

# Redesign Creative Hub of “KEDUBES Bekasi” in Kota Bekasi

with Space Flexibility Approach for Variety of Creative Activities



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**Redesign Creative Hub of “KEDUBES Bekasi” in Kota Bekasi**  
*with Space Flexibility Approach for Variety of Creative Activities*

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**Department of Architecture**  
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# Validation Page

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with Space Flexibility Approach for Variety of Creative Activities**

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To be a reference for Final Project products.

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# Statement of Authenticity

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I confirm that i am responsible for all work submitted in this Final Architectural Design Studio Product as verified by my supervisor

I declare that all parts of this work are my own work, except the works mentioned by reference and that there is no assistance from other parties, either wholly or partly in the process of making it.

I also declare that there is no conflict of intellectual ownership of this work, so that all thoughts and writings contained in this work are the main writer and supervisor.

The final result was submitted to the Department of Architecture, Islamic University of Indonesia to be used for educational and publication purposes but with the intellectual property rights still owned by the author.

Yogyakarta, July 28<sup>th</sup> 2021

writer,



Bhanu Arsyi Akila

## Foreword.

Praise and gratitude I pray for the presence of Allah SWT, because only with His grace and grace, the author was able to complete the Final Architectural Design Studio Project entitled “Redesign Creative Hub of “KEDUBES BEKASI” in Kota Bekasi with Space Flexibility Approach for Variety of Creative Activities” up to this stage. Sholawat and greetings we convey to our lord Prophet Muhammad SAW and his family and friends.

The author hopes that this final architectural design studio project can help increase knowledge and experience for the observers, become a reference as well as learning materials and corrections so that I can improve the form and content of this project in quality for a better future.

In the preparation of this Final Architectural Design Studio Project, the author received a lot of help, input, guidance and support from various parties. In this opportunity, the writer would like to express his gratitude to:

1. Allah SWT for all His mercy and grace, the process of writing this Final Architectural Design Studio Project was given ease and blessing.
2. My parents and also my sister who always provide support, prayers, and motivation.
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Yogyakarta, July 28<sup>th</sup> 2021

writer,



Bhanu Arsyi Akila



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# Abstract.

KEDUBES Bekasi is a name of creative community and also a place that accommodates creative activities or event in scope of Bekasi area and surroundings. KEDUBES Bekasi currently accommodating several facilities as well as communities, including films, music, fine arts and comics. This place is focused on being a creative event area and also a creative product shop for creative activists in the Bekasi city area and its surroundings, and also has a place for supporting activities such as cafes. This building is basically a restaurant which then functions as a creative hub, so this building only adapts to makeshift and many problems occur related to space effectiveness and optimization based on functions that this creative hub is trying to accommodate. Among the many activities and communities that are accommodated, limited land and space become a problem in this creative hub, it is necessary to redesign building and optimize the space requirements based on the variety of creative activities.

Space flexibility is expected to be a solution to the limited space in this creative community space so that the spaces in it can be changed or transformed following the activities to be carried out and also the spaces formed can be used optimally for its users. The space flexibility will be merged up some of function create a new zoning of space based on the type of activity and also users. To achieve some of optimization in case of acoustic in indoor event space and daylighting for community room, there will be performance based regarding to standard of reverbration time on acousitc and also daylighting factor on the community room.

The application of the concept of space flexibility has the aim of presenting a place for creative community activities that can accommodate a variety of different activities in a place that has limited areas. Various activities that occur at this creative hub include economic activities, discussions and art performances, which separated into three main zone; Indoor Event space, Community Room, and Outdoor Area. Indoor Event space will become a space that can accomodate exhibition, music performance, film screening and disscusion event with an imlementation of retractable stage and retactable seating stands as form of space flexibility. Community room will cover the problem of fluctuation of user by a room that can be connect and separated based on the needs of users. The outdoor area will be respond also as a place for event that can used optimally. It is hoped that the development of this creative hub does not only accommodate creative actors, but it can become a place for new public recreation and also increase the development of the creative economy in the Bekasi area with an optimum function in every creative activity that going to accomodate in this creative hub.

*Keywords : Creative Hub, Space Flexibility, Limited Land, KEDUBES Bekasi,.*

# Abstrak .

KEDUBES Bekasi adalah sebuah nama komunitas kreatif sekaligus wadah yang mewadahi kegiatan atau event kreatif di lingkup wilayah Bekasi dan sekitarnya. KEDUBES Bekasi saat ini menampung beberapa fasilitas serta komunitas, antara lain film, musik, seni rupa dan komik. Tempat ini difokuskan untuk menjadi area event kreatif dan juga toko produk kreatif bagi para penggiat kreatif di wilayah kota Bekasi dan sekitarnya, dan juga memiliki tempat untuk kegiatan penunjang seperti kafe. Bangunan ini pada dasarnya adalah sebuah restoran yang kemudian berfungsi menjadi creative hub, sehingga bangunan ini hanya beradaptasi dengan seadanya dan banyak permasalahan yang terjadi terkait dengan efektifitas ruang dan optimalisasi berdasarkan fungsi yang berusaha diakomodasi oleh creative hub ini. Dari sekian banyak kegiatan dan komunitas yang ditampung, keterbatasan lahan dan ruang menjadi kendala di creative hub ini, perlu di desain ulang dan optimalisasi kebutuhan ruang berdasarkan ragam kegiatan kreatif.

Fleksibilitas ruang diharapkan dapat menjadi solusi atas keterbatasan ruang pada ruang komunitas kreatif ini agar ruang-ruang yang ada di dalamnya dapat diubah atau ditransformasikan mengikuti kegiatan yang akan dilakukan dan juga ruang-ruang yang terbentuk dapat dimanfaatkan secara optimal bagi penggunanya. Fleksibilitas ruang akan digabung beberapa fungsi menciptakan zonasi ruang baru berdasarkan jenis aktivitas dan juga pengguna. Untuk mencapai beberapa optimasi dalam hal akustik di ruang acara indoor dan pencahayaan untuk ruang komunitas, akan ada berbasis kinerja mengenai standar waktu dengung pada akustik serta faktor pencahayaan pada ruang komunitas.

Penerapan konsep fleksibilitas ruang bertujuan untuk menghadirkan wadah kegiatan komunitas kreatif yang dapat mewadahi berbagai kegiatan yang berbeda di tempat yang memiliki luasan terbatas. Berbagai kegiatan yang terjadi di creative hub ini antara lain kegiatan ekonomi, diskusi dan pentas seni, yang dipisahkan menjadi tiga zona utama; Ruang Acara Indoor, Ruang Komunitas, dan Area Luar Ruangan. Ruang Event Indoor akan menjadi ruang yang dapat menampung acara pameran, pertunjukan musik, pemutaran film dan diskusi dengan implementasi Retractable Stage dan Retactable Seat Stand sebagai bentuk fleksibilitas ruang. Ruang komunitas akan mencakup masalah fluktuasi pengguna dengan ruang yang dapat dihubungkan dan dipisahkan berdasarkan kebutuhan pengguna. Area outfor akan direpson juga sebagai tempat event yang dapat dimanfaatkan secara optimal. Pengembangan creative hub ini diharapkan tidak hanya mewadahi para pelaku kreatif, tetapi dapat menjadi wadah rekreasi masyarakat baru dan juga meningkatkan perkembangan ekonomi kreatif di wilayah Bekasi dengan fungsi yang optimal dalam setiap kegiatan kreatif yang berlangsung. untuk mengakomodasi di hub kreatif ini.

*Keywords : Creative Hub, Fleksibilitas Ruang, Keterbatasan Lahan, KEDUBES Bekasi*





Figure 0.1 SKEDUBES Bekasi  
Source : Google, Author



1

# Introduction.



## Redesign Creative Hub of “KEDUBES Bekasi” in Kota Bekasi

with space flexibility approach for variety of creative activities



Figure 1.1 Kedutaan Besar Bekasi Community Room  
Source : <https://ruangtuju.com/venue/kedutaan-besar-bekasi/>



Figure 1.2 Several activities of KEDUBES Bekasi  
Source : Google

# 1.1 Background and Design Problem

## 1.1.1 The Issue of Kota Bekasi Respond's to creative economy.

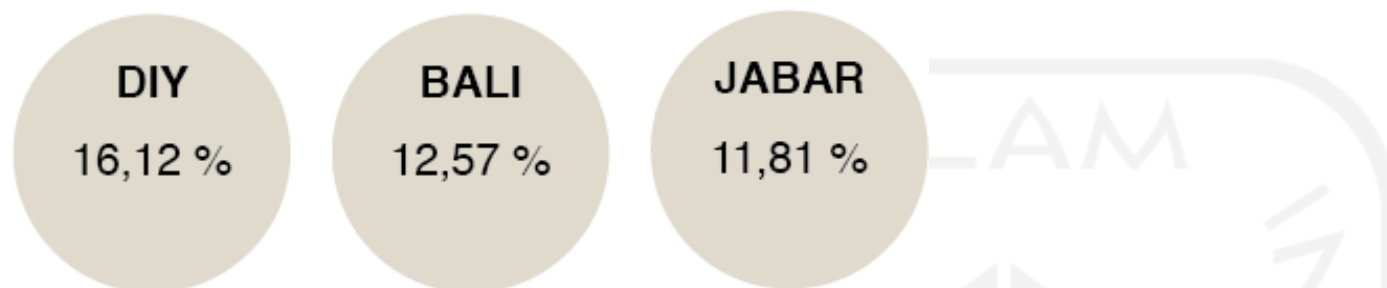
The industrial revolution 4.0 triggers a fundamental change in the global order, marked by the development of creativity and innovation which also affects economic competition. Creative economy can be used as a strategic issue in the midst of global competition by providing innovation and thinking so that it can add economic value (Sugiarto,2018). Creative economy can be interpreted as an economy in a new economic era that intensifies information and creativity by relying on ideas and stock of knowledge from Human Resources as the main production factor in economic activities. Based on presidential regulation (Perpres) nomor 142 tahun 2018 regarding the master plan for the development of the national creative economy, it will be implemented for the 2018 - 2025 period.

There are 16 sub-sector of the creative economy including;

1. Culinary
2. Fashion
3. Craft
4. TV and Radio
5. Publishing
6. Architecture
7. Application and game development
8. Advertising
9. Music
10. Photography
11. Film, Animation and Video
12. Performing Arts
13. Product Design
14. Interior Design
15. Visual Communication Design
16. Fine Arts



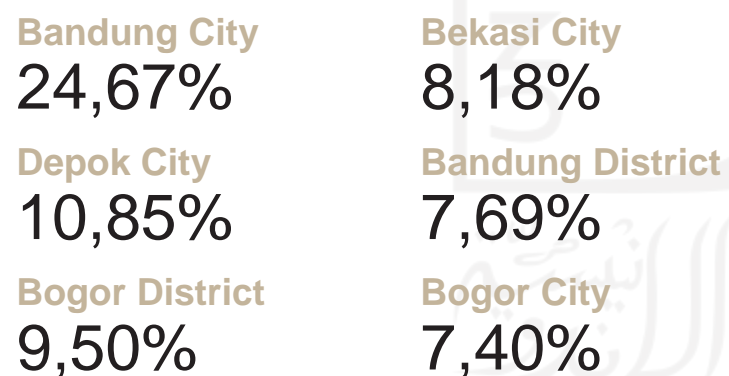
Referring to the data of “Badan Ekonomi Kreatif” on (Infografis Ringkasan Data Statistik Ekonomi Kreatif Indonesia, 2017), West Java is in the top 3 contributors to gross domestic product in the creative economy in 2016 under the special regions of Yogyakarta (DIY) and Bali.



**Figure 1.3** Share PDRB Ekraf Nasional

Source : “Infografis Ringkasan Data Statistik Ekonomi Kreatif Indonesia”

In 2019 Bekasi City was included in the top 4 distribution of creative economic actors in West Java, quoted from “BEKRAF” on (Infografis Sebaran Pelaku Ekonomi Kreatif, 2019).



**Figure 1.4** Sebaran Pelaku Ekonomi Kreatif Jawa Barat

Source : “Infografis Sebaran Pelaku Ekonomi Kreatif”(2019)



As a Respond to the presidential regulation, inside “Rencana Pembangunan Jangka Menengah Kota Bekasi” 2018 - 2023 regarding the strategic issue of the city economy, one alternative solution that can be used as a policy direction and strategy to overcome the problem of strengthening the economic structure of Bekasi City in the 2018-2023 period is to strengthen and develop the “creative economy” so that the top 5 strategic issues that are considered priority in Bekasi City include strengthening the competitiveness of KUMKM and creative industries. To achieve the competitive strength of UMKM and creative industries, Bekasi City Government is planning several plans including;

- Provision of space and supporting infrastructure and facilities creative economy development
- Community-based entrepreneurial development in creative industries

All of that planning has aims to lead to direction of development in the Bekasi City RPJPD 2005-2025 “Rencana Pembangunan Jangka Panjang Daerah” towards a creative city in 2025, the foundation and seeds of the creative industry must be starting to build early, one of which refers to the mission of Bekasi City which is written in (Pemerintah Kota Bekasi - Visi Misi, n.d.), namely the development of a creative society through the holding of the “BEKASI CREATIVE” event at the city and sub-district levels. Due to the current condition, Bekasi City has not developed much of its creative economy industry.

## 1.1.2 KEDUBES Bekasi Creative Community

“KEDUBES Bekasi” is a creative community founded by a group of young people living in Bekasi, this community stands with a joke background leading to ridicule by netizens about Bekasi being far from Jakarta, “Beda Planet” and so on. As a result of these jokes and bullying, a community called “KEDUBES Bekasi” was formed in 2015

Works of art are the main focus of this community’s activities, where artwork is a universal language that can unite and capture attention. Currently the “Bekasi Embassy” also carries out activities with other communities such as comics and films and routinely holds activities in the form of art workshops, indie film screenings and also small music performances or “small gigs” which invite Jabodetabek artists to become an attraction. promotion of these indie bands.

Features and events of KEDUBES BEKASI based on the existing space;

**Table 1.1** KEDUBES Bekasi Events/Feature  
Source : Author

Space	Events/Features
Ruang Diklat (Indoor)	Toko Kedubes (Merchandise, Book & Record store)
	Kedubes Records (Record Publishing Event)
	Workshop (Art , Comic & Photography)
	Sastra Santai (Library)
	Main di Kedubes (Music Gigs)
	Patriot Film (Indie Film/Movie Screenings)
Outdoor	Kantin Kedubes (Culinary)
	Main di Kedubes (Music Gigs Outdoor)



**Figure 1.5** Patriot Film

Source : <https://www.instagram.com/kedubesbekasi/>



**Figure 1.6** Main di Kedubes

Source : <https://www.instagram.com/kedubesbekasi/>



**Figure 1.7** Discussion, workshop and Library

Source : <https://simalesmandi.files.wordpress.com/2016/09/ruang-diskusikedubes.jpg?w=500&h=331>



**Figure 1.8** Kantin KEDUBES

Source : <https://www.instagram.com/kedubesbekasi/>



### 1.1.3 Responding the Limited land and space of KEDUBES Bekasi with Space Flexibility Approach

“KEDUBES Bekasi” was established on an area of approximately 1,200 square meters with a building area of about 300 square meters. This place used to be a restaurant which in 2015 was converted into a creative hub with changes and additions to simple spaces in the building, where there are many activities and facilities in this place such as; workshops, musical performances, film screening, making fine arts or art clubs, discussion. Apart from art activities, there are also buying and selling activities such as merchandise and culinary shops. This place is basically divided into two areas, indoor and outdoor.

Most of the outdoor areas are use as culinary areas where certain activities that require space for a large number of people are used as workshop areas and music performances. The indoor area or “Ruang Diklat” is basically an office area and also a merchandise shop where certain activities turn into workshops, discussions, and screening films. Limited land requires this place to perform several functions and activities in the same type of space. However, the problem occurs because its use is not optimal because the adjustment of functions is modest. Space flexibility is expected to be the solution of the limited land of this Creative hub while this creative hub need to accommodae several activies from various kind of the community.

In fact, seeing the conditions of limited land and also the various kinds of activities in this creative hub, the manager of this place has carried out a flexible function where a space can function for various activities, but the implementation is not optimal so that space flexibility is needed so that the implementation of activities can be more optimal according to the needs and situations. of the activity itself which of course will affect the development of this community itself.



Figure 1.9 Site of Kedutaan Besar Bekasi  
Source : Google Earth



Figure 1.10 RuangDiklat of Kedubes Bekasi  
Source : <https://www.instagram.com/kedubesbekasi/>

## 1.2 Problem Statement

based on the background of the problem that has been described, the formulation of the problem is as follows:

### 1.2.1 General Problem

How to re-design a creative hub of KEDUBES Bekasi Creative Community with variety of function on limited land?

### 1.2.2 Specific Problem

how to design a creative hub that can apply concept of flexibility space tor respond the changes of condition for various activity?

how to design a creative hub that can use optimally and responding the condition on limited land?

## 1.3 Goals & Objectives

### 1.3.1 Goals

Re-design KEDUBES Bekasi as a creative hub that can accommodate several function and activity?

Design a space flexibility for a space that has more than one activity that can be used optimally?

### 1.3.2 Objectives

Able to redesign with the results of a creative hub building design as an effort to facilitate creative communities in Bekasi and respond to the creative economy.

Able to produce creative hub building designs with variety of activity and function with a flexible method so that it can accommodate a variety of different activities in limited land.

## 1.4 Design Limitation

In this design, in order not to deviate from the goals and objectives to be achieved, it is necessary to determine the existing design boundaries as a guide in designing the built environment. The design carried out is designing a creative hub that can provide various kinds of creative activities from the “KEDUBES Bekasi” community in Bekasi City including mass planning, spatial planning, building envelopes, landscaping, structures using the consideration of a space flexibility approach that can increase creative activity and provide attractiveness. The design location is on Jl. Raya Jatikramat No.2a, Jatikramat, Jatiasih District, Bekasi City



# 1.5 Method of Design Problem Solving

Based on the writing of Bryan Lawson (2005) on the book of “How the designers think” the design process is a process in which problems and solutions arise simultaneously. Often a problem cannot be fully understood without some acceptable solution to illustrate it. It seems like the problem and the solution were emerged together on the design. In the diagram of the process design (figure 1.6) shows the negotiation between problems and solutions to each other seen as a reflection of the process. Analyst, synthesis and evaluation activities are certainly involved in these negotiations but the diagram does not show the starting and ending points of this process. The design method is a stage that is carried out in the design process to facilitate the designer in developing design ideas.

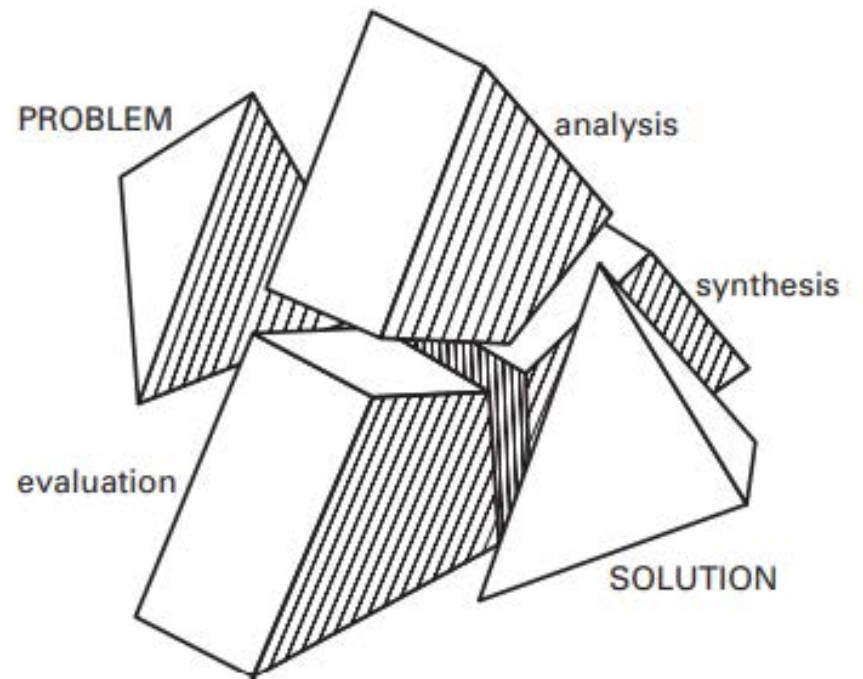
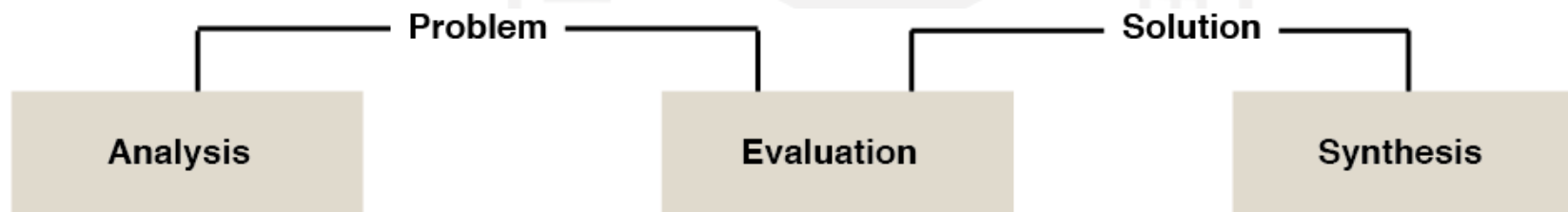


Figure 1.11 Design Method Diagram Bryan Lawson  
Source : Lawson (2005)



**Problem Statement**  
Architectural & non-architectural

**Data Collection**  
Primary & Secondary

- 1. Data Analysis**
- Creative Hub
  - Space Flexibility
  - Site Existing
  - Regulation
  - Site Condition
  - Literature study

- 2. Program**
- Data processing
  - Design Strategy
  - Initial idea

**3. Design Concept**  
Schematic design based on the strategy that being formulated

- 4. Design Evaluation**
- Creative hub Typology and function
  - Space Flexibility program
  - Velux Daylighting

**5. Final Design**  
Development of the final design

## **Problem Statement**

Identifying micro macro-production problems and site conditions, as a consideration for system development and determination of the initial design theme. Formulate problems or issues that are non-architectural or architectural and determine goals and objectives in the design. In relation to this project there is a problem of limited land and also a target, namely the creation of a creative hub that can properly accommodate various creative activities.

## **Collection of Data**

Identifying the problems to be resolved, supported by primary and secondary data, namely: Primary data, observations made in the form of the latest physical building data. The data obtained are the conditions of the design area, site boundaries, patterns and systems of activity movement. Secondary data, secondary data collection with literature study to get reference through journals and precedents that will be used as a reference for existing problems. Secondary data is in the form of consideration of similar studies that have applied and implemented space flexibility theories and creative hub design.

## **Data Analysis**

1. Analysis of the creative hub program and the creative community
2. Analysis of the space flexibility approach
3. Site regulation analysis
4. Site analysis for the existing condition and climate
5. Analysis of theoretical and typological studies (precedent)

## **Program**

As the direction of problem mapping and processing of data that have been found and problem identification, as well as consideration of determining the design of the concept direction that will be used in the next design method scheme to form a creative hub that follows the typology, design approach and challenges to design such as; Spatial arrangement, space programming, Building mass, landscape and structure.

## Design Concepts

The design concept is a strategy the writer uses in the basis for solving problems and considering design recommendations as outlined in a description by the author as well as a sketch or scheme

able to be understood and support the arguments description that has been described in order to answer the challenges that have been formed in the form of how to create a creative hub that can accommodate various kinds of creative activities on limited land.

## Design Development

The stages of the design process that answer the analysis of problems, data and programs. Development also adapts to the design concept as a strategy in determining the schematic design.

## Design Evaluation

The initial design is then evaluated to find out whether the quality of the design is good and whether it can answer the specific problems formulated. The design evaluation process was carried out by means of a variable and parameter checklist of the achievement of creative hub typology and space flexibility.

- The design test or evaluation related to the typology has the objective of proving that the design has met the existing site regulations and the spatial program in the form of any creative activities that are accommodated in this creative hub.
- Test or evaluate the design related to the design approach that the design has applied any space flexibility in meeting design challenges to achieve various kinds of creative community activities in limited space, by using movable space flexibility, transformable flexibility, adaptable space flexibility, universal space flexibility or responsive space flexibility.
- The design test or evaluation related to building envelope to reach the user convenience for optimal use on daylighting

## Final Design

After a design evaluation is carried out, then the design is developed further and in detail. This process is the final stage of design, refinement related to details so that all aspects of the building are more displayed.

## 1.5.1 Design Testing

### Space Flexibility

The design test used is the fluctuating design test using the parameters that will be the reference for the assessment. So that it raises demands and produces design solutions that cover the theme of a design approach, namely space flexibility.

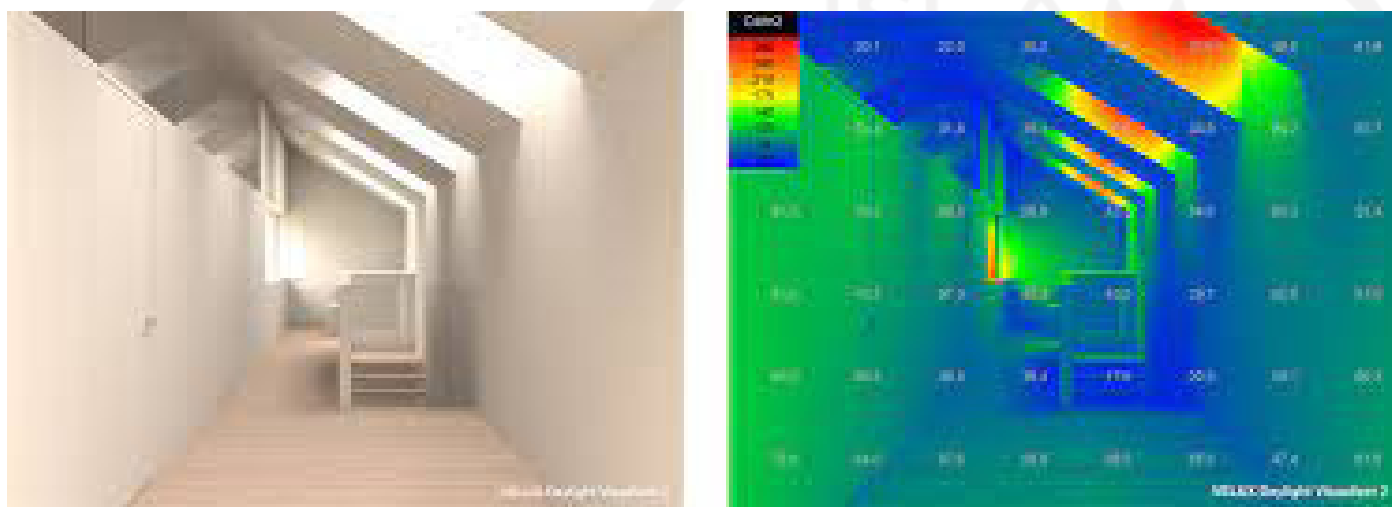
**Table 1.2** Space Flexibility Design Test  
Source : Author

Parameter (Type of Space Flexibility)	Criteria	Application on Design	Design Results
Adaptable	Buildings can respond to changes that occur with accommodate several functions.		
Universal	buildings that provide an open plan as flexibility in function or design and environment that can be accessed by all people specific activity.		
Transformable	Buildings whose shape, volume and form can change based on physical changes		
Movable	building elements that can move from one place to another so that the function of the building can be fulfilled properly		
Responsive	Responsive design is one that can rely on technology in its application so that it can accommodate the needs of Users		



## Ligth Intesity (Velux Daylight Visualizer)

The VELUX Daylight Visualizer is a professional lighting simulation tool for analyzing daytime conditions in buildings. It is intended to promote daytime use and to assist professionals with predicting and documenting daylight levels and room appearance prior to building design realization. The use of this software as a design test medium for the Creative Hub enclosure and opening designs. With the Daylight Visualizer you can make more decisions about daytime performance in determining the intensity of the light bias that goes into the Creative hub design. The design test point adjusts to space optimization related to the problem of sun exposure in the community room (Shop; office; discussion room).



**Figure 1.12** Velux Daylight visualizer

Source : <https://images.app.goo.gl/C1gdgg6vu9nrzHxG9>

## Reverbration Time Calculation

The most widely known room acoustic parameter is Reverberation Time (RT). Reverberation time is often used as an initial reference in designing room acoustics according to the function of the room. Reverberation Time shows how long sound energy can last in the room, which is calculated by measuring the decay time of sound energy in the room.

Each room has different requirements to determine the standard reverberation time depending on the type of activity and function of the room. In the case of this project, the measurement of the acoustic reverberation time of the room is carried out in the **indoor event space** which is used as a space for music performances, discussions, film screenings and exhibitions.

## Reverbration Time Calculation Formula

$$RT = \frac{0,05 \times V}{.a}$$

$$.a = \sum S \times \alpha$$

RT = Reverbration Time  
V = Room Volume (ft<sup>3</sup>)  
.a = Total Sound Absorption  
S = Surface Area (sqft)  
 $\alpha$  = Sound Absorption Coefficient

# 1.6 Framework of Thinking

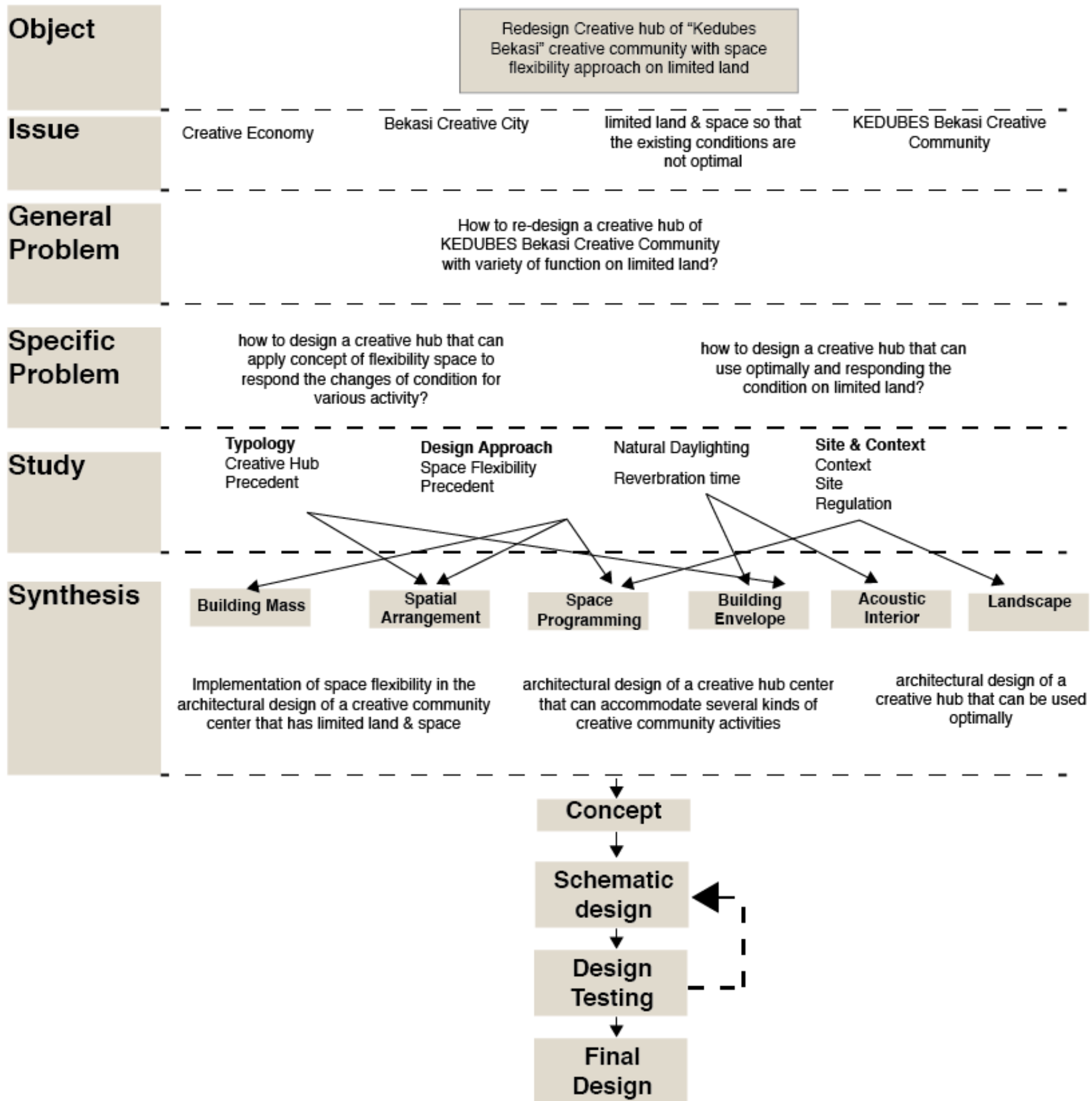


Figure 1.13 Framework  
 Source : Author

# 1.7 Originality and Novelty

Regarding the originality and novelty of the report, there are several reports of final assignments and research that have previously been carried out and have a similar approach or building typology. However, there are several differences that are unique to this study, including;

## 1. Bekasi Youth and Community Center

Author : Purnomo Hadi  
Institution : Universitas Diponegoro Semarang  
Published : 2016  
Difference :

The difference between the final project created is that it is in a specifically different location and also the community it accommodates. Even though the Bekasi city is the same context and also the function, the conceptual approach taken leads to youth dynamism.

## 2. Community Center di BSD City

Author : Alemsa Yuli Hasyati, Eddy Prianto, Atiek Suprapti Budiarto  
Institution : Universitas Diponegoro Semarang  
Published : 2012  
Difference :

The difference between the following research project and the author's undergraduate final project lies in the approach and design location. In the report, the community center was designed using the green architecture concept related to the BSD City concept.

## 3. Perancangan Pusat Kreatif Sleman di Yogyakarta dengan Pendekatan Arsitektur Biofilik

Author : Junian Ahmad Mahendra  
Institution : Universitas Islam Indonesia  
Published : 2020  
Difference :

The difference between the following research project and the author's undergraduate final project lies in the approach and design location. In the report, the community center was designed using the Biophilic design Approach.

#### **4. Perancangan Pusat Seni dan Kebudayaan di Kutai Kartanegara dengan Pendekatan Fleksibilitas dan Critical Regionalism**

Author : Miftahul Jannah  
Institution : Universitas Islam Indonesia  
Published : 2020  
Difference :

The difference between the following research project and the author's undergraduate final project located on the location and specific function or the typology. In the case of the author, the author designed a cultural center with flexibility and critical regionalism specifically designed for the arts and culture of Kutai Kartanegara.

#### **5. Redesain Masjid Jogokaryan Sebagai Pusat Kegiatan Islam dengan Fleksibilitas Pada Ruang Masjid**

Author : Dwi Putra Ramadhan Z. Daud  
Institution : Universitas Islam Indonesia  
Published : 2019  
Difference :

The difference between the following research project and the author's undergraduate final project located on the location and the typology. In the case of the author redesigned a mosque with flexibility space approach as the center of Muslim activities.

#### **6. Perencanaan dan Perancangan Delta Areana di Deltamas Kabupaten Bekasi dengan Konsep Modern dan Pendekatan Fleksibilitas Ruang**

Author : Agitha Ghaisani  
Institution : Universitas Pelita Bangsa  
Published : 2020  
Difference :

The difference between the following research project and the author's undergraduate final project lies on the building typology. In the report, the author used the space flexibility approach to the specific function for sports arena.





2

**Design Problem Exploration.**



## 2.1 Context

Kota Bekasi is one of the cities located in West Java Province. This city is part of the Metropolitan Jabodetabek and is the satellite city with the largest population in Indonesia. Currently Bekasi City has developed into a residence for urbanites and industrial centers with the boundaries of Bekasi City including;

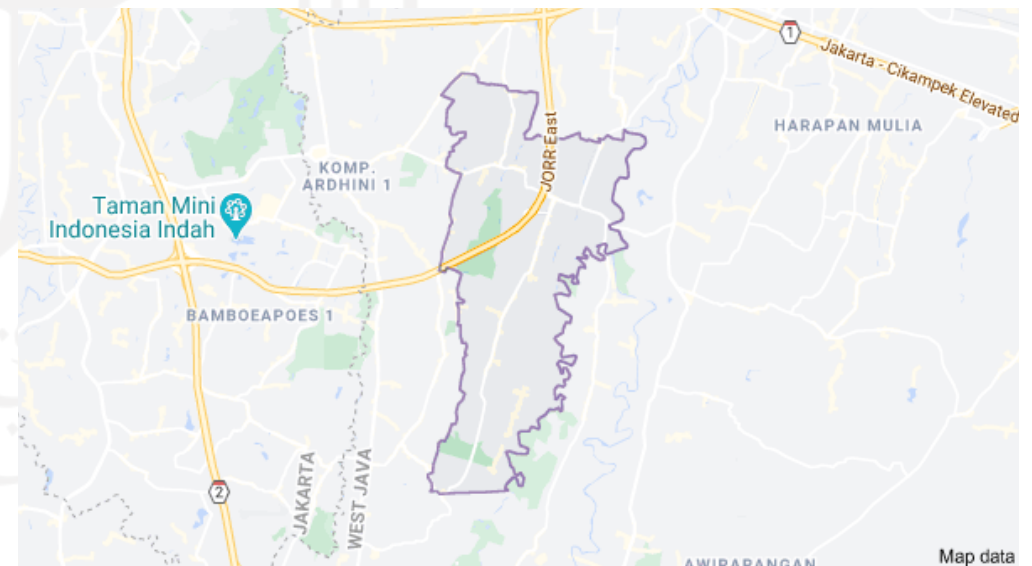
1. The North side is bordered by Bekasi Regency(Kabupaten Bekasi).
2. The East side is bordered by Bekasi Regency (Kabupaten Bekasi).
3. The South side is bordered by Bogor Regency (Kabupaten Bogor) and Depok City.
4. The West side is bordered by DKI Jakarta Province.

Bekasi City has an area of approximately 210.49 km<sup>2</sup> The area of Bekasi City is located on a land elevation that varies between 11 - 81 m above sea level, which is included in the lowlands.



**Figure 2.1** Kota Bekasi Location  
Source : Author

The selected project location is located at where the creative hub of “KEDUBES Bekasi” is located on Jl. Raya Jatikramat No.2a, RT.005 / RW.001, Jatikramat, Jatiasih District, Bekasi City, West Java. The site area has total area around 1,228 square meter that consist of one main building. According to the RDTR the selected location is included in the trade and services zone with a regional / city scale trade and service sub-zone (K-1).



**Figure 2.2** Jatiasih District  
Source : maps.google.com

The selected project location is located at where the creative hub of “KEDUBES Bekasi” is located on Jl. Raya Jatikramat No.2a, RT.005 / RW.001, Jatikramat, Jatiasih District, Bekasi City, West Java. The site area has total area around 1,228 square meter that consist of one main building. According to the RDTR the selected location is included in the trade and services zone with a regional / city scale trade and service sub-zone (K-1).

### Local Regulation / Peraturan Daerah

Regional Regulation of Bekasi City number 13 of 2011 about Bekasi City Spatial Plan Year of 2011-2031

Peraturan Daerah Kota Bekasi Nomor 13 Tahun 2011 tentang Rencana Tata Ruang Wilayah Kota Bekasi tahun 2011-2031

**Location of cultivation area development** regulated in article 23 regarding the plan to develop urban tourism and recreation areas as referred in Article 19 letter d, includes: e. development of educational tourism areas in Pondok Melati, Jakasampurna, Jatiasih and Bantargebang Districts.

### Local Regulation / Peraturan Daerah

Regional Regulation of Bekasi City number 05 of 2016 about Bekasi City Detail of Spatial Plan Year of 2011-2035

Peraturan Daerah Kota Bekasi Nomor 05 Tahun 2016 tentang Rencana Detail Tata Ruang Wilayah Kota Bekasi tahun 2015-2035

Based on these regulations the site location is included in the (K) trade and services zone, which is included in the sub-zone (K1) of trade and services on a regional / city scale.



