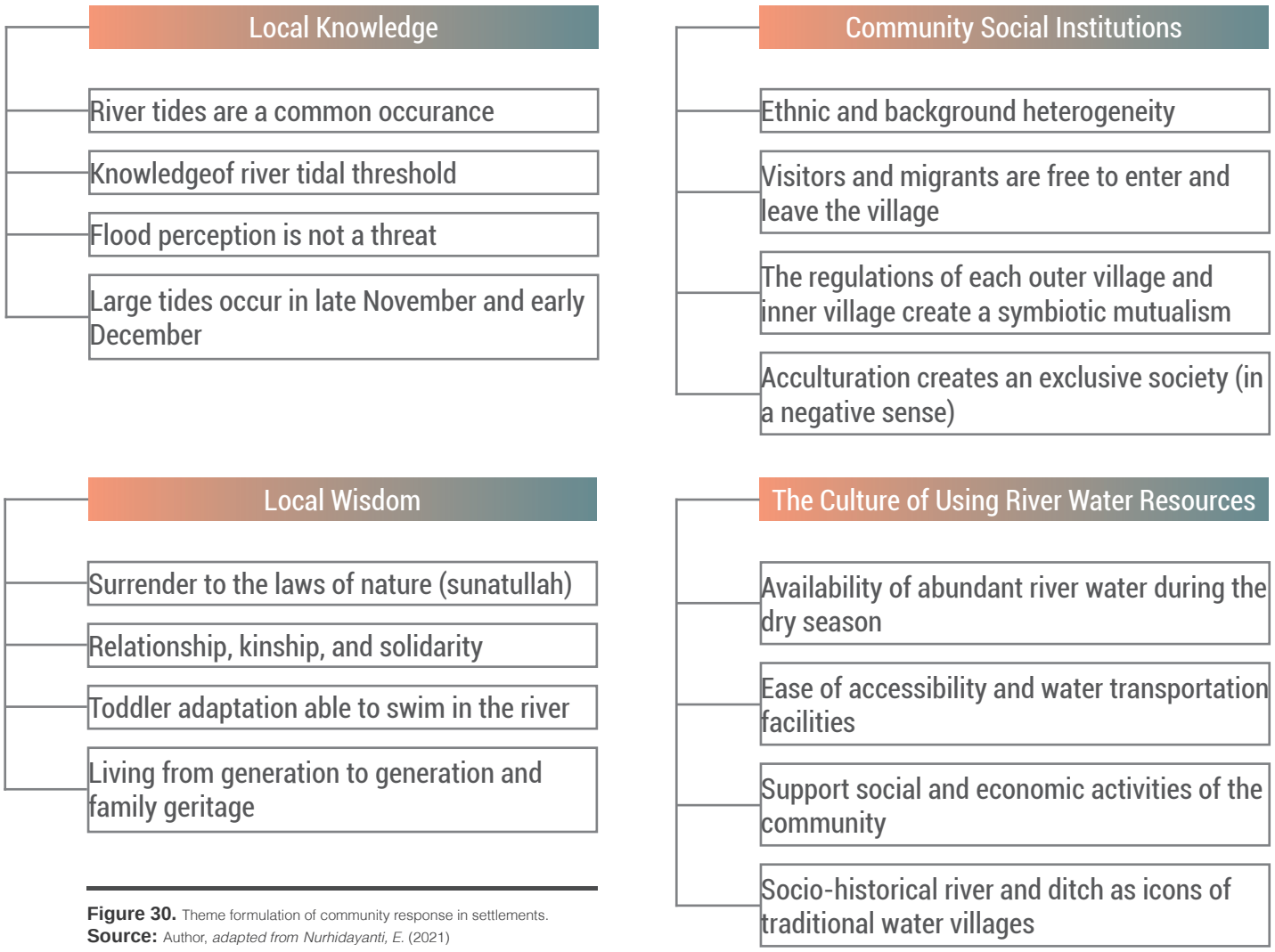
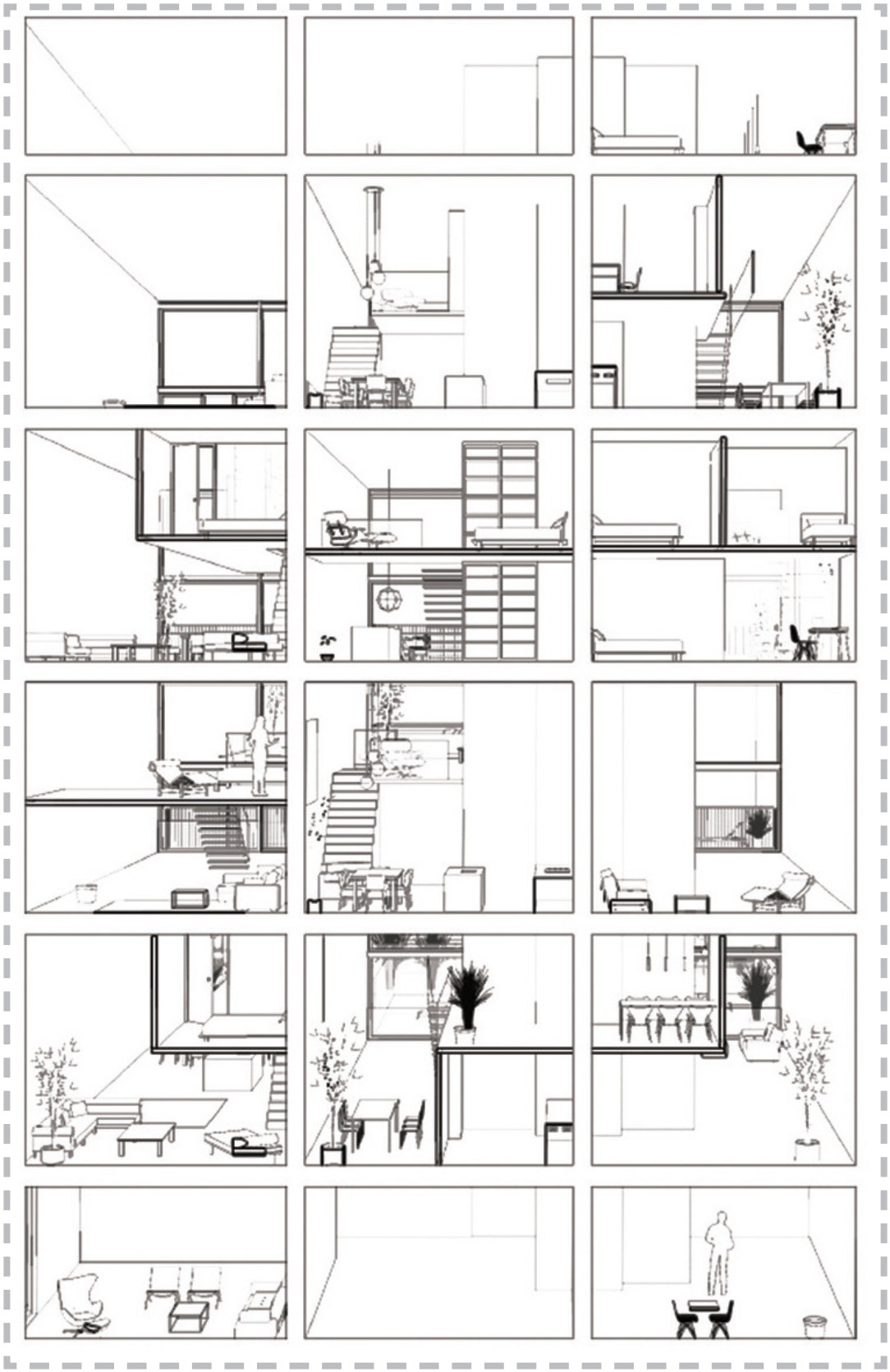


Figure 30. Theme formulation of community response in settlements.
Source: Author, *adapted from Nurhidayanti, E.* (2021)

2.9 Community Response of the History of Living on the Banks of Kapuas River

The riverside region should be considered for its cultural diversity, historical urban development, and other factors as well, rather than merely as a resource for tourists. In its simplest form, waterfront architecture is built by and for riverbank communities. Architecture that develops alongside the advancement of civilization and aquatic life. Research must be used as the foundation for designing the sustainability of the riverside region, and the cultural character of the nearby river must be taken into consideration. In order to adapt to the water, contextually, the community has developed several architectural responses: residentials in the form of stilt foundations, orientation towards the water, the form of transportation routes in the environment in the form of walkways, and segregated spaces.



2.10 Literature Review: Open Building Movement

Commercial base buildings are increasingly commonly constructed without an interior plan in mind as areas are set out to suit individual tenants, demising walls and later internal partitions are installed. Each tenant is free to design and install their own interior areas, equipment, and systems to meet their own organizational and technological requirements. The construction of the base building, which is different as the skeleton, is made as generic as feasible in order to maximize its long-term value by offering capacity for changing requirements, such as potential rental vacancy and future purchase. This strategy aims to provide an environment that is diverse, granular, and sustainable while also enhancing personal responsibility. The Open Building model distributes decision-making authority across many tiers. Subsystems are decoupled by new product interfaces and new permission and inspection procedures with the goal of streamlining construction, lowering conflict, allowing for individual choice, and fostering overall environmental

Figure 31. Conceptual Cross Section of an Open Building Architecture.
Source: Mark Koehler Architects (2022)

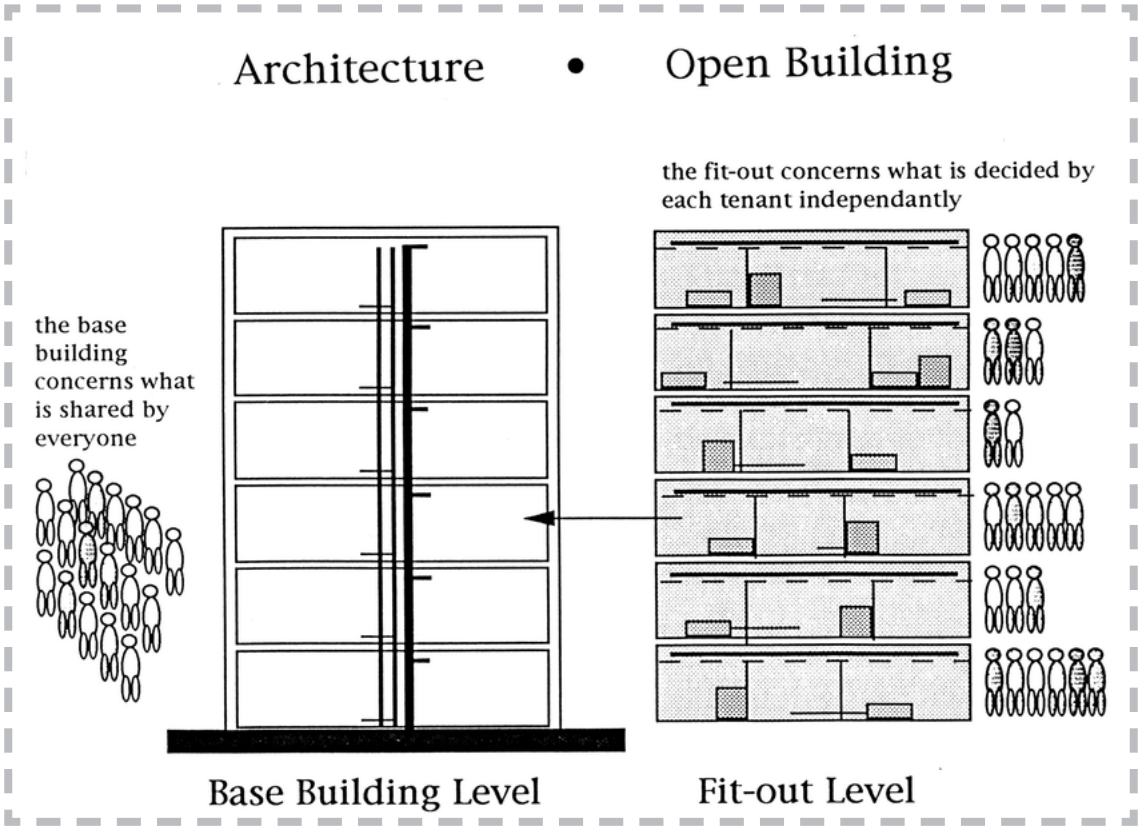
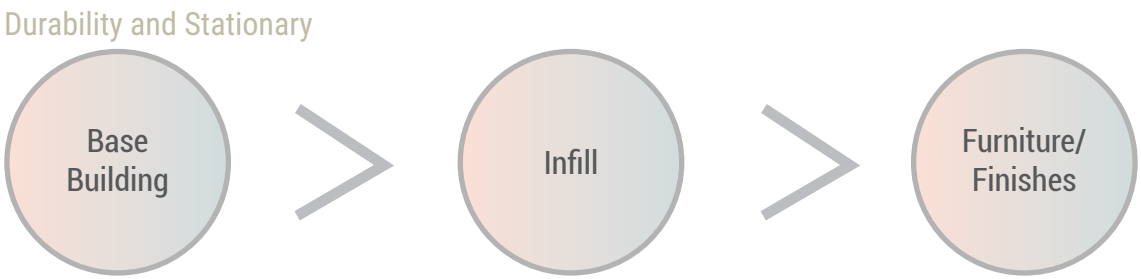


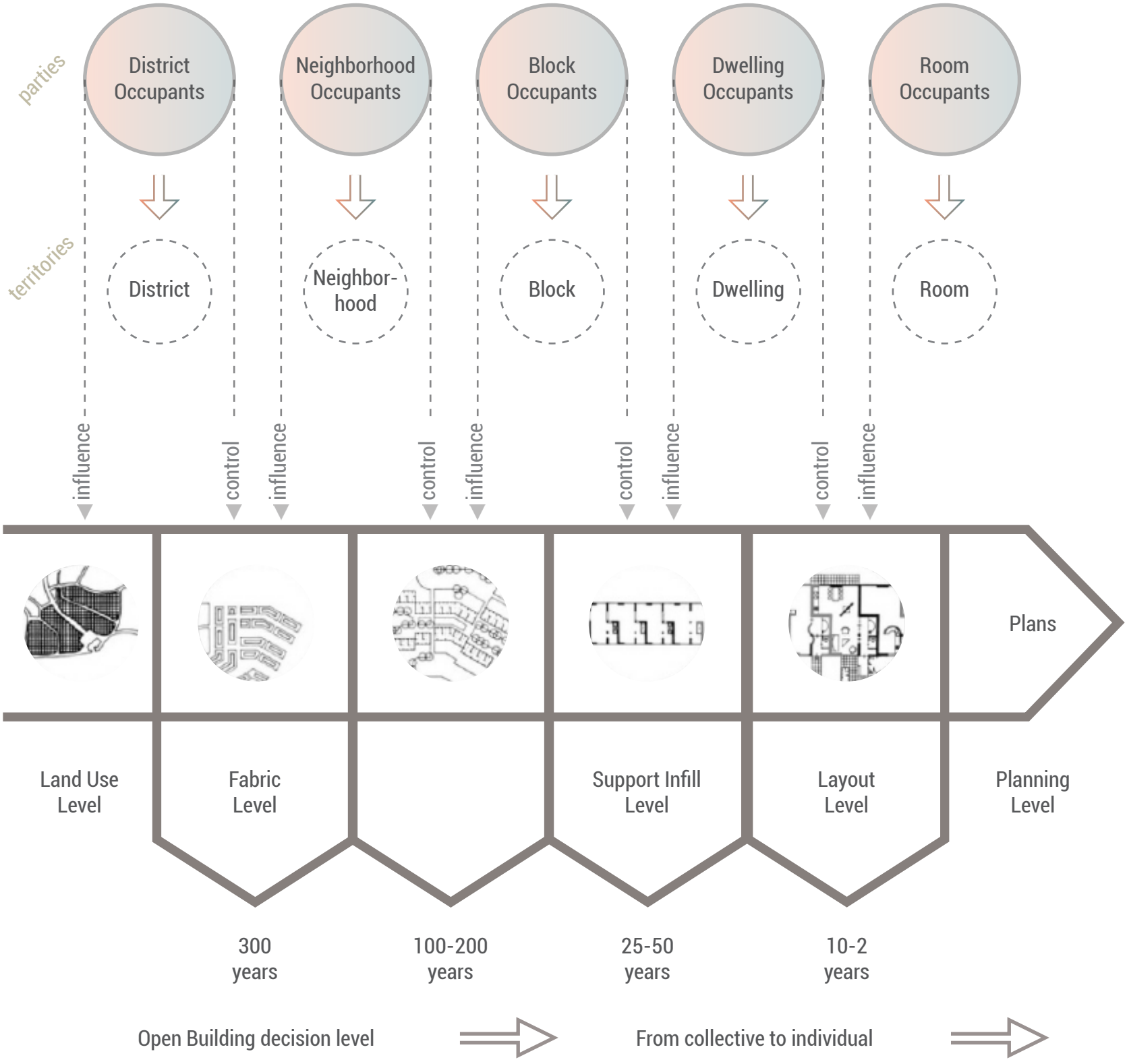
Figure 32. A diagram of open building.
Source: Stephen Kendall (2022)



Open Building Movement: Infill (fit-out) Level

The Support or Base Building, or the "skeleton" of the building, which is the shared infrastructure of spaces and constructed form of the building, may be determined or amended for each specific space user or tenant. While less robust than the "skeleton" of the structure, Infills are more stationary and long-lasting than furnishings or finishes. Today, as opposed to around ± 75 years ago, the tenant has more rights and responsibility for choosing and maintaining important components of the building and equipment subsystems. Investment is progressively shifting to the infill (fit-out) and furnishings levels — where it becomes the tenant's personal property, as opposed to the Base Building level or the building's "skeleton" — which comprises real property but is subject to quite different restrictions.

How Open Building Works



How Open Building Works

The projects are organized so that technical, aesthetic, financial, and social decisions are divided into separate levels of decision-making. Open Building provides formal structure to traditional and inherent levels of environmental decision-making while also offering design methods based on new insights. The formation of urban patterns of physical form and space, the positioning of streets, the layout of parking and utility networks, setbacks, and "street furniture" are all issues that are addressed by decisions made at the urban level. Within the more durable spatial and formal order of the urban tissue, they may also address the kind of building facades, the positioning of public buildings, and the distribution of activities (land uses). Independent decisions made within that urban structure on the Support level (base building) concern building components that are shared by all tenants and that may last for a century or more. **The Support level shouldn't be — must not be — impacted by specific tenant changes.** Changes in the infill (fit-out) level may result from shifting tenant demands or preferences, periodic upgrades in technology, or modifications to the underlying structure. The infill level typically includes all of the elements unique to the dwelling unit, including the drywall, kitchen and bathroom equipment and cabinets, the unit's heating, ventilation, and air conditioning, communications, and security outlets, as well as all ducts, pipes, and cables that individually service each facility in each unit. These Infill level components may be individually added or updated for each tenant in turn under Open Architecture. **The Base Building must be physically separated from its less-permanent Infills in order for it to be practicable.** Buildings cannot be constructed as a single integrated "bundle" of technological items or decisions in order to support the independence of the Infill level.

The Open Architecture's inherent separation gives the Support level more worth, potential, and durability. The Support level structure has useful capability for lower level modification. Throughout the Support level building's lifespan, infill systems are certainly going to need to be replaced several times. **Infills are therefore created and set up for maximum independence in construction, arrangement, later change, and final replacement.** At the same time, all inhabitants' shared common systems and long-lasting components, — such as the building's structure, foundations, utility trunk lines, stairs, and common areas — **are left in tact and undisturbed.** Therefore, in terms of decision clusters, Open Building promotes decoupling particular building components from their sub-assemblies in order to reduce interference and conflict between subsystems and the parties controlling them, as well as to make it possible to swap out or replace any component as needed during design, construction, and long-term management. Wide-ranging customer choice in the organization, furnishing, and finishing of places is made possible by the detangling and standardization of interfaces in commercial architecture. After that, occupants are free to move electrical, data, and communication outlets, etc., as they choose. These kinds of principles and methods are altering how urban planning, architecture, and building are traditionally done. Additionally, they are changing the procedures for designing, producing, and installing building components and subsystems.

Figure 33. Decision-Making Levels in Open Building. (Previous page).
Source: Author, *adapted from Stephen Kendall* (2022)



2.11 Literature Review: Key Open Building Concept

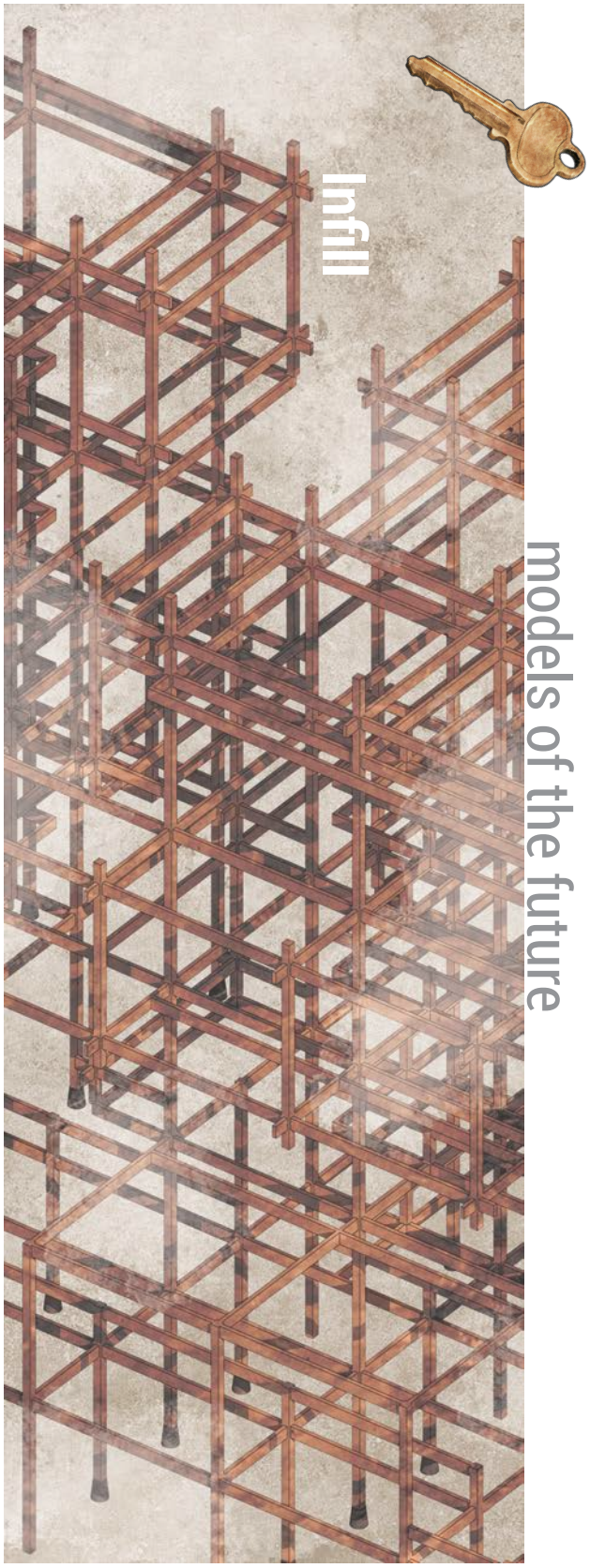
Levels

Levels develop when specific collections of physical components and areas are seen to change together in a cogent and receptive fashion. They essentially emerge spontaneously at the intersections of territorial, social, and construction boundaries. Levels are locations where a self-organizing, continuous constructed environment permits interruptions in the formal structure or in the control structure, exactly where such discontinuities won't cause a systemic failure.

Supports

A Support concept is a completed structure that is prepared to house various infills. The Support is the fixed, public portion of a structure that offers occupied service space. Supports may be built from any long-lasting materials and may include any technical systems. In any situation, they provide the ability to meet various and shifting needs during the course of their lives. They are either brand-new buildings or ones created from stock already in existence. Structure and façade of the building, entrances, hallways, stairs, trunk (main) lines for electricity, elevators, communications, water, drainage, and gas are examples of typical support elements. Support is designed to last longer than infill modifications, to remain substantially independently of the decisions made by each individual resident, and to take into account changing living situations. A support is a physical location that provides room and the opportunity to create homes with the fewest restrictions feasible. The Support looks to be finished in the eyes of the community. However, it needs infills in order to be occupied.

Figure 34. Key Open Building Concept Illustration, with Author's Design
Source: Author (2022)



Infill

The majority of the technical and administrative issues with building components go to a lower Infill level in an open building. **The infills of each dwelling are independent by definition. It is in the resident's decisions, whether it is owned or rented.** It must satisfy the needs of a wide range of customers in a wide range of Base Building types as a consumer product. Industrial production is not necesarily required for infill components. Conventional construction is able to be used to provide a commercial space in a Support level. Site-built partition walls are Infill components from an organizational standpoint if the space renter has discretion over their placement or if they may be altered independently of the Support level without affecting any other space renters. **Despite the fact that transferring it is technically simple, if the housing lease forbids it, it continues to be a part of the Support.** As a result, social as well as technical factors are used to identify infill elements. An infill system is not a collection of items delivered individually to the job site; instead, each cut is placed by a different subcontractor. In contrast, it consists of a neatly pre-packaged, integrated collection of precuts that were specially constructed off-site for a particular residence and placed as a complete. Within a base structure, also known as the Support level, comprehensive Infill systems include the walls, mechanical installations and equipment, fixtures, cabinets, doosr, finishes, and other elements required to produce a totally usable area. After an Infill has been chosen, the components for each home are created, put together, or purchased from various businesses. The majority of the time, interfaces between parts are planned in advance, requiring little to no on-site cutting and fitting. Independent craftsmen will install the parts when they arrive on site, under the direction of a traditional general contractor.

Figure 35. Key Open Building Concept Illustration, with Author's Design
Source: Author (2022)



Capacity

At the heart of Open Building architecture is the Capacity analysis, a challenging and sophisticated technique. Two principles form its main idea are the following:

- Designing shape as a dynamic and open-ended fabric
- Incorporating the ability to support more than one program of functions throughout time into a place or shape by designing it at many sizes.

When thinking about form, a single, inflexible, and specified function is used. A form (such as a foundation building) may be evaluated based on its shown ability to allow numerous combinations of lower level forms, which further solidifies the idea of levels (e.g. alternate uses and interior layouts). Three elements should be incorporated into the support's design in order to maximize capacity:

- Every residence in a Support level have to support a wide range of floor plan layouts.
- It must be feasible to change the unit barriers inside the base building or enlarge it in order to change the floor space.
- The Supports level or its components must be flexible enough to perform a variety of uses.

Once the fundamental design variants that a Support is capable of holding have been recorded, the link between potential applications and their cost may be thoroughly analyzed. Evaluation of capability for creating supports must be done methodically, with an assessment of potential uses coming first. Typically, the process starts with schematic design and continues through technical design. The capacity to adapt is a crucial component of the Supports level; the interaction between the base structure and the Infill level modification has to be simple to handle. **Similar to how infill systems must be built without knowing where they will be put, supports must be designed without knowing which specific infill level items or systems will be used. To maximize maximum capacity, the shape does not always need to be neutral.** There is no architectural concept of a home in a completely "flexible" — multipurpose space that lacks columns, walls, changes in section, or characteristics of light.

Figure 36. Key Open Building Concept Illustration, with Author's Design
Source: Author (2022)



Sustainability

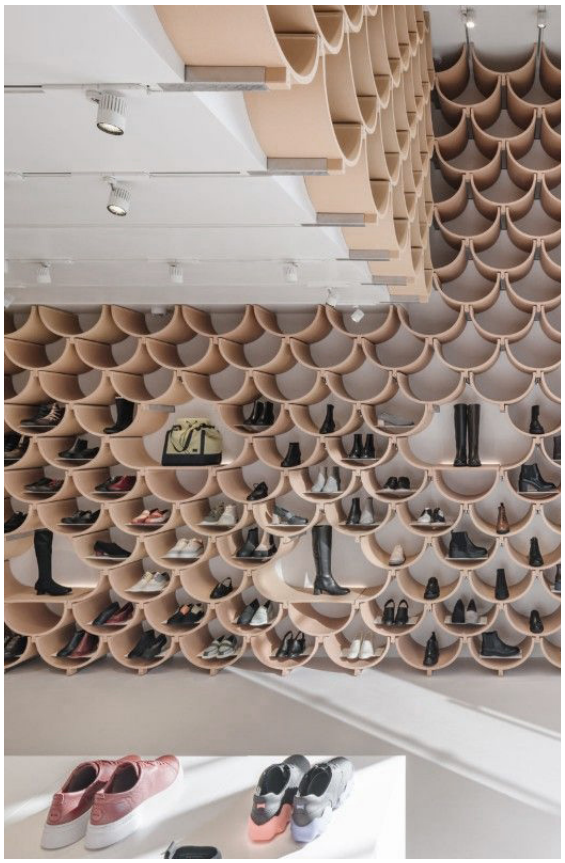
The fundamentals of sustainable development are being stressed increasingly in the design, upkeep, and renovation of buildings. A feasible alternative to investment incentives and valuations focused on short-term value extraction is to build in additional value in the form of long-term flexibility. Utilizing flexible Infill materials delays the building's speedy demise. Open Building provides a physical and procedural boundary between the pieces that can last a hundred years and those that really cannot have such a lengthy life. As a result, **it is now possible to offer precise life-cycle accounting of value and obligations comparable with sustainable design standards.** The creation of technological interfaces that enable the building or end-user to plug and play with items manufactured by multiple parties is another way that open building and sustainability are compatible. **These produced Infills have a higher re-use value since they are items with high levels of interconnection within certain product lines, even though they are not "standardized" in the market.** Due of this matter, the open building design movement is shifting toward manufacturing and design for assembly and disassembly, backed by fundamental techniques like "click-together" components. Sustainability is linked to both society and personal decisions and beliefs. It primarily concerns those who speak for the ideals, interests, and authority of the community to take action on its own behalf.

Figure 37. Key Open Building Concept Illustration, with Author's Design
Source: Author (2022)









2.12 Literature Review: Product Display / Product Showcase

A product display involves a deliberately designed presentation by displaying a product in a designated place or object, highlighting and producing a frame of mind or mood and/or message with the aim of positively influencing customer response approach. A study by Ann Marie Fione, Xinlu Yah, and Eunah Yoh (2000) from Iowa State University shows that placing the products in an attractive display will improve buyer's and visitor's reactions to it, regardless the type of product being sold. Fiore and Kimle (1997) described three types of aesthetic pleasure that consumers are able to obtain from products and commercial environments. They stated that sensory, affective, and cognitive pleasure are derived from: sensory stimulation, arousal, or emotional expression, and comprehension or development of symbolic material for, respectively, nonutilitarian goals.

Figure 38. Product display / product showcase
Source: Pinterest

Figure 39. Product display / product showcase
Source: Pinterest

Figure 40. Product display / product showcase
Source: Pinterest

Figure 41. Product display / product showcase
Source: Pinterest

1. Sensory Pleasure

Sensory pleasure is defined as the activation of sensorial receptors such as the ears, eyes, nose, muscles, skin, and mouth by the store environment or the shape and form of an object that is positively rated. Sensory pleasure includes crowding, noise level, touch, color, temperature, odor, smoothness of texture, rhytm of movement.

2. Affective Pleasure

Positively valued emotions or feelings evoked by or represented through the features of the form of an object or setting are referred to as affective pleasure. Linked with sensory pleasure, both rely on opinions about the product's or environment's form quality. For instance, the intensity of light can influence visitors' emotional states; medium-high-intensity light is able to make people feel elevated or energized, while low intensity light is able to make the visitor's feel peaceful. Affective pleasure associated in consumption is able to be adequately characterized by two dimensions: emotional pleasure and emotional arousal. Baker et al. (1992) discovered that both is able to alter the approach response of desire to purchase when they are combined. Emotional pleasure alone predicted the approach reactions of time and money spent in the store/marketplace, according to Donovan et al. (1994), and according to Bellizzi and Hite (1992), it also positively connected with purchase omtemsopm as well. As a result, a study by Ann Marie Fione, Xinlu Yah, and Eunah Yoh (2000) suggests that emotional pleasure may moderate the effects of the product display and the environment.

3. Cognitive Pleasure

Cognitive pleasure arises from the cognitive process of thinking required to comprehend or create symbolic material sucha s mental imagery, daydreams, and fantasies may also derived from it. Furthermore, information from music, items, positioned mannequjins, and decorations in store displays may need cognitive activity such as information comprehensions and visual construction regarding the product's application. Research in non-retail settings (Kenneth, 1927; King, 1988) suggests that adding an environmental fragrance to the product display may enhance cognitive pleasure by stimulating mental imagery of rich memories and associations. Fragrance or scents incease the vividness and clarity of a fantasy image, as well as one's level of immersion in a fantasy image (Wolpin & Weinstein, 1983). In conclusion, according to psychological studies, an adequate smell for the product display might cause cognitive pleasure due to the stimulation of metan limages and the delightful content of the imagery, as well as the cohesiveness of the information with the relevant scheme.

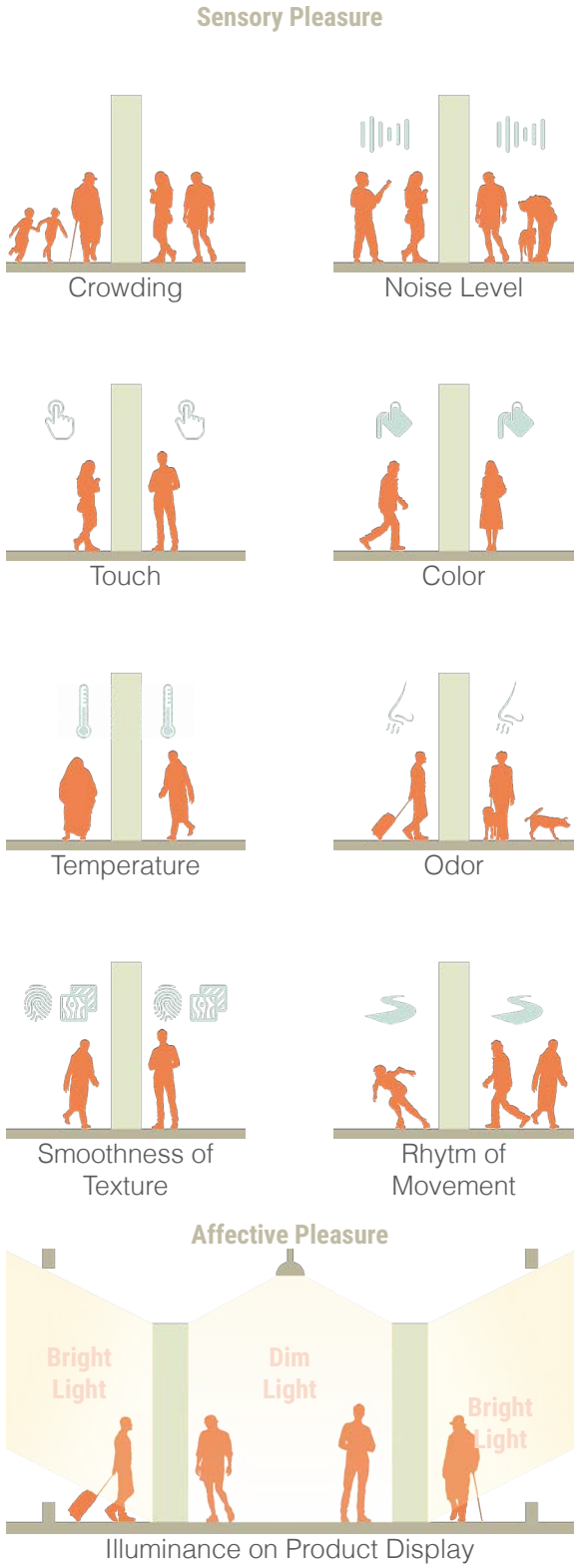
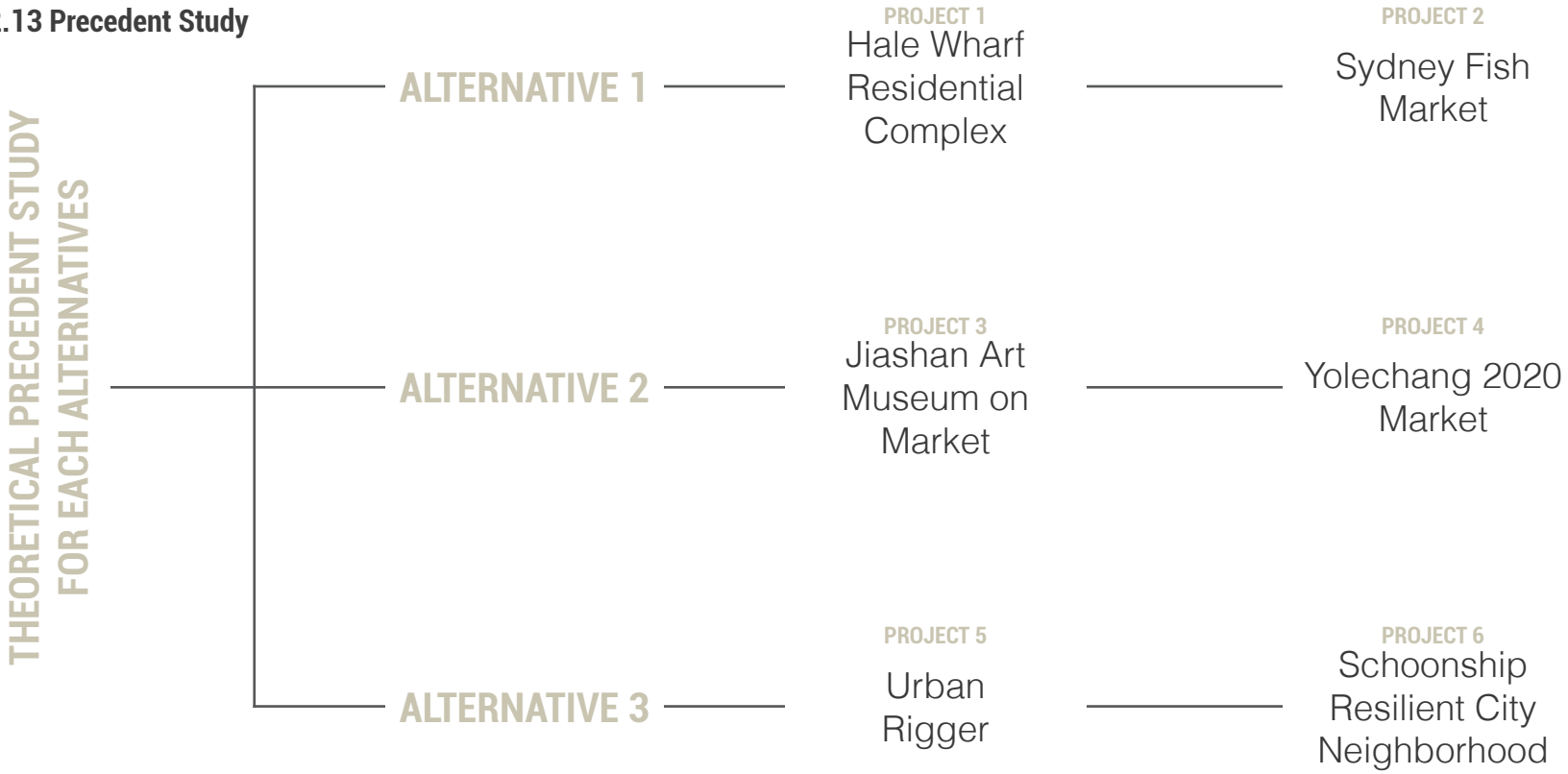


Figure 42. Diagram imagery of sensory pleasure and affective pleasure.
Source: Author (2022)



Lesson Learnt

1 **Urban intensity** meets designated green belt
Site adaptation and how the form can be suitable for the future of Pontianak.

2 **Connecting urban** forming a social hub
More than just a market, the design maximizes the potential of riverside and connecting local neighbourhood to the Central Business District.

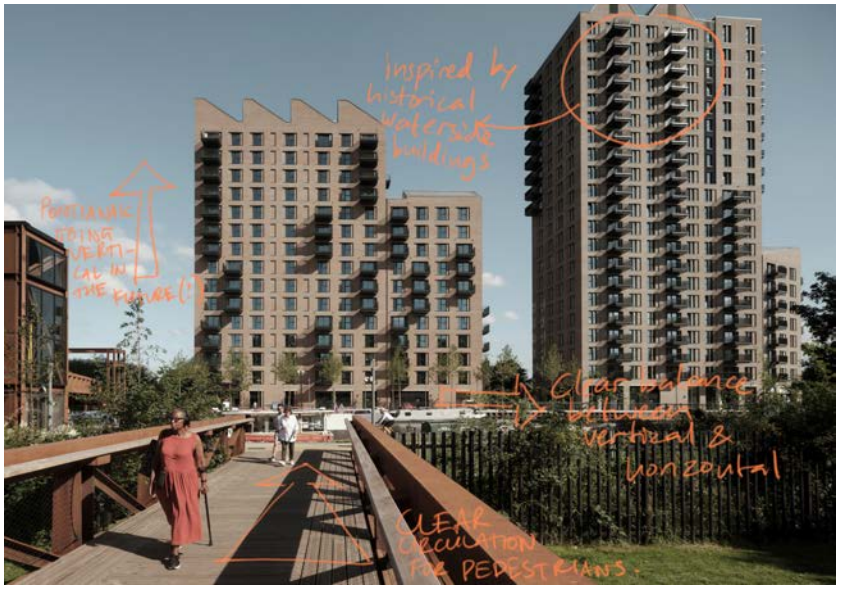
3 **Art Museum inside a market,** or is it the vice versa?
The play through building shape, form, and orientation and on how the architect amplifies the creativeness to display products.

4 **Shaping the future** + creative product representation
New form (a juxtaposition) and creative product representation.

5 **Alternating issues** into innovation for the future
Responding to the issue of population growth, the architect breeds innovation through geometrical building shape and introduced a typology suitable for the issue and optimized for the city.

6 **Water culture** reflected through sustainable urban planning
Smart urban grid for water settlement culture as a new “regulator” within the sprawling urban area.







Urban intensity meets designated green belt

Hale Wharf is located on a sliver of land where Tottenham Hale's urban intensity meets designated green belt, the Lee Valley's reservoirs and waterways. From human eye level, the contrast between the verticality of the high rise residential complex and the flat horizontal landscape can be seen clearly. The implementation of metal hangers inspired by the robust detail of historical waterside buildings proves that newly built architecture still able to merge old culture with the new one. This also applies to the urban planning. Newly built complex is adapted from the existing rigid city grid and the unregulated nature, creating a new set of boundaries from the urban perspective.

Project Detail

Project Name	Architect	Location
Hale Wharf Residential Complex	Allies and Morrison	United Kingdom

Figure 43. Hale Wharf Residential Complex existing waterfront.
Source: Archdaily

Figure 44. Hale Wharf Residential Complex facade view from human eye level showing the clear balance between horizontality and verticality.
Source: Archdaily

Figure 45. Hale Wharf Residential Complex urban masterplan showing clear contrast between rigid city grid and unregulated nature, creating balance.
Source: Archdaily







Figure 46. Syndey Fish Market bird eye view, showing the potential to become an attractive amenity for the city.
Source: https://images.adsttc.com/media/images/5ef0/632a/b357/6529/f500/012b/slideshow/01_Aerial_Update.jpg?1592812311

Figure 47. Sydney Fish Market's exposed and open face of the building to the sea.
Source: https://images.adsttc.com/media/images/5ef0/6167/b357/658c/7f00/024f/slideshow/3XN_Sydney_Fish_Market_Promenade_view_AS.jpg?1592811856

Figure 48. Sydney Fish Market's connection between the land and the sea.
Source: https://images.adsttc.com/media/images/5ef0/609e/b357/6529/f500/0125/slideshow/3XN_SydneyFishmarket_Waterfront_v1_copyright_www.mir.no.jpg?1592811650

Connecting urban forming a social hub

Being the largest upcoming fish market in the southern hemisphere, 3XN's Sydney Fish Market have the potential to became a new face of the city. Their goal does not stop on just making a fish market. Inspired by the traditional market archetype, it preserves the intimacy and flexibility of open-air stalls united under one roof. The design focuses on maintaning a human scale with a true market atmosphere. The balance between traditional and contemporary can be seen clearly, forming a new "regulation" for the face of the city supported by the location of the site.







Art Museum inside a market, or is it the vice versa?

Located in an under construction area with tourist retail, hotel, visitor center, and cultural facilities, Xitang East Area is an expansion of the old town Xitang, divided by a river into two phases. This case is similar to the proposal's site that is divided by Kapuas and Landak River. The spacious room upstairs is used as an art gallery, sits on top of the market on the ground floor, with huge openings facing the river to be used as an exhibition and forums. The market below consists of organic farm market, creative bookstore, coffee shop, restaurant, and hotel reception. The building successfully became a landmark in the entire eastern Xitang area by forming an agglomeration effect and becoming the highlight of the tourist experience.

Project Detail

Project Name	Architect	Location
Jiashan Art Museum on Market	Scenic Architecture Office	Jiashan, China

Figure 49. Jiashan Art Museum on Market bird eye perspective view showing the surroundings of the river.
Source: https://images.adsttc.com/media/images/61a4/be63/f91c/8194/0a00/0039/slideshow/1_%E9%B8%9F%E7%9E%B0%E5%9B%BE_Aerial_View_%E6%91%84%E5%BD%B1%EF%BC%9A%E6%A2%81%E5%B1%B1_Photographer_LIANG_Shan.jpg?1638186569

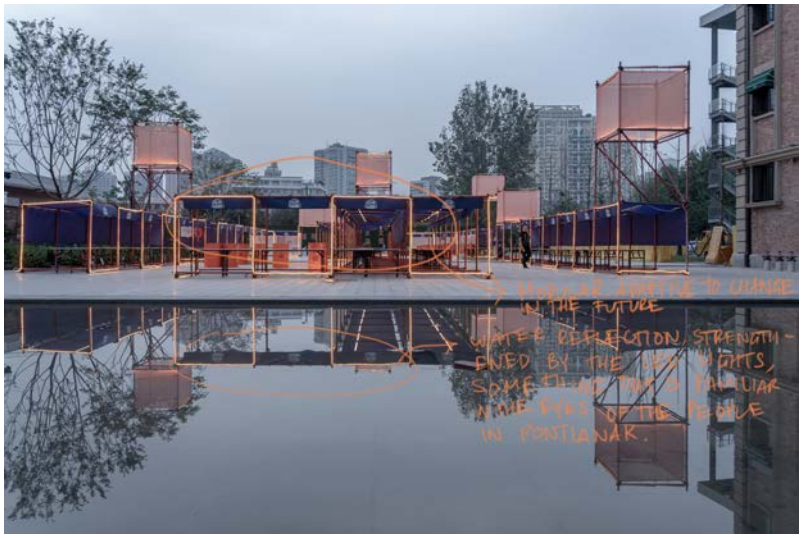
Figure 50. Jiashan Art Museum on Market upper floor interior, where the gallery or the museum is located.
Source: https://images.adsttc.com/media/images/61a4/bf97/f91c/8194/0a00/004d/slideshow/21_%E4%BA%8C%E5%B1%82%E5%AE%A4%E5%86%85_1st_Floor_Interior_%E6%91%84%E5%BD%B1%EF%BC%9A%E6%A2%81%E5%B1%B1_Photographer_LIANG_Shan-%E8%B0%83%E6%95%B43.jpg?1638186878

Figure 51. Jiashan Art Museum on Market ground floor interior.
Source: https://images.adsttc.com/media/images/61a4/bf41/f91c/81d7/5600/003c/slideshow/16_%E4%B8%80%E5%B1%82%E5%AE%A4%E5%86%85_Ground_Floor_Interior_%E6%91%84%E5%BD%B1%EF%BC%9A%E6%A2%81%E5%B1%B1_Photographer_LIANG_Shan-%E8%B0%83%E6%95%B4.jpg?1638186794









Shaping the future + creative product representation

The archtiect created a juxtaposition of old and new materials at the same time and space through building materials and shape and form. Interestingly enough, this juxtaposition is what logically formed as the “foundation” of the market design. For the architect, the juxtaposition of modern components and existing old buildings creates contrast that adds to the attractiveness of the design. By using cheap and easy-to-build materials, the architect is able to design an attractive and creative merchant stalls, not only visually, but also adaptive to change for the future due to its form.

Project Detail

Project Name	Architect	Location
Yolechang 2020 Market	UAO Design	Wuhan, China

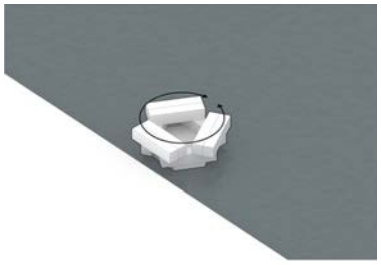
Figure 52. Yolechang 2020 Market situation at evening, the LED beautifully illuminates reflected through the floor.
Source: Archdaily

Figure 53. Yolechang 2020 Market situation at evening, the LED beautifully illuminates reflected through the floor.
Source: Archdaily

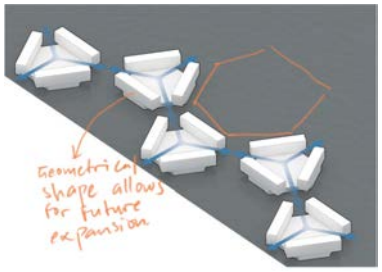
Figure 54. Yolechang 2020 Market situation at evening, the LED beautifully illuminates reflected through the floor.
Source: Archdaily

Figure 55. Yolechang 2020 Market situation at evening, the LED beautifully illuminates reflected through the floor.
Source: Archdaily

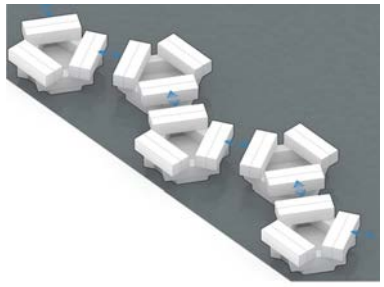




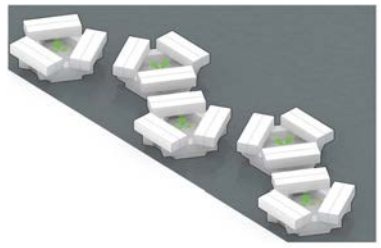
CREATING THE COURTYARD
We then tried arranging the containers into a triangular composition to frame a central courtyard. This allowed us to minimize the footprint of the pontoon, while opening views to the water – optimizing the housing unit.



CREATING CONNECTIONS
By detaching the corners slightly, a hexagonal courtyard with open corners takes form – creating a connection between communities and allowing for further expansion.



MULTI-LEVEL CONNECTIONS
Another layer of container units completes the circle, forming a hexagon of overlapping entities.



INTERNAL COMMUNITIES
Courtyards at the heart of the Urban Rigger create opportunities for community activity within each unit. As weather in Denmark changes drastically from season to season, we enclose the gaps with greenhouse glass, minimizing the thermal exposure during the winter months to enclose the largest possible amount of space with the minimal amount of surface.

Alternating issues into innovation for the future

Urban Rigger has a similar issue to the design brief, it is the sustained increase in the number of population. The design brief main issue is the rapid MSME population growth whereas Urban Rigger's audience is student applicants. Furthermore, the architect's strategy to allow the city to expand is by introducing a building typology that is suitable for the issue and optimized for the type of the city. Furthermore, the construction of the building is an innovation, maybe not globally but locally. Introduction to the building materials became a new guidelines for the similar typology in the city.

Project Detail

Project Name	Architect	Location
Urban Rigger	Bjarke Ingels Group	Kobenhavn, Denmark

Figure 56. Urban Rigger perspective.
Source: Bjarke Ingels Group

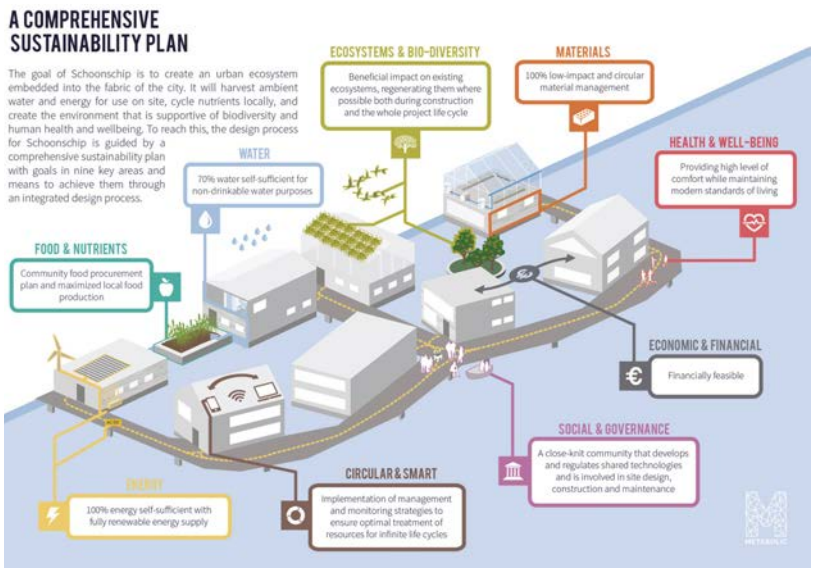
Figure 57. Urban Rigger diagram.
Source: Bjarke Ingels Group

Figure 58. Urban Rigger diagram.
Source: Bjarke Ingels Group

Figure 59. Urban Rigger diagram.
Source: Bjarke Ingels Group









Water culture reflected through sustainable urban planning

Schoonship's founders commissioned Space&Matter to create an urban plan, and together with a team of multidisciplinary professionals and local inhabitants, they built the community's urban plan, plot passport, and smart jetty. Just like many settlement projects (familiarly called Kampung) in Indonesia, the architect involves the future users of the houses, enabling personalization on each of them. As a result, the neighbourhood is characterised by creativity and self-expression. The infrastructure used smart jetty as a foundation and connects all houses with each other with the necessary technical infrastructures and each houses is attached to the smart grid which comes in a form of wooden pathway, similar to Pontianak's water settlement architecture character, *jalan beting*.

Project Detail

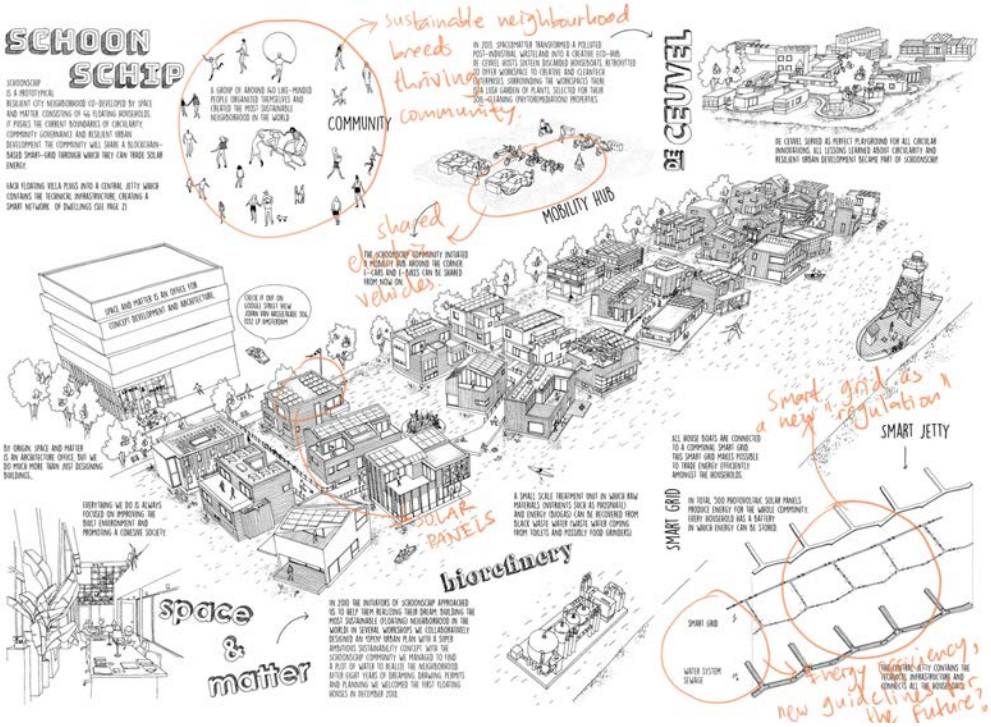
Project Name	Architect	Location
Schoonship Resilient City Neighborhood	Space&Matter	Amsterdam, Netherlands

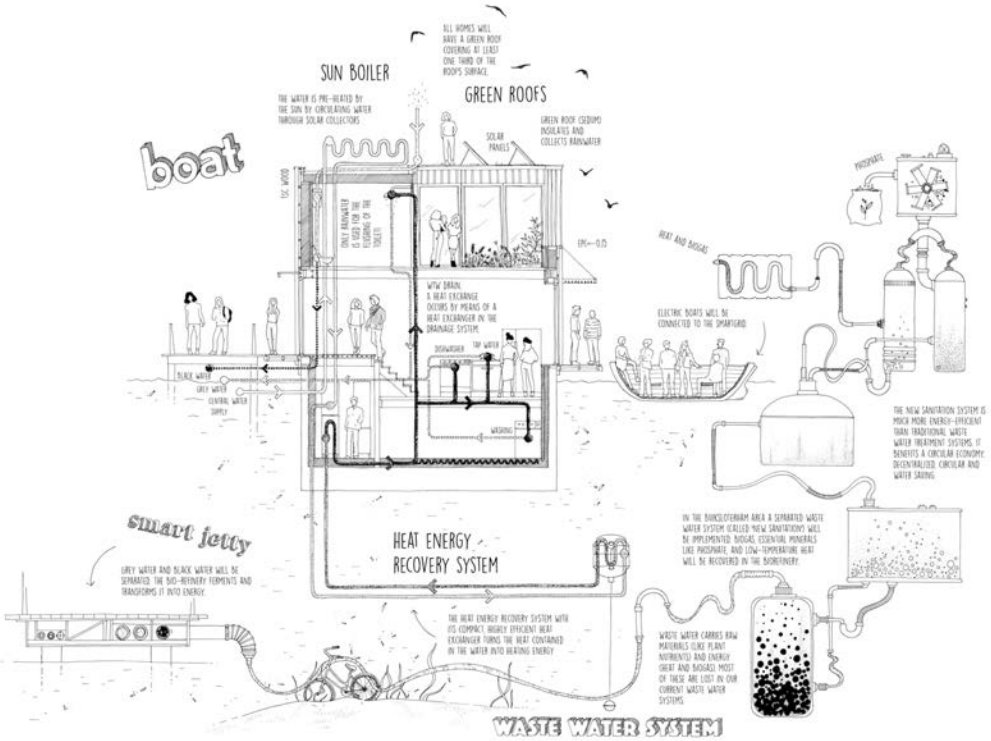
Figure 60. Schoonship Resilient City Neighborhood before complete building assembly.
Source: spaceandmatter.nl

Figure 61. Schoonship Resilient City Neighborhood after complete building assembly.
Source: spaceandmatter.nl

Figure 62. Schoonship Resilient City Neighborhood comprehensive sustainability plan.
Source: Archdaily

Figure 63. Schoonship Resilient City Neighborhood urban plan.
Source: Archdaily



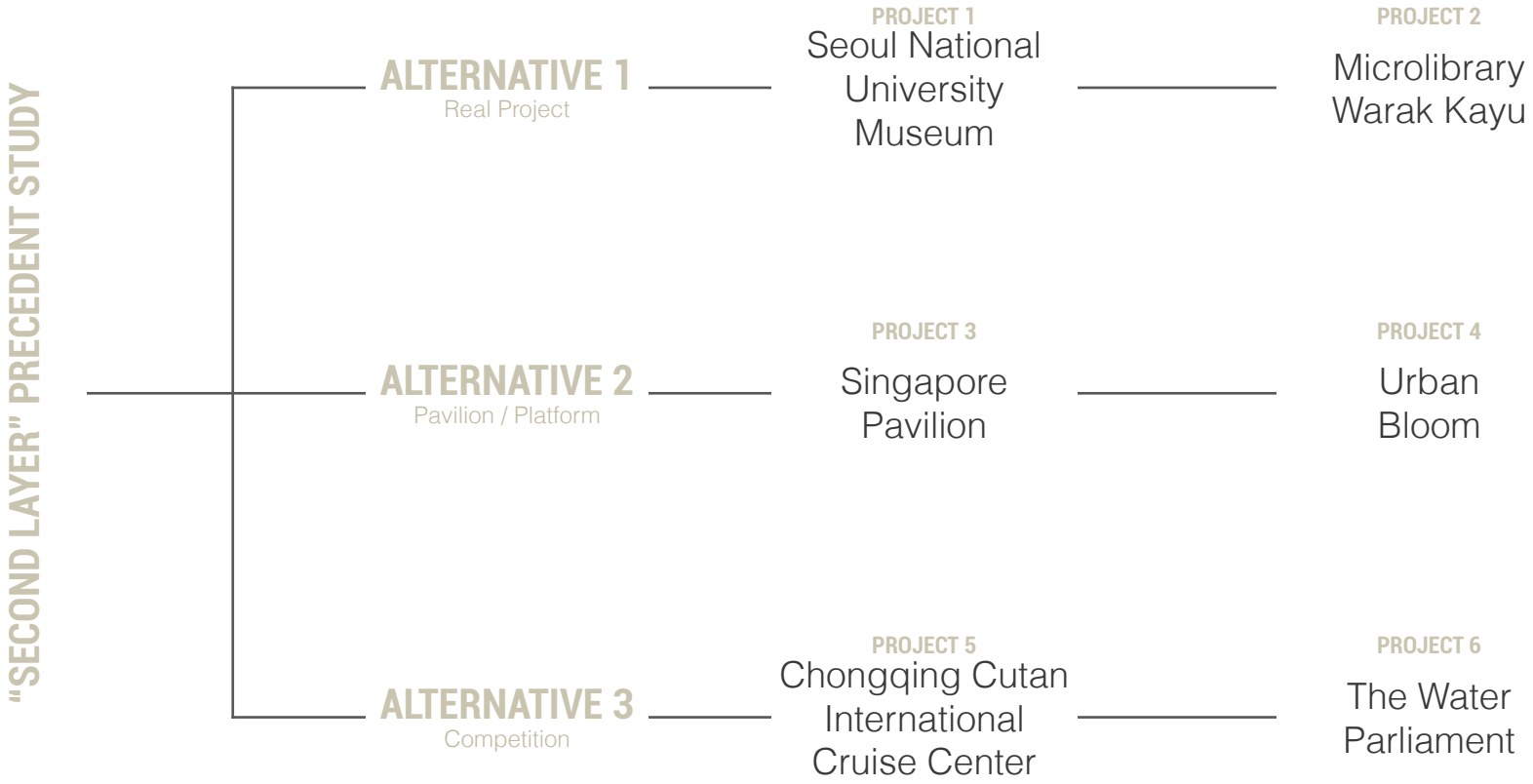


Schoonship investigates and implements innovative solutions to some of the most pressing modern concerns, presented by climate change on a small scale. Residents of Schoonship Resilient City Neighbourhood live in remote-manufactured, highly eco-efficient dwellings and share everything from electric automobiles and cargo bikes to the pure electricity they create on the houseboat roofs.

Schoonship's solar panels are connected to a smart grid where people can exchange energy using blockchain technology, based on a circular community model. Water, energy, and waste systems are all decentralized and sustainable, as are submerged heat exchangers for heating and cooling.

Figure 64. Schoonship Resilient City Neighbourhood.
Source: spaceandmatter.nl

Figure 65. Schoonship Resilient City Neighbourhood.
Source: spaceandmatter.nl



Lesson Learnt

1 **Playing with Form** to shape a new layer
Shaping a new layer above the human scale by cantilever and the play of a cuboid turned into a space, producing an interesting circulation and human experience.

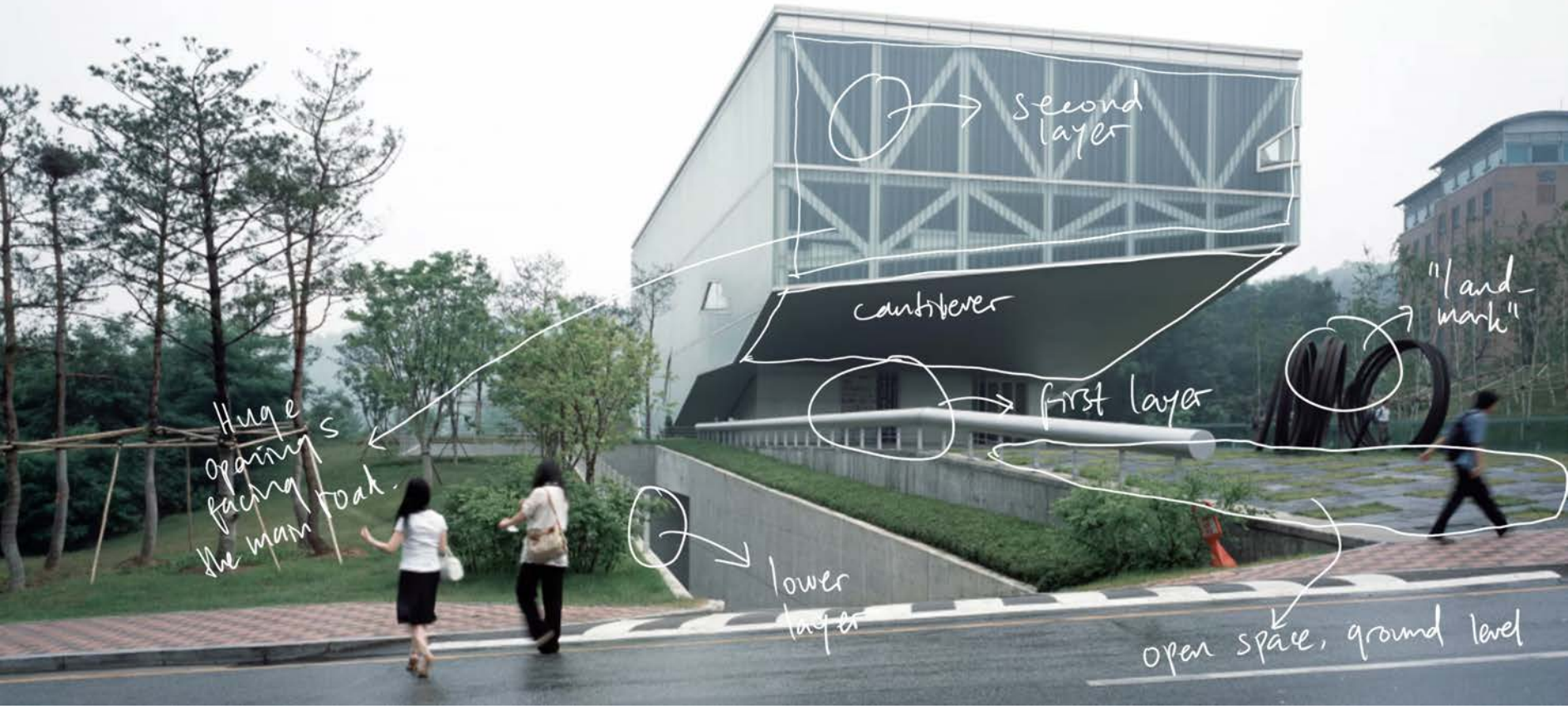
2 **Elevating space** to promote interest in reading
Responding to a certain problem, the low reading rate in Indonesia, the architect is able to do it through architecture by providing a fun and refreshing space to read books to on an upper layer above the ground level.

3 **Nature, Nurture, Future** promotes nature into every layer
With the vision of nurturing nature with human for the future, the architect is designing a sustainable project that leads to an innovative space by using active and passive technologies and utilize local source to maximize the building's performance, enhancing overall experience within it.

4 **Surrealism and the Future** within a city's history
The architect tries to produce a new face, a face of the future and leave a mark into the city's history. This is done by forming a new shape while implementing several elements and factors in the contextual area such as the dominant color of the existing ship industry's cargo.

5 **Artificial Nature** within a busy urban fabric
Inviting nature into an urban fabric by using recycleable materials, which is recycled timber pallets.

6 **Water responsive** urban fabric for the future
Forming an idea-foundation of the future urban fabric with small scale urban design, choosing an area where the main idea problem is the most prominent.





Playing with Form to shape a new layer

Seoul National University Museum's form was designed as a basic rectangular box with a diagonal cut that adjusts to the slope of the hill, as defined by its placement on the side of a hill and close to the university's entrance. The shape is then lifted above a central core – the building's single point of contact with the earth – to create an almost all-cantilever structure that follows the terrain and seems to float above it. The ground beneath is mostly undeveloped, serving as a link between the institution and the surrounding community.

Project Detail

Project Name	Architect	Location
Seoul National University Musem	OMA	Seoul, South Korea

Figure 66. Seoul National University Museum.
Source: OMA

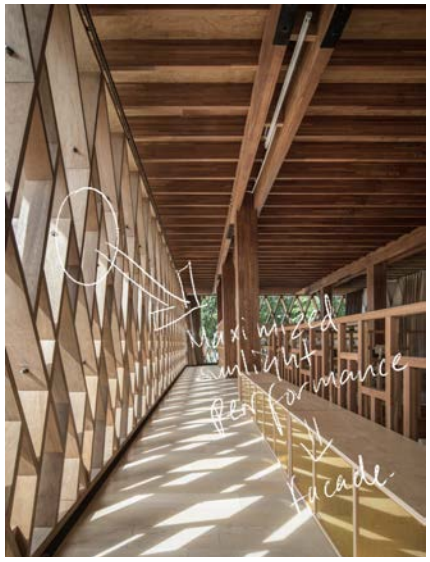
Figure 67. Seoul National University Museum.
Source: Arquitectura Viva

Figure 68. Seoul National University Museum.
Source: Arquitectura Viva

Figure 69. Seoul National University Museum.
Source: Arquitectura Viva







Project Detail

Project Name
Microlibrary Warak Kayu

Architect
SHAU Indonesia

Location
Semarang, Indonesia

Elevating space to promote interest in reading

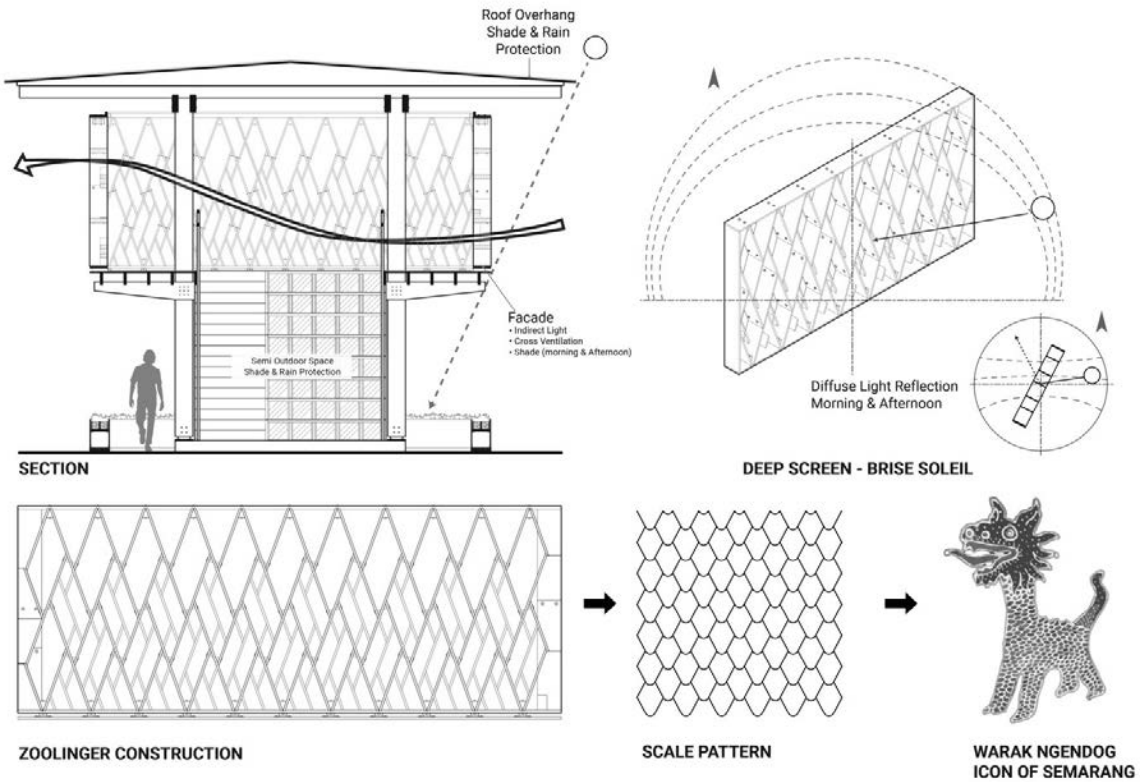
Microlibrary Warak Kayu is seen as an icon with multiple programs provided to increase the rate of interest in reading. The project is socially performative, creating multi-functional community spaces by using environmentally-concious design and materials (timber) with the aim to serve low-income neighborhoods. Furthermore, the use of timber represents the capability of timber manufacturing in Indonesia. Perhaps it is applicable in Pontianak Waterfront as well. It is a humble project. Other than the strategic location with view to Kampung Pelangi, it is embedded in the larger city network as well, increasing reach from another places.

Figure 70. Microlibrary Warak Kayu.
Source: ArchDaily

Figure 71. Microlibrary Warak Kayu.
Source: ArchDaily

Figure 72. Microlibrary Warak Kayu.
Source: ArchDaily





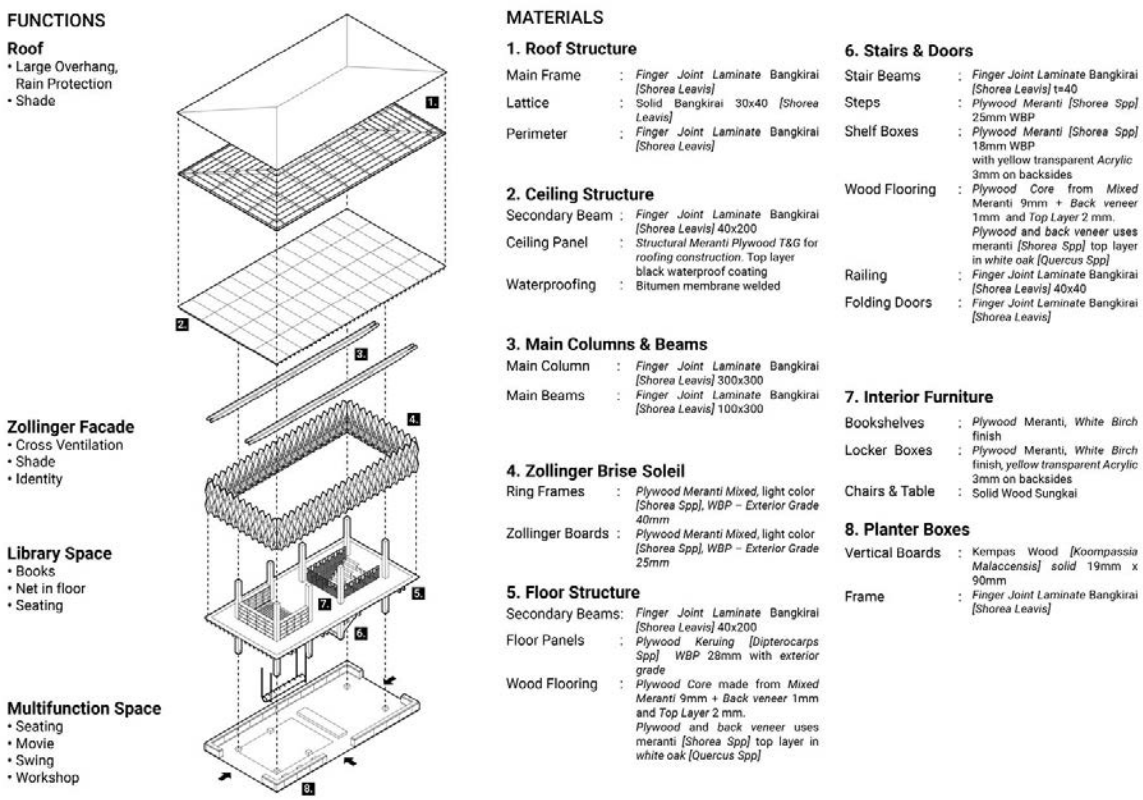
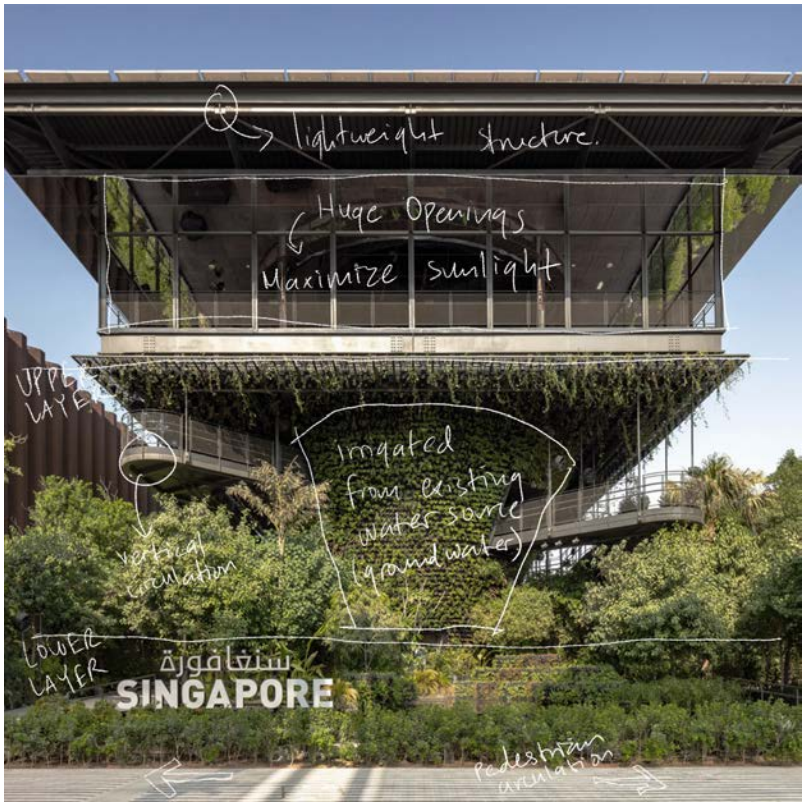
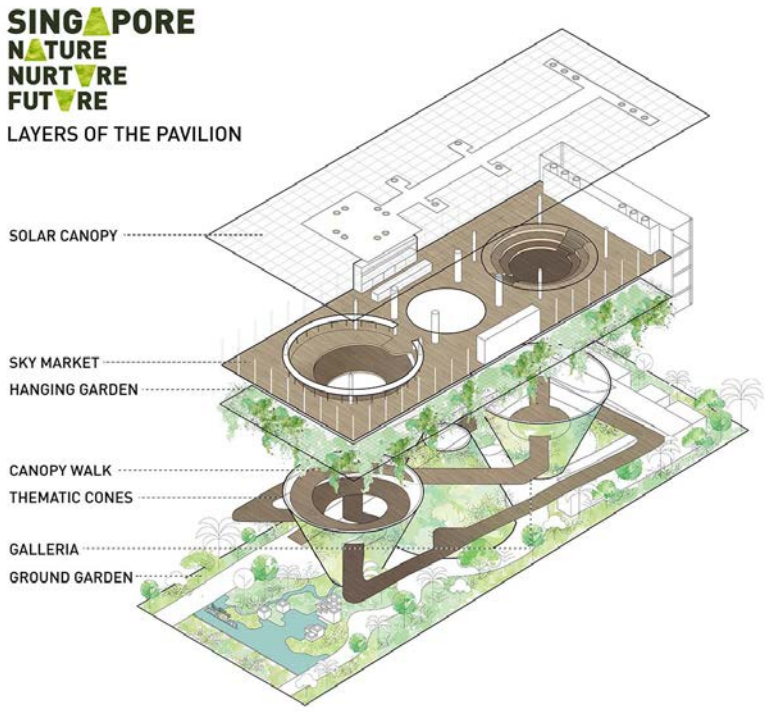


Figure 73. Microlibrary Warak Kayu.
Source: ArchDaily

Figure 74. Microlibrary Warak Kayu.
Source: ArchDaily





Nature, Nurture, Future promotes nature into every layer

The Singapore Pavilion at Expo 2020 Dubai highlights the city's desire for a sustainable future that incorporates architecture, nature, technology, and culture. The pavilion at its best execution is when the successful process of taking groundwater into the performance of the building including the drinking water, irrigated vegetations, and the thermal comfort by mist fans, even though the air is passively cooled through natural vegetations as well. The comendable aspect of the design is the architect's vision to focus on nurturing a sustainable future, representing the integration between nature and man-made structures or urban environments, opening ideas to many posibilities for the future. There are more dan 170 varieties of vegetations with different layers of greenery, from hanging gardens to vertical walls. This creates various kind of experiences for the building user to have. Furthermore, the main water source is desalinized to produce on-site, minimizing water consumption. Perhaps, the same idea of using local water can be applied in Pontianak Waterfront area.

Project Detail

Project Name	Architect	Location
Singapore Pavilion	WOHA Architects	Dubai, United Arab Emirates

Figure 75. Singapore Pavilion.
Source: World Architecture

Figure 76. Singapore Pavilion.
Source: World Architecture

Figure 77. Singapore Pavilion (next page).
Source: World Architecture

Figure 78. Singapore Pavilion (next page).
Source: World Architecture

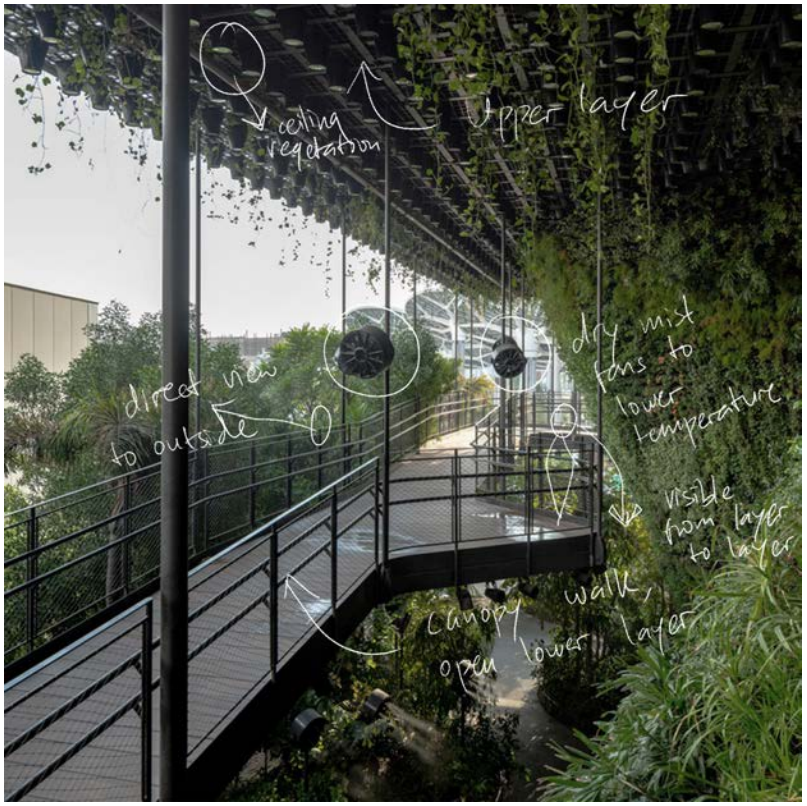
Figure 79. Singapore Pavilion (next page).
Source: ArchDaily

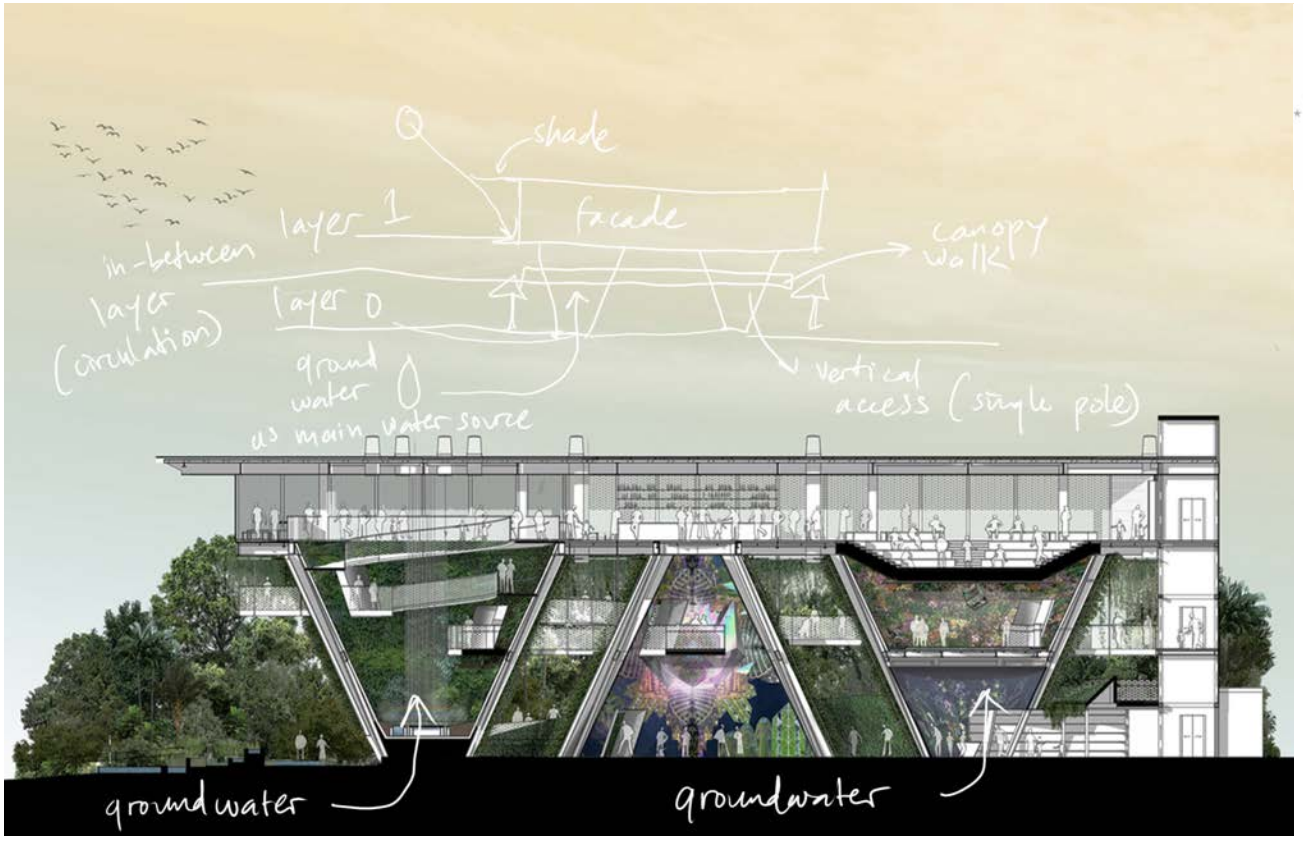
Figure 80. Singapore Pavilion (next page).
Source: Trans Solar

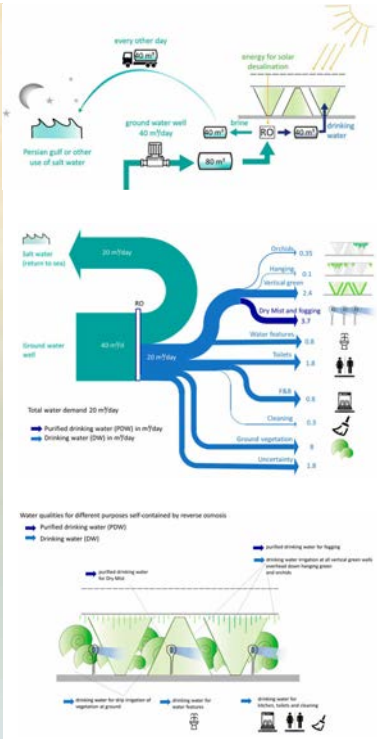
Figure 81. Singapore Pavilion (next page).
Source: Trans Solar

Figure 82. Singapore Pavilion (next page).
Source: Trans Solar


large scale
visible
Vertical circulation & universal design
direct vegetation and human interaction


ceiling vegetation
upper layer
direct view to outside
dry mist fans to lower temperature
visible from layer to layer
canopy walk, open lower layer


shade
layer 1
facade
canopy walk
in-between layer (circulation)
layer 0
ground water as main water source
vertical access (single pole)
groundwater
groundwater


every other day
energy for solar desalination
Persian gulf or other use of salt water
ground water well 40 m³/day
brine
RO
drinking water
Salt water (return to sea)
Ground water well
Total water demand 20 m³/day
Purified drinking water (PDW) in m³/day
Drinking water (DW) in m³/day
Water qualities for different purposes self-contained by reverse osmosis
Purified drinking water (PDW)
Drinking water (DW)



Surrealism and the Future within a city's history

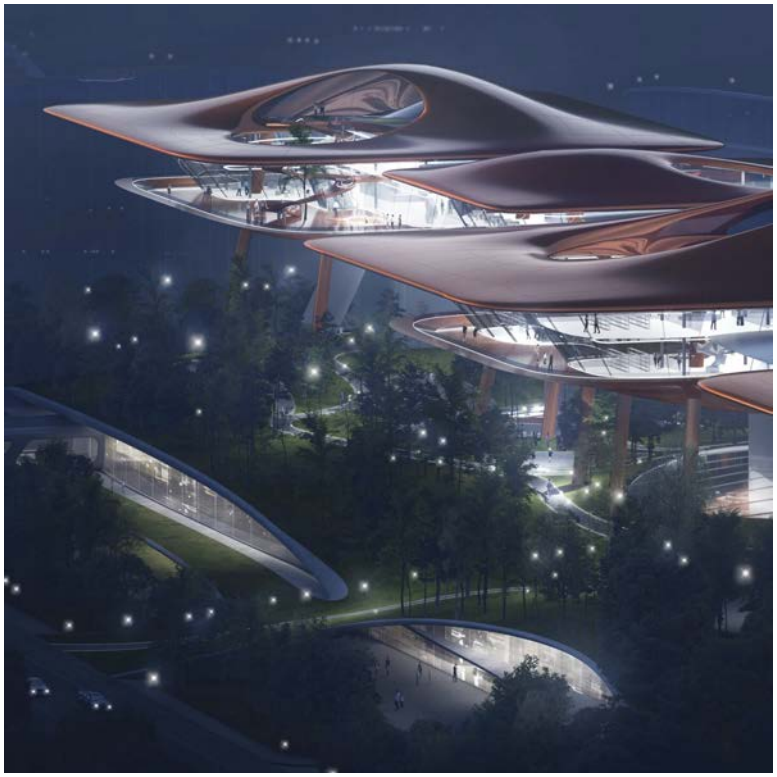
Located on a prominent river in China, the Yangtze river, the architect's intention is to reflect the kinetic energy and movement of the montainous city into the site as well as imagining the public spaces of the future. By changing the stigma of heavy industry activities of shipping traffic and industrial transport, the goal is able to be achieved. In order to successfully reflect the industrial color of the site's past, the architect used the color orange. Furthermore, inspired by the orange gantry cranes as well that dominates the site itself, the form innovation of surrealism is realized by elevating the 430-metre-long design complex as if it were a futuristic, free walking city and the use of aluminium curtail wall to the building. The buildings rise and fall seen from afar, mimicking the form of the industrial gantry cranes, while their elevated position above the ground provides for open, uninterrupted views of the river. Intervention to the layering of the urban fabric forms a new link between two of the existing parks in form of an urban green space that blends naturally. beneath the urban green space is the Cruise Center Hub, provides both access to both the elevating complex and the ground level landscape park. The goal of the framework is to build an area that is "integrated ship, port, city, tourist, shopping, and entertainment": the world's premier river cruise port. The project, when completed, is going to turn industrial memories into a completely realized piece of urban imagery, establishing a distinctive Chongqing monument.

Project Detail

Project Name	Architect	Location
Chongqing Cuntan International Cruise Center	MAD Architects	Chongqing, China

Figure 83. Chongqing Cuntan International Cruise Center.
Source: Archello (2021)







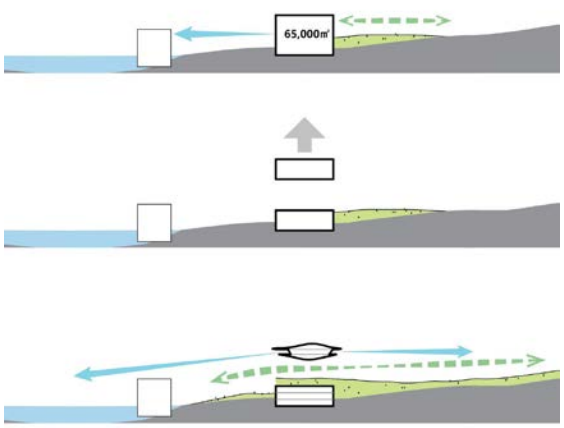


Figure 84. Chongqing Cuntan International Cruise Center. **Source:** Archello (2021)

Figure 85. Chongqing Cuntan International Cruise Center. **Source:** Archello (2021)

Figure 86. Chongqing Cuntan International Cruise Center. **Source:** Archello (2021)

Figure 87. Chongqing Cuntan International Cruise Center. **Source:** Archello (2021)



Artificial Nature within a busy urban fabric

Urban Bloom in an experiment in prioritizing urban space and activities over a design's goal or infrastructural requirements. The project revitalizes and renews urbanization; in reality, the project began as a parking lot. It is a vision for a city that prioritizes humans, transformed into an ideal urban garden and developed solely from artificial means. Colorful vegetation is held in balloon-like leaves of trees, filling the space with shadows and patterns. Flowers and flora of various types were planted amid the modules, and as they bloom and expand, the platform is going to be turned into an open, inviting garden. Cities are massive waste and rubbish generators. The architects intended this new area to be low-impact and artificially interact with natural elements. The project is totally sustainable, relying on recycled materials as its core and was created with waste and consumption in mind, as well as city dweller's need for nature. Recycled timber pallets are refabricated for the main material.





Project Detail

Project Name	Architect	Location
Urban Bloom	AIM Architecture & URBAN MATTERS	Shanghai, China

Figure 88. Urban Bloom.
Source: CreatAR Images (2018)

Figure 89. Urban Bloom.
Source: CreatAR Images (2018)

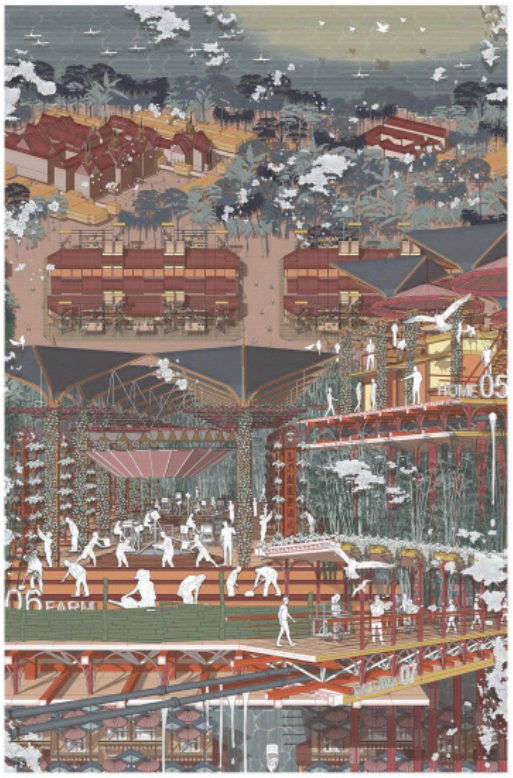


Figure 90. Urban Bloom.
Source: CreatAR Images (2018)



Figure 91. Urban Bloom Sketch.
Source: Architonic (2018)







Water responsive urban fabric for the future

As a part of his master's thesis project, architect Tyler Lim created the architectural design idea known as "The Water Parliament", which investigates the possibilities of using water to help the people of Thailand to adapt to the changing landscape brought on by the rising sea level. The design is an homage to a Thai mural painting that depicts a fictitious, liveable environment of a rainy, new Bangkok metropolis in the year 2100. Tyler Lim aimed to show that the environmental issue of sea level rise may present a fresh chance to reinvent the city via the usage of a new water culture. Through their involvement in the city's renovation, the citizens receive a portion of the power of this organic growth. The presence of water in unprecedented rainy city, which the Thai people are celebrating, unites the entire island and creates The Water Parliament. The designer created three livable infrastructures separately, yet they all existed as one. The architecture integrates the traditional Thai water culture with several additional to the cutting-edge infrastructure and technology while celebrating a new part of water. The design consist of a number of rainwater collection and storage facilities, such as purifying ponds, bathhouses, restaurant halls, massage parlors, and mainly markets with boat docking platforms.

Project Detail

Project Name	Architect	Location
The Water Parliament	Tyler Lim	Bangkok, Thailand

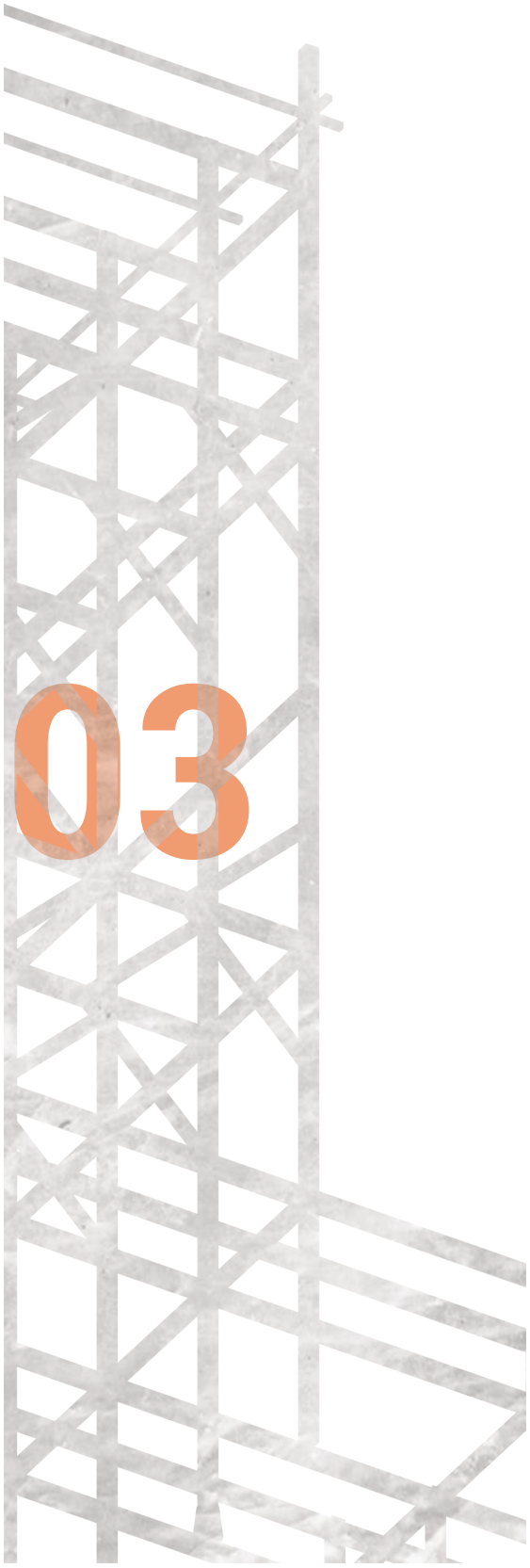
Figure 92. The Water Parliament.
Source: designboom

Figure 93. The Water Parliament.
Source: designboom

Figure 94. The Water Parliament.
Source: designboom

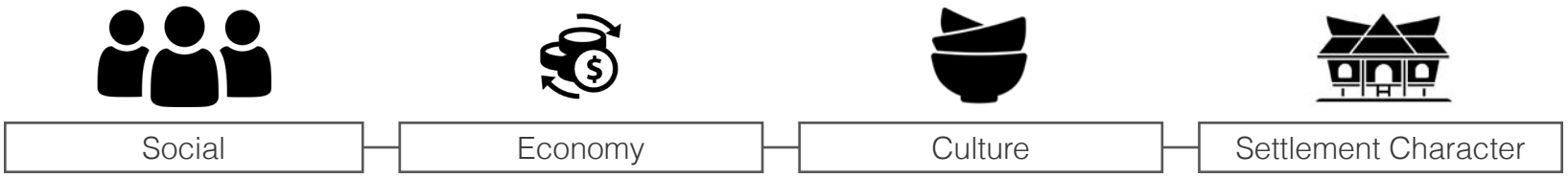
2.14 Originality & Novelty

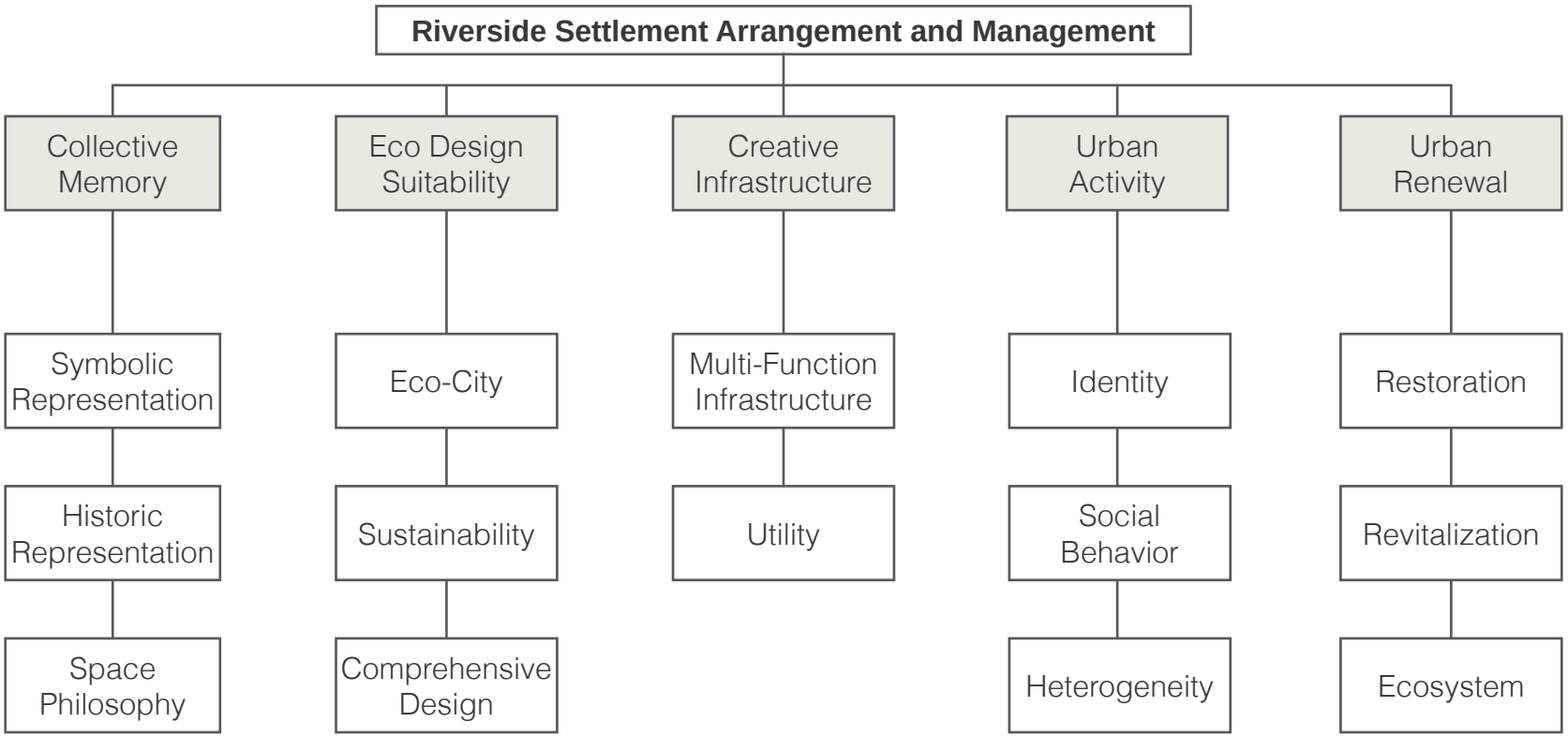
Title Description	Concept	Difference
Redesain Pasar Kapuas Indah di Pontianak Dengan Foodcourt Sebagai Sarana Penghubung Tempat Wisata Sekitar (Mutia Muyasarah, 2019)	Spatial planning redesign that is able to increase the capacity of new commodities and facilities & existing building facade redesign.	Building typology and design strategy
Fasilitas Olahraga dan Rekreasi Air di Tepian Sungai Kapuas Pontianak: Perkampungan Beting sebagai Preseden Perancangan (Suryani, Lina Sri, 2005)	Design intention to be set as *magic point* for the city by designing a sport facility and water recreation that relies on the uniqueness of Beting Village characteristics.	Design typology
Design of Malay Culture Center in Kapuas Waterfront Pontianak (Nisaaul Muflihaturrahmah, 2021)	A design that becomes a forum for the development of Malay art activities while at the same time expressing the beauty of Malay architecture in the appearance of the building with the application of Neo Vernacular Architecture theory, which combines modern architecture with local architecture in order to maintain the preservation of local architectural values.	Design approach and design method
Revitalization of Community Center in Alun-Alun Kapuas Park Pontianak City with the Approach to Ecology (Velda Diovitara, 2018)	Design intention to be set as *magic point* for the city by designing a sport facility and water recreation that relies on the uniqueness of Beting Village characteristics.	Design approach and design method


03

Design Problem Solving

3.1 Riverside Settlement Arrangement Principle: Sustainability
3.2 Architecture Overview
3.3 Early Visualizations: Hand Sketches
3.4 Form Finding: Midjourney AI
3.5 New Hypothesis: Forming a “Second Layer” Above the Urban Fabric





3.1 Riverside Settlement Arrangement Principle: Sustainability

The diagram above shows the basis of a new paradigm in managing urban space of the city with more quality through sustainability. According to Kalsum (2022), riverside settlement is an essence and identity which cannot be vanished and the sustainability of riverside settlements must include efforts to overcome poverty and create socio-economic walfare people. Furthermore, it formed as part of creating a city that inclusive, safe, resilient, sustainable, and strengthening efforts to protect and preserve cultural heritage.

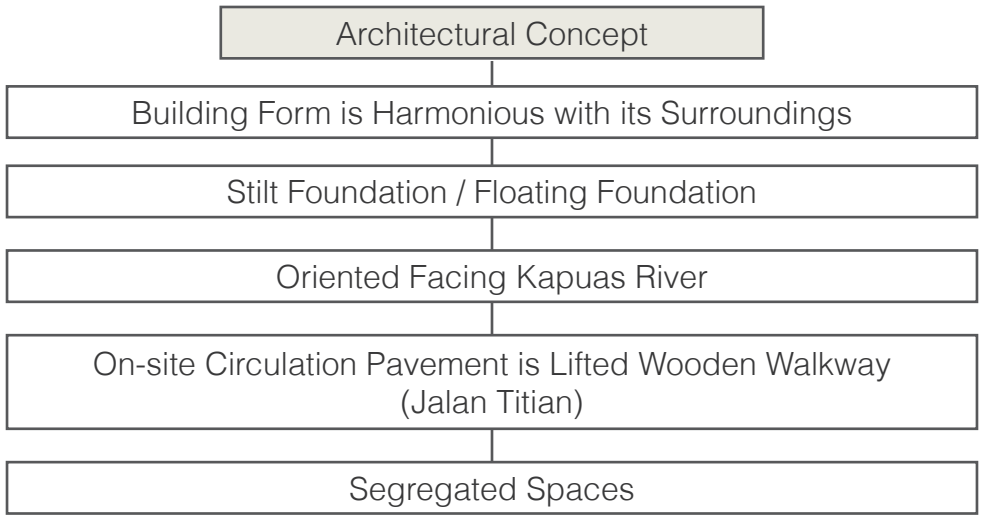




Figure 95. Jalan Titian
Source: Borneo Architecture Student Fellowship Seminar 2022 (2022)



Figure 96. Merchants on Boat
Source: Borneo Architecture Student Fellowship Seminar 2022 (2022)



Figure 97. Longhouse/Rumah Rakdang West Kalimantan
Source: pariwisataindonesia.id (2022)

3.2 Architecture Overview

Social and economic conditions of the Pontianak community are closely related to urban spatial planning, as well as environmental management and human resources that interacts with the space, time, and local culture of the community.

3.3 Early Visualization
Hand Sketches

In this section of the report book, the author was trying to visualize through hand sketches of what is the process behind the design, especially from the form finding throughout the architectural details. Some of the sketches are not applied on the final design, however the details on how to adapt to the concept and context is still applied in order to achieve a harmonious space that belongs to the end-user of Riverside Communal Hub in Pontianak Waterfront, ranging from the tourist to the residence.

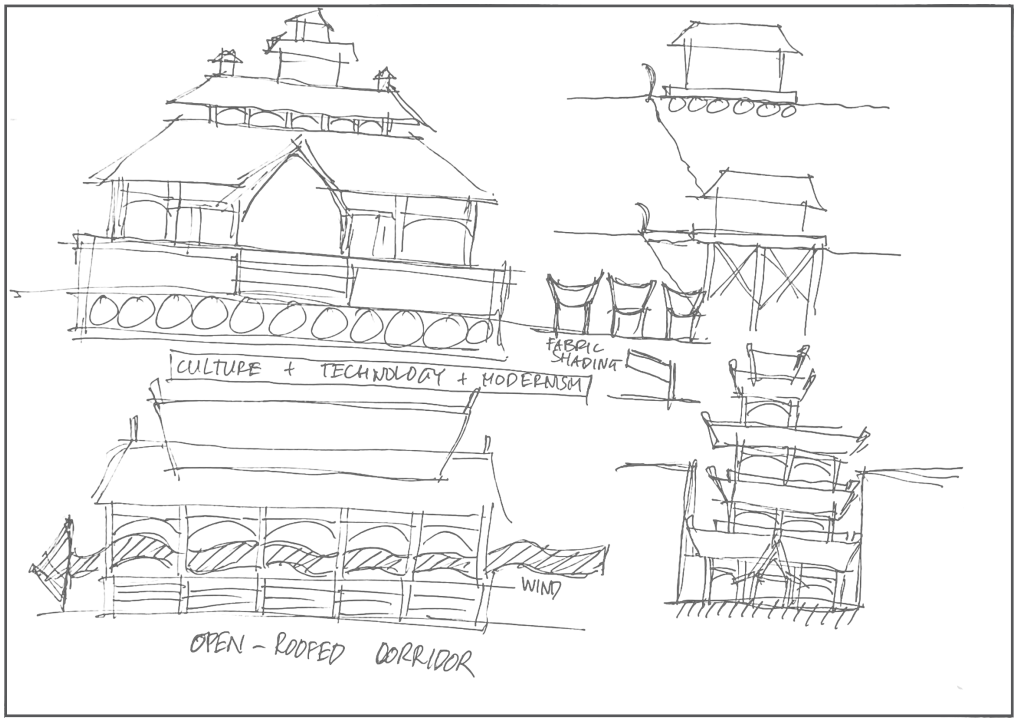


Figure 98. Early Visualization for the Riverside Communal Reservation Area Concept
Source: Author (2022)

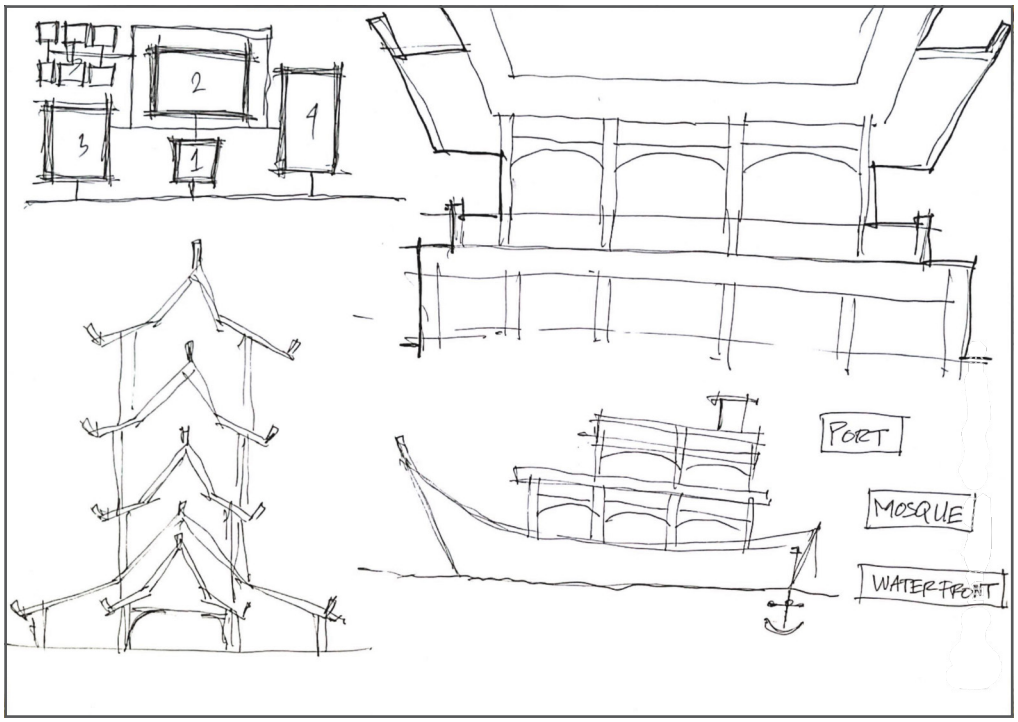


Figure 99. Early Visualization for the Riverside Communal Reservation Area Concept
Source: Author (2022)

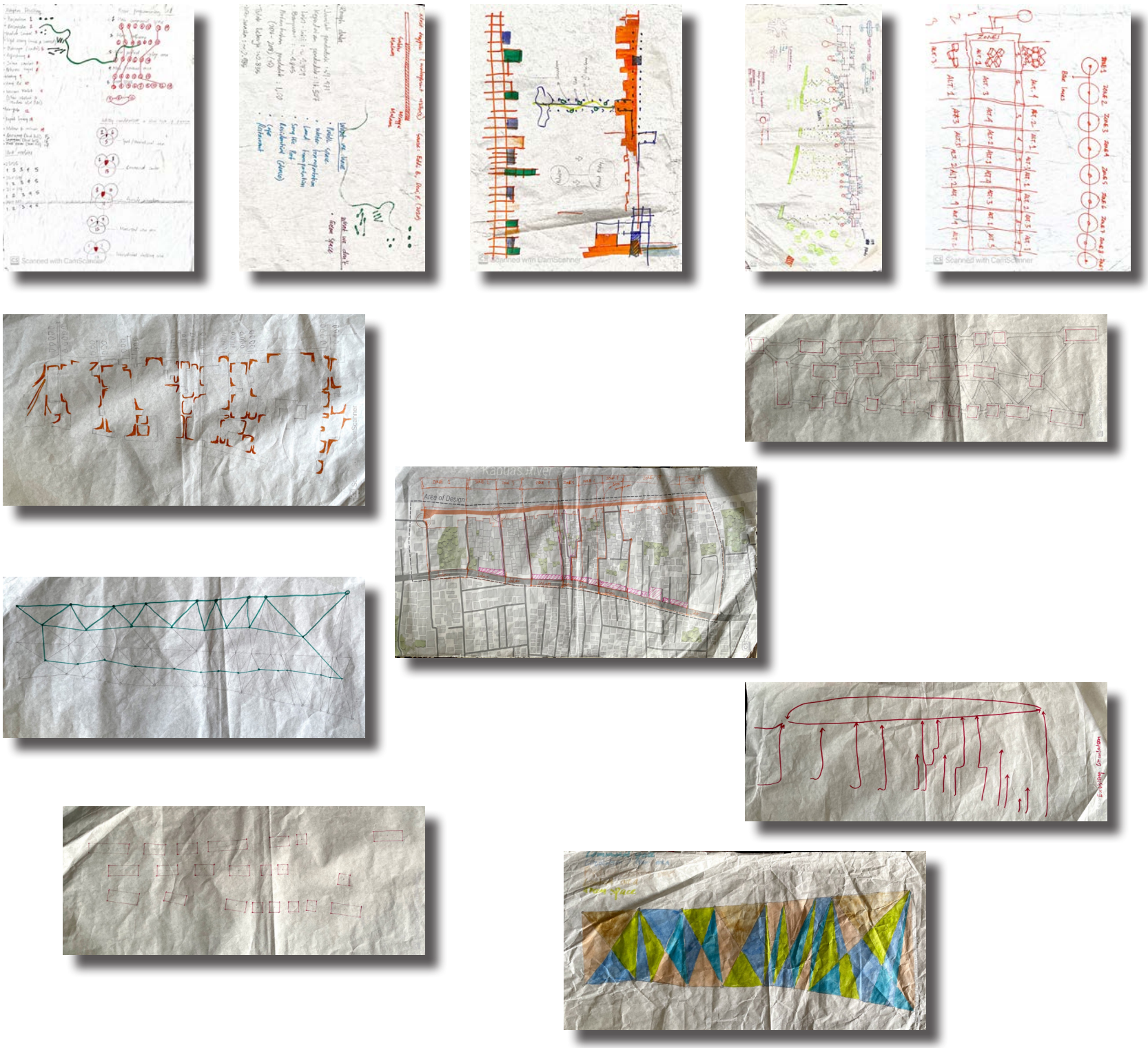


Figure 100. Early Visualization for the Riverside Communal Reservation Area Concept
Source: Author (2022)

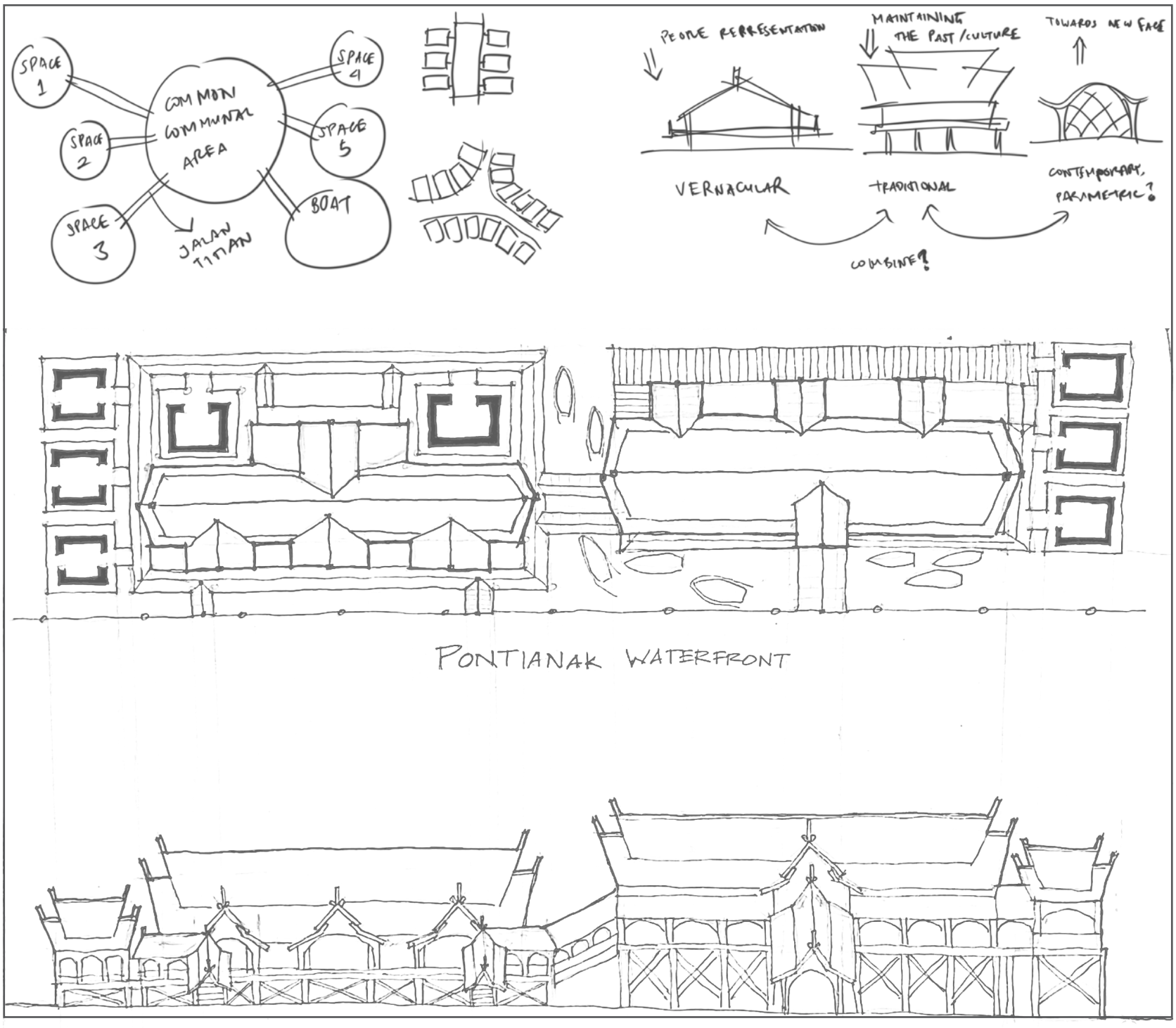


Figure 101. Early Visualization for the Riverside Communal Reservation Area Concept
Source: Author (2022)

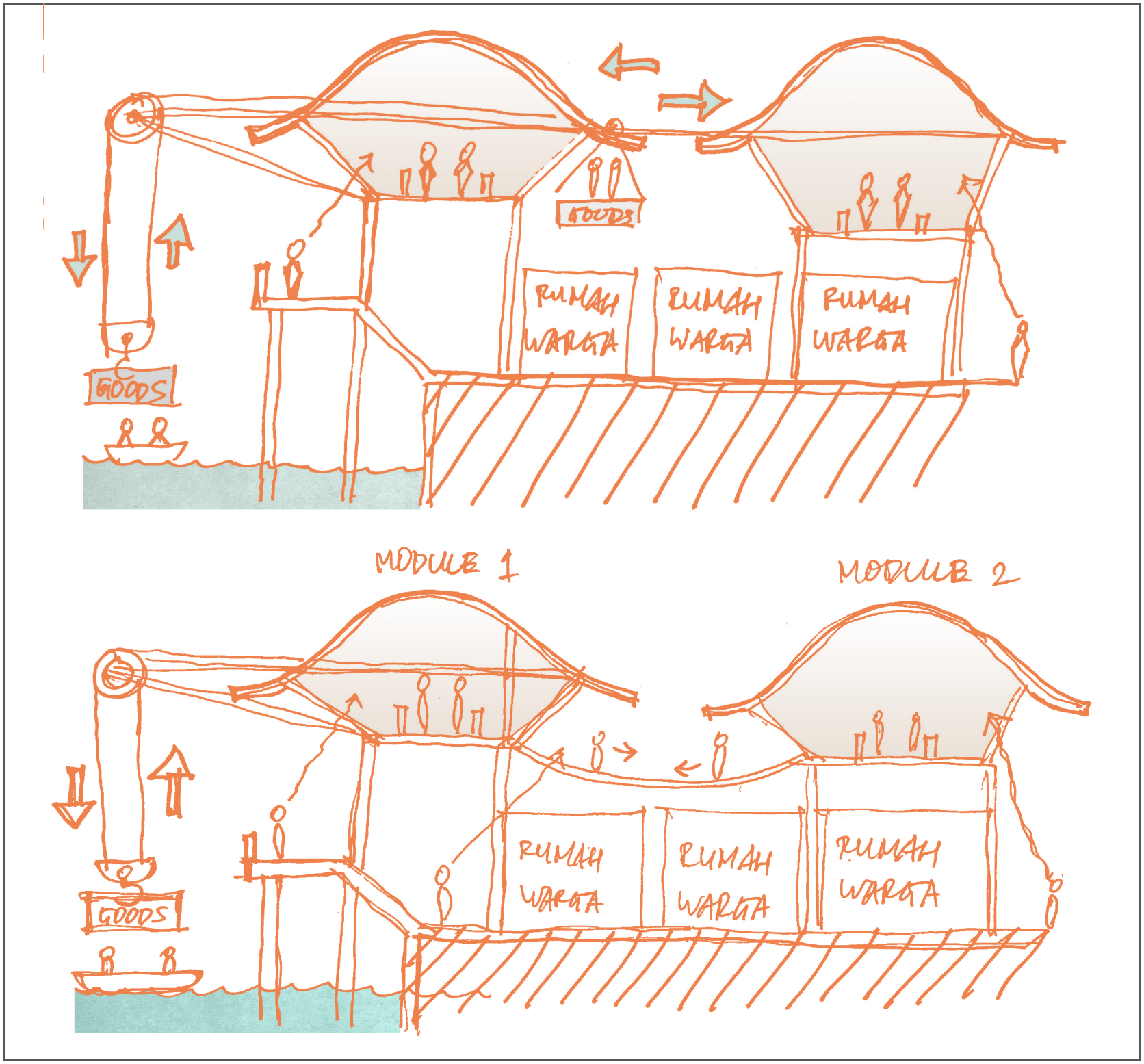


Figure 102. Early Visualization for the Riverside Communal Reservation Area Concept
Source: Author (2022)

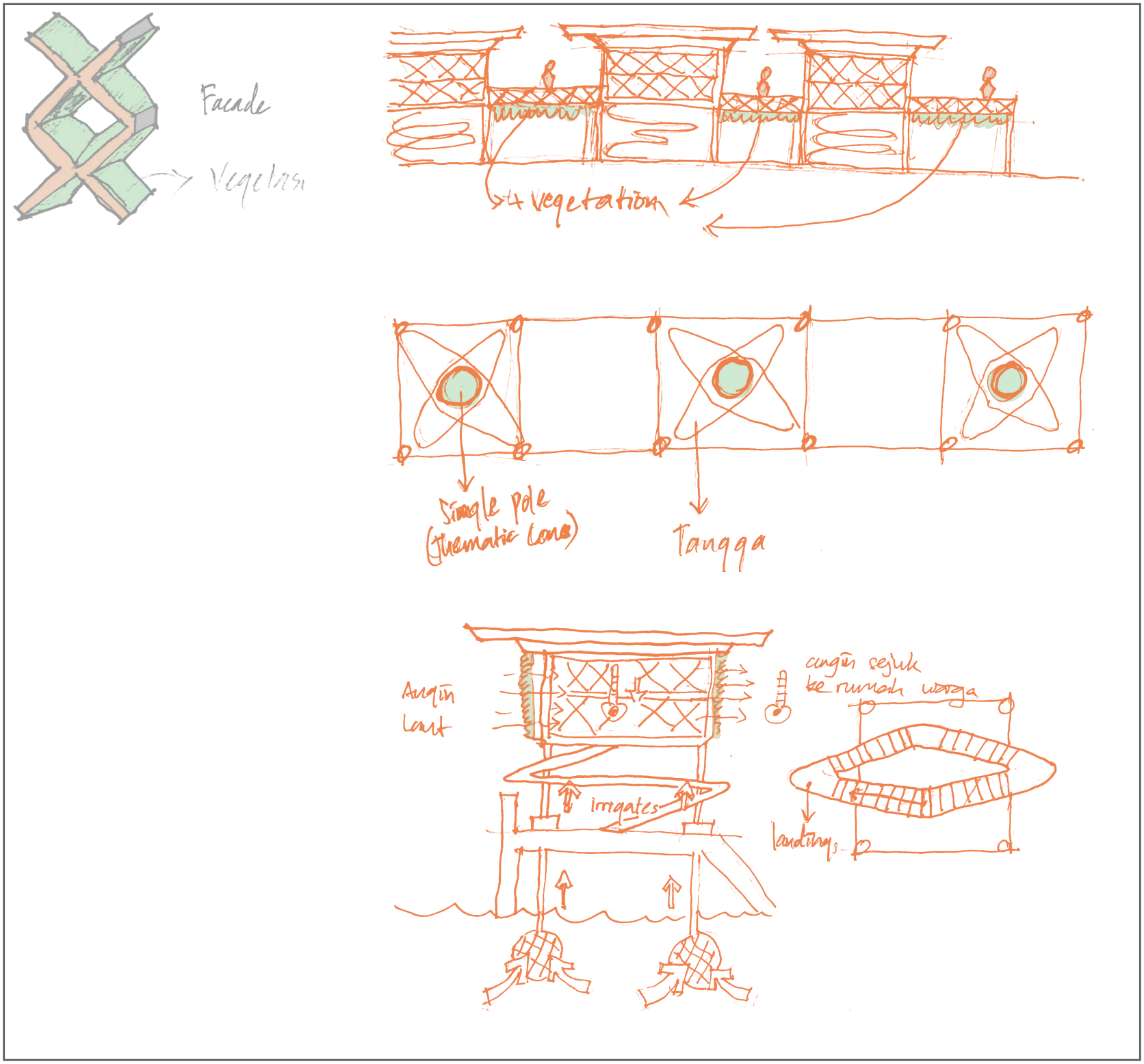


Figure 103. Early Visualization for the Riverside Communal Reservation Area Concept
Source: Author (2022)

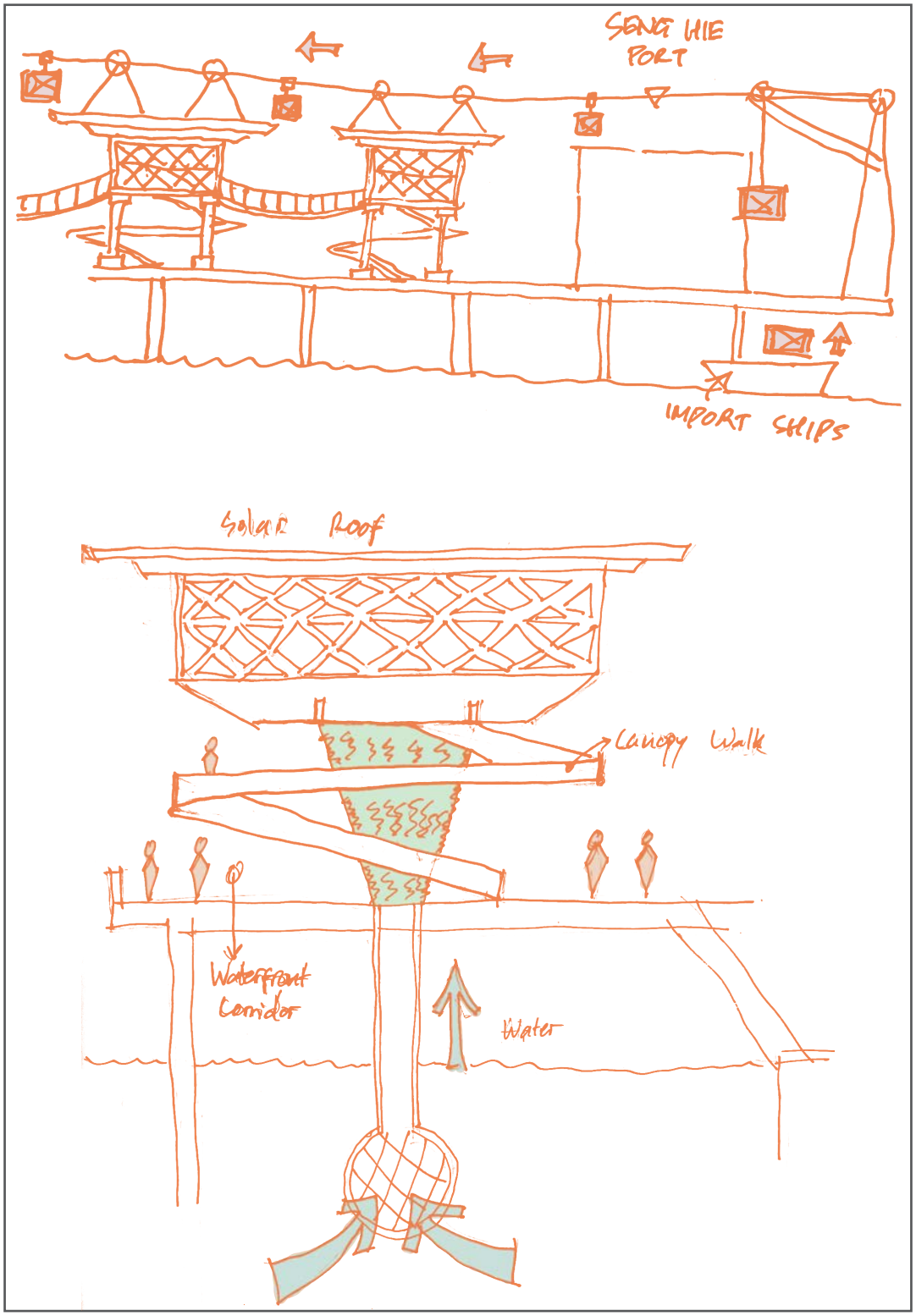


Figure 104. Early Visualization for the Riverside Communal Reservation Area Concept
Source: Author (2022)

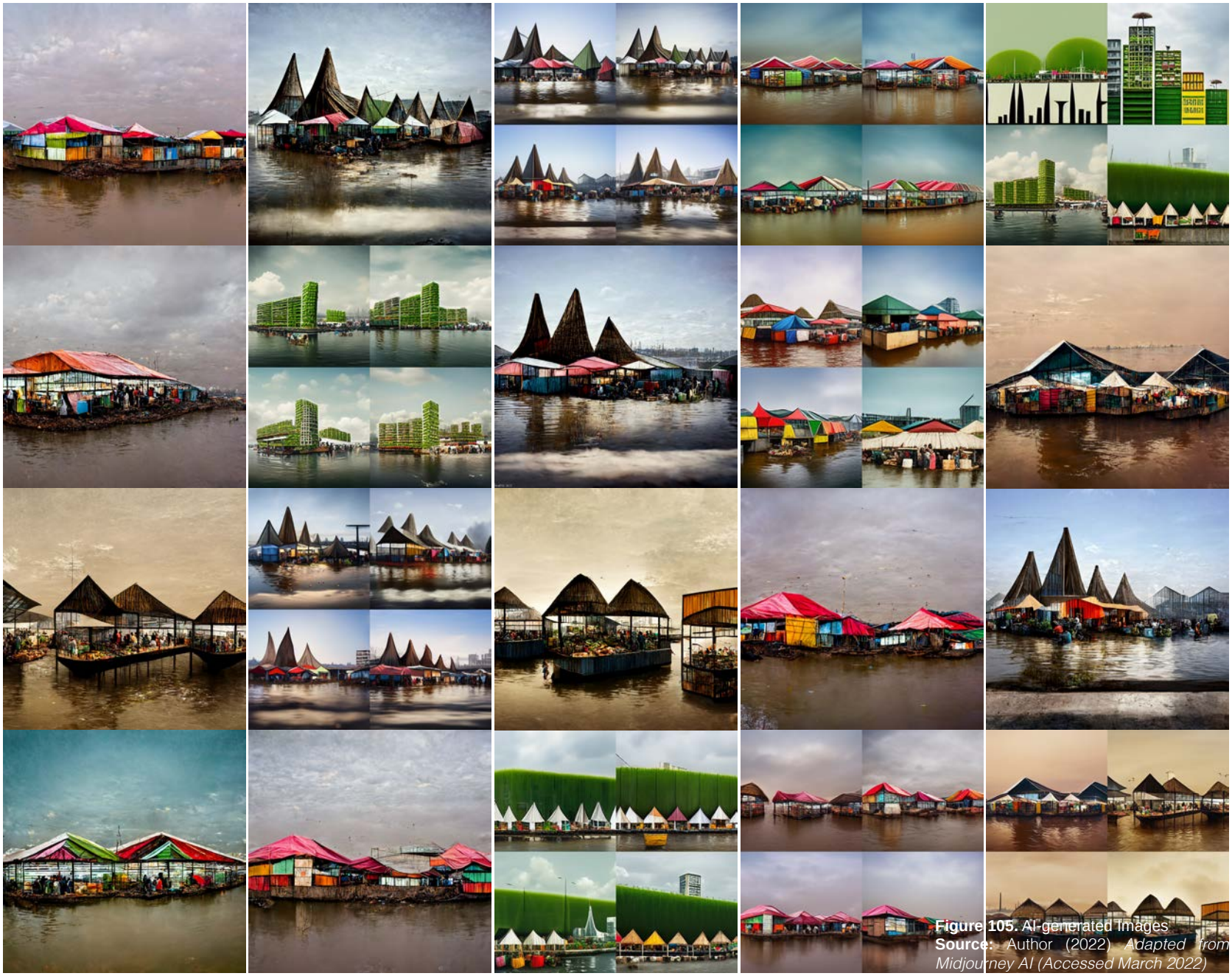
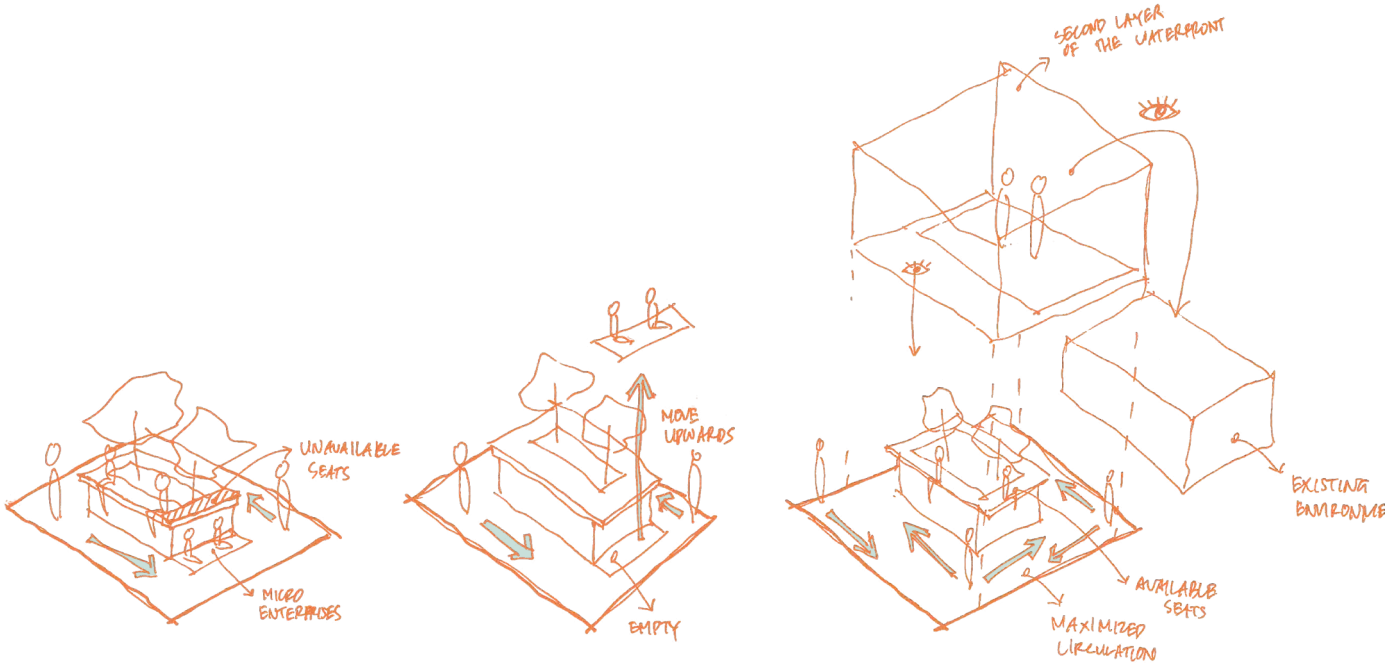


Figure 105. AI-generated Images
Source: Author (2022) *Adapted from Midjourney AI (Accessed March 2022)*

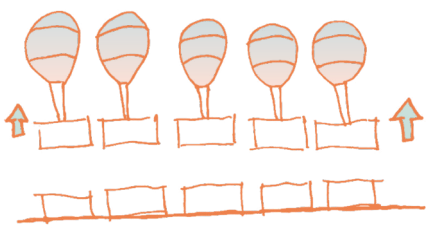
3.4 Form Finding: Midjourney AI

Lately, the technology of generating images through an Artificial Intelligence (AI) has taken a storm on the internet. This includes the environment within artist around the world, even those who invented in crypto currency to Non-fungible Token arts or familiarly known as NFT. In architecture, I found it to be useful to use this technology to generate early visualization for a design development. The main adventage of using AI to generate image is time. Is is unbelievably swift to produce numerous of images by just typing a few words and the AI will do the rest. In this proposal, I myself used Midjourney AI, a feature bot from Discord application that can turn any imagination into artwork from text. I searched the word “riverside market on top of a waterfront in a third world country” and “green high rise building on top of a waterfront in a third world country”, above images are the results.