**Figure 2.3** Location of Project  
Source : Google Earth

## 2.2 Site Regulation

The Regional and City (K-1) trade and service scale sub-zone is located on arterial roads and the KDB (Building Coverage Ratio) is at maximum 50% (fifty percent).

The Regional and City (K-1) Service and Trade Sub Zone scale is on the arterial road and the KLB (Floor Area Ratio) is a maximum of 4.0 (six point zero).

The Sub-Zone of Trade and Services at the scale of Regional and City services (K-1) is located on the arterial road and the KB (Building Height) has a maximum of 8 (eight) floors.

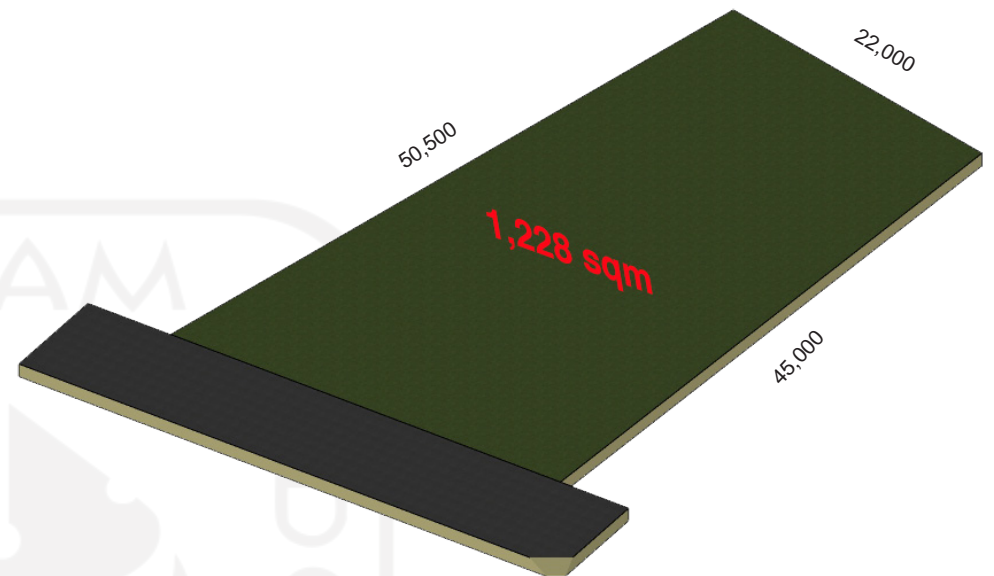
The Regional and City (K-1) service scale trade and service sub-zone is on the arterial road and the KDH (Green Coverage Ratio) collector is at least 20% (twenty percent).

After analyzing the site to be designed, it is followed by an analysis of the calculation of the area with regional regulations. The following is a calculation of KDB area, KLB, number of floors and green land. This calculation can affect the design of the mass composition and the floor area.

The following is the calculation of regulations in accordance with the design location:

**Table 2.1** Site Intensity  
Source : Author

KDB (Building Coverage Ratio)	$1,228 \times 50\% = \text{max } 614 \text{ sqm}$
KLB (Floor Area Ratio)	$1,228 \times 4 = \text{max } 4,912 \text{ sqm}$
KDH (Green Coverage Ratio)	$1,228 \times 20\% = \text{min } 245.6 \text{ sqm}$



**Figure 2.4** Site of Project  
Source : Author

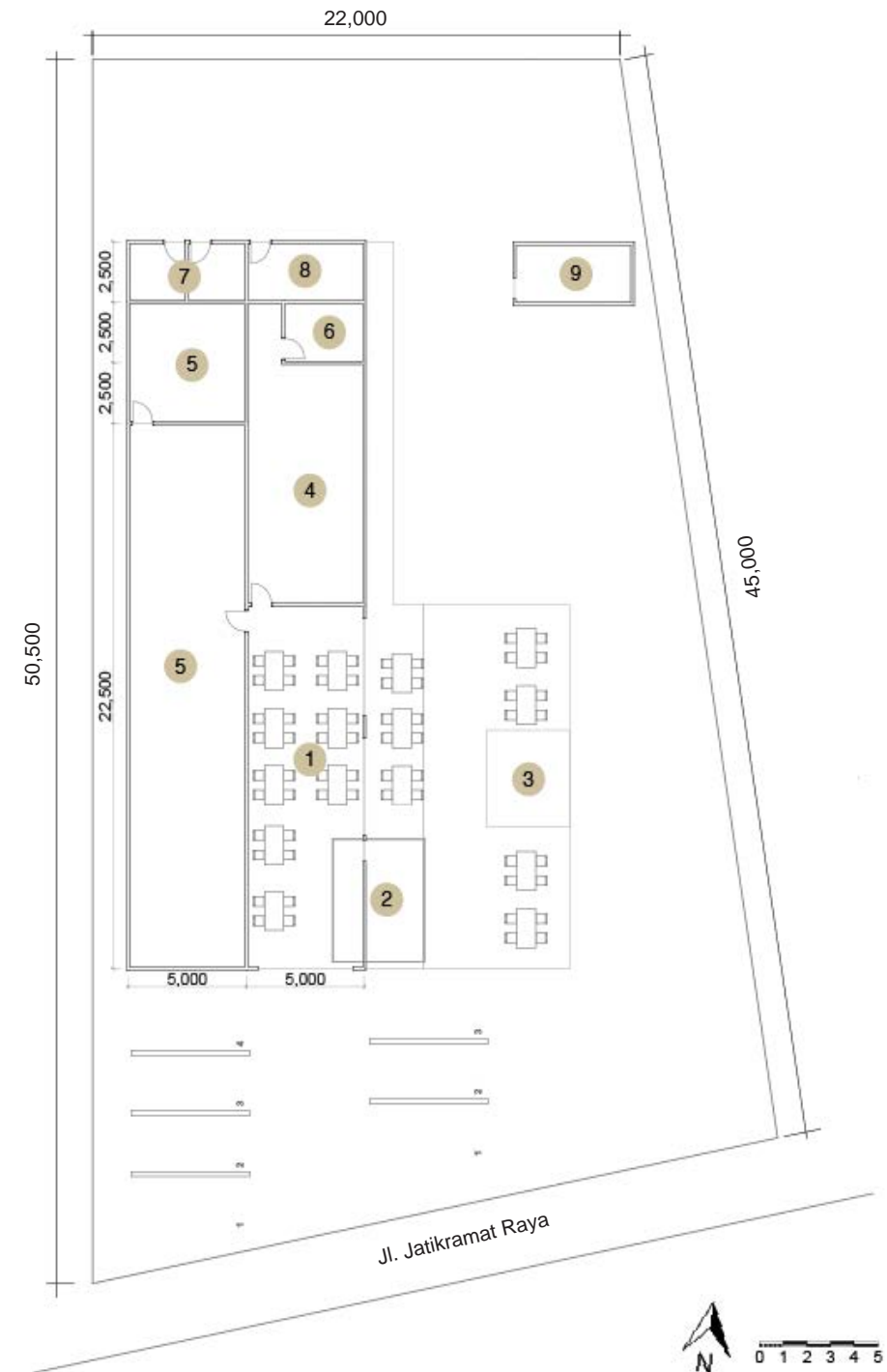


## 2.3 Site Condition

This building was originally a restaurant, but when the restaurant closed in 2015 the creative community “Kedubes Bekasi” occupied this place. So that the arrangement and space requirements of this place are not right for the creative community. but this community tries to accept and adapt to the existing place.

In terms of the space program and also the existing conditions of the building, the division of space is not good because at the beginning this building was a restaurant that was converted into a creative hub and cafe, so that the need, circulation and utilization as a creative hub was not optimal. The following is the spatial program available in this place;

1. Kantin Kedubes :
  - Cafe
  - Music Gigs
  - Workshop
  - Discussion
2. Kitchen
3. Pendopo ( Music Stage)
4. Ruang Diklat :
  - Merchandise shop
  - Office
  - Workshop
  - Film Screening
5. Multifunction Room
6. Storage
7. Toilet
8. Employee Room
9. Musholla



**Figure 2.5** Existing plan of Kedubes Bekasi  
Source : Author

Based on the results of observations, the combination of functions has the aim of responding to the limitations of existing land. But, it doesn't optimal as a function

In the following are problem from the poor spatial program that occurs at the existing location that it caused because of they already trapped in the condition of Restaurant that exist before it become a creative hub such as;

1. Problem on user convenience especially on the daylighting on discussion room.
2. There isn't cross ventilation in multifunction and discussion room
3. The programming problem on the condition of the kitchen from Kantin Kedubes which is next to the entrance so it doesn't make the kitchen area interrupted another function
4. The stage / pendopo area for music performances cannot be maximized for musical performances because there is no clarity between the stage and also the audience who wants to watch music performances or cafe visitors and also improper stage.
5. Film screening is less than optimal due to the use of a narrow space and also functions as a shop area.
6. The use of the multifunctional space is not very clear because of the minimal circulation and it is never used.

In fact, seeing the conditions of limited land and also the various kinds of activities in this creative hub, the manager of this place has carried out a flexible function where a space can function for various activities, but the implementation is not optimal so that space flexibility is needed so that the implementation of activities can be more optimal according to the needs and situations. of the activity itself which of course will affect the development of this community itself.



**Figure 2.6** Pendopo area as the stage performer and the Kantin Kedubes Area  
Source : <https://merahputih.com/media/2016/02/26/faWARZNIQj1456494863.jpg>



**Figure 2.7** Music Gigs Condition  
Source : <https://www.instagram.com/kedubesbekasi/>



**Figure 2.8** Condition while on the Film screenings  
Source : <https://www.instagram.com/patriotfilmbekasi/>



**Figure 2.9** Condition while on the Film screenings  
Source : <https://www.instagram.com/patriotfilmbekasi/>





**Figure 2.10** Existing condition of Kantin Kedubes  
Source : Author



**Figure 2.11** Existing condition of Community room  
Source : Author



**Figure 2.12** Existing condition of Toilet  
Source : Author



**Figure 2.13** Existing condition of Community room  
Source : Author

the condition of the building “Kedubes Bekasi” is mostly poorly maintained, this building has been established since 2004 with the initial design as a restaurant not specifically designed for creative hub, which later in 2015 was adapted into a creative community place and a supporting cafe, so that the arrangement and space requirements of this place are not proper for the creative community and as a creative hub, but this community tries to accept and adapt to the existing place. so that in design and circulation it was not appropriate for creative hub activities in the future that going to be develop.



**Figure 2.14** Existing condition of Multifunction room  
Source : Author



## Circulation and Access of the Site

The site area can be accessed from one direction. On the south side is the area's main access road which is directly opposite Jl. Jatikramat which has the status of a local road with a road width of 8 meters. This road serves as an alternative route that connects Jl. Raya Jatimekar which leads to the Jakarta Outer Ringroad (JORR) highway and Jl. Jatiwaringin as the border of DKI Jakarta province and highway access (Jakarta-Cikampek). At this time the vehicle road circulation pattern leads directly to the parking area with a maximum distance of 10 meters from the road due to limited land.



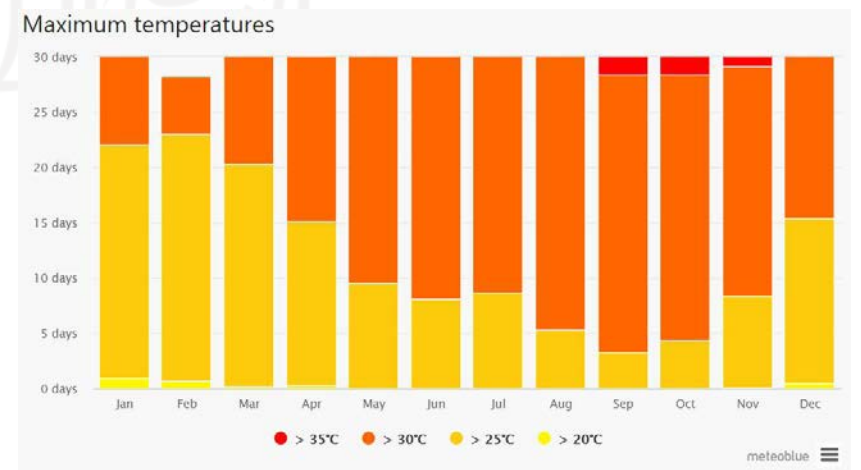
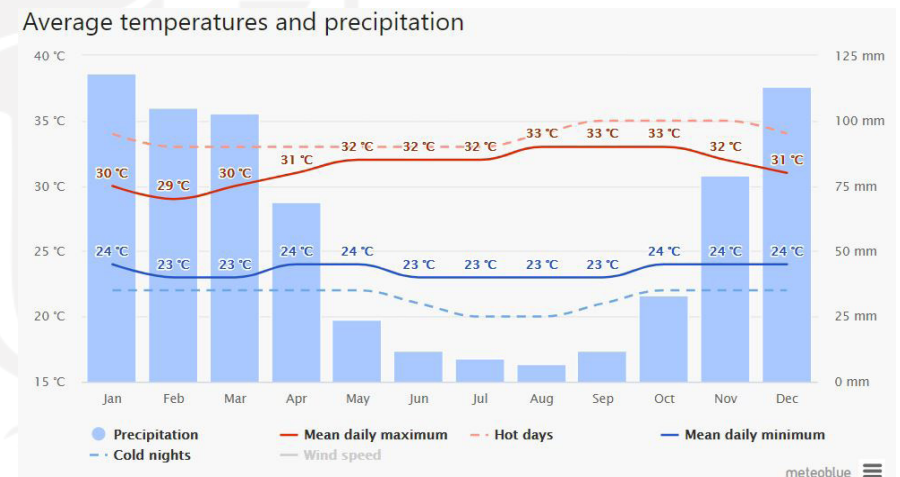
**Figure 2.15** Access Kedutaan Besar Bekasi  
Source : Google Earth

## Climate

### Temperature

“Maximum daily average” (solid red line) shows the maximum average daily temperature for each month for the location area, namely jatikramat sub-district. Likewise, “means daily minimum” (solid blue line) shows the average minimum temperature. Hot days and cold nights (dashed red and blue lines) indicate the average of warmest days and coldest nights of each month over the past 30 years’.

From the area temperature observation data, it can be seen that the temperature can reach 33 degrees Celsius during the day. Considerations for design need to be adjusted to existing data results. In the Standard (SNI) the temperature is set at the temperature of human comfort which is set in the threshold temperature of 31 degrees Celsius



**Figure 2.16** Average and Maximum Temperature  
Source : Meteoblue



## Wind Velocity

From the regional wind observation data, it can be seen that the wind direction blows evenly from the east to the west and also the west to the east with an average wind speed ranging from 5-12 km / h or 1.3-3.3 m / s. Good air velocity according to SNI 03-6572-2001 0.25 m / s. So that a wind breaker is needed to reduce the existing wind speed, it can be in the form of vegetation or tools in the form of openings in the building.

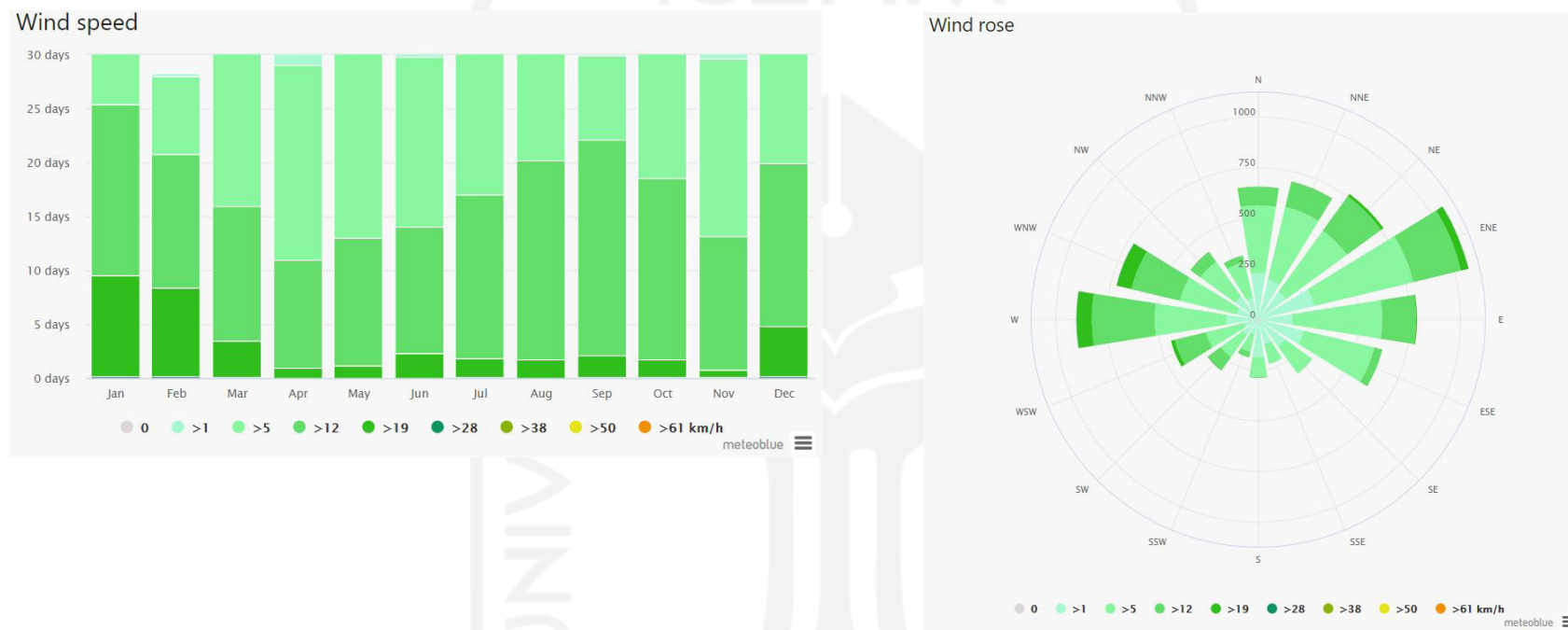


Figure 1.17 Wind Velocity  
Source : Meteoblue

## Sun Orientation

Sunpath data is taken based on the coordinates of -6.287154, 106.944421 which is the location of KEDUBES Bekasi. Data taken according to the critical solar month, namely on June 21 and December 21. According to this, the following data were generated:

### June 21(Azi/Alt)

Sunrise (05:25), 110.18° / -0.31°  
Midday(12:00), -158.66° / 75.27°  
Afternoon (17:50), -110.18° / -0.39°

### December 21(Azi/Alt)

Sunrise (05:25), 113.68° / -0.29°  
Midday (12:00), -172.43° / 72.69°  
Afternoon (17:50), -113.70° / -0.50°

The orientation of the sun is an important consideration in determining the shape of the mass, openings and handling the facade on the building envelope. Based on existing data, the site will be longated to the southern part to the north. The shading on the building will be formed to the west to avoid solar thermal radiation which can affect the spaces in this creative hub.

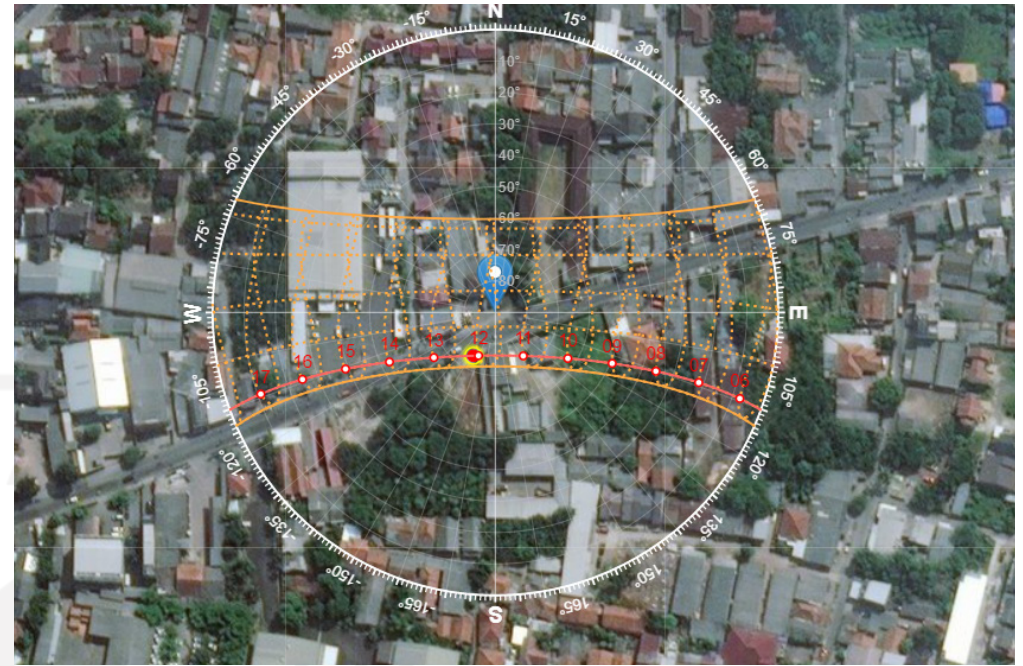


Figure 1.18 21 June 12:00  
Source : Andrewmarsh.com

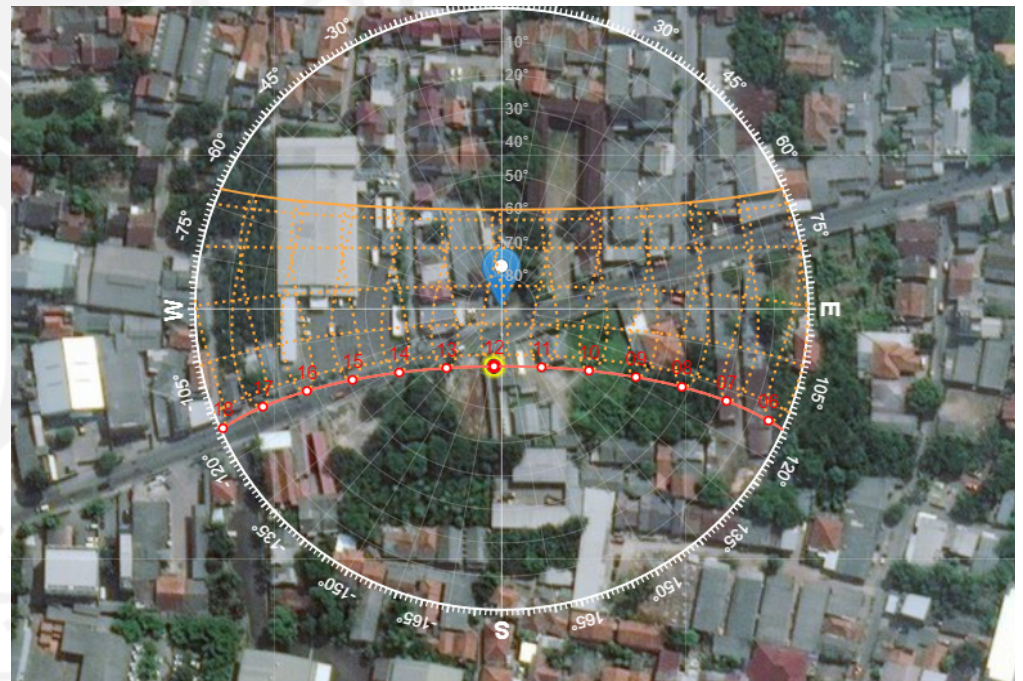


Figure 1.19 21 December 12:00  
Source : Andrewmarsh.com

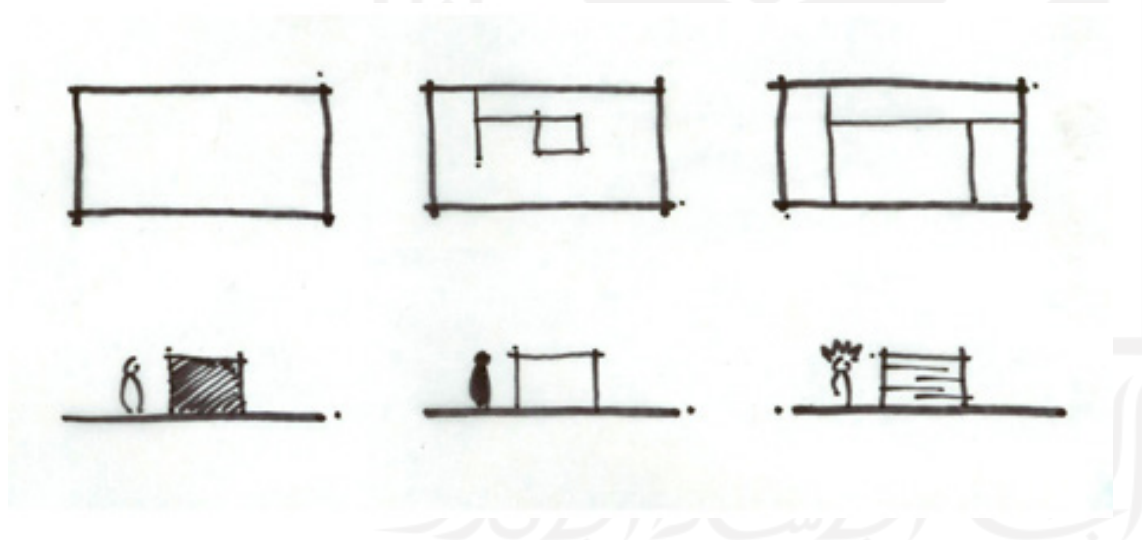
## 2.4. Space Flexibility Study

Architecture can be interpreted as the art of designing buildings. It is appropriate for a work of art or design to have a purpose that is usually chosen, namely flexibility, where the applied design has a form or use that is in accordance with the needs of the user. Flexibility means the ability to change to suit new conditions and situations or the ability to bend easily without breaking ("Flexibility," n.d.). So it can be concluded that the flexibility of space in architecture is the ability to adapt space to the situations and conditions required by the user. In the case of this final project, it can be concluded that the role of space flexibility is the ability to adapt a space related to conditions, situations and activities so that the amount of space designed can be minimized as a response to limited land or the condition of the site.

According to Geoff (2007) the principles of architectural flexibility consist of 5 principles, namely; adaptable, universal, movable, transformable, and responsive.

- **Adaptable**

Adaptation is the principle and condition in which a fixed or fixed structure has the ability to respond to changes, shapes, and configurations of non-fix components. Then the non-permanent components can be moved according to various uses.



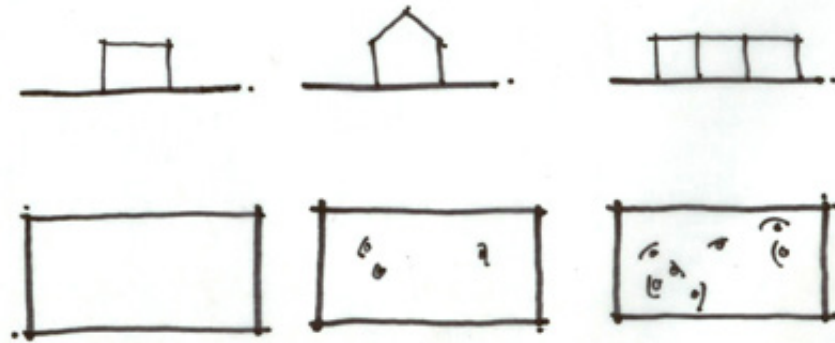
**Figure 2.20** Adaptable Flexibility

Source : <https://thewaywelve.wordpress.com/2007/11/15/flexibility-in-architecture/>



- **Universal**

Universal designs are often characterized by open plan designs and free typology designs. Universal design refers to ideas that can produce buildings, products and an environment that can be accessed by all people regardless of age or ability, including disabled people and the elderly.

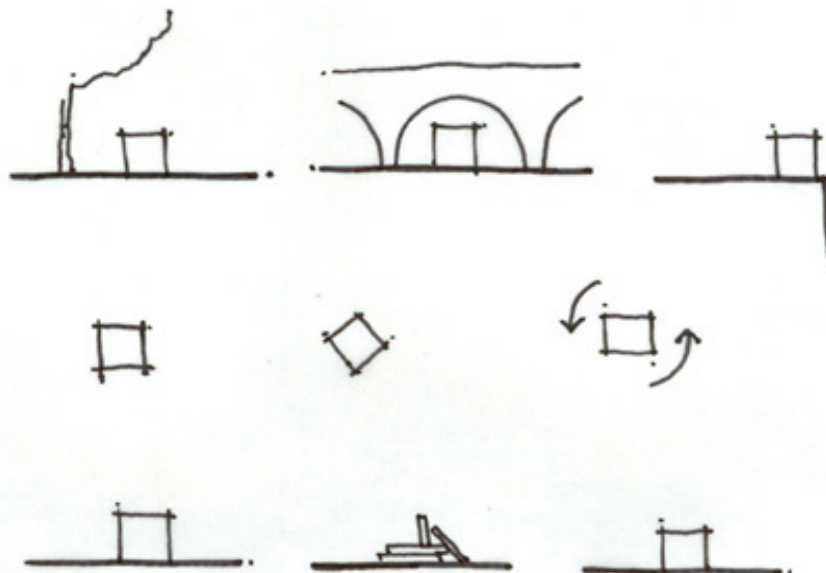


**Figure 2.21** Universal Flexibility

Source : <https://thewaywelive.wordpress.com/2007/11/15/flexibility-in-architecture/>

- **Movable**

Movable architecture, also known as a mobile architecture, is a concept with movable flexible components that can be moved, consisting of structures that can be assembled or the building can be broken apart and reconstructed.



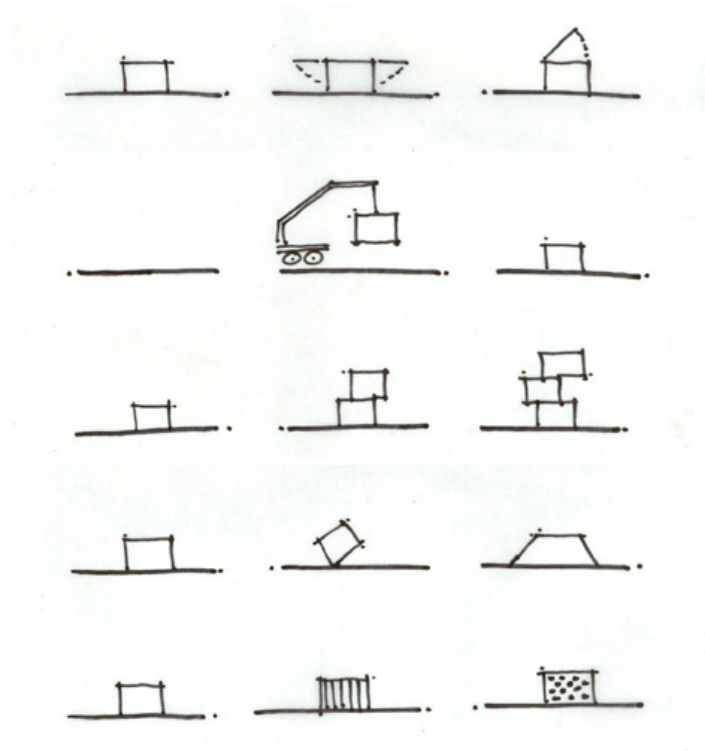
**Figure 2.22** Movable Flexibility

Source : <https://thewaywelive.wordpress.com/2007/11/15/flexibility-in-architecture/>



- **Transformable**

Transformable design is a design that uses a modular unit (capable of adding or subtracting components), transformable structures can also close, open, change shape and change colors. The resulting design can change significantly because it consists of modules or fix components.

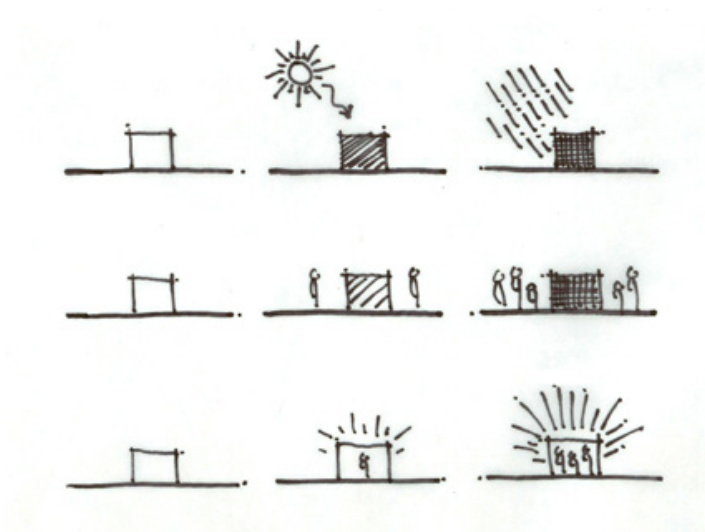


**Figure 2.23** Transformable Flexibility

Source : <https://thewaywelive.wordpress.com/2007/11/15/flexibility-in-architecture/>

- **Responsive**

Namely the building can respond to a number of external stimulant. With regard to human action in realizing smart buildings, this concept relies on technology in its application. Which aims to use technology to accommodate the needs of residents.



**Figure 2.24** Responsive Flexibility

Source : <https://thewaywelive.wordpress.com/2007/11/15/flexibility-in-architecture/>

## 2.5 Building Typology Study

### 2.5.1 Creative Hub

In virtual or physical form, a creative hub is a place where creative people gather in one place. It is a gathering place that provides space and support for networking, business development, and community engagement in the creative, cultural and technological sectors (“Creative Hubkit”, 2015)

Creative hubs have a variety of purposes such as:

- provide support through services or facilities for ideas, projects, organizations, and the buses they manage, in the long or short term, including events, skills training, capacity building, and opening up opportunities globally.

- To facilitate collaboration and connections among community members.
- To reach out to research and development centers, institutions, creative and non-creative industries.
- To communicate and engage with a broader audience, developing an active communication strategy.
- To promote and publish emerging talents; thus referring to exploration and innovation.

### 2.5.2 Creative Hub Models

Referring to the British Council written on (“Creative Hubkit”,2015) creative hubs are formed in various scales and forms, and can be serviced in various ways - collectives, cooperatives, laboratories, incubators whether statistical, mobile, or online. Following are some of the common creative hub features;

**Table 2.2** Creative Hub Models  
Source : British Council (2015)

<b>Studio</b>	Small collectiove of individuals and/or small businesses, in a co-working space
<b>Centre</b>	Large scale building which may have other assets such as a cafe, bar, cinema, maker space, shop, exhibition space.
<b>Network</b>	Dispersed group of individuals and/or businesses - tends to be sector or place specific.
<b>Cluster</b>	Co-located creatives individuals and businesses in a geographic area.
<b>Online Platform</b>	Uses only online methods such as; website and social media to engage with a dispersed audience.
<b>Alternative</b>	Focused on experimentation with new communities, sectors and financial models.

Through the writing “ ” Fajri Siregar, Daya Sudrajat added that there are additional traditional Indonesian creative hub models, including;

**Table 2.3** Creative Hub Models  
Source : Fajri Siregar, Daya Sudrajat (2017)

<b>Taman Budaya</b>	Taman Budaya is a distinctive concept of outdoor and indoor space particularly aimed for cultural and art activities, mostly convened by state actors and formal institutions.
<b>Sanggar</b>	Sanggar is a more conventional, yet loose synonym for workshop. It is often utilised for holding courses, workshops, trainings or exercises and as a performance space.
<b>Gelanggang Olahraga Remaja</b>	A gelanggang is an indoor arena used mostly for sporting and musical events under official auspices. It is usually multifunctional, although the main users is usually youth and younger citizens. It is typically indoors and located near or within the town hall area.

Fajri Siregar, Daya Sudrajat and British Council also identifying the creative hubs in Indonesia through the book of “Enabling Spaces: Mapping creative hubs in Indonesia” there are three typologies of creative hub in Indonesia, such as;

- **Creative Space**

The beginning of creative space was formed from the independent arts and culture movement in Jakarta. Generally, it is started by an individual or collective art group that occupies a physical place to provide space for the production, performance and storage of artworks for the community itself. Because the main objective is strong towards the community, generally creative space is rarely supported by a business model.

- **Co-working Space**

A co-working space is not only a physical workplace, it is also a place for communities and individuals to gather for collaborations that are made more formal. However, now there is a shift in the meaning of co-working space which was created only for economic and commercial purposes as a competitor to private offices.

- **Maker Space**

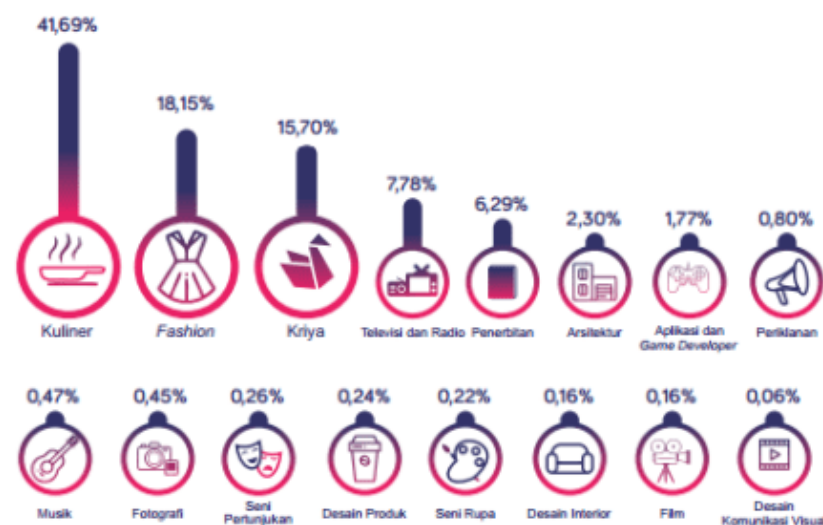
In the concept, makerspace has the same goal as co-working space. It’s just that makerspace is more intended for crafting works as a place for production activities consisting of equipment such as; 3d printing, machine cutting and so on. Different from a co-working space that contains formal work equipment such as an office.



### 2.5.3 Creative Industry

The definition of creative industry from the Ministry of Trade of the Republic of Indonesia is an industry that comes from the use of individual creativity, skills and talents to create prosperity and employment by generating and exploiting the creative power and creativity of the individual.

The creative industry is an industrial group consisting of various types of industries, each of which has a relationship in the process of exploiting ideas or wealth into high economic values that can create welfare and employment. Based on the results of a survey by the Creative Economy Agency (Bekraf) and the Central Statistics Agency (BPS), grouping the Creative Industry into 16 sectors:



**Figure 2.25** Contribution of Sub-sector creative industry  
Source : Results of the Special Creative Economy Survey by Berkaf and BPS (2016)

- **Advertising**

Creative activities related to advertising creation and production, including market research, advertising communication planning, outdoor advertising for the production of advertising materials, promotions, public relations campaigns, display of advertisements in print and electronic media.

- **Architecture**

Creative activities related to building design and production information include: garden architecture, city planning, construction cost planning, conservation of heritage buildings, auction documentation, and others.

- **Culinary**

The culinary industry is a food industry that deals with a variety of distinctive flavors that have been passed down from generation to generation to cultural heritage.

- **Craft**

Creative activities related to the creation and distribution of handicraft products include handicrafts made of precious stones, accessories, goldsmiths, silver, wood, glass, porcelain, cloth, marble, chalk, iron and other media.

- **Fashion**

Creative activities related to the creation of clothing designs, footwear design and other fashion accessories design, production of fashion clothing and accessories, consulting fashion product lines, and distribution of fashion products.