3.5 New Hypothesis: Forming a "Second Layer" Above the Urban Fabric

In order to respond to the issue of space occupancy or the lack of space for the micro enterprises to stall or to display their products, a new form of layer above the urban fabric is created to provide space for them.



Air Balloon
Going vertical by lifting the building masses by air balloon.

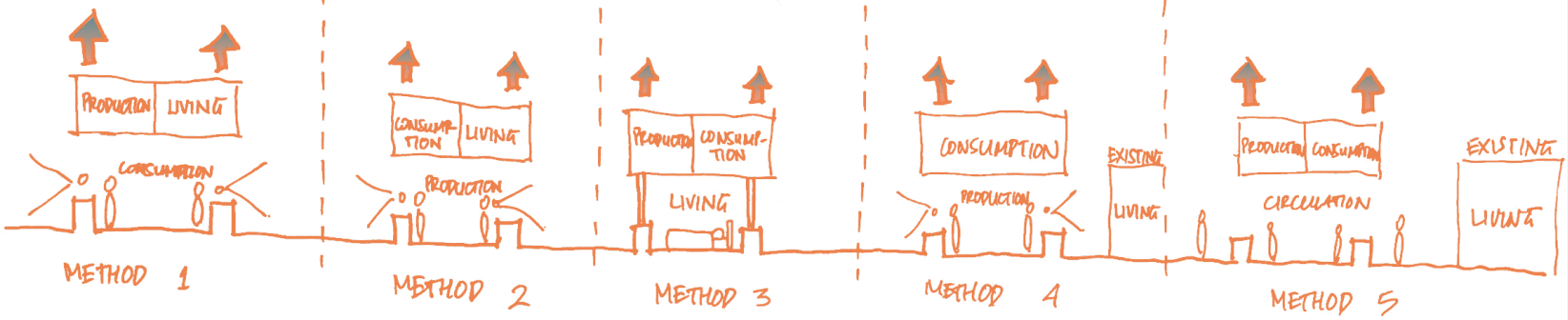


Platform Foundation
Going vertical by lifting the building masses by pile foundation.



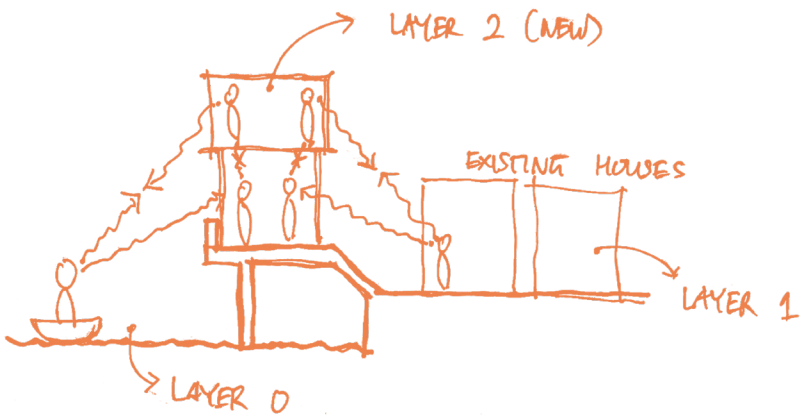
Single Pole
Going vertical by lifting the building masses by single pole staged foundation.

Figure 106. Early Visualization for the Riverside Communal Reservation Area Concept
Source: Author (2022)



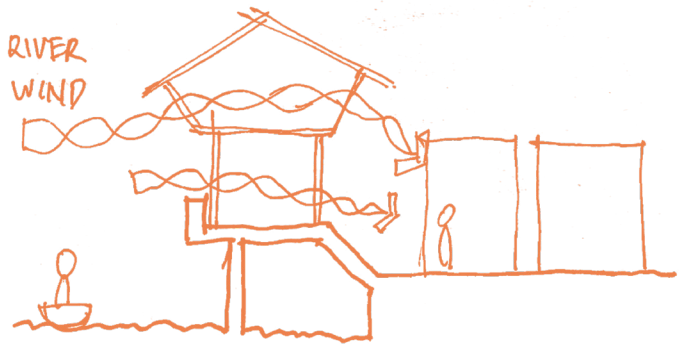
Space Mapping Methods

It is of the architect or the designer privilage to strategize the form of the zoning or the space mapping on the building are going to be. Moreover, it is of the architect's or the designer's privilage whether to adapt to an already-done space mapping or forming a new one, even perhaps setting a new "standard" for a new form in the future of MSME production and living spaces.



Riverside Settlement Behavior

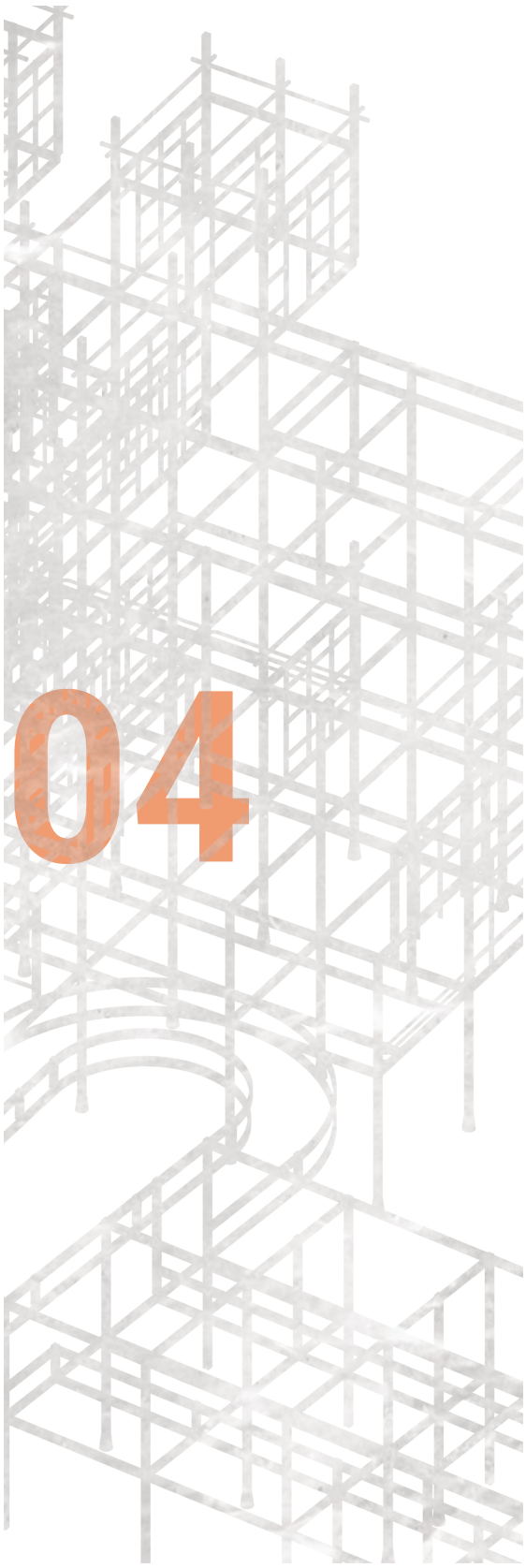
Forming a new layer to the behavior of the people in Pontianak Waterfront, producing a new behavior as well. There are three layers which are the water layer, land layer, and the new layer will be the "air" layer. However, these three layers are interconnected and is visible from each of them.



Cross Ventilation

To avoid hindrance for the local people, the building on the new layer is designed to have cross ventilation to circulate river wind to nearby local residential houses.

Figure 107. Early Visualization for the Riverside Communal Reservation Area Concept
Source: Author (2022)



04



Design Analysis

4.1 Macro-Micro Map of South Pontianak
4.2 Macro Analysis: South Pontianak Regency, Benua Melayu Laut District
4.3 Benua Melayu Laut District Long-Term Development: Spatial Pattern Plan Map of Pontianak
4.4 Pontianak Waterfront Proposed Area
4.5 Pontianak Waterfront Area Development Over the Years (2003 - 2020)
4.6 Water Transport in Pontianak Waterfront
4.7 Place Making: Cafetaria Seatings in Pontianak Waterfront
4.8 Waste Condition: Settlement Slums
4.9 Foundation Structures in Pontianak Waterfront
4.10 Pontianak Waterfront Impact: After the Construction of the Waterfront
4.11 Micro, Small, and Medium Enterprises Categorization in Pontianak Waterfront
4.12 Additive Forms: Massing Concept Strategy



4.1 Macro-Micro Map of South Pontianak

Figure 108. Satelite imagery of Pontianak City area, specifically on the surroundings of Pontianak Waterfront.
Source: Author (2022) *Adapted from Google Earth Pro (Accessed March 2022)*

Figure 109. Geographical map showing where Pontianak City is.
Source: Author (2022) *Adapted from Many Internet Sources (Accessed March 2022)*

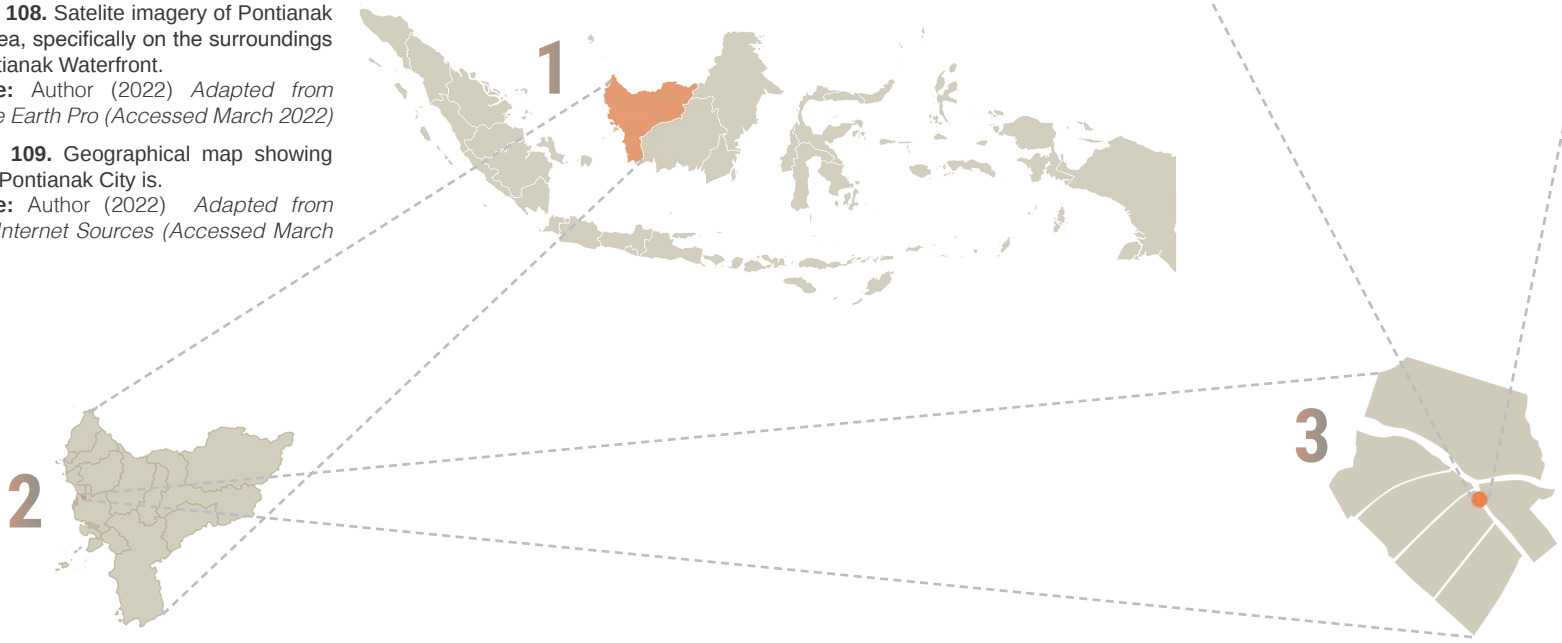




Figure 110. Graphical Map of the Area of Design of South Pontianak, Pontianak Waterfront.
Source: Author (2022) *Adapted from Google Earth Pro (Accessed March 2022)*



Figure 111. Crowd Analysis Map of the Area of Design of South Pontianak, Pontianak Waterfront.
Source: Author (2022)

4.2 Macro Analysis

South Pontianak Regency, Benua Melayu Laut District

Located in South Pontianak Regency, Pontianak Waterfront is adjacent to Kapuas River, the longest river in Indonesia. The area is well-known for its commercial use, a familiar place for the people of the city, the area is one of the center starting point of Pontianak City. The are consist of the most famous markets in the city such as Central Market and Parit Besar Market. Furthermore, The most historical mosque in Pontianak is able to be clearly seen from the waterfront, which is the Jami' Mosque across the river.

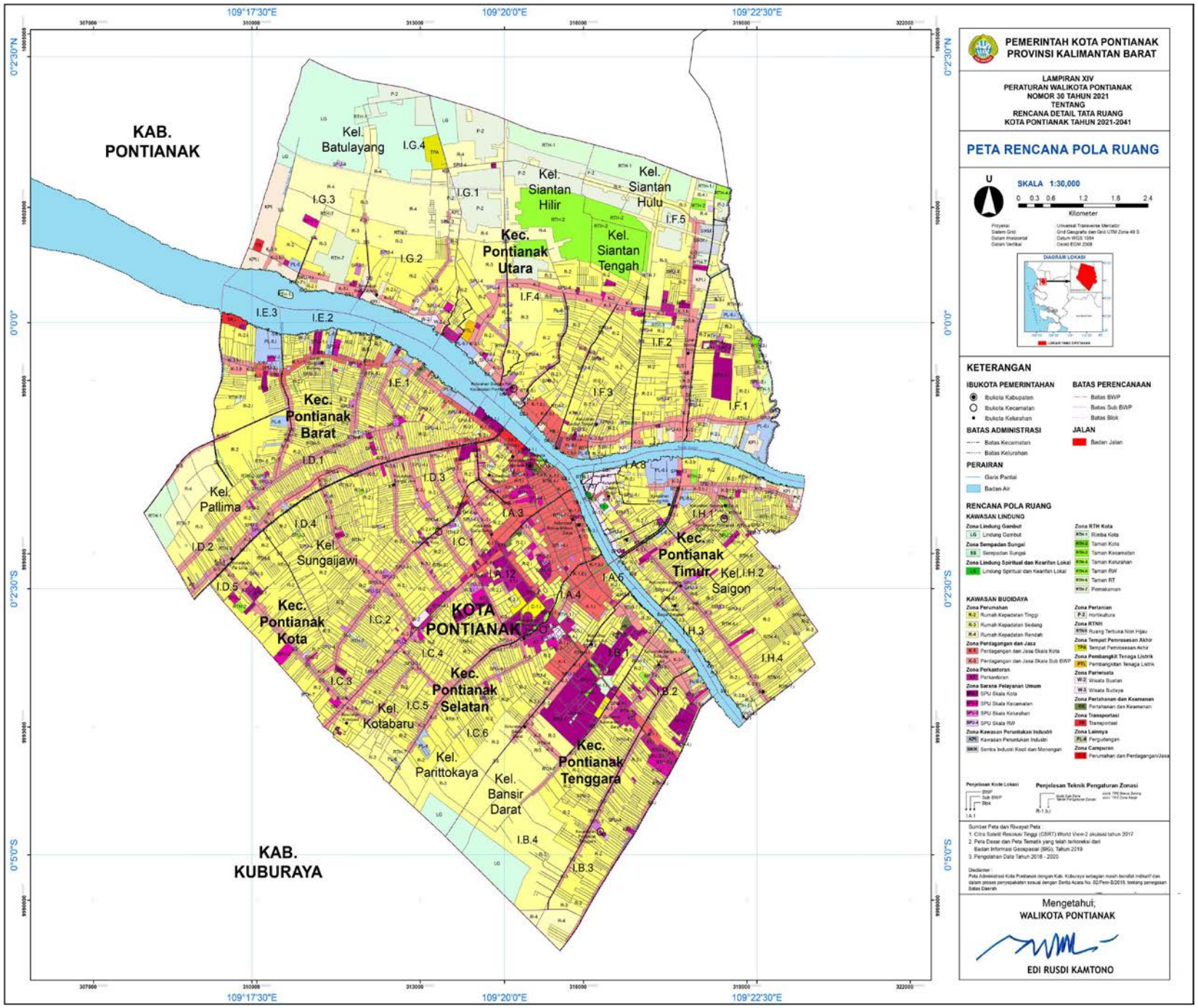


Figure 112. Spatial Pattern Planning Map of Pontianak City 2021-2041.
Source: SIMTARU Kota Pontianak (2021) *Accessed March 2022.*

4.3 Benua Melayu Laut District Long-Term Development

Spatial Pattern Plan Map of Pontianak

From SIMTARU (Sistem Informasi Tata Ruang) City Development 2021-2041, Pontianak Waterfront area is categorized as R-2 High Density Residential Zone and K-1 City-Scale Trade and Service Zone. Supported by KOTAKU Project by PUPR, the area is still open to many developments for the future.



Figure 113. Satelite imagery of South Pontianak, Pontianak Waterfront micro analysis of the area.
Source: Author (2022) *Adapted from Google Earth Pro (Accessed March 2022)*





Figure 51. Pontianak Waterfront Entrance One.
Source: Author (2022)



Figure 51. Pontianak Waterfront Entrance Two.
Source: Author (2022)



Figure 114. Pontianak Waterfront Entrance Three.
Source: Author (2022)



Figure 115. Pontianak Waterfront Entrance Four.
Source: Author (2022)

4.4 Pontianak Waterfront Proposed Area

Tanjung Pura Street, Benua Melayu Laut District, South Pontianak Regency, Pontianak City, Indonesia.
±205.000 m² Area Development, 8.715 m² Waterfront Surface Area.

The proposed project site location is Benua Melayu Laut district in South Pontianak Regency, especially on the area of Pontianak Waterfront. The land use of the area is mostly residental houses and commercial use.

The prominent buildings on the area are Senghie Port, Ramayana Mall, and Nurul Huda Al-Kurdy Mosque. There are many access to the waterfront, however, the mostly accessed are entrance one from Barito Street and entrance two from Irian Alley. Based from the Head of Bidang Bina Marga, Public Works and Spatial Planning Department (PUPR), the land is owned by the government.

4.5 Pontianak Waterfront Area Development Over the Years (2003 - 2020)



06-2003

Figure 116. Satelite imagery of Pontianak City area in 2003.
Source: Google Earth Pro (2022)



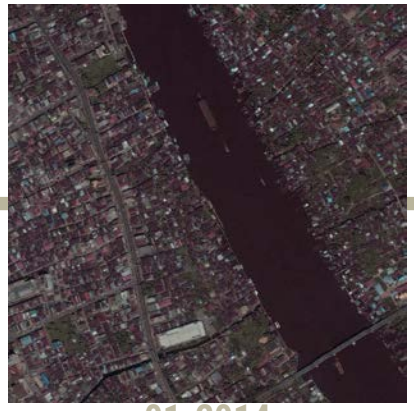
06-2004

Figure 117. Satelite imagery of Pontianak City area in 2004.
Source: Google Earth Pro (2022)



08-2005

Figure 118. Satelite imagery of Pontianak City area in 2005.
Source: Google Earth Pro (2022)



01-2014

Figure 119. Satelite imagery of Pontianak City area in 2014.
Source: Google Earth Pro (2022)



10-2016

Figure 120. Satelite imagery of Pontianak City area in 2016.
Source: Google Earth Pro (2022)



05-2016

Figure 121. Satelite imagery of Pontianak City area in 2016.
Source: Google Earth Pro (2022)



07-2015

Figure 122. Satelite imagery of Pontianak City area in 2015.
Source: Google Earth Pro (2022)



08-2014

Figure 123. Satelite imagery of Pontianak City area in 2014.
Source: Google Earth Pro (2022)



06-2017

Figure 124. Satelite imagery of Pontianak City area in 2017.
Source: Google Earth Pro (2022)



02-2018

Figure 125. Satelite imagery of Pontianak City area in 2018.
Source: Google Earth Pro (2022)



04-2019

Figure 126. Satelite imagery of Pontianak City area in 2019.
Source: Google Earth Pro (2022)



10-2020

Figure 127. Satelite imagery of Pontianak City area in 2020.
Source: Google Earth Pro (2022)



Figure 128. Two canoes privately owned by one of the residents in Pontianak Waterfront.
Source: Author (2022)



Figure 129. A parked boat beneath the waterfront.
Source: Author (2022)



Figure 130. Two privately owned wooden boats parked beside one of the resident's house.
Source: Author (2022)

4.6 Water Transport in Pontianak Waterfront

Water transport is very much commonly used in Pontianak Waterfront. The indigenous people are mostly fisherman, which is the ancestors of the local residences. The vintage use of traditional boat made by timber is still used by now, representing strong identification for those who had lived around Kapuas River before. Furthermore, large-scale boats are used for tourism, for example, they are used for opening merchant stalls to open up a floating diner and cafe. This attracts many visitors to come to Pontianak Waterfront, especially during the night where the user is able to enjoy night river scenery along with colorful artificial lights. Other tourism use for the boats are the play of speedboats and boats to sightsee. The small-scale boats are usually stored beneath the waterfront itself and beside the residence's houses if the space if available.

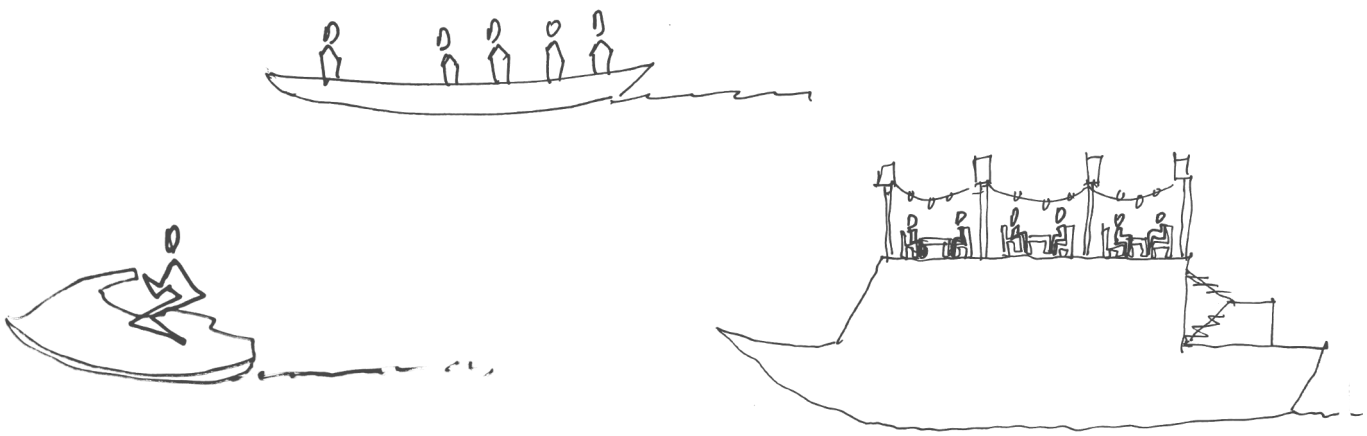


Figure 131. Types of water transport in Pontianak Waterfront.
Source: Author (2022)

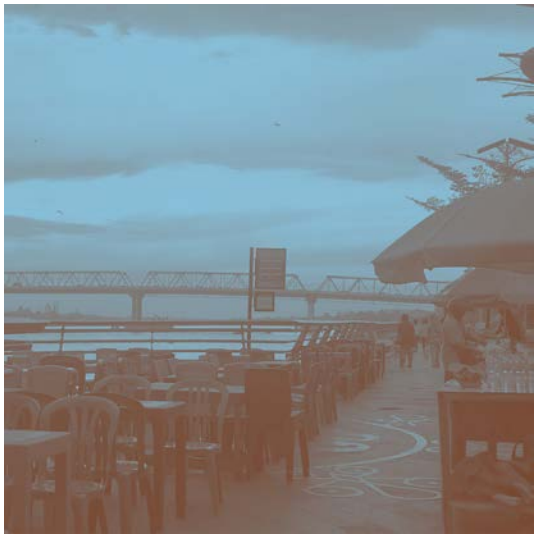


Figure 132. Occupied Waterfront with dining seats.
Source: Author (2022)



Figure 133. Occupied Waterfront with dining seats.
Source: Author (2022)



Figure 134. Riverside seating on the border of the waterfront.
Source: Author (2022)

4.7 Place Making: Cafetaria Seatings in Pontianak Waterfront

Pontianak Waterfront is occupied with many activities conducted by the space user, whether it is the local residents or outside visitors. In order to emphasize this interaction and make something out of it, the local merchants are exploiting the place by accommodating potential customer or buyer for each of their own individual business. The conceptualization of healthy interaction between these two parties are somewhat working, however, there are aspects that overlooked by them that provokes a new value within itself. Perhaps seen as a paradox, while the local entrepreneurs are trying to make-the-most of the comfort and the accommodation of the visitors, or perhaps even for themselves, they are lowering the curve at the same time. The presence of the dining seats that occupy the surface of the waterfront are considered to be obstructing the circulation within the space, not only according to the local merchants but to the general visitors as well. This situation produced a crowded human traffic that is able to influence on their behavioral unconsciousness in the daily life, because these dining seats are scheduled to be placed everyday. Each morning, the business conductors are independently arranging these seats manually. This proves that an everyday behavior is constructed by the relationship between the reachable space and its inhabitants. At the end of the day cycle spectrum, the risk of human intervention increased as an intention of unwell behavior that is often overlooked mostly occur, that is the risk of being robbed by unknown individual that is presence within the crowded traffic of the cramped space during the night where there is minimum vision. This mostly happen during weekends where the traffic is at the highest rate. This notion of fear produced by the activities of the waterfront's participant decreases the interest of several people in order to visit the place. They are afraid to be robbed if the crowd traffic are high, which extinguish their effort to visit the waterfront. As a contradiction, the intention to produce positive aspects within the relationship of the place occupiers often yield an overlooked negative factors.

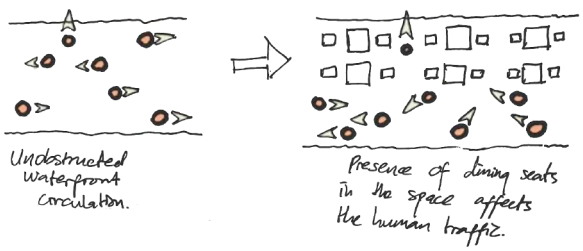


Figure 135. Changes in human traffic due to objects obstruction within the waterfront.
Source: Author (2022)

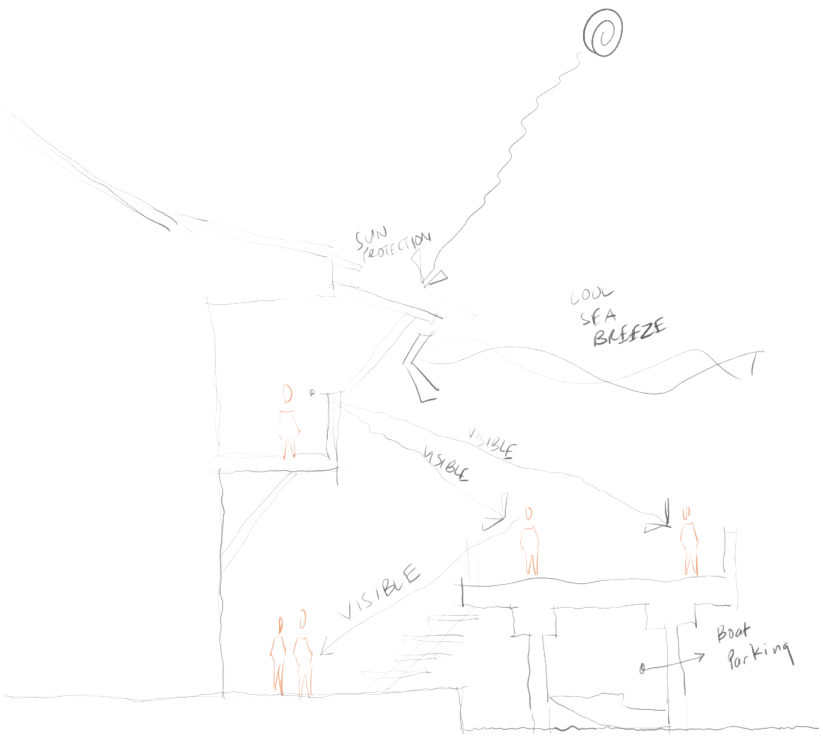




Figure 136. A coffee shop in Pontianak Waterfront.
Source: Author (2022)



Figure 137. A coffee shop in Pontianak Waterfront.
Source: Author (2022)

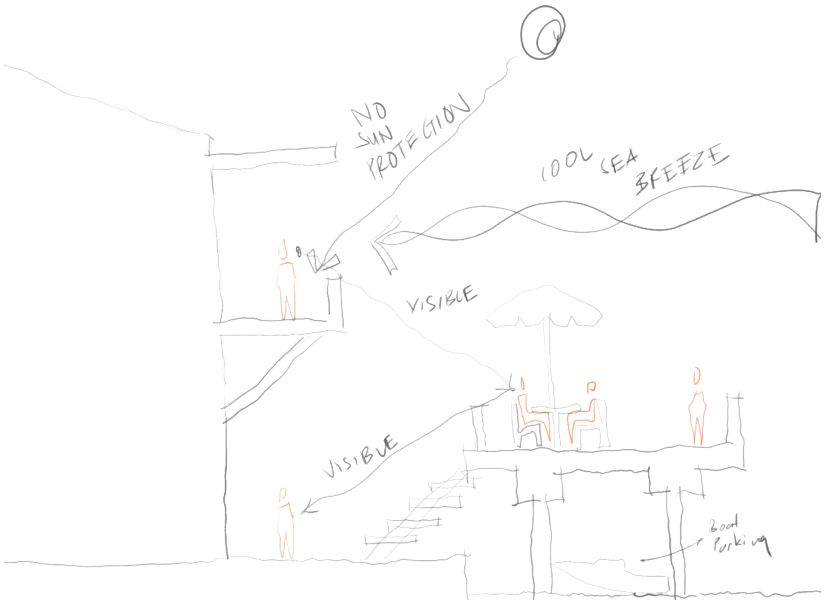
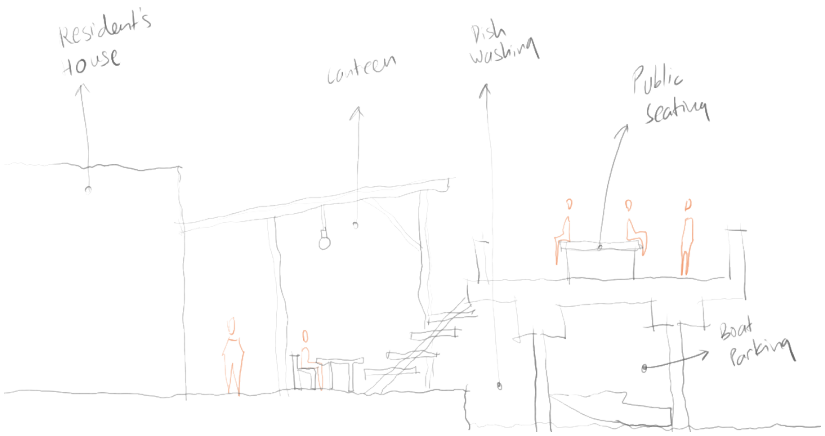




Figure 138. A merchant stall in Pontianak Waterfront.
Source: Author (2022)



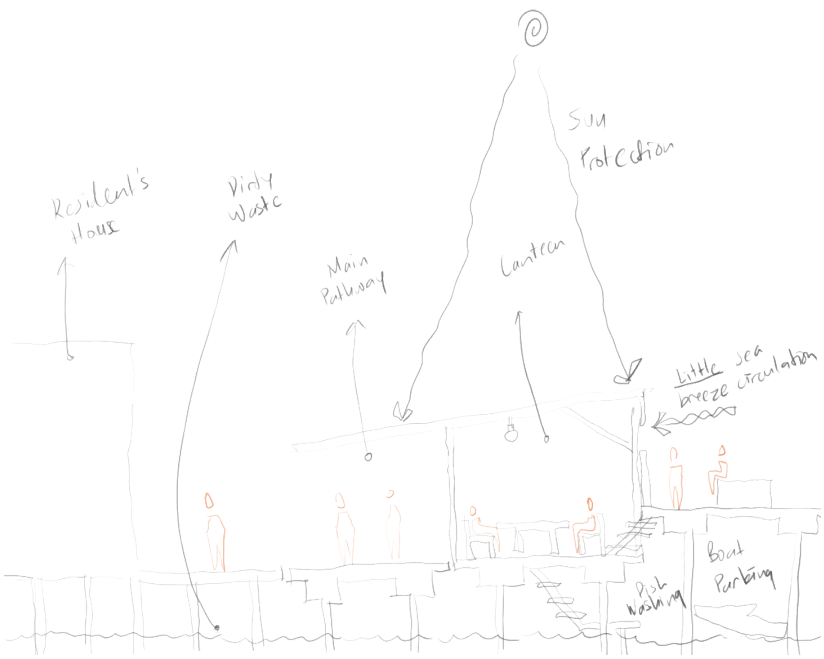
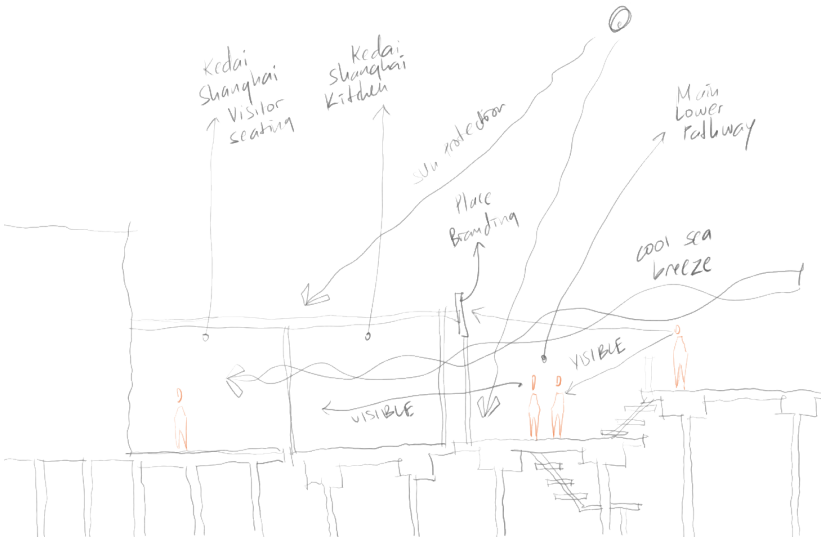




Figure 139. A merchant stall in Pontianak Waterfront.
Source: Author (2022)



Figure 140. A merchant stall in Pontianak Waterfront.
Source: Author (2022)



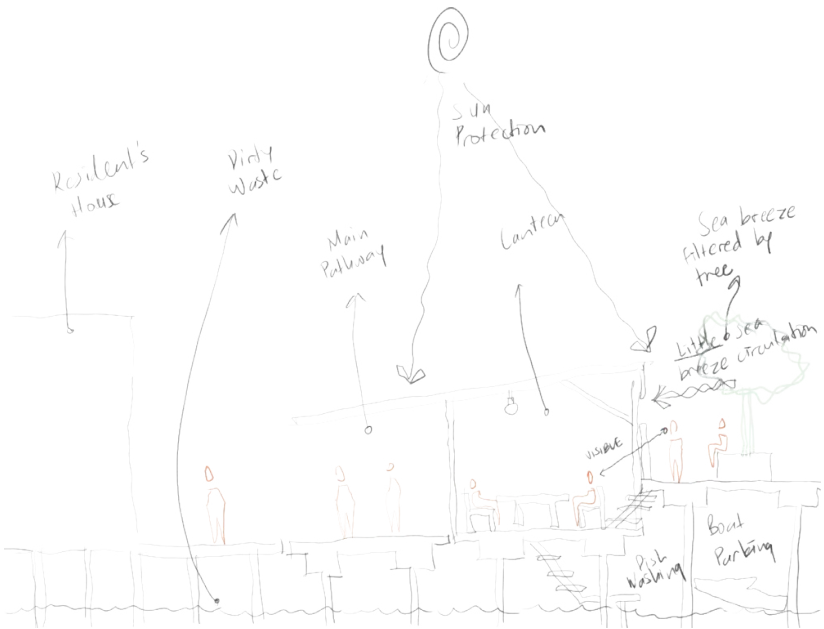




Figure 141. A row of merchant stalls in Pontianak Waterfront.
Source: Author (2022)



Figure 142. Plastic waste beneath one of the resident's house in Pontianak Waterfront.
Source: Author (2022)



Figure 143. A clump of variant types of waste in Pontianak Waterfront.
Source: Author (2022)

4.8 Waste Condition: Settlement Slums

Surprisingly, the settlements in Pontianak Waterfront is able to be perceived as slums. This is due to the high level of area density along with the activities that are occured around the area. The poor waste management caused the excess waste from food production and consumption leads to heaps clumps of trash, including plastics. Even though this matter is overlooked, these wastes is able to be seen even from the waterfront itself, making the visitors perceive bad notion to the locals. Not only that, in several parts of the waterfront are odor-polluted due to the wastes. Furthermore, with the high density and closely-placed houses, especially houses with panggung foundation, the under hollow foundation is the perfect spot for wastes to get together.

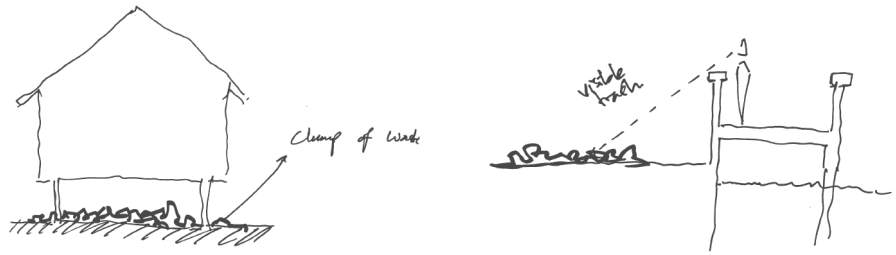


Figure 144. Pollution of slum wastes in Pontianak Waterfront
Source: Author (2022)



Figure 145. Foundation structure of the wooden houses in Pontianak Waterfront.
Source: Author (2022)



Figure 146. Foundation structure of the wooden merchant stalls in Pontianak Waterfront.
Source: Author (2022)



Figure 147. Foundation structure of the concrete waterfront itself.
Source: Author (2022)

4.9 Foundation Structures in Pontianak Waterfront

Many of the structures in the waterfront area applied the similar method of foundation construction. Suitable for the soil quality in Kalimantan, wooden pile foundation or *pondasi kayu kerucuk* is what familiarly mentioned within the locals, is one if not the most common foundation construction method in all of Kalimantan due to the wetland soil quality. The wetter the stiffer the foundation, the more soaked the stronger the foundation. On the other hand, reinforced concrete pile foundation is used for heavier construction such as the waterfront itself. The height between the water surface and the beam of the waterfront produced an availability in many behavior such as parking locals boat beneath it, allowing direct access between Kapuas River and the buildings across the waterfront.

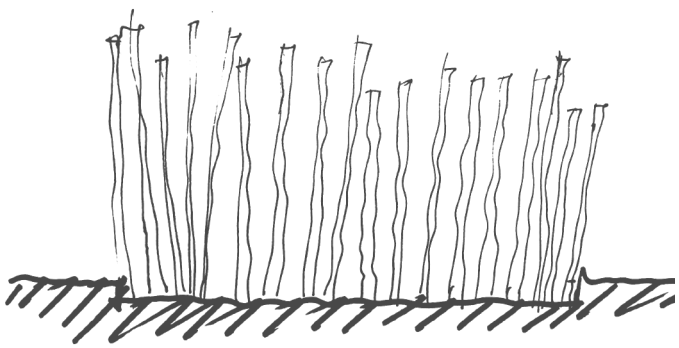


Figure 148. Wooden pile foundation or *pondasi kayu kerucuk* construction process.
Source: Author (2022)

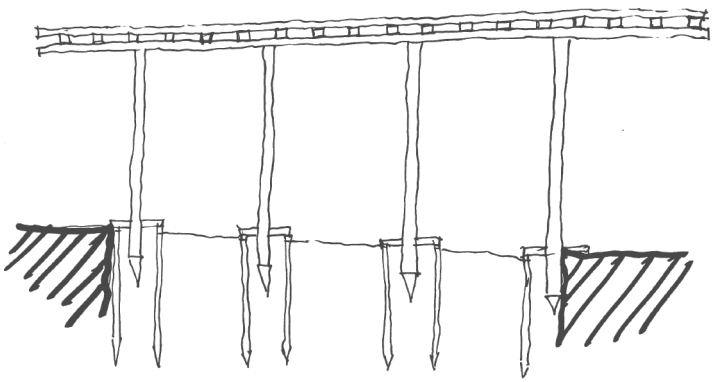


Figure 149. Wooden pile foundation or *pondasi kayu kerucuk* finished construction.
Source: Author (2022)

4.10 Pontianak Waterfront Impact - After the Construction of the Waterfront

From the result of research analysis by Mulyadi, M., Nurhidayati, E., Puryanti, V. (2019) plus several additions by the Author (2022)

Environmental Condition

- Accommodation of garbage dump
- Increased volume of garbage
- Many of the residential houses are demolished
- Available mushalla, mosque, gazebo, and pier

Positive Impact

- More organized
- Opens up business opportunities
- Residential houses are facing the river
- Become a tourist attraction: changing the stigma of society
- Existing cafes are extended in terms of area

Social Condition

- Selling products / forming a stall on the waterfront is prohibited
- Vehicles are not allowed to pass on the waterfront, including motorcycle
- Building latrines / toilets in the river body is prohibited

Negative Impact

- Reducing the river body
- Harmful for the water ecosystem
- Garbage pollution
- Besides getting more visitors to the area, the residents feel aggrieved due to the compensation is not as expected
- Merchants who used to sell fish and vegetables are now selling fried foods instead
- Lost identity of the indegenous people of Kapuas river

Economic Condition

- Opens up business opportunities
- Increases the local community's income
- Opens up job vacancies
- Increased tourism, more local entrepreneur are opening boat sightseeing business along the river



LIFE ON WATER

Figure 150. Children playing around at the tip of the waterfront.
Source: Author (2022)



Figure 151. Life on Pontianak Waterfront
Source: Author (2022)

4.11 Micro, Small, and Medium Enterprises Categorization in Pontianak Waterfront





Micro Enterprise

MSME: Micro

These are the group of micro-scale enterprises that requires small spaces.

Building
1 - 2 - 6 - 8

Small Enterprise

MSME: Small

These are the group of small-scale enterprises that requires medium spaces.

Building
1 - 2 - 6 - 8



Medium Enterprise

MSME: Medium

These are the group of medium-scale enterprises that requires large spaces.



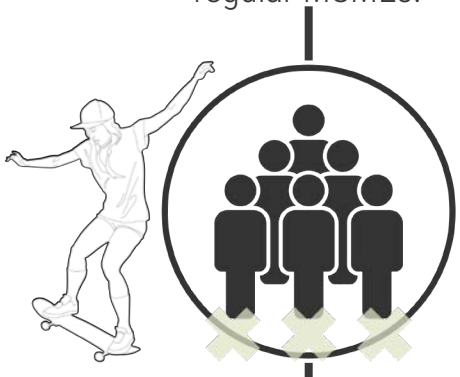
Building
1 - 2 - 6 - 8



Non-Condusive Enterprise

MSME:
Non-Condusive

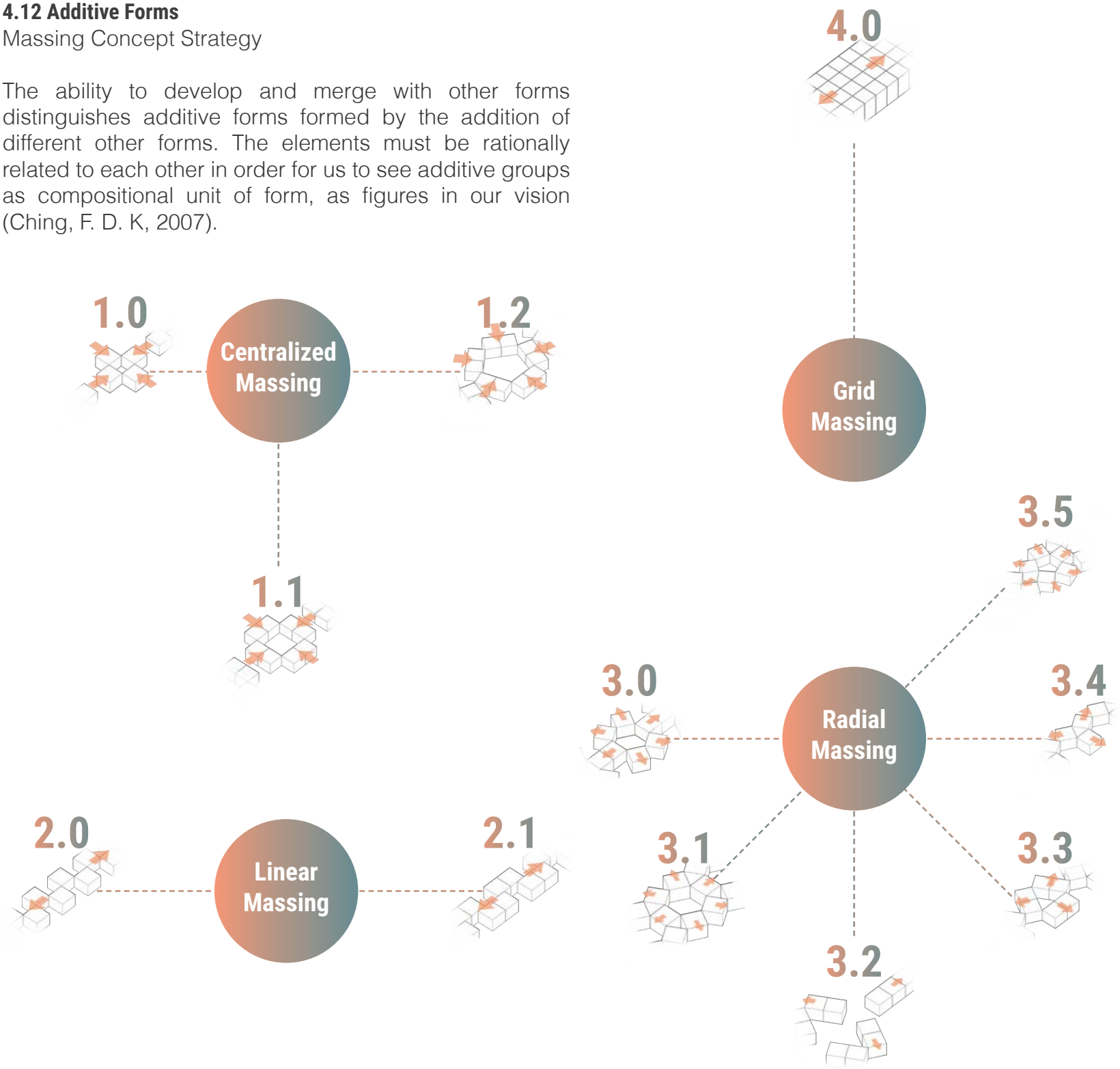
These are the group of various-scale enterprises that requires larger spaces than regular MSMEs.



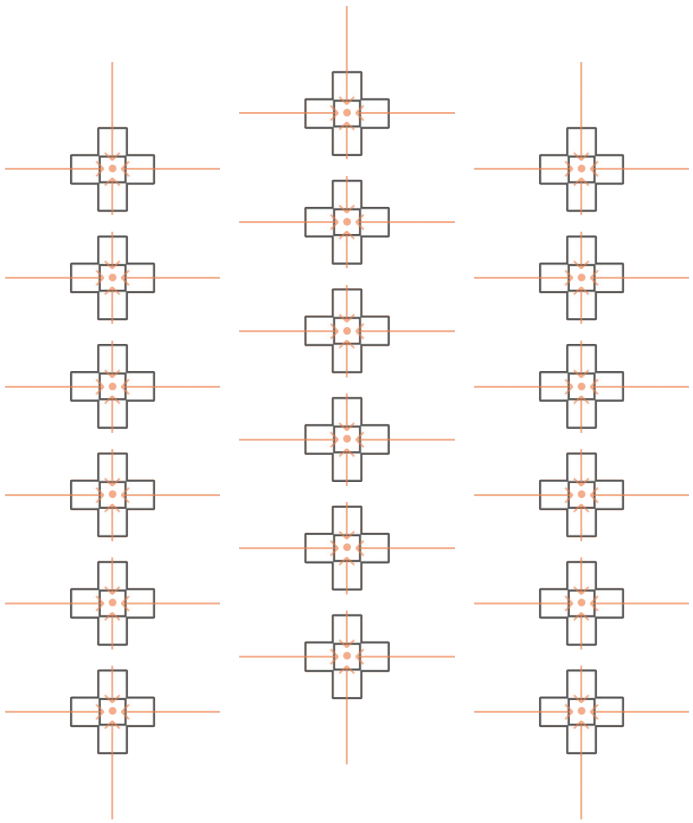
North & South
Recycled Park

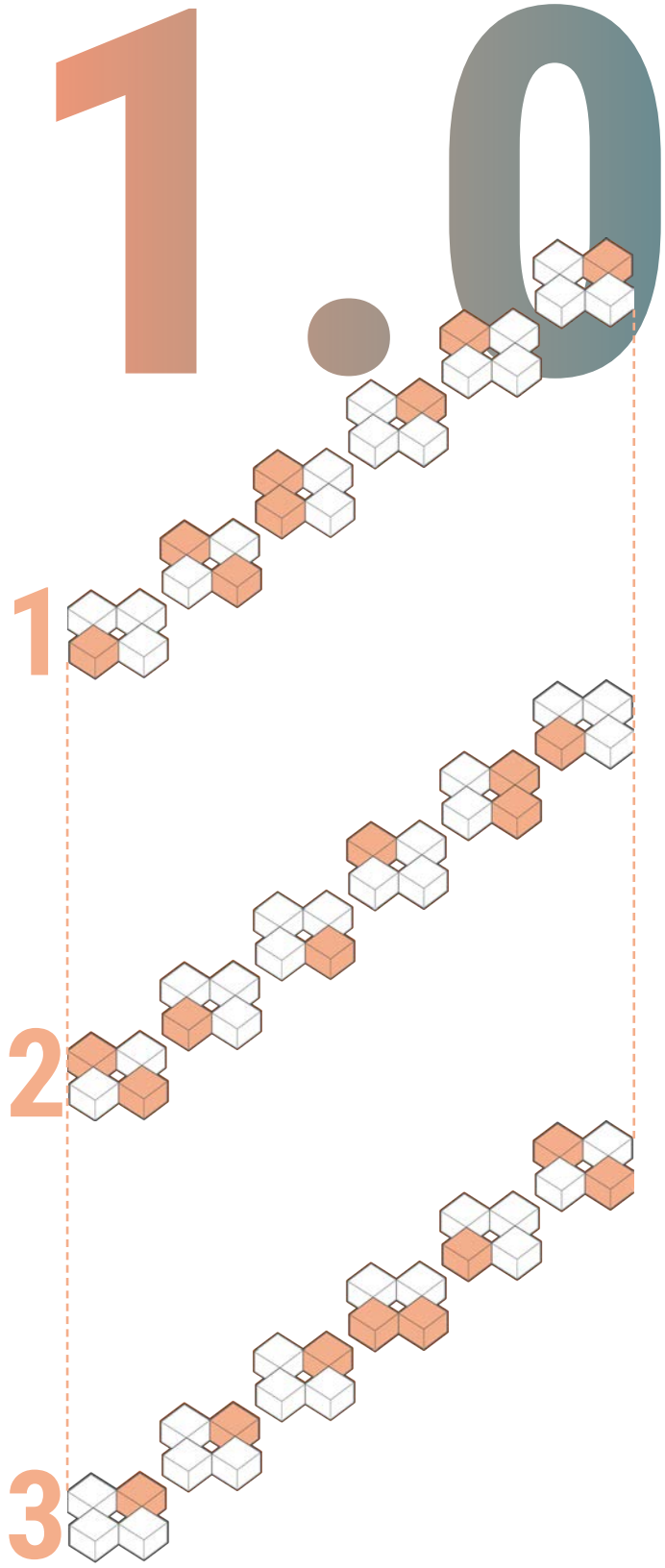
4.12 Additive Forms
Massing Concept Strategy

The ability to develop and merge with other forms distinguishes additive forms formed by the addition of different other forms. The elements must be rationally related to each other in order for us to see additive groups as compositional unit of form, as figures in our vision (Ching, F. D. K, 2007).



Massing Concept
Alternative 1.0

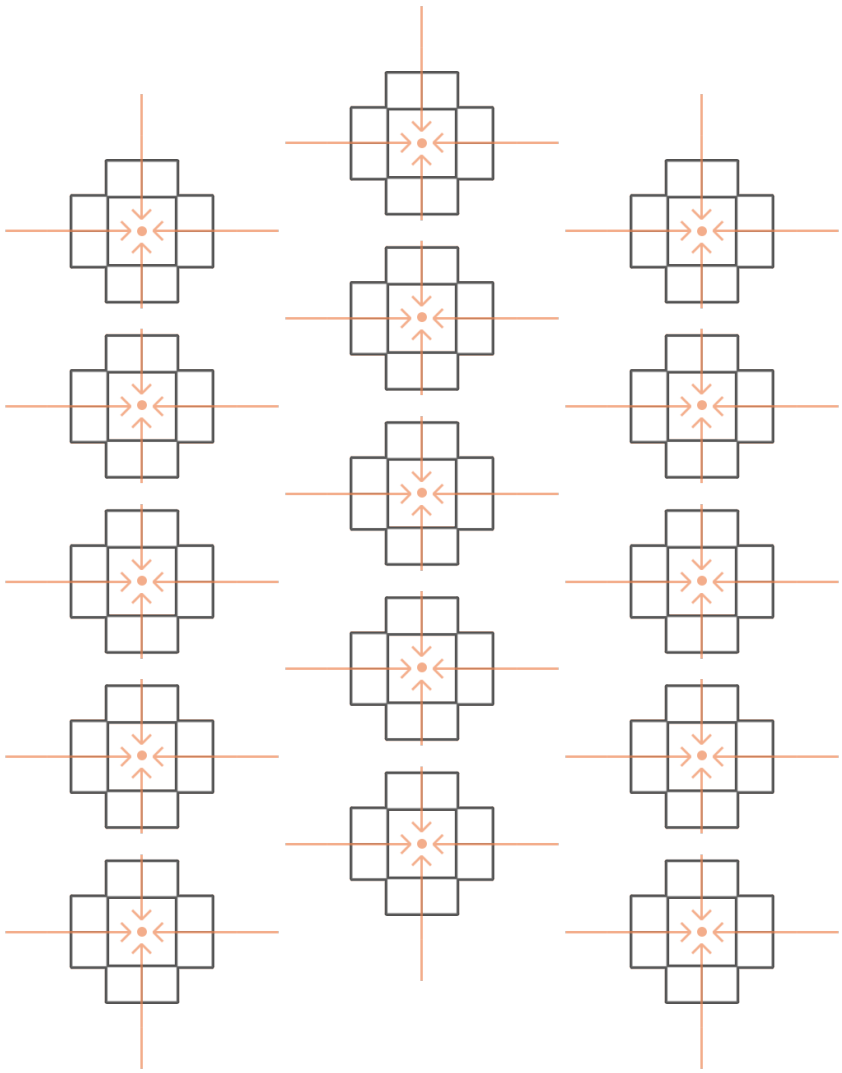


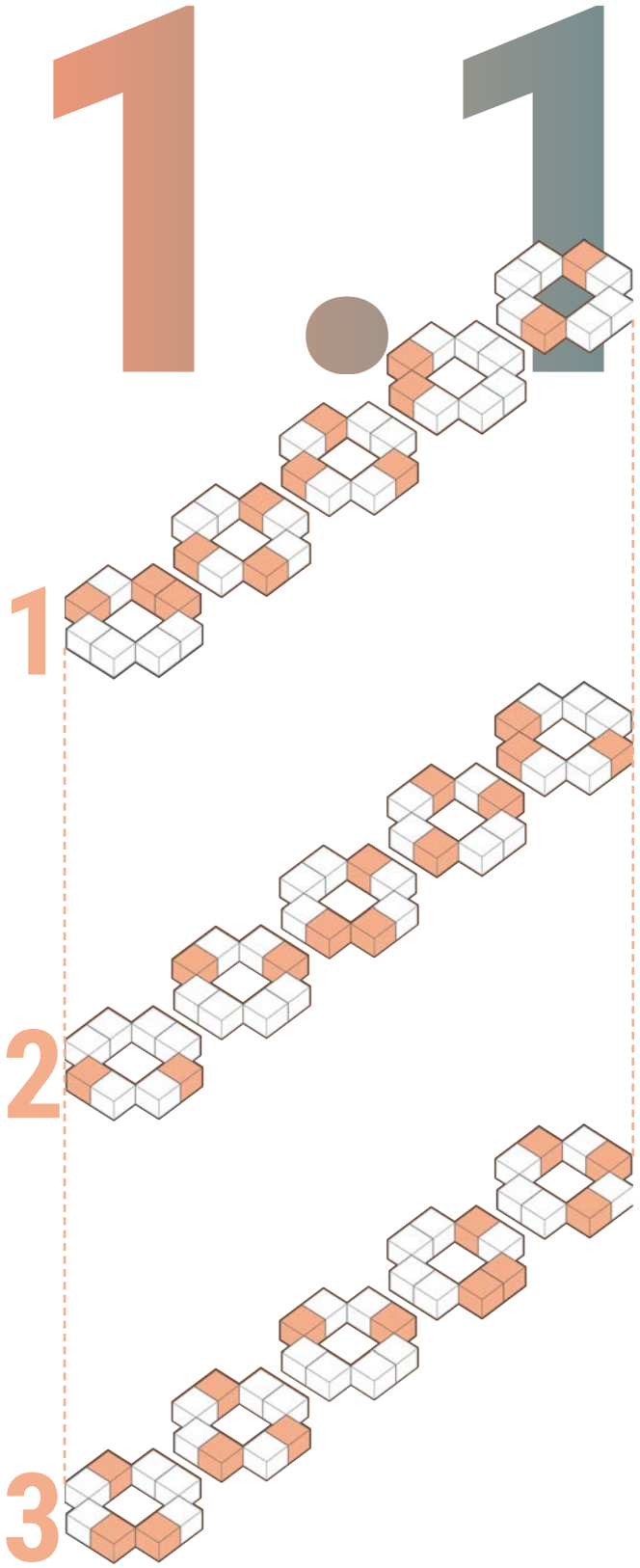


Centralized Massing 1
Centralized massing is a collection of subsidiary forms gathered around a dominan form-parent (Ching, F. D. K, 2007).

The centralized arrangement is able to form relationships between the spaces by the connection placed closely to each of the modules.

Massing Concept
Alternative 1.1

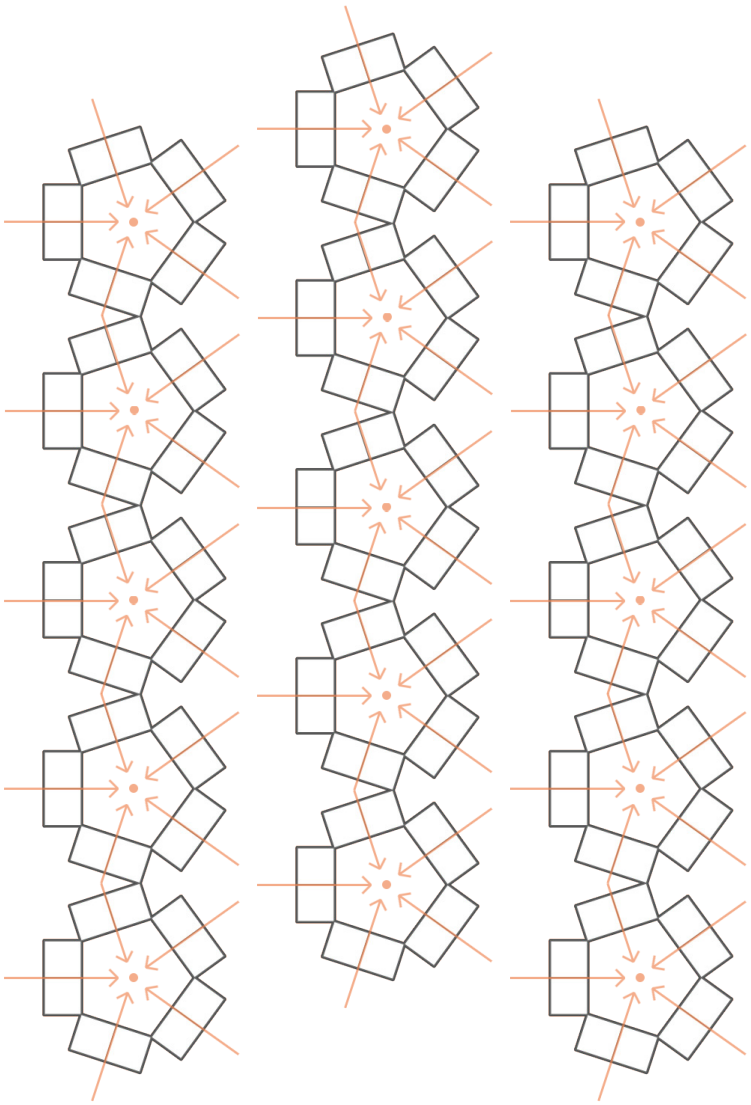


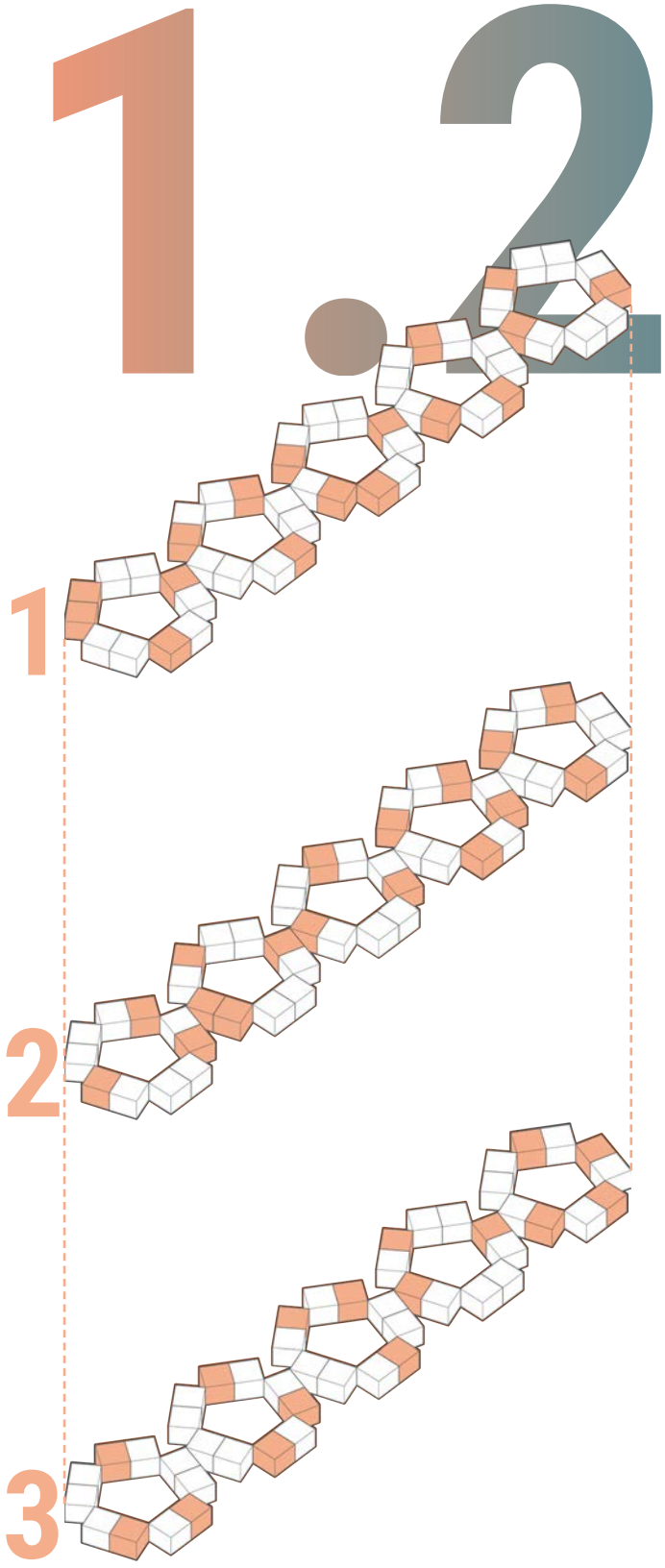


Centralized Massing 2
Centralized massing is a collection of subsidiary forms gathered around a dominan form-parent (Ching, F. D. K, 2007).

The centralized arrangement is able to form relationships between the spaces by the connection placed closely to each of the modules.

Massing Concept
Alternative 1.2

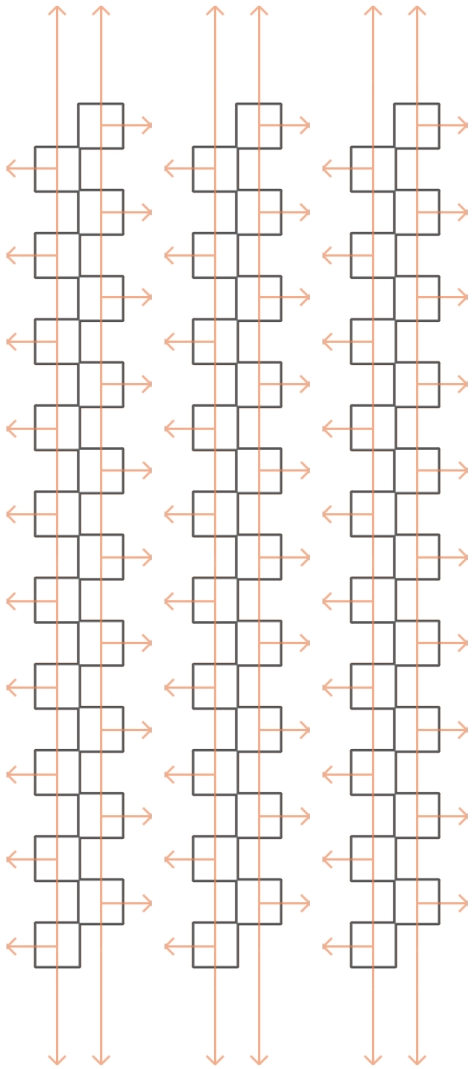


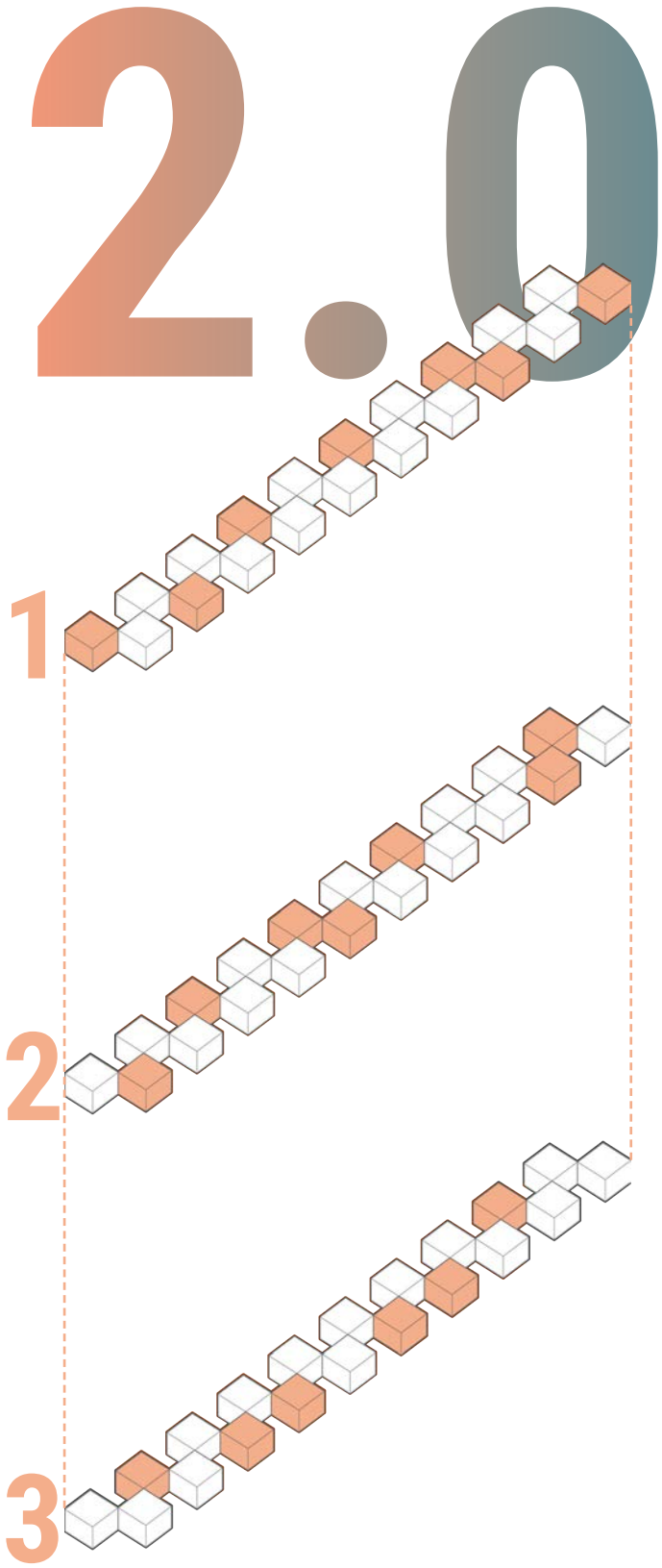


Centralized Massing 3
Centralized massing is a collection of subsidiary forms gathered around a dominan form-parent (Ching, F. D. K, 2007).

The centralized arrangement is able to form relationships between the spaces by the connection placed closely to each of the modules.

Massing Concept
Alternative 2.0

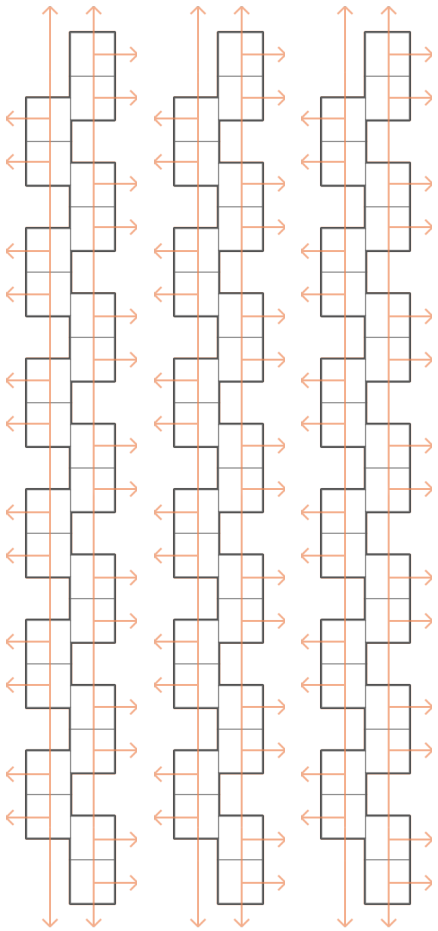


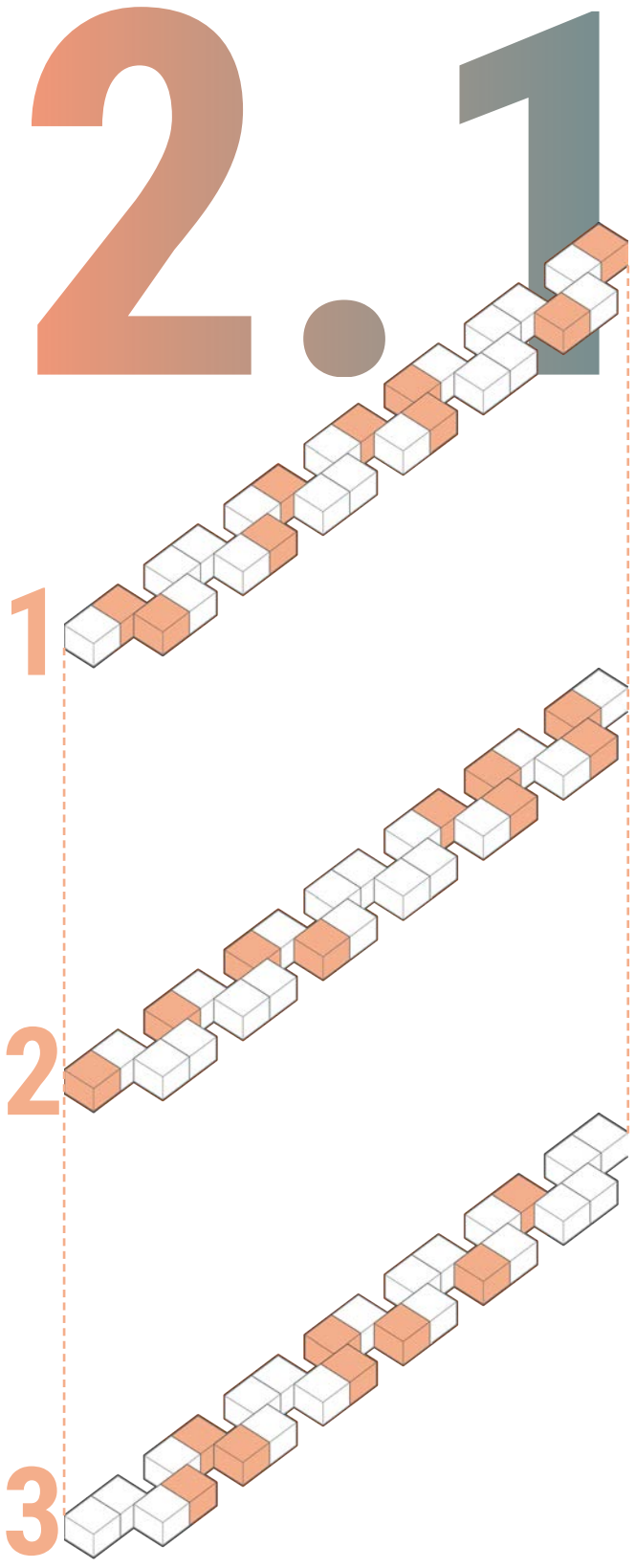


Linear Massing 1
Linear massing is a row of forms arranged in a certain order of sequential order (Ching, F. D. K, 2007).

The linear arragenment is quite limited in the variation of the circulation. However, the sense of movement is the strongest in this arrangement.

Massing Concept
Alternative 2.1



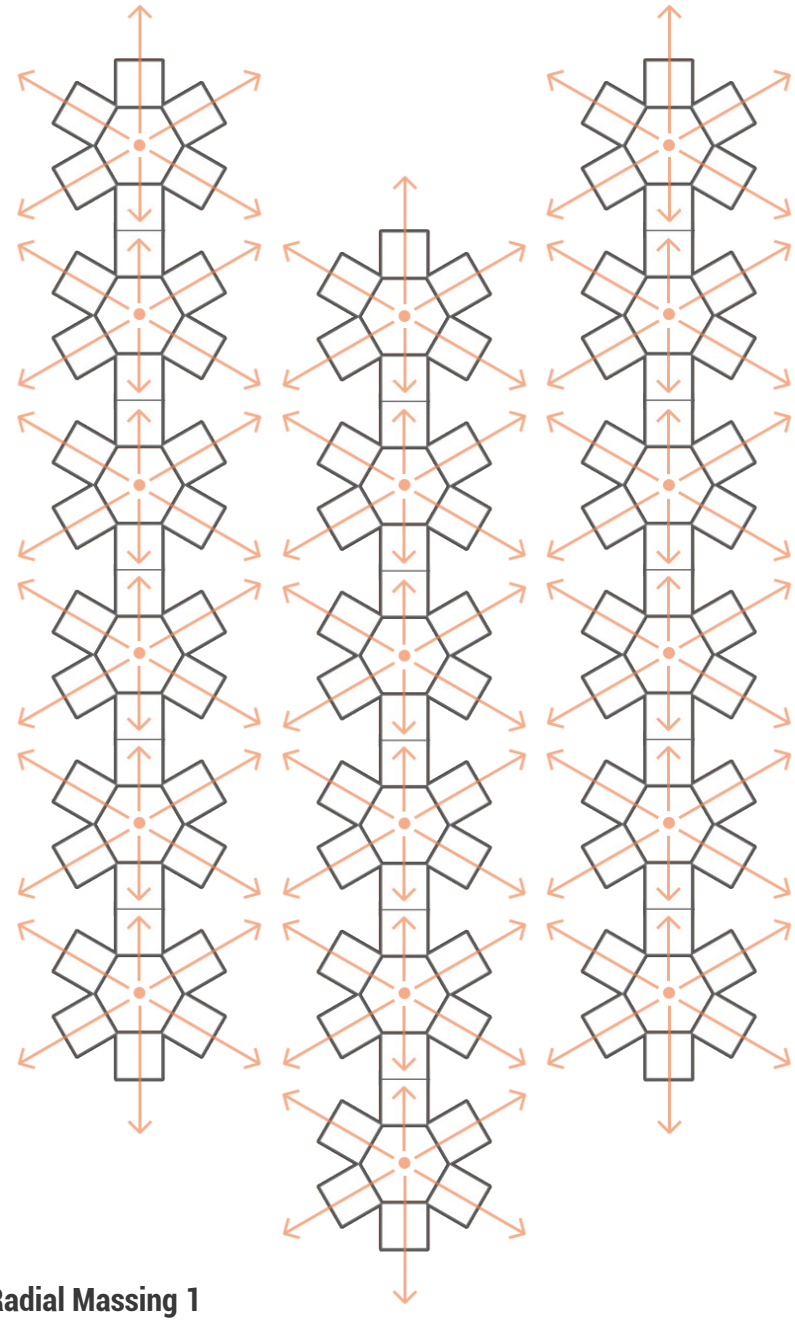


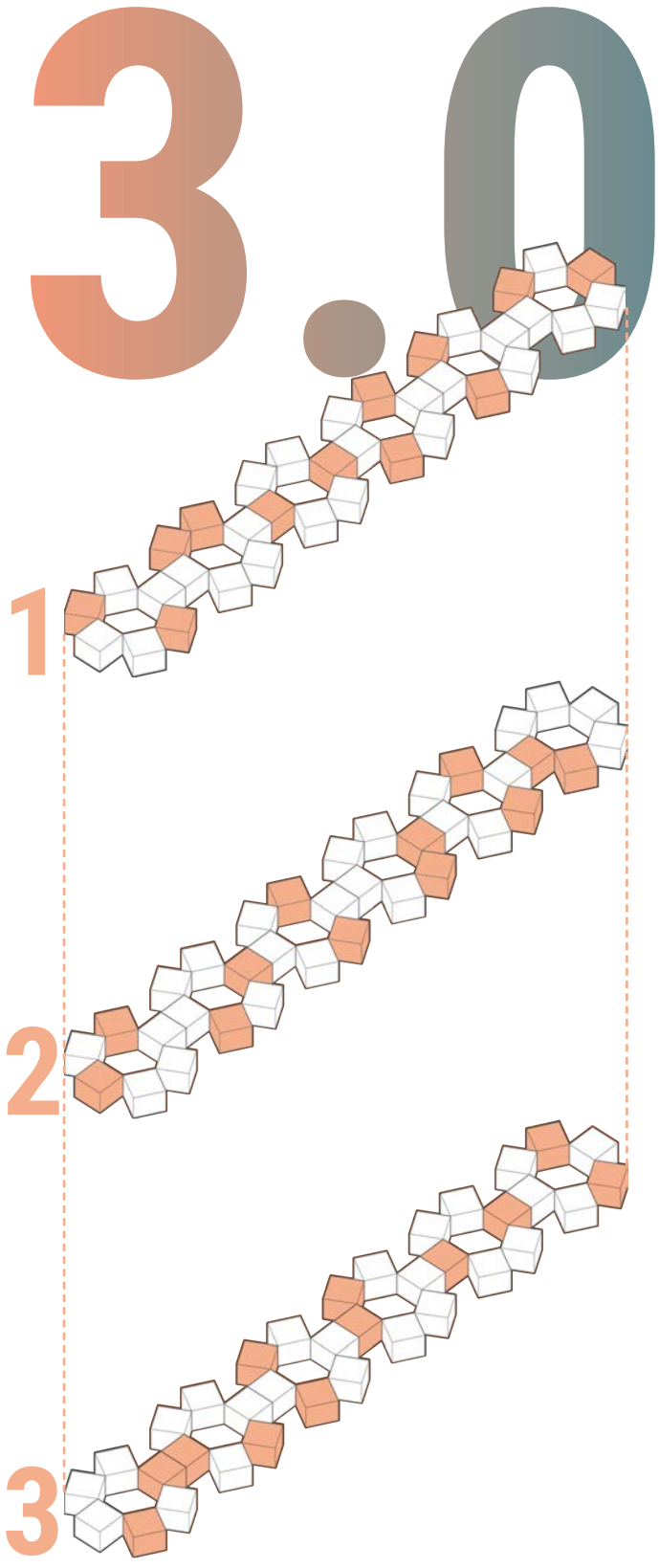
Linear Massing 2
Linear massing is a row of forms arranged in a certain order of sequential order (Ching, F. D. K, 2007).

The linear arragenment is quite limited in the variation of the circulation. However, the sense of movement is the strongest in this arrangement.

Massing Concept

Alternative 3.0



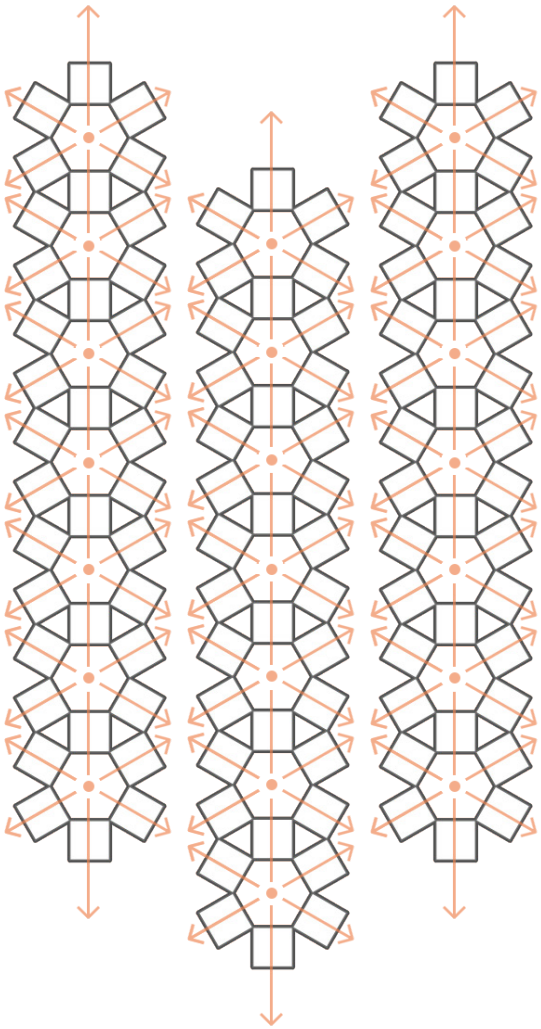


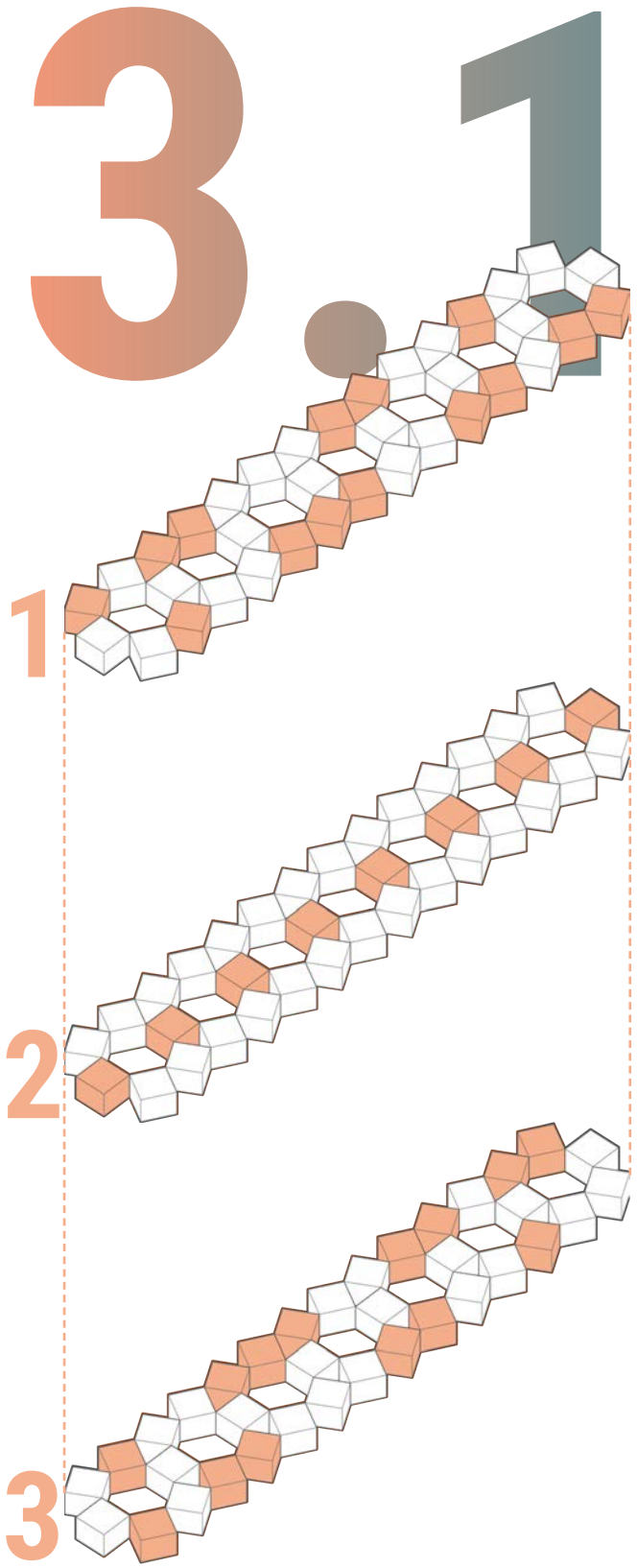
Radial Massing 1

Radial massing is a composition of linear shapes extending out from a central shape in a radial manner (direction of the radius) (Ching, F. D. K, 2007).

The radial arrangement developed the most of the relationships between the spaces and is able to define a clear circulation that focuses the human traffic in the middle.

Massing Concept
Alternative 3.1

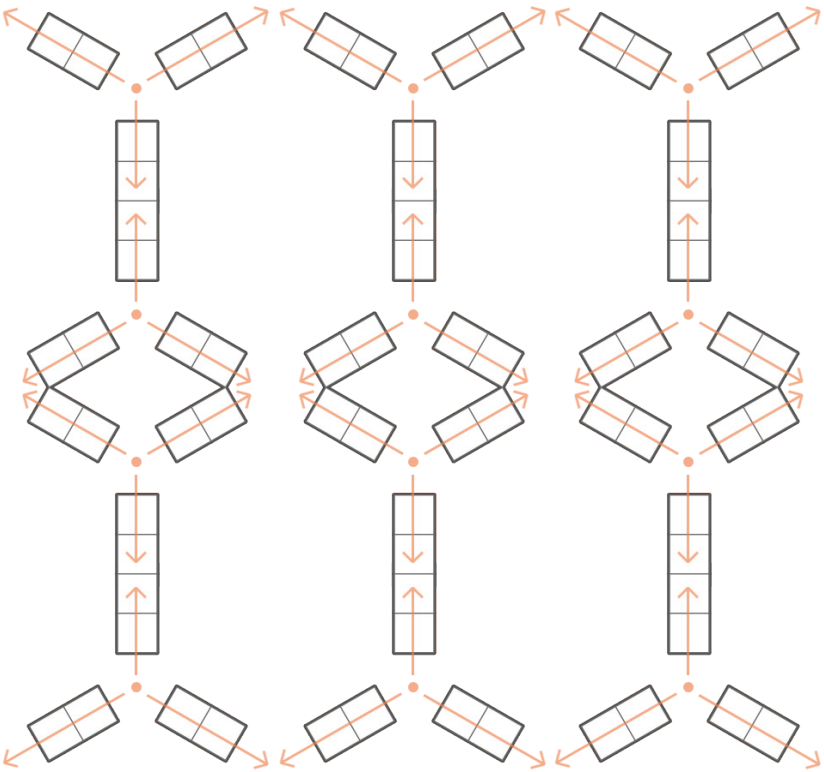


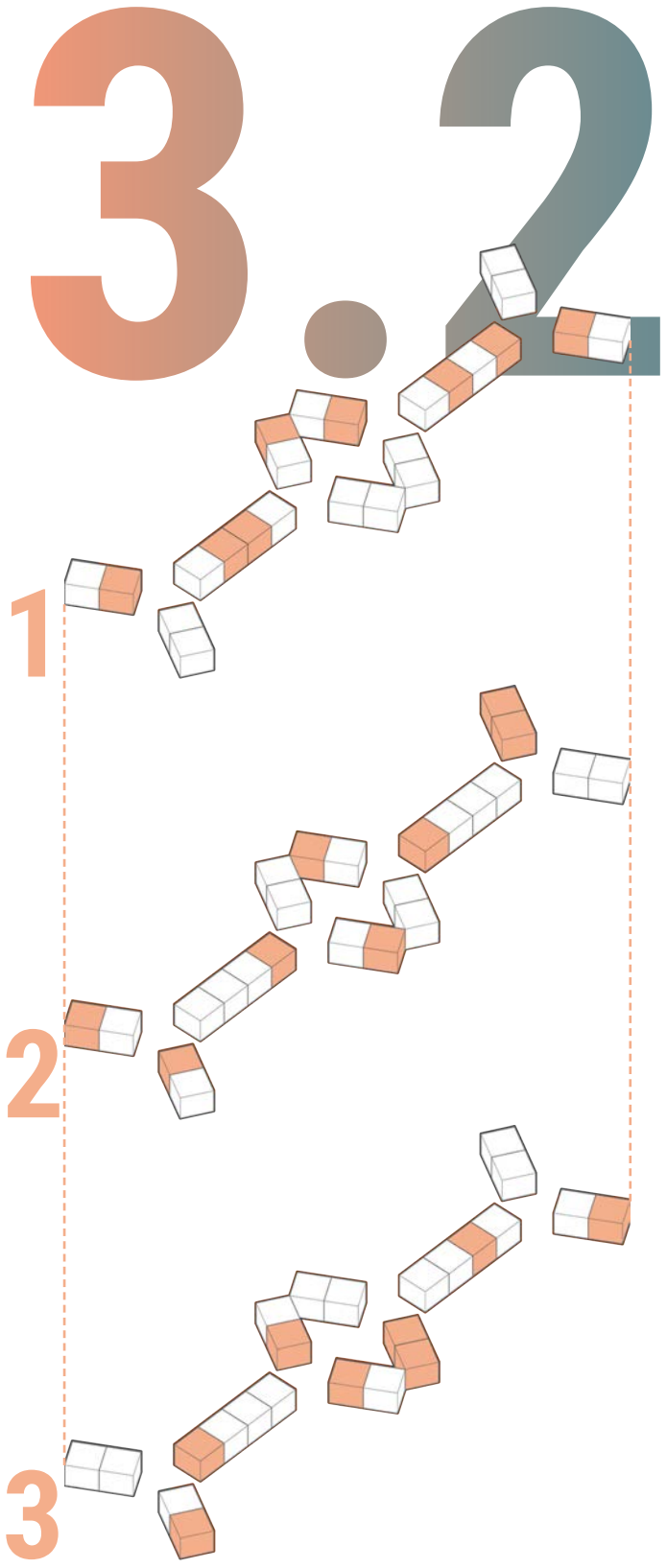


Radial Massing 2
Radial massing is a composition of linear shapes extending out from a central shape in a radial manner (direction of the radius) (Ching, F. D. K, 2007).

The radial arrangement developed the most of the relationships between the spaces and is able to define a clear circulation that focuses the human traffic in the middle.

Massing Concept
Alternative 3.2

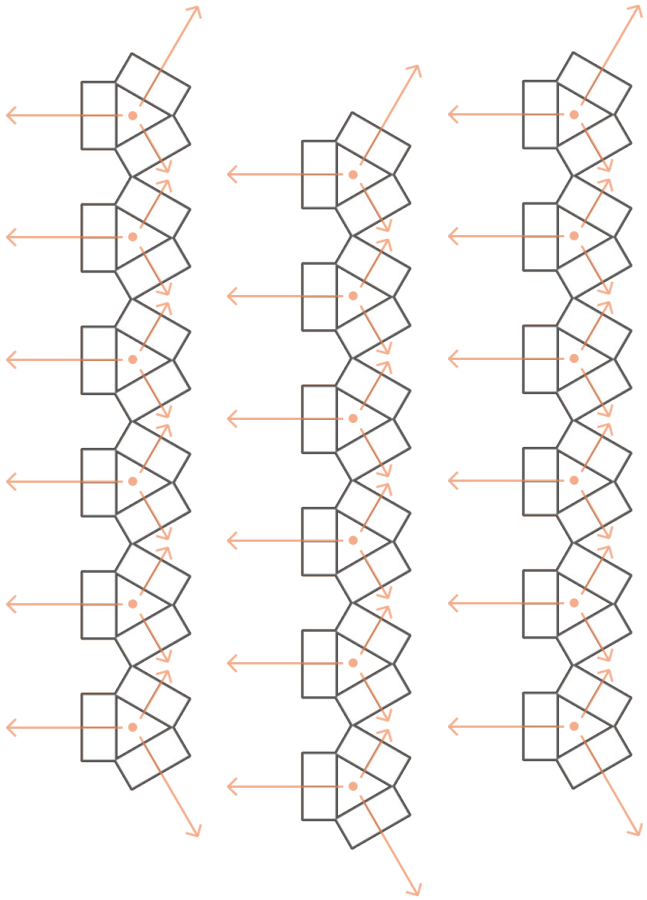


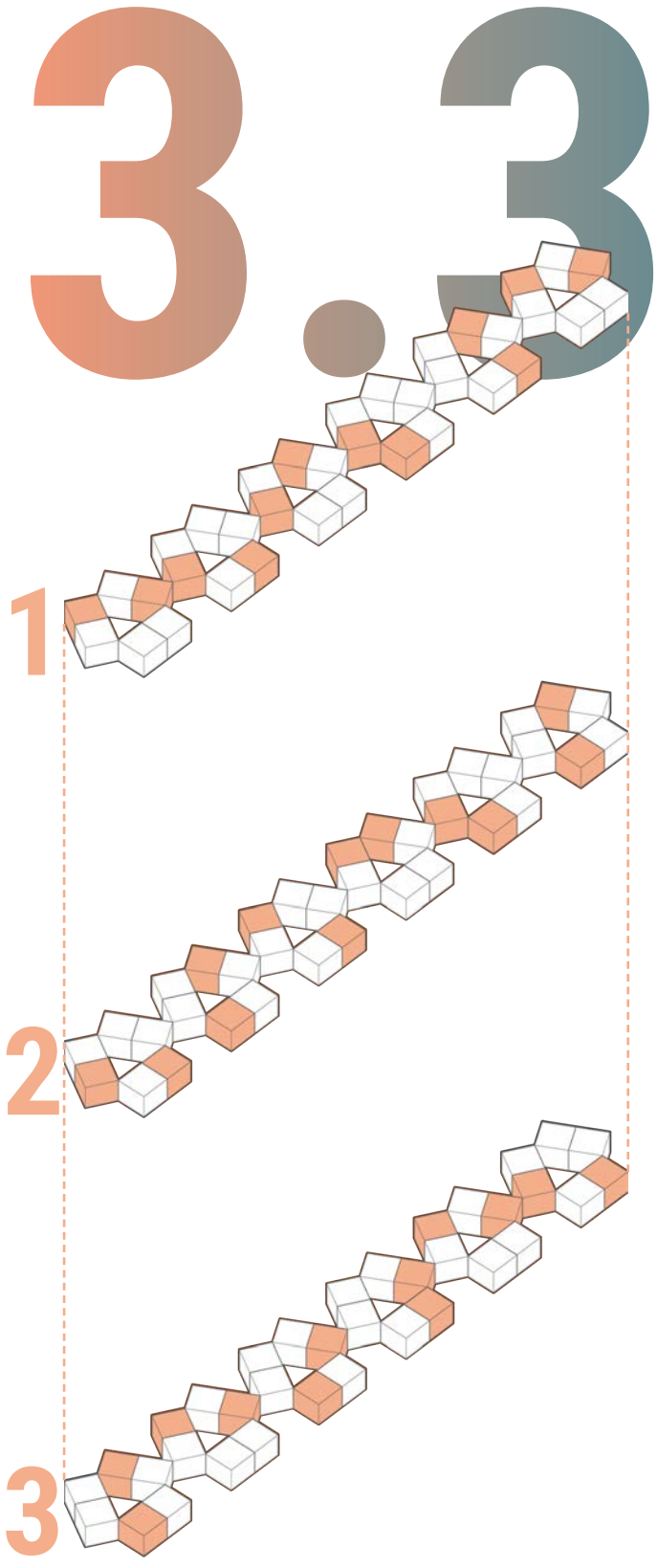


Radial Massing 3
Radial massing is a composition of linear shapes extending out from a central shape in a radial manner (direction of the radius) (Ching, F. D. K, 2007).

The radial arrangement developed the most of the relationships between the spaces and is able to define a clear circulation that focuses the human traffic in the middle.

Massing Concept
Alternative 3.3

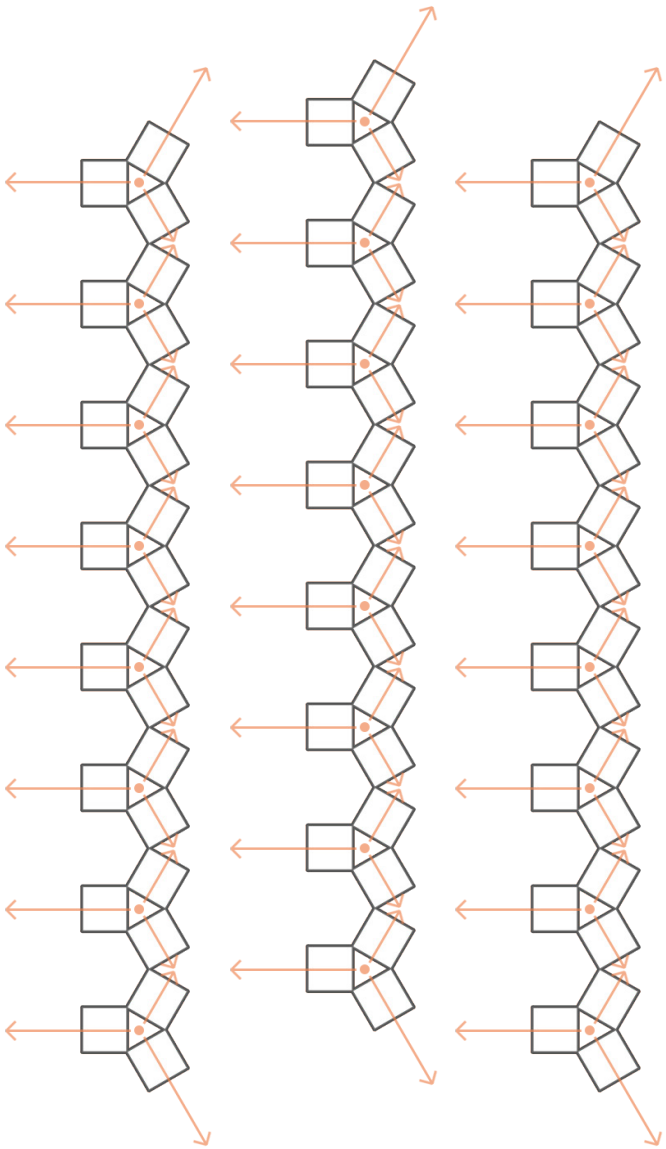


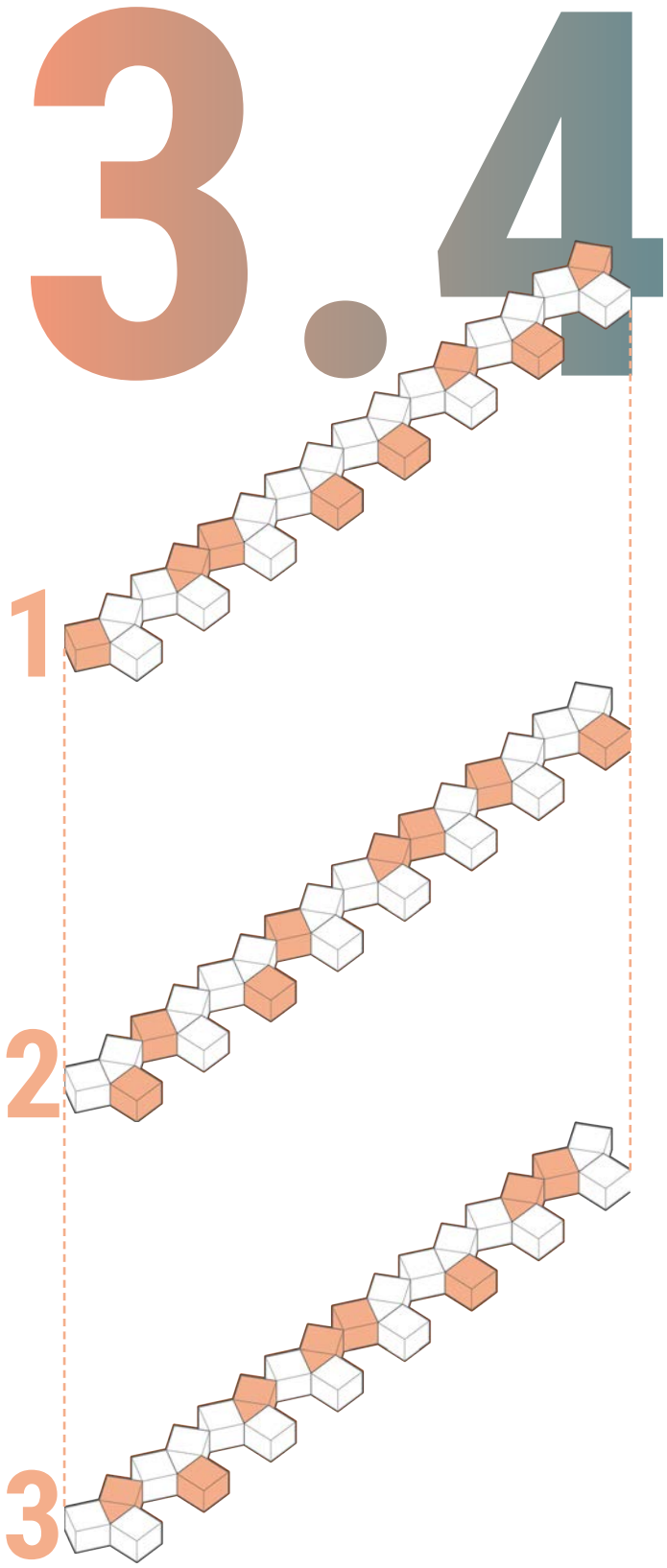


Radial Massing 4
Radial massing is a composition of linear shapes extending out from a central shape in a radial manner (direction of the radius) (Ching, F. D. K, 2007).

The radial arrangement developed the most of the relationships between the spaces and is able to define a clear circulation that focuses the human traffic in the middle.

Massing Concept
Alternative 3.4

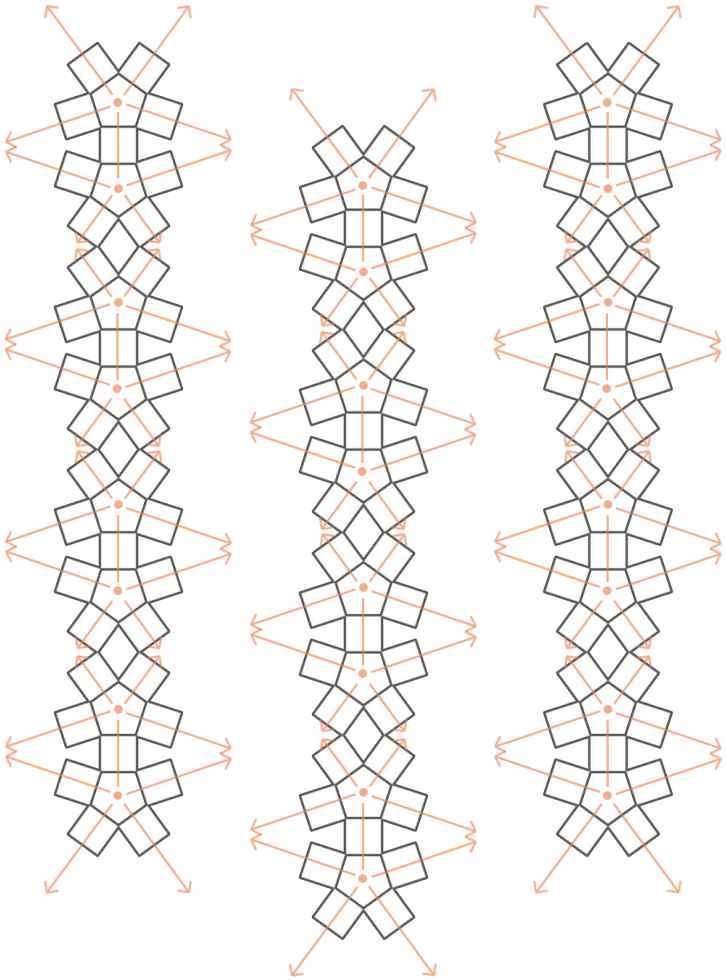


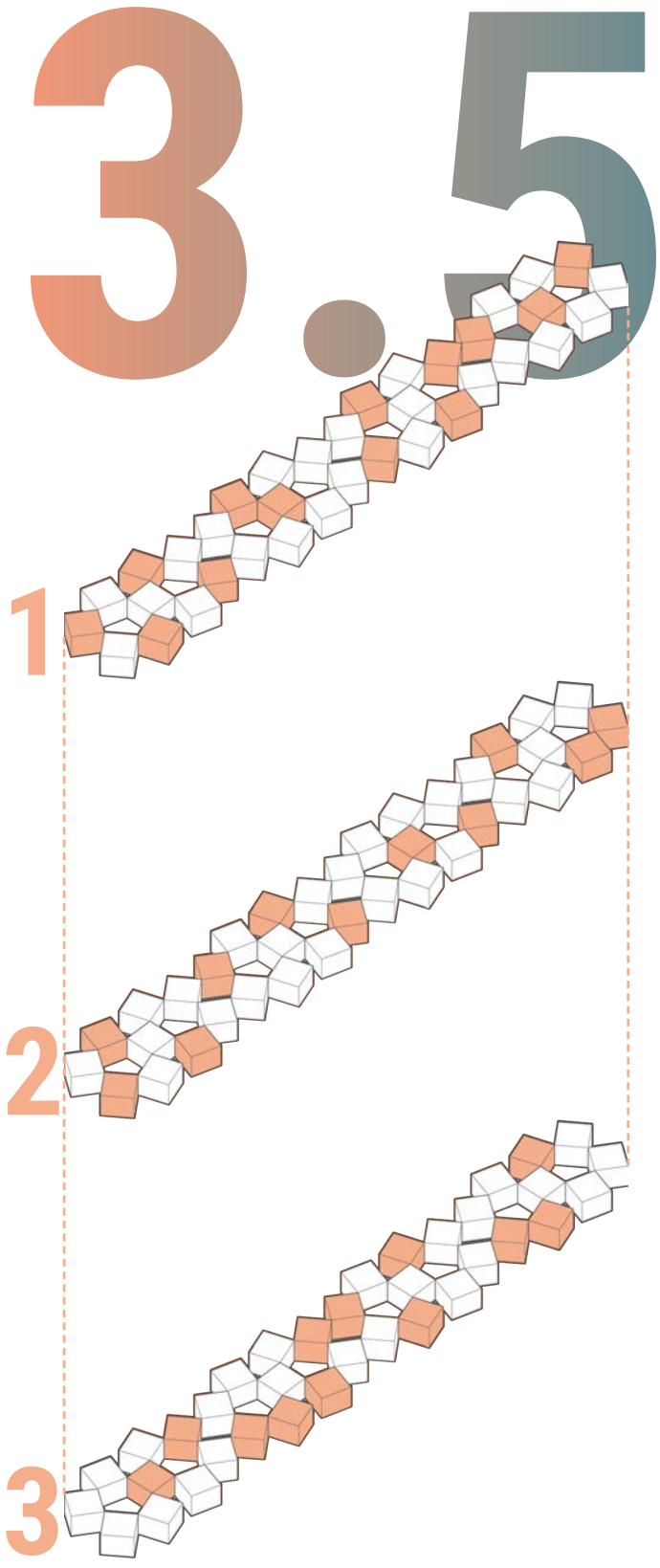


Radial Massing 5
Radial massing is a composition of linear shapes extending out from a central shape in a radial manner (direction of the radius) (Ching, F. D. K, 2007).

The radial arrangement developed the most of the relationships between the spaces and is able to define a clear circulation that focuses the human traffic in the middle.

Massing Concept
Alternative 3.5



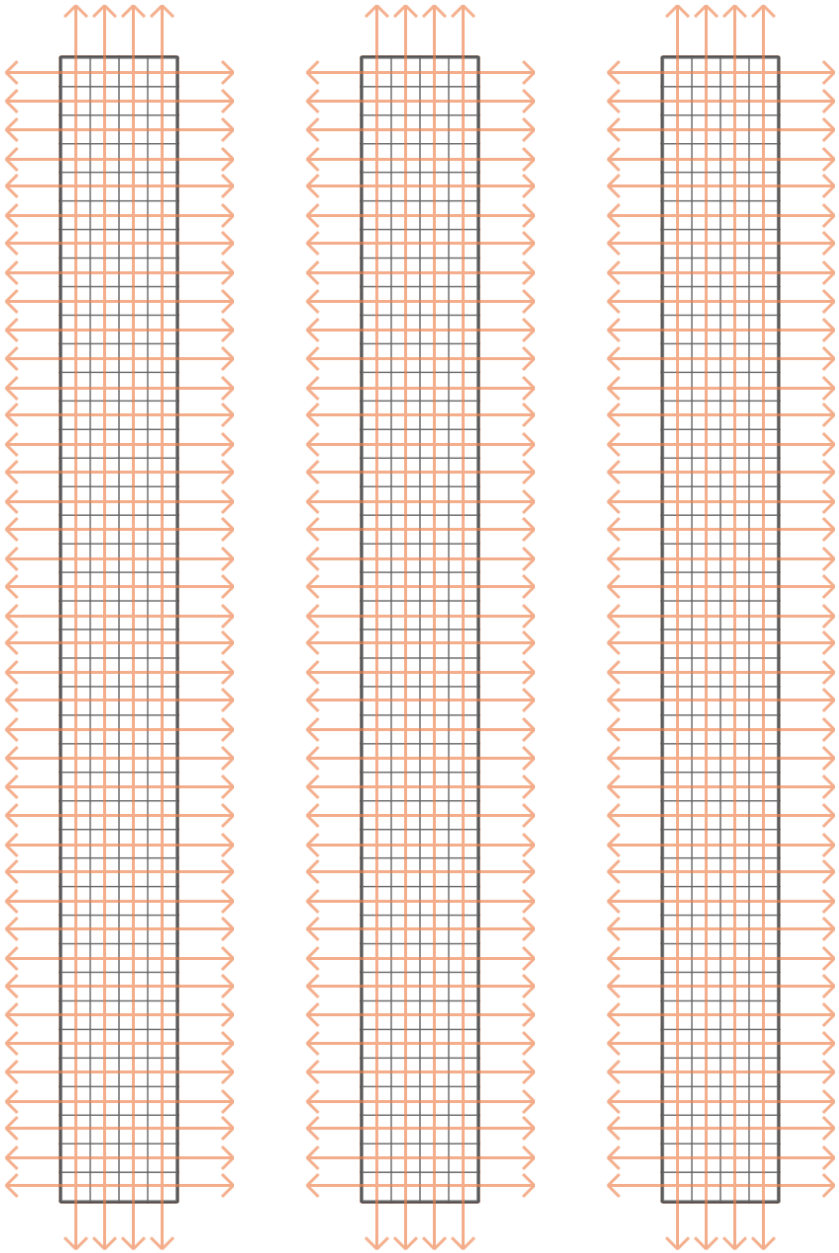


Radial Massing 6
Radial massing is a composition of linear shapes extending out from a central shape in a radial manner (direction of the radius) (Ching, F. D. K, 2007).

The radial arrangement developed the most of the relationships between the spaces and is able to define a clear circulation that focuses the human traffic in the middle.

Massing Concept

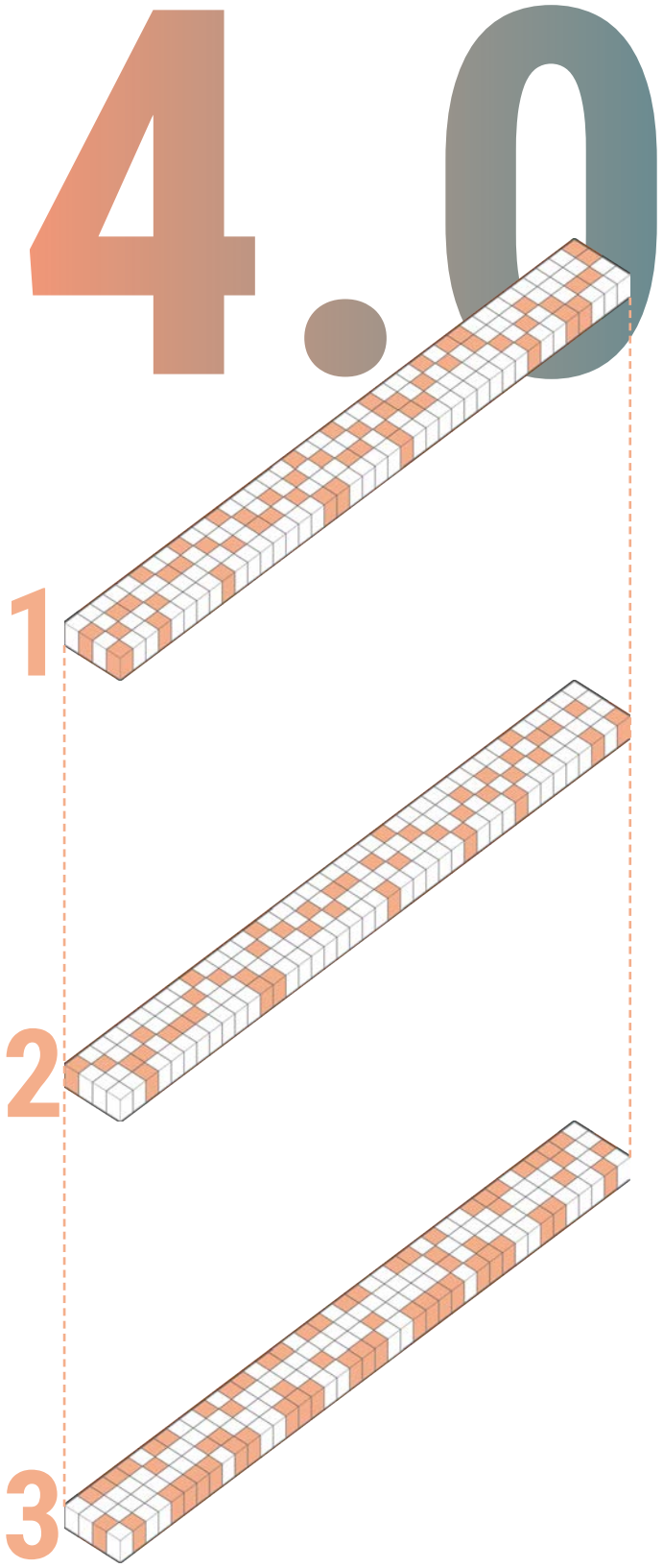
Alternative 4.0

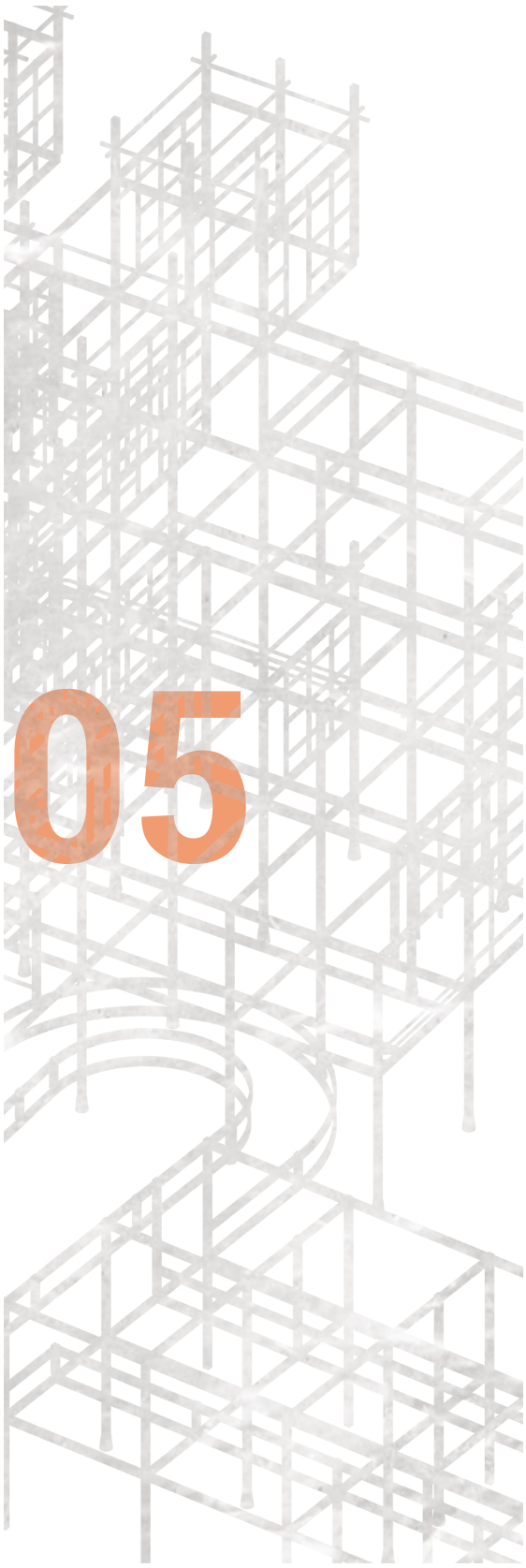


Grid Massing 1

Grid massing is a set of modular shapes connected and organized by a three-dimensional web connection (Ching, F. D. K, 2007).

Grid arrangement is the most common among all the alternatives and the most easy to arrange spaces with clear relationships and human traffic management.

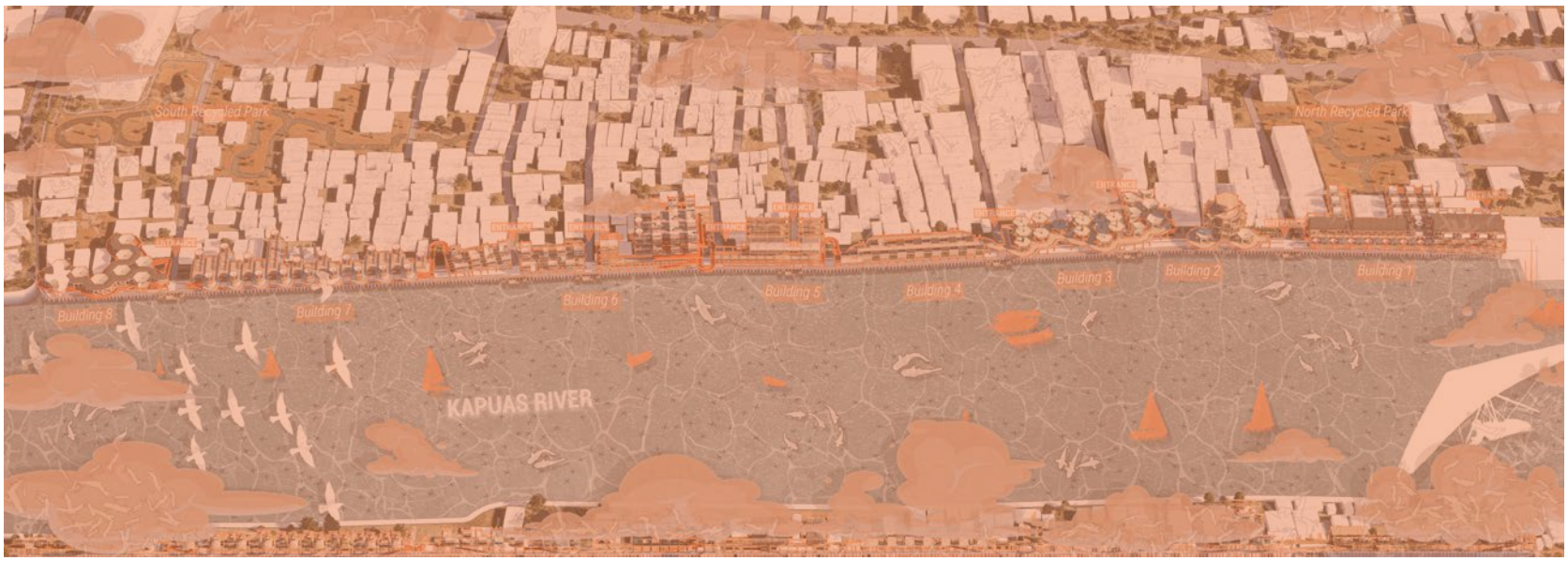



05



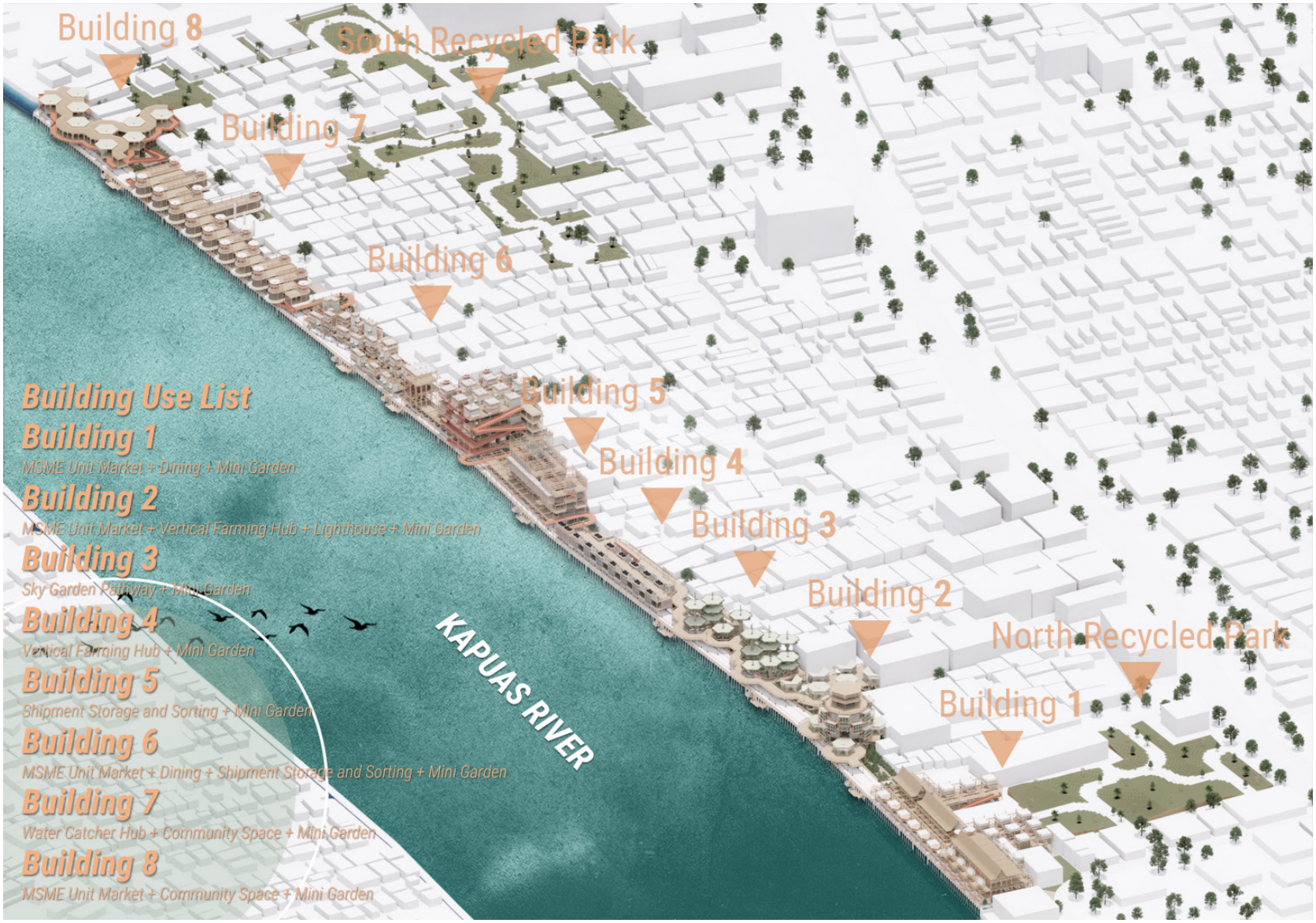
Design Result

5.1 Master Plan Render: Showing Every Buildings of the Design
5.2 Axonometric Master Plan
5.3 Building Overview (Building 1-8)
5.4 Perspective
5.5 Site Plan
5.6 Floor Plan
5.7 Section
5.8 Elevation
5.9 Module Set
5.10 Scheme
5.11 Envelope Detail
5.12 North Recycled Park
5.13 South Recycled Park

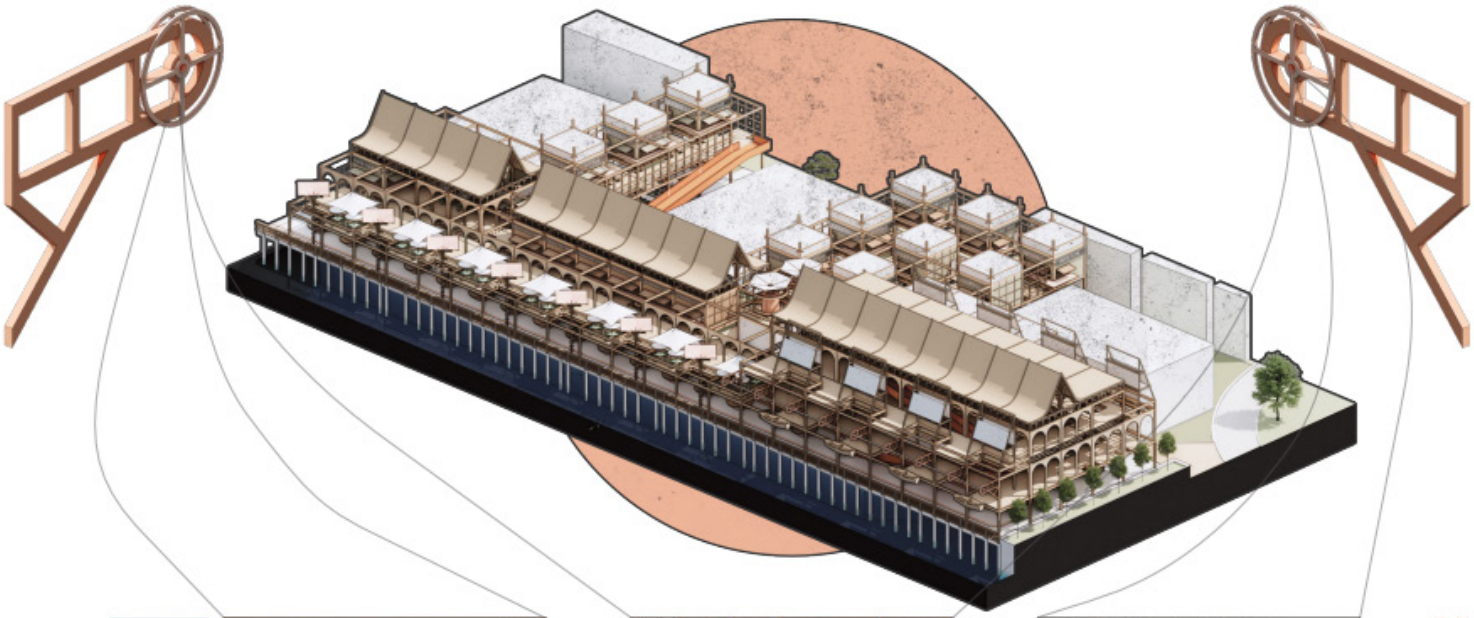




MASTER PLAN RENDER



AXONOMETRIC MASTER PLAN



Building 1

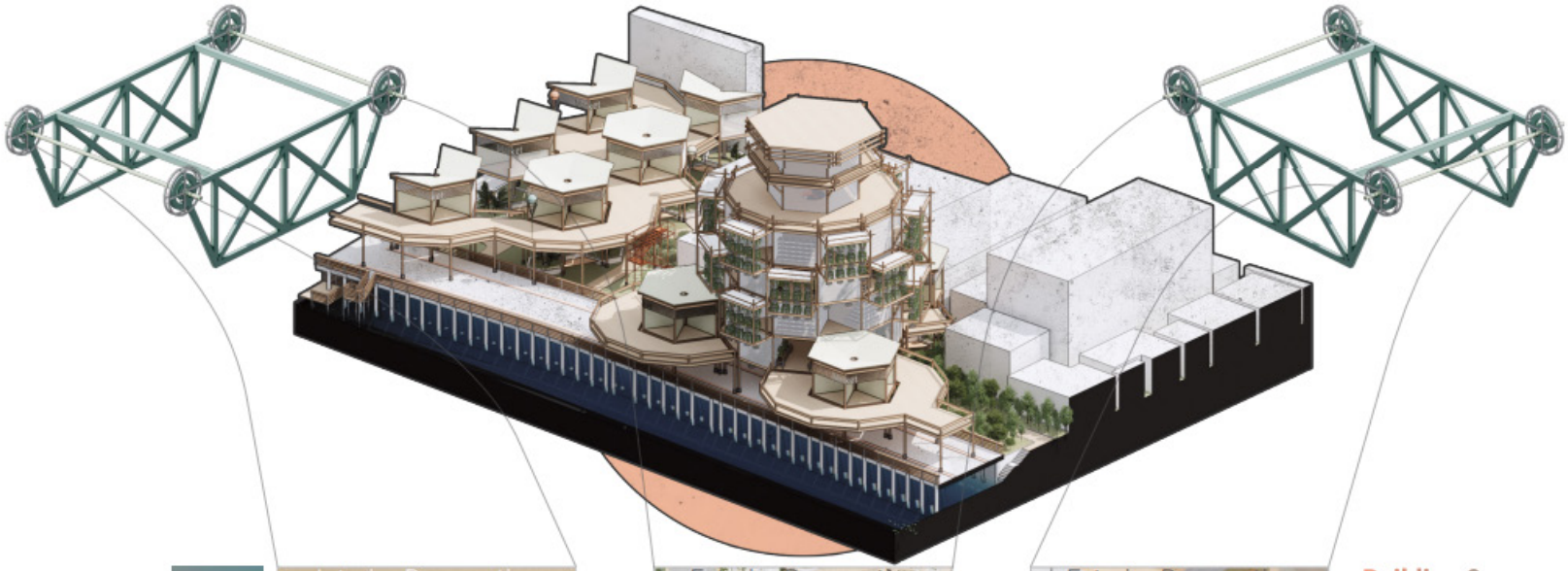




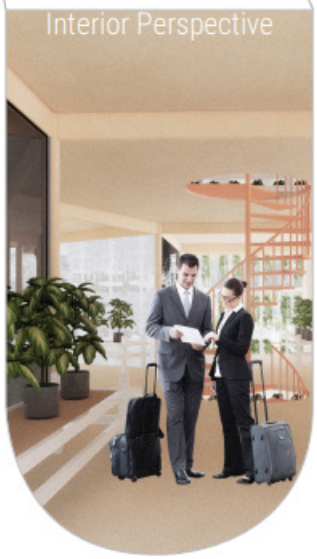


Building 1
Building one mainly functions as an MSME Unit Market where the open architecture concept is applied (module type A). Furthermore, the space is able to be used as public dining and mini garden on the ground floor, integrated with the waterfront.