- **TV and Radio**  
Creative activities related to creation, production and packaging, broadcasting, and television and radio transmission businesses.
- **Publishing media**  
Creative activities related to content writing and publishing of books, journals, newspapers, magazines, tabloids, and digital content as well as news agency activities.
- **Application and game development**  
Creative activities related to information technology development including computer services, software development, system integration, system design and analysis, games, software and hardware infrastructure design, and portal design.
- **Music**  
Creative activities related to the creation, production, distribution and retail of sound recordings, recording copyright, music promotion, lyricist, song or music composer, musical performance, singer, and musical composition.
- **Photography**  
Creative activity that is useful for explaining anything, a photographer will convey it in the form of a photo. Because, for a photographer, photography is a way to convey language, speak and narrate. In essence, photography is not just a photo technique. However, as a photographer's interpretation of something in a portrait / visual form.
- **Film, Animation and Video**  
Creative activities related to the creation of video production, film and photography services, as well as distribution of video recordings, films. This includes script writing, film dubbing, cinematography, soap operas, and film exhibitions.
- **Performing Arts**  
Creative activities related to businesses related to content development, performance production, ballet performances, traditional dances, contemporary dance, drama, traditional music, theater music, opera, including ethnic music tours, design and production of performance clothing, stage layouts and layouts lighting.
- **Product Design**  
Creative activities that include the process of creating a new product from finding ideas to producing the final product.
- **Fine Arts**  
Creative activities that include Includes trade or exhibition of unique and rare art items that have high selling value, such as paintings, craft musical instruments, and so on.
- **Interior Design**  
Creative activities that are included in the specification of the micro architecture sub-sector, are oriented around indoor layout design.
- **Visual Communication Design**  
Creative activities that develop and in line with the development of information technology, art can be made in digital form as well as a medium for information to others.

## 2.6. Acoustic for Reverbration time on Indoor Event Space (Auditorium) Study

In the case of this project, there is a performance room called an indoor event space which can be used as a place for music performances, film screenings and also discussion events or workshops that going to be exist in this creative hub or it can be stated as a auditorium. An auditorium is declared successful in carrying out its function if the listener can properly and fully hear and understand the sound that has been emitted by the source or it can be stated that there are no acoustic defects.

One of the measures of acoustic performance in the auditorium is determined by reverberation time. In research of Halim et al.(2018) reverberation time is an important parameter to describe the acoustic conditions of a room. When sound is generated in the room, it will slowly decay as the sound is absorbed by the building elements and air. This phenomenon can be realized when the sound source stops producing sound but sound reflections continue to occur. Reverberation time not only affects the level of clarity of one's speech or one's musical experience but also affects the level of intensity and sound distribution.

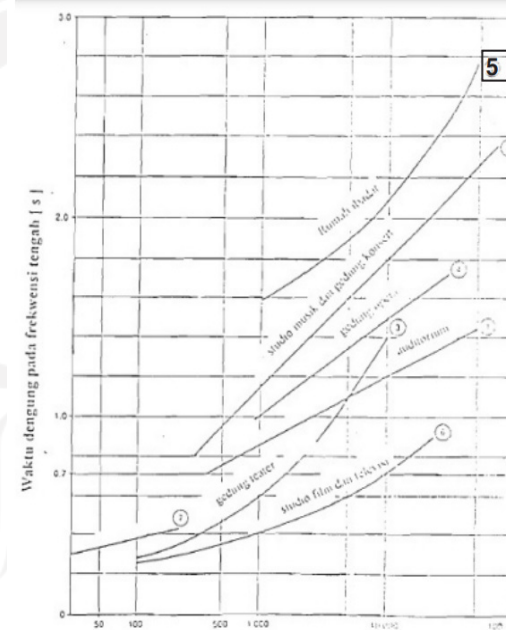
### Reverbration Time Factor

Acoording to the research of "Analisis Perhitungan Akustik Kaitannya Dengan Optimalisasi Auditorium "(Halim et al., 2018) The factors that can affect the reverberation time include;

- Materials that is used in the interior of room which is divided into walls, ceilings and floors
- Room volume
- Material absorption coefficient

Jenis Hunian ---	Tingkat Bunyi Yang Dianjurkan		Waktu Dengung (T) Yang Dianjurkan
	Baik [dBA]	Maksimum [dBA]	[detik]
1	2	3	4
<b>6. Bangunan umum</b>			
Bandara :			
- Ruang keberangkatan	45	60	-
- Ruang pengambilan koper	45	60	-
- Ruang pemeriksaan keberang- katan	45	50	-
Galeri seni	40	50	-
Auditorium :			
- Restoran teater dan kabaret	30	30	Kurva 3
- Ruang konser dan resital	20 NR	25 NR	Kurva 2
Balai sidang dan konperensi			
♦ Tanpa sistem tata suara			
- .s/d 50 orang	30 NR	35 NR	Kurva 1
- 50 sampai 250 orang	25 NR	30NR	Kurva 1

Figure 2.26 Reverbration time standard  
Source : SNI-03-6368-2000



Gambar 1  
Waktu Dengung Rata-rata

According to the SNI-03-6368-2000, there is a reverbration time that we need to fulfill in terms of acoustic. Based on the SNI or regulation not every space function has a standard of reverbration time. In this case of indoor event space or the auditorium has standard chosen for the " Ruang Konser dan Resital" with a number of reverbration time 0.8 - 2.2.



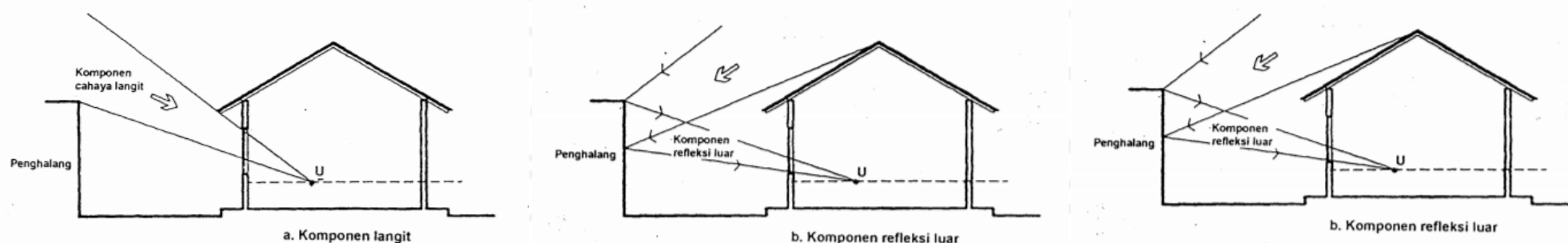
## 2.7. Natural Daylighting on Community Room Study

Daylight has a very important function in architectural and interior works. Good distribution of natural light in space is directly related to the architectural configuration of the building, building orientation, depth and volume of space. Therefore, daylight must be spread evenly in the room. In the creative hub case, the community room is the target of daylight planning, the community room is used as a work space, shop space and discussion space. The workspace as a work area requires a comfortable level of natural lighting that is adequate so that users in it can carry out activities smoothly and have good work productivity. Visual comfort can be achieved if the points of visual comfort are applied optimally, among others, by conforming the design to the recommended light standards and arranging the room layout according to the lighting distribution. (Widyantoro et al., 2017)

### Natural Daylighting Factor

According to SNI No.03-2396-2001 About layout Daylighting System Design Method, natural lighting daylight factor is the ratio of the light level at a point of a particular field in a space on a flat field illumination level in an open field which is a measure of the performance of hole the light of the room. Factors of natural lighting during the day consisted of 3 Components include:

- The sky component (ceiling-fl factor) is the lighting component straight from the light of the sky.
- The external reflection component (external reflection factor - FRL) is the lighting component that comes from the reflection of objects around the building in question.
- The inner reflection component (reflection factor in frd) is the lighting component that comes from the reflection of indoor surfaces, from light that enters the room due to the reflection of objects outside the room or from sky light.



**Table 2.3** Natural Daylight factor  
Source : SNI 03-2396-2001

## 2.8 Design Theme Precedent



**Figure 2.6** Naked house

Source : <https://archeyes.com/naked-house-shigeru-ban/>

### **Naked House**

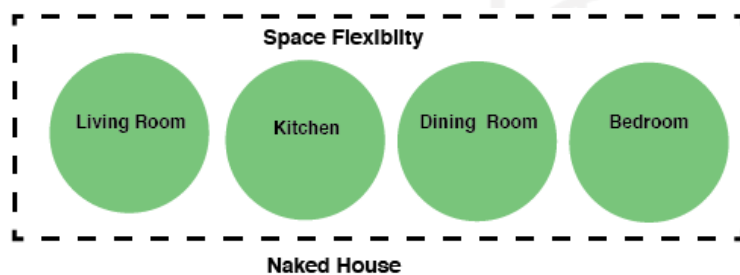
Architect : Shigeru Ban  
Typology : Private Residences  
Location : Kawagoe, Saitama, Japan  
Year of Project : 2000

This case study project is represented by the design of a house for a family of 5 people (one couple, two children and a grandmother) by the architect Shigeru Ban, where different generations can communicate and relate to as much as possible with each other.

In the form of a building, this house resembles a green house, where if we relate to the flexible design approach, the space plan of this building is a universal design in the form of an open plan. However, the rooms inside it use an adaptable design, where cubicles as mobile furniture which are rooms can be moved and combined with one another according to the user's situation and needs.

Lesson of Design Approach from Naked House;

1. Universal design in the form of an open plan provides flexibility for users.
2. Combining Universal Flexibility design and Adaptable Flexibility Design
3. Cubicle-shaped movable furniture is not only ordinary furniture but forms the room itself
4. Flexible space not only adapts to user space requirements but can direct user interaction



This precedent was chosen because it has a characteristic in the application of space flexibility. Where, if it is related to the problems in this final project, the flexibility of space is the solution chosen and its application can be used as a reference and inspiration.

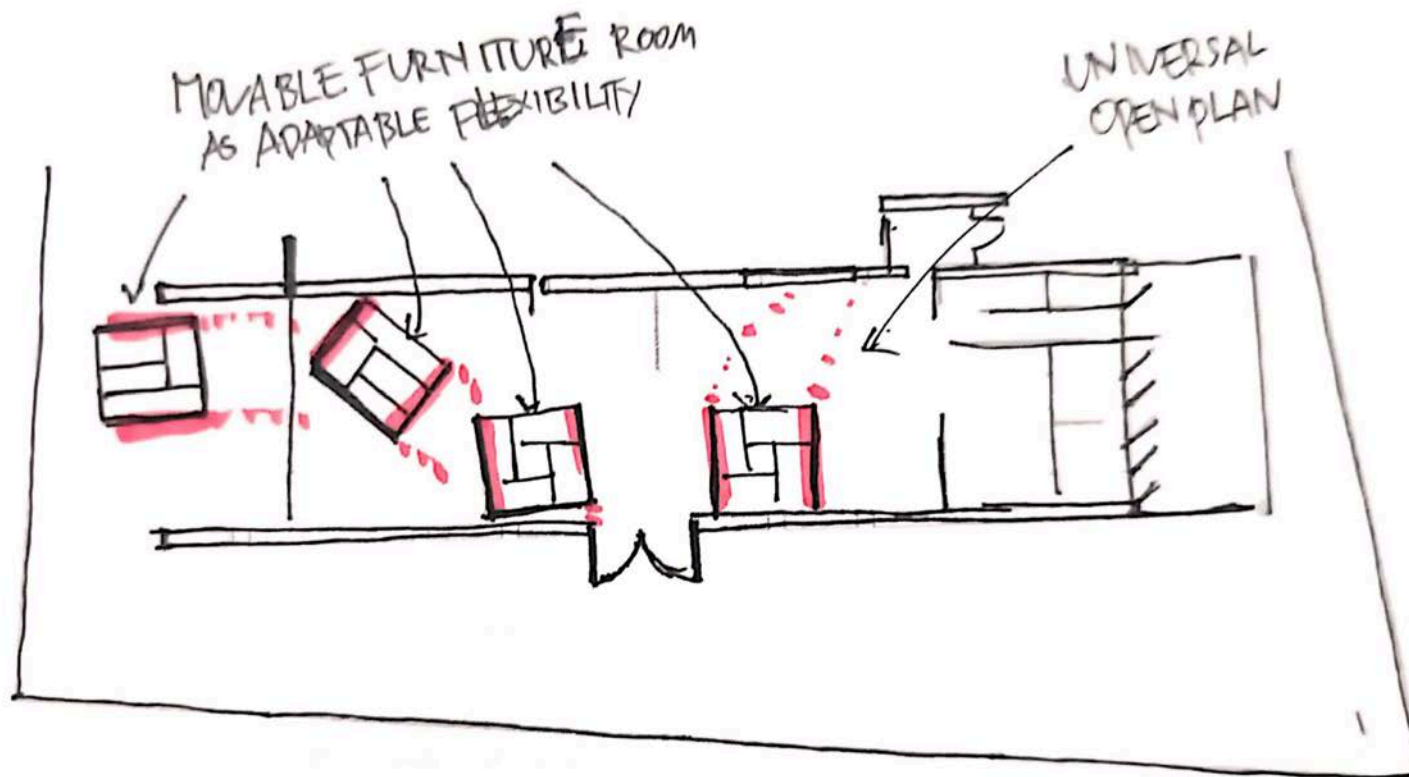


Figure 2.25 Naked house Plan  
Source : Author

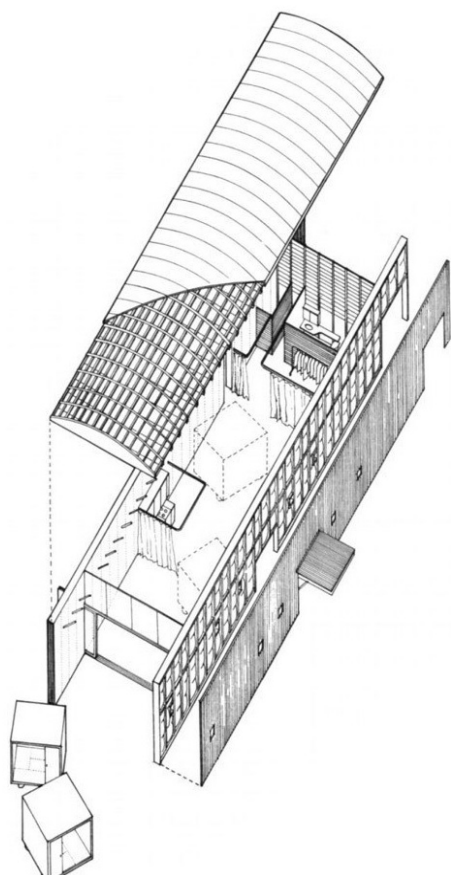




**Figure 2.26** Naked house  
Source : <https://archeyes.com/naked-house-shigeru-ban/>



**Figure 2.27** Naked house  
Source : <https://archeyes.com/naked-house-shigeru-ban/>



**Figure 2.28** Naked house Isometric  
Source : <https://archeyes.com/naked-house-shigeru-ban/>



**Figure 2.29** Naked house Interior  
Source : <https://archeyes.com/naked-house-shigeru-ban/>





**Figure 2.30** Hall 3 of the Parc Central

Source : <https://www.archdaily.com/956717/adaptation-of-hall-3-of-the-central-park-to-cultural-facilities-contell-martinez-arquitectos>

### Adaptation of Hall 3 of the Parc Central.

Architect : Contell-Martínez Arquitectos  
Typology : Cultural Center  
Location : Valencia, Spain  
Year of Project : 2019



This project is located in Valencia, Spain which is a multi purpose hall where the shape of the space can be adapted according to the needs and types of activities. This multi purpose hall project can be adapted into three forms. Side stage with stands, then the central stage with stands on the left and right, the exhibition form consists of an open plan and a dividing wall.

Lesson of Design Approach from this precedent;

1. flexibility space of one multipurpose hall with 3 kind of form flexibility space (exhibition,side stage,central stage)
2. Adaptable flexibility space using technology of lifted up stage and sitting stand mechanism.

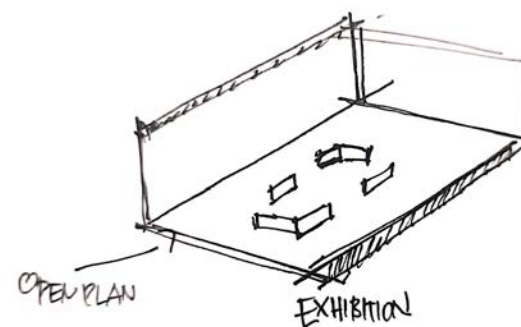
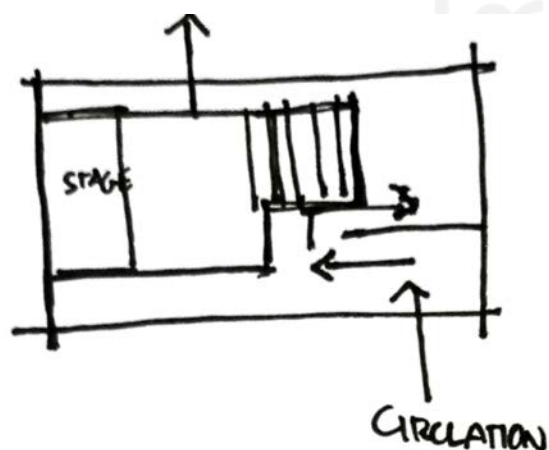
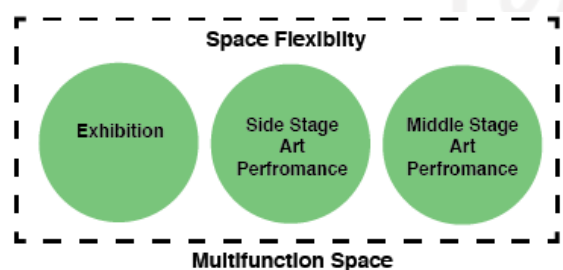


Figure 2.31 Hall 3 Parc Central Exhibition  
Source : Author

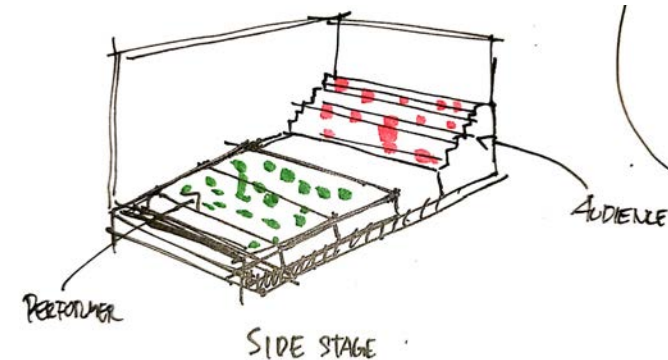


Figure 2.32 Hall 3 Parc Central side stage  
Source : Author

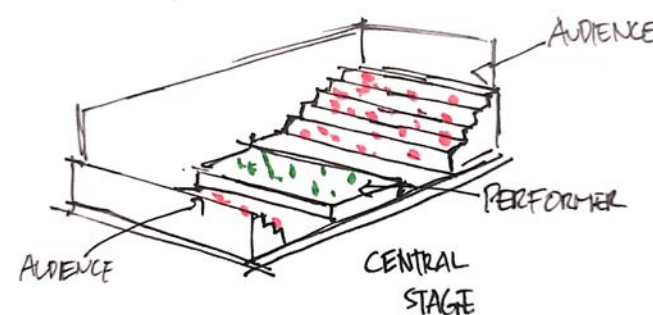


Figure 2.33 Hall 3 Parc Central central stage  
Source : Author

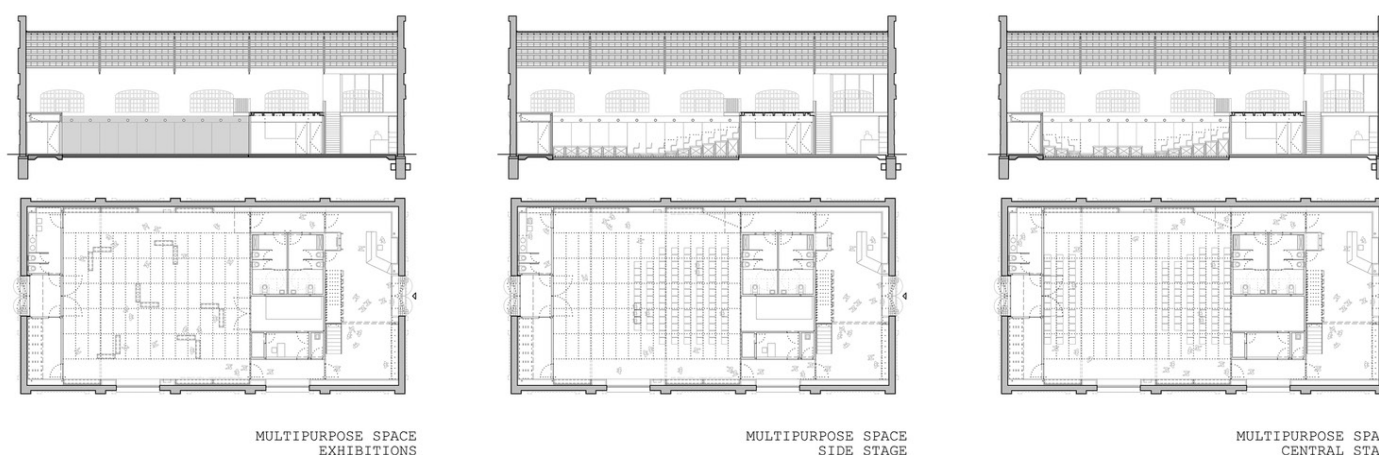


Figure 2.34 Hall 3 Parc Central

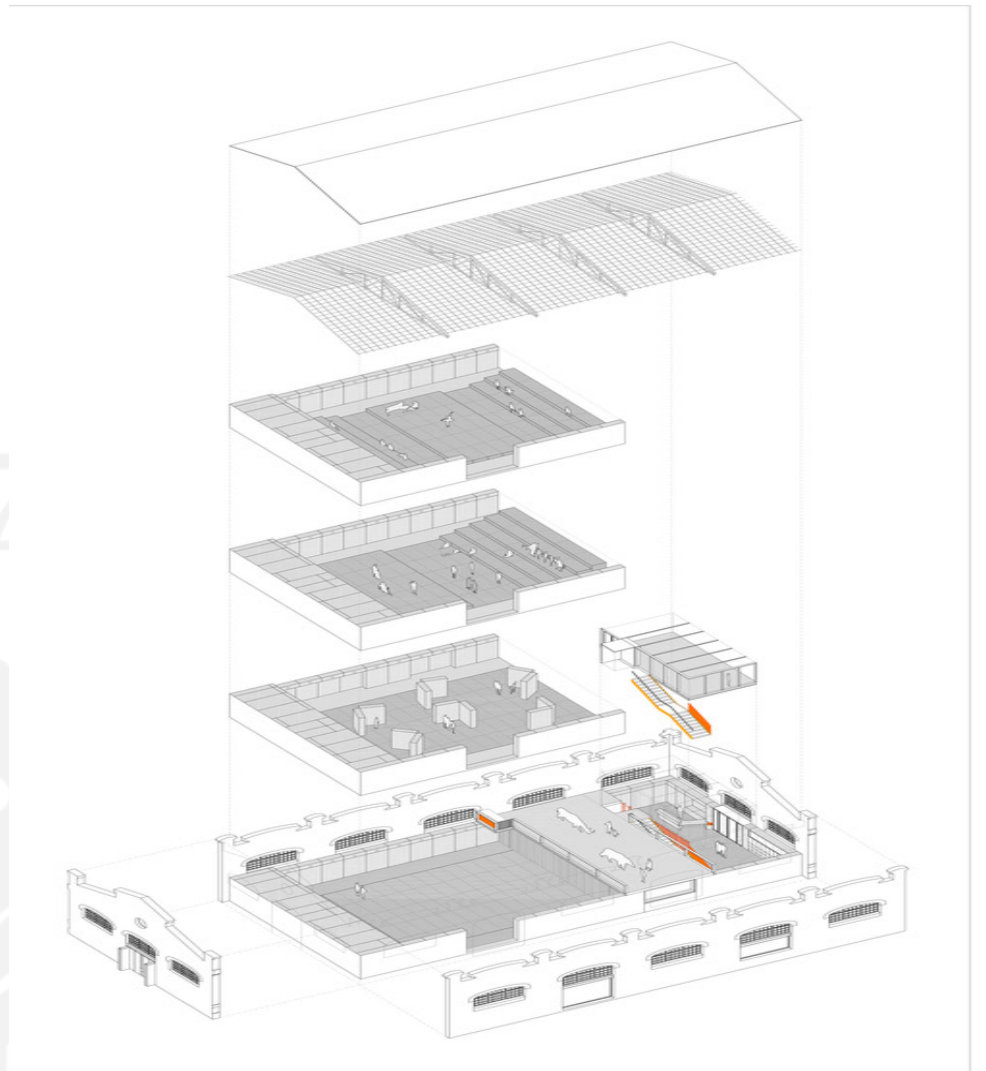
Source : <https://www.archdaily.com/956717/adaptation-of-hall-3-of-the-central-park-to-cultural-facilities-contell-martinez-arquitectos>





**Figure 2.34** Hall 3 Parc Central

Source : <https://www.archdaily.com/956717/adaptation-of-hall-3-of-the-central-park-to-cultural-facilities-contell-martinez-arquitectos>



**Figure 2.36** Hall 3 Parc Central Axonometric

Source : <https://www.archdaily.com/956717/adaptation-of-hall-3-of-the-central-park-to-cultural-facilities-contell-martinez-arquitectos>



**Figure 2.35** Hall 3 Parc Central

Source : <https://www.archdaily.com/956717/adaptation-of-hall-3-of-the-central-park-to-cultural-facilities-contell-martinez-arquitectos>



**Figure 2.37** Hall 3 Parc Central

Source : <https://www.archdaily.com/956717/adaptation-of-hall-3-of-the-central-park-to-cultural-facilities-contell-martinez-arquitectos>



## 2.9 Design Typology Precedent



**Figure 2.38** ARTCOR Creative Center

Source : <https://www.archdaily.com/921208/artcor-creative-center-maxim-calujac>

### ARTCOR Creative Center

Architect : Maxim Calujac  
Hub Type : Center / Creative Space  
Location : CHIȘINĂU, MOLDOVA  
Year of Project : 2019

This creative center has an area of approximately 850 m<sup>2</sup> which consists of 2 square and trapezoidal buildings. The trapezoid building is unique because it is a new building that functions as a conference hall or exhibition hall and the second floor area is a workshop area and the stairs are also used as a staircase auditorium.

Based on the creative hub analysis, this building is a creative hub with a type of center where it consists of several assets and functions as a performance space, exhibition, workshop and co-working space.

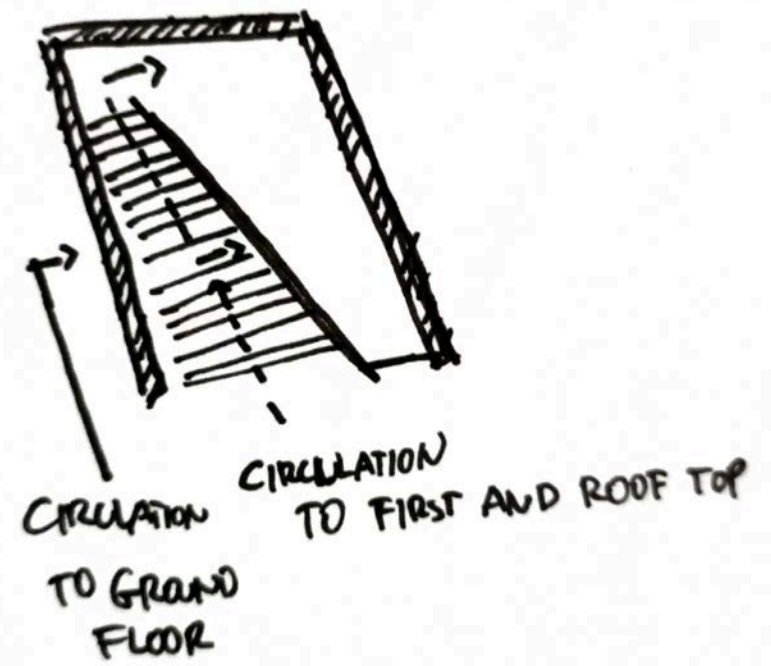


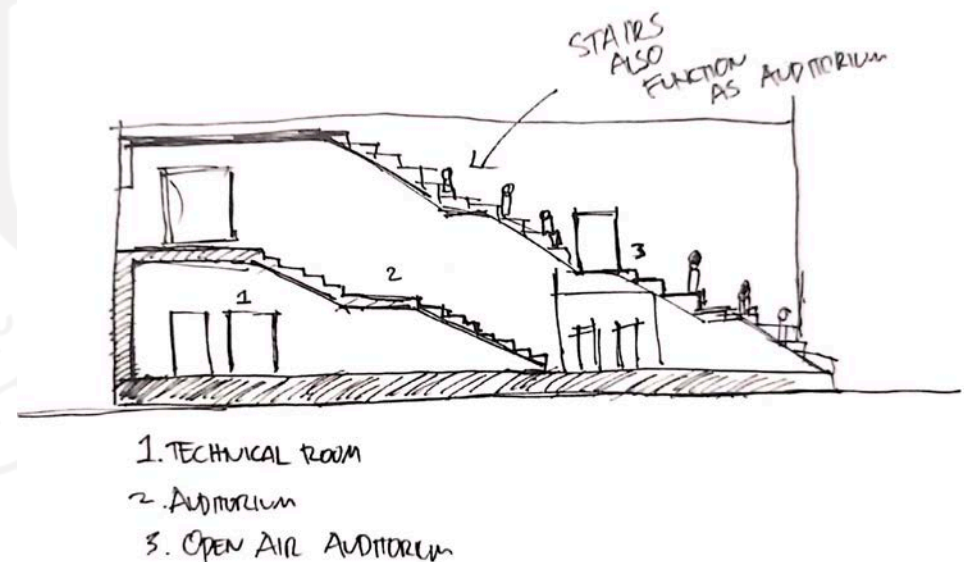
Figure 2.39 ARTCOR Creative Center

Source : <https://www.archdaily.com/921208/artcor-creative-center-maxim-calujac>

Lesson of building typology from ARTCOR Creative Center;

1. The use of narrow land with irregular shapes as a creative center.
2. The use of area under the stairs.
3. maximizing its function as a creative hub model with a type of center classification consisting of several spatial functions of assets.
4. maximizing the staircase area not only as vertical circulation but also functions as an auditorium

This precedent was chosen because it was characterized by a building footprint that was not too broad or limited. Where, if it is related to the context and problems in this final project, it has similarities in limited land use and also its function as a creative hub.



1. TECHNICAL ROOM
2. AUDITORIUM
3. OPEN AIR AUDITORIUM

Figure 2.40 ARTCOR Creative Center Section

Source : Author





**Figure 2.41** ARTCOR Creative Center

Source : <https://www.archdaily.com/921208/artcor-creative-center-maxim-calujac>



**Figure 2.42** ARTCOR Creative Center

Source : <https://www.archdaily.com/921208/artcor-creative-center-maxim-calujac>



**Figure 2.43** ARTCOR Creative Center

Source : <https://www.archdaily.com/921208/artcor-creative-center-maxim-calujac>



**Figure 2.44** ARTCOR Creative Center

Source : <https://www.archdaily.com/921208/artcor-creative-center-maxim-calujac>





**Figure 2.45** Songwon Art Space

Source : <https://www.archdaily.com/326633/songwon-art-center-mass-studies>

## Songwon Art Space

Architect : Mass Studies  
Hub Type : Center / Creative Space  
Location : South Korea  
Year of Project : 2012



The Songwon art center is built on a narrow land and also has an irregular shape, built on an area of around 297 sqm. This art center has asset restaurant facilities and also an exhibition space. Maximum land use is indicated by the division of 5 different floors. The dimensions of the floor from the ground floor to the highest floor appear to be shrinking with slanting translucent roof with the aim of providing natural lighting on each floor, be it the restaurant or exhibition area, so as to provide comfort to the building even though the building is entirely an enclosed space.

The Songwon Arts Center was built with the aim of being a venue for art exhibitions such as paintings and sculptures. When examined as a creative hub typology, this building is classified as a center, because the building is not only an exhibition space but has other assets as a restaurant or cafe.



Figure 2.46 Songwon Art Center  
Source : author

Lesson of building typology from Songwon art space.

1. The use of limited land with irregular shapes as a creative center.
2. maximizing its function as a creative hub model with a type of center classification consisting of several spatial functions of assets.
3. maximizing the passive lighting on floor as the restaurant and indirect passive lighting on gallery even though it is fully enclosed space.

This precedent was chosen because Where, if it is related to the context and problems in this final project, and also it has similarities in limited land use and also its function as a creative hub. it was characterized by a building footprint that was not too broad or limited.

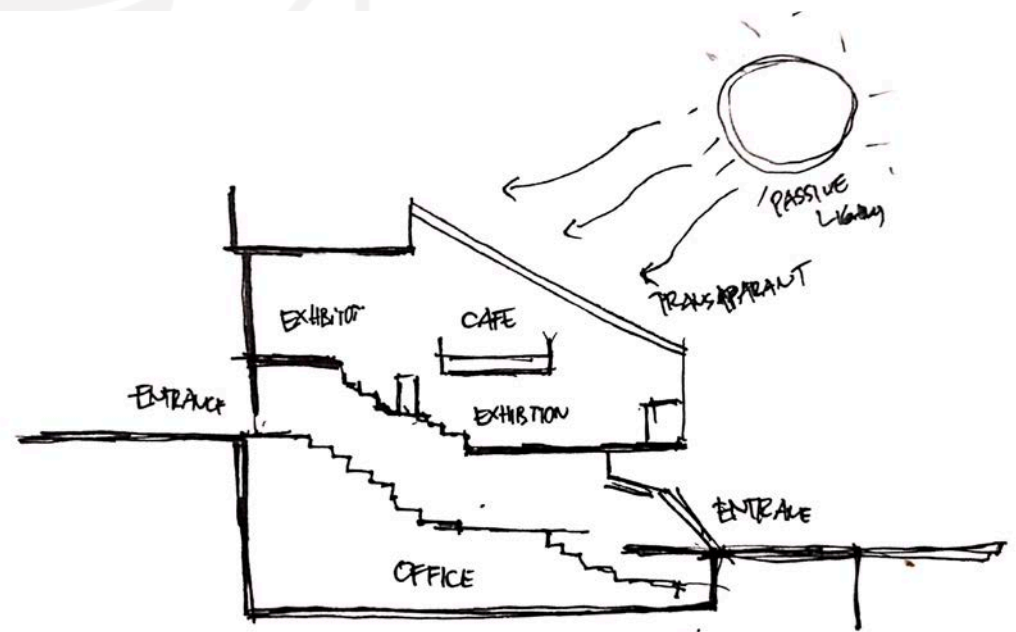


Figure 2.47 Songwon Art Center section  
Source : author





**Figure 2.48** Songwon Art Center

Source : <https://www.archdaily.com/326633/songwon-art-center-mass-studies>



**Figure 2.49** Songwon Art Center

Source : <https://www.archdaily.com/326633/songwon-art-center-mass-studies>



**Figure 2.50** Songwon Art Center

Source : <https://www.archdaily.com/326633/songwon-art-center-mass-studies>



**Figure 2.51** Songwon Art Center

Source : <https://www.archdaily.com/326633/songwon-art-center-mass-studies>



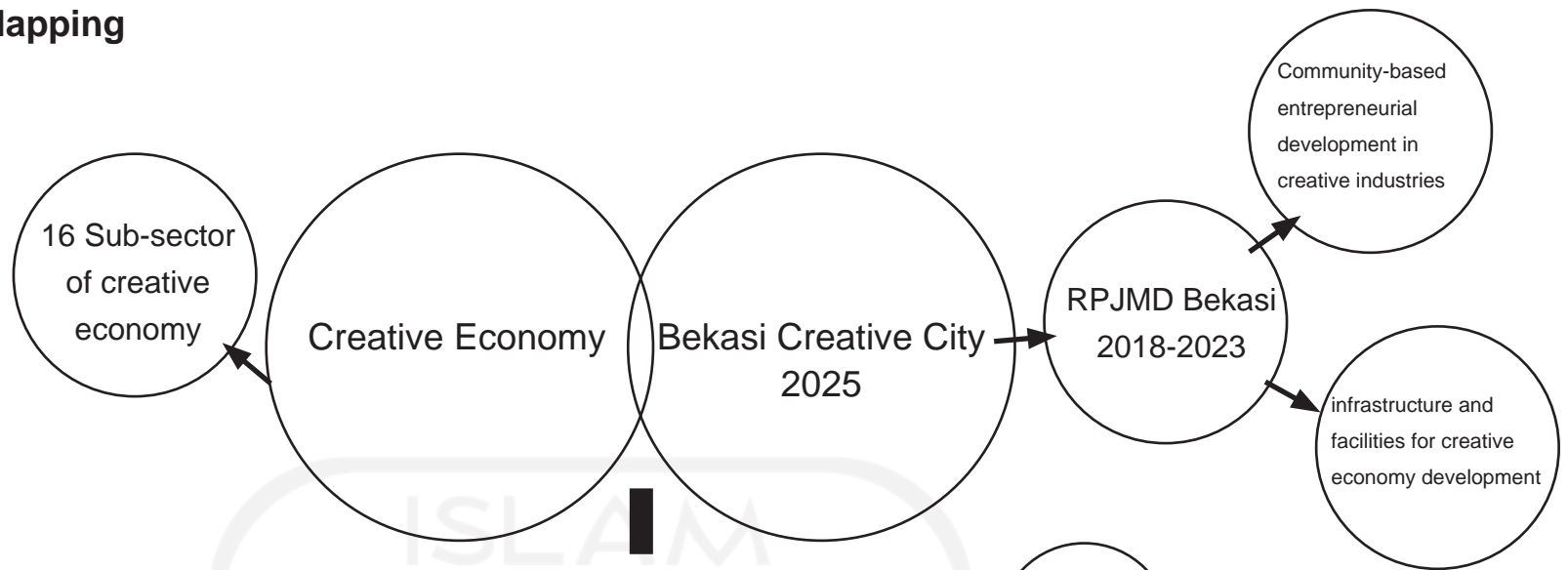
**Figure 2.52** Songwon Art Center

Source : <https://www.archdaily.com/326633/songwon-art-center-mass-studies>

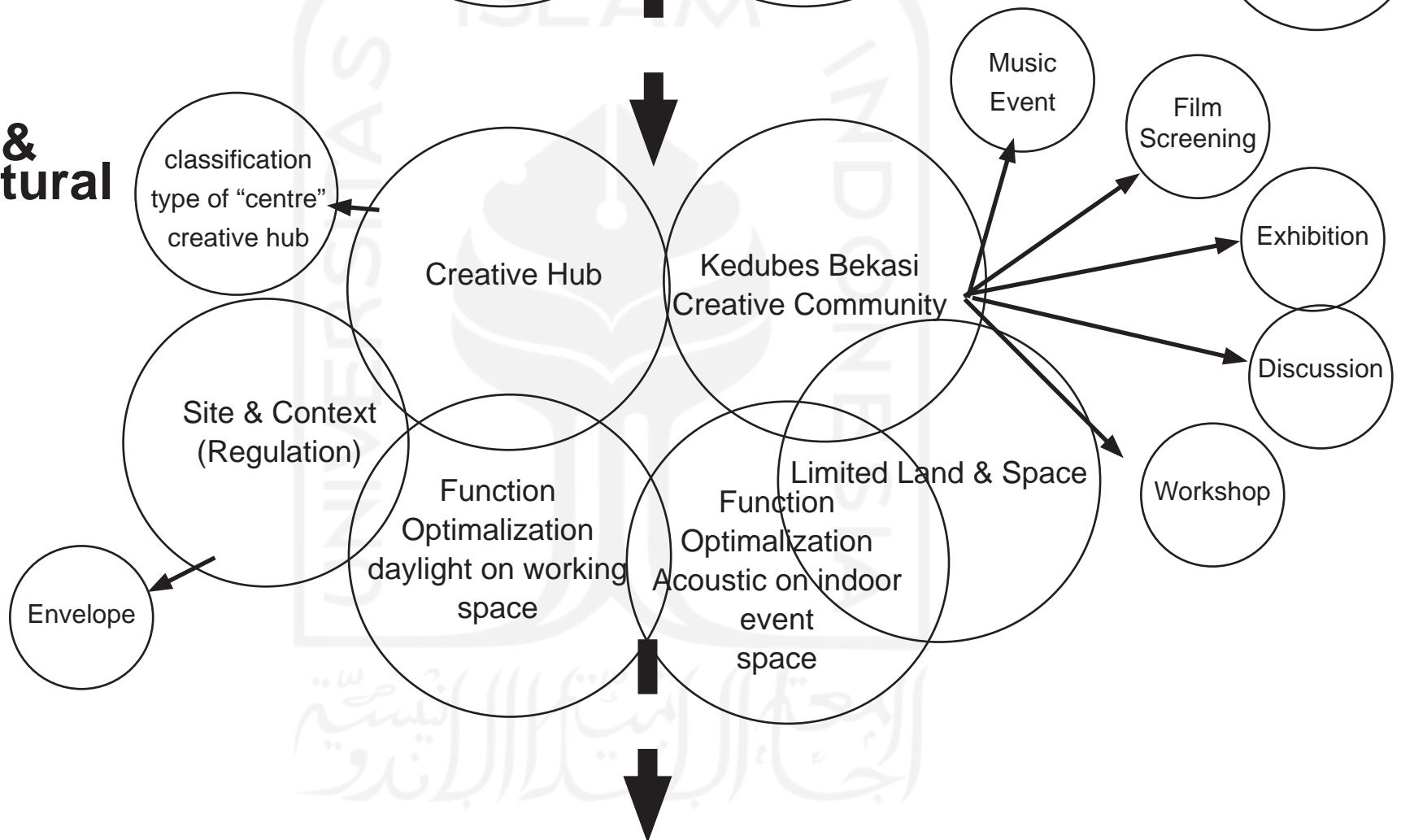


## 2.10 Design Problem Mapping

### Issue



### Context & Architectural Issue



### Problems

How to re-design creative hub of KEDUBES Bekasi Creative Community with variety of function on limited land that can be used optimally?

Figure 2.60 Design Problem  
Source : Author



# Design Problem Mindmap

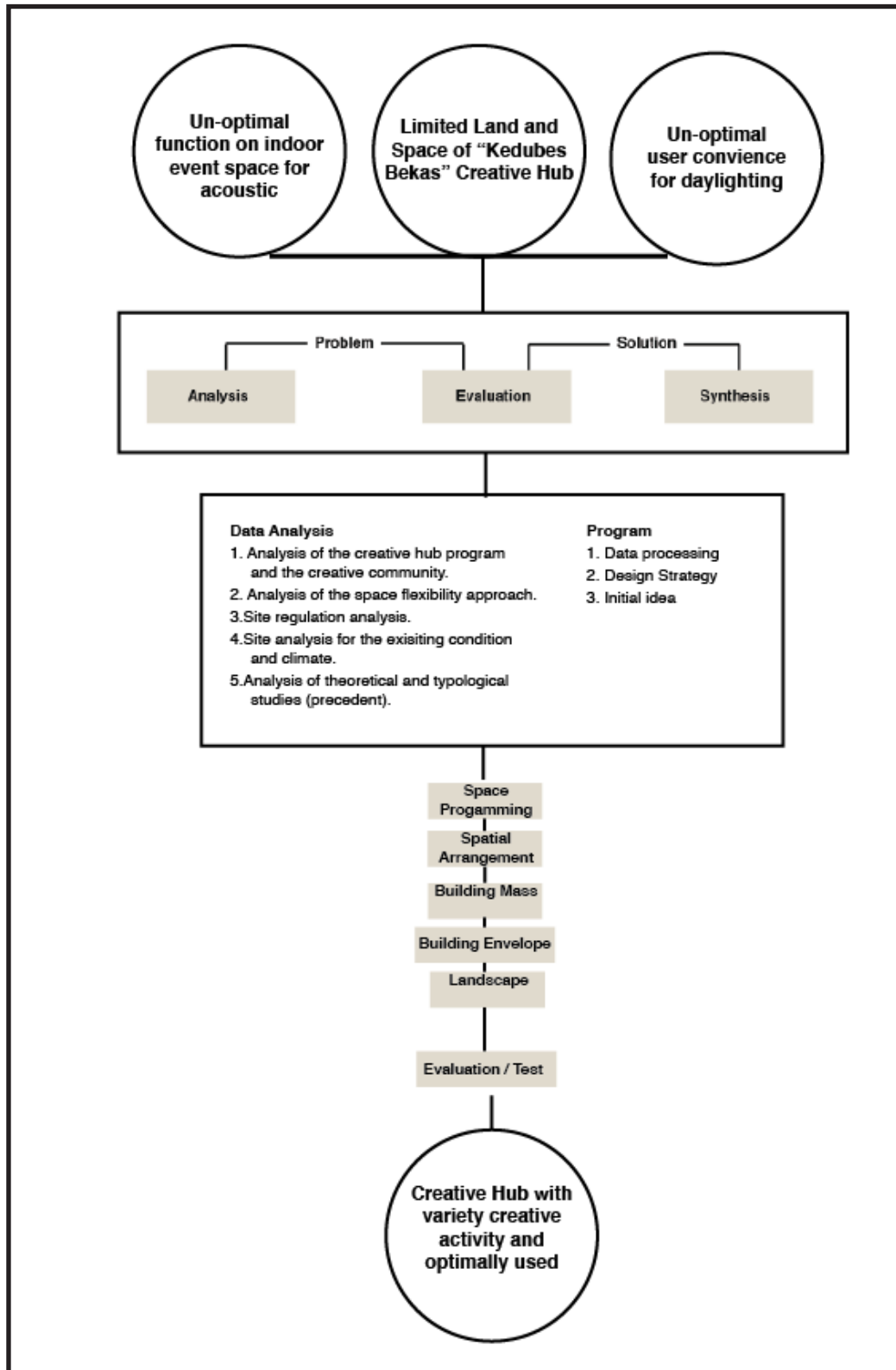


Figure 2.61 Design Problem Mindmap Strategy  
Source : Author

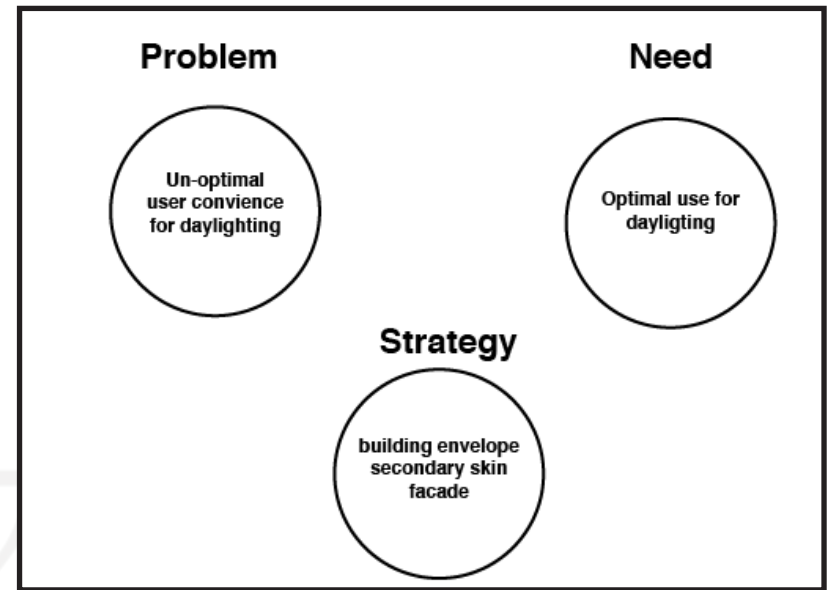


Figure 2.62 Design Problem Strategy  
Source : Author

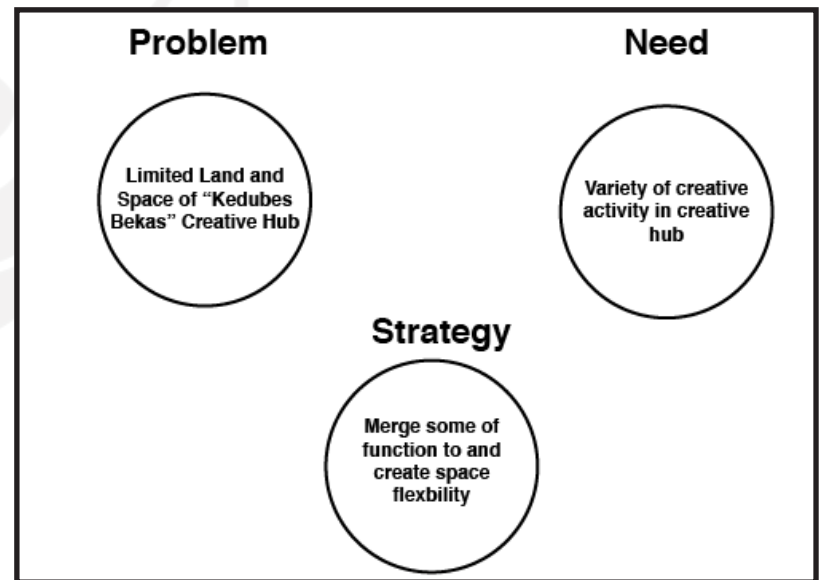


Figure 2.63 Design Problem Strategy  
Source : Author

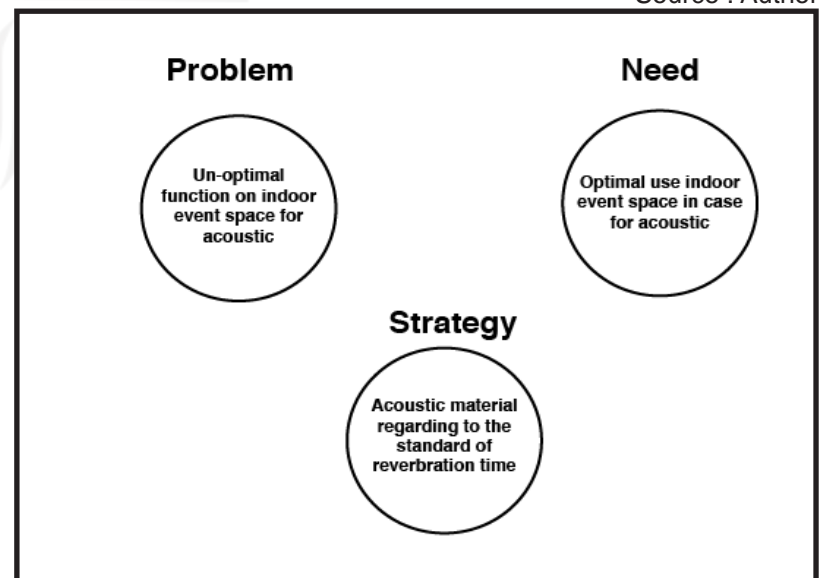
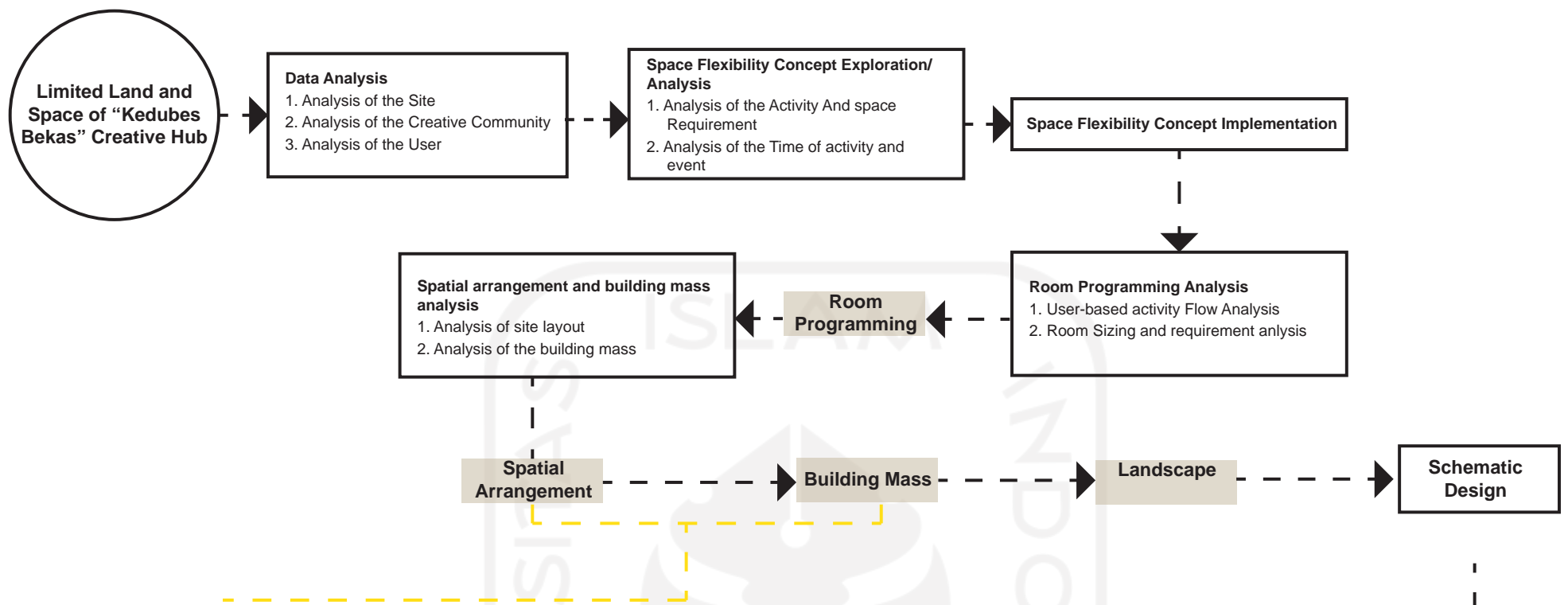
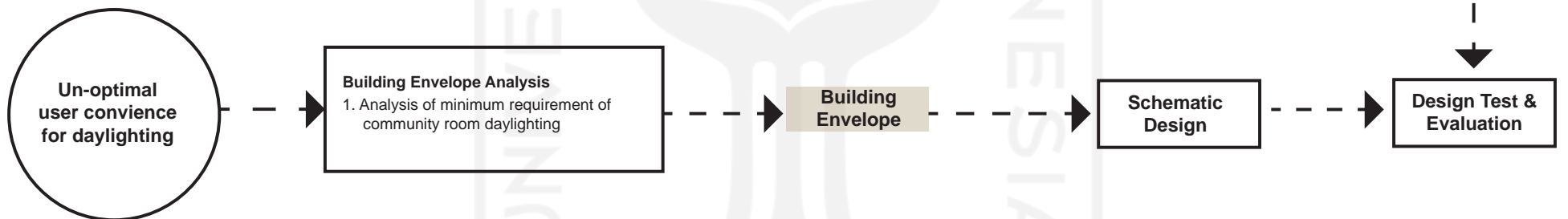


Figure 2.63 Design Problem Strategy  
Source : Author

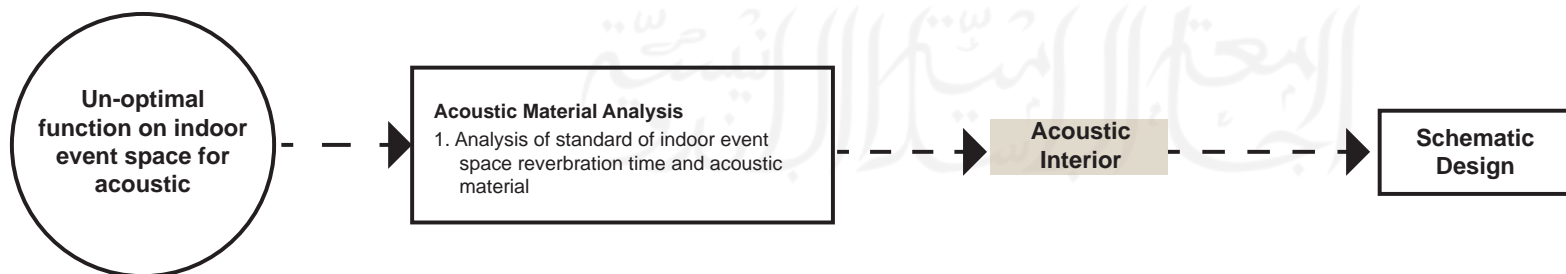
## Problem



## Problem



## Problem





3

# **Creative Hub Design Result and Proof.**



### 3.1 Site Analysis

#### Circulation / Access

The south side is Jl. Raya Jatikramat yang has a status as a local road with a fairly dense vehicle intensity, so that this side can be used as an access main footprint with a road width of 8 meters. This road serves as an alternative route that connects Jl. Raya Jatimekar which leads to the Jakarta Outer Ringroad (JORR) highway and Jl. Jatiwaringin as the border of DKI Jakarta province and highway access (Jakarta-Cikampek). At this time the vehicle road circulation pattern leads directly to the parking area with a maximum distance of 10 meters from the road due to limited land.

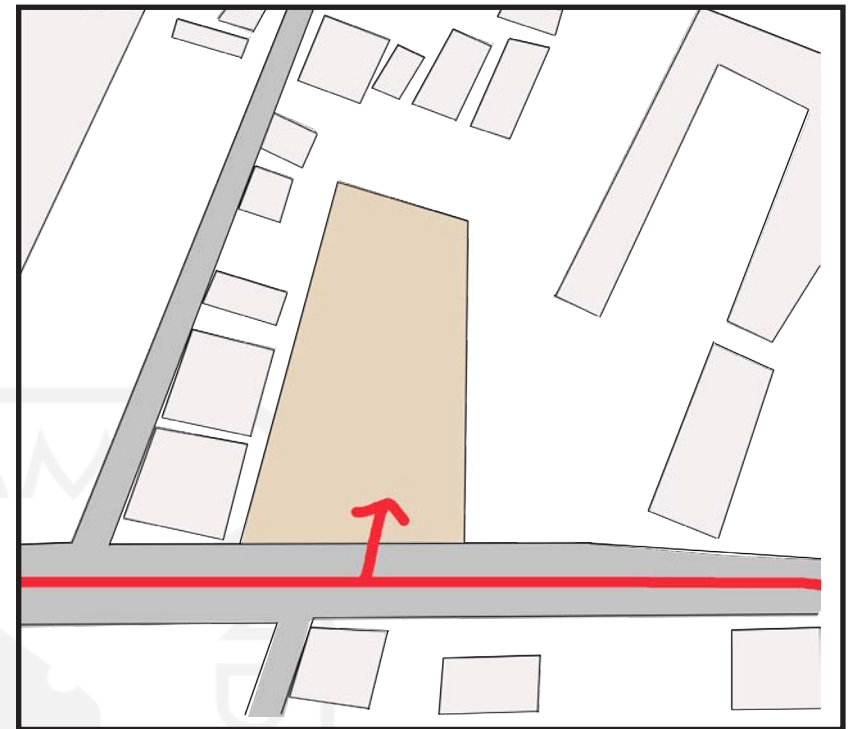


Figure 3.1 Access Analysis  
Source : Author

#### Sun

The condition of the site that extends from south to north will have an impact on the facade of the building which will be exposed to sunlight and radiation. So that this impact needs to be overcome so that it does not have an effect on the users in it. The countermeasures can be done in several ways, including:

- Addition of shading and / or fins.
- Adding tall vegetation / vines
- Use of secondary skin

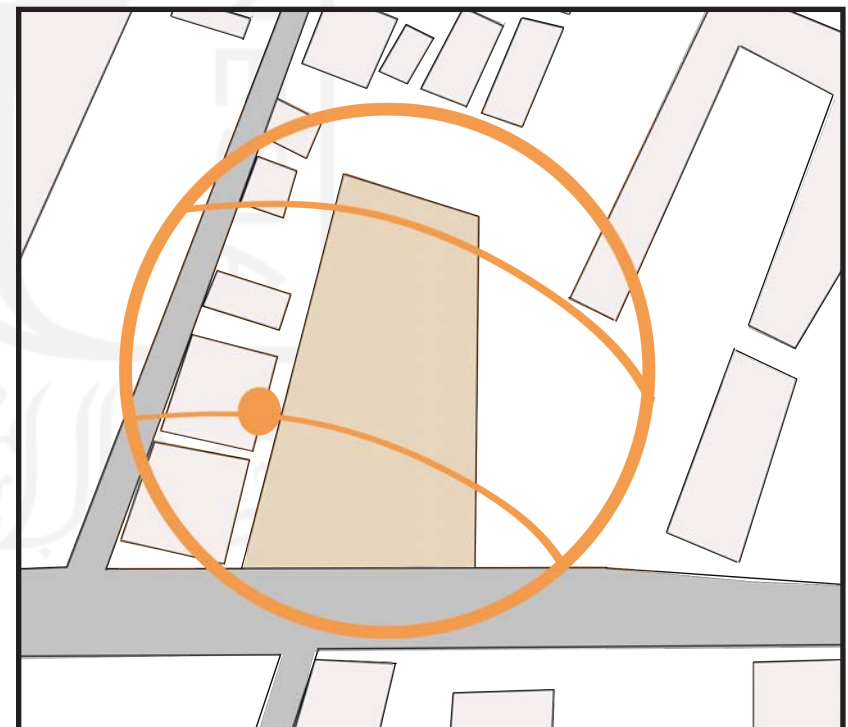
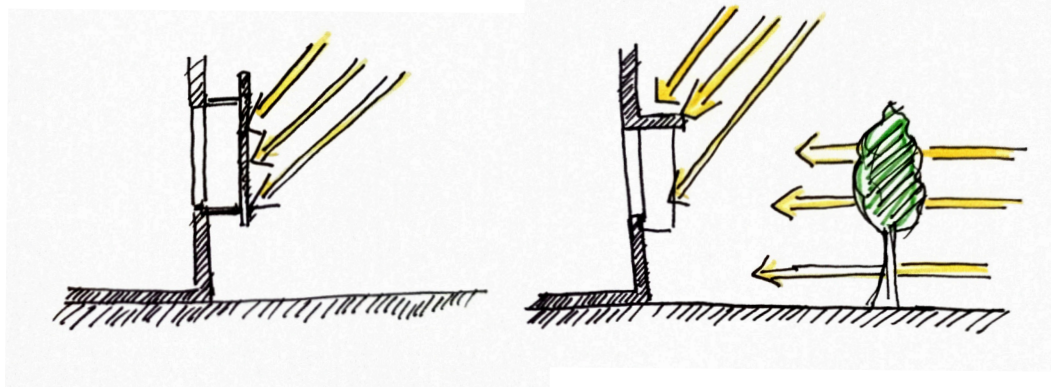


Figure 3.2 Sun Analysis  
Source : Author

## Wind Velocity

From the regional wind observation data, it can be seen that the wind direction blows evenly from the east to the west and also the west to the east with an average wind speed ranging from 5-12 km / h or 1.3-3.3 m / s. Good air velocity according to SNI 03-6572-2001 0.25 m / s. So that a wind breaker is needed to reduce the existing wind speed, it can be in the form of vegetation or tools in the form of openings in the building.



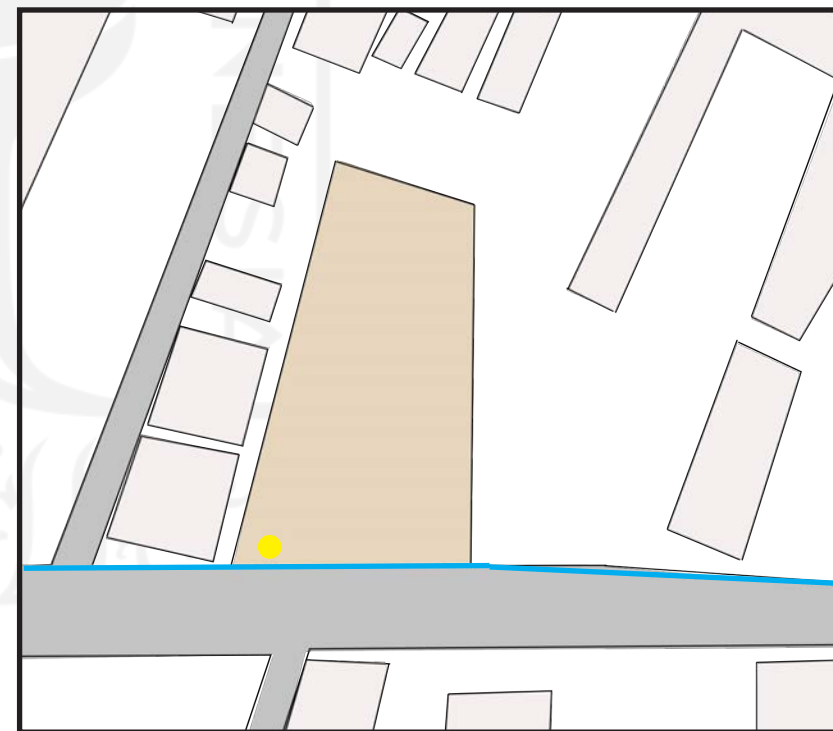
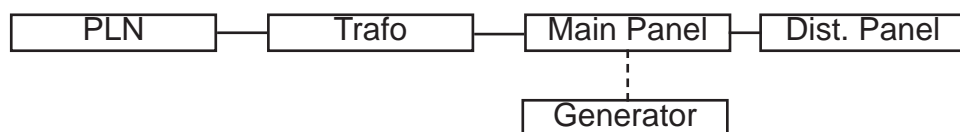
**Figure 3.3** Wind Analysis  
Source : Author

## Clean Water and Electricity Network

The clean water network on the site is obtained from a local road on the south side of the site. The clean water network is taken from the PDAM and then pumped to the roof tank to be flowed to the fixture with a down feed system



The electricity network on the site is obtained from a transformer located on the side of a local road. The electricity network is taken from PLN which is flowed to the transformer then to the main panel in the technician's room to be returned to the distribution panel. The generator set is used as a backup power supply.



**Figure 3.4** Water and electrical source Analysis  
Source : Author



### 3.2 Creative Community Analysis

“Creative Community” does not yet have a standardized definition for this expression. However, when referring to the Oxford dictionary, this expression consists of the word “creative” which means involving the use of skill and the imagination to produce something new or a work of art and also “community” which means all the people who live in a particular area. country, etc. when talked about as a group. so that the creative community can also be interpreted as a group of people who have the same interests or interests and have values, goals and create interactions between members and the community and the physical environment to form a new activity called “collective”. As time goes by the culture that is built in it will make the environment develop and generate new ideas that can be peaceful for the surrounding environment.

The existence of a creative community, of course, their activities are closely related to the creative industry, which includes 16 creative industry sub-sectors such as; Culinary, Fashion, Music, Photography, Film, and so on. The target of this project is related to the creative community that already exists in the selected location, namely “KEDUBES Bekasi”. Where this community has a goal to accommodate the creativity of Bekasi residents and its surroundings, especially young people, so that it can create a collective that has an impact on the creative industry in Bekasi City.

So far this creative community has accommodated several creative sub-sectors, including; music, film, literature, fine arts, comics and photography. activities that are usually held by this community include music performances, exhibitions, screening films, and discussions or workshops. Then there are other supporting activities such as the distribution of community-produced artworks, namely in the form of shops selling merchandise, artwork and other external products.

The existence of a community that resides in the creative hub aims to make this creative hub sustainable and have a real impact on the surrounding environment. So that the planned creative hub is not only a physical infrastructure that has no sustainability in its function and is also of no use to its surroundings.



Figure 3.5 Discussion Activity of KEDUBES Bekasi  
Source : <https://kumparan.com>



Figure 3.6 Product of KEDUBES Bekasi  
Source : <https://media.suara.com/>

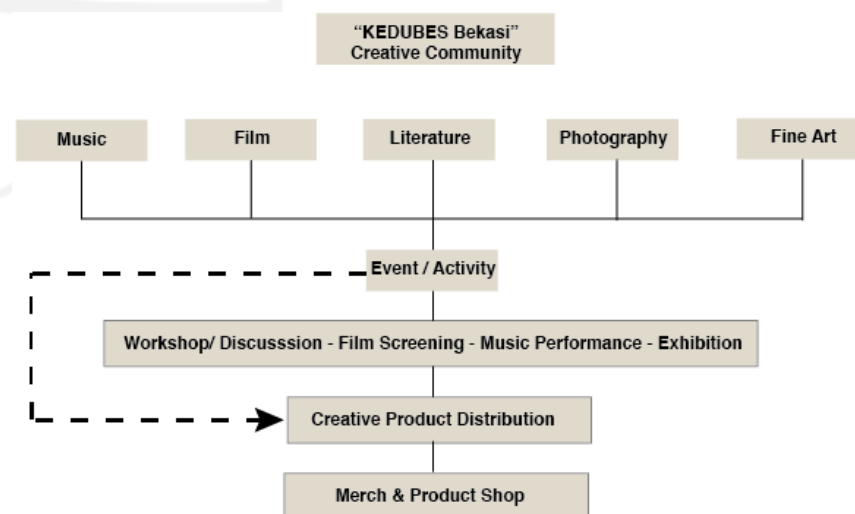


Figure 3.7 Analysis Activity of KEDUBES Bekasi  
Source : Author



### 3.2.1 User Analysis

Based on the data obtained by the author, the activities in this design area have several users including:

a. Community Members

Community, an association of groups engaged in a certain field, can join and participate in activities. The community, which is a regular user of this creative hub, also makes this creative hub their community office, place for discussion and also a place to showcase their work. Communities that are users can also provide event for knowledge sharing or workshop to other visitors.

b. Visitor

Foreign and local tourists who visit can take part in training and events as connoisseurs of art and creativity or just stop by to visit the cafe.

c. Management

Management is a person who manages and maintains a building both in terms of physical and operational system. The existence of the manager also works directly with the community as a permanent user of this creative hub

d. Artist

Artists are guests or creative hub users who are specifically invited by the community for a music event, exhibition or workshop to showcase their work at the creative hub.



Figure 3.8 Analysis User of KEDUBES Bekasi  
Source : Author

### 3.3 Space Flexibility Analysis

#### 3.3.1 Flexybility Analysis Regarding to the type of Activity

This activity analysis aims to determine what space requirements are needed following the activities or events that are taking place

**Table 3.1** Activity Space Requirement  
Source : Author

<b>Activity</b>	<b>Space need of requirement</b>
Music Performance	Stage Area
	Audience Seating Area
	Operator Area
Exhibition	Showroom
Workshop/ Discussion	Stage Area
	Audience Seating Area
	Operator Area
Film Screening	Audience Seating Area
	Operator Area
Cafe	Kitchen
	Indoor Area
	Outdoor Area
Outdoor event (Discussion and music Performance)	Perform area
	audience area
	operator area
Product Distribution	Merchandise Shop
Community Meeting	Community Office
Discussion	Meeting room
	Toilet
	Janitor
	Praying Room
	Storage Room
Managemet	Employee Room
	Management Room
Technician	Pump Room
	Generator Room
	Control Room

In designing this creative hub, there are 3 potential zones, 7 main activities which are divided into 3 area. for application of space flexibility, these applications are concluded based on the similarity of space requirements needed for each activity.



**Figure 3.15** Merging Activity on Creative Hub  
Source : Author

- **Indoor Event Space**

Indoor event space is a combination of space with activities including; screening films, music performance, workshops. The three activities have the same space requirements, namely those activities that require an operator station, audience seats, or a stage. Exhibition activity is added to the incorporation of this space because it has the same type of activity in a closed or indoor space.

- **Community Room**

community room is a space zone that is formed based on the same type of activity in an enclosed space consisting of the number of people who are not so, handled by the community as the permanent user and also have the same work space requirements for product distribution activities, discussion activities or community meetings.

- **Outdoor Area**

Outdoor Area is a space zone that is formed based on the same type of activity in outdoor space the kind of event that can be held on outdoor area including music or workshop event but this can also become an area for cafe or the visitor that want to gathered on outdoor.



### 3.3.2 Flexybility Analysis Regarding to the time of Event of creative hub

Table 3.2 Space Flexibility Time Activity  
Source : Author

Group of space or room	Activity	User	Capacity	Time
Indoor Event Space	Music Performance	Performer	3 - 7	Every Saturday and Sunday afternoon or evening Duration of music performance 2 hours of show. 13.00 - 15.00 16.00 - 18.00
		Audience	25	
		Operator	5	
	Workshop / Discussion	Interviewees	1 - 5	Every Saturday and Sunday afternoon or evening Duration of music performance 2 hours of event. 13.00 - 15.00 16.00 - 18.00
		Audience	15 - 20	
	Film Screening	Audience	15 - 20	Every Saturday night 18.00 - 20.00
Exhibition	Visitor	10 - 15	Weekday and holiday Mon - Thu 11. 00 - 17.00 Frid 11. 00 - 20.00	
Community Room	Merchandise and product Shop	Visitor	5	Daily 11.00 - 20.00
	Community Office	community	5	Daily 11.00 - 20.00
	Discussion Workshop	Community and Visitor	5 - 15	Situational
Outdoor Area	Gathering ( Cafe Visitor)	Visitor	5 - 10	Daily 11.00 - 20.00
	Music Event	Audience	30 - 50	Every Saturday night Duration of music performance 2 hours of show. 18.00 - 20.00
	Discussion Event	Community	10 -15	Friday 16.00 - 18.00 Saturday 16.00 - 18.00

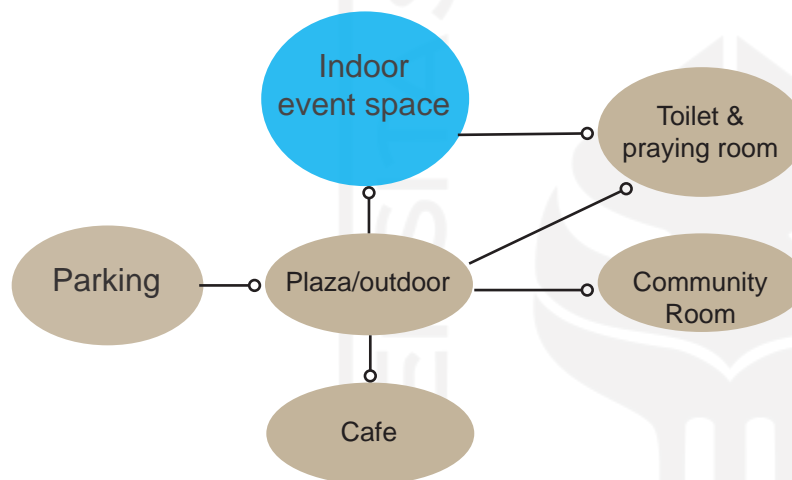
### 3.4 Room Programming Analysis

#### 3.5.1 User-based activity flow analysis

1. Community members and visitors attending the Event at the creative hub;

- Indoor Activity (Music, Film Screening, Exhibition, Discussion)

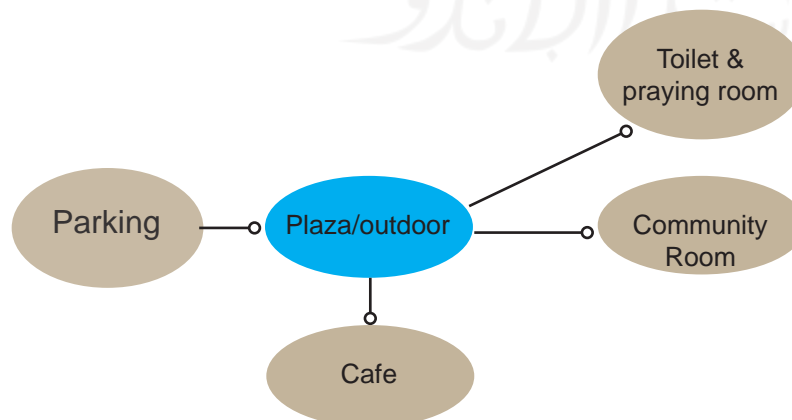
Organization of the space that visitors, community members, and artists will pass through to carry out activities in the indoor event area. Starting from the parking area then through the plaza followed by the indoor event area. If they want to go to the toilet and prayer room the location is next to the indoor event room. If you need consumption at the cafe can passing through the main connecting point plaza or if they need to buy a product they can go to the Merch Shop that is located inside the community room.



**Figure 3.9** User Activity flow indoor event  
Source : Author

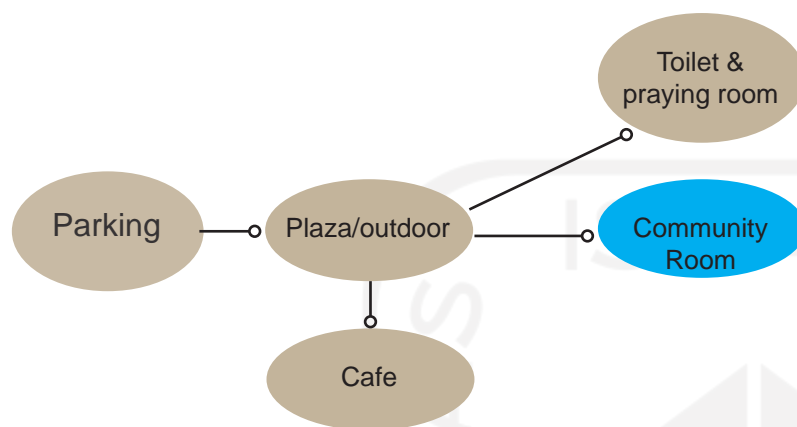
- Outdoor Activity (Discussion and Music)

Organization of the space that visitors, community members, and artists will pass through to carry out activities in the indoor Plaza area. Starting from the parking area then through the plaza as the area of the event. If they need consumption at the cafe or want to go to the toilet and prayer room and also the Merch shop which is located inside community room they can go directly from the plaza.



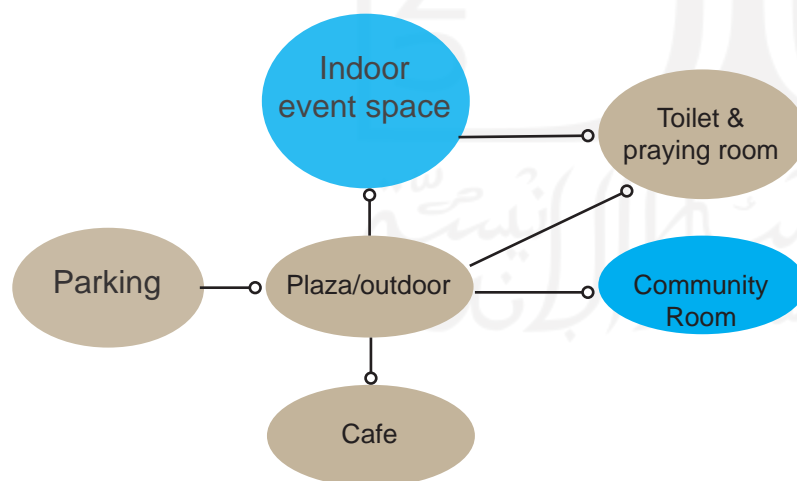
**Figure 3.10** User Activity flow outdoor event  
Source : Author

2. Community members as permanent or daily user at the creative hub;
  - Organization of the space for community members on their daily activity on creative hub will pass through to carry out activities on community room. Starting from the parking area then through the plaza. Before heading to the community room, community members pass through the plaza which is adjacent to the cafe area if they need snacks or adjacent to the prayer room and toilet area.



**Figure 3.11** User Activity flow community members  
Source : Author

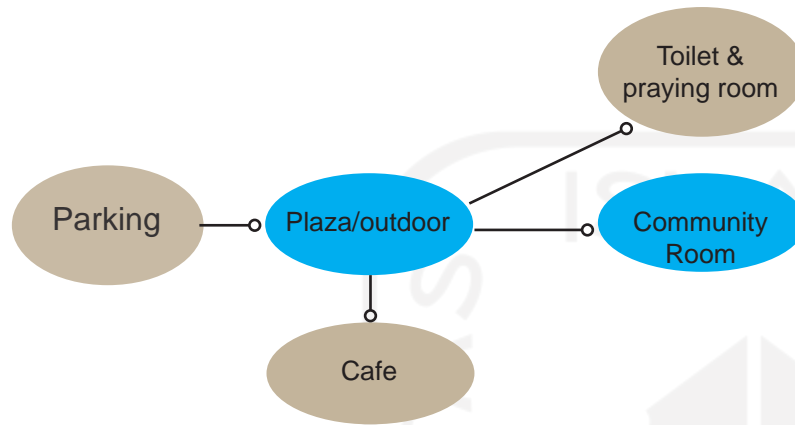
3. Artist when become the main performer on event;
  - Indoor Activity (Music, Film Screening, Exhibition, Discussion) Organization of artists will pass through to carry out activities in the indoor event area as main performer or exhibition. Starting from the parking area then through the plaza followed going through the community room as waiting room for them, before they go or perform on the indoor event space. If they want to go to the toilet and prayer room the location is next to the indoor event room.