Building Overview: Building 1



Building 2

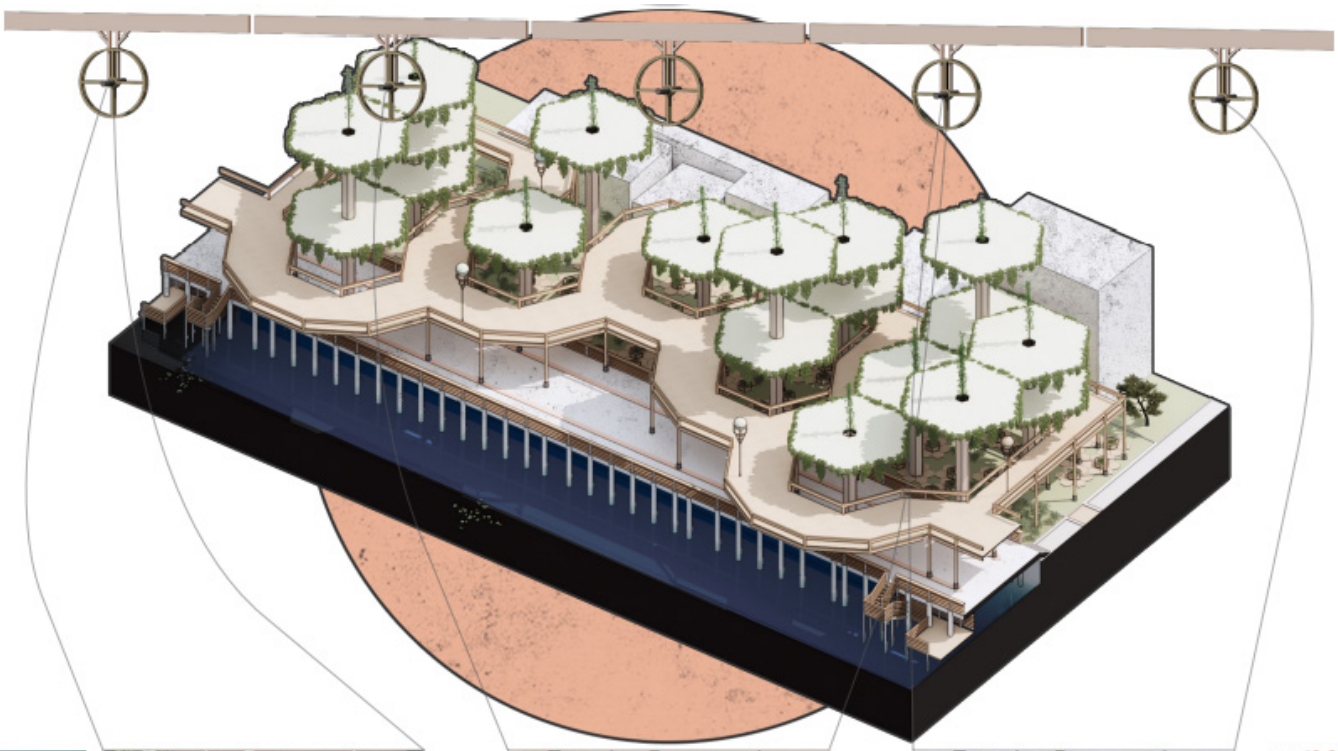






Building 2
Building two mainly functions as a vertical farming hub integrated as a mini-lighthouse. The secondary function is a building as a n MSME Unit Market where the open architecture concept is applied (module type B). The ground floor is also a mini garden.

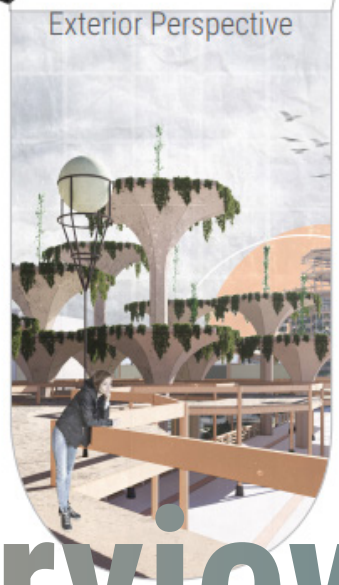
Building Overview: Building 2



Building 3

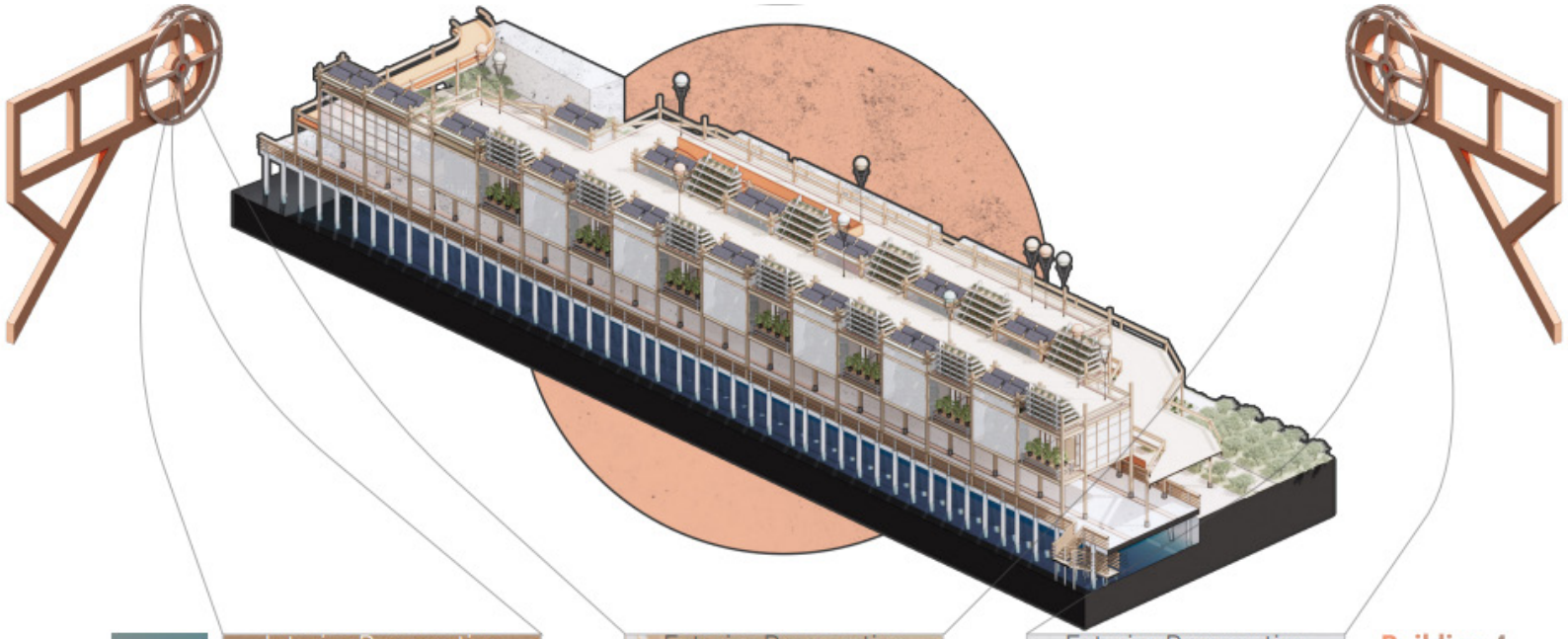






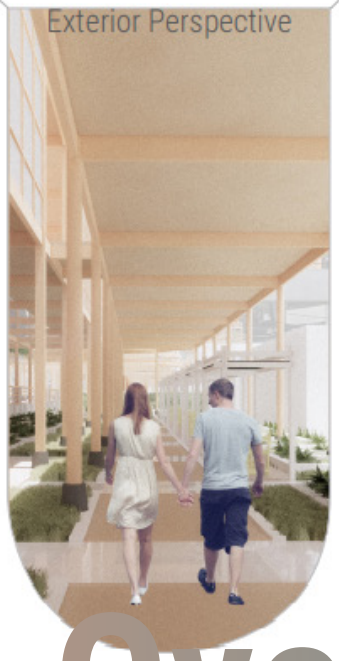
Building 3
Building three is not really a building, rather an open public space with a green rainwater catcher and a sky garden pathway or skywalk. A mini garden is also built on the ground floor of this area that functioned as a water collector.

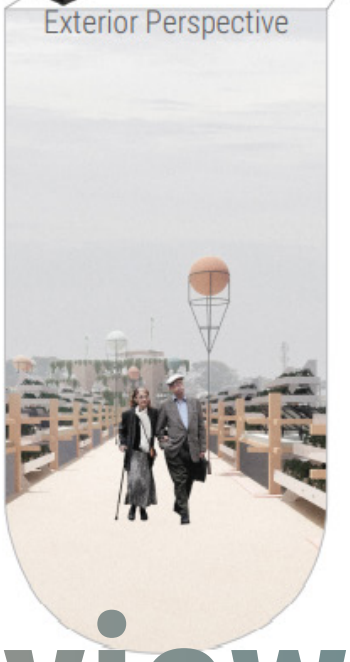
Building Overview: Building 3



Building 4

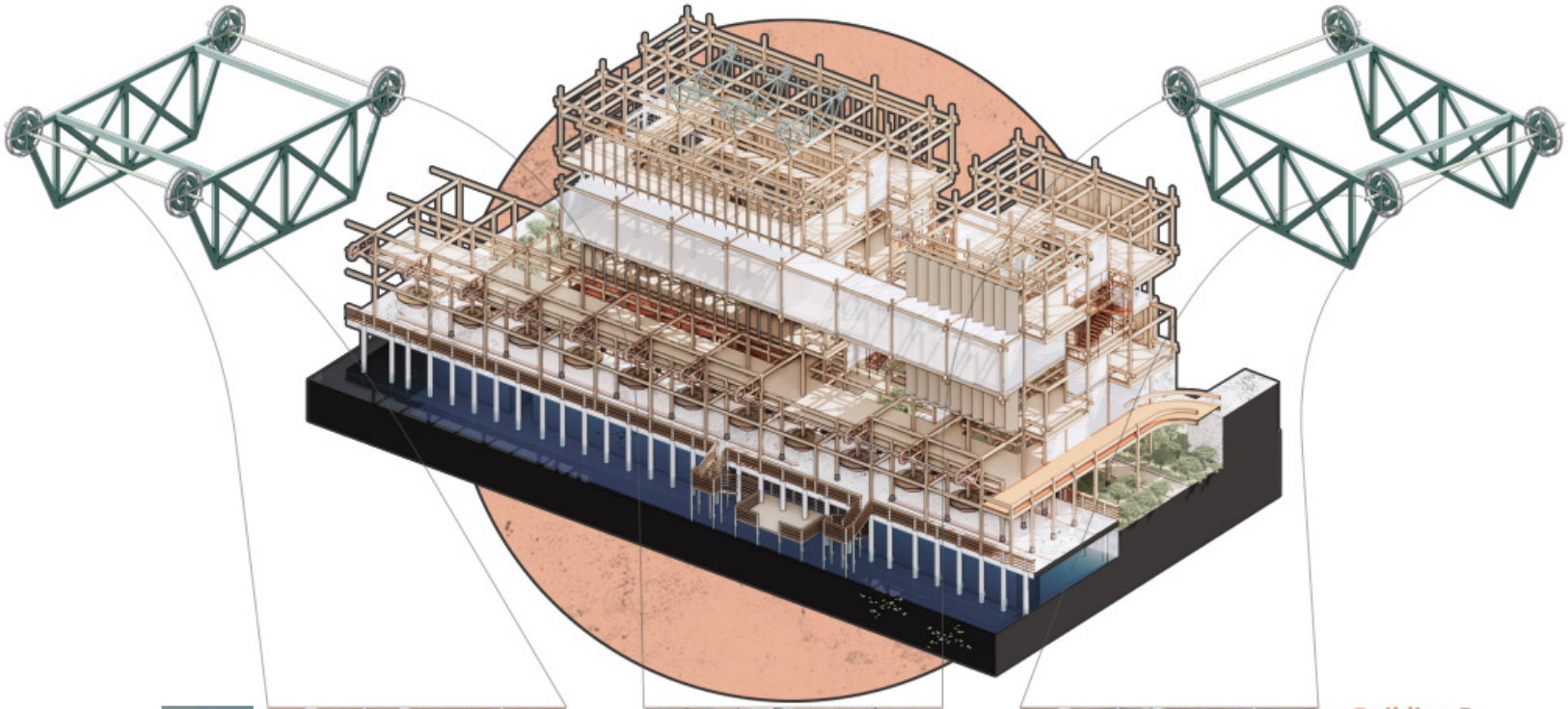

Interior Perspective


Exterior Perspective


Exterior Perspective

Building 4
Building four mainly functions as a vertical farming hub, only difference with building two is, this one is not a lighthouse and only consist of two floors, with the upper roof act as a rooftop with outdoor farming and where solar panels are located. The solar panels mostly used to fed the plants inside building four.

Building Overview: Building 4



Building 5

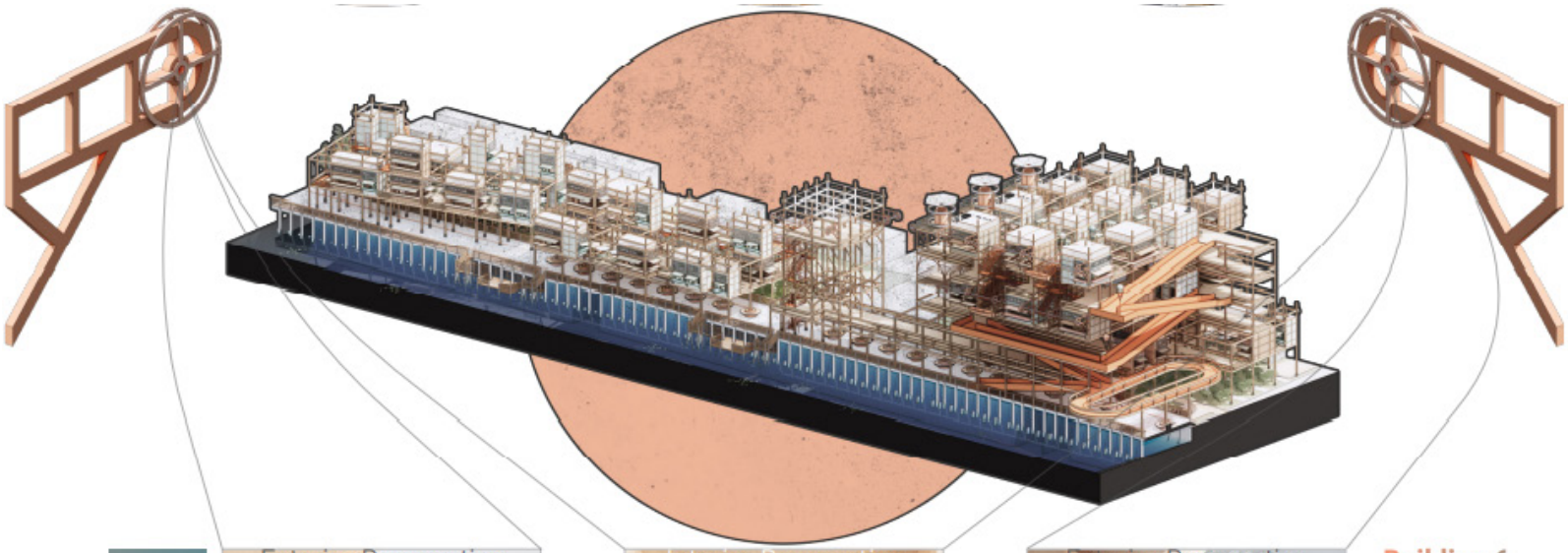

Exterior Perspective


Interior Perspective


Exterior Perspective

Building 5
Building five is the main hub for shipment storage that is imported from the sea by ferry ship, cargo ship, and merchant boats. A pulley system is used in order to make the distribution workflow works. From this building, imported goods are able to be distributed to everywhere.

Building Overview: Building 5



Building 6

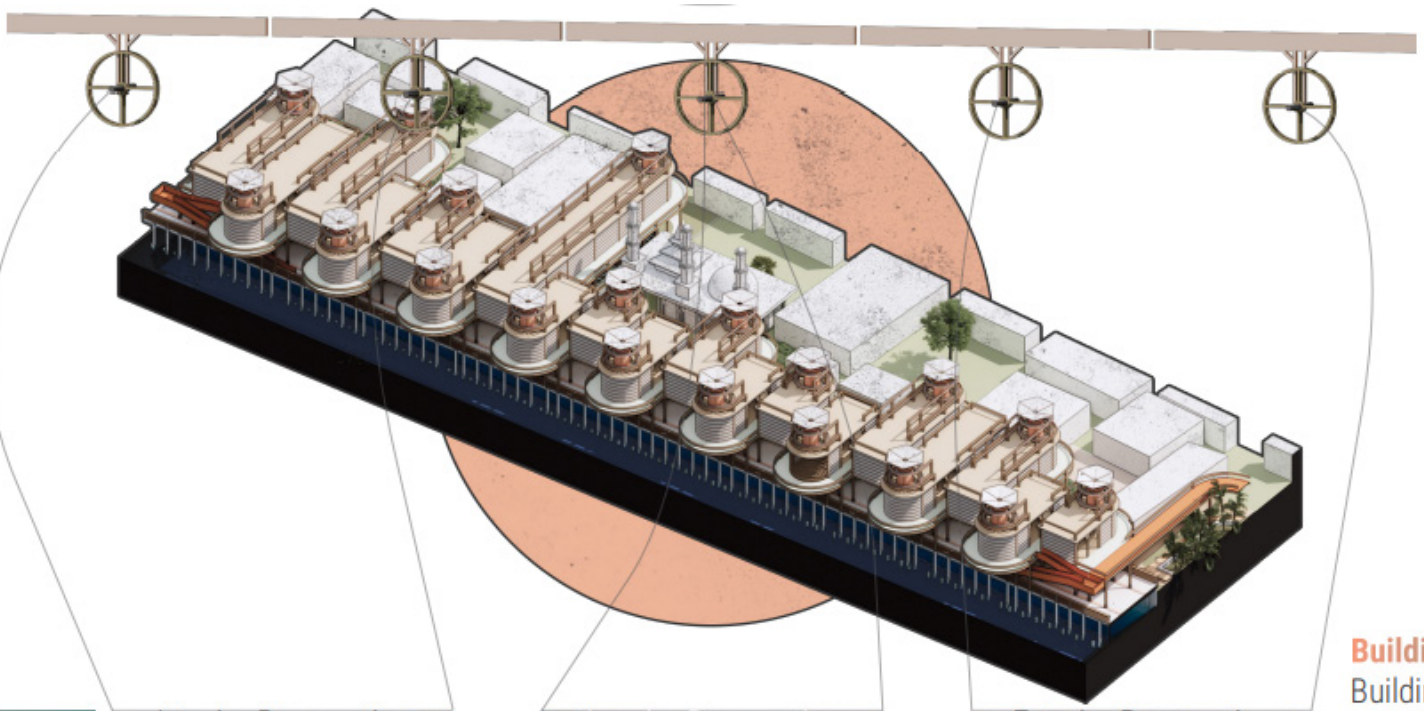






Building 6
Building six is the main building where the open architecture concept is applied (module type A). This building mainly functions as an MSME Unit Market, public dining, shipment storage and sorting on the second and fourth floor, and mini garden on the ground floor integrated with the waterfront.

Building Overview: Building 6



Building 7





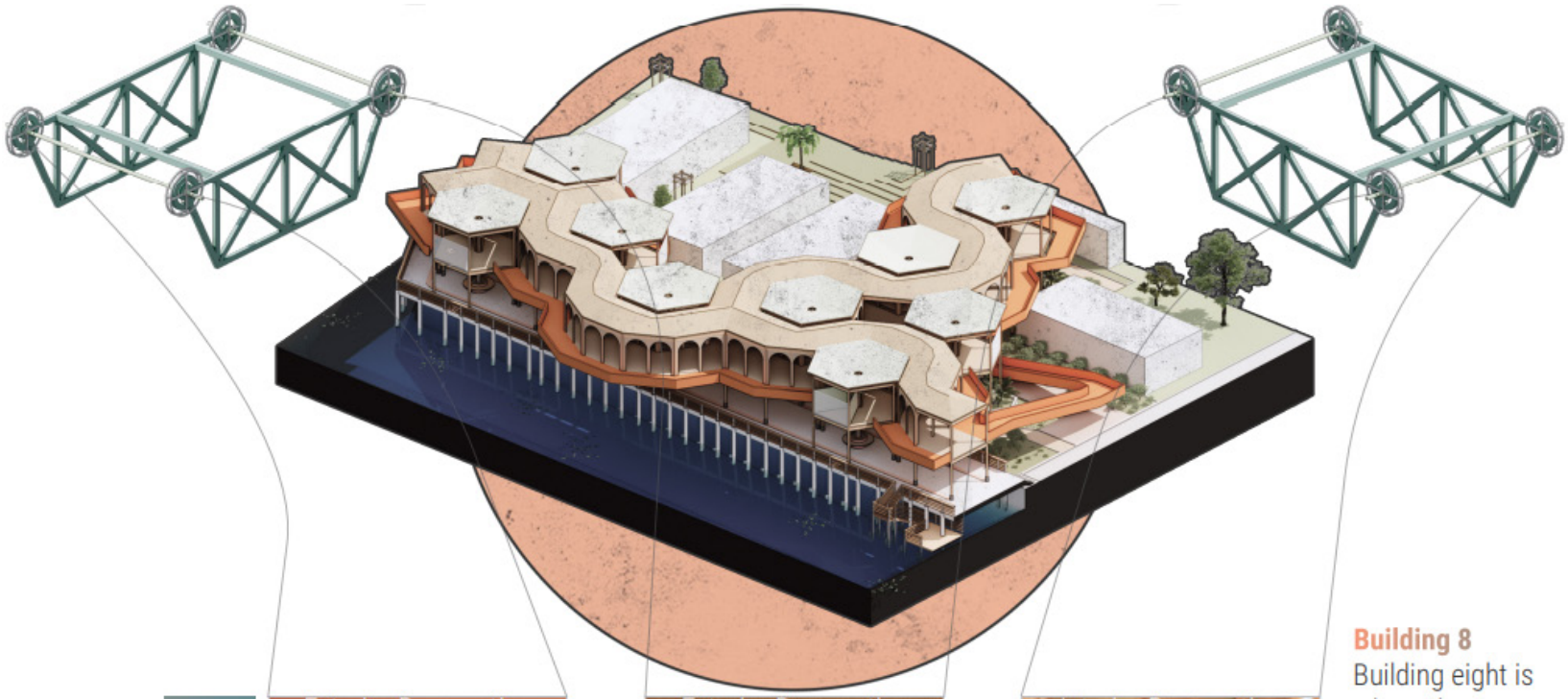


Building 7

Building seven is mainly used as a public space where people gather and used the space whether privately or publicly. The other main function is to act as a water catcher hub, where most of the raincatcher on the site is placed on this building. The mini garden on the ground floor is integrated with Nurul Huda Mosque and the waterfront.

Building Overview:

Building 7



Building 8







Building 8
Building eight is where the open architecture concept with module type B is the most applied. Furthermore, each module is integrated with five meter wide corridors where it is able to be used as a public space or dining. The mini garden on the ground floor is integrated with the South Recycle Park and the waterfront.

Building Overview: Building 8





PERSPECTIVE





PERSPECTIVE





PERSPECTIVE





PERSPECTIVE





PERSPECTIVE





PERSPECTIVE





PERSPECTIVE





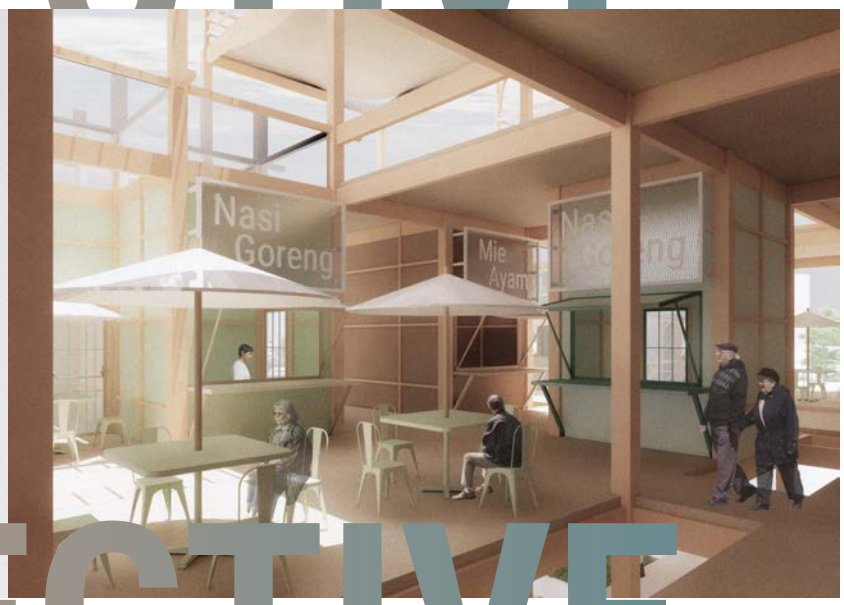
PERSPECTIVE



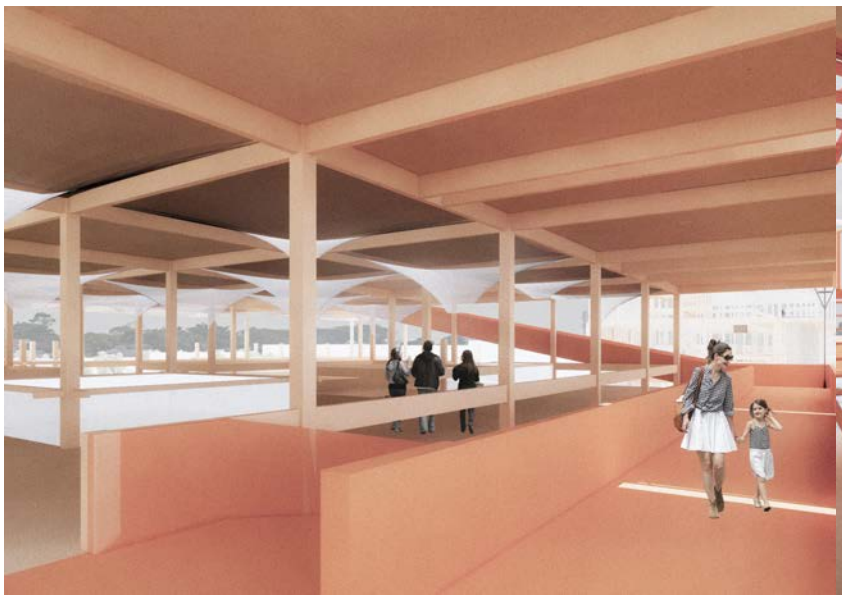


PERSPECTIVE





PERSPECTIVE





PERSPECTIVE





PERSPECTIVE





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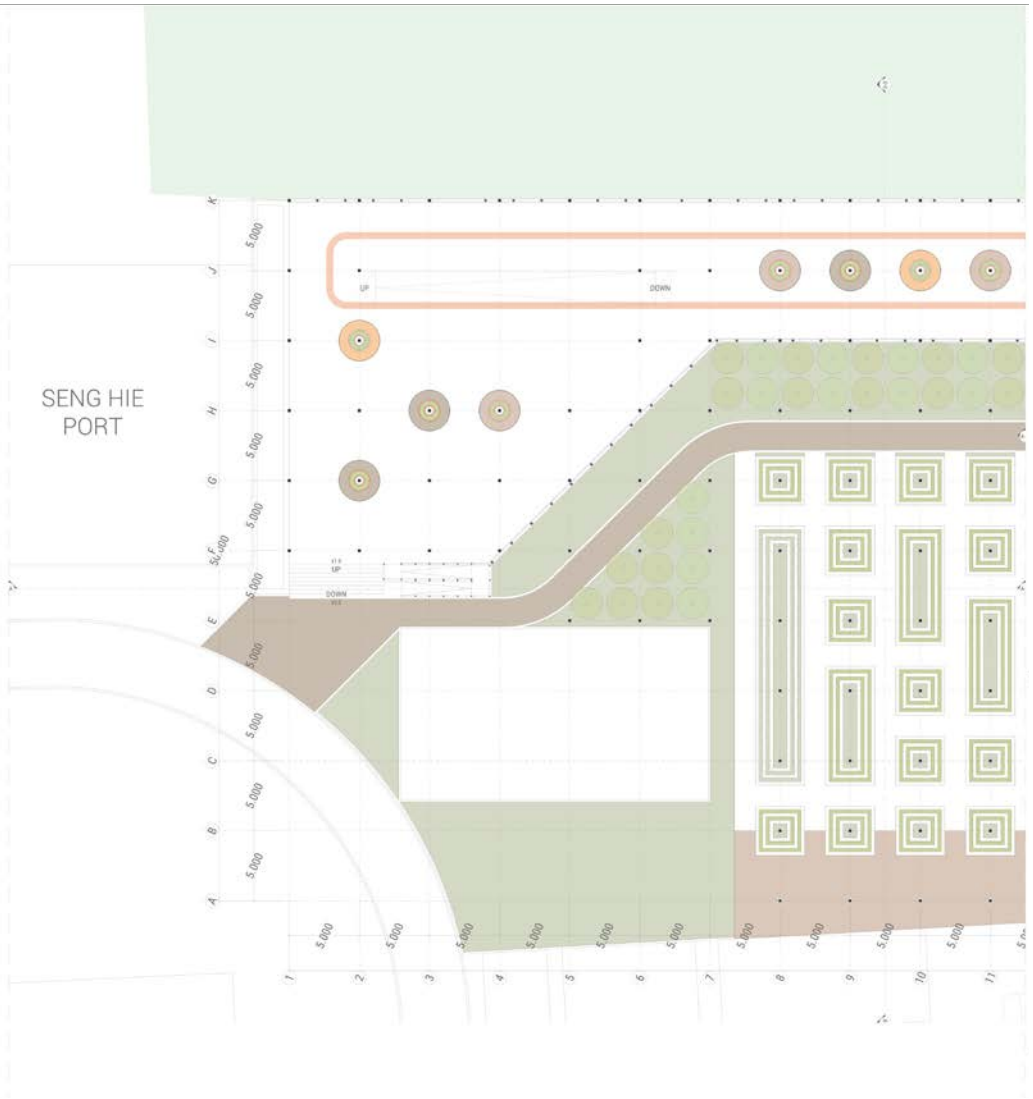
PERSPECTIVE



PERSPECTIVE

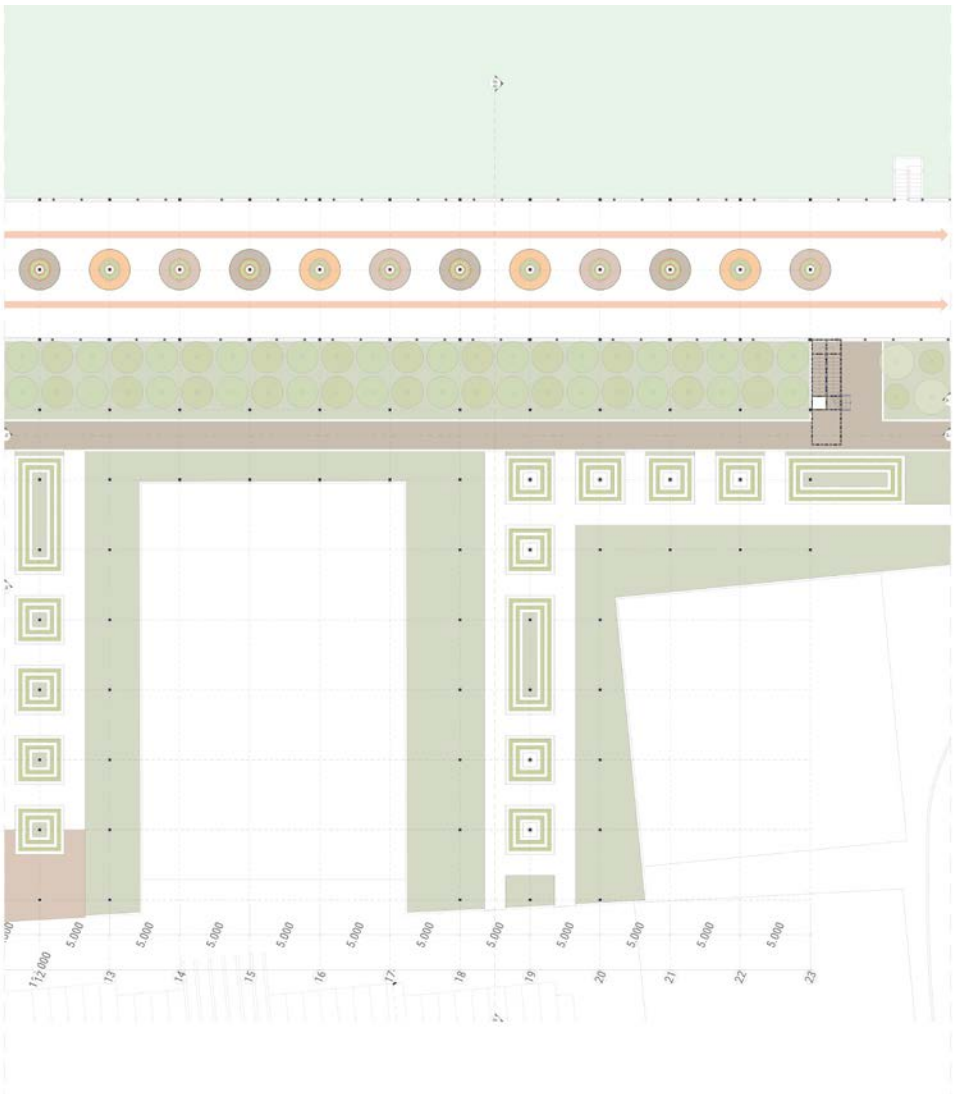


PERSPECTIVE



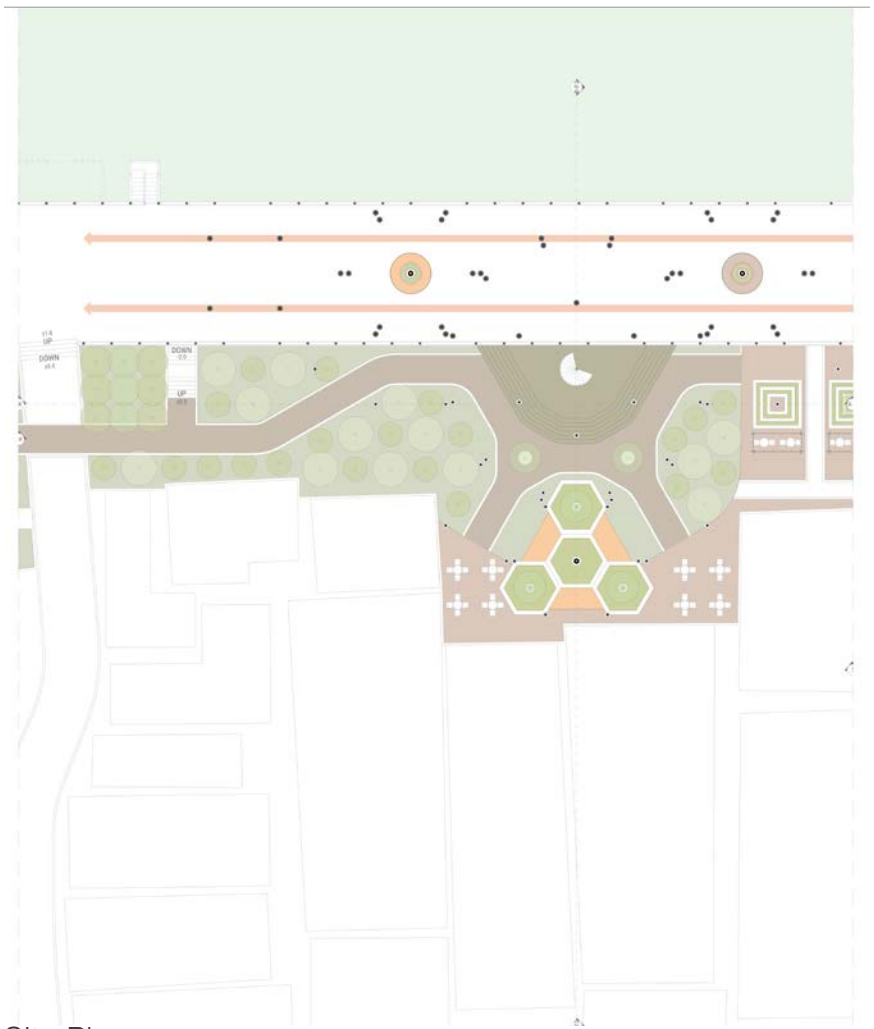
Site Plan
Building 1: Part 1

Site Plan
Building 1: Part 1



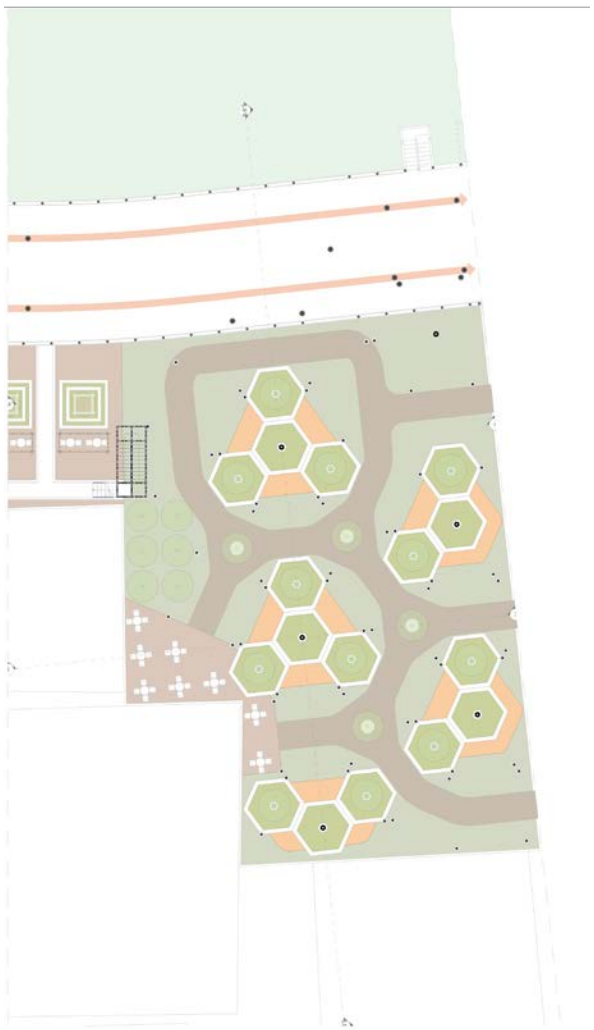
Site Plan
Building 1: Part 2

Site Plan
Building 1: Part 2



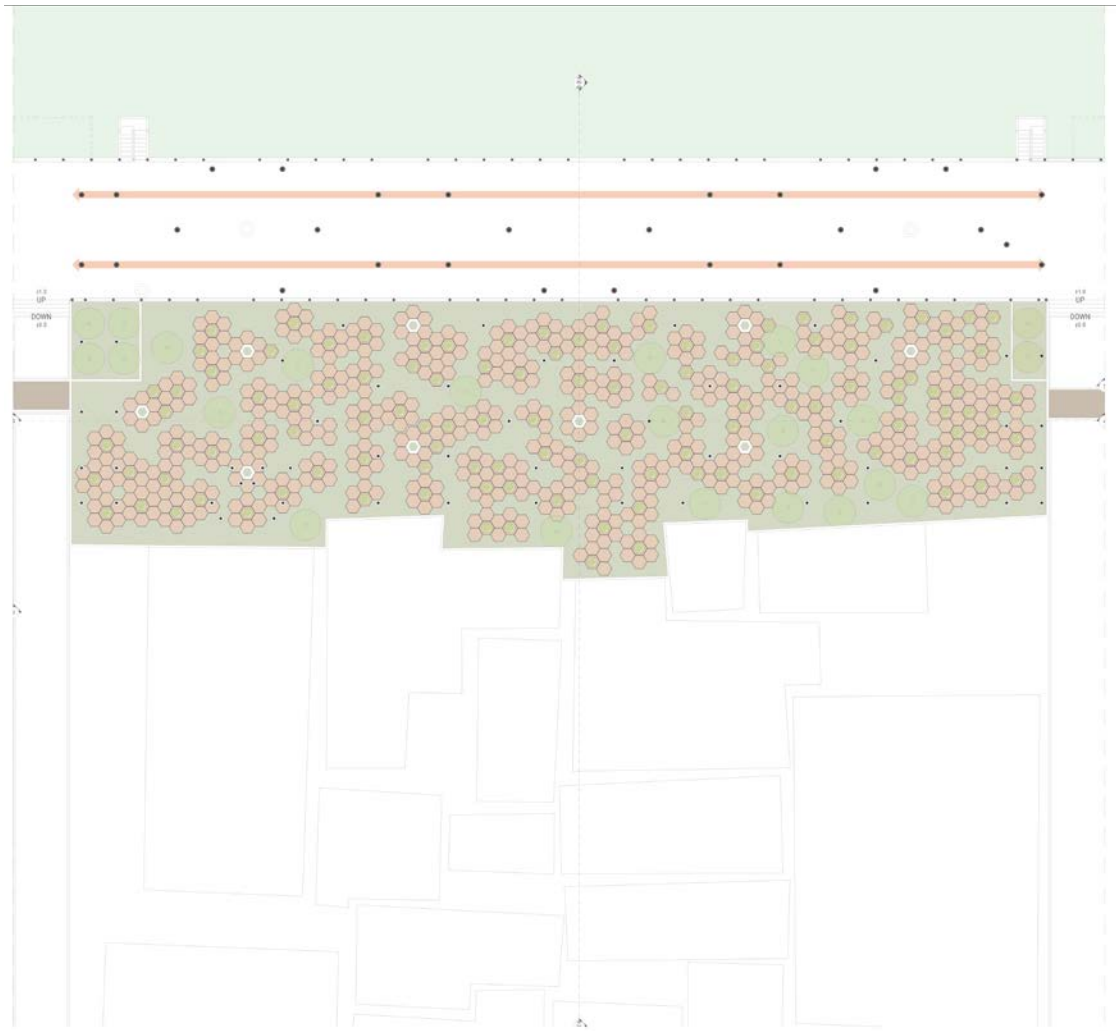
Site Plan
Building 2: Part 1

Site Plan
Building 2: Part 1



Site Plan
Building 2: Part 2

Site Plan
Building 2: Part 2



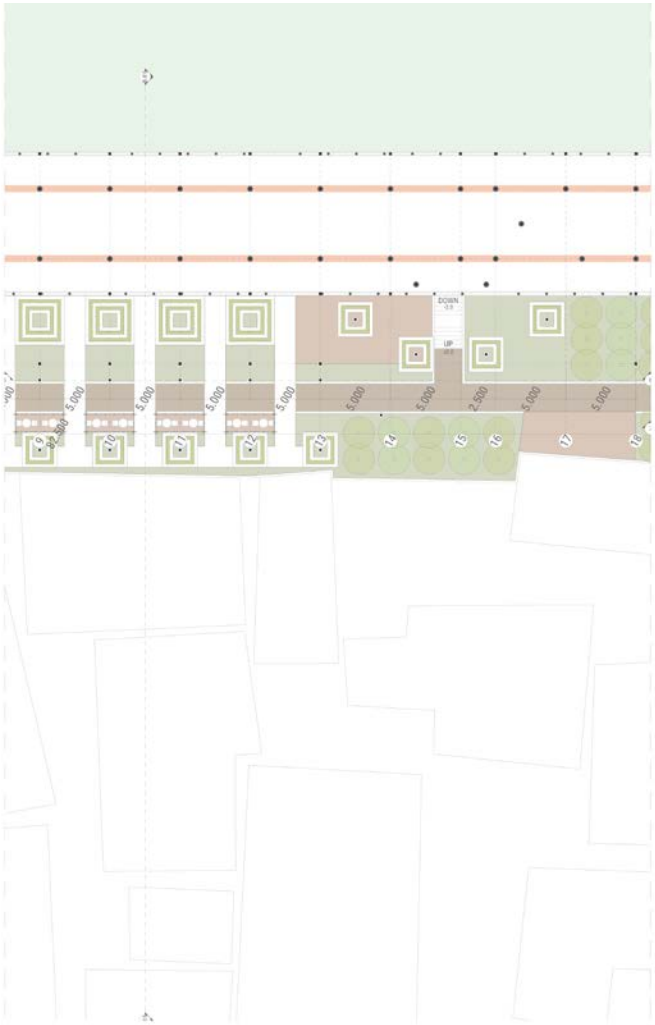
Site Plan
Building 3

Site Plan
Building 3



Site Plan
Building 4: Part 1

Site Plan
Building 4: Part 1



Site Plan
Building 4: Part 2

Site Plan
Building 4: Part 2



Site Plan
Building 5

Site Plan
Building 5



Site Plan
Building 6: Part 1

Site Plan
Building 6: Part 1



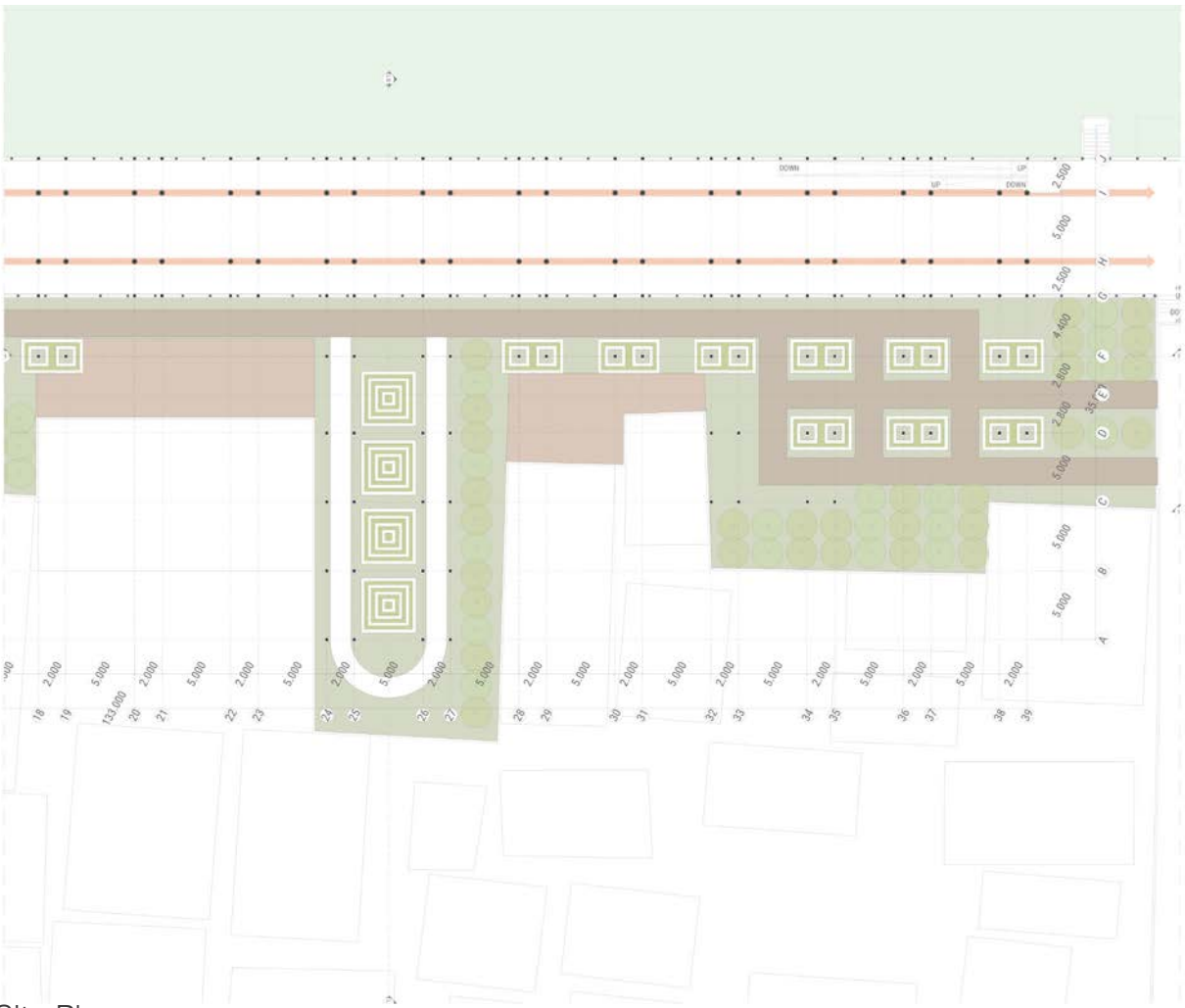
Site Plan
Building 6: Part 2

Site Plan
Building 6: Part 2



Site Plan
Building 7: Part 1

Site Plan
Building 7: Part 1



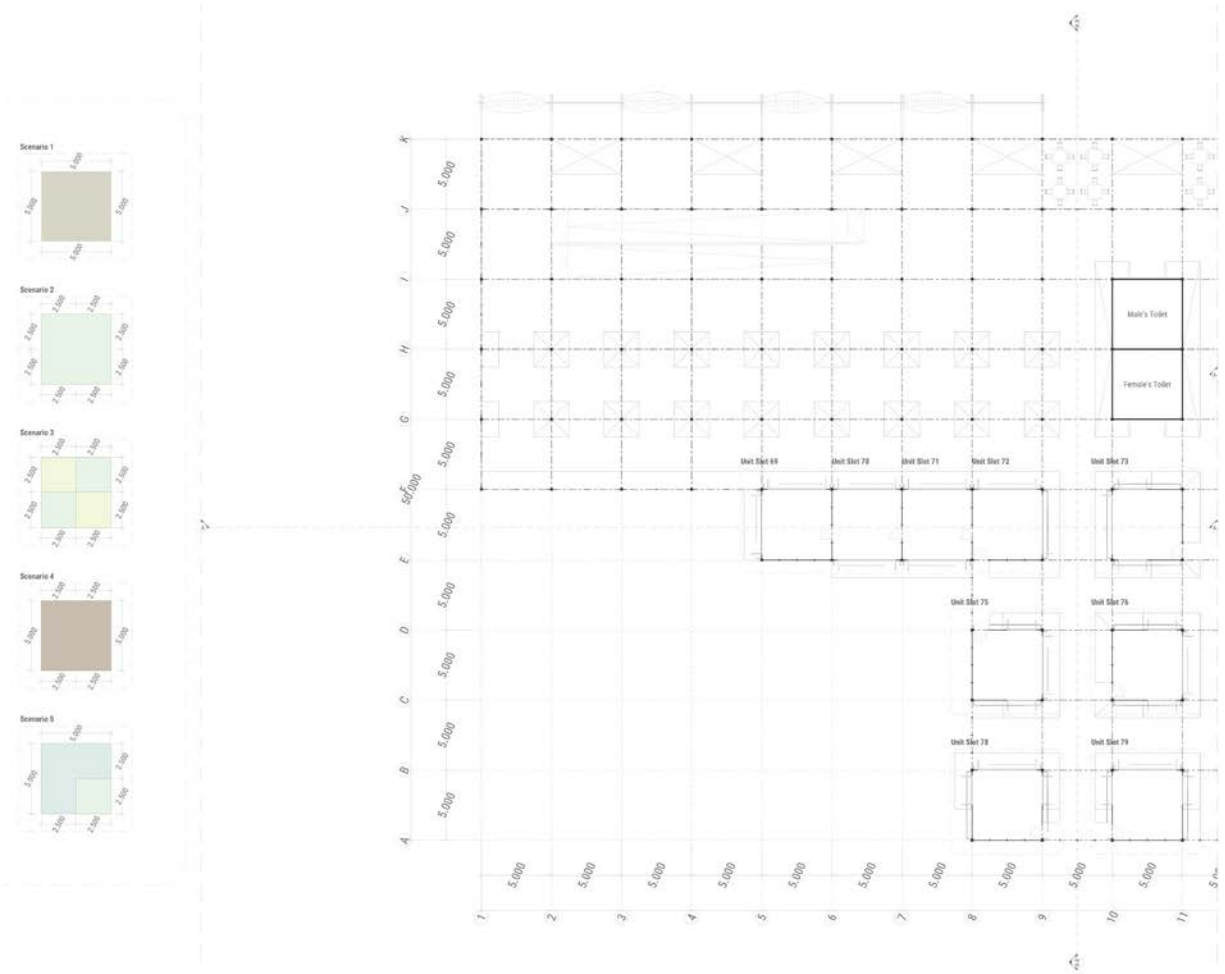
Site Plan
Building 7: Part 2

Site Plan
Building 7: Part 2



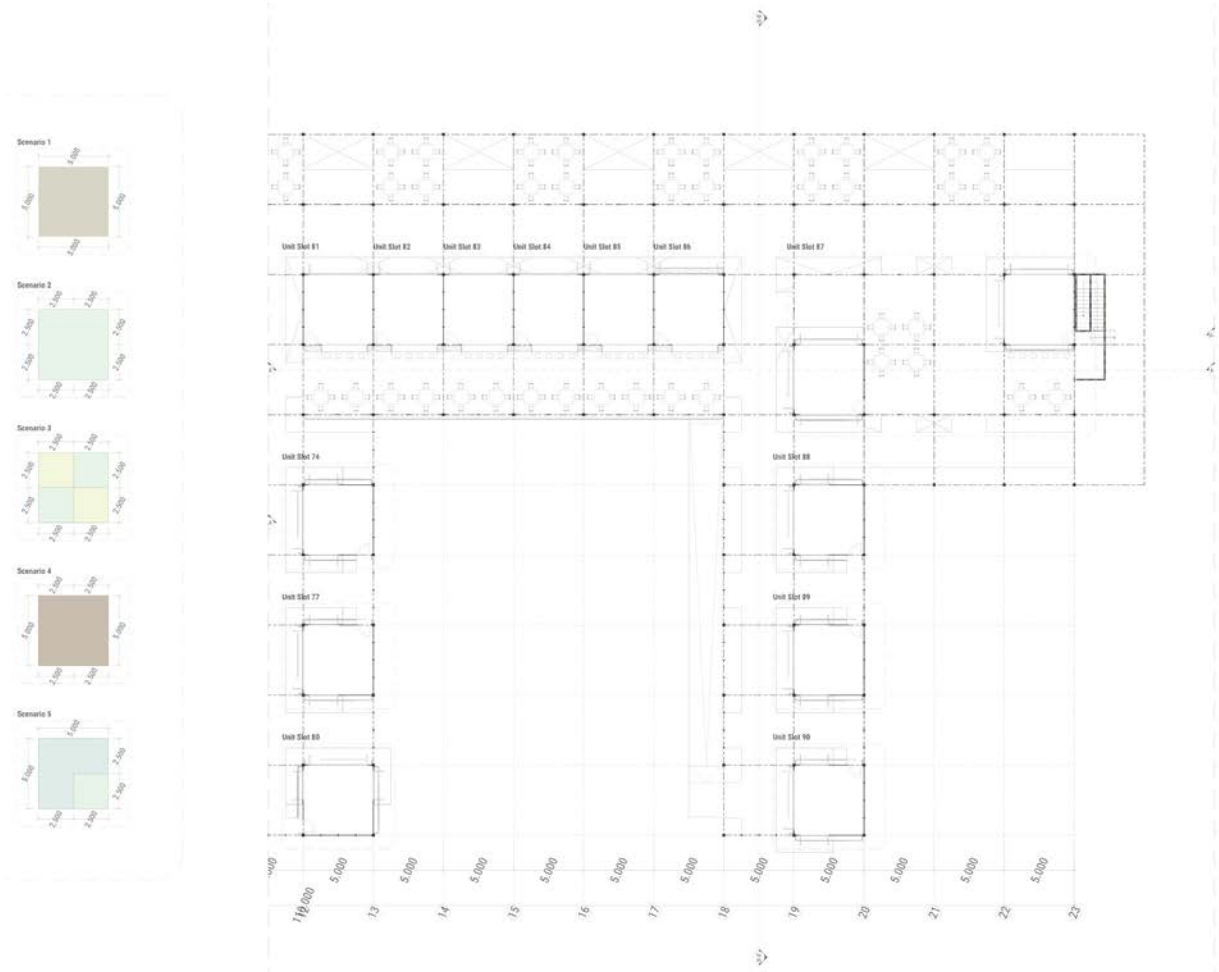
Site Plan
Building 8

Site Plan
Building 8



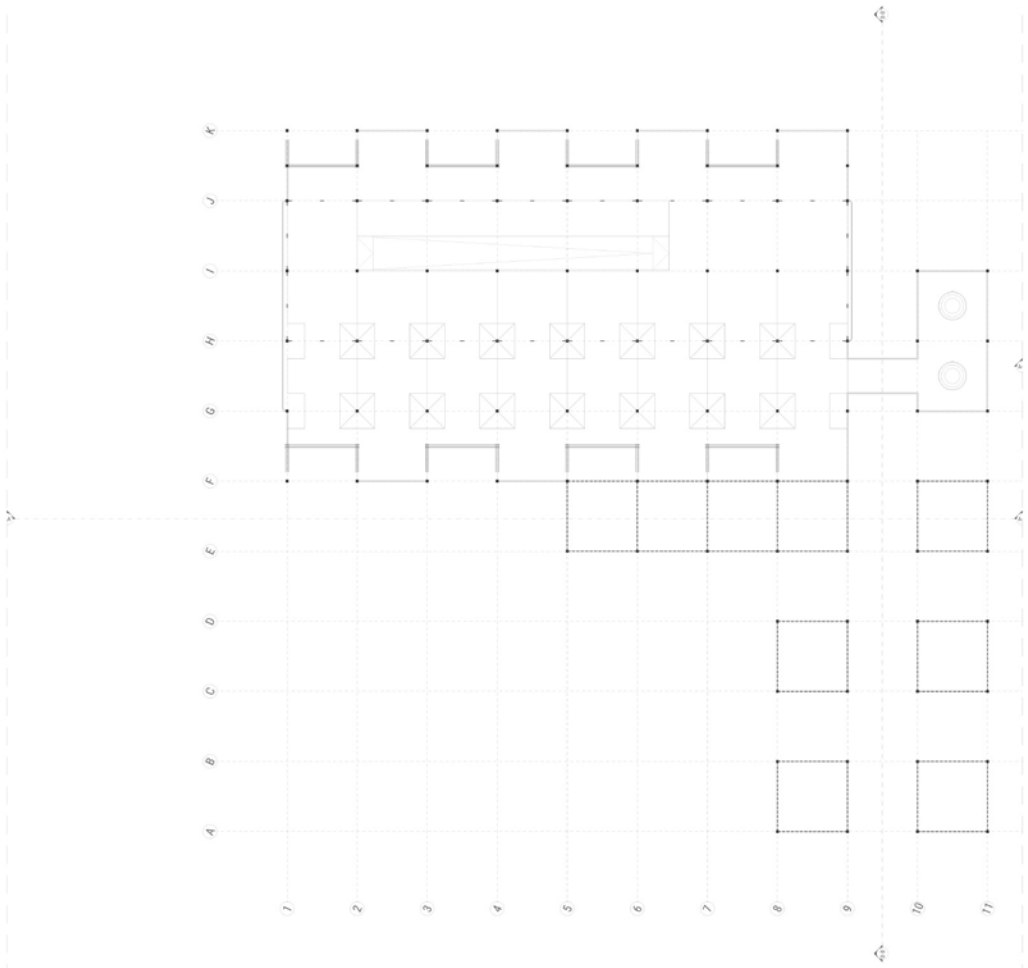
First Floor Plan
Building 1: Part 1

First Floor Plan
Building 1: Part 1



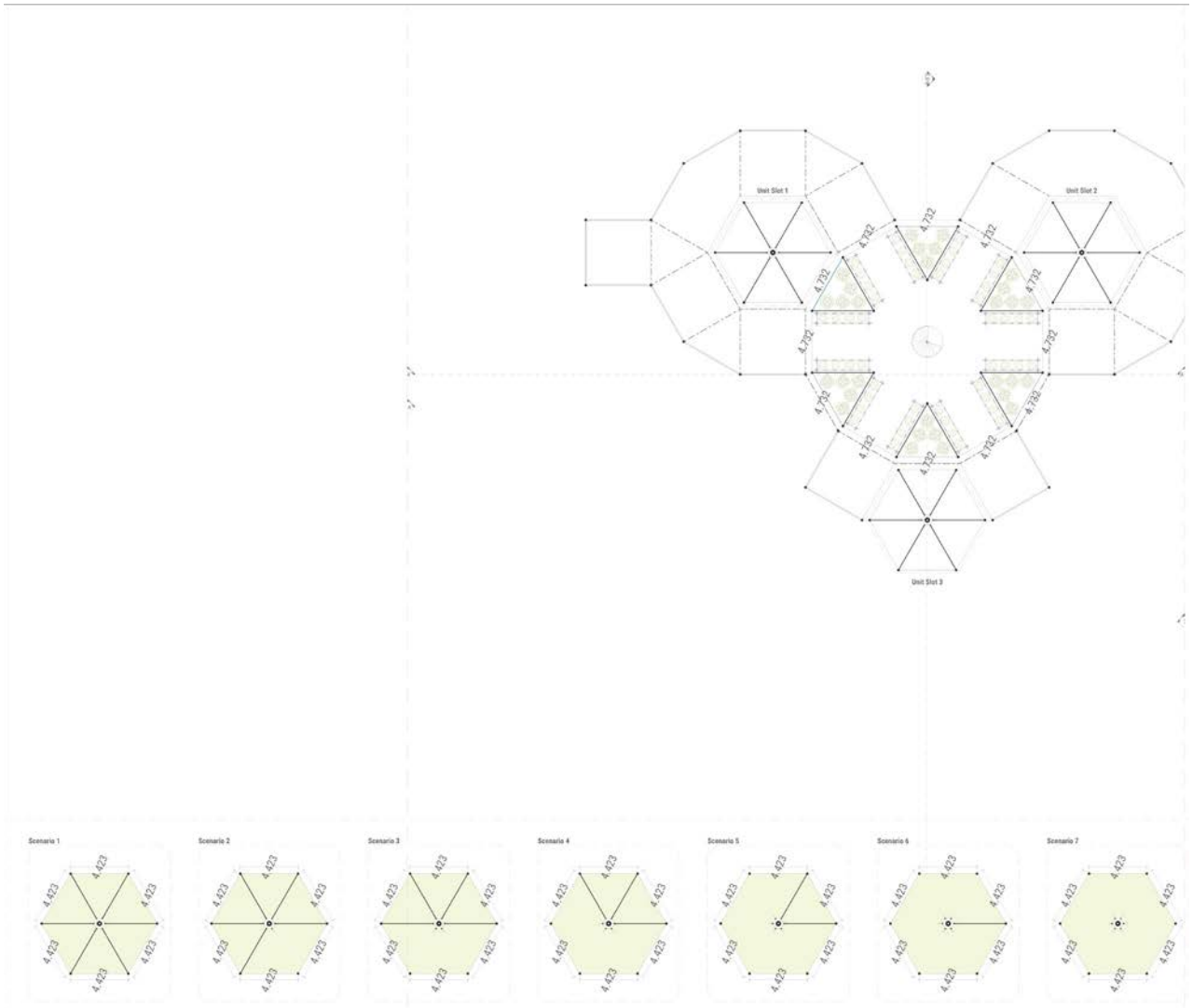
First Floor Plan
Building 1: Part 2

First Floor Plan
Building 1: Part 2



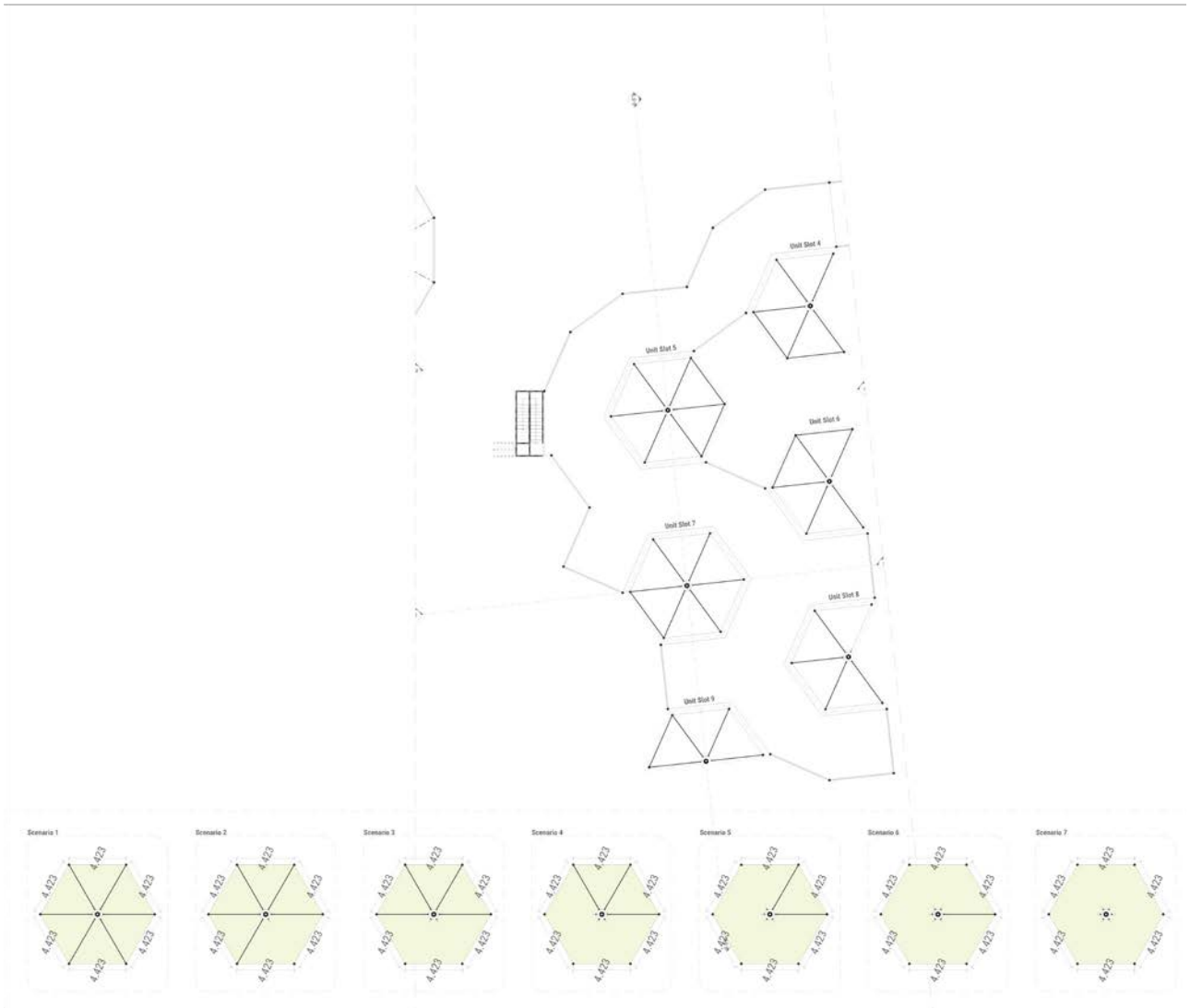
Second Floor Plan
Building 1: Part 1

Second Floor Plan
Building 1: Part 1



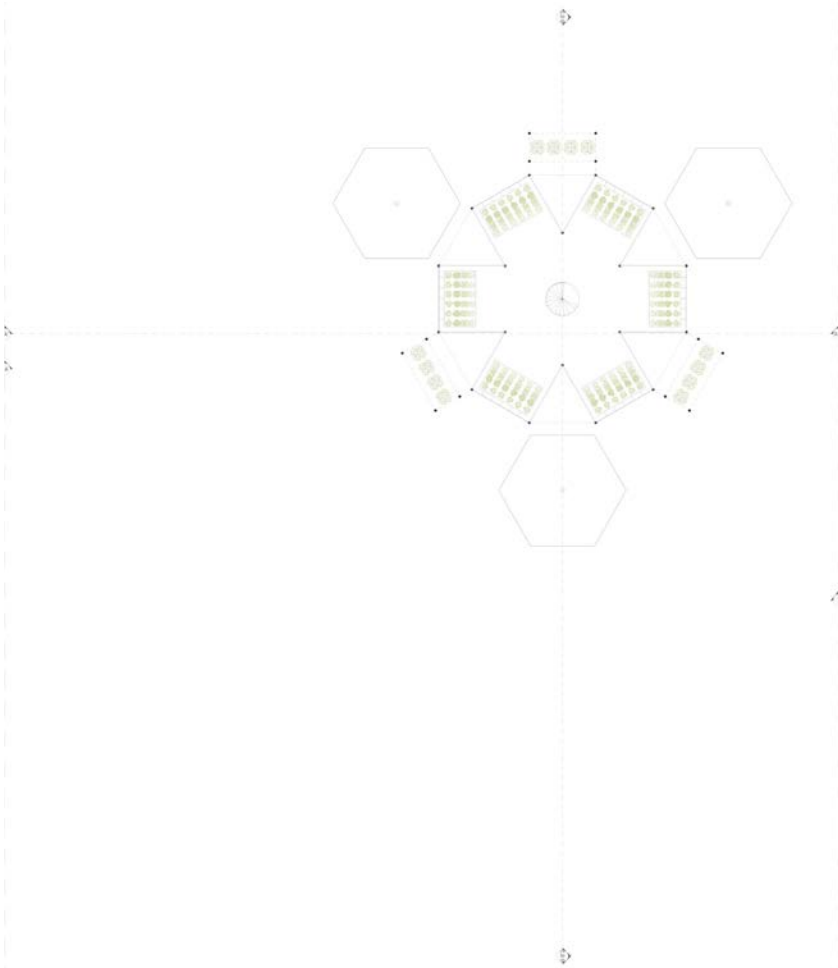
First Floor Plan
Building 2: Part 1

First Floor Plan
Building 2: Part 1

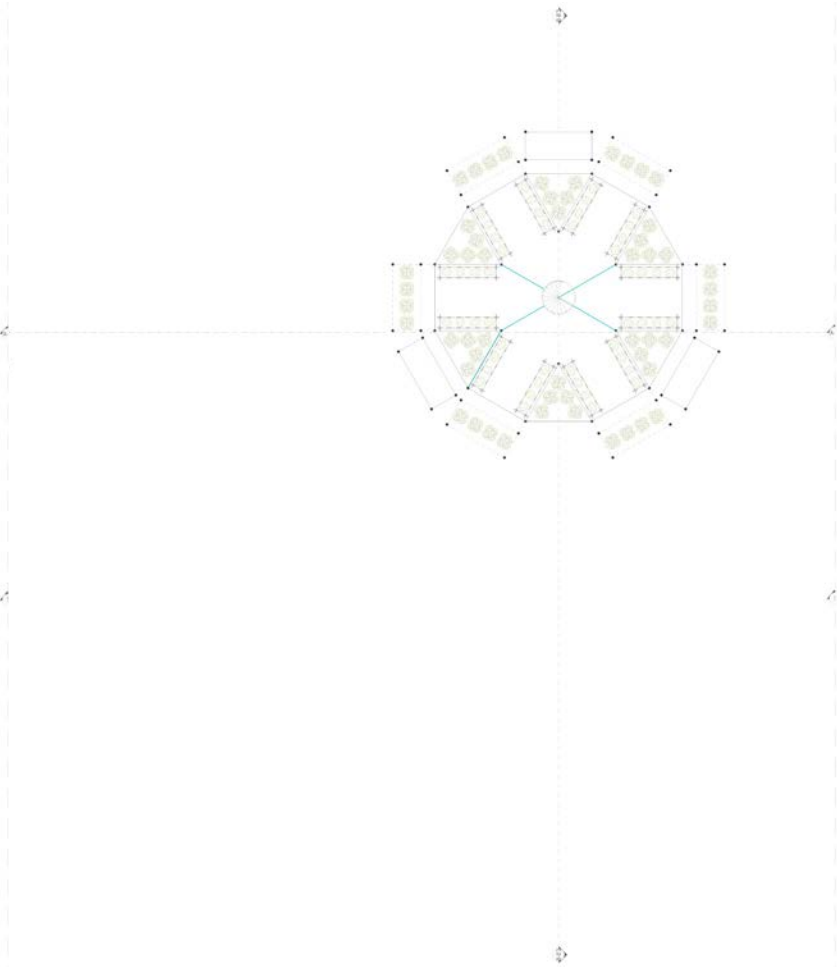


Second Floor Plan
Building 2: Part 2

First Floor Plan
Building 2: Part 2

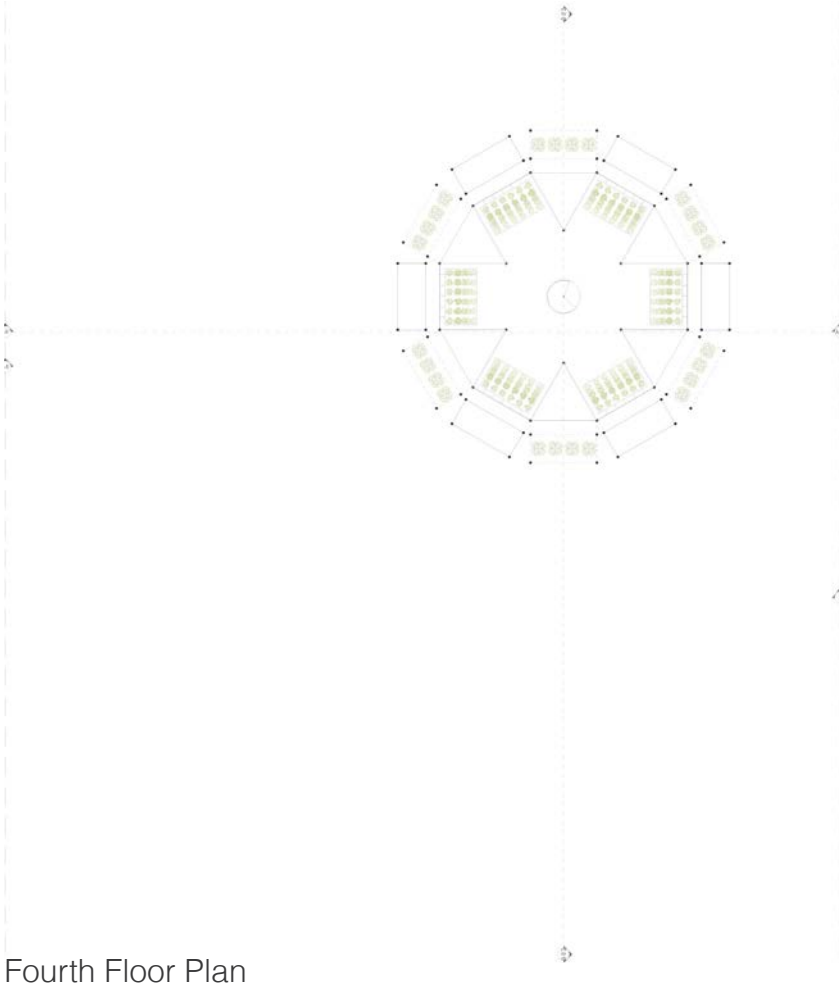


Second Floor Plan
Building 2: Part 1

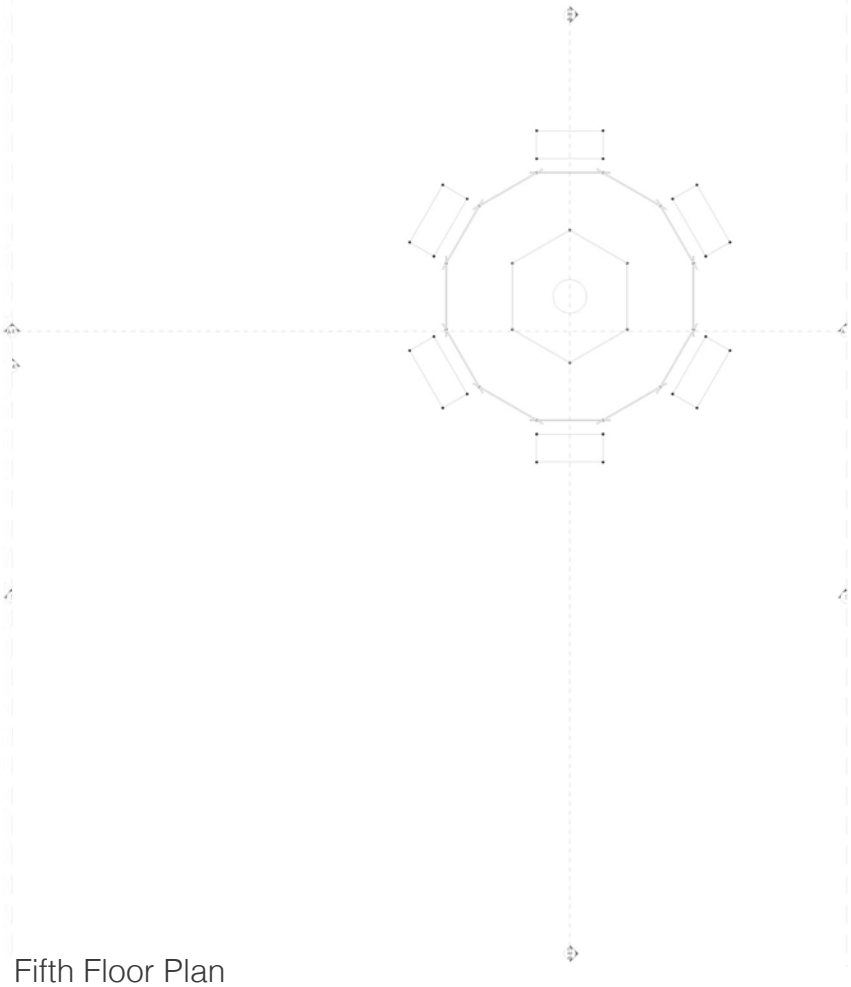


Third Floor Plan
Building 2: Part 1

Second & Third Floor Plan Building 2: Part 1

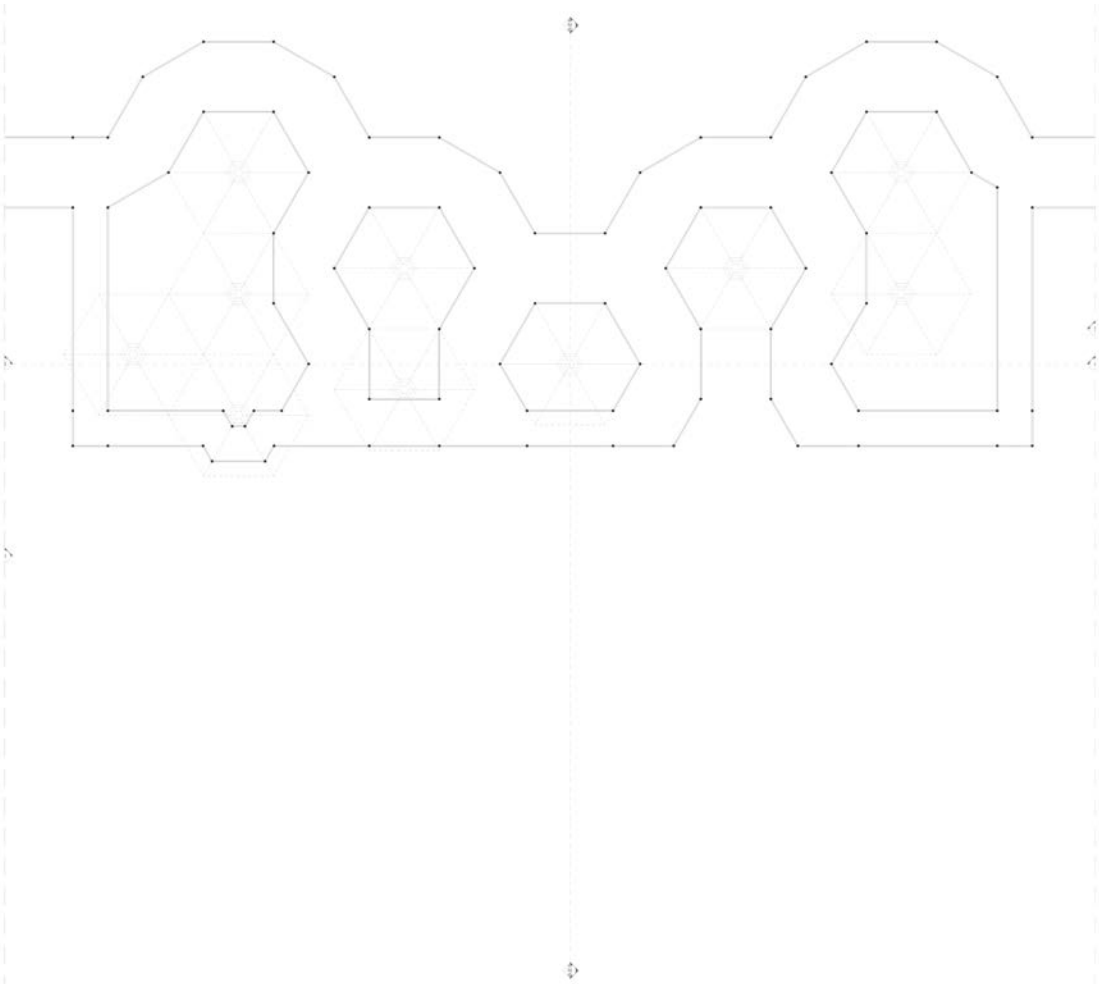


Fourth Floor Plan
Building 2: Part 1



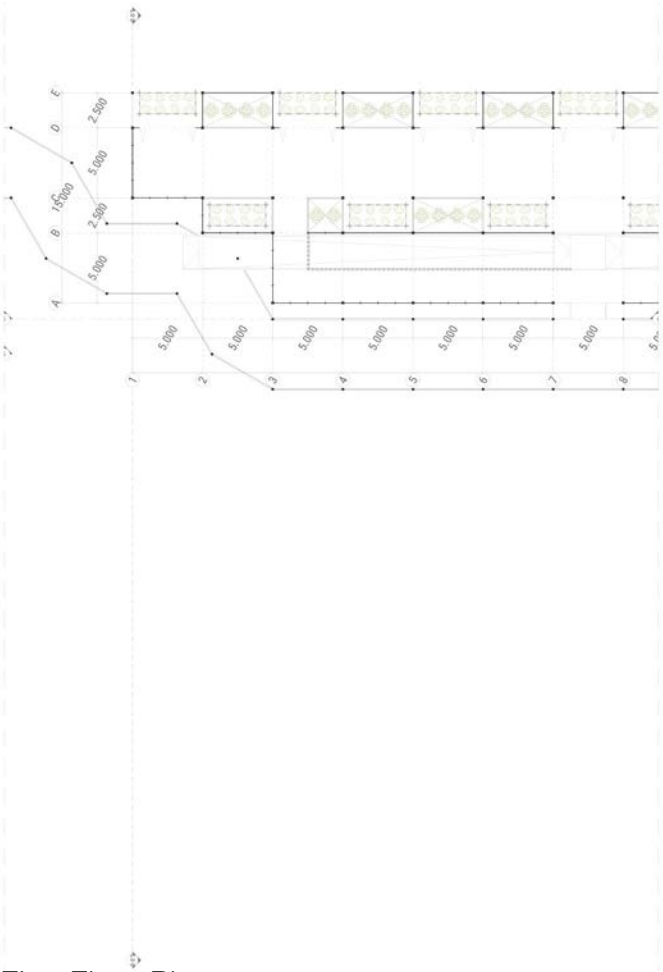
Fifth Floor Plan
Building 2: Part 1

Fourth & Fifth Floor Plan Building 2: Part 1

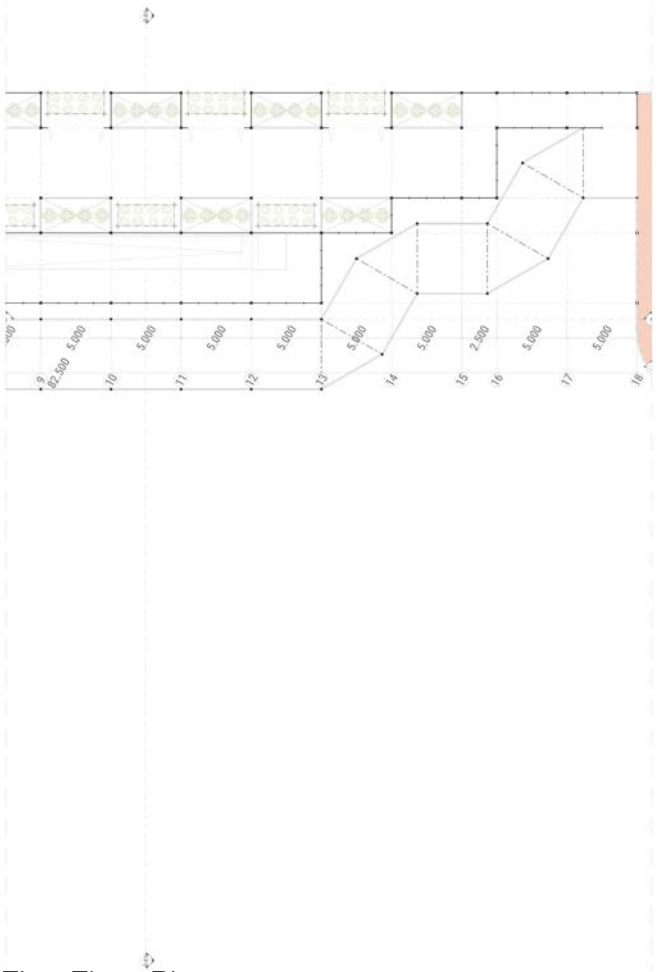


First Floor Plan
Building 3

First Floor Plan
Building 3

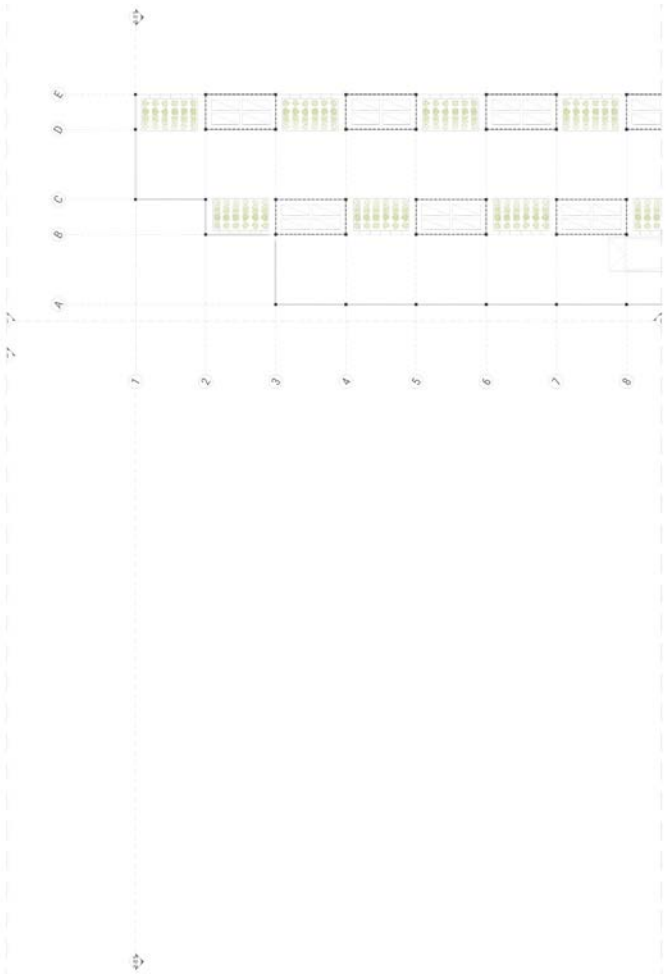


First Floor Plan
Building 4: Part 1

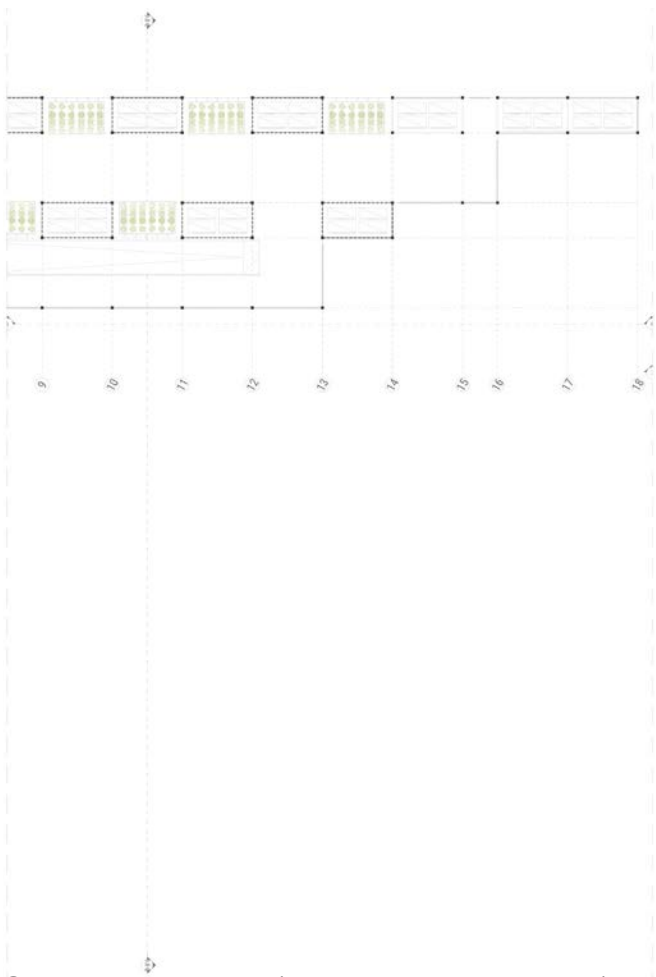


First Floor Plan
Building 4: Part 2

First Floor Plan
Building 4: Part 1&2

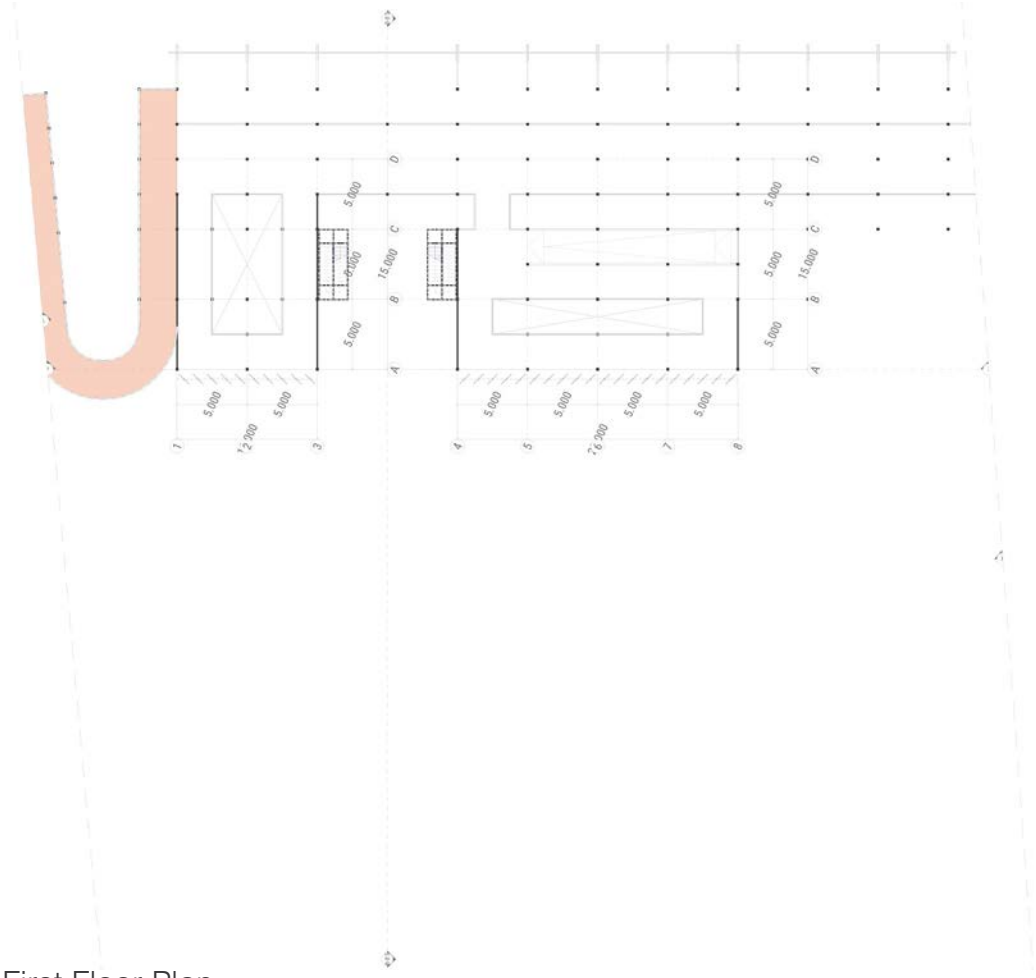


Second Floor Plan (Vertical Farming Deck)
Building 4: Part 1



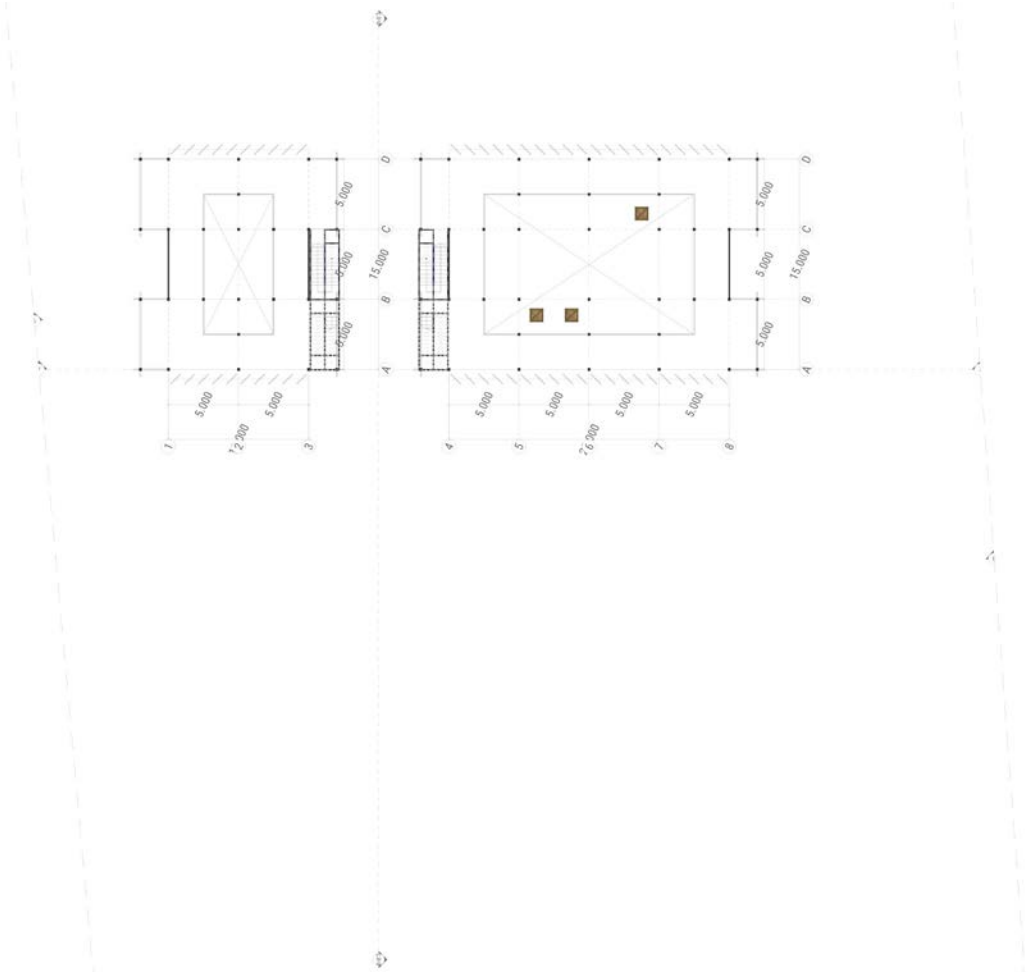
Second Floor Plan (Vertical Farming Deck)
Building 4: Part 2