**Figure 3.12** User Activity flow Artist on indoor event  
Source : Author



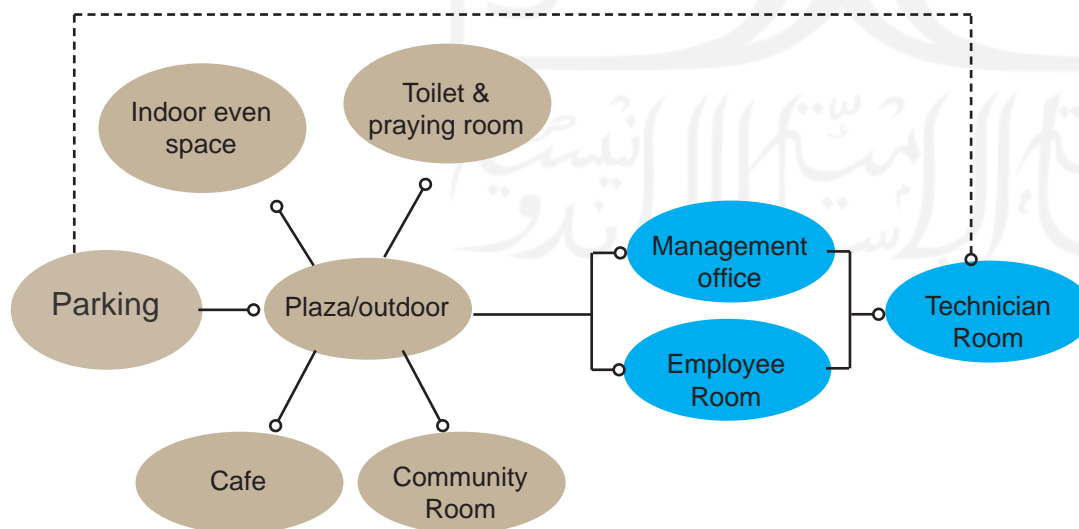
- Outdoor Activity (Discussion and Music)  
 Organization of artists will pass through to carry out activities in the outdoor area or plaza as main performer. Starting from the parking area then through the plaza followed going through the community room as waiting room for them, before they go or perform on the indoor event space. If they want to go to the toilet and prayer room the location is next to the indoor event room which close to the plaza.



**Figure 3.13** User Activity flow Artist on outdoor event  
 Source : Author

#### 4. Management;

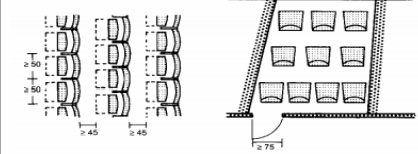
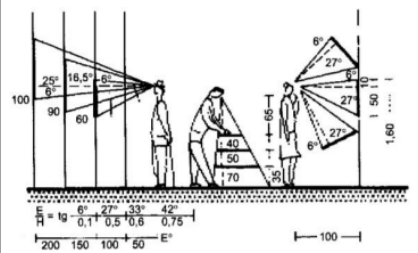

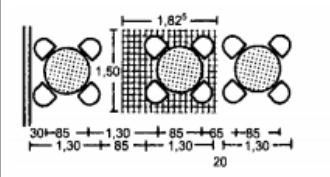
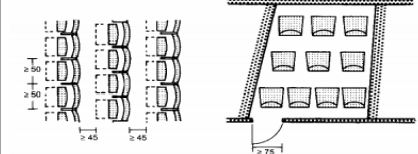
- The space organization that will be passed by the manager, both staff and technicians, is parking followed by the plaza, then passing the mushalla and toilets. Furthermore, the manager can go to the staff area, namely the employee room and also the management office room, then the manager can control the technicality of the building in the technician room.



**Figure 3.14** User Activity flow management  
 Source : Author

### 3.4.2 Space Requirement area analysis

Table 3.3 Space Programming  
Source : Author

Group of space or room	Activity	Space need of requirement	Capacity	Standard	Area
Indoor Event Space	Music Performance, Workshop/ Discussion, Film Screening	Stage Area	8	10 - 15 sqm	15 sqm
		Audience Seating Area	25	 <p>① Jarak dan urutan kursi</p> <p>② dapat ditaruh ≤ 10 kursi, untuk ≥ 0,65 m<sup>2</sup> luas untuk setiap orang/ bidang dasar</p> <p>0,65 sqm / person 25 x 0,65 = 16.25 sqm + 70% circulation = 27.625 sqm</p>	28 sqm
		Operator Area	5	10 sqm	10 sqm
	Exhibition	Showroom		 <p>43 sqm</p>	
Plaza or Outdoor Area	Cafe	Kitchen	3	 <p>① Bar makanan kecil</p>	9 sqm
		Indoor Area	12	 <p>⑥ Meja di cafe 2,73 x 3 = 8,19 sqm</p>	8,19 sqm
	Discussion and music Performance	Perform area	5	10 sqm	10 sqm
audience area		30	 <p>① Jarak dan urutan kursi</p> <p>② dapat ditaruh ≤ 10 kursi, untuk ≥ 0,65 m<sup>2</sup> luas untuk setiap orang/ bidang dasar</p> <p>0,65 sqm / person 30 x 0,65 = 19,5 sqm + 70% circulation = 33.155 sqm</p>	33,15 sqm	
operator area		5	10 sqm	10 sqm	



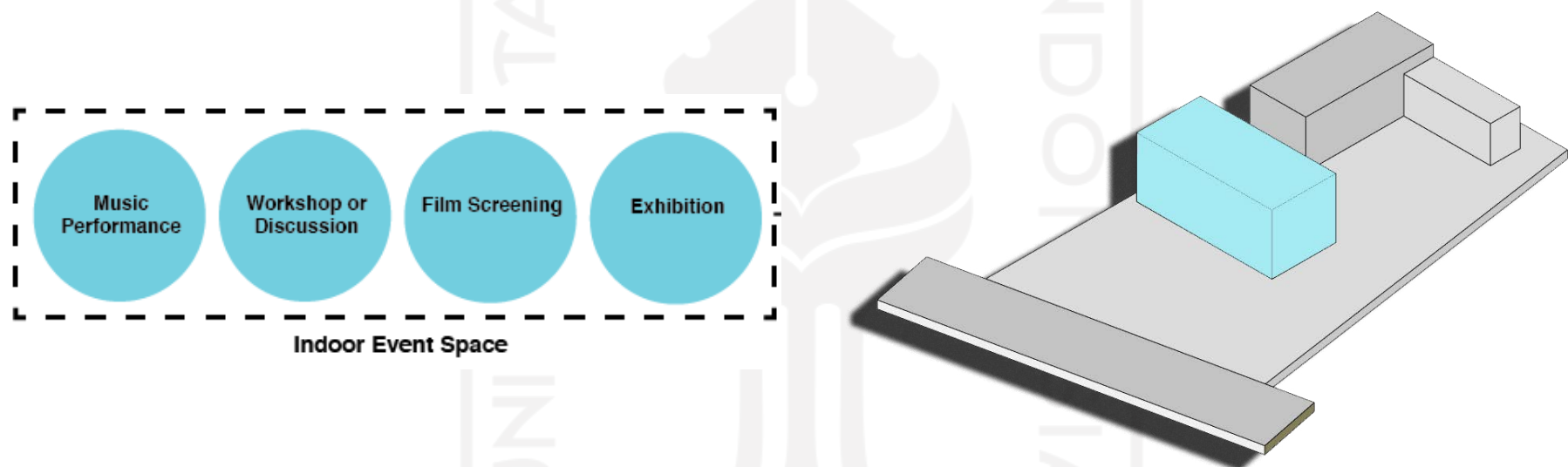


### 3.5 Acoustic Optimization of Indoor Event Space Analysis

#### Optimization Reverbration Time of community room

Based on the results of the space program formed based on space flexibility, there is a room called an indoor event space which is used for music concerts, screening films, discussions and exhibitions. If it is related to these activities, this closed space is related to sound and room acoustics, so that in this space planning, good planning is needed so that there are no acoustic defects.

One of the selected acoustic plans is to optimize the space with a reverbration time that meets the standards, especially for the project and also the indoor event space, this refers to the acoustic planning of the auditorium.



#### Acoustic Material

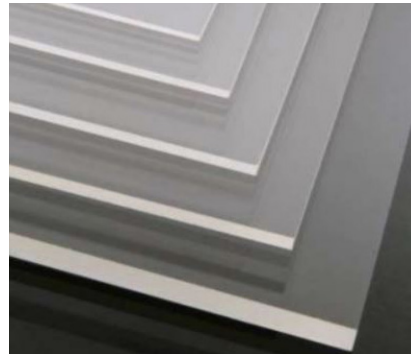
In planning an auditorium space, materials which have different functions and properties are needed, there are also properties and functions of acoustic materials as follows;

- Reflector  
Acoustic materials with the main characteristic of sound absorption coefficient  $\geq 0.30$ , generally the material is hard or slippery. This acoustic material functions as a reflection of the sound source towards the audience. The placement in the auditorium space is generally located on the ceiling and also on the wall of the stage area facing the audience.

## Example of Reflector Material



Gypsum Board



Plexyglass/ Acrylic



Plywood

- Absorber

Acoustic materials with the main characteristic of sound absorption coefficient  $> 0.30$  are generally soft, porous materials, panels or like hollow resonators. This acoustic material functions as an absorber of reflected sound so that acoustic defects do not occur. The placement in the auditorium space is generally located on the opposite stage wall, the side wall of the audience facing each other, the back wall, and also the audience floor.

- Insulator

Acoustic material with a function for sound insulation to prevent noise propagation. the placement is generally on the side and back walls of the audience.

## Example of Absorber and Insulator Material



Rockwool



Glasswool



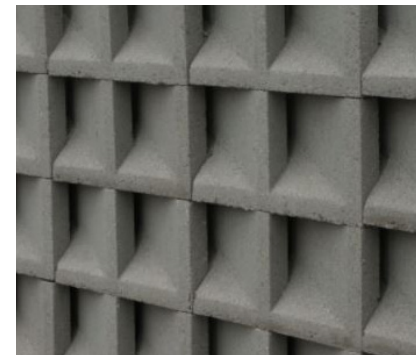
Carpet/ Fabric



Fiberglass + Foam + Fabric  
(Panel)



Acoustic Mineral Tile



Acoustic Masonry Blocks

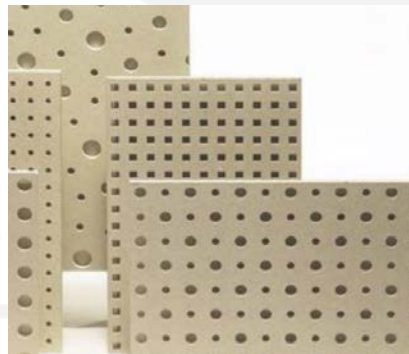
- Diffuser

Acoustic material with the same material characteristic as a reflector or absorber, except that the material arrangement is uneven or irregular. This acoustic material functions as a spreader of reflected sound so that acoustic defects do not occur. The placement in the auditorium space is generally located on the opposite wall of the stage, the side wall of the audience facing each other, and the back wall.

Example of Diffuser Material



Wood

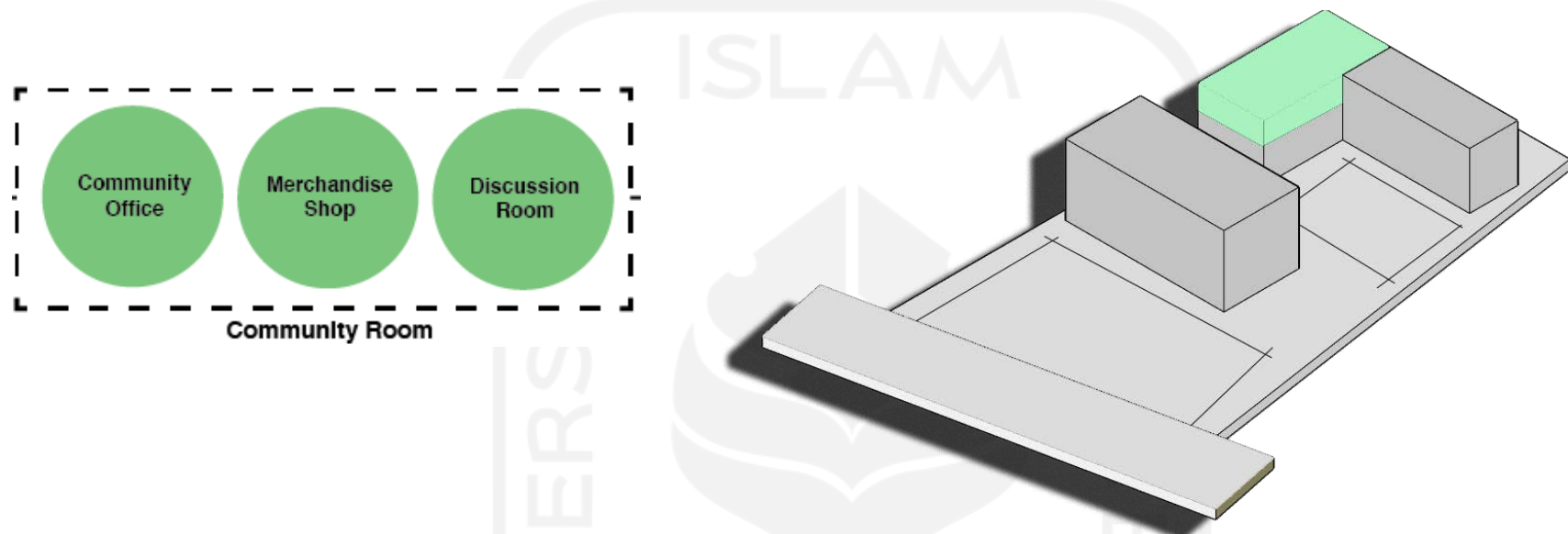


Perforated Glass Reinforced  
Gypsum



### 3.6 Optimization daylighting of community room Analysis

Based on site analysis, mass selection and user complaints based on the results of discussions and interviews that have been conducted Community rooms become a problem in daylighting optimization problems due to conditions in the old building designs which tend to be modest and space is very minimal in daylighting. In the latest building mass concept, there is a new problem where the community room is located on the second floor of the building which is potentially exposed to direct sunlight. So that it can be strived to be a solution to reduce direct sunlight.



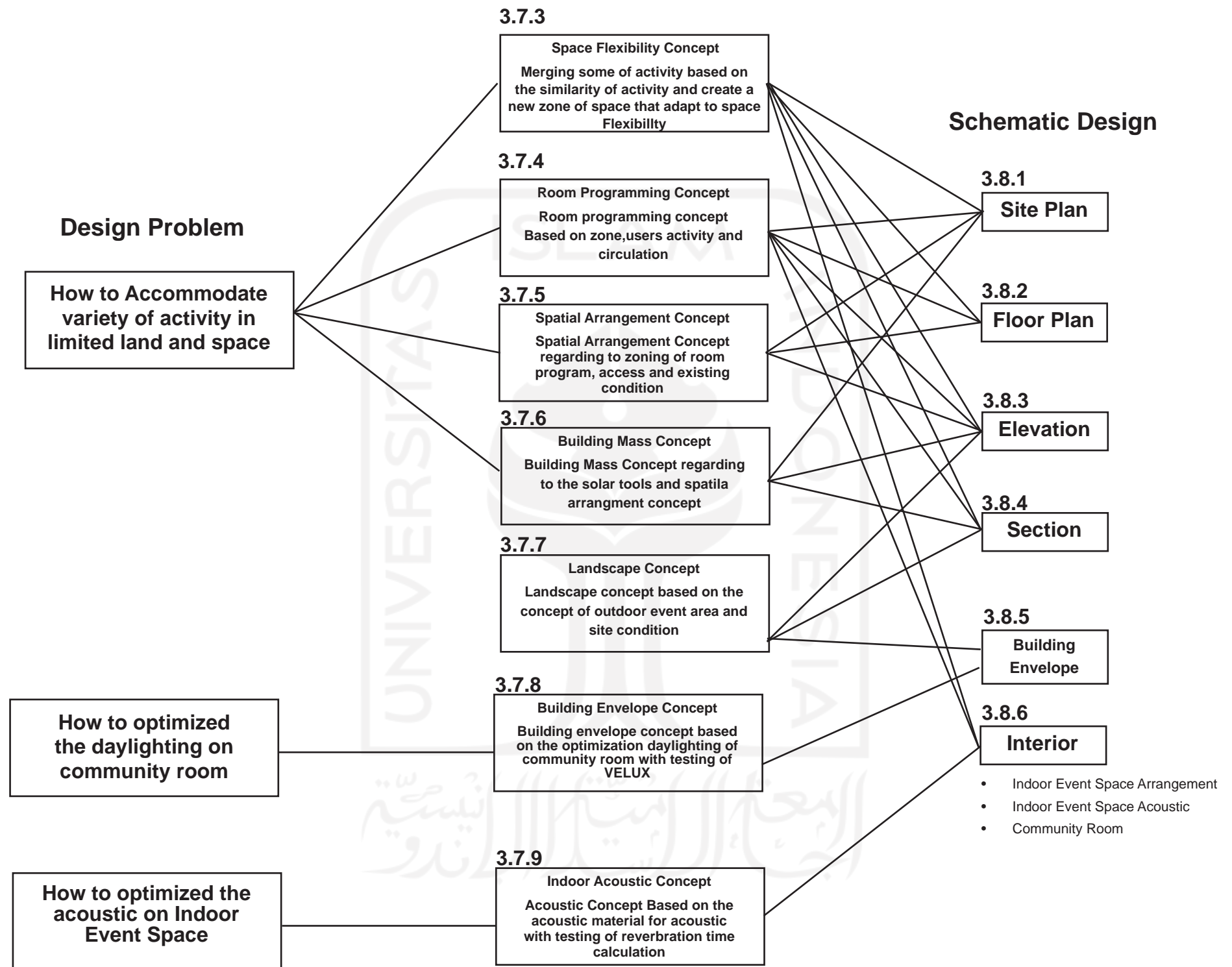
Based on the activities, there are 3 activities in three types of activities in this space, namely Shops, Workspaces, and Discussion Rooms. Based on SNI 6197: 2011 the three rooms have a standard quantity of lighting as follows:

Activity	Minimum Standar of lighting (Lux)
Shop	300
Office	350
Meeting Rom	300

As maximum of illuminance is 500 lux so, it is not possible to create glare. It is conclude as benchmarking for this design is around 300 - 500 lux for illuminance.

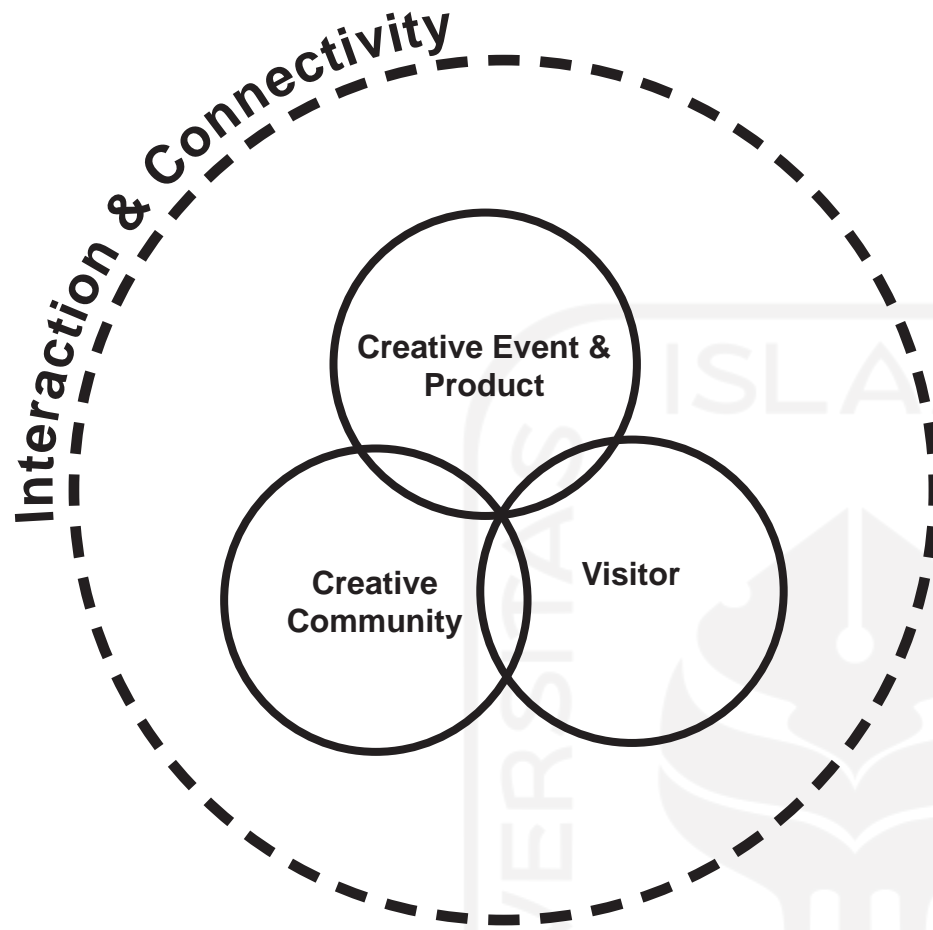
## 3.7 Design Concept

### 3.7.1 Synthesis of Concept



### 3.7.2 Creative Hub Concept

#### Main Concept

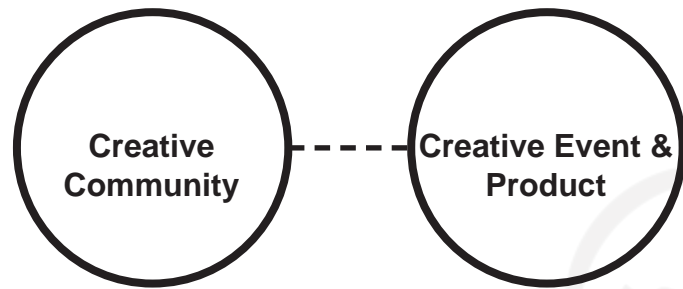


The main concept of this creative hub design is how to create interaction and connectivity between users consisting of visitors and also the creative community to products or events. The idea is created based on the need for the purpose of creating a creative hub as a place for the creation of creative ideas or also a link between products / events to connoisseurs by providing spaces that support them so that the interaction is a symbiotic mutualism that has a positive impact on the creative economy.



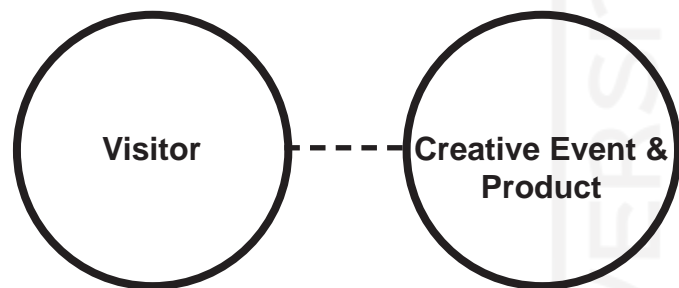
Thus, the design will create support for forming interactions and connectivity in several forms as a creative hub function, such as:

### Creative Hub Function



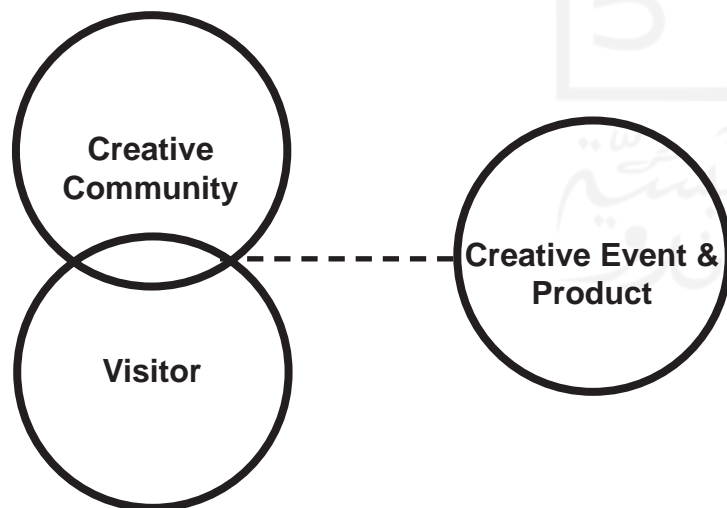
**Creative hub as a distribution place for creative community product and events.**

Productive connectivity and interactions between community members to produce creative works and events that are distributed to the creative hub.



**Creative hub as a place to find creative products and events for visitors.**

Connectivity and interaction from visitors to products and events provided at this creative hub by presenting an attraction for visitors.



**Creative hub as a place to collaborate**

Eliminating the impression of exclusivity from the creative community in order to create connectivity and interactions that form a collective or collaboration from visitors and creative communities that occur in this creative hub so as to produce new products and events.

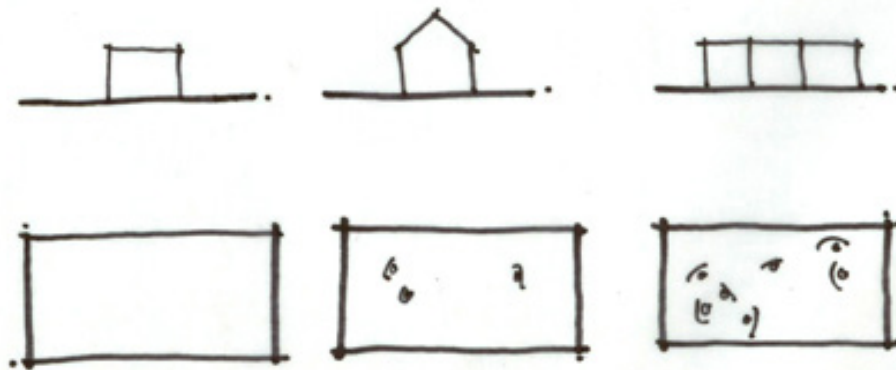
### 3.7.3 Space Flexibility Concept



Based on the results of the analysis for the three zones above that the activities already merged, to achieve space flexibility the three zones above apply universal space flexibility as an initial basis, where space is presented in an open plan and is not specific to one function.

In an effort to use limited land, it becomes a special challenge for spaces that are formed to accommodate creative activities on limited land. So that the application of space flexibility was chosen to be the solution to these problems.

Two spaces offered specifically for this creative hub include an indoor event space and a community room, where the two spaces try to accommodate creative activities such as; music, films, exhibitions in indoor event spaces or work spaces, discussions and also creative product stores in the community room. Indoor event space as well as community space implements an open plan as a response to the problems of different space requirements so that it responds to these space needs. The application of an open plan includes universal space flexibility where space is not specifically structured for a single function or form of space.



**Figure 2.2** Universal Flexibility

Source : <https://thewaywelive.wordpress.com/2007/11/15/flexibility-in-architecture/>

## Indoor Event Space

indoor event space is a space that can be used for several activities including; exhibitions, musical performances, workshops and film screenings. These activities require different space requirements, in planning the exhibition space requires space requirements in the form of an open plan, while music performances, film screening and workshops require space requirements such as seating for the audience. To meet these differences, space flexibility is applied to this space in the form of adaptable, transformable and universal space flexibility.

- Exhibition

In exhibition activities, space is needed that applies universal space flexibility in the form of an open-plan in its space area and it can also apply adaptable space flexibility space when the exhibition event organizer or the artist adapt it with a non permanent walls or divider. Where there is no space limitation in it so that it can be maximized by the artist or exhibition organizer so that it can be free from barriers or non-permanent walls in the space.

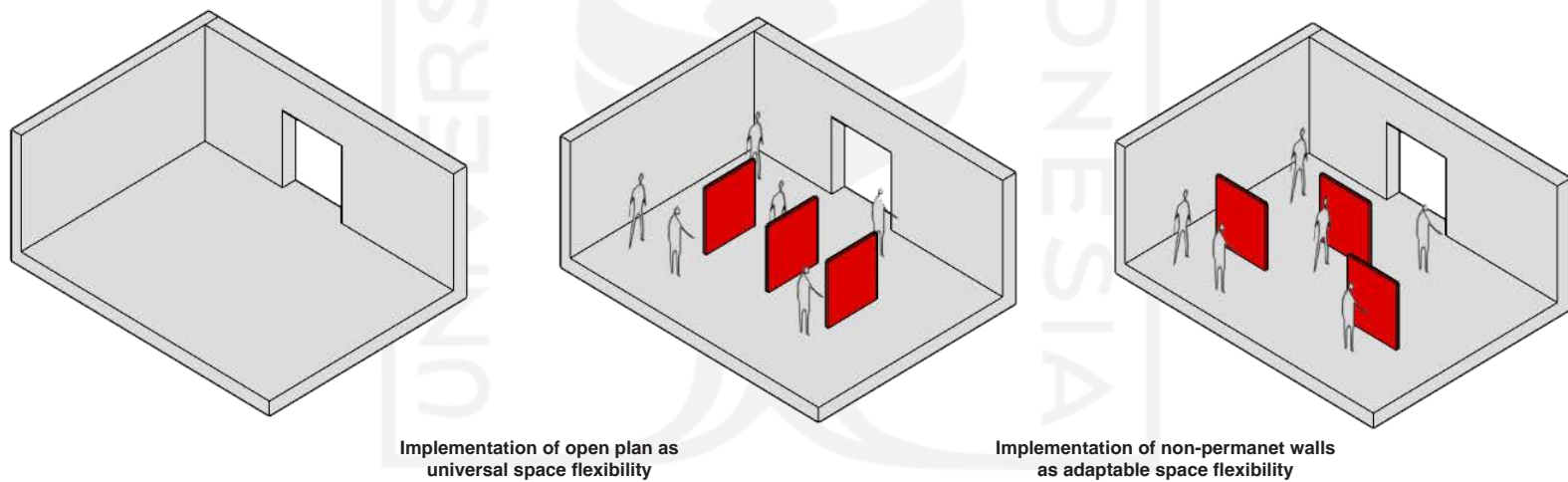
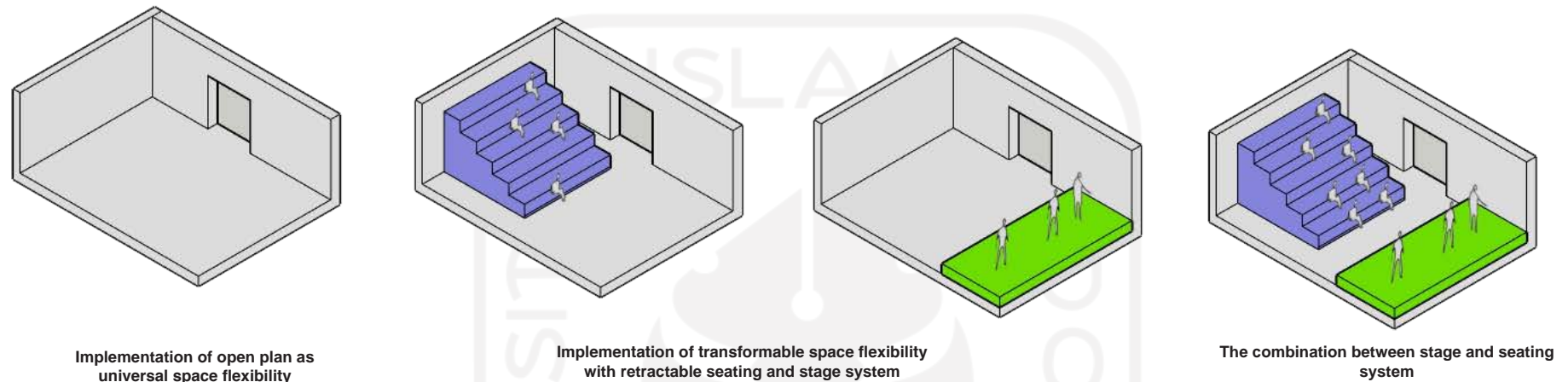


Figure 3.17 Flexibility concept on exhibition  
Source :Author



- Film screening, music performance and workshop/discussion

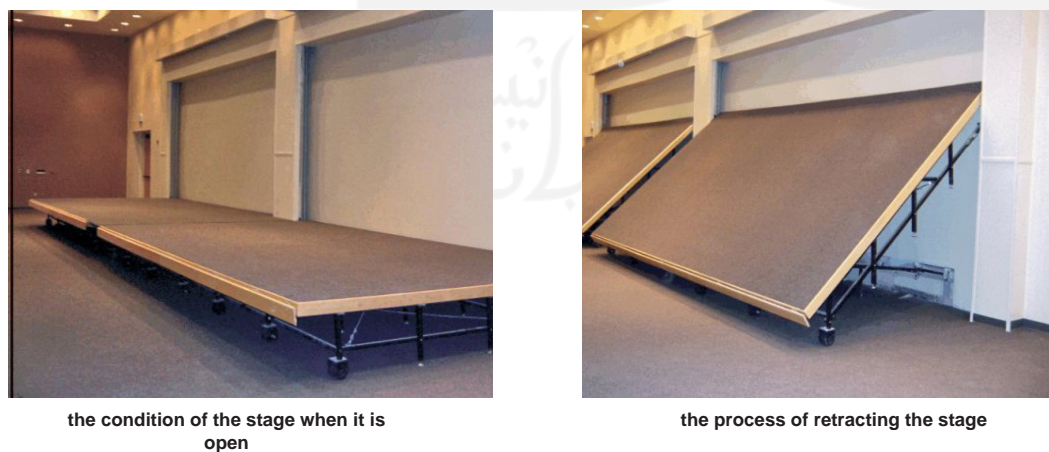
In this activity, there is an equation, namely a place for the audience where a seating area is needed for the audience. Then in discussion activities or workshops as well as musical performances, a stage area is needed so that it makes it easier for the performer or resource person as leveling to make it easier for the audience to see it. To meet these differences, the implementation plan area that has been planned in the indoor event space is given the application of transformable space flexibility where the audience seats and the stage can be retractable with the selected technology so that by default this space remains in the form of an open plan.



**Figure 3.18** Flexibility concept on music performance, film screening and discussion event  
Source :Author

### Retractable stage system

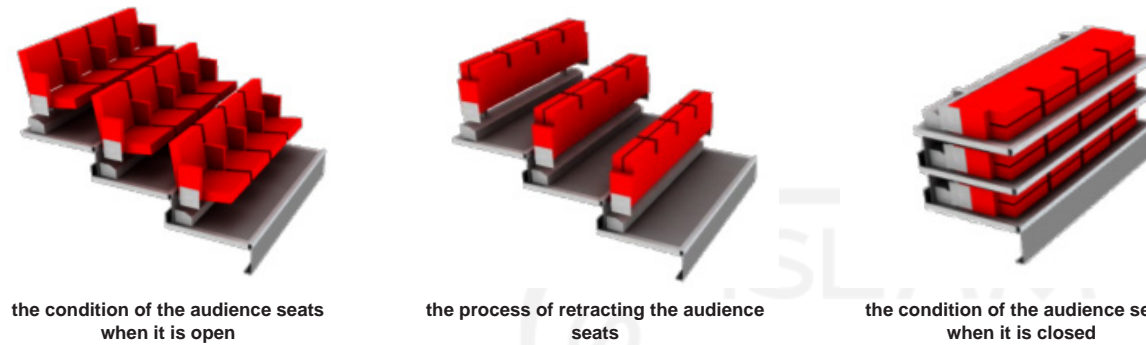
The implementation of retractable stage system can save the space and it also can be a solution for being adapt on the condition of each activities that exist which the stage can be retract as a wall of the space.



**Figure 3.19** Retractable stage  
Source : <http://www.sheridanseating.com/retractable-stages/>

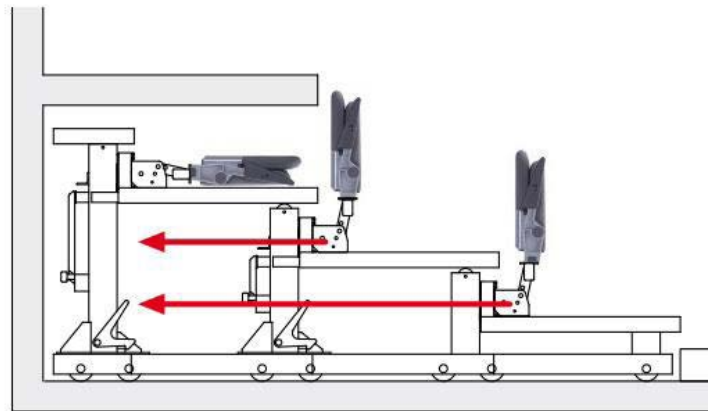
## Retractable seating system

The implementation of retractable seating system can save the space and it also can be a solution for being adapt on the condition of each activities that exist which need a space for audience seating or not the seatings can be retract as a wall of the space.



**Figure 3.20** Retractable seating

Source : <https://www.figueras.com/retractable-seating-system-p-91-en>

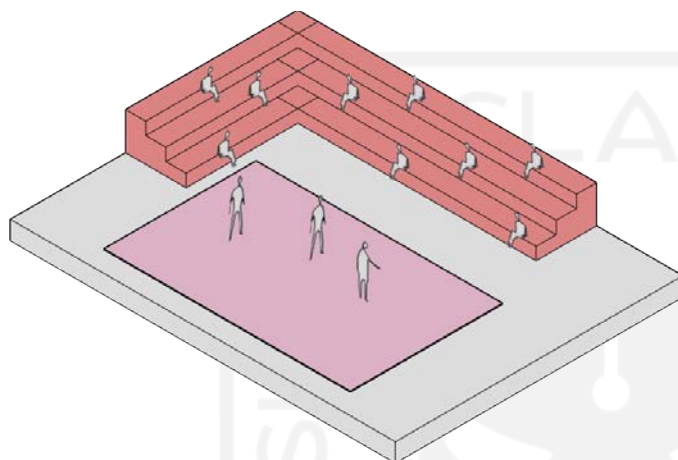


**Figure 3.21** Retractable seating

Source : <https://www.figueras.com/retractable-seating-system-p-91-en>

## Outdoor Space

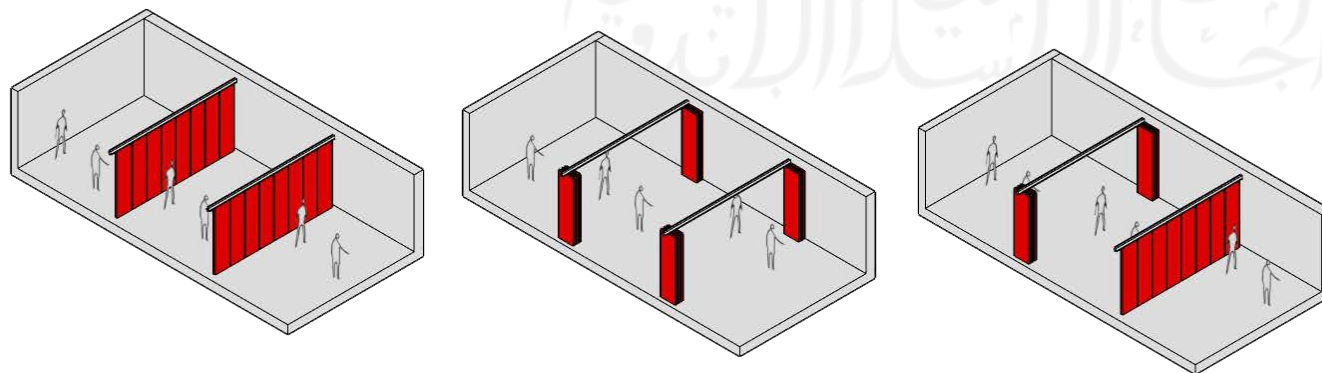
Outdoor space is an outdoor area that was created as a connecting plaza between spaces in this creative hub, this outdoor area can also be used for outdoor events such as discussions or used as an outdoor area of the cafe as a supporting asset for the creative hub. In the planning, the outdoor area or plaza applies universal and adaptable space flexibility where the area is designed in the form of a plaza or open land with the addition of a sitting area such as a tribune. The open area is open plan or universal in its design so that it can be adapted for various events, the tribune sitting area can be used as an event audience area or adapted into an outdoor area of the cafe.



**Figure 3.22** Outdoor area space flexibility  
Source : Author

## Community Room

in the community room zone, it is divided into three rooms consisting of 1 one shop room and 2 discussion rooms or offices. On the application of space flexibility using adaptable, movable, and also transformable where these spaces can be united into 1 large room, with the aim of accommodating fluctuations in the number of room users because apart from being a discussion area, this room will also be used as a waiting room for performers or artists when there is an event, the system that will be used is “Lightweight Sliding Movable Partition Wall”.

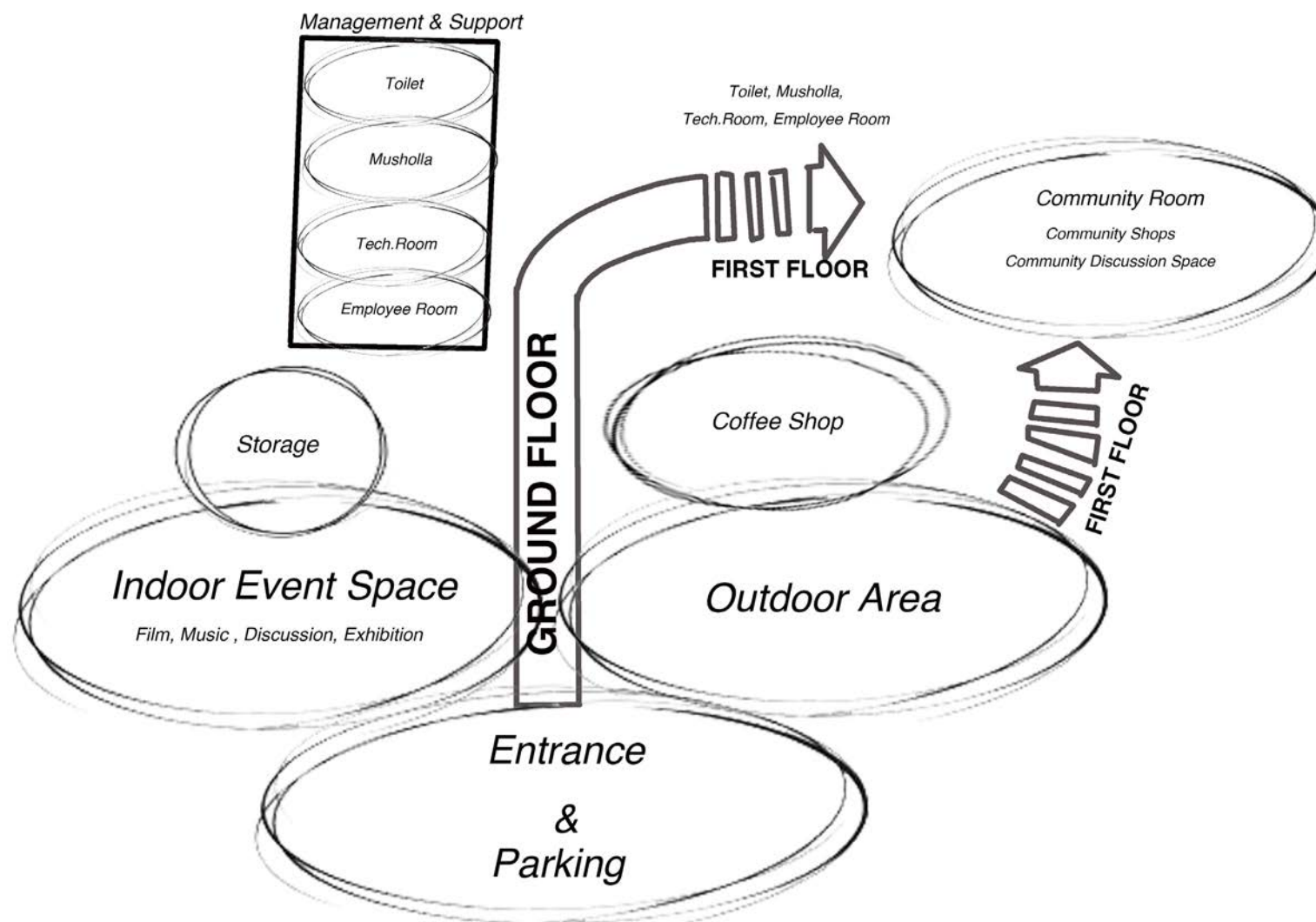


**Figure 3.23** Community Room space flexibility  
Source : Author



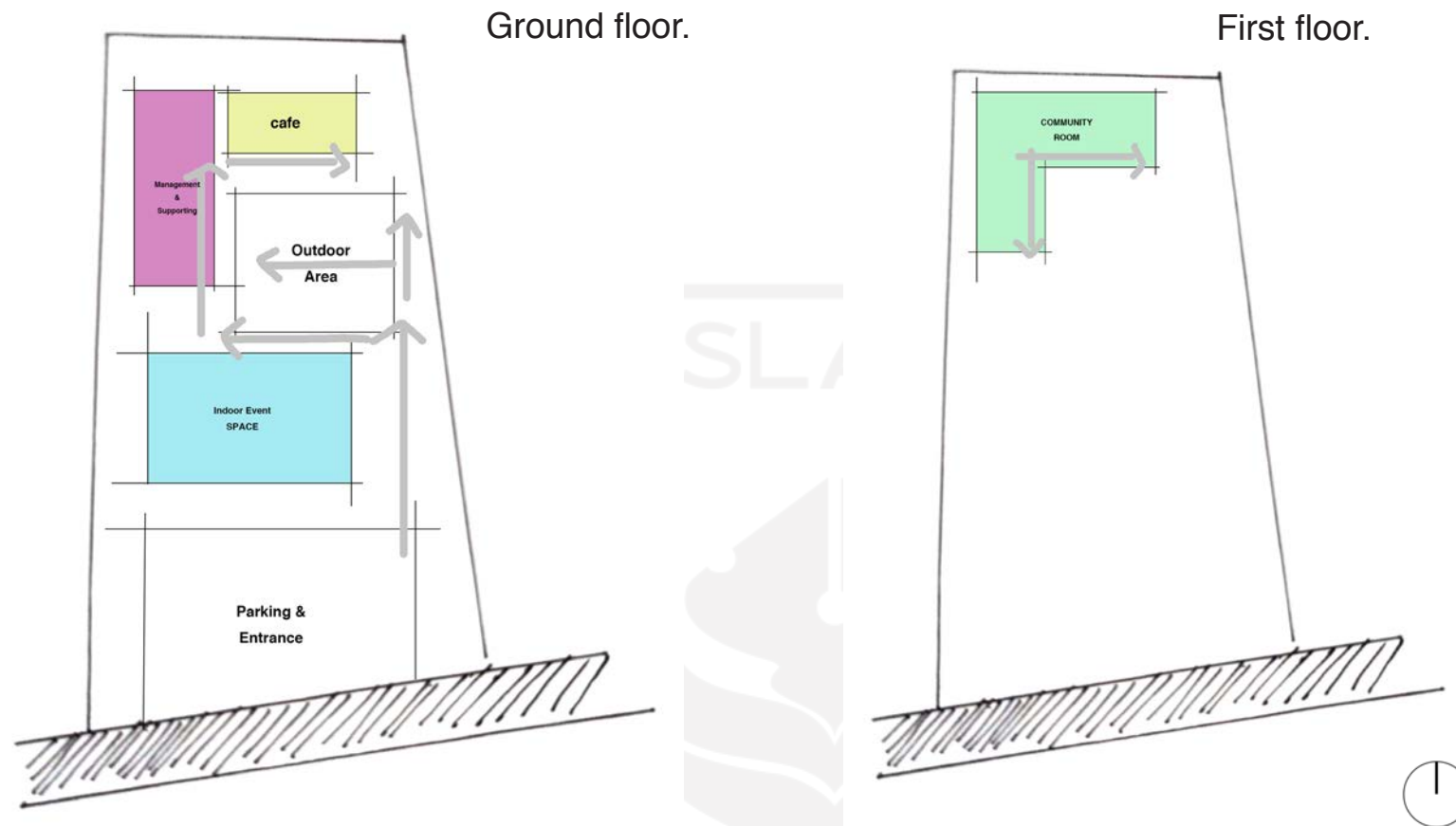
### 3.7.4 Room Programming Concept

Based on activities, users, space programs and space flexibility, it can be concluded that the design of this creative hub is intended as a place to accommodate communities or public spaces, by making the creative hub the venue for the event to take place. The space program that has been formed following space flexibility and activities concludes the bubble diagram as follows;



There are 3 main activity zones, namely indoor event space, outdoor event space and community room. Then the support zone is in the form of a cafe and also management and supporting. Indoor event space and community room zones have direct access from the entrance because it is related to the number of visitors or the capacity for easy circulation on limited land as place for interaction between visitor, community and also the place

### 3.7.5 Spatial Arrangement Concept

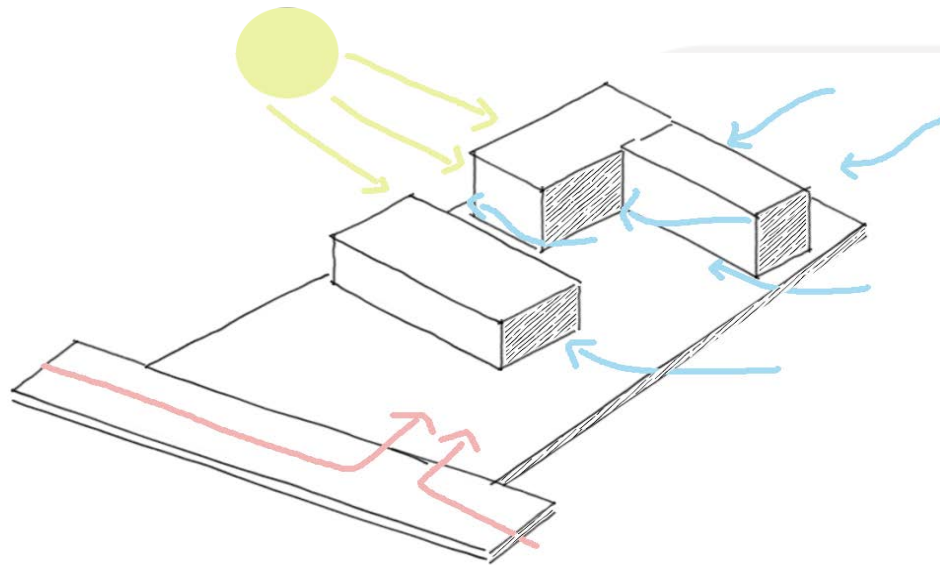


Based on the space program according to the type of activity, number of users and also the effectiveness of circulation, a spatial arrangement concept is formulated which is divided into two floors consisting of the ground floor and the first floor as shown above.

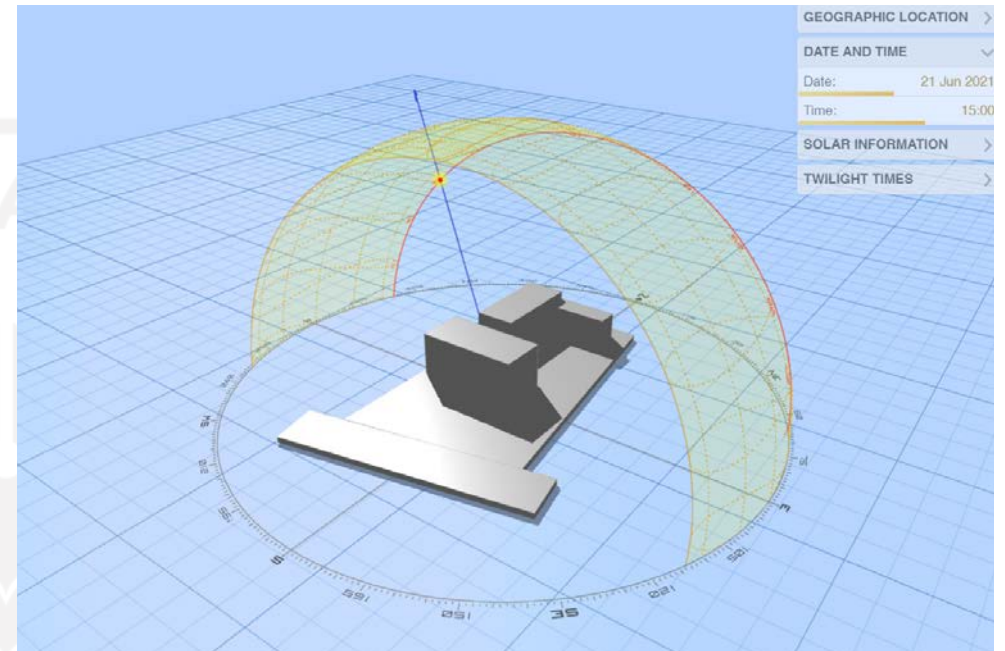
- In this Concept The first floor area focused on general activities and is also related to large numbers of people such as events from creative hubs, the second floor area is focused as a community area that resides in this creative hub such as their offices and shops to accommodate not so many people.
- The entrance and the parking is located on the south side following the site access.
- Indoor event space is located next to the entrance following the condition of the widest site to accommodate more people with a shape rectangular from east to the west.
- The outdoor area will designed as an inner court that located behind the indoor event space so it will be closed and far from the outside and also wider area and clarity.
- The circulation was circular on the area of inner court chosen as a relation between space and mass with and it is combined from linear with spread from the entrance

### 3.7.6 Building Mass Concept

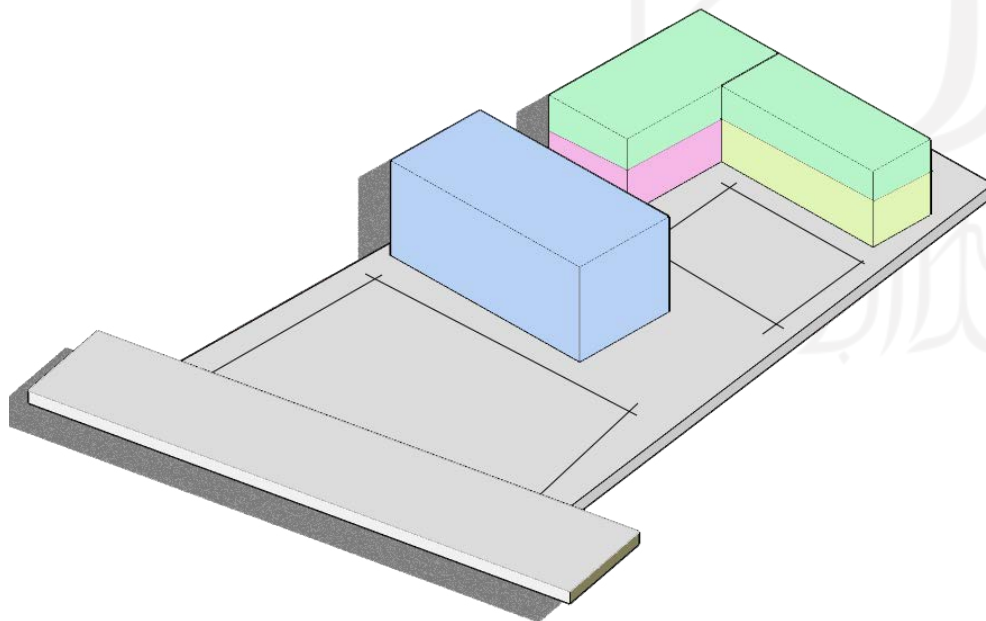
Based on the concept of spatial layouts, then the spatial layout is formed by mass compositions that have adjusted the zone and layout, as a reference for building mass design that responds to daylighting conditions, especially making the building mass as shading for the outdoor area. The next reference for the building mass formed consists of several building masses and is not massive so that each room can get cross ventilation.



Estimation of the concept of building mass in response to site conditions



Simulation Building Mass Concept Regarding to the Solar Tool Simulation



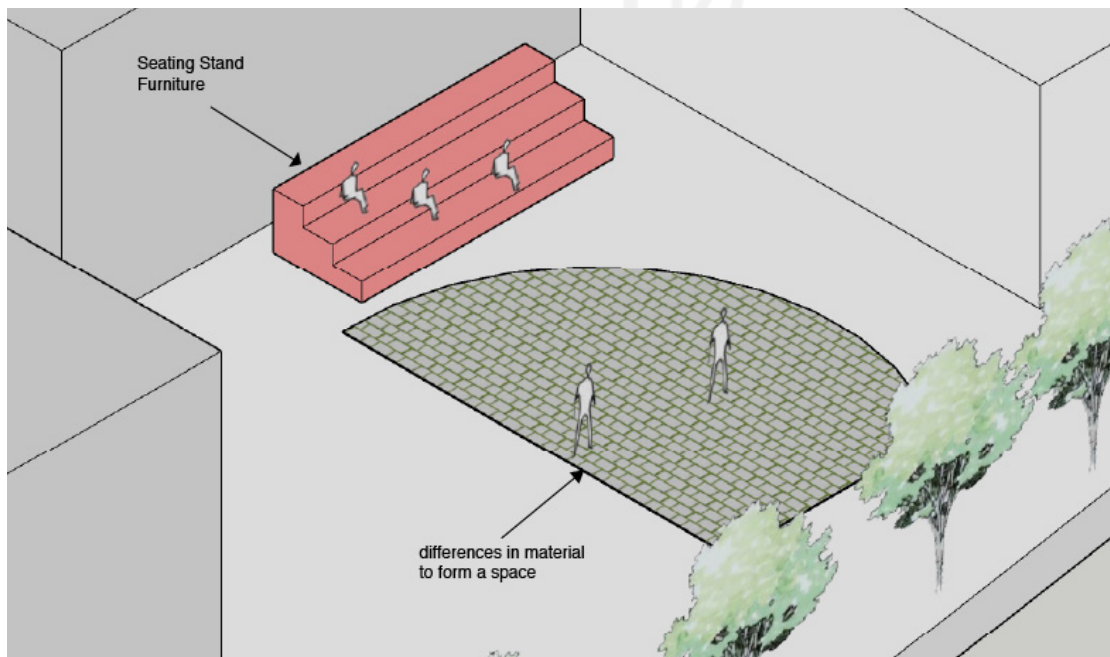
Result Building Mass Concept Integrated with Spatial Arrangement

This configuration of space of the outdoor area between 2 building masses, so that from the design point of view, it is as good as possible to protect it from direct sunlight, especially in the afternoon. It consists of two building masses, namely an indoor event space on the southernmost side, then a combined mass of community rooms, management and support, and an “L” shaped cafe on the north side. In terms of building mass, It becomes a contra when viewed from the south side where the building looks massive mass, but it give more value to the outdoor area.



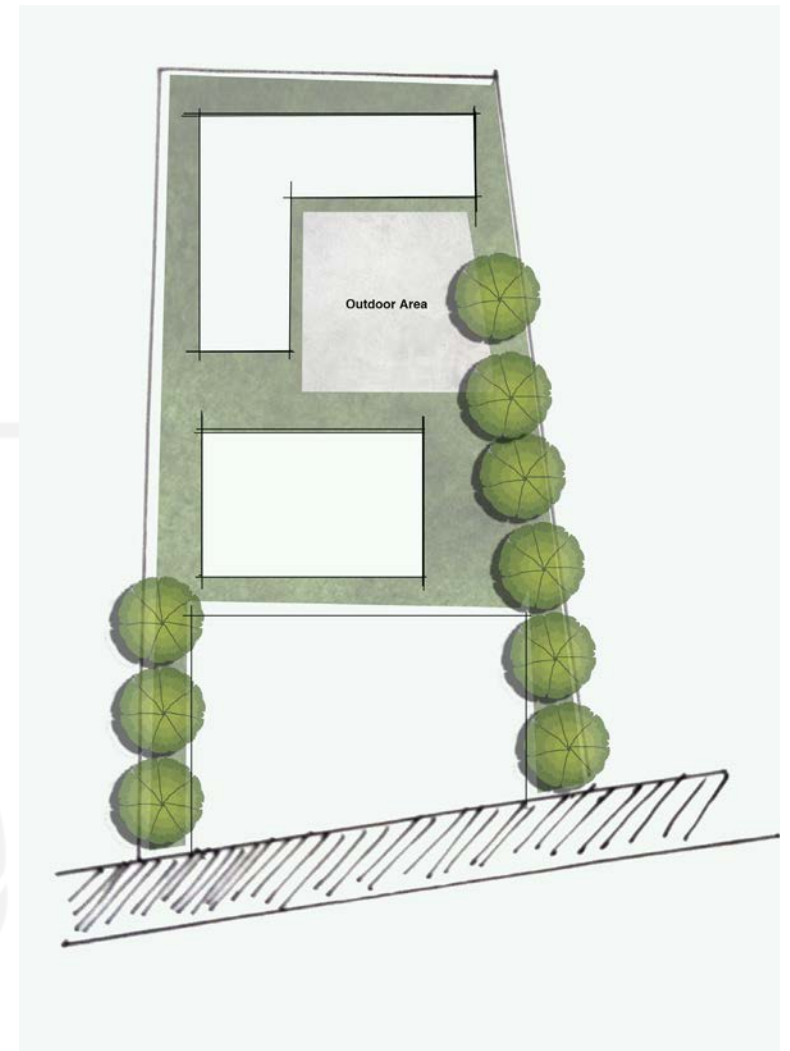
### 3.7.7 Landscape Concept

Following the limited site conditions, landscaping in the form of vegetation is maximized as a boundary between the site and its neighbors, especially on the east side of the site. Apart from being a barrier, the vegetation also functions as a wind breaker which is based on the analysis of the east side wind into its own concentration. Selection of vegetation that is in accordance with the function as a barrier, but there is special attention because there is an outdoor area or plaza which is also used as a user gathering area so that it is necessary to select vegetation that has wider canopy that is in accordance with these two criteria

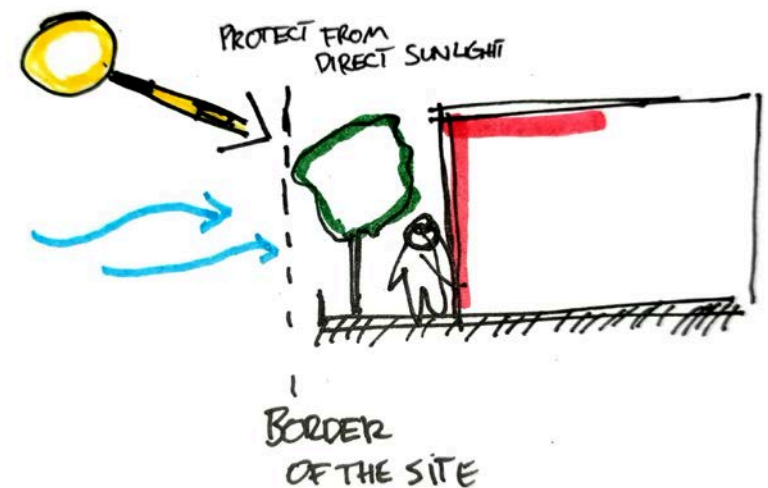


Concept of Outdoor Area

The concept of the plaza or outdoor area offered at this creative hub is made as a connecting area for various functions, this area is made as an event area or an outdoor area for cafe visitors by maximizing hardscaping and also landscaping or vegetation.



Placement of Vegetation on site



Function of Vegetation on site

### 3.7.8 Building Envelope Concept

Based on site analysis, mass selection and user complaints based on the results of discussions and interviews that have been conducted Community rooms become a problem in daylighting optimization problems due to conditions in the old building designs which tend to be modest and space is very minimal in daylighting. In the latest building mass concept, there is a new problem where because of the shape of the site and building that extends from the south to the north and the location of the community which is located on the first floor on the westernmost side which is potentially exposed to direct sunlight especially in afternoon. So that it can be strived to be a solution to reduce direct sunlight.

In order to reduce direct sunlight in the community space, shading devices are needed in this design

The concept of the building envelope that is planned is a secondary skin in the form of a linear line module which gives a simple impression to the building facade with a concept of floating facade. The function of secondary skin is to fulfill several aesthetic aspects including:

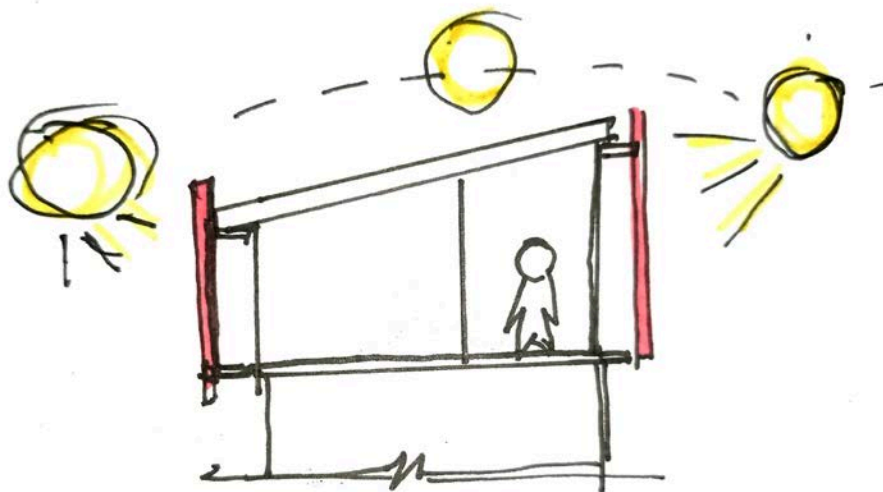
#### 1. As protection from direct sunlight

Following the condition of the existing site which extends to the south and north, so that most of the buildings are exposed from the east and west sides so that the role of secondary skin is to protect direct sunlight exposure.

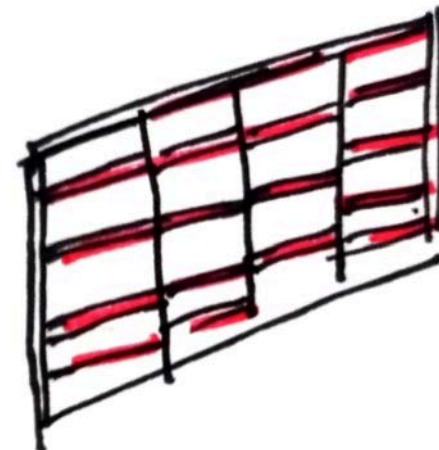
#### 2. Building Appearance

This project consists of 2 building masses, where the three masses have different shapes, the purpose of giving this secondary skin or building envelope design has the aim that the three building masses have a design harmony with each mass.

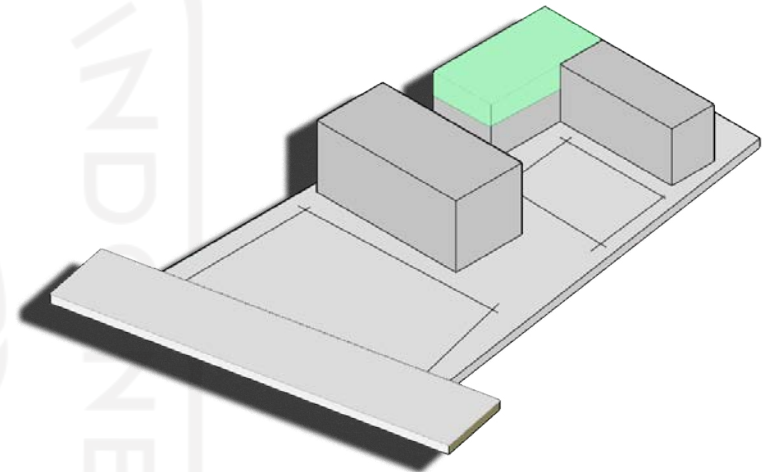
### Reducing Direct Sunlight



### Secondary skin facade module



Activity of Community Room

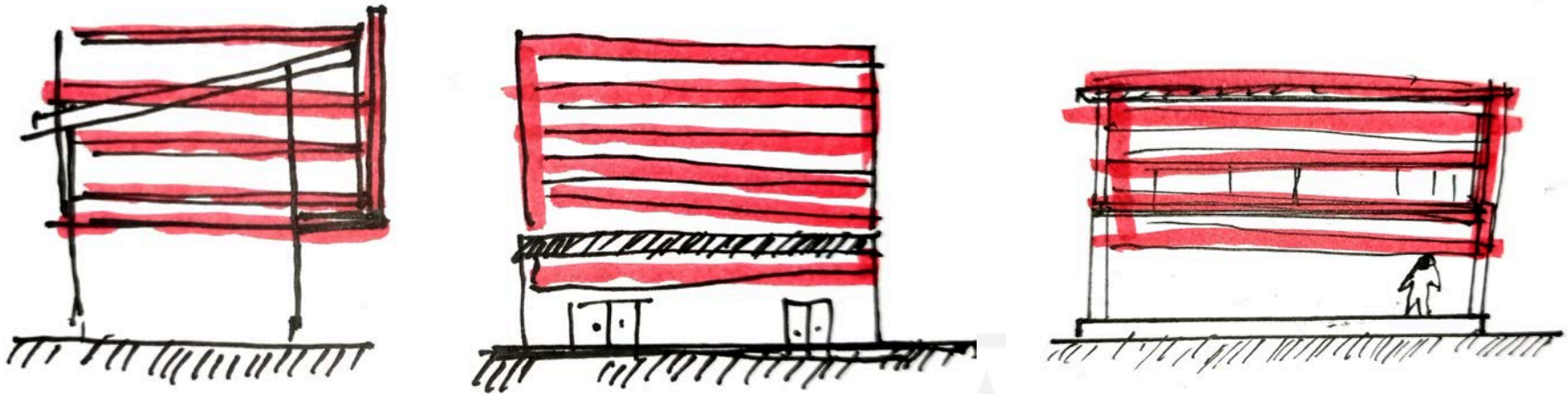


Location of Community Room on site

As maximum of illuminance is 500 lux so, it is not possible to create glare. It is conclude as benchmarking for this design is around 300 - 500 lux for standard .



## Building Appearance



### Secondary skin and facade as Responsive space Flexibility

Responsive space flexibility is a space flexibility concept design for space that can adapt to environmental conditions from outside or the needs of its users, in the form of the application of responsive space flexibility can be applied to building facades that can be opened and closed so that the intensity of passive lighting can be adjusted based on user comfort of space.

The facade and the secondary skin module that already designed has additional hinged on the area that covered a space like corridor and openings, so that the panel can opened and close by the user as a flexibility

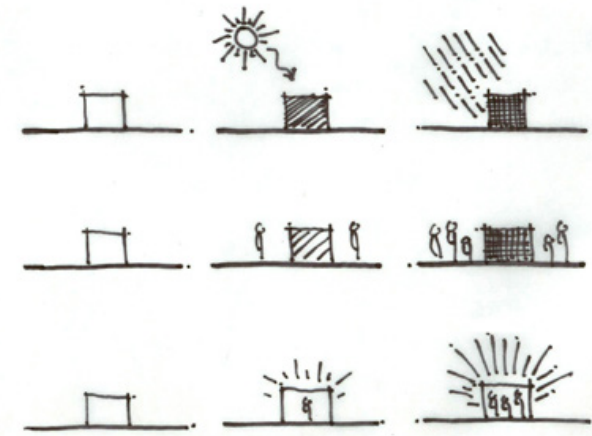
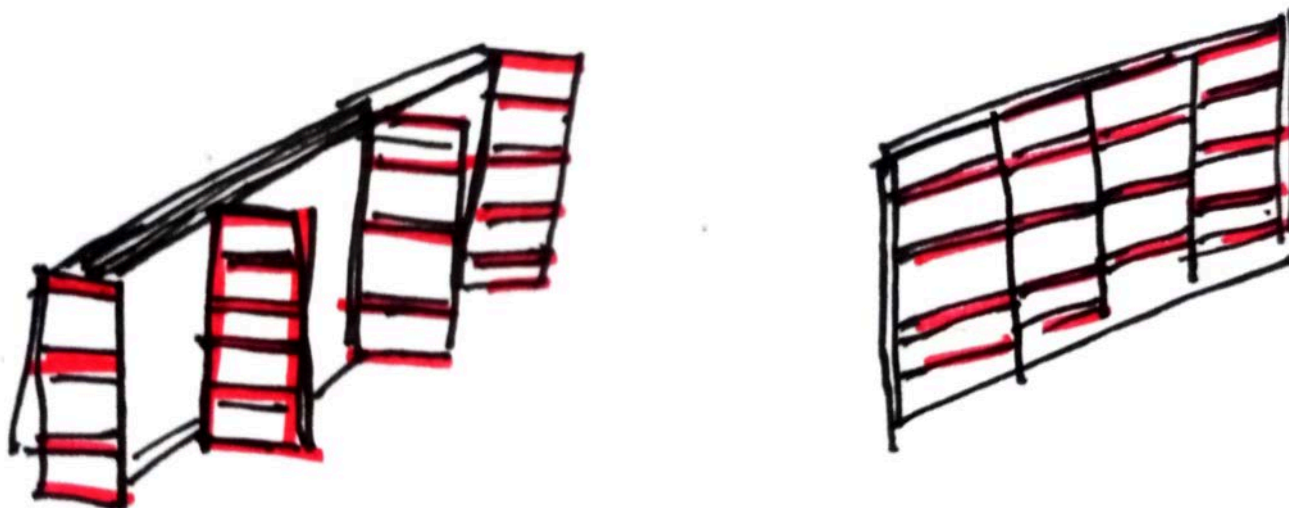


Figure 3.32 Responsive Flexibility

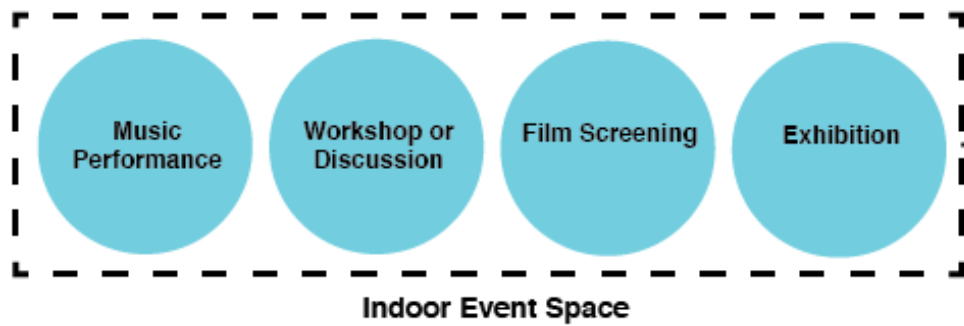
Source : <https://thewaywelve.wordpress.com/2007/11/15/flexibility-in-architecture/>

### Adjustable Secondary Skins



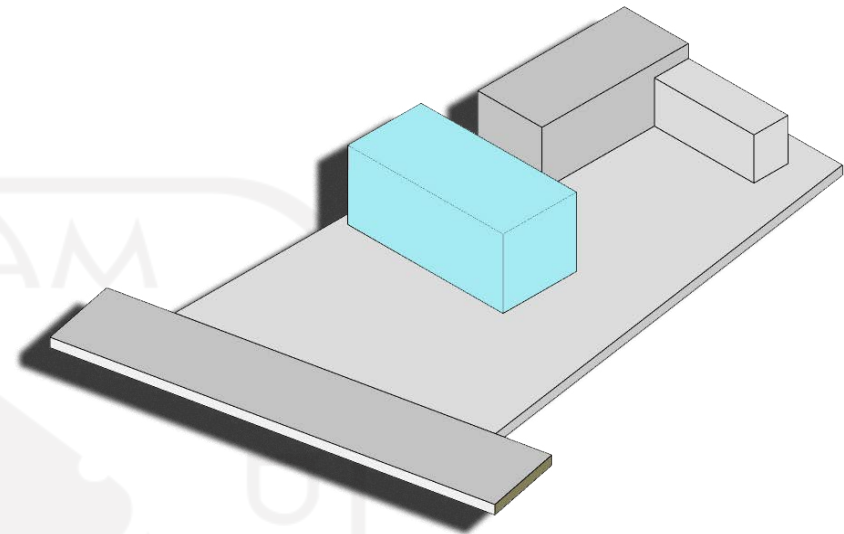


### 3.7.9 Interior Acoustic Concept



Based on the results of the space program formed based on space flexibility, there is a room called an indoor event space which is used for music concerts, screening films, discussions and exhibitions. If it is related to these activities, this closed space is related to sound and room acoustics, so that in this space planning, good planning is needed so that there are no acoustic defects.

One of the selected acoustic plans is to optimize the space with a reverberation time that meets the standards, especially for the project and also the indoor event space, this refers to the acoustic planning of the auditorium.



Location of Indoor Event Space on site

#### Acoustic Material

- Reflector

This acoustic material functions as a reflection of the sound source towards the audience. The placement in the auditorium space is generally located on the ceiling and also on the wall of the stage area facing the audience.