Second Floor Plan (Vertical Farming Deck) Building 4: Part 1&2



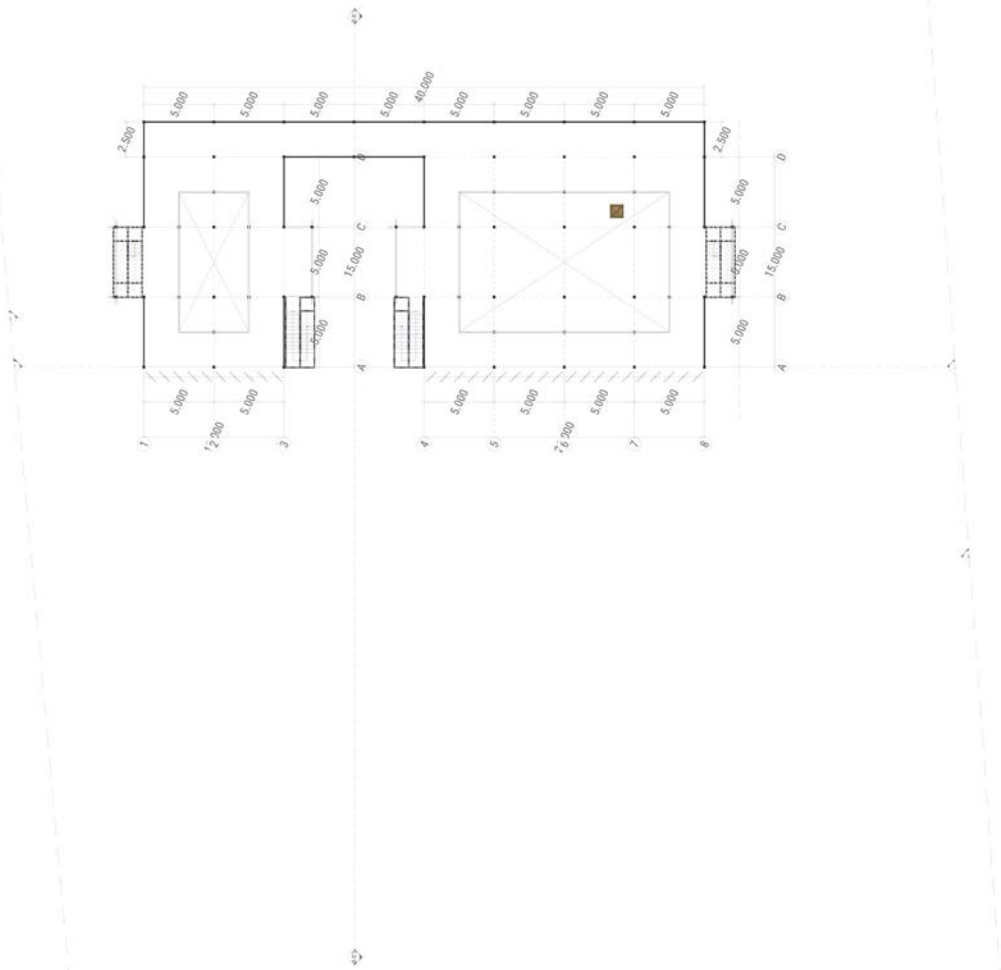
First Floor Plan
Building 5

First Floor Plan
Building 5



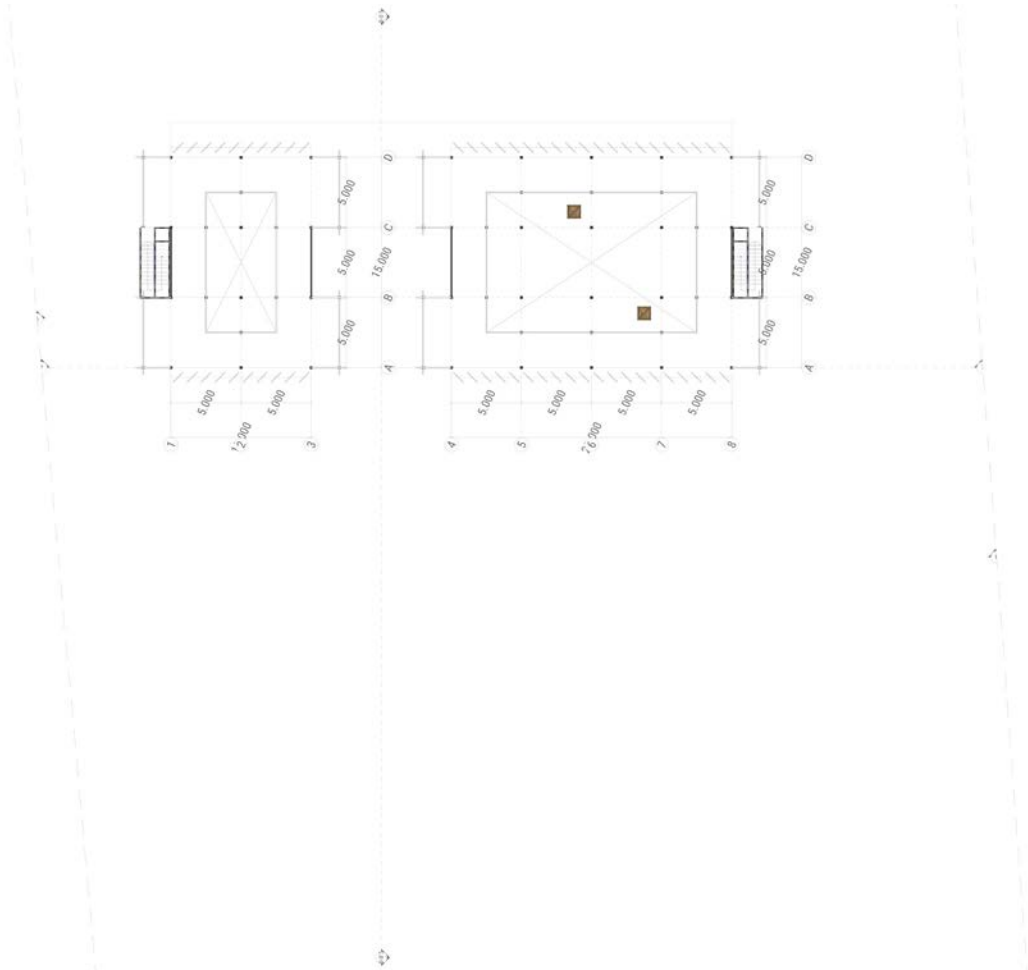
Second Floor Plan
Building 5

Second Floor Plan
Building 5



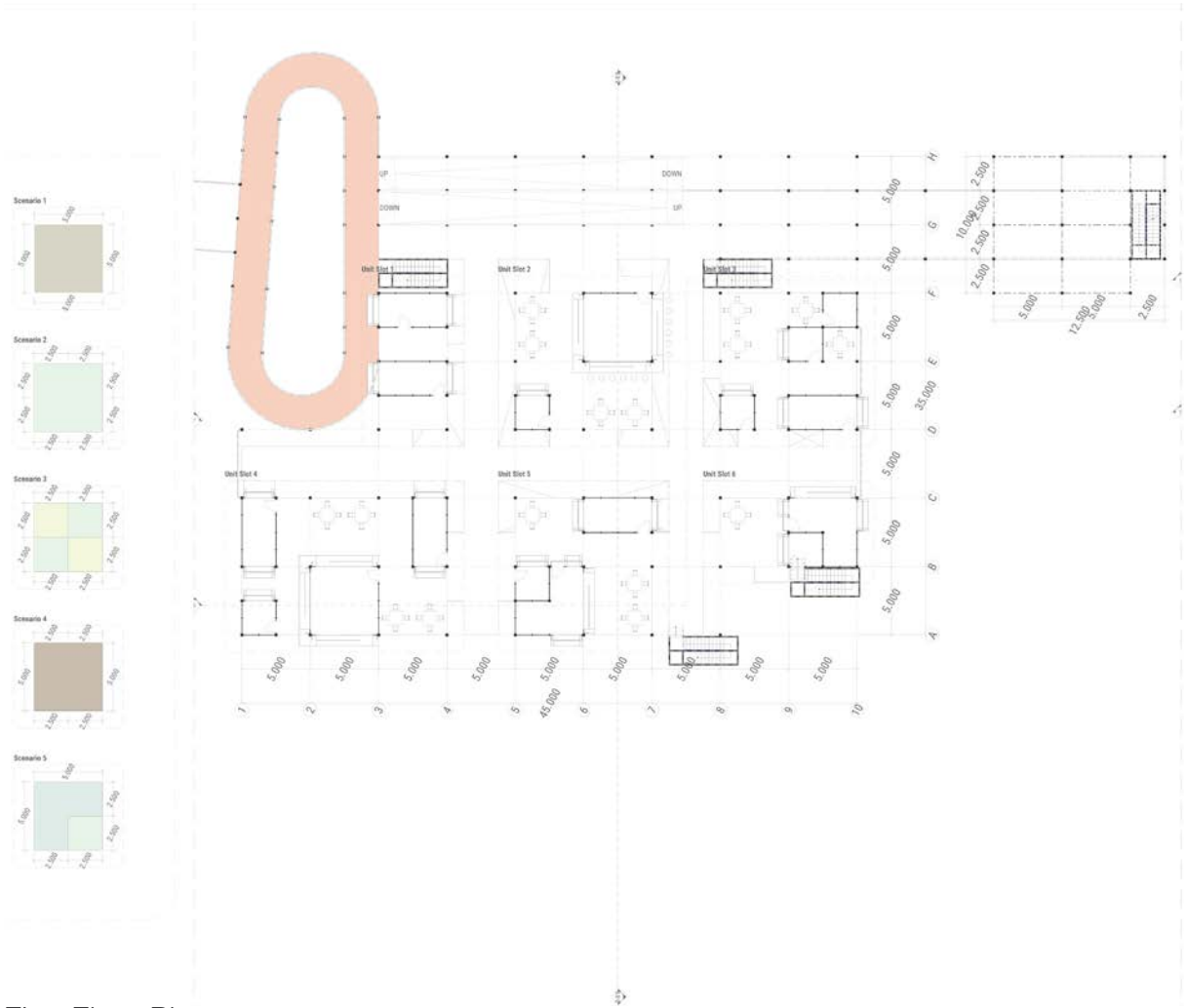
Third Floor Plan
Building 5

Third Floor Plan
Building 5



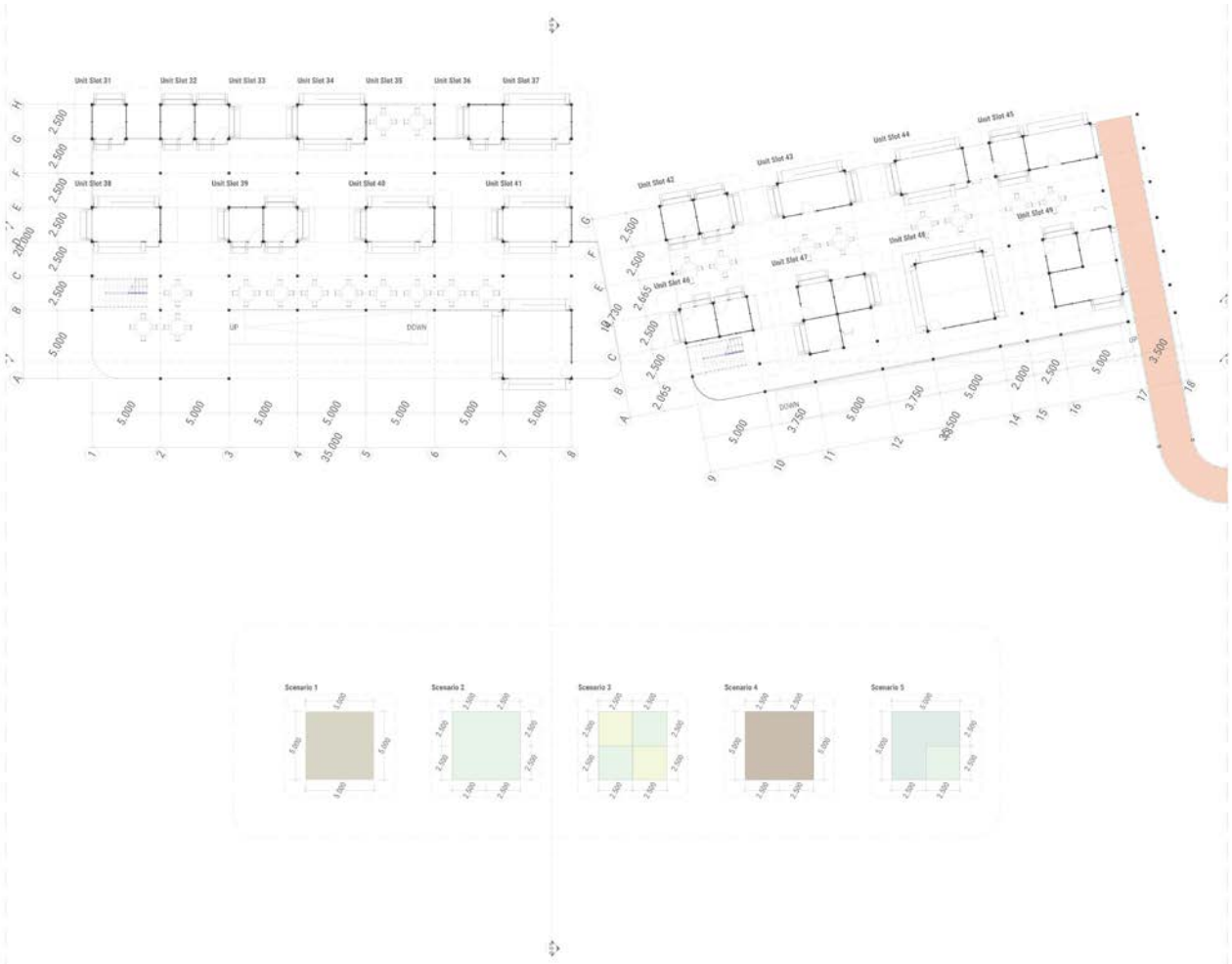
Fourth Floor Plan
Building 5

Fourth Floor Plan
Building 5



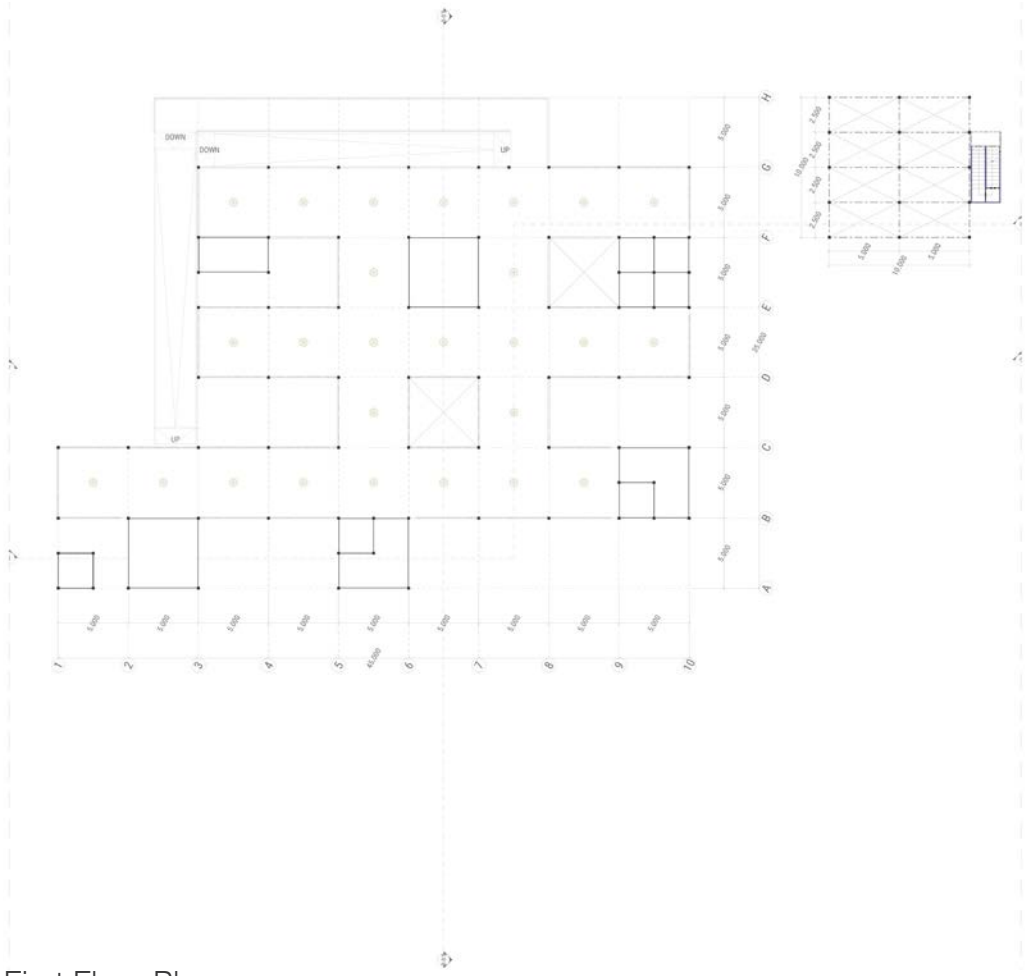
First Floor Plan
Building 6: Part 1

First Floor Plan
Building 6: Part 1



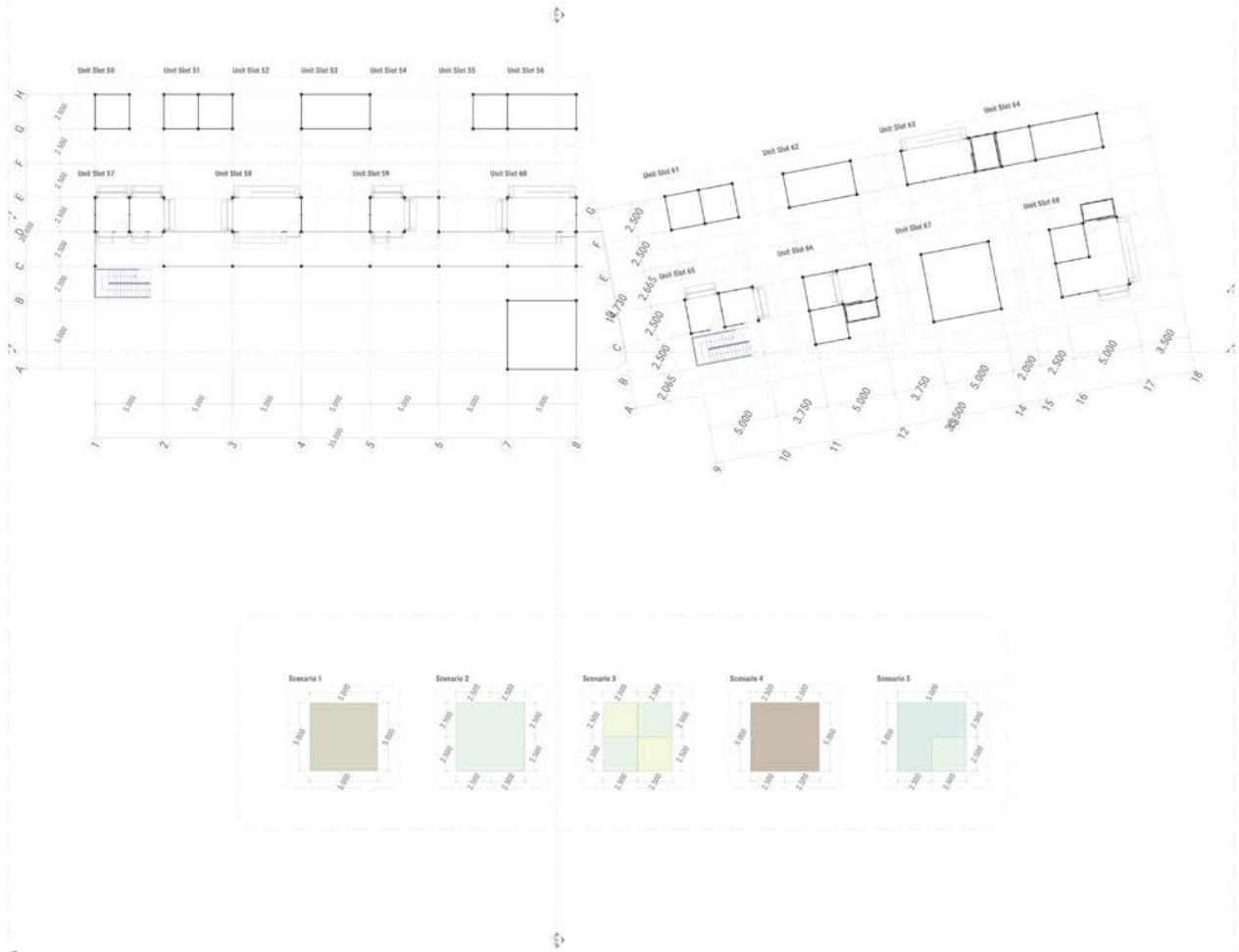
First Floor Plan
Building 6: Part 2

First Floor Plan
Building 6: Part 2



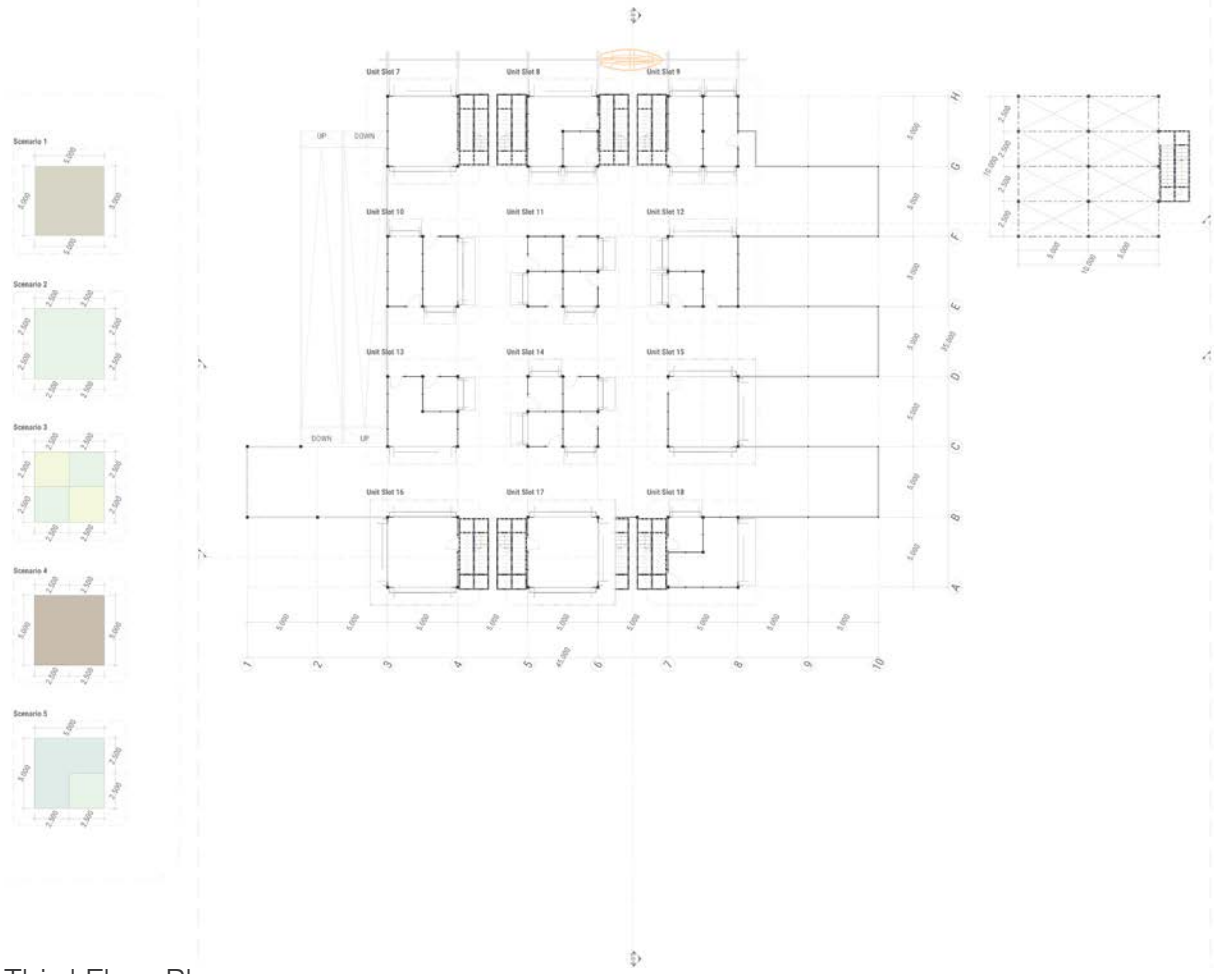
First Floor Plan
Building 6: Part 1

Second Floor Plan
Building 6: Part 1



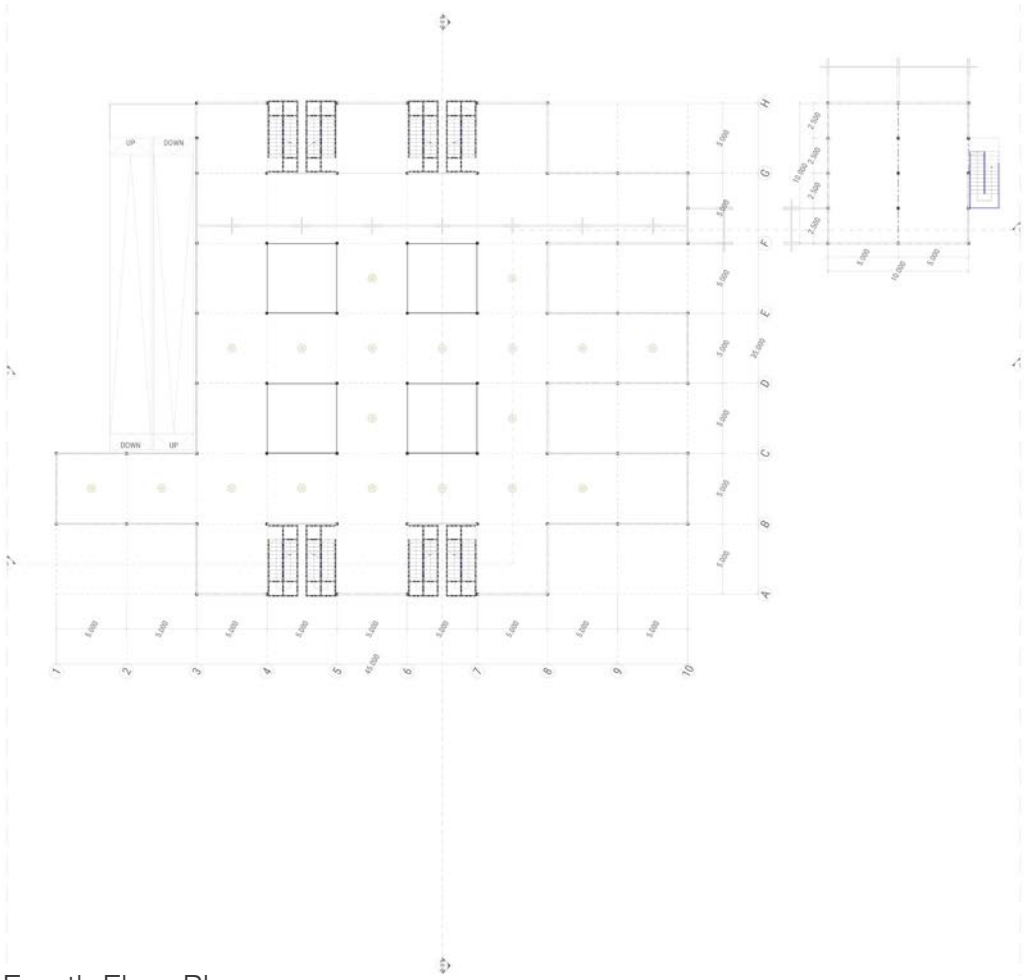
Second Floor Plan
Building 6: Part 2

Second Floor Plan
Building 6: Part 2



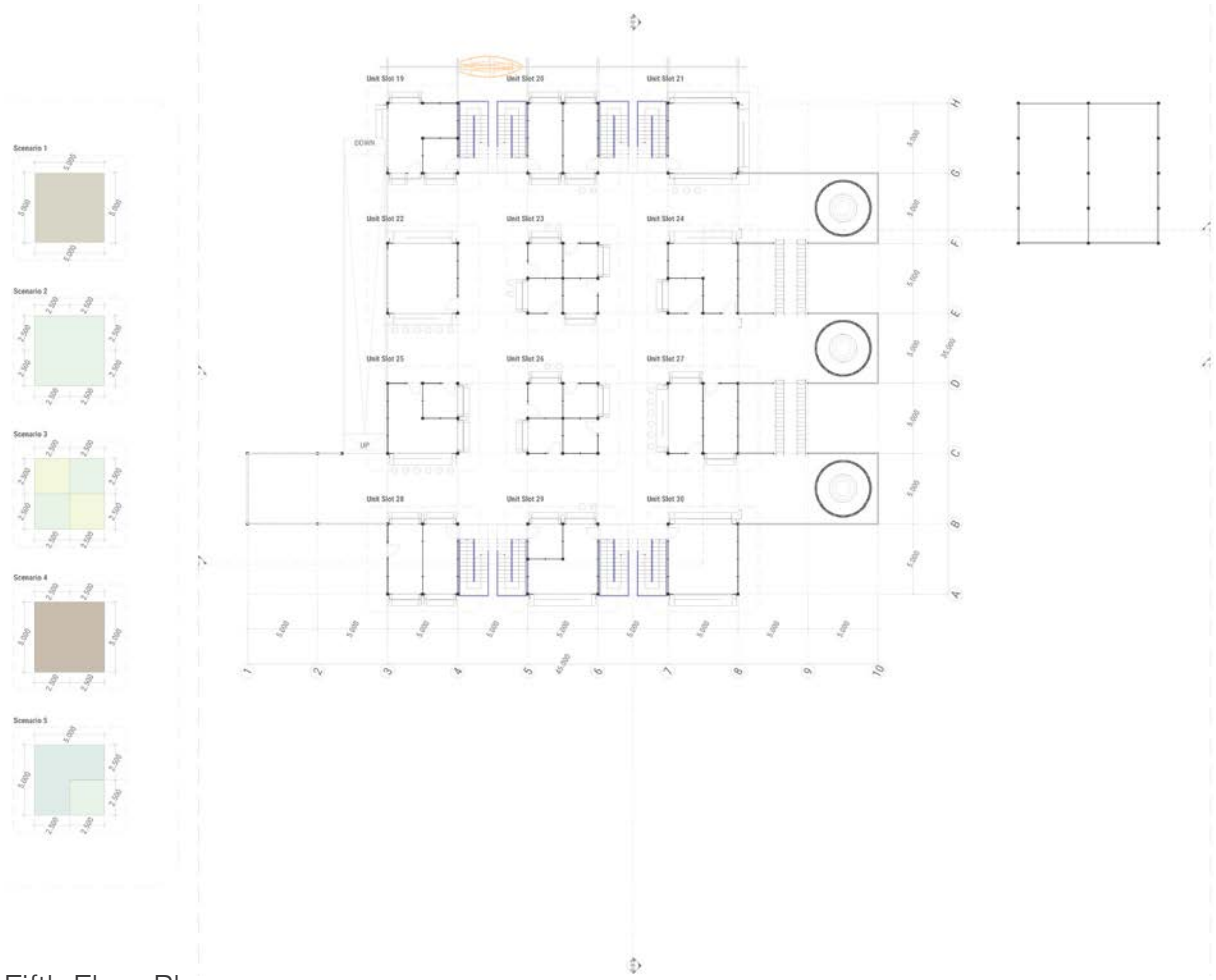
Third Floor Plan
Building 6: Part 1

Third Floor Plan
Building 6: Part 1



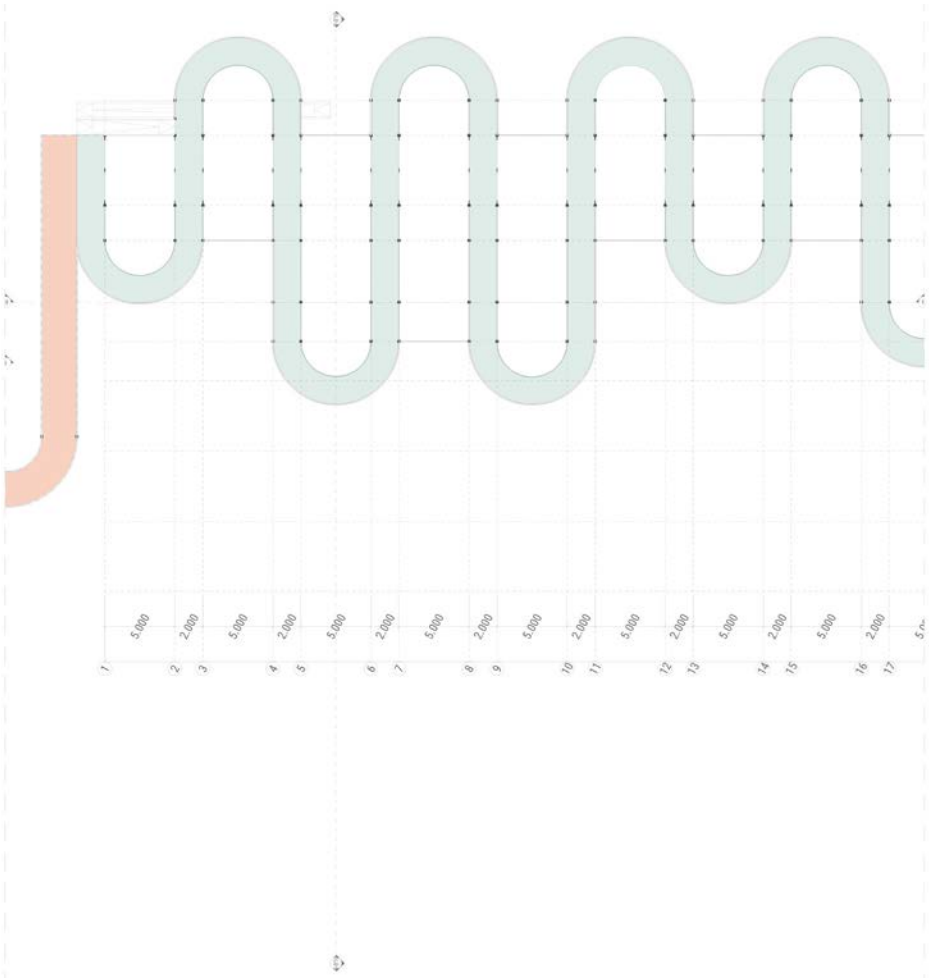
Fourth Floor Plan
Building 6: Part 1

Fourth Floor Plan
Building 6: Part 1



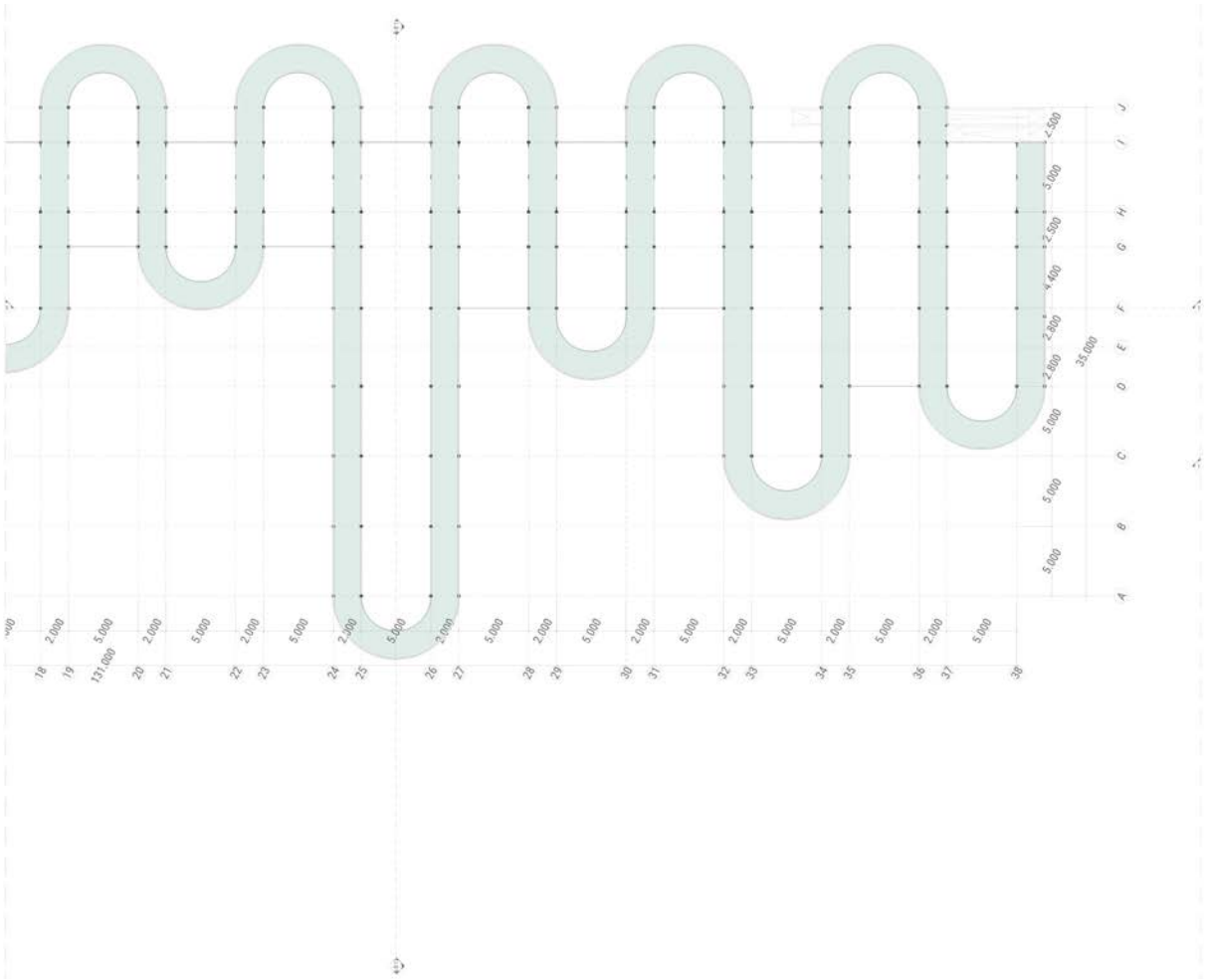
Fifth Floor Plan
Building 6: Part 1

Fifth Floor Plan
Building 6: Part 1



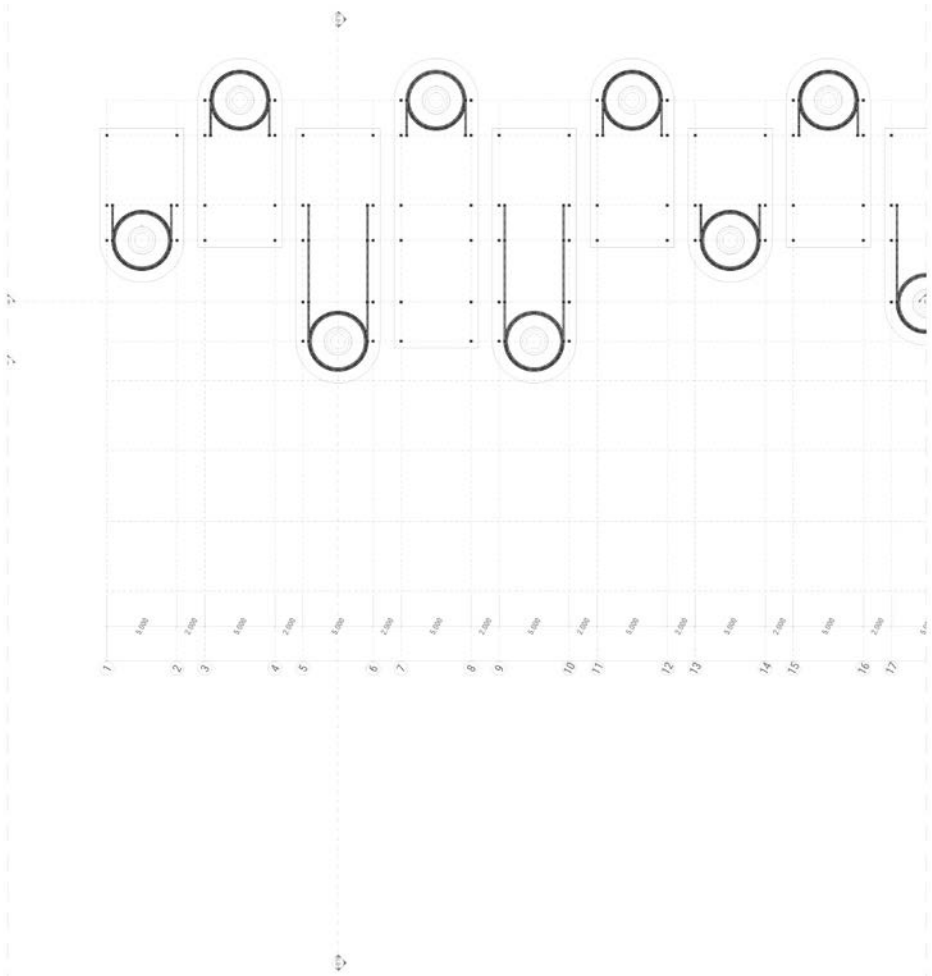
First Floor Plan
Building 7: Part 1

First Floor Plan
Building 7: Part 1



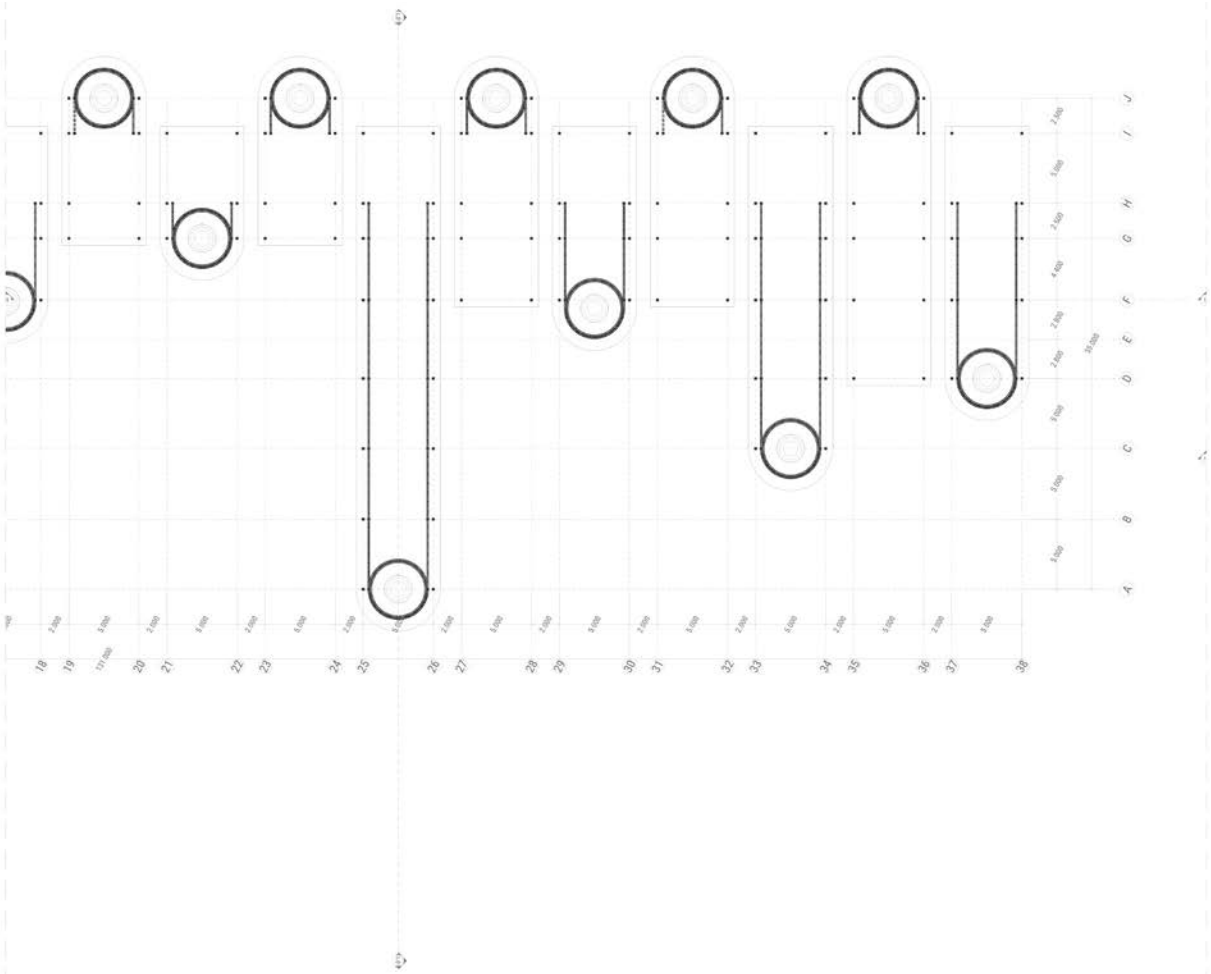
First Floor Plan
Building 7: Part 2

First Floor Plan
Building 7: Part 1



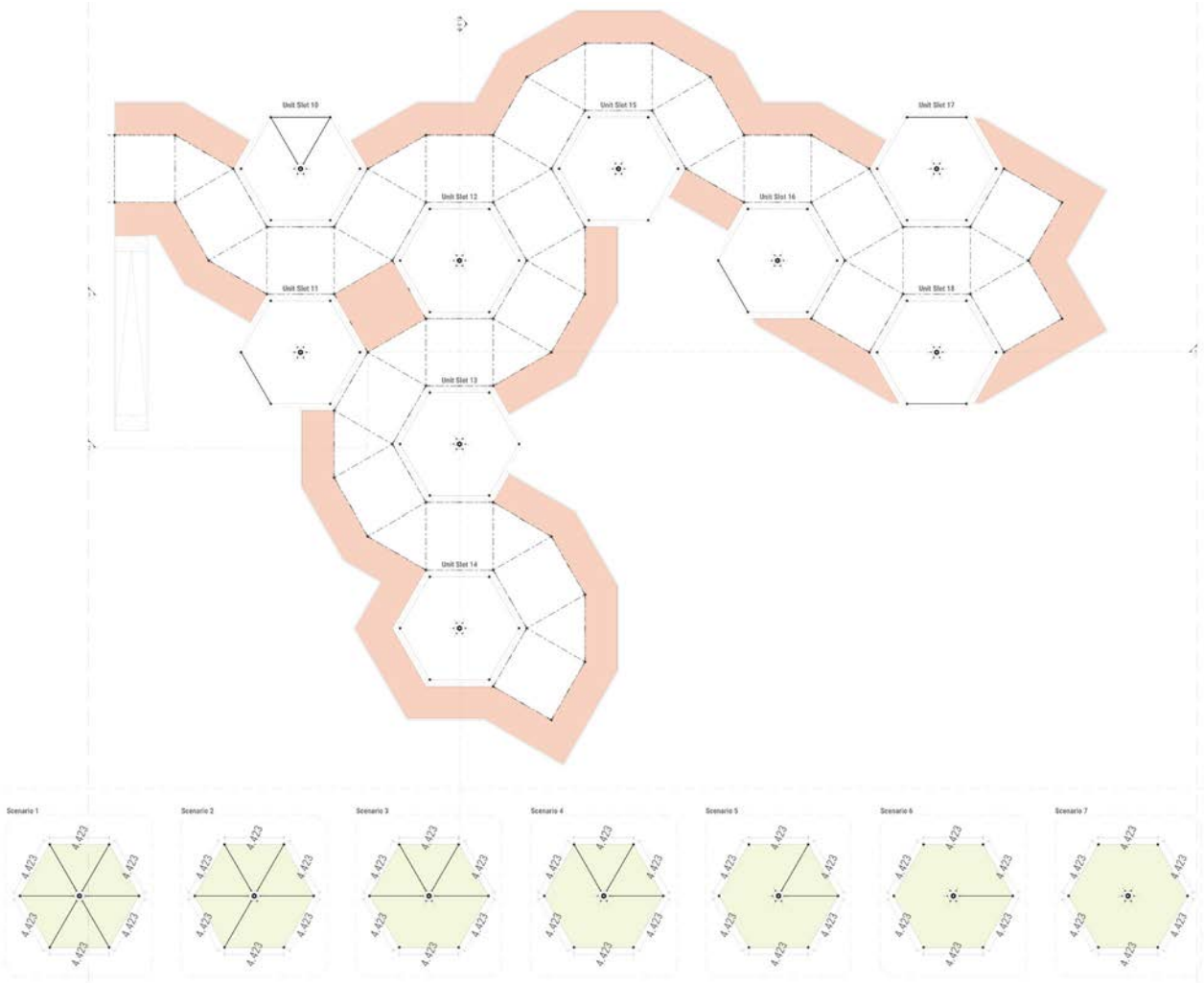
SecondFloor Plan
Building 7: Part 1

Second Floor Plan Building 7: Part 1



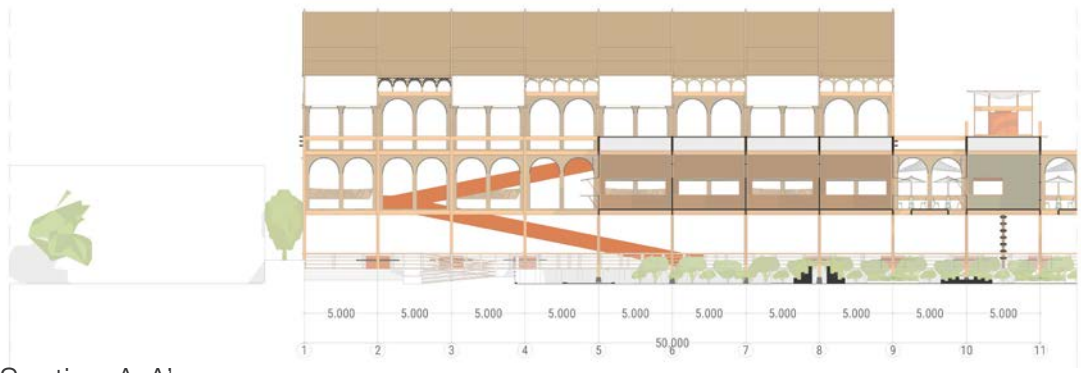
Second Floor Plan
Building 7: Part 2

Second Floor Plan
Building 7: Part 1

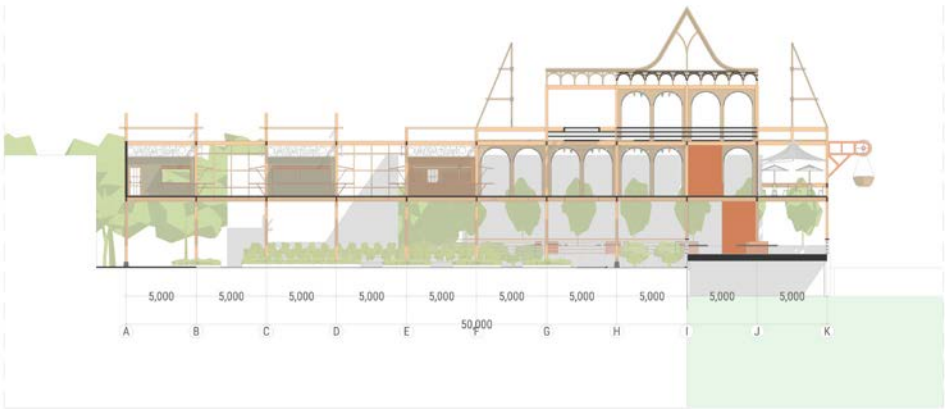


First Floor Plan
Building 8

First Floor Plan
Building 8

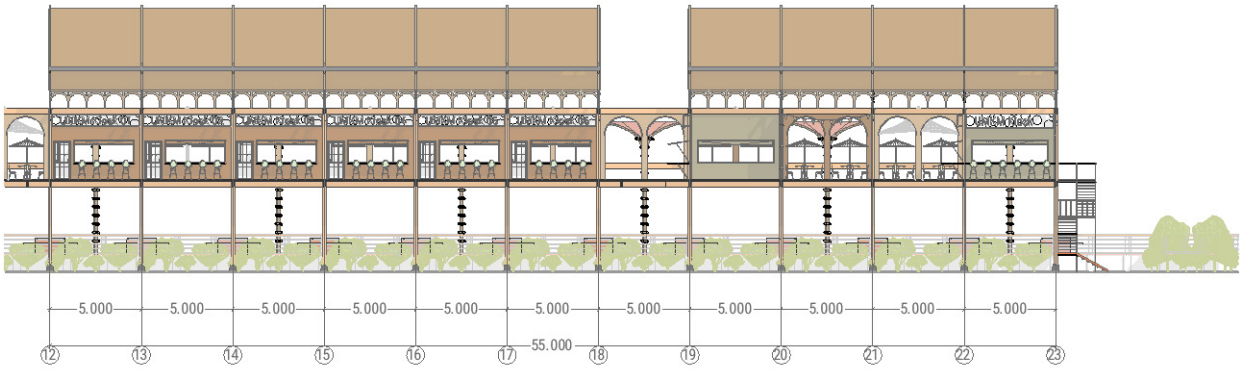


Section A-A'
Building 1: Part 1

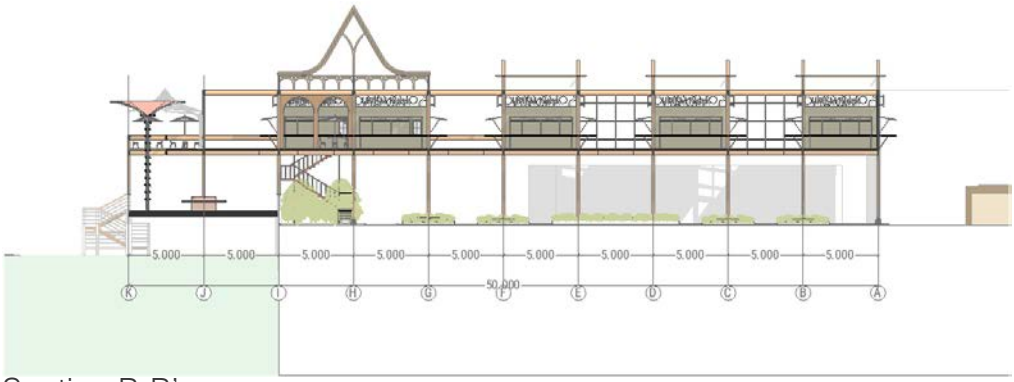


Section B-B'
Building 1: Part 1

Section A-A' & Section B-B' Building 1: Part 1



Section A-A'
Building 1: Part 2



Section B-B'
Building 1: Part 2

Section A-A' & Section B-B'
Building 1: Part 2



Section A-A'
Building 2: Part 1



Section B-B'
Building 2: Part 1

Section A-A' & Section B-B'
Building 2: Part 1



Section A-A'
Building 2: Part 2



Section B-B'
Building 2: Part 2

Section A-A' & Section B-B'
Building 2: Part 2

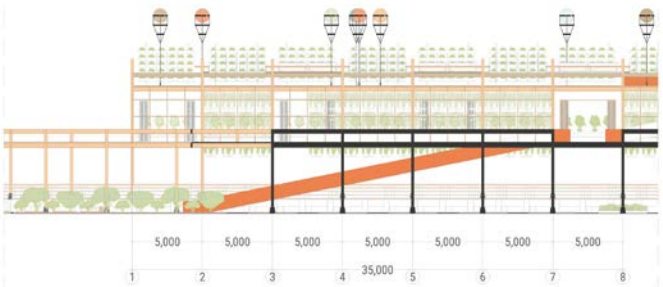


Section A-A'
Building 3

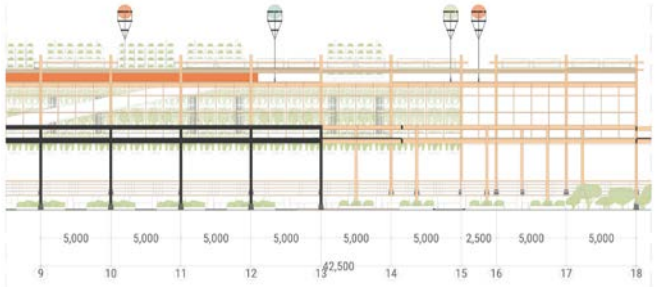


Section B-B'
Building 3

Section A-A' & Section B-B' Building 3



Section A-A'
Building 4: Part 1



Section A-A'
Building 4: Part 2

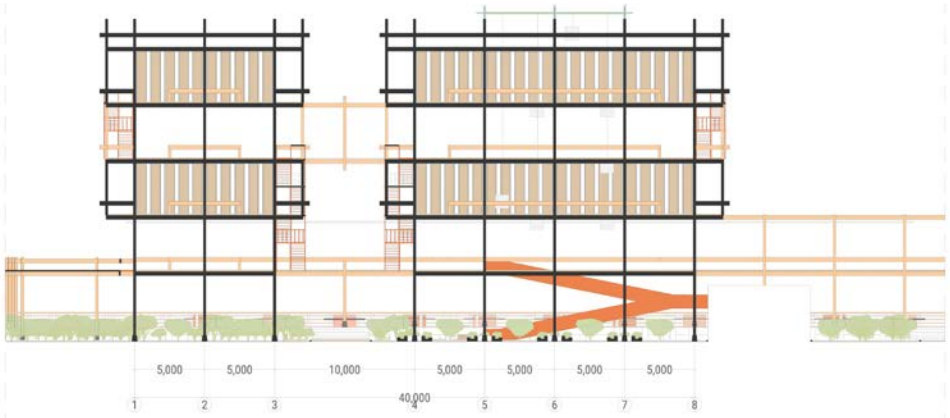


Section B-B'
Building 4: Part 1



Section B-B'
Building 4: Part 2

Section A-A' & Section B-B'
Building 4: Part 1&2

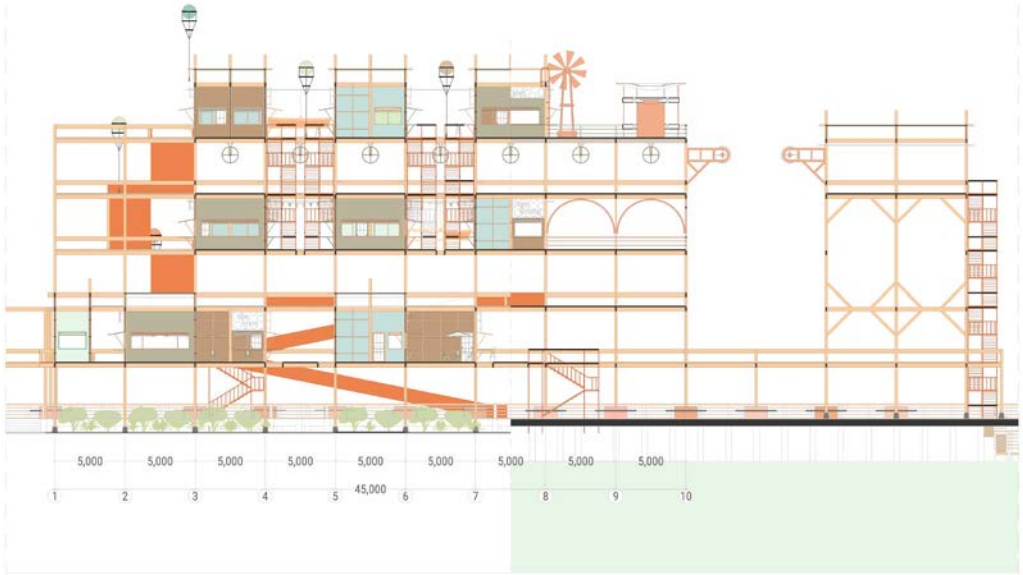


Section A-A'
Building 5



Section B-B'
Building 5

Section A-A' & Section B-B' Building 5



Section A-A'
Building 6: Part 1



Section B-B'
Building 6: Part 1

Section A-A' & Section B-B'
Building 6: Part 1

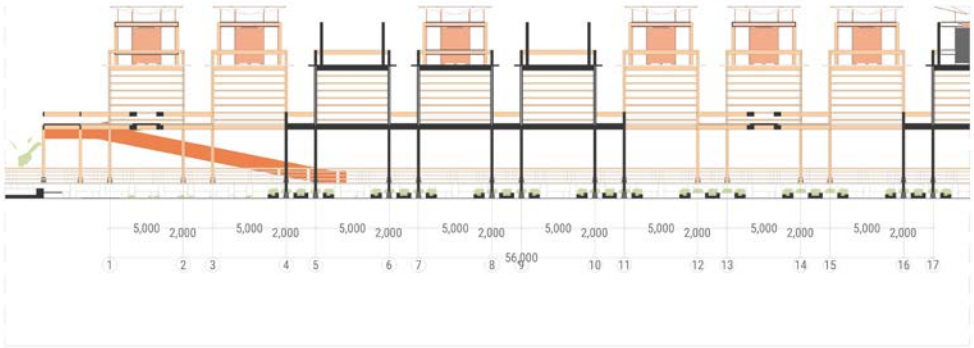


Section A-A'
Building 6: Part 2



Section B-B'
Building 6: Part 2

Section A-A' & Section B-B'
Building 6: Part 2

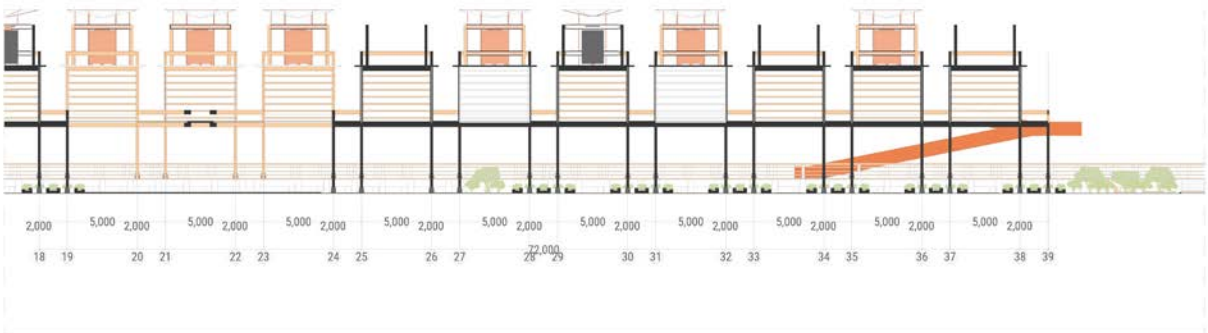


Section A-A'
Building 7: Part 1



Section B-B'
Building 7: Part 1

Section A-A' & Section B-B'
Building 7: Part 1

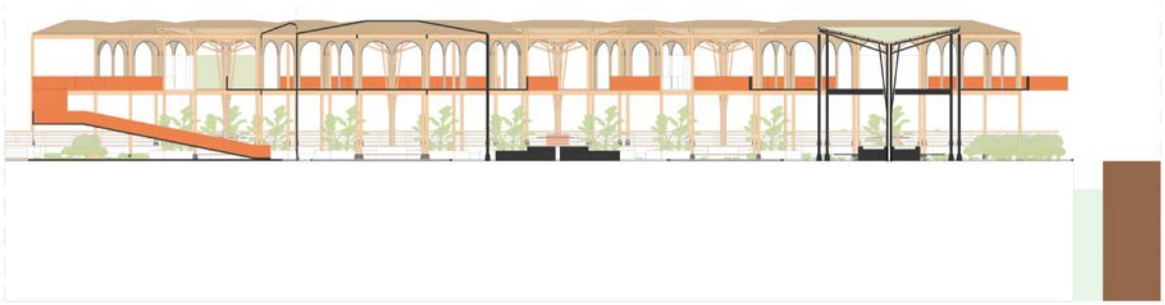


Section A-A'
Building 7: Part 2



Section B-B'
Building 7: Part 2

Section A-A' & Section B-B'
Building 7: Part 2

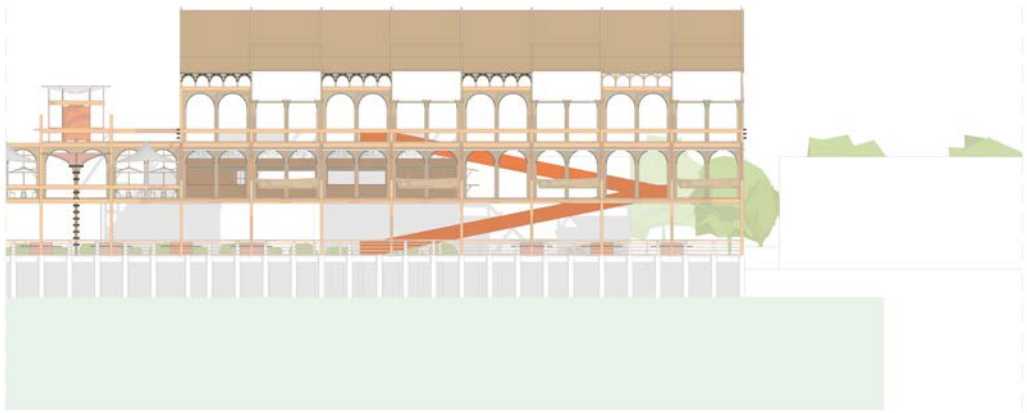


Section A-A'
Building 8

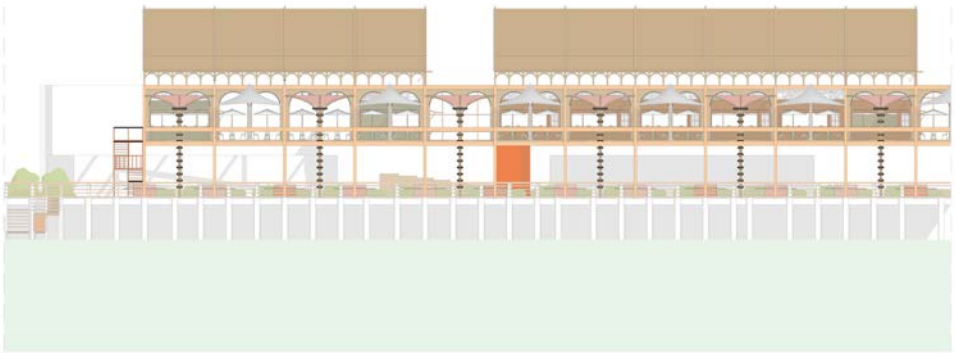


Section B-B'
Building 8

Section A-A' & Section B-B' Building 8

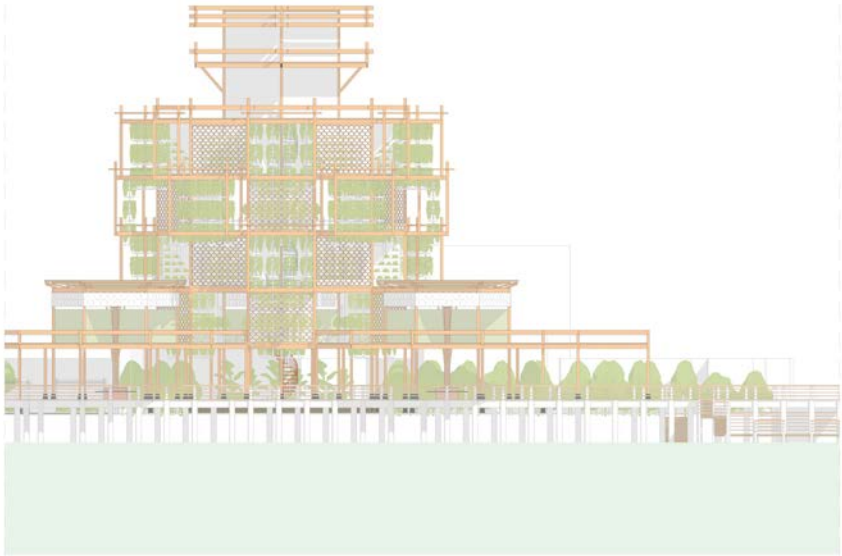


Elevation: View from Kapuas River
Building 1: Part 1



Elevation: View from Kapuas River
Building 1: Part 2

Elevation: View from Kapuas River Building 1: Part 1&2

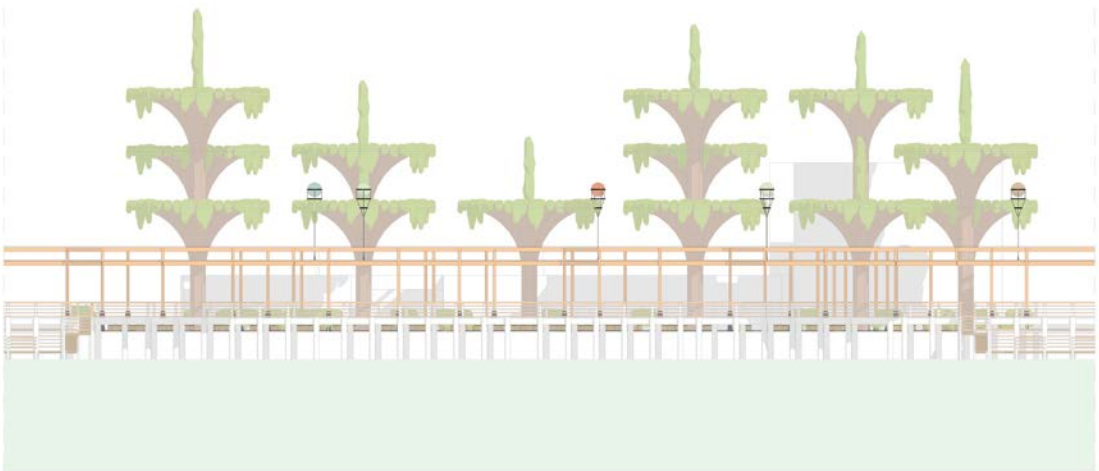


Elevation: View from Kapuas River
Building 2: Part 1



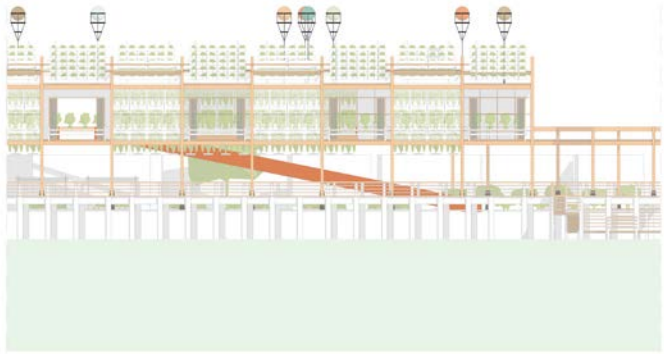
Elevation: View from Kapuas River
Building 2: Part 2

Elevation: View from Kapuas River Building 2: Part 1&2

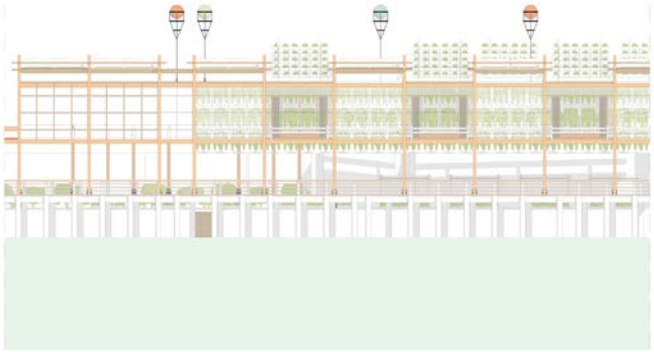


Elevation: View from Kapuas River
Building 3

Elevation: View from Kapuas River Building 3

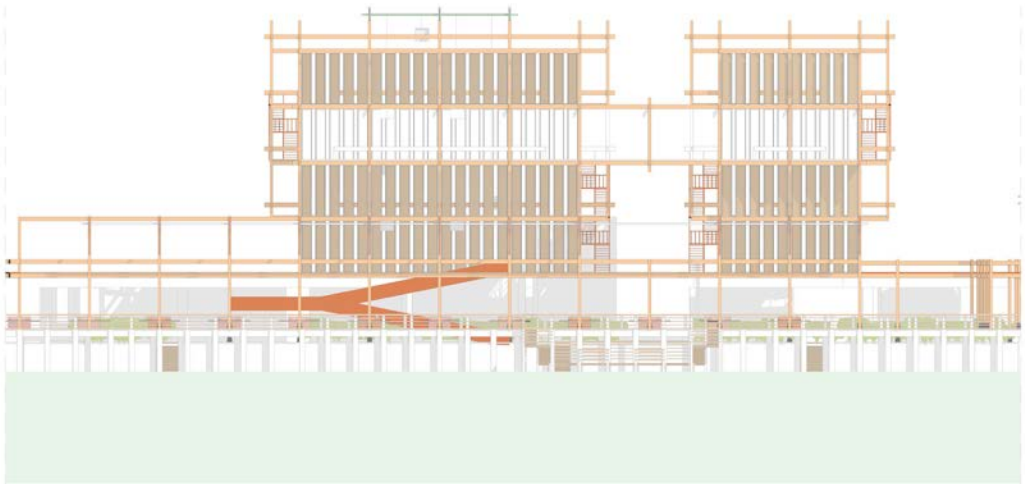


Elevation: View from Kapuas River
Building 4: Part 1



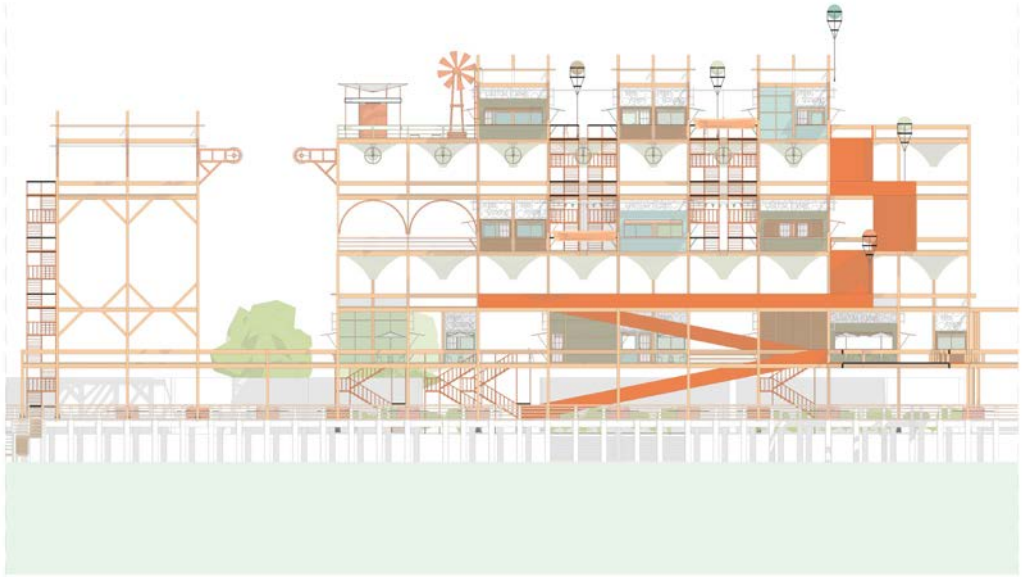
Elevation: View from Kapuas River
Building 4: Part 2

Elevation: View from Kapuas River Building 4: Part 1&2



Elevation: View from Kapuas River
Building 5

Elevation: View from Kapuas River Building 5



Elevation: View from Kapuas River
Building 6: Part 1



Elevation: View from Kapuas River
Building 6: Part 2

Elevation: View from Kapuas River Building 6: Part 1&2



Elevation: View from Kapuas River
Building 1: Part 1



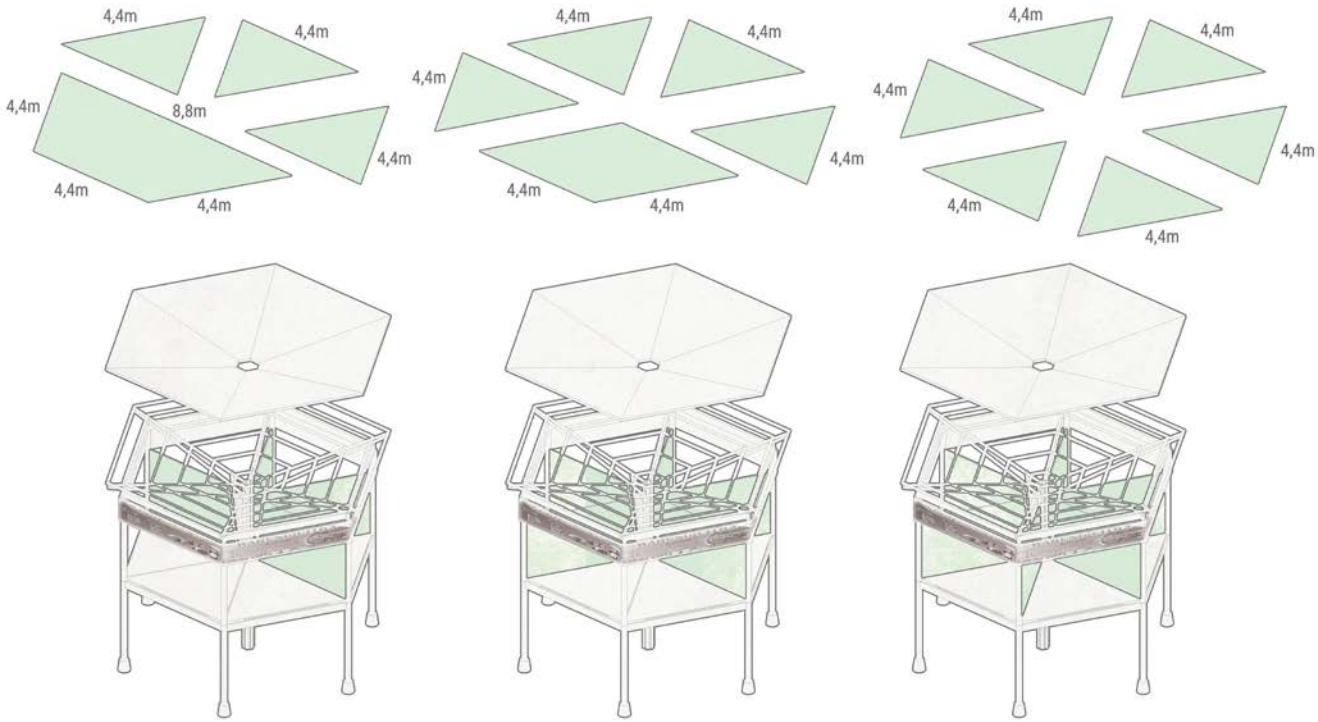
Elevation: View from Kapuas River
Building 1: Part 2

Elevation: View from Kapuas River Building 7: Part 1&2



Elevation: View from Kapuas River
Building 8

Elevation: View from Kapuas River Building 8



Scenario 5

Rentable Area
25,4 square meter
8,47 square meter
8,47 square meter
8,47 square meter

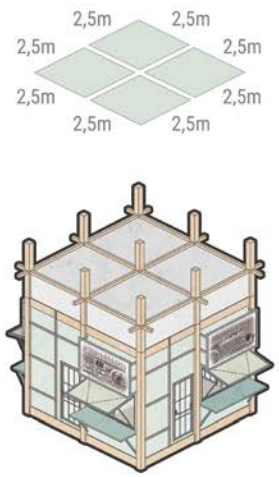
Scenario 6

Rentable Area
16,95 square meter
8,47 square meter
8,47 square meter
8,47 square meter
8,47 square meter

Scenario 7

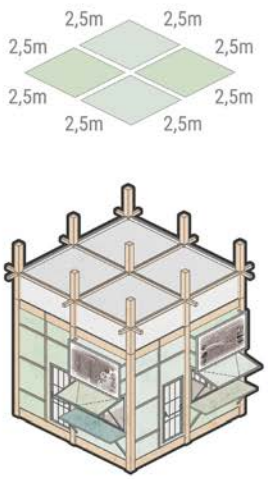
Rentable Area
8,47 square meter
8,47 square meter
8,47 square meter
8,47 square meter
8,47 square meter
8,47 square meter

Rentable Module Units



Scenario 1

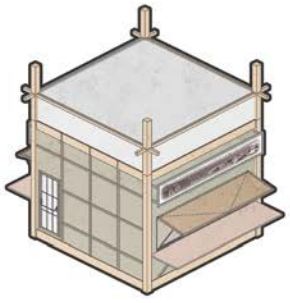
Rentable Area
6,25 square meter
6,25 square meter
6,25 square meter
6,25 square meter



Scenario 2

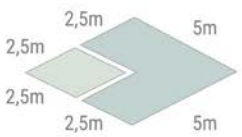
Rentable Area
6,25 square meter
6,25 square meter
12,5 square meter

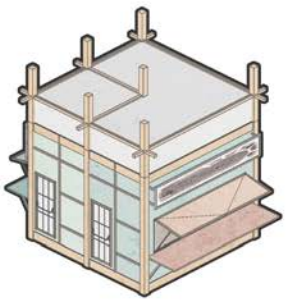




Scenario 3

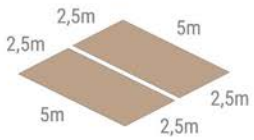
Rentable Area
25 square meter

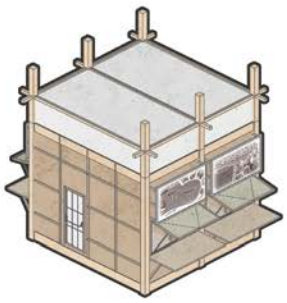




Scenario 4

Rentable Area
6,25 square meter
18,75 square meter

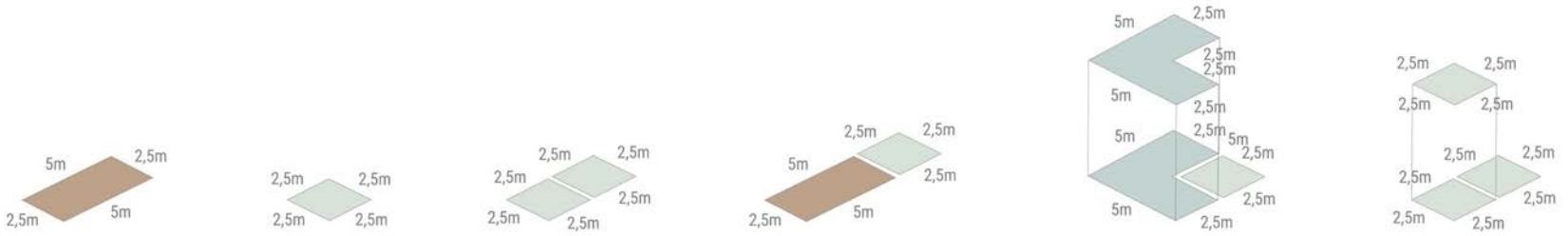


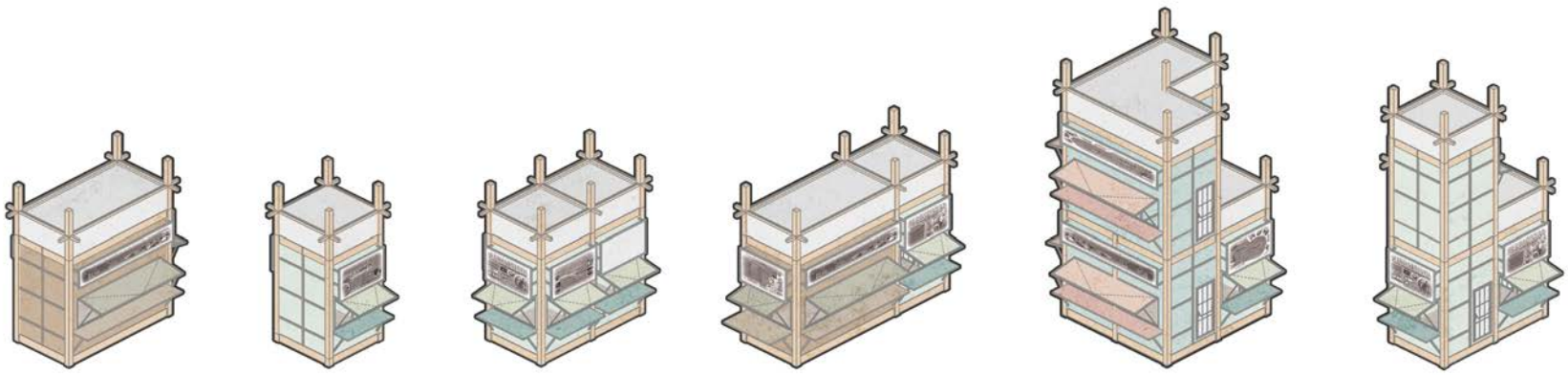


Scenario 5

Rentable Area
12,5 square meter
12,5 square meter

Rentable Module Units





Scenario 6

Rentable Area
12,5 square meter

Scenario 7

Rentable Area
6,25 square meter

Scenario 8

Rentable Area
6,25 square meter
6,25 square meter

Scenario 9

Rentable Area
12,5 square meter
6,25 square meter

Scenario 10

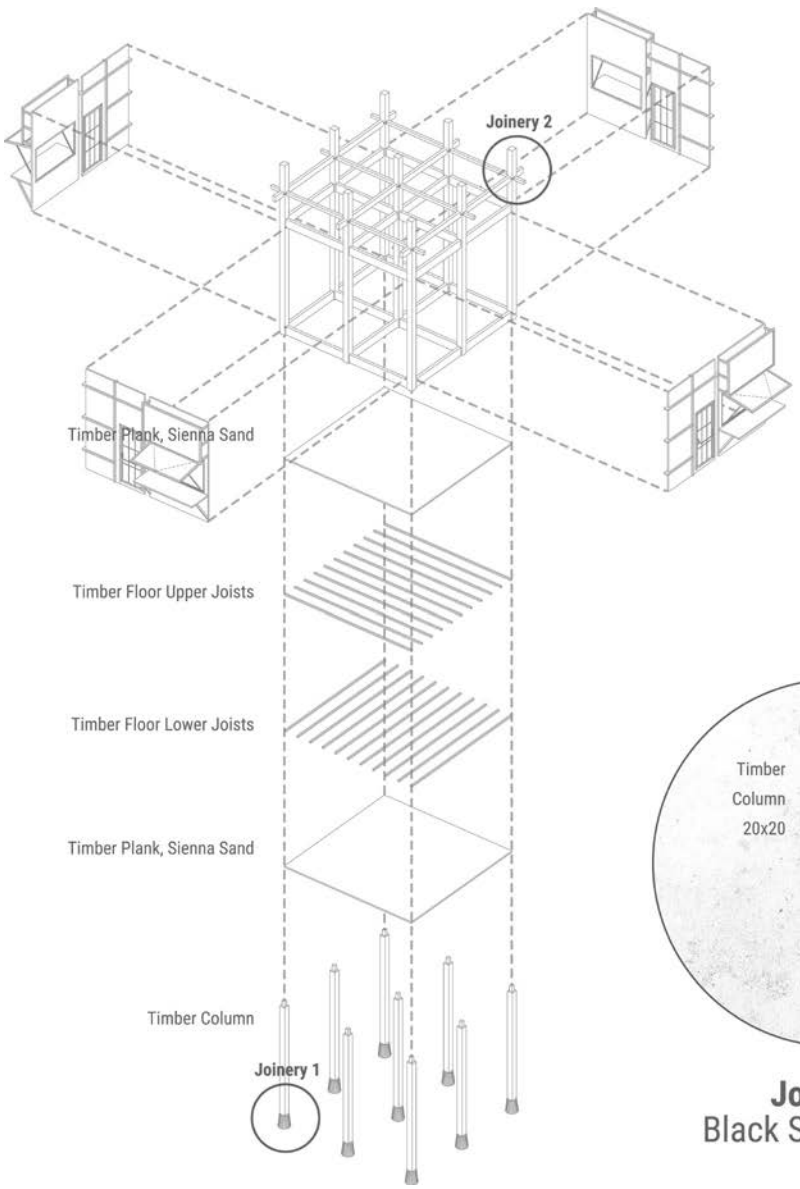
Rentable Area
18,75 square meter
+
18,75 square meter
6,25 square meter

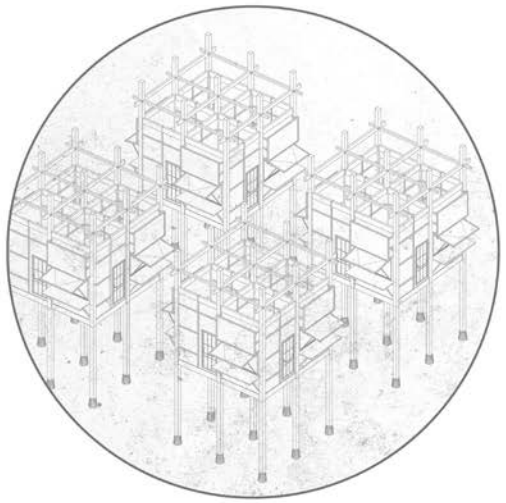
Scenario 11

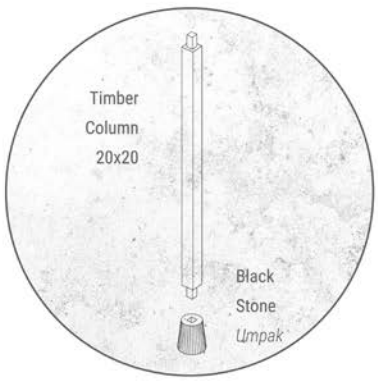
Rentable Area
6,25 square meter
+
6,25 square meter
6,25 square meter

and many more possibilities...