- Absorber

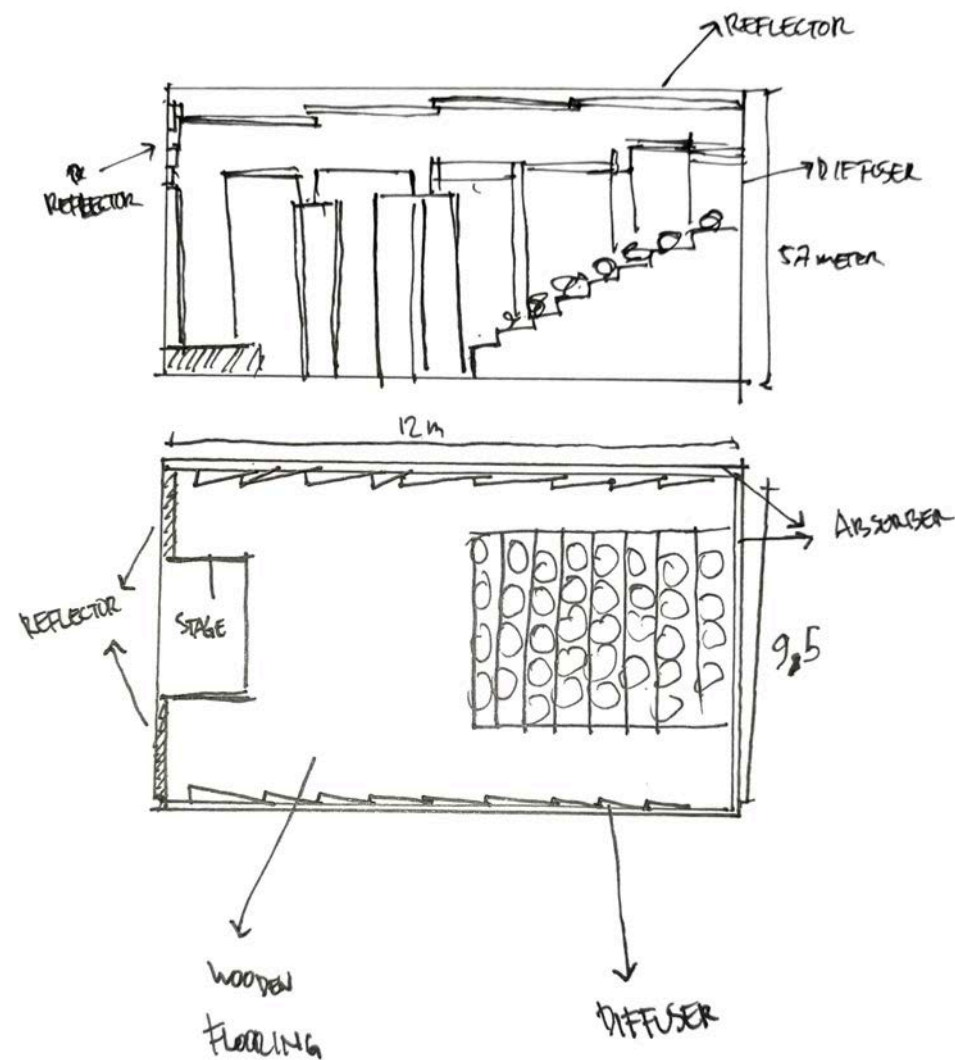
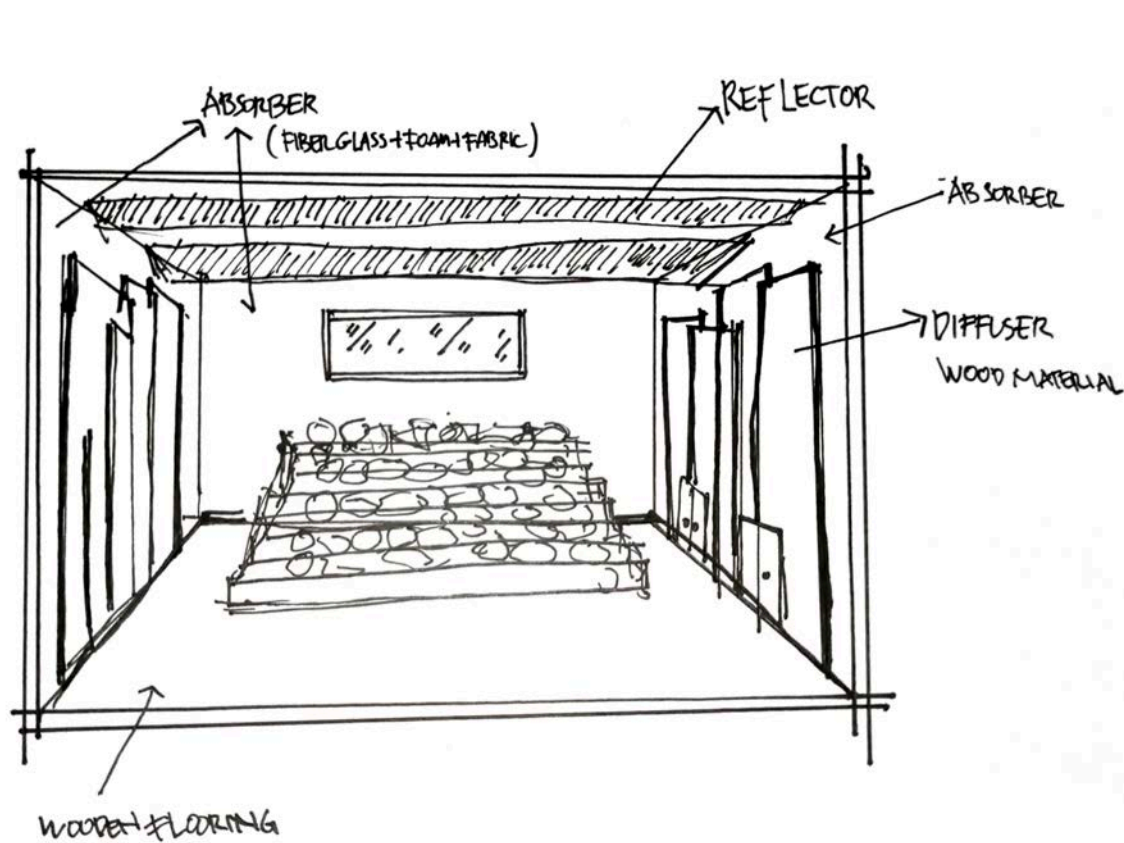
This acoustic material functions as an absorber of reflected sound so that acoustic defects do not occur. The placement in the auditorium space is generally located on the opposite stage wall, the side wall of the audience facing each other, the back wall, and also the audience floor.

- Insulator

Acoustic material with a function for sound insulation to prevent noise propagation. the placement is generally on the side and back walls of the audience.

- Diffuser

Acoustic material with the same material characteristic as a reflector or absorber, except that the material arrangement is uneven or irregular. This acoustic material functions as a spreader of reflected sound so that acoustic defects do not occur. The placement in the auditorium space is generally located on the opposite wall of the stage, the side wall of the audience facing each other, and the back wall.



As an indoor event space concept with good acoustics, materials designed according to the concept of acoustic application were chosen. The ceiling and backstage walls use hardwood material that functions as a reflector so that the sound received by the audience can be reflected so that it can be heard well. Furthermore, the absorber material consists of a combination of fiberglass, foam and fabric so that the sound produced can be absorbed and does not leak out of the room. Then there is a diffuser material in the form of hardwood which is placed irregularly on the left and right sides of the audience. And the last the floor area uses a material in the form of wood.

#### Interior Material

- Ceiling Area
  - Hardwood (Reflector) ( $\alpha = 0,3$ )
- Wall Area
  - Fabric+Fiberglass+Foam (Absorber) ( $\alpha = 0,7$ )
  - Hardwood (Reflector) ( $\alpha = 0,3$ )
  - Hardwood (Diffuser) ( $\alpha = 0,3$ )
- Floor Area
  - wooden floor ( $\alpha = 0,1$ )

$\alpha$  = Sound absorption coefficient



## 3.8 Schematic Design

### 3.8.1 Site Plan



The concept of a site that maintains the basic form of access and main circulation from outside the site to the area within the site, with the aim of responding to existing conditions and is very limited.

The outdoor landscape area of the building, that is located in the middle of the building has the concept idea apart from being an open space but can also have the flexibility of a function as a gathering area and also an event, so the adoption design was chosen for the staircase access which was expanded as a sitting area-

so that it can also function as a seat for the audience while the event is in progress. The location of outdoor area is on the middle of the site and in between two masses so the building also function as a shading for the outdoor area and also the reason for the arrangement is to make it save and far from interruption from outside or the main road. Pavement or hardscaping grass block material used can respond to conditions as an absorption area as respond on the condition of flood that can happened and green base coefficient but also can be used as pavement as an area to avoid muddy and wet areas and become



## 3.8.2 Floor Plan

### Ground Floor



In terms of programs and functions, this alternatives have the program that the ground floor area is focused on event activities, management and supporting, and also cafe as additional facilities for additional attraction of the creative hub.

In the first building mass or the indoor event space that can be used for activities such as music shows, exhibition screening films and workshops with the absorption of space flexibility formed in that one room, then there is storage that can support these activities.

The second building mass is focus on management zone and also support such as toilets, praying rooms, and also cafe area as facility for creative hub attraction besides creative activities. There is a vertical staircase access-

from the outdoor area which leads directly to the first floor of the shop space to erase the exclusive impression of the creative community shop.

Commercial in this creative hub is a supporting activity, on the ground floor area there is a cafe that is used as a supporting commercial because it can function as a waiting area for event visitors both indoors and outdoors, and is a separate reason why it is placed on the ground floor area because as a support event activity, as an aspect of spatial organization, is located in the northernmost part of the site because the cafe area becomes secondary so that the priority is the event area which requires a wider area so that it is placed more to the south and the remaining area to be used as a cafe is located in the north.

## First Floor



On the first floor, part of the area is focused on the community room zone which functions as a community store and also a community discussion room or community office, only for the indoor event space which is used as an indoor event operator room.

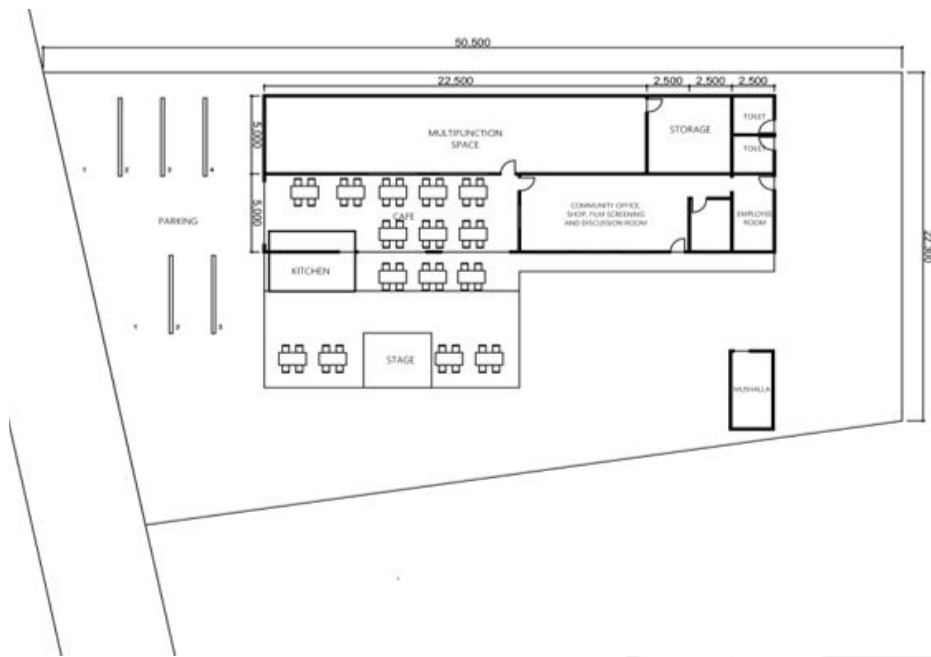
Vertical access in the form of stairs from the outdoor event area that leads directly to the shop is designed with the aim that visitors who come to try to be interested and also direct to this shop where this store functions as a distribution place of creative products produced by the creative community in this creative hub.

The other commercial part or the shop is placed on the first floor area so that daily operations can be side by side with the community space because this is a shop -

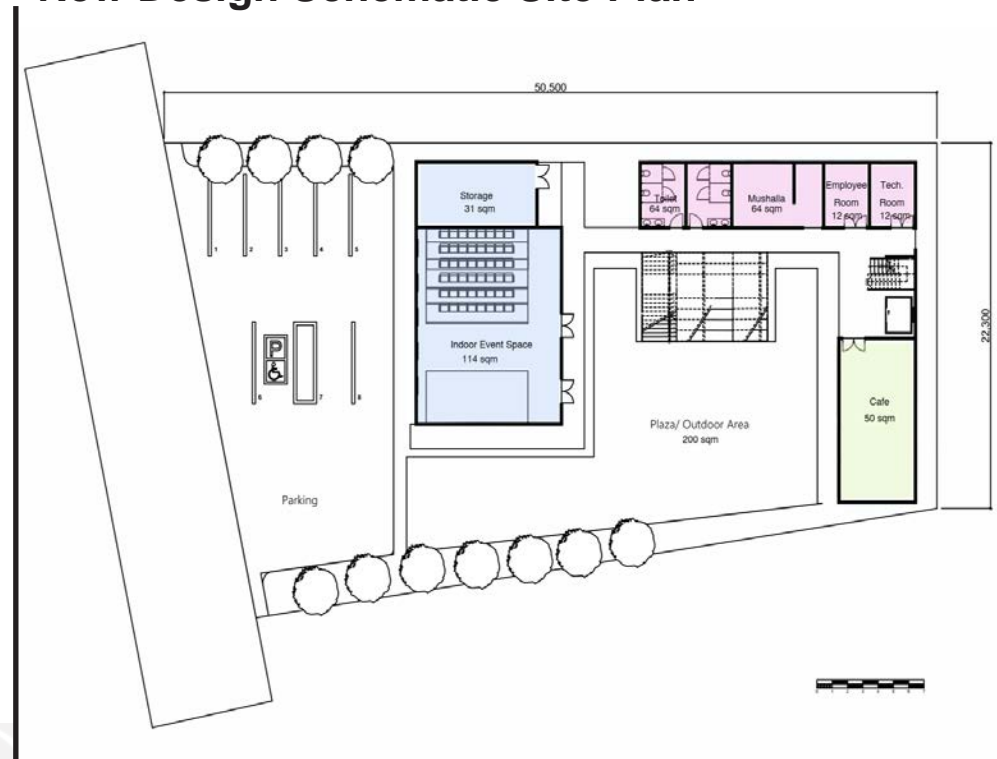
for products produced by the community and also its products are sold directly by the community who also use the community room area as their office, To support the spatial organization aspect, there is a special reason why there is special access from the outdoor area in the form of stairs that lead directly to the shop area to invite and make it easier for visitors to find out and come to the store in the community room.

# Result of the Redesign

## Existing Site Plan



## New Design Schematic Site Plan



The first problem that is trying to improve on the new design is the space program where the spaces that are formed are specifically designed to follow the needs of activity space related to creative community activities which as much as possible do not interrupt each other in its implementation between activities. there is also the use of the outdoor area that is potential so that it can be focused on its use for event activities.

Then the size of the space and also the space requirements that are formed also try to follow the activities that will be carried out in each room so that it can accommodate the activities properly for example on the existing design there is an multifunction space with a quite narrow area 22,5 sqm x 5 sqm which the size of the space is quite difficult if it is used as an event area that accommodates many people because it is too narrow, so that in the new design a new space program called indoor event space was created with the fulfillment of the specifications and space requirements based on the activity in accordance with the space size of 9.5 x 12 sqm.

There are also space optimization problems which in the old design were not designed very well in the communal space, the cross ventilation and daylighting which became a user comfort problem and tried to respond to the new design. That kind of problem caused because there is a function of adjacent spaces or closed between two spaces with minimal openings, so in the new design spaces that is form should maximize the opening and the cross ventilation.



### 3.8.3 Elevation



In the design concept of elevation and building envelope, creating a concept that is in harmony between the building masses with the use of secondary skin which functions as daylighting optimization by reducing direct light but also affected the building appearance between the building masses so that it becomes aligned.



### 3.8.4 Section



**A-A' Section**

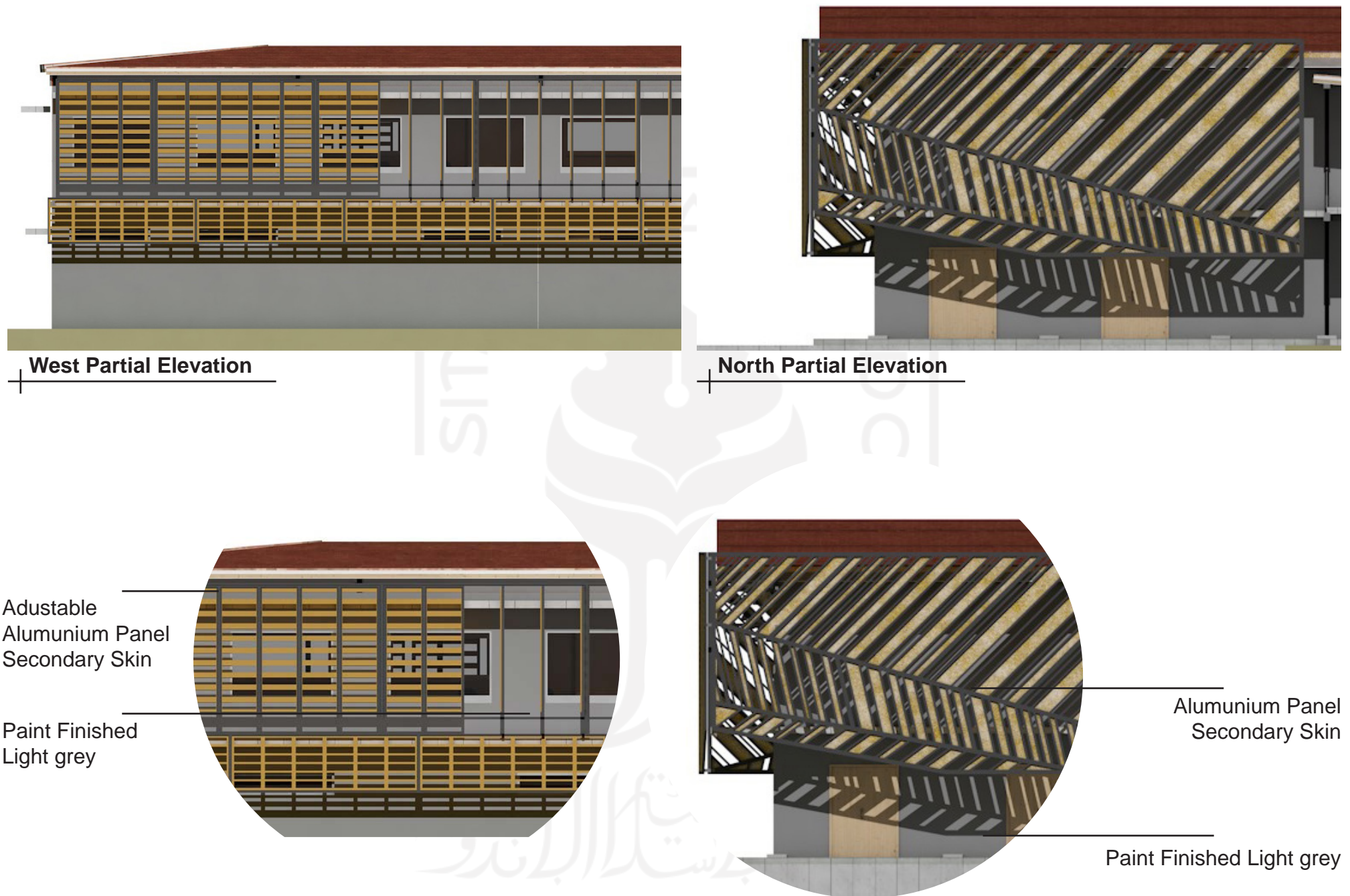
In this section drawings shows the integration related to functions between spaces including; indoor event space, outdoor area, community room and supporting space areas. This section also explains the building components that respond to existing problems, including the use of secondary skins and also the acoustic interior of the indoor event space.



**B-B' Section**



### 3.8.5 Building Envelope



The building facade formed is a aluminium secondary skin in the form of a horizontal linear line with a concept of floating facade to make it attractive and simple that functions as shading devices to reduce the sunlight and visual privacy and also serves as a form of alignment of the building appearance between different building masses.

On the secondary skin side that covers the opening and also the corridor, the secondary skin module panel is slightly different because there is a hinged which becomes the facade of the secondary skin that can be opened and closed as responsive space flexibility.

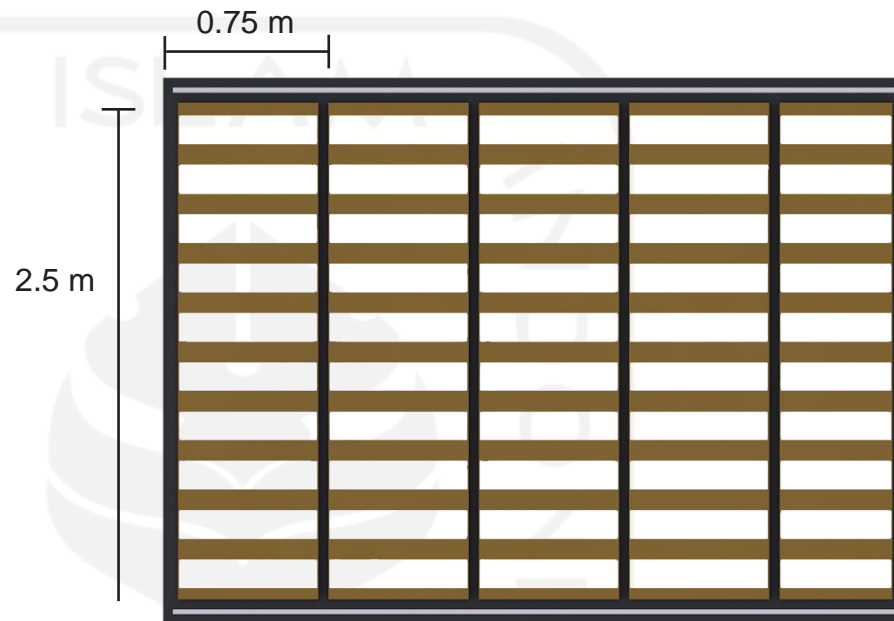


## Architectural Detail

The secondary skin module scheme that can be opened and closed is designed with a module size of 0.75 m wide and 2.5 m high which is connected with a hinged to the secondary skin panel frame attached to the wall and overhang.



Secondary Skin Module Result



Secondary Skin Module Elevation Detail



Secondary Skin Module Plan Detail

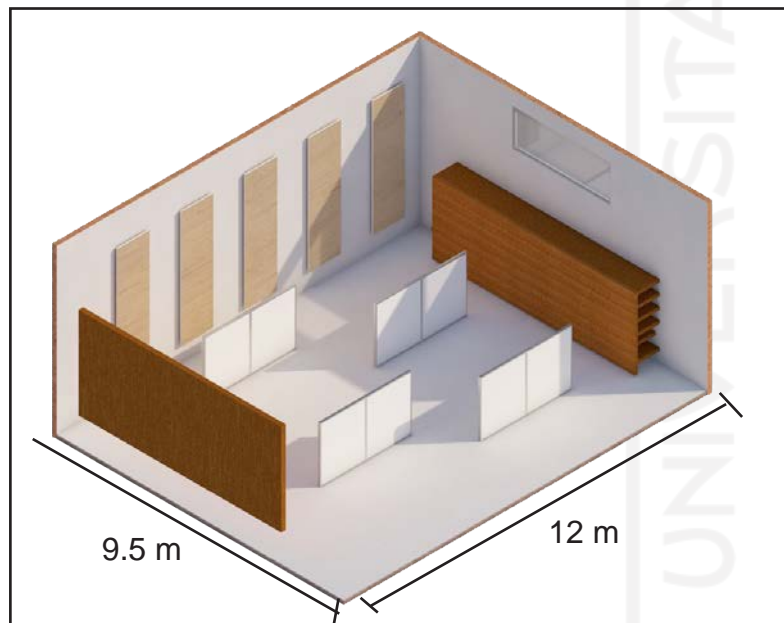
### 3.8.6 Interior

In an effort to use limited land, it becomes a special challenge for spaces that are formed to accommodate creative activities on limited land. So that the application of space flexibility was chosen to be the solution to these problems.

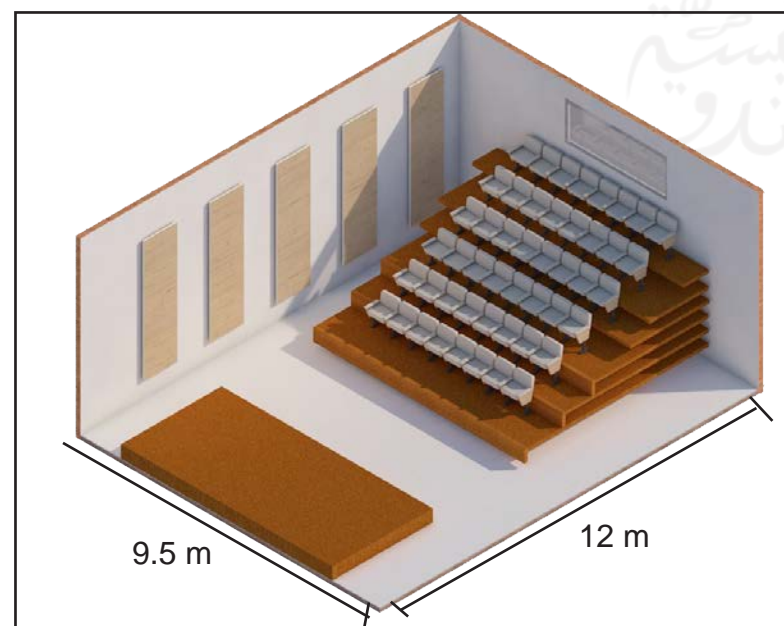
Two spaces offered specifically for this creative hub include an indoor event space and a community room, where the two spaces try to accommodate creative activities such as; music, films, exhibitions in indoor event spaces or work spaces, discussions and also creative product stores in the community room.

#### Indoor Event Space

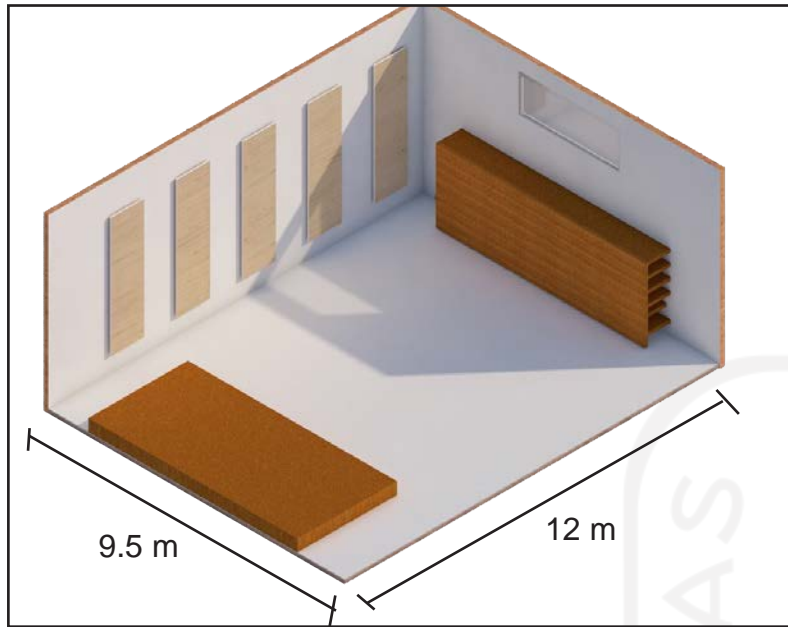
In the indoor event space, the open plan space has the aim of fulfilling activities such as exhibitions where open plan space with a size of 9.5 x 12 sqm can be given the freedom to lay out non-permanent partitions as an exhibition space arrangement. The interior space tends to be closed with air conditioning and the interior materials in the form of insulation and dampers have the aim to support other activities that exist in this room as well.



- ← **Exhibition**  
Weekday and holiday  
Mon - Thu 11.00 - 17.00  
Frid 11.00 - 20.00  
indoor event space conditions  
with open plan or universal space  
flexibility when seating stands and  
the stage is closed so that the  
open area with additional partition  
can be used for activities such as  
exhibitions



- ← **Workshop / Discussion**  
Every Saturday and Sunday  
afternoon or evening  
13.00 - 15.00  
16.00 - 18.00  
indoor event space conditions  
with open plan or universal space  
flexibility when seating stands  
and the stage retractable in the  
condition of all open.



### ← Music Performance

Every Saturday and Sunday  
afternoon or evening

13.00 - 15.00

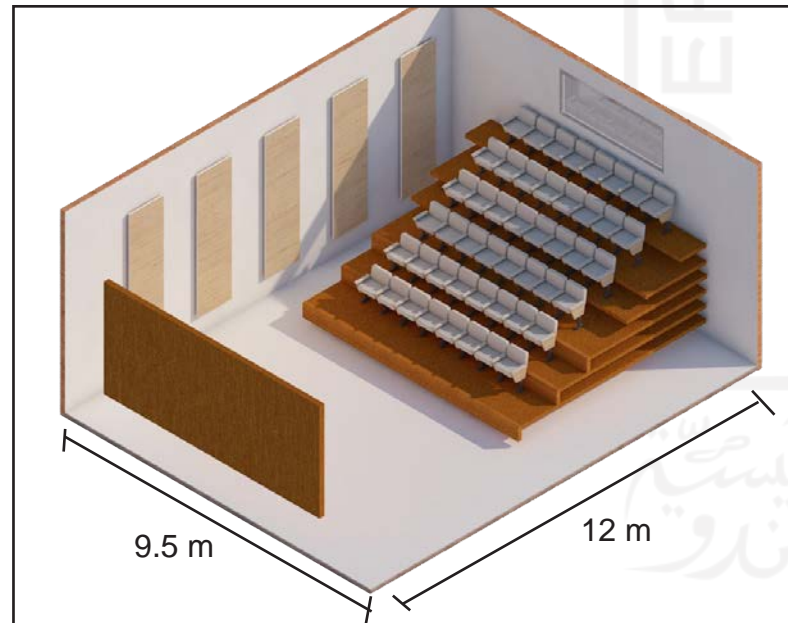
16.00 - 18.000

indoor event space conditions

with open plan or universal space

flexibility when stage retractable in

the condition of open.



### ← Film Screening

Every Saturday night

18.00 - 20.00

indoor event space conditions

with open plan or universal space

flexibility when seating stands

retractable in the condition of

open.



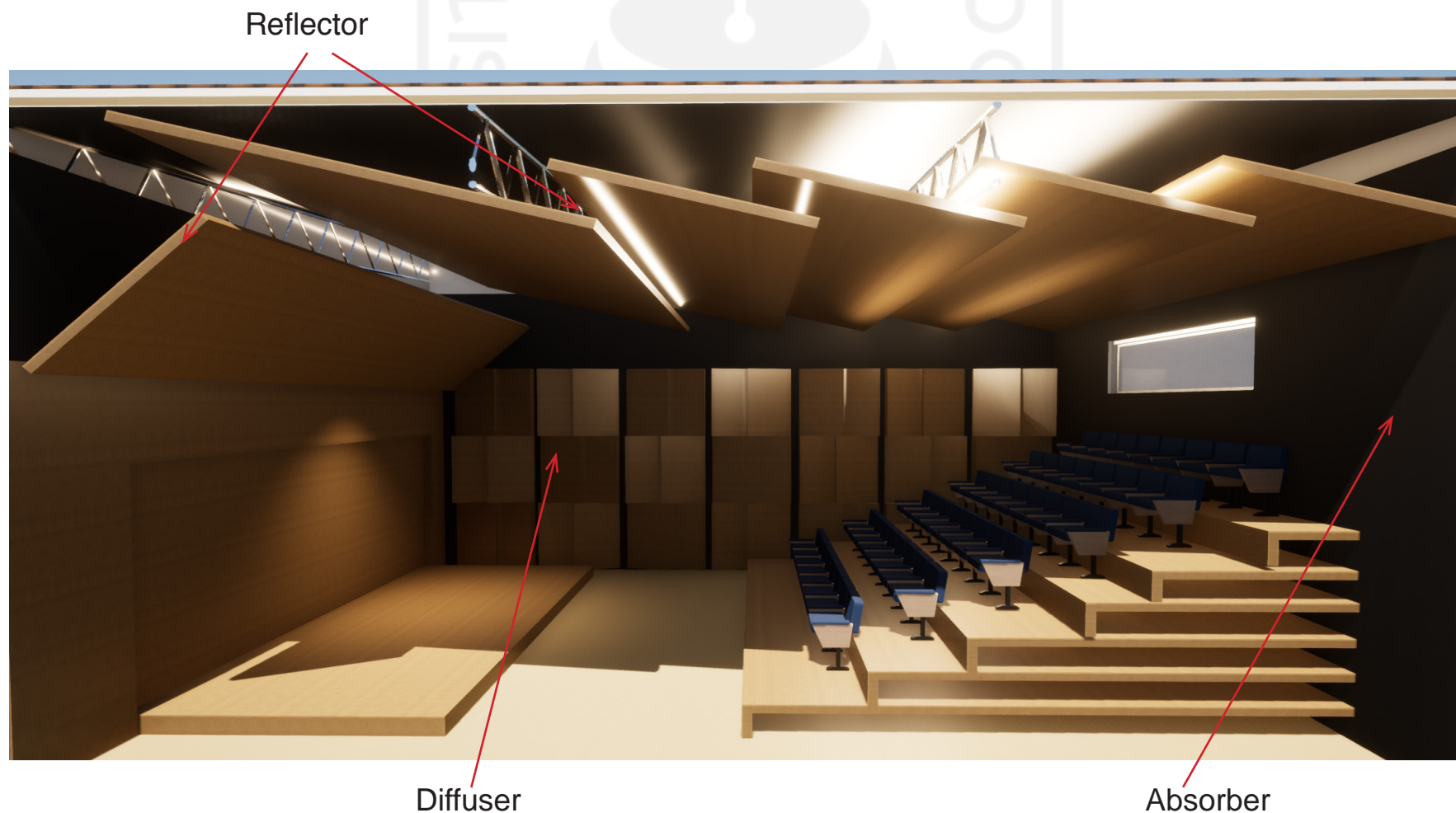
## Indoor Event Space Interior Acoustic

- Reflector  
This acoustic material functions as a reflection of the sound source towards the audience, so the audience can hear the sound easily.
- Absorber  
This acoustic material functions as an absorber of reflected sound so that acoustic defects do not occur, can also function as insulation that the sound defect can't go outside the room or space
- Diffuser  
This acoustic material functions as a spreader of reflected sound so that acoustic defects do not occur.

### Interior Material

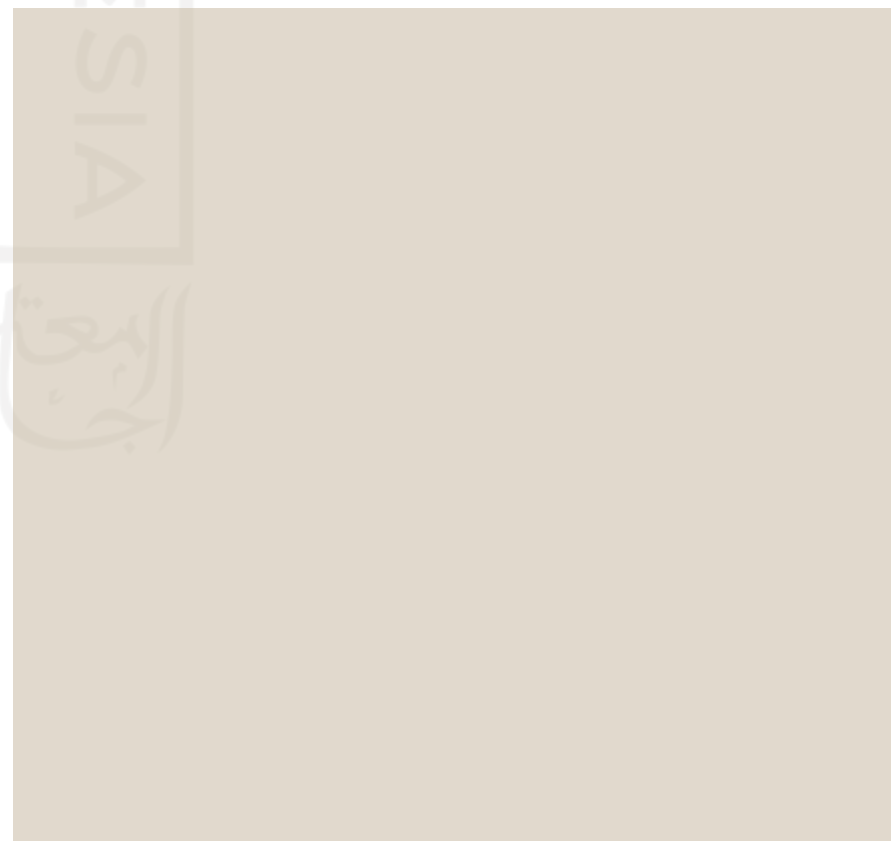
- Ceiling Area
  - Hardwood (Reflector) ( $\alpha = 0,3$ )
- Wall Area
  - Fabric+Fiberglass+Foam (Absorber) ( $\alpha = 0,7$ )
  - Hardwood (Reflector) ( $\alpha = 0,3$ )
  - Hardwood (Diffuser) ( $\alpha = 0,3$ )
- Floor Area
  - wooden floor ( $\alpha = 0,1$ )

$\alpha$  = Sound absorption coefficient



### Acoustic Indoor Events Space Section

## Indoor Event Space Interior Acoustic Perspective



# Architectural Detail Interior Indoor Event Space

## Retractable Stage



the condition of the stage when it is open



the process of retracting the stage



the condition of the stage when it is closed

### Retractable stage system

The implementation of retractable stage system can save the space and it also can be a solution for being adapt on the condition of each activities that exist which the stage can be retract as a wall of the space.

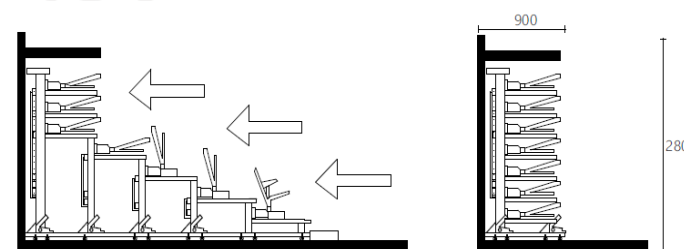
## Retractable Seating Stands



the condition of the audience seats when it is open



the condition of the audience seats when it is closed



the process of retracting the audience seats

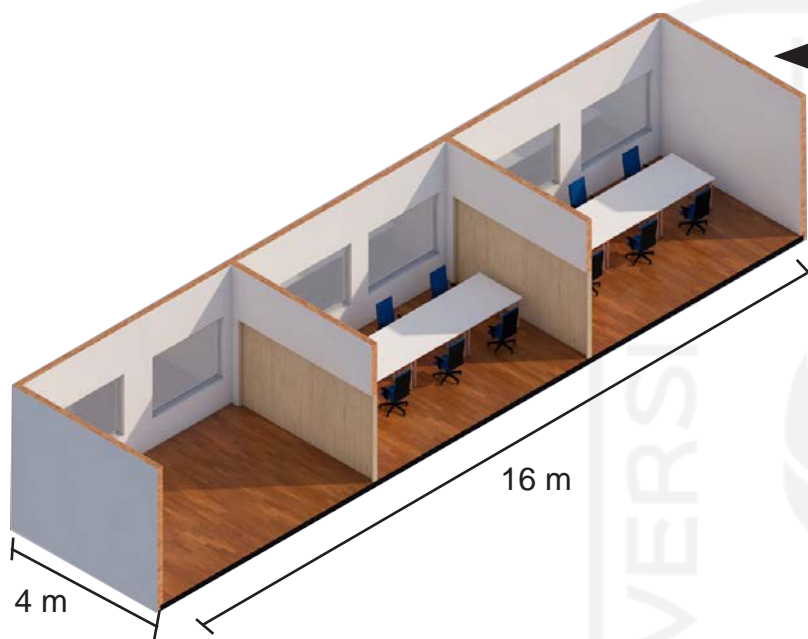
### Retractable seating system

The implementation of retractable seating system can save the space and it also can be a solution for being adapt on the condition of each activities that exist which need a space for audience seating or not the seatings can be retract as a wall of the space.



## Community Room

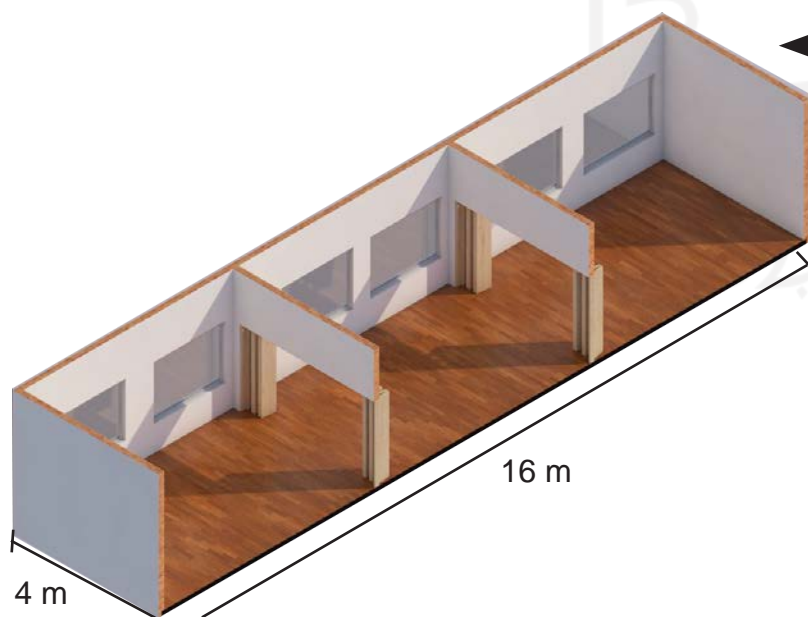
The community room is a discussion space or work space used by the creative community and the shop, following the fluctuation in the number of people who use this space, this space consists of one large room in an open plan form so that it can be used for a capacity of more than 20 people as a workspace or discussion. If there are fewer community members who will use this space or are divided into several groups separated by a sliding lightweight door as a form of application of space flexibility, namely adaptable and movable. The room furniture used is also adjusted to furniture that is movable so that it can make it easier to move places and also re-lay out.