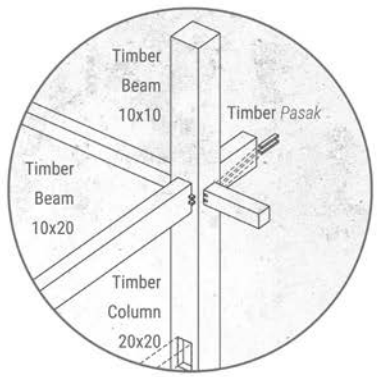
Rentable Module Units





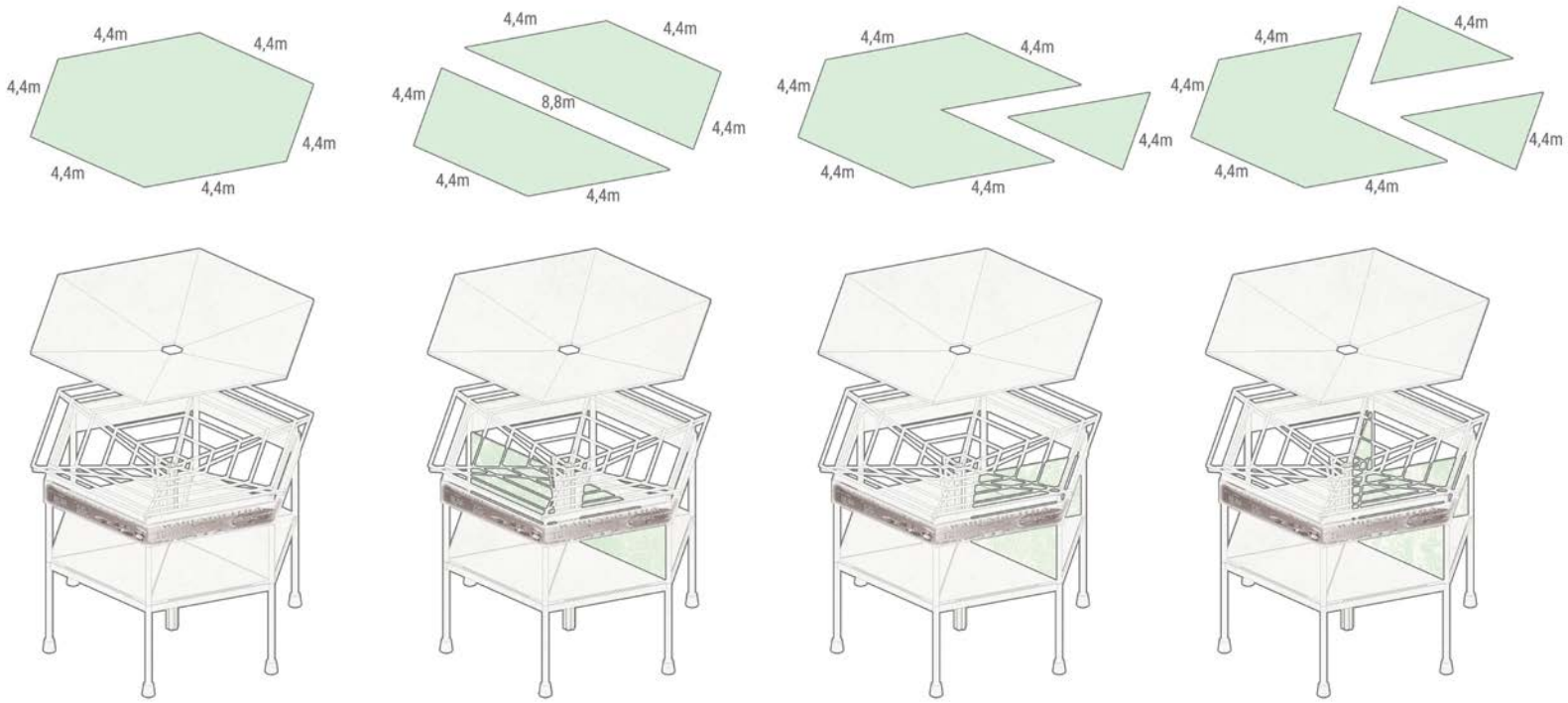


Joinery 1
Black Stone *Umpak*



Joinery 2
Timber *Pasak*

Module Set - Structure Detail



Scenario 1

Rentable Area
50,8 square meter

Scenario 2

Rentable Area
25,4 square meter
25,4 square meter

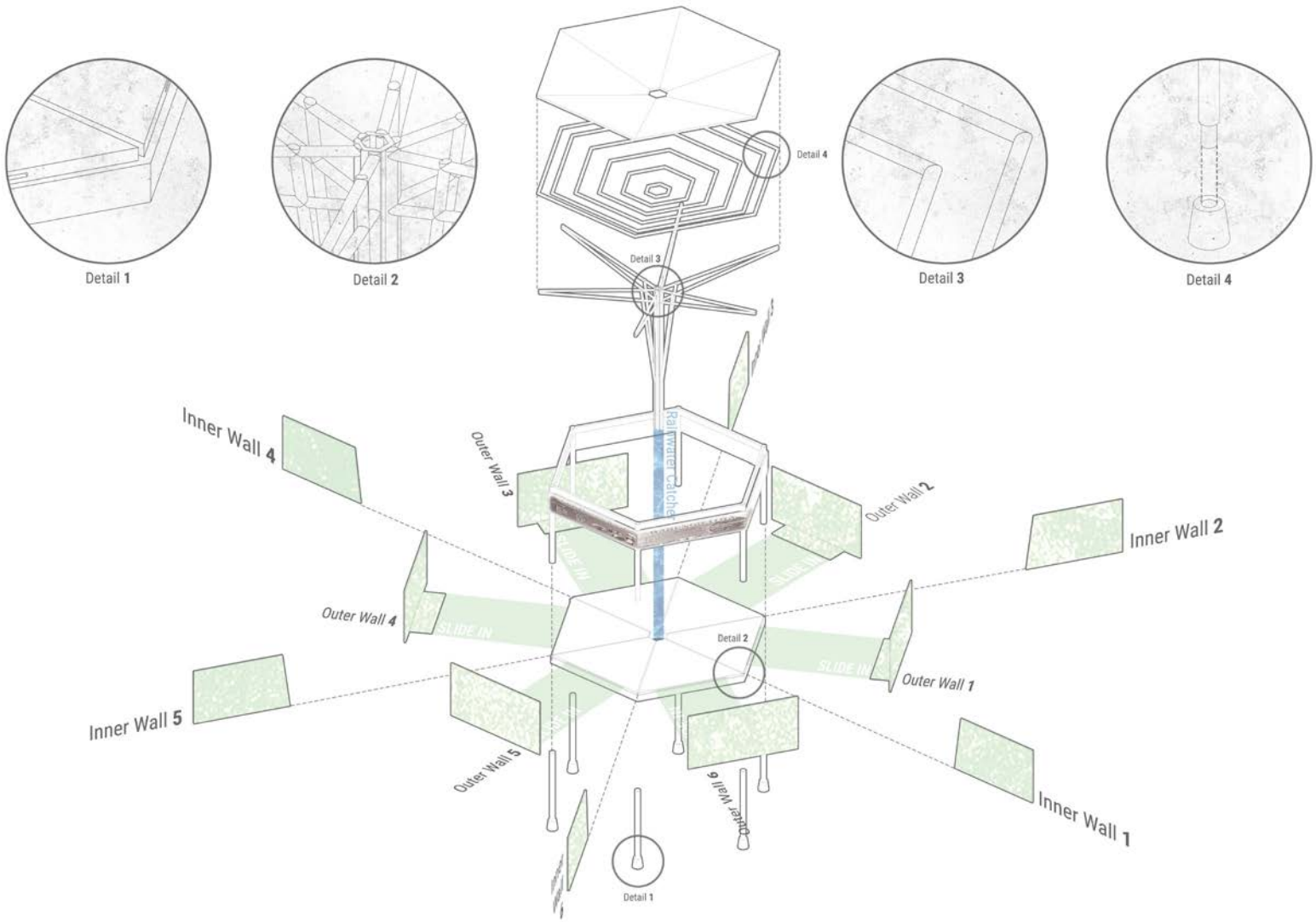
Scenario 3

Rentable Area
42,35 square meter
8,47 square meter

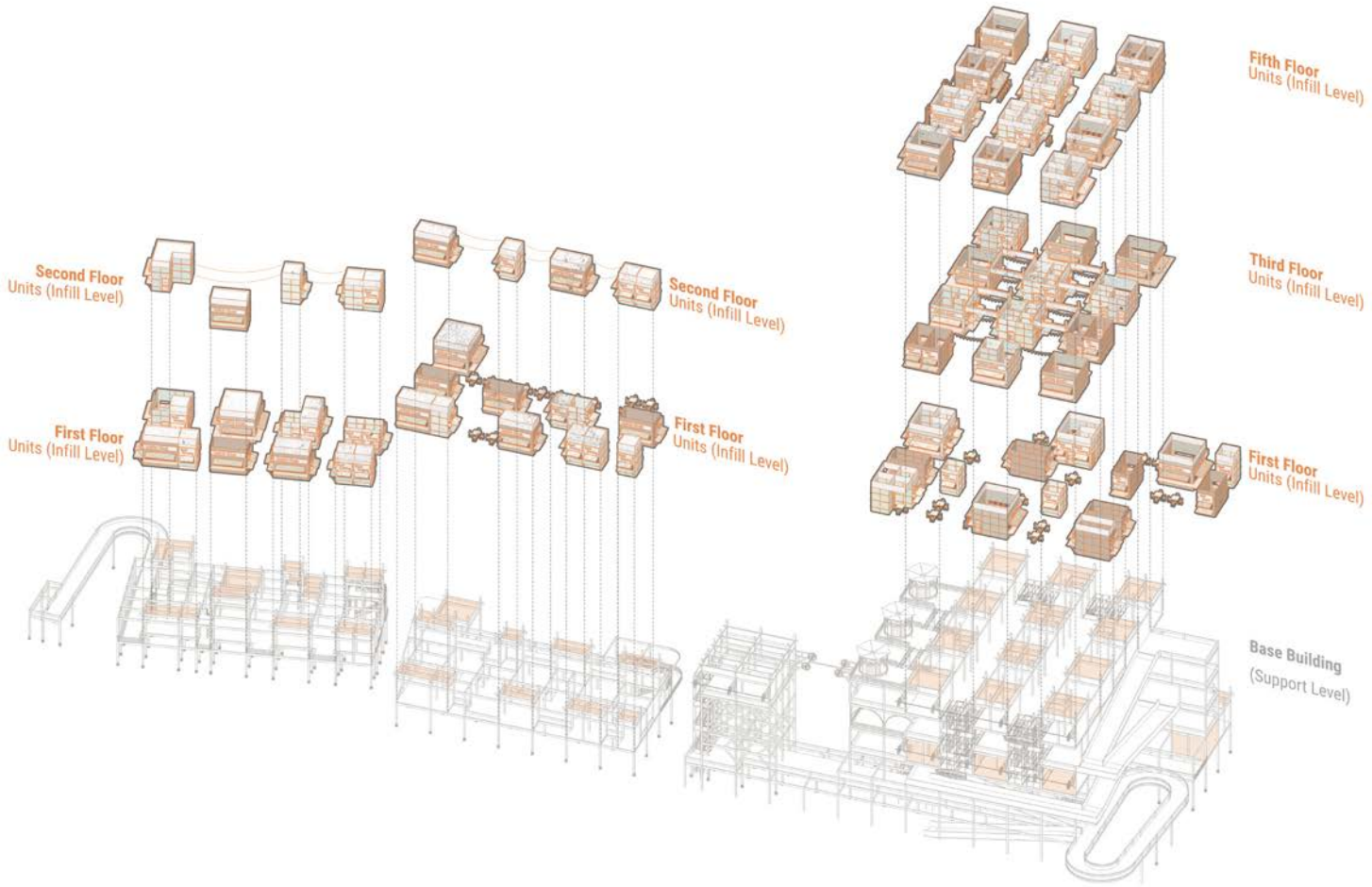
Scenario 4

Rentable Area
33,88 square meter
8,47 square meter
8,47 square meter

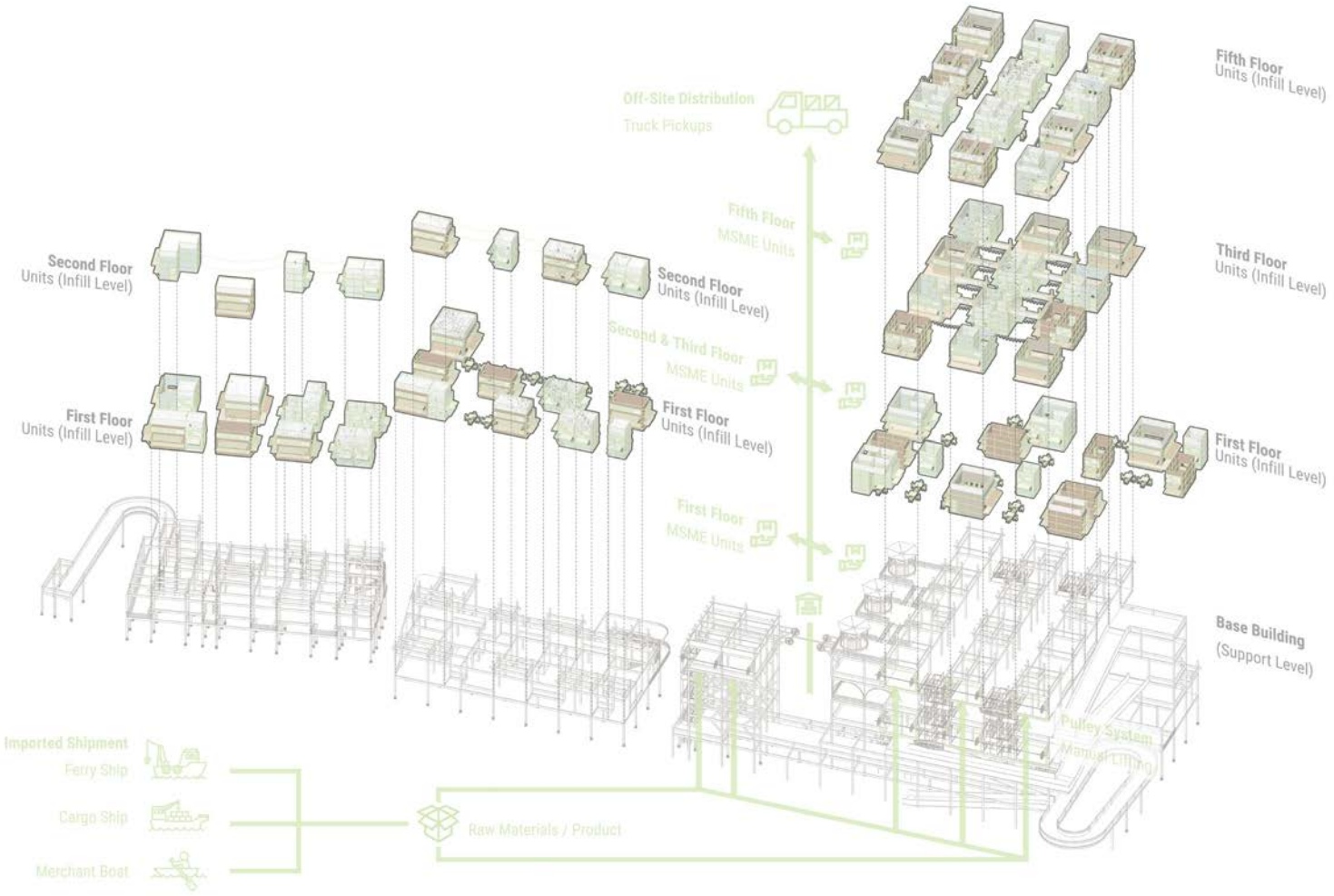
Rentable Module Units



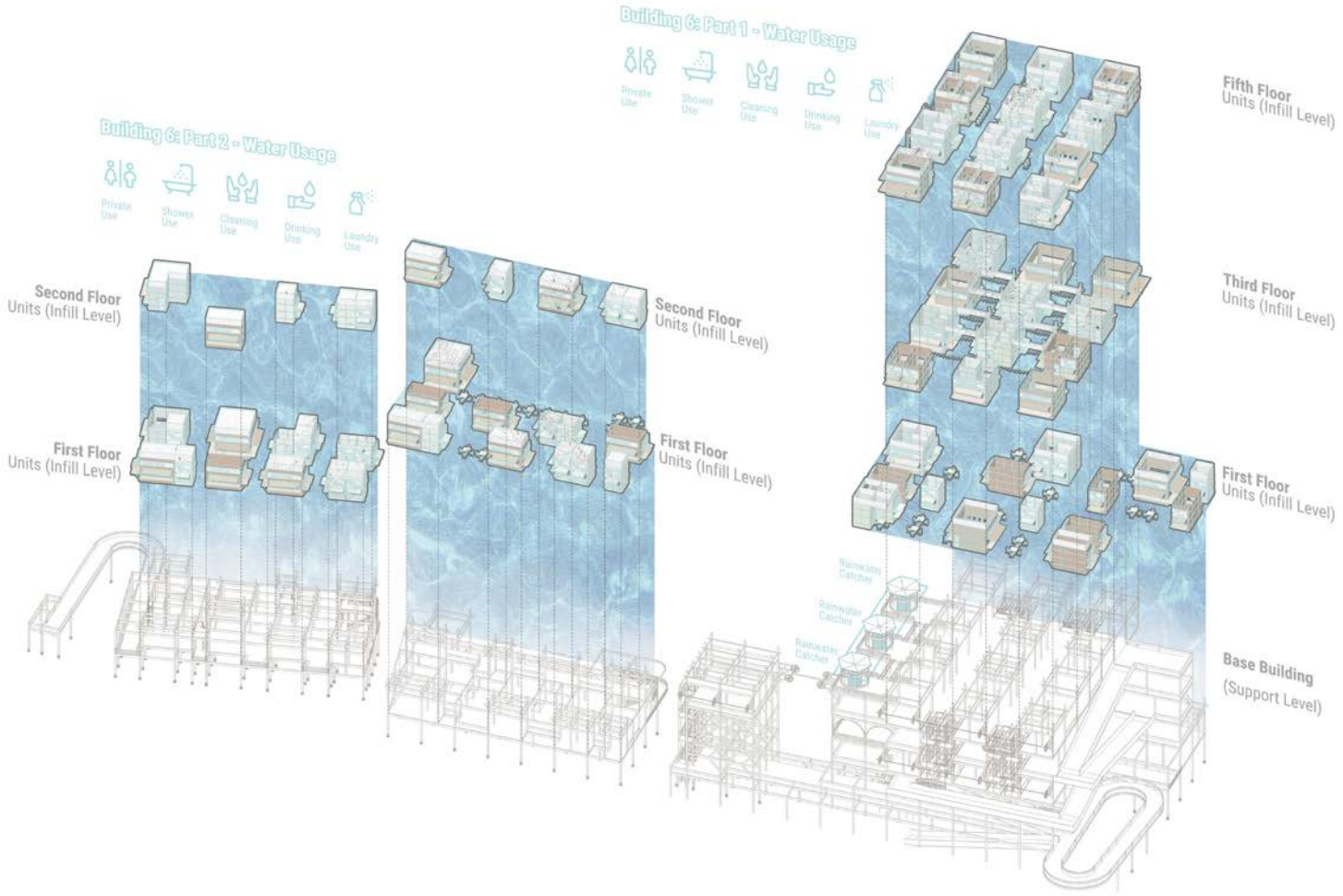
Module Set - Structure Detail



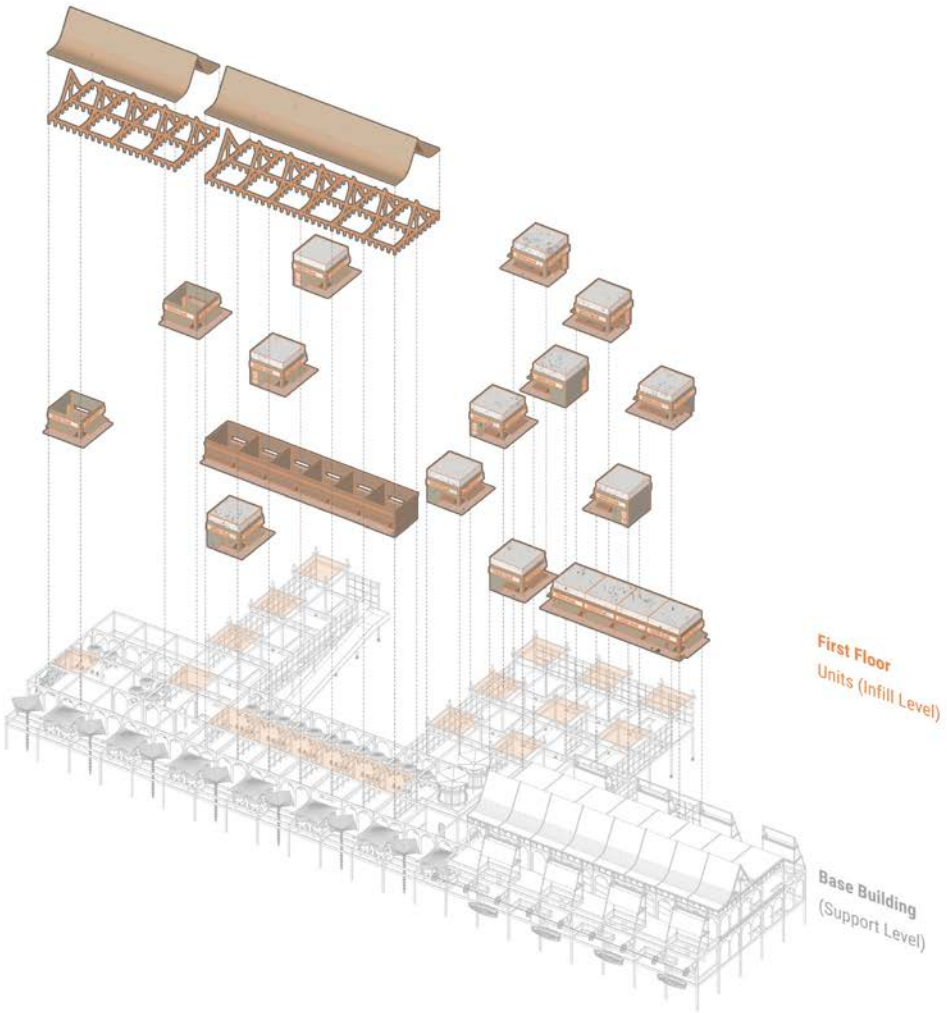
Module Scheme - Building 6: Part 1&2



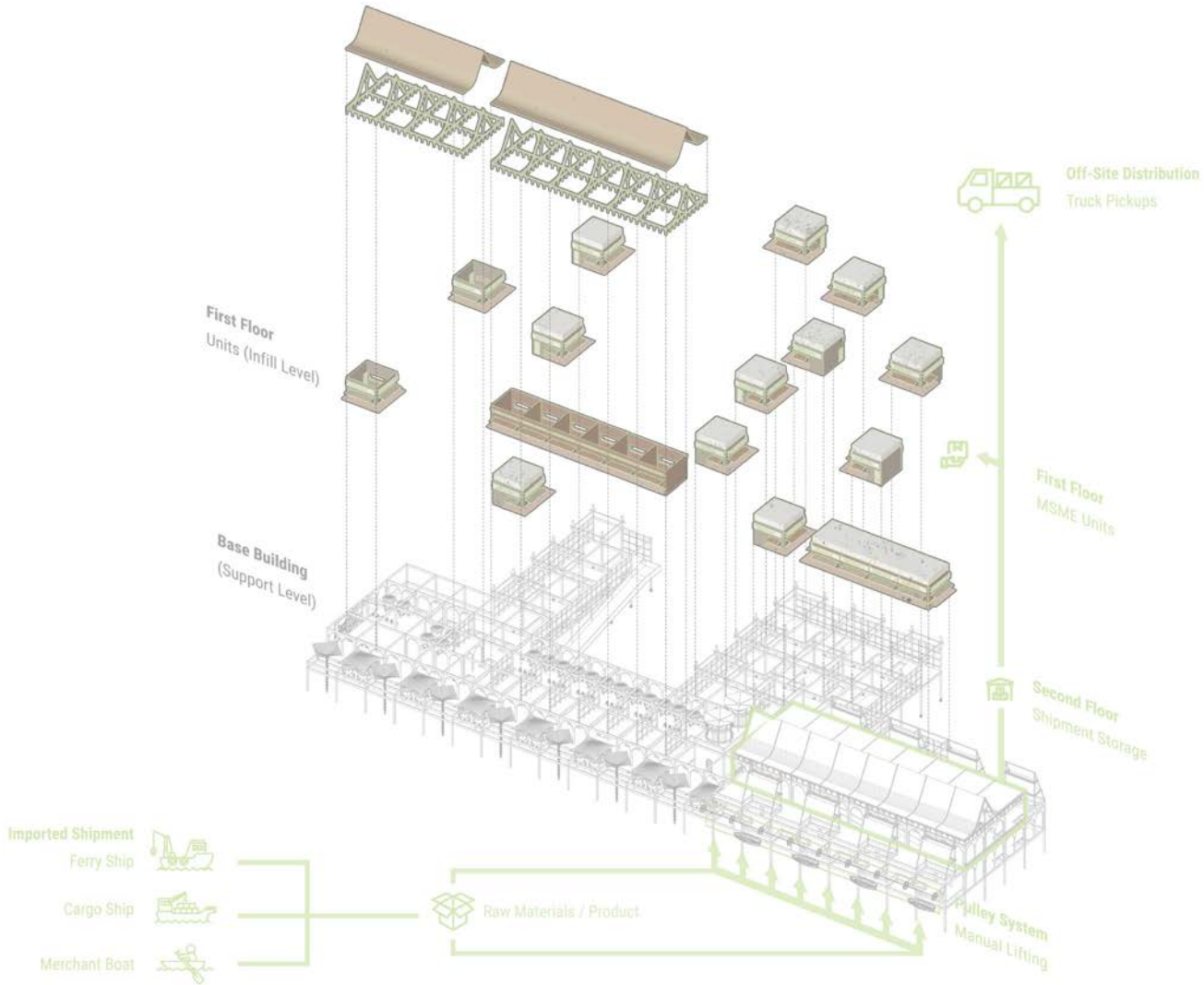
Product Shipment Distribution Scheme - Building 6: Part 1&2



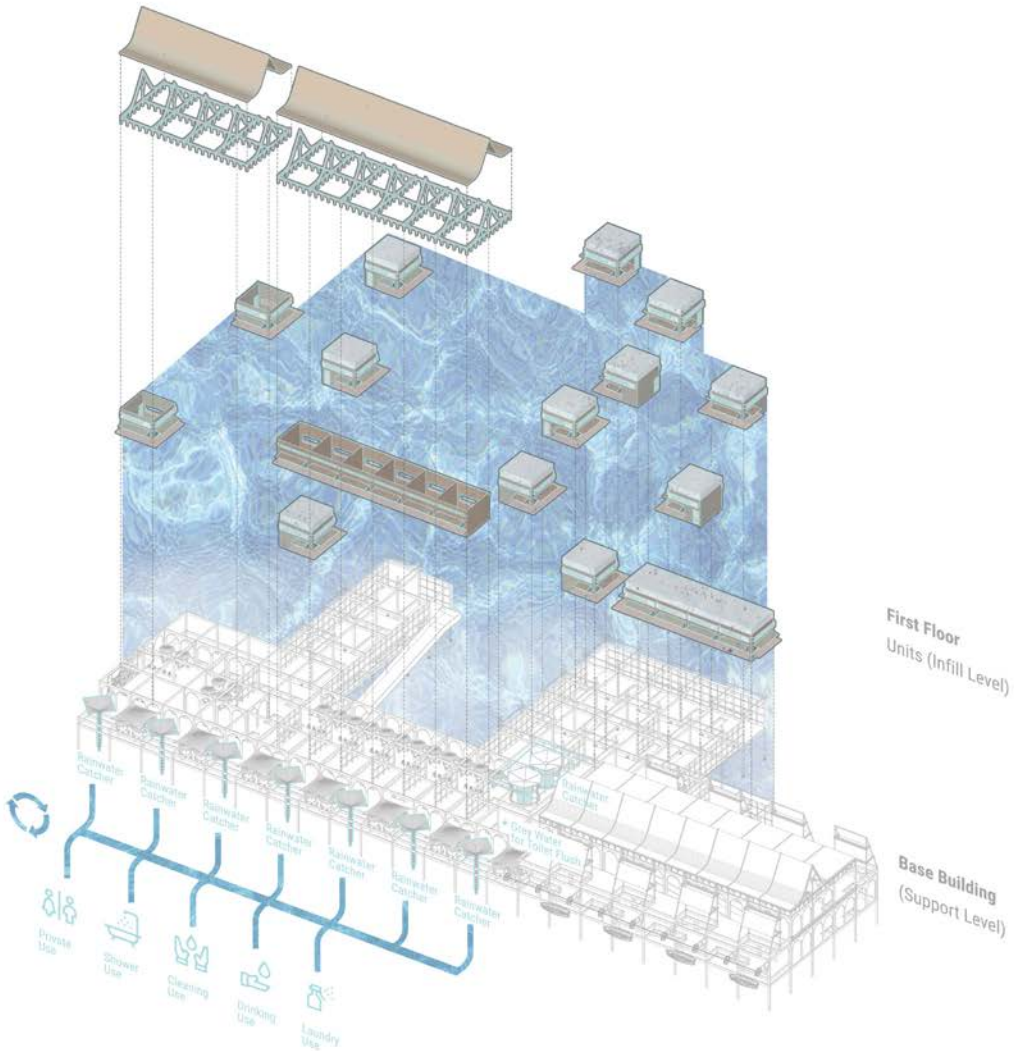
Water System Scheme - Building 6: Part 1&2



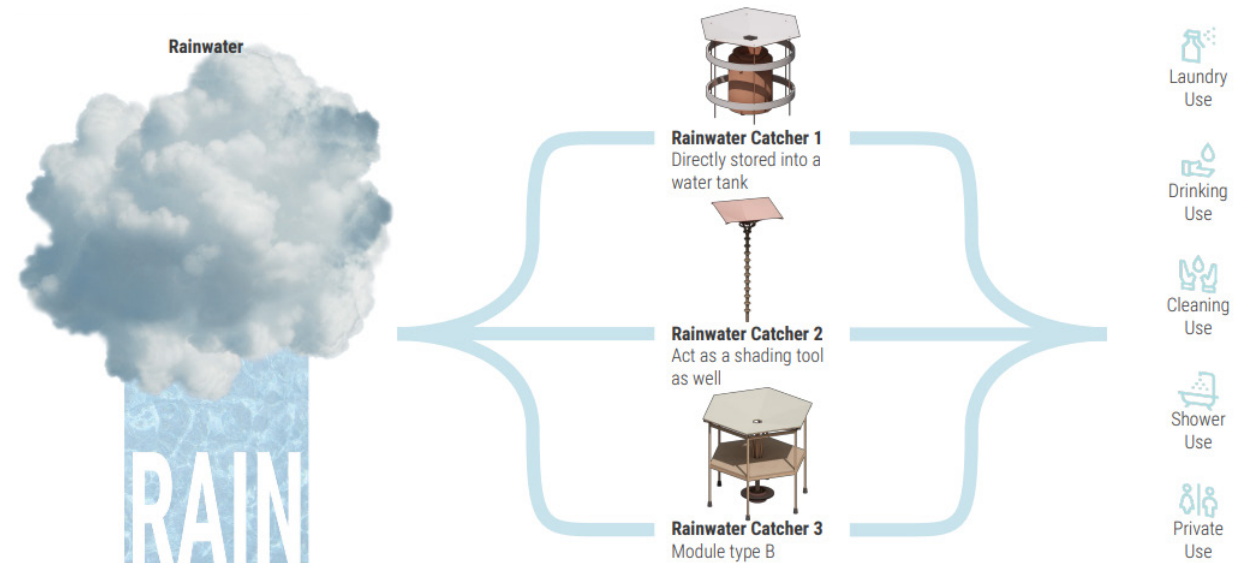
Module Scheme - Building 1: Part 1&2

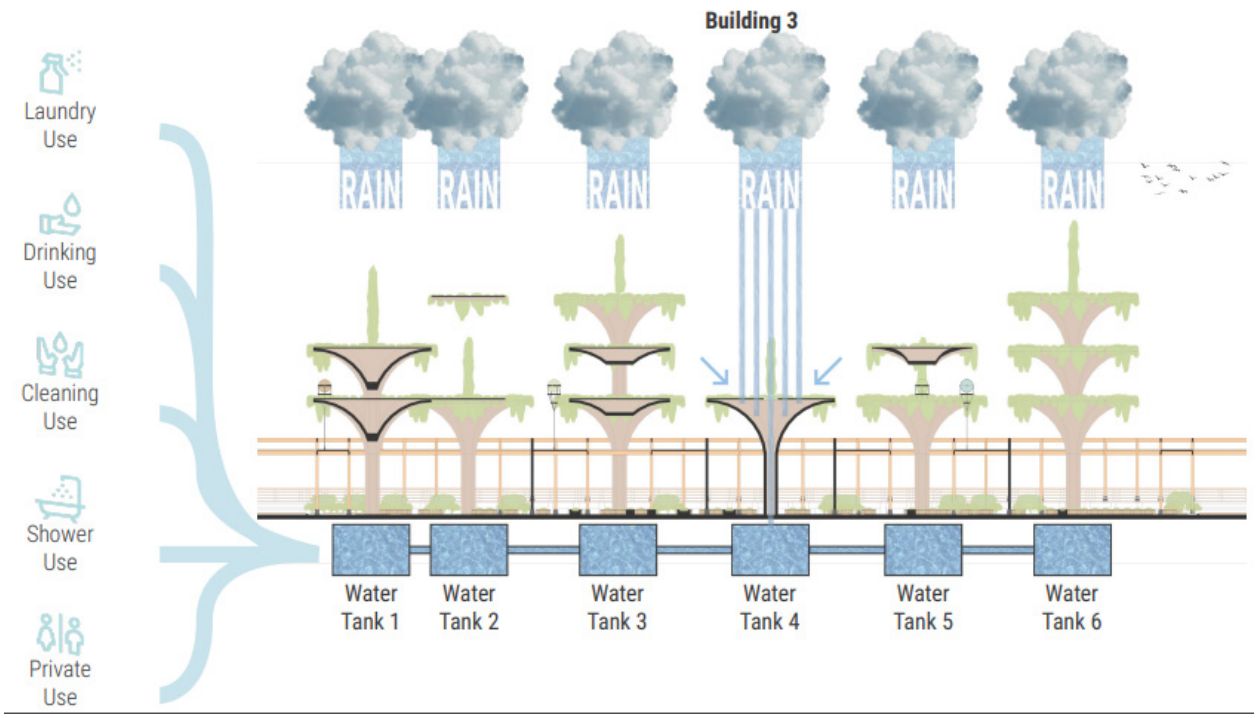


Product Shipment Distribution Scheme - Building 1: Part 1&2

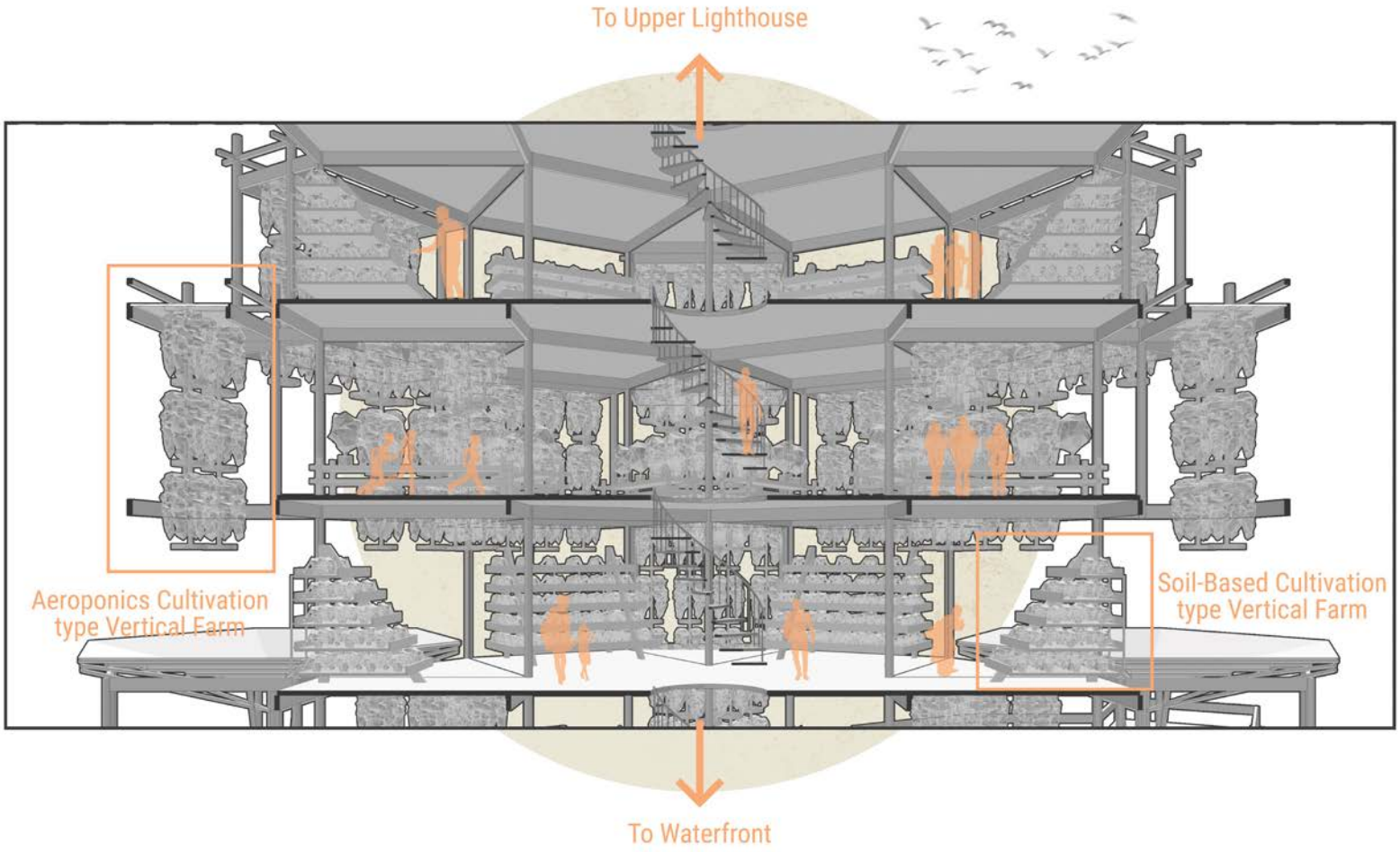


Water System Scheme - Building 1: Part 1&2

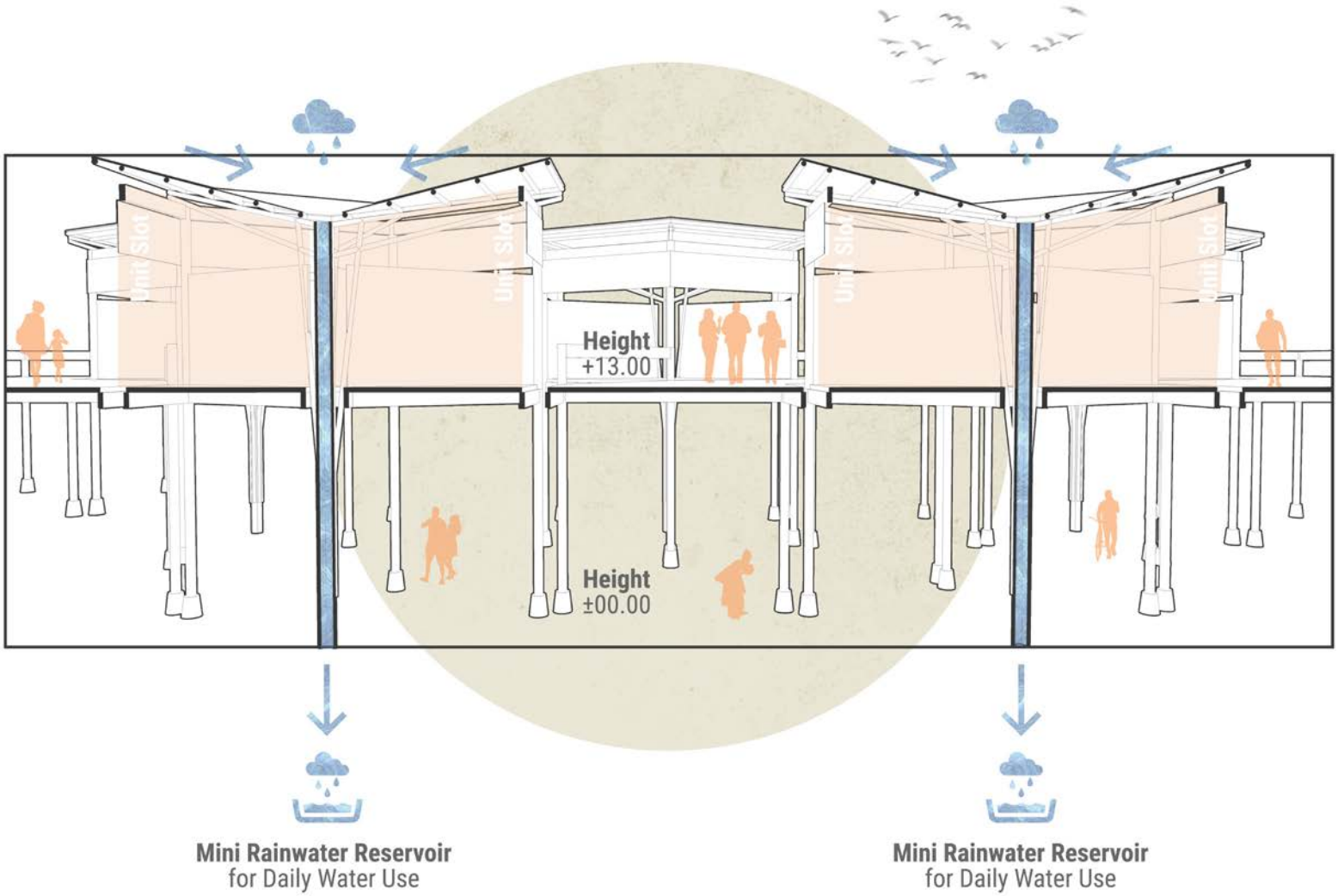




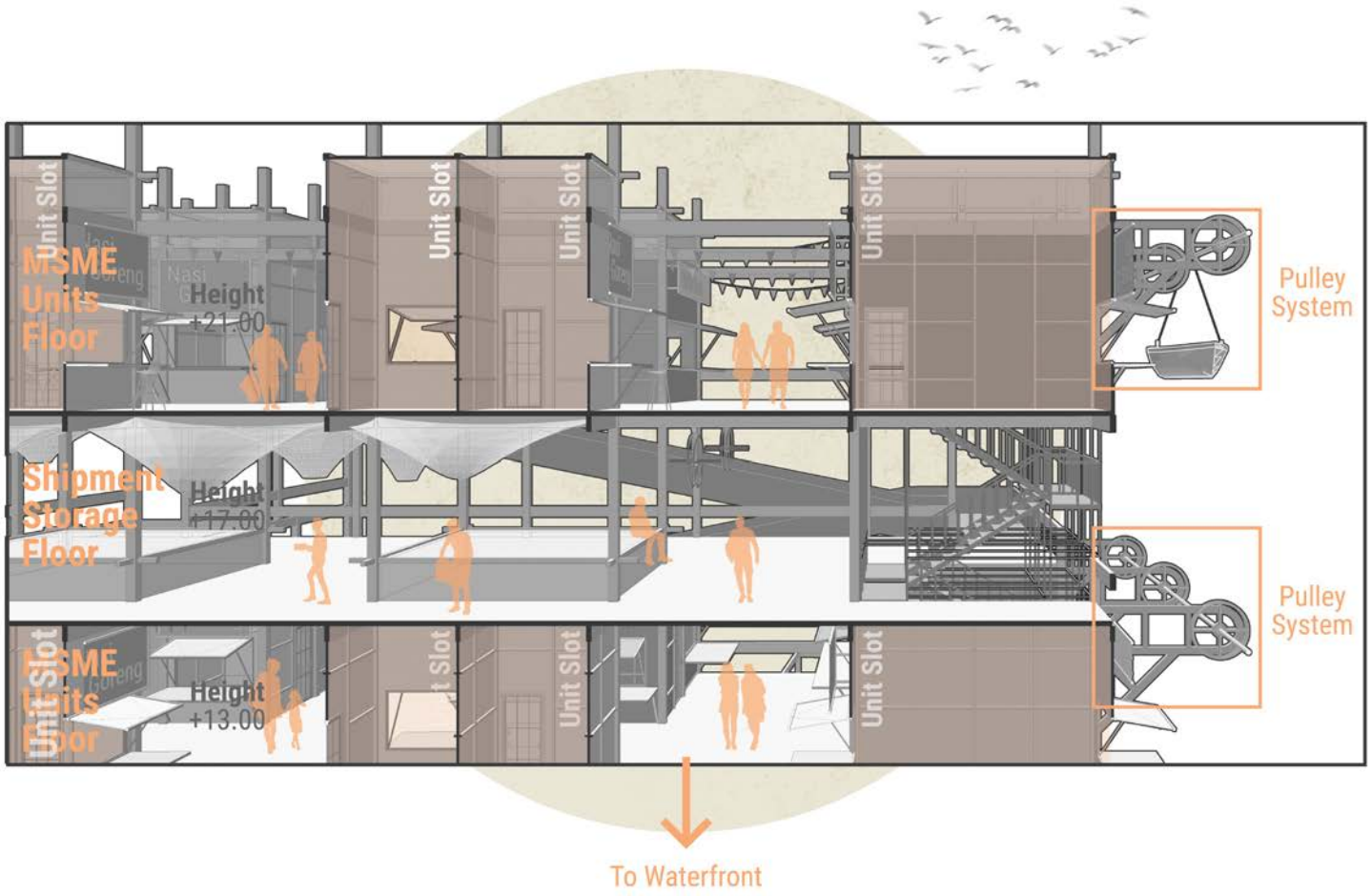
Rainwater Catcher Scheme



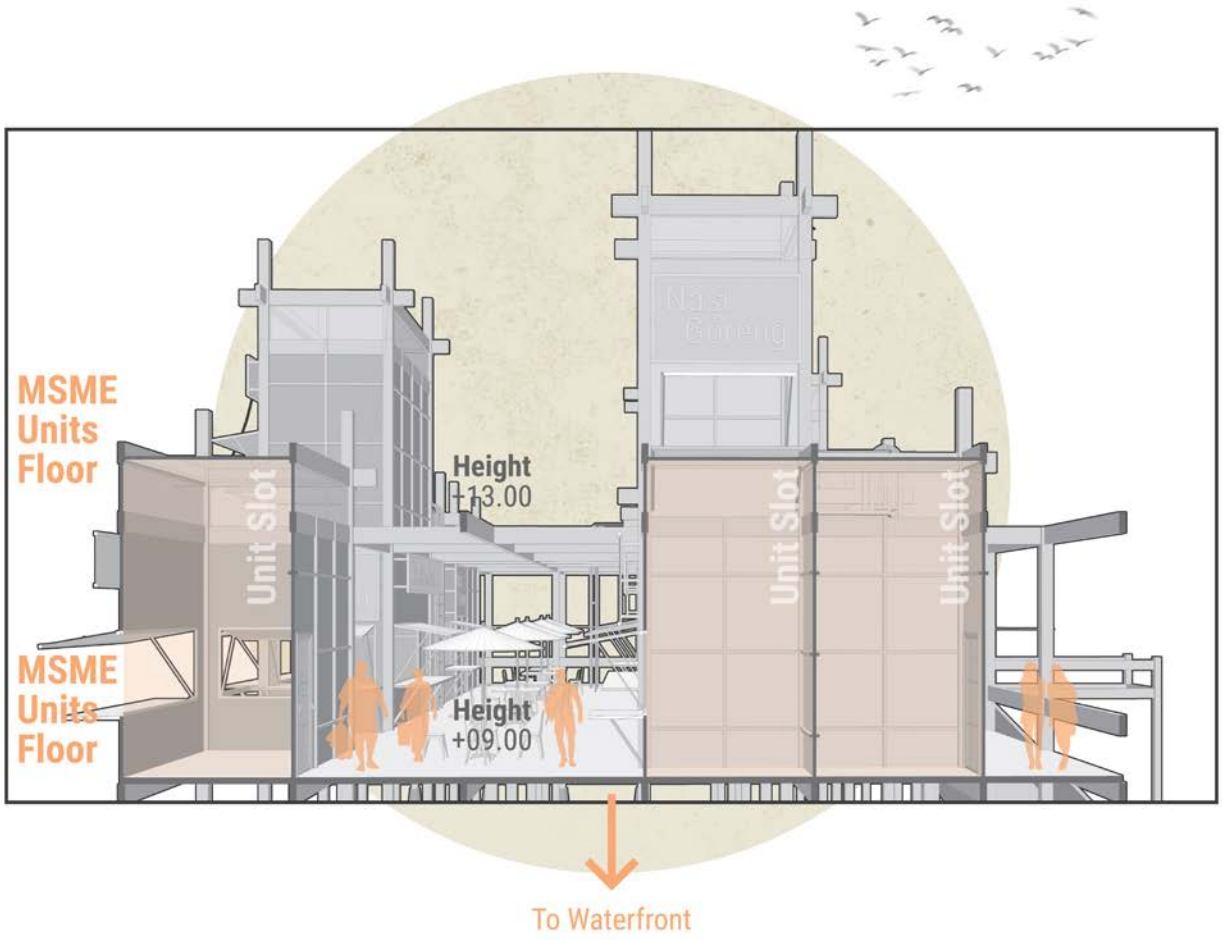
Building 2: Part 1 - Envelope Detail



Building 2: Part 2 - Envelope Detail



Building 6: Part 1 - Envelope Detail

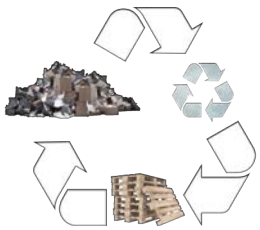


Building 6: Part 2 - Envelope Detail



North Recycled Park
Axonometric

Surprisingly, the settlements in Pontianak Waterfront is able to be perceived as slums. This is due to the high level of area density along with the activities that are occured around the area. The poor waste management caused the excess waste from food production and consumption leads to heaps clumps of trash, including plastics. Even though this matter is overlooked, these wastes is able to be seen even from the waterfront itself, making the visitors perceive bad notion to the locals. Not only that, in several parts of the waterfront are odor-polluted due to the wastes. Furthermore, with the high density and closely-placed houses, especially houses with panggung foundation, the under hollow foundation is the perfect spot for wastes to get together.



Slum Waste
Waste from local neighborhood disposal and human disposal

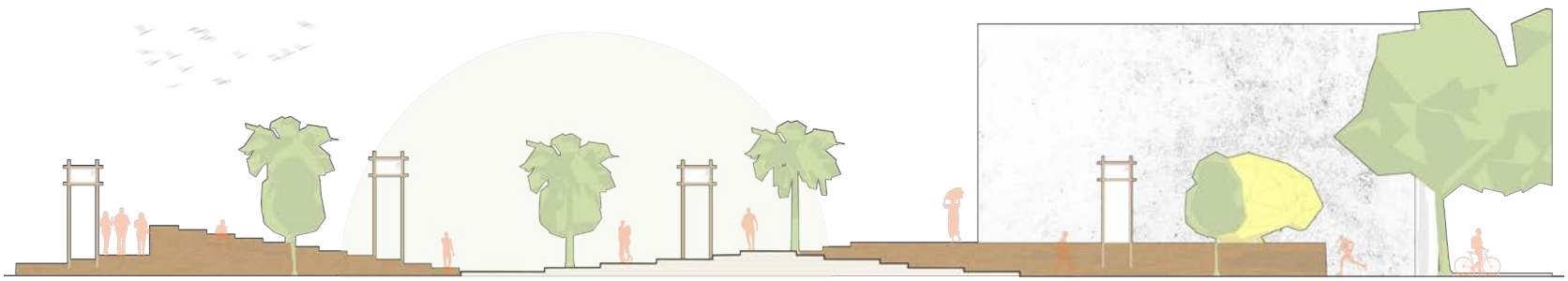
Recycle Process
Waste from local neighborhood and human disposal are recycled to be rebuild as wooden palettes

Wooden Palette
Slum waste is recycled into wooden palette to be used as the park platform



North Recycled Park

North Recycled Park is the northen recycled park that is integrated with the waterfront and Building One on the ground floor. The park itself have seven entrances with two of them are connected to the site, which are Building One and the Pontianak Waterfront. The park is surrounded by various use of buildings, such as retail stores, bank, hotel or motel, and Senghie Port across the Barito Road.


North Recycled Park
Section

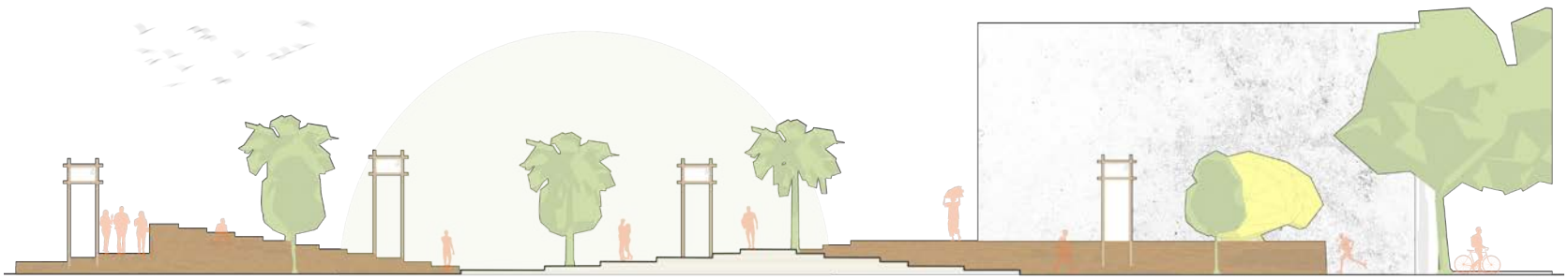
North Recycled Park

South Recycled Park

South Recycled Park is the southern recycled park that is integrated with the waterfront and Building Eight on the ground floor. The park itself have eight entrances with two of them are connected to the site, which are Building Eight and the Pontianak Waterfront. The park is surrounded by various use of buildings with mostly cafe and restaurant, the other being hotel and motel, and Ramayana Shopping Center.

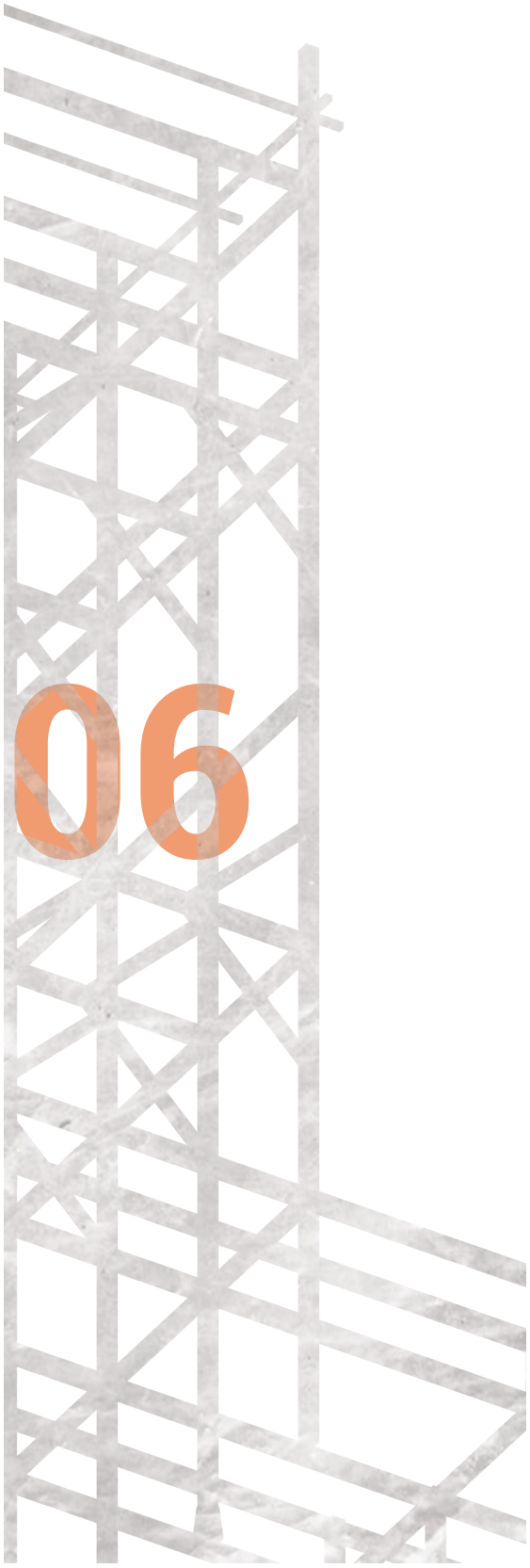


South Recycled Park
Axonometric



South Recycled Park
Section

South Recycled Park


06

Jury Feedback and Response

6.1 Jury 1 Feedback and Response: Wiryono Raharjo, Ir., M.Arch., Ph.D.
6.2 Jury 2 Feedback and Response: Revianto Budi Santosa, Dr., Ir., M.Arch. IAI.

6.1 Jury 1 Feedback and Response: Wiryono Raharjo, Ir., M.Arch., Ph.D.

Response to Rainwater and Possible Flood

Rainwater on the Waterfront Pontianak area is responded by constructing permeable structures (Building 3) and integrating several infrastructures that contributes to the water recycle scheme (Mini Rainwater Reservoir attached to Module Type B, Rainwater Catcher 1 (Water Tank), and Rainwater Catcher 2 (Tensile)). Furthermore, the application of "second layer" is responsive to the flood in case the ground level of 0 m is flooded and the ground level of 1m is flooded as well, which is the waterfront itself. For more details please kindly look at page 206, 209, 210, and 212.

6.2 Jury 2 Feedback and Response: Revianto Budi Santosa, Dr., Ir., M.Arch., IAI.

Response to Shipment Distribution

Shipment distribution is mainly distributed from Kapuas River (water transport) to the building and waterfront (land transport) by pulley system to be delivered to upper floors. Furthermore, the goods are "filtered" and managed on Building 5 and Building 6 on Second and Fourth floor by both parties: enterprises who rent the space and individuals who work exclusively for the shipment sortation and management. This way the desired outcome of the goods is able to be met much easily. The products then is able to be distributed to the city by truck, delivered from the upper floor to the lower floor easily by pulley system, reducing the energy needed to distribute and reduce the risk of work danger. For more details please kindly look at page 119, 123, 124, 205, 208, and 213.



Attachments

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SURAT KETERANGAN HASIL CEK PLAGIASI

Nomor: 1866391114/Perpus./10/Dir.Perpus/IV/2022

Bismillaahirrahmaanirrahiim

Assalamualaikum Wr. Wb.

Dengan ini, menerangkan Bahwa:

Nama	: MUHAMMAD DAFFA FADHIL UTAMA
Nomor Mahasiswa	: 18512195
Pembimbing	: DR.Ing Ir. Ilya Fadjar Maharika M.A, IAI
Fakultas / Prodi	: Teknik Sipil dan Perencanaan/ Arsitektur
Judul Karya Ilmiah	: Designing Riverside Communal Hub Space Accommodation for Micro, Small, and Medium Enterprises in Pontianak Waterfront Area

Karya ilmiah yang bersangkutan di atas telah melalui proses cek plagiasi menggunakan **Turnitin** dengan hasil kemiripan (*similarity*) sebesar **5 (Lima) %.**

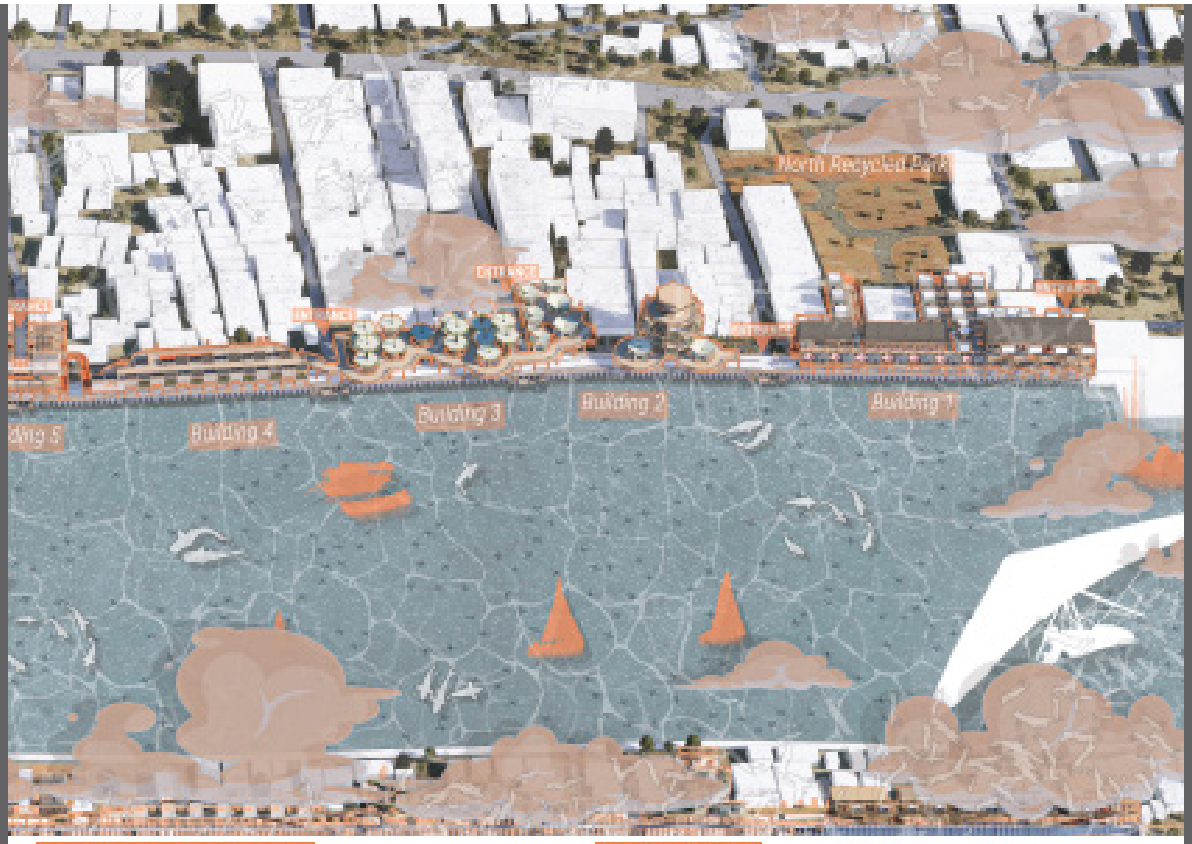
Demikian Surat Keterangan ini dibuat untuk dapat dipergunakan sebagaimana mestinya.

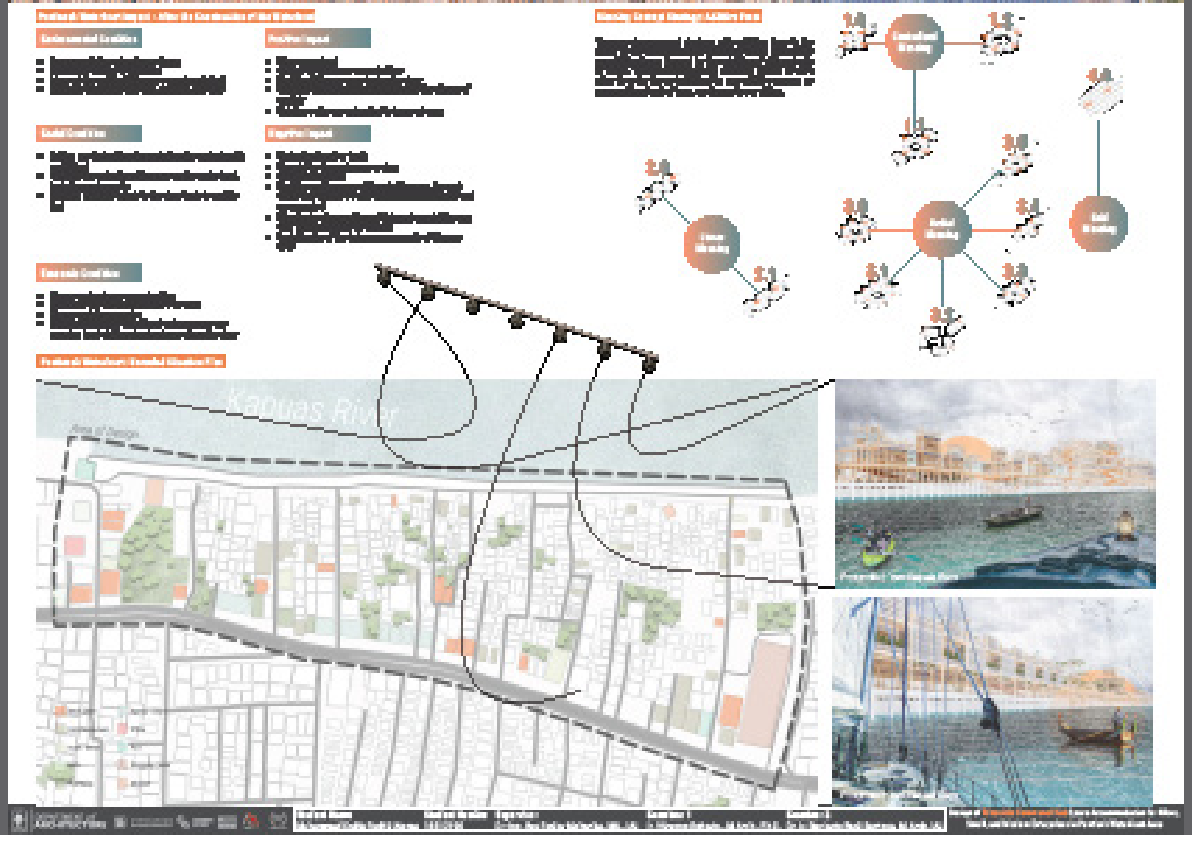
Wassalamualaikum Wr. Wb.

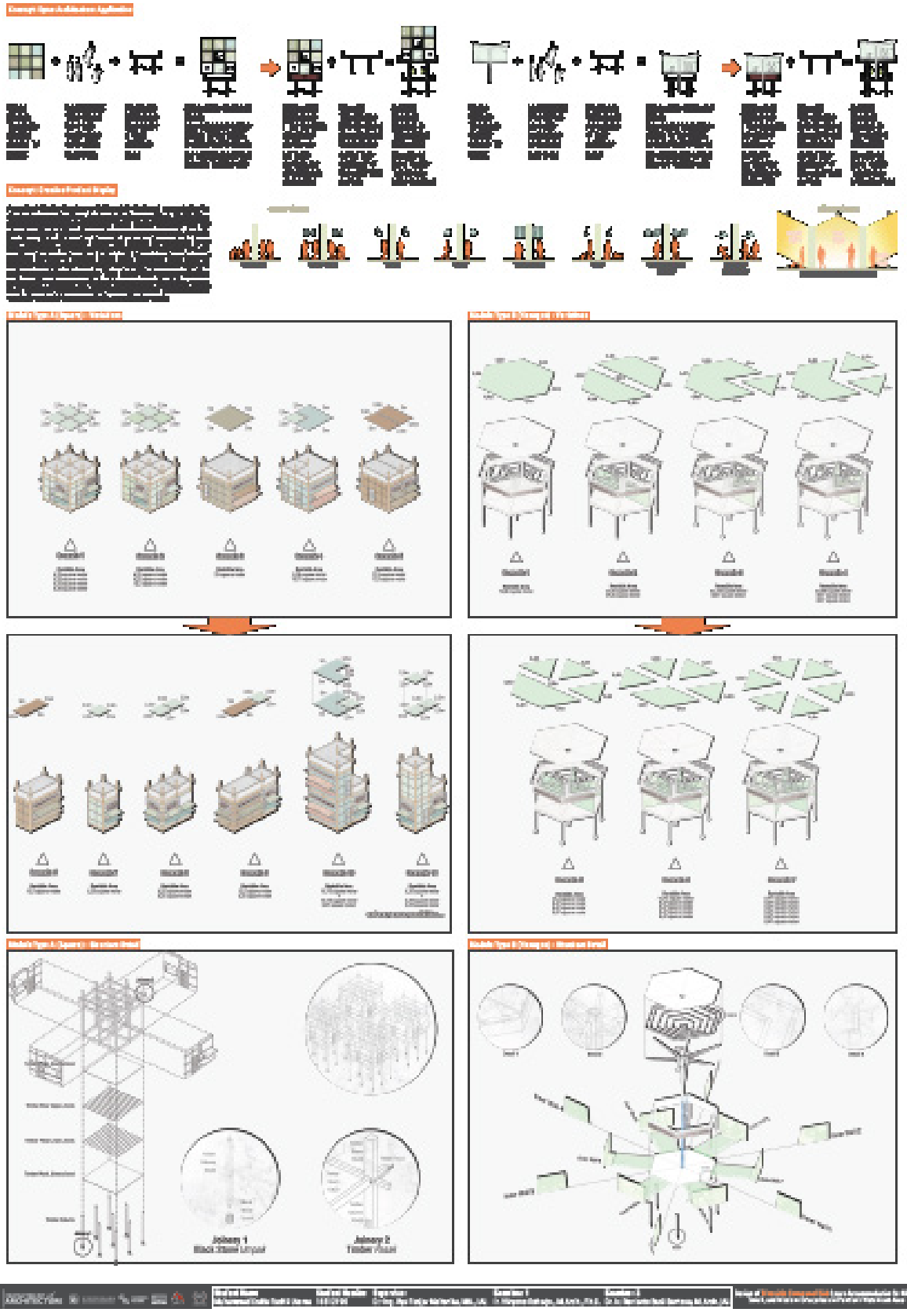
Yogyakarta, 7/4/2022
Direktur

Joko S. Prianto, SIP., M.Hum

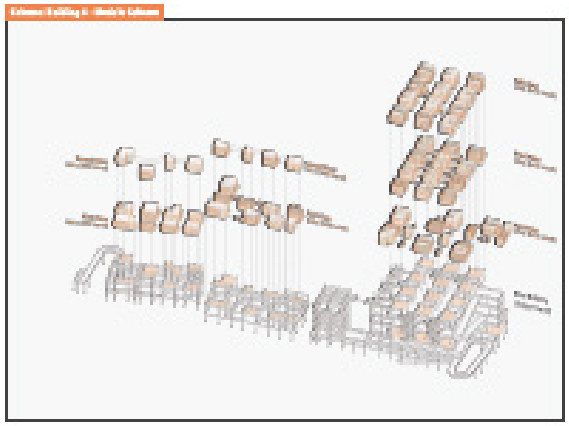

Building 8
Building 7
Building 6
KAPUAS RIVER

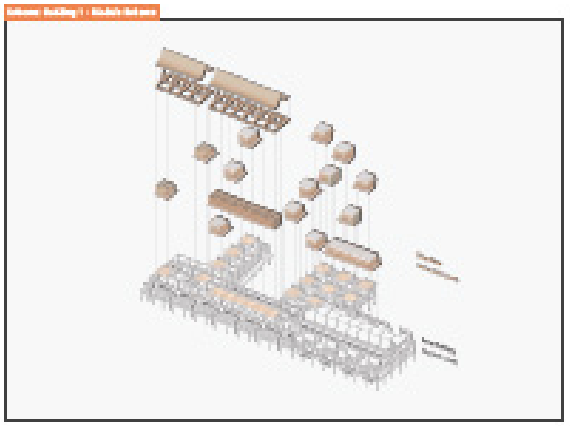

North Recycled Park
Building 5
Building 4
Building 3
Building 2
Building 1

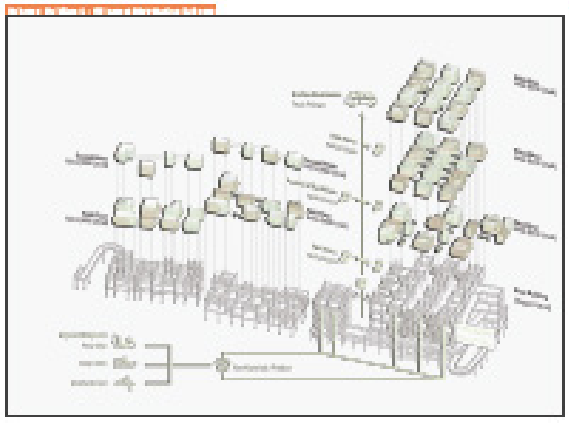

Kapuas River

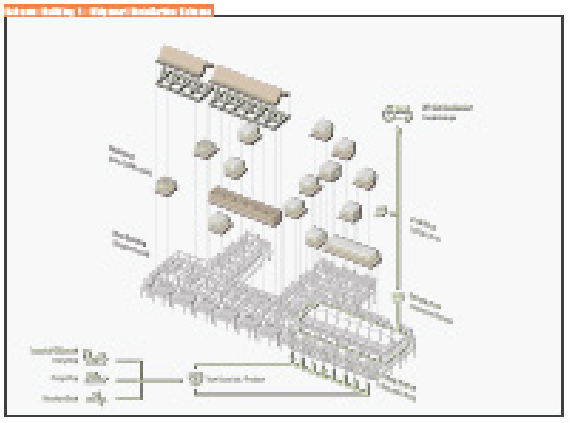


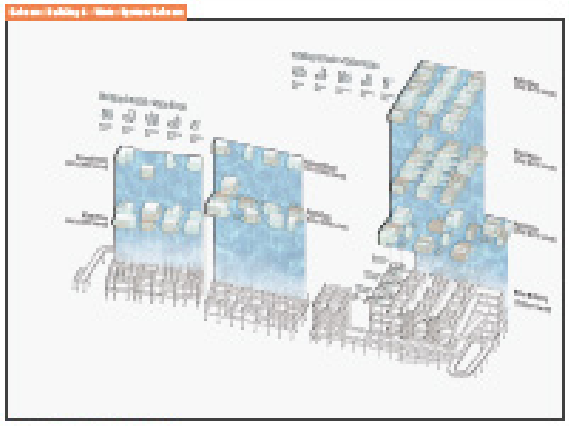

Building 1
Building 2
Building 3
Building 4
Building 5
Building 6
Building 7
Building 8

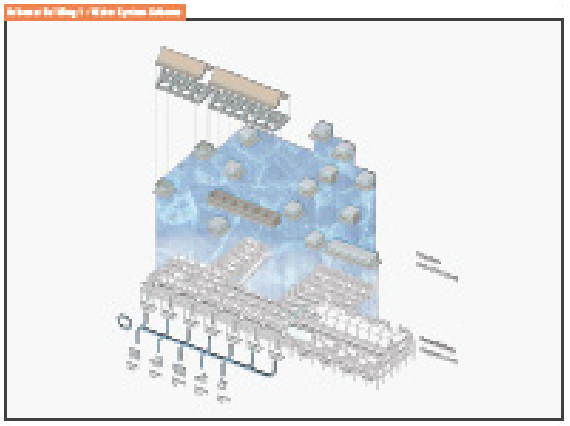


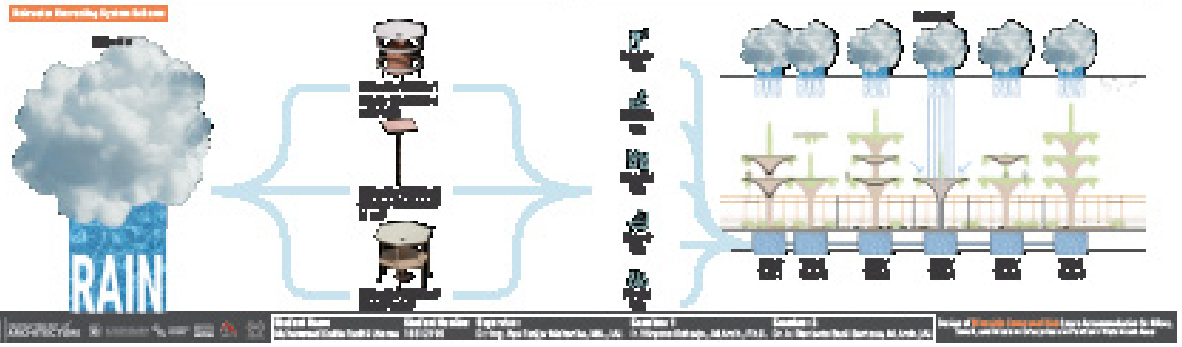


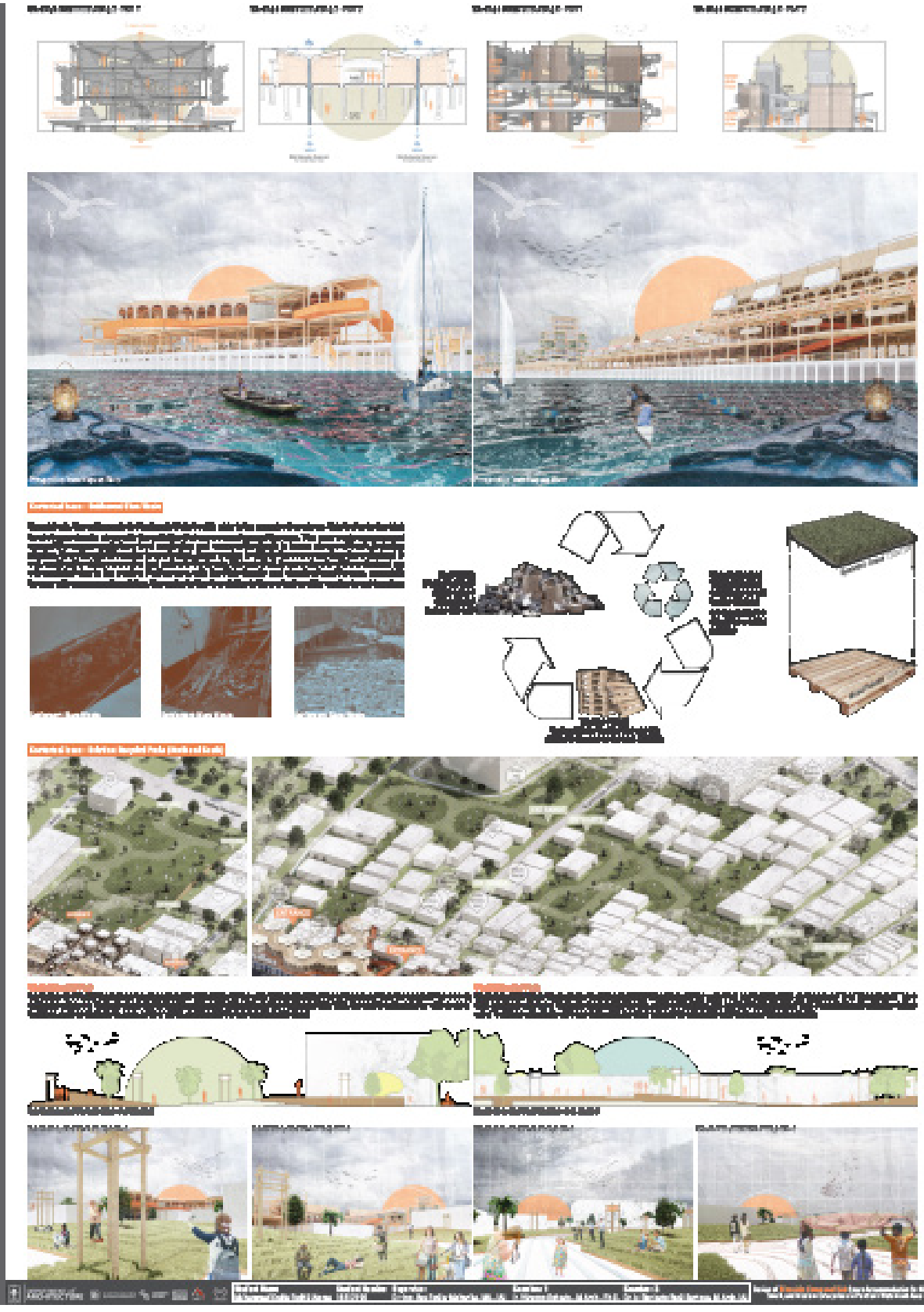









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