### ← Daily uses as merch shop and community office

11.00 - 20.00

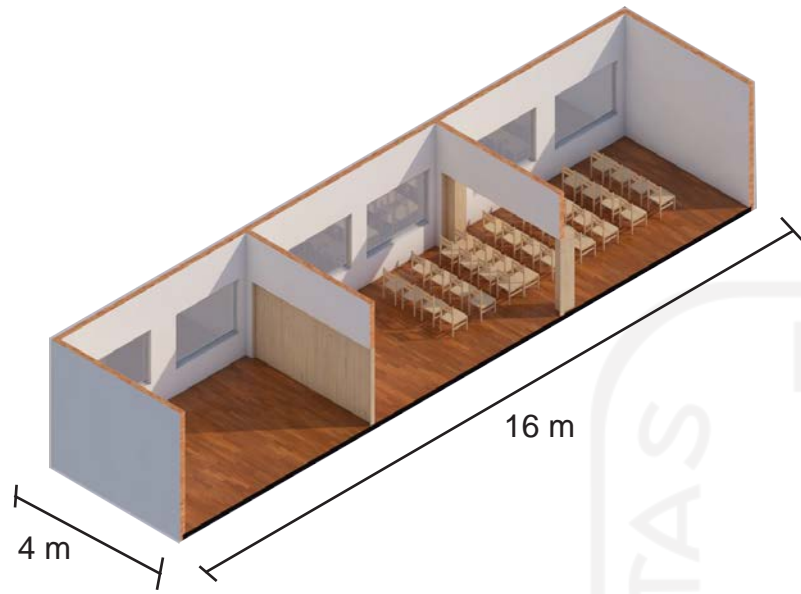
The community room conditions with open plan or universal space flexibility when divided into 3 part of room



### ← Open plan for workshop

Situational Time

Community room conditions with open plan or universal space when all of the partition were open.

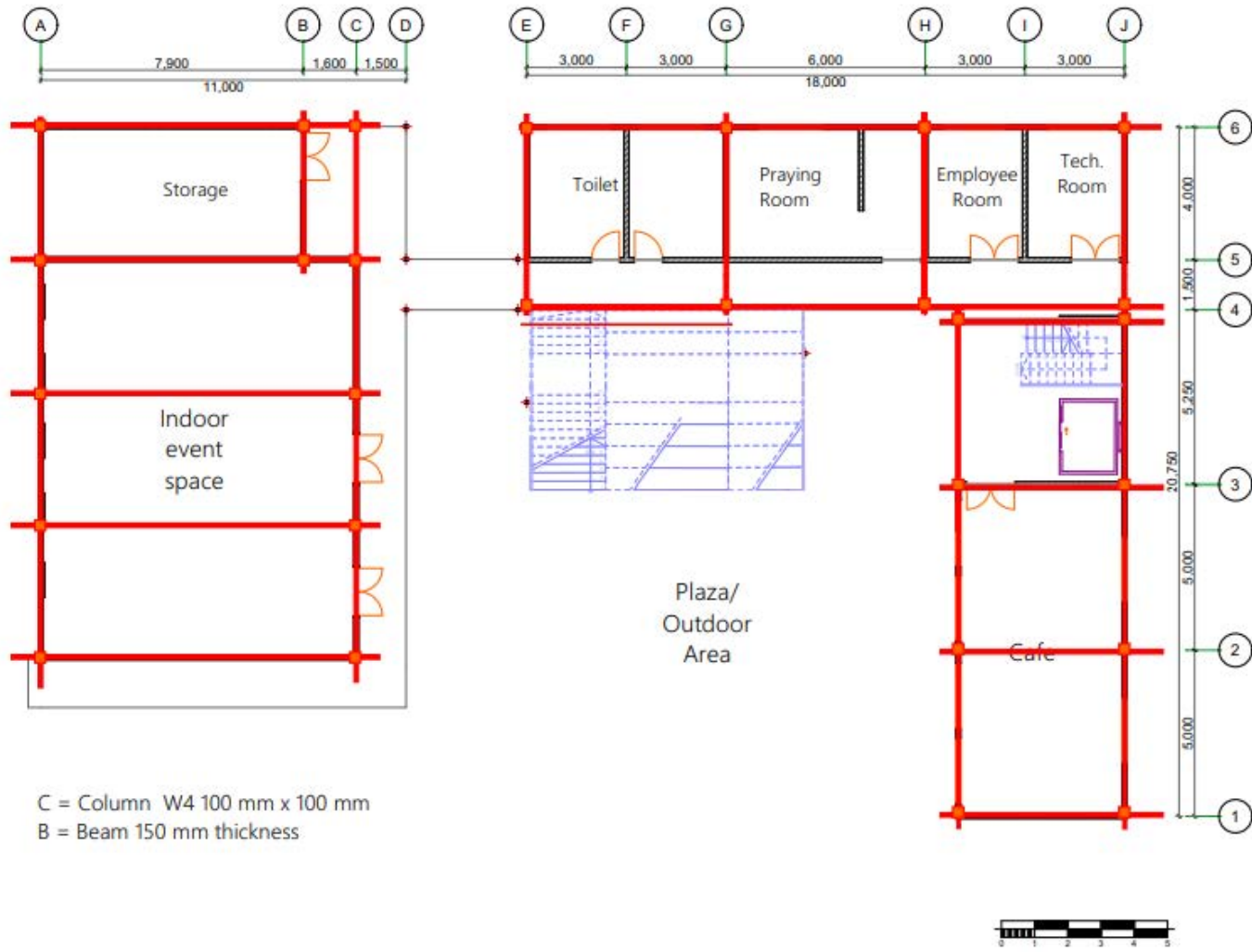


← **Workshop and disucssion**  
Situational  
The community room conditions  
with open plan or universal space  
flexibility when divided into 2 part  
of room



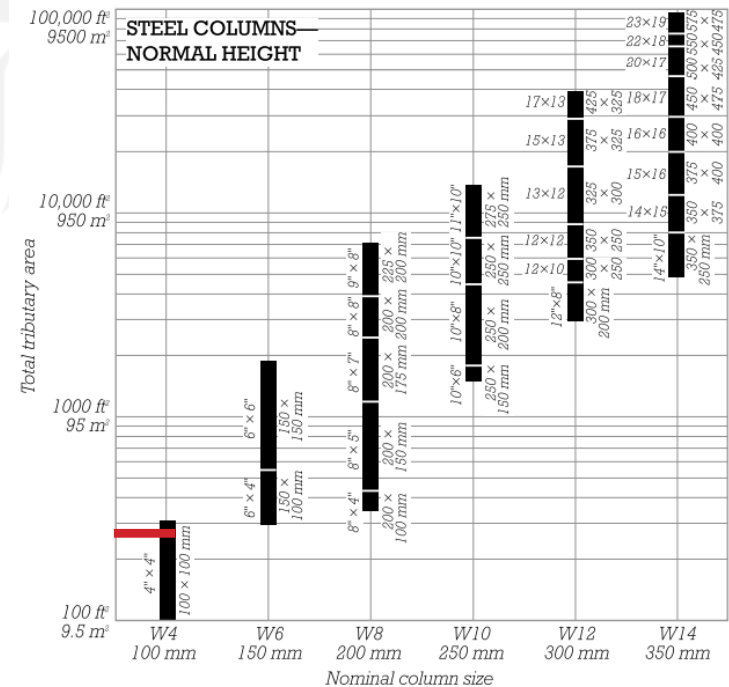
### 3.8.7 Structural Scheme

#### Structure Plan Schematic Design



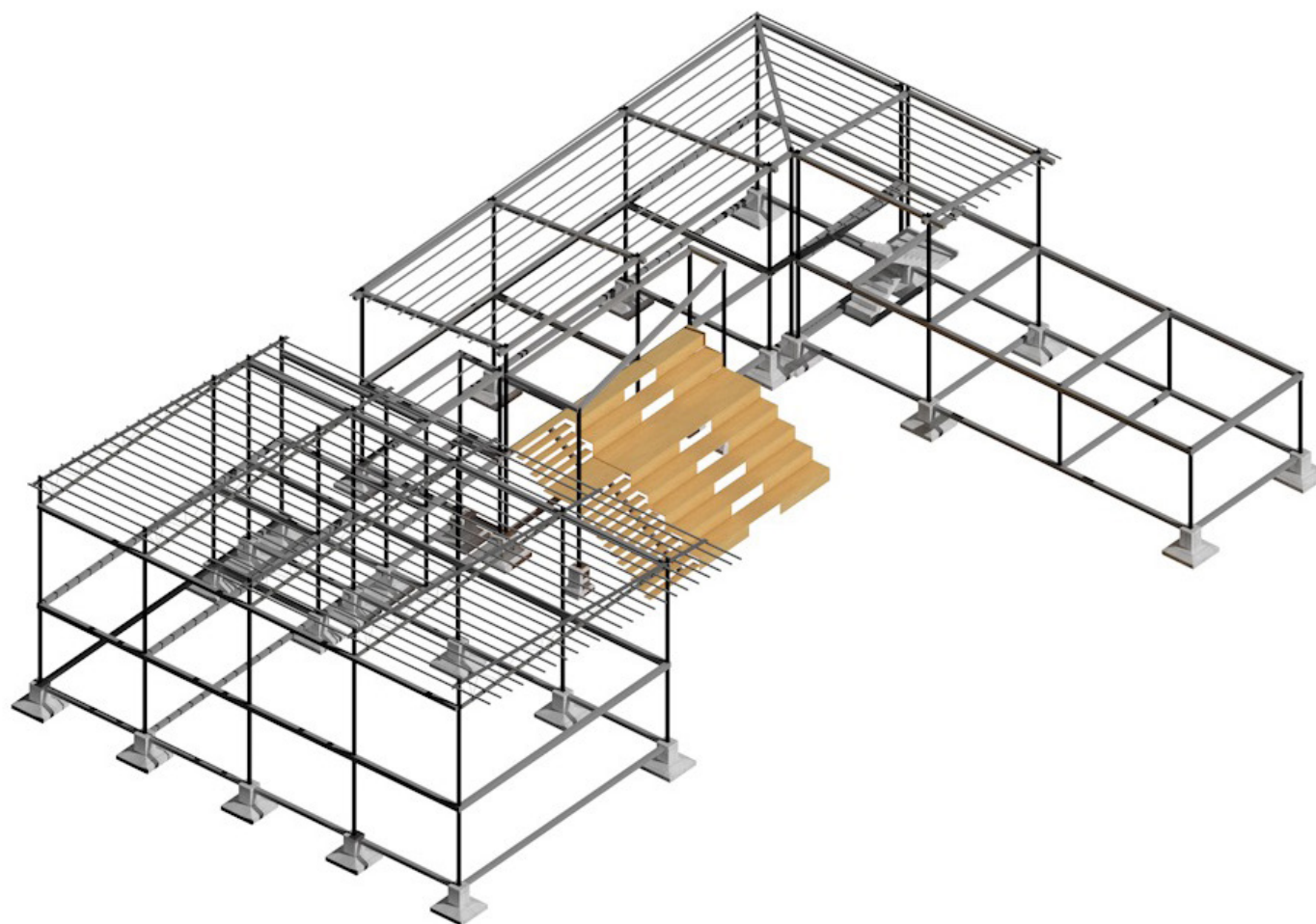
The structure used in this creative hub uses a steel structure. The indoor event space building mass uses a grid with the farthest span of 9 meters with a girder system and the closest span of 4 meters. The second mass of the building uses a beam with a span of 6 meters. Then in the third mass structure in terms of dilatation with the farthest span of 5 meters. Based on the calculation of the tributary area, it can be concluded that for the use of columns with dimensions of 100 mm x 100 mm, then the beam used has dimensions of 150 mm x 100 mm.

#### Column Dimension

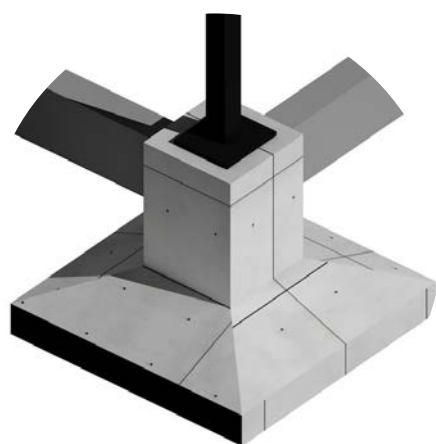




## Structure Integration



Structural Integration from lowest part of the structure until the highest part of structure. The lowest part is the footplate foundation as the foundation, after that goes to the column and beam with a steel material, and then the frame truss roof structure as the structural part that exist in the top part.

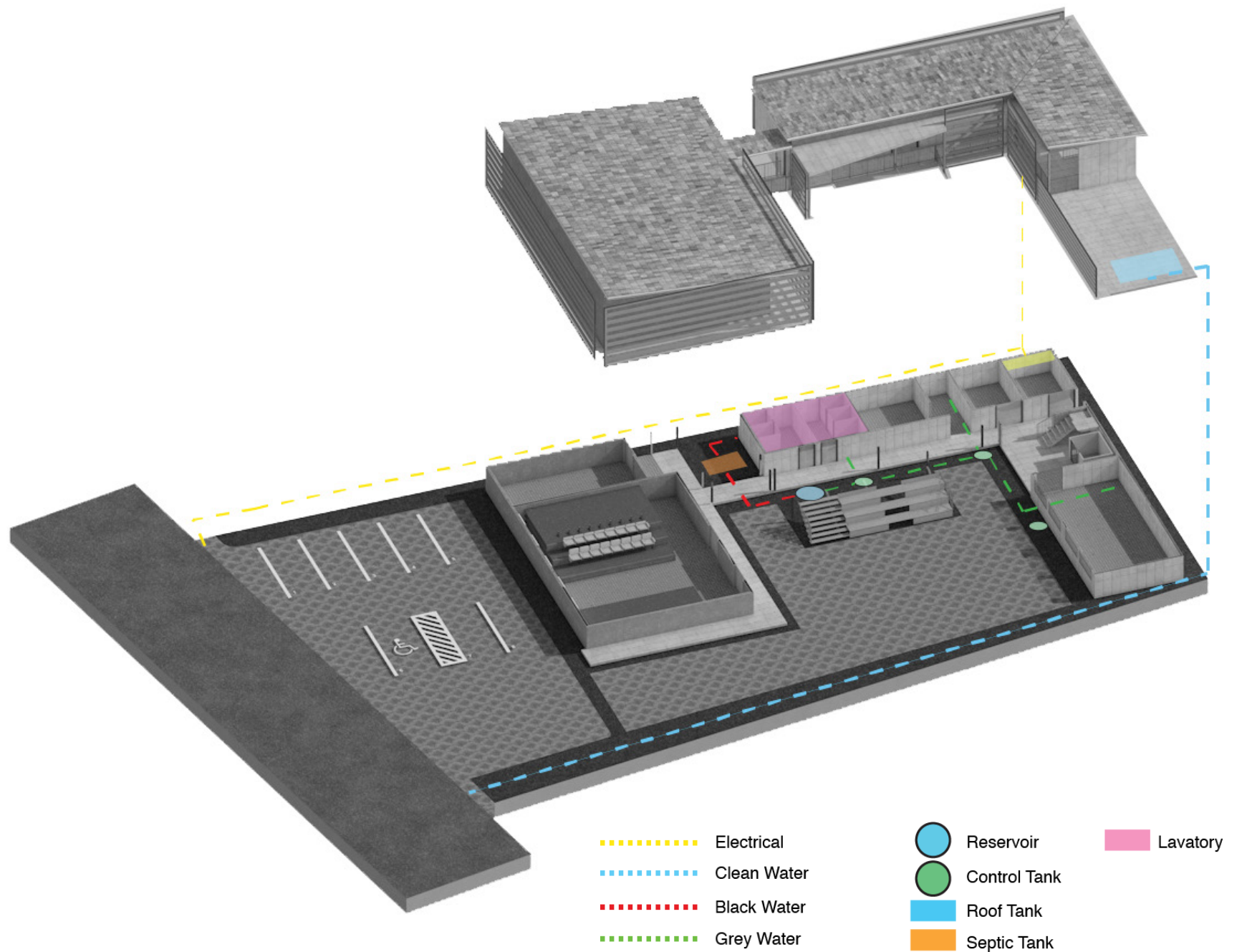


Footplate  
foundation



Frame Truss Roof  
Structutre

### 3.8.8 Utility Scheme



In principle, the utility system in this design The clean water utility network system in this design uses a down feed system with water sources coming from PDAM is pumped into the water tank shown on the first floor before being distributed to the ground floor. The dirty water system is divided into 2 different pipes, namely for black water and gray water.

Electricity needs are taken from PLN which is supplied from a power pole at the south of the site. Electricity will be supplied to the transformer located in the technician's room on the ground floor before it is distributed to the creative hub system of electrical



### 3.8.9 Barrier Free Scheme

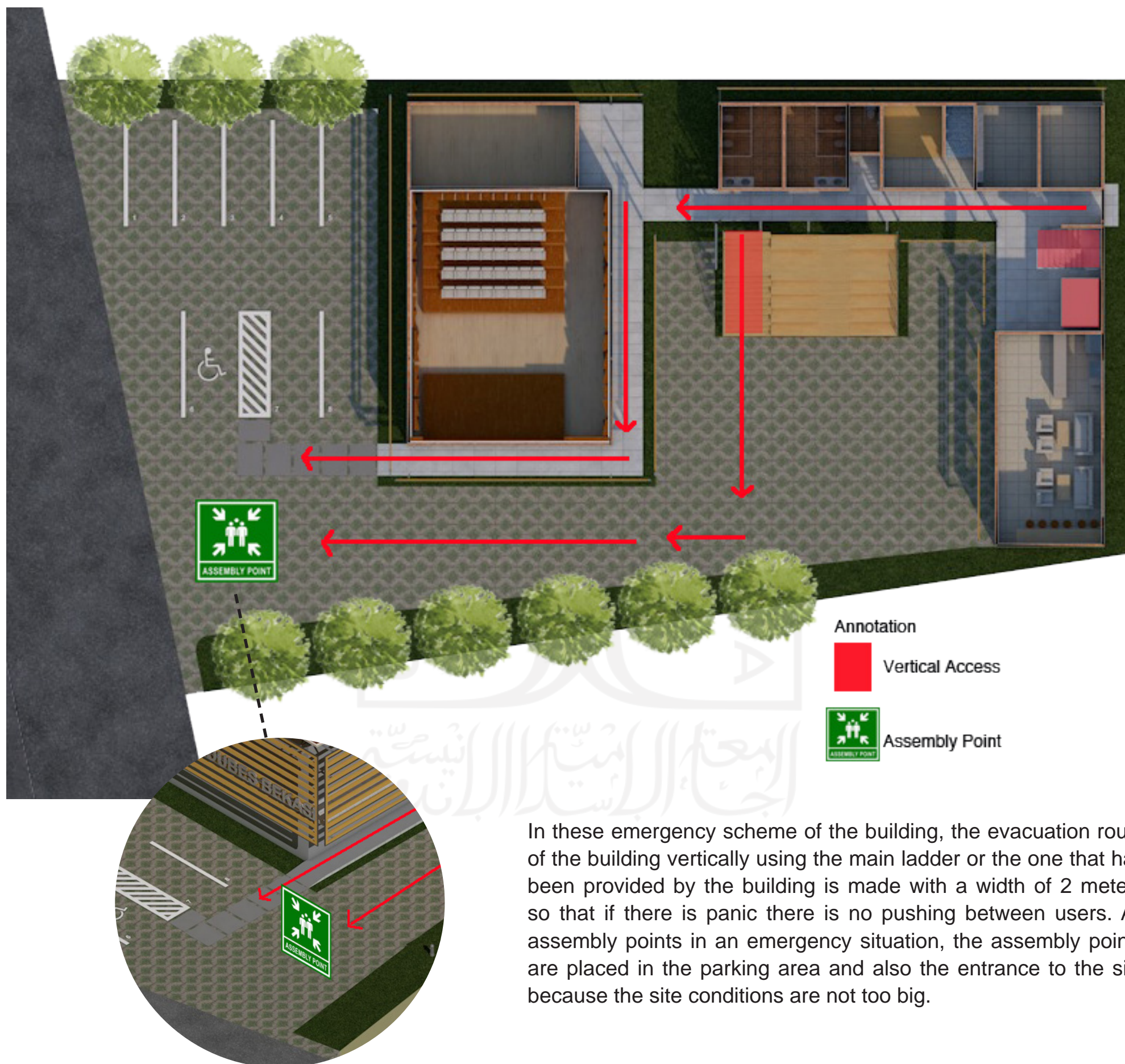


Building design has provided points that can facilitate access for people with disabilities. Special parking or the diffable parking is provided at the front of the main entrance of the building which is also equipped with an access corridor for diffables. In the building an elevator is also provided for diffable access to the First floor.

The difference of material using the concrete block to make easire movement for the wheel chair and also the Ramp to provide the higher area or elevation.



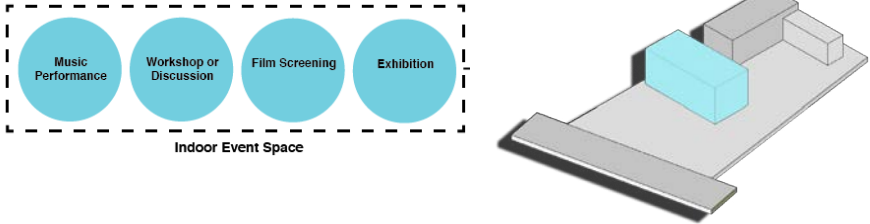
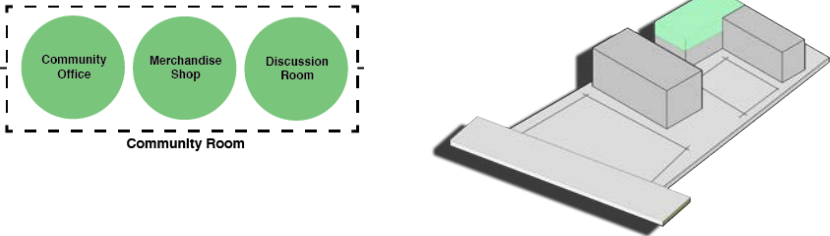
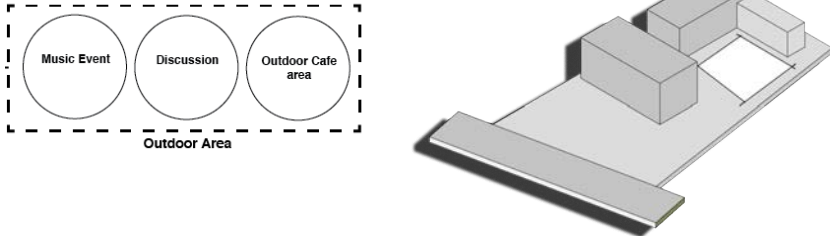
### 3.8.10 Building Safety Scheme


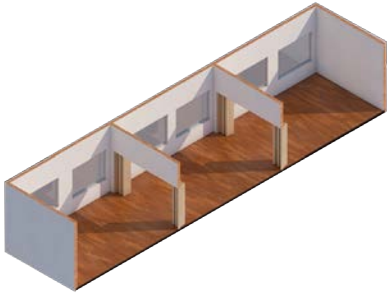
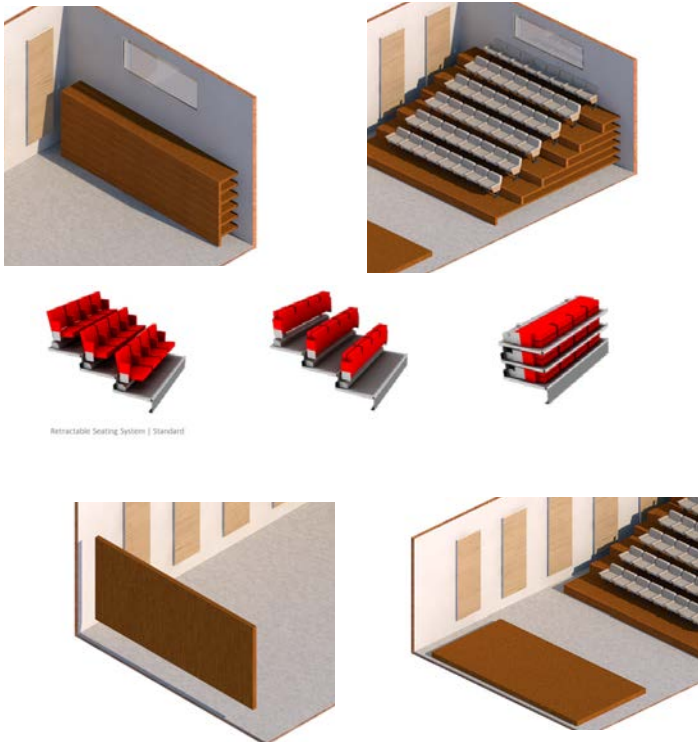


In these emergency scheme of the building, the evacuation route of the building vertically using the main ladder or the one that has been provided by the building is made with a width of 2 meters so that if there is panic there is no pushing between users. As assembly points in an emergency situation, the assembly points are placed in the parking area and also the entrance to the site because the site conditions are not too big.

# 3.9 Design Testing

## 3.9.1 Space Flexibility

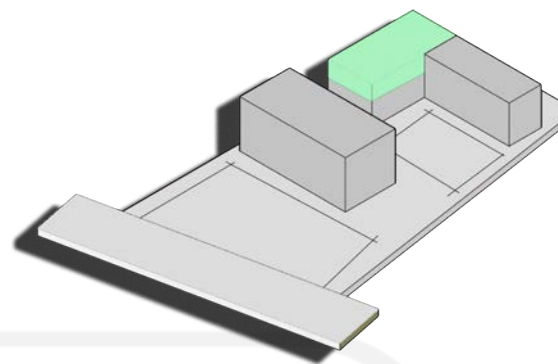
Parameter (Type of Space Flexibility)	Criteria	Applica- tion on Design	Design Results
Adaptable	Buildings can respond to changes that occur with accommodate several functions.	Yes	<p>There are 3 space zones that combine several creative activity functions (1) indoor event space, (2) outdoor area, (3) community room</p> <p>1. Indoor Event Space</p>  <p>2. Community Room</p>  <p>3. Outdoor Area</p> 

Parameter (Type of Space Flexibility)	Criteria	Application on Design	Design Results
Universal	buildings that provide an open plan as flexibility in function or design and environment that can be accessed by all people specific activity.	Yes	<p>Open Plan Design as universal space flexibility on Indoor event space and Community Room</p> <ul style="list-style-type: none"> <li>Indoor Event Space            </li> <li>Community Room            </li> </ul>
Transformable	Buildings whose shape, volume or form can change based on physical changes	Yes	<p>Indoor event space has physical changes on the furniture regarding to the retractable seating and stage</p>  <p><small>Retractable Seating System   Standard</small></p>



### 3.9.2 Velux Daylighting

Illuminance is the amount of light current that comes in one unit of field, measured in Lux or Lumen / m<sup>2</sup>, while the process is called luminance, which is the arrival of light on an object. Arrangement of coordinate points and axis orientation are adjusted to the design location, namely the community room, the test results used occurred at the critical time in February at 12.00. In the design testing process, there are 2 conditions of the hinged secondary skin facade, the first condition of the facade is in an open and open condition and the second condition of the facade is closed.



**The Community Room**

The use of this software contains three indicators in determining illuminance and luminance results:

1. False Color
2. ISO Color
3. Grid Values

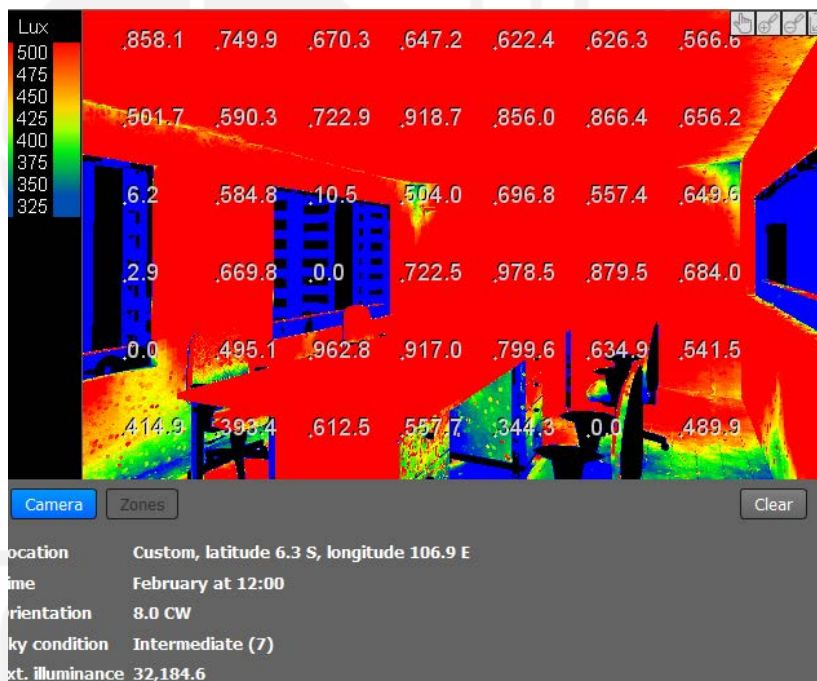
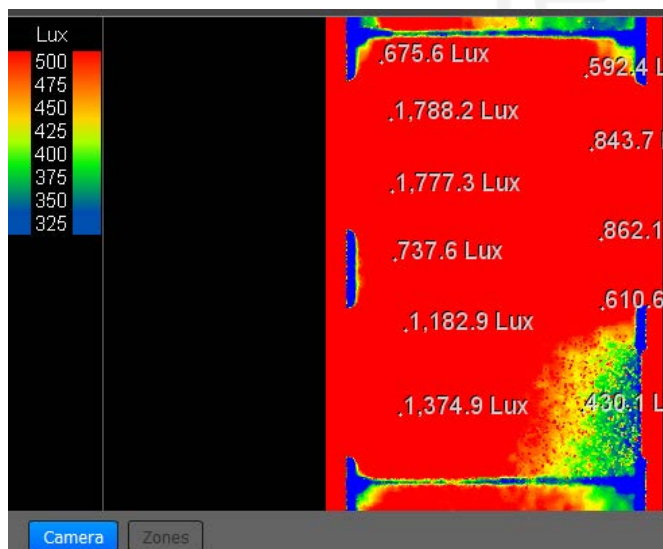
In the design test process the author uses the False Color parameter to compare the results of the open and closed facade conditions. The visual presented by False Color is a colored lux parameter with a description of the amount of lux, which can be compared between the two conditions

Based on the activities, there are 3 activities in three types of activities in community room such as; Shops, Workspaces, and Discussion Rooms. Based on SNI 6197: 2011 the three rooms have a standard quantity of lighting as follows:

Activity	Minimun Standar of lighting (Lux)
Shop	300
Office	350
Meeting Rom	300

It can be concluded that the design test times made the minimum light intensity 300 lux as maximum 500 lux so as not to cause glare.

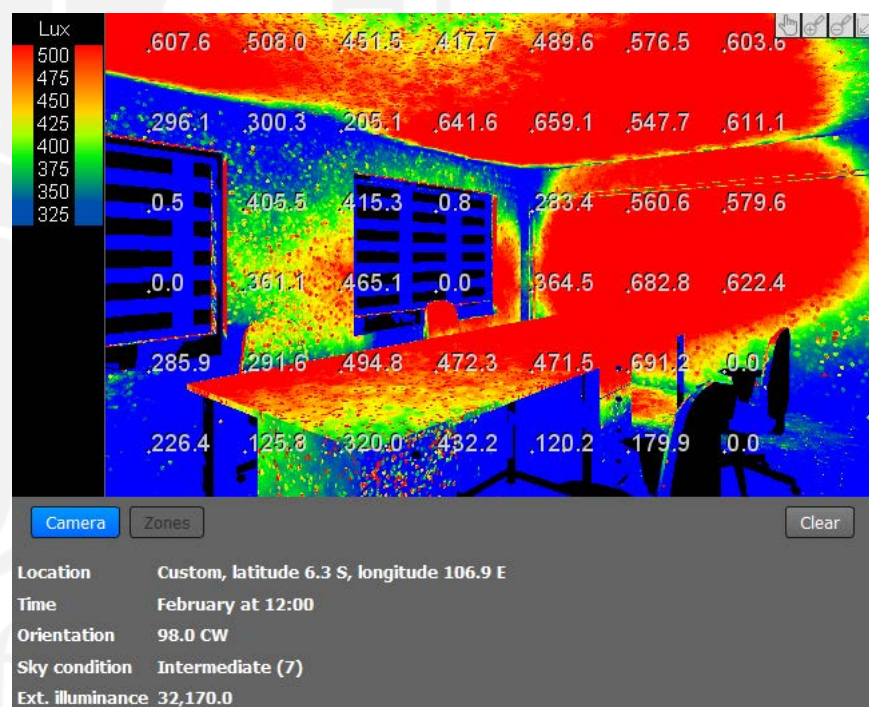
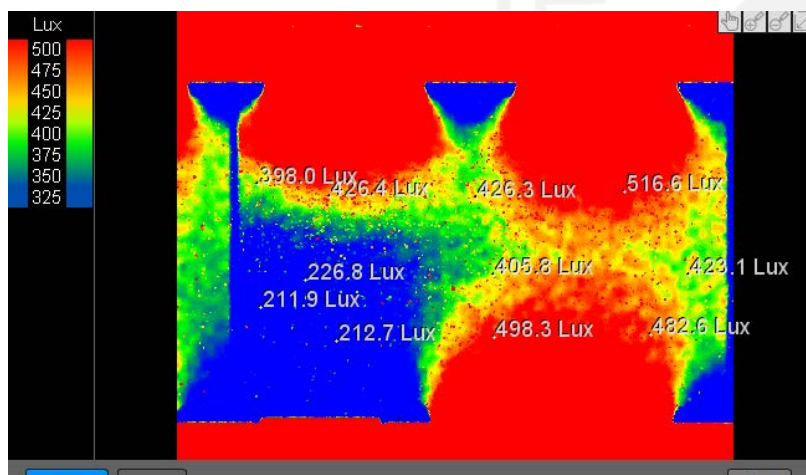
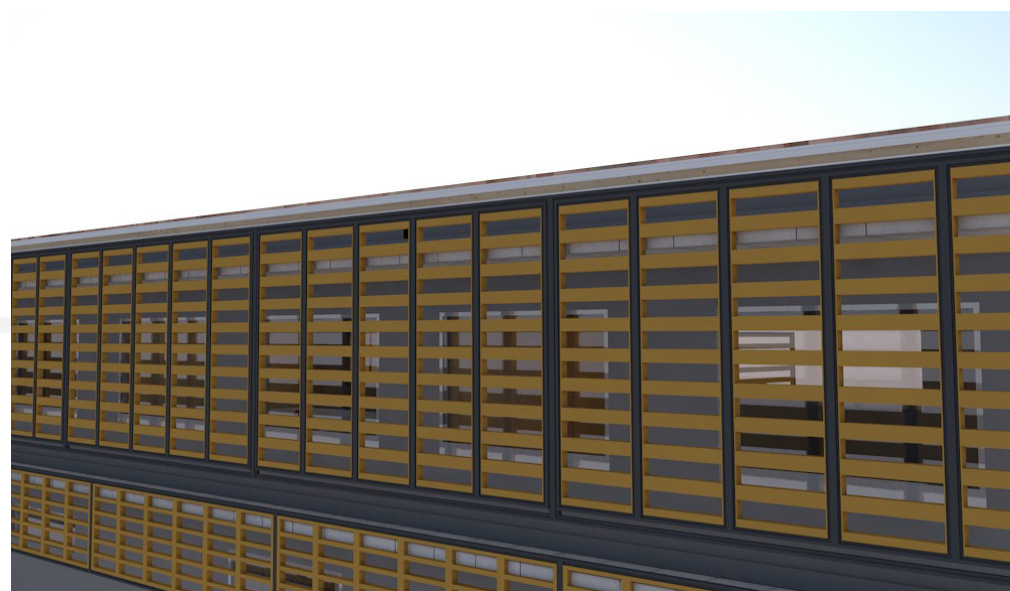
## First Condition : Opened Facade



Based on the test results for the open facade conditions, the highest illuminance condition shows above 900 lux at perspective. more than 80% of the test results show the intensity of numbers above 500 lux.



## Second Condition : Closed Facade



Based on the test results for the closed facade conditions, the highest illuminance condition shows above 600 lux at perspective. But the average light intensity is quite reduced and controlled to be in the range 400-500 lux

### Conclusion

The application of secondary skin facades in the community area is sufficient to reduce direct sunlight entering the room area so that the comfort of the glare is more controlled and the room can be optimally used. The application of hinged to the facade also has the advantage that the facade is not rigid and can be given adjustments according to user needs.

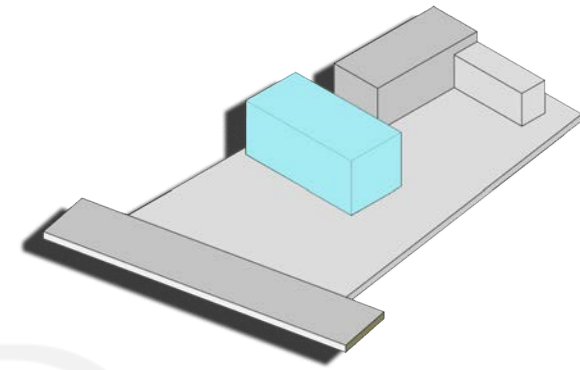


### 3.9.3 Reverbration Time Calculation

The most widely known room acoustic parameter is Reverberation Time (RT). Reverberation time is often used as an initial reference in designing room acoustics according to the function of the room. Reverberation Time shows how long sound energy can last in the room, which is calculated by measuring the decay time of sound energy in the room.

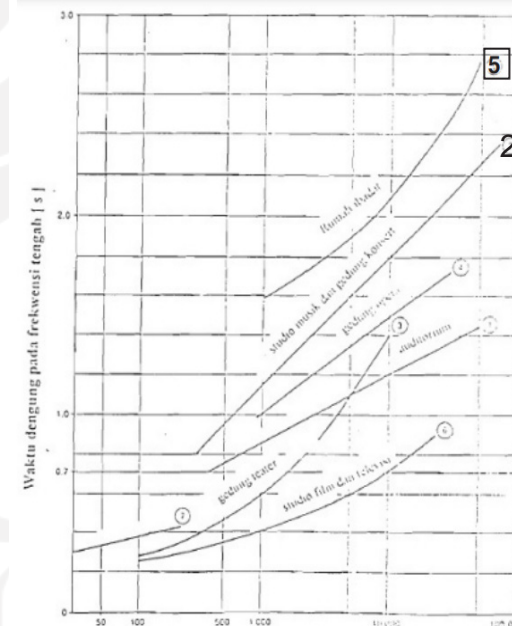
Each room has different requirements to determine the standard reverbration time depending on the type of activity and function of the room. In the case of this project, the measurement of the acoustic reverberation time of the room is carried out in the **indoor event space** which is used as a space for music performances, discussions, film screenings and exhibitions.

According to the SNI-03-6368-2000, there is a reverbration time that we need to fulfill in terms of acoustic. Based on the SNI or regulation not every space function has a standard of reverbration time. In this case of indoor event space or the auditorium has standard chosen for the “Ruang Konser dan Resital” with a number of reverbration time 0.8 - 2.2.



**Indoor Event Space**

Jenis Hunian ---	Tingkat Bunyi Yang Dianjurkan		Waktu Dengung (T) Yang Dianjurkan [detik]
	Baik [dBA]	Maksimum [dBA]	
1	2	3	4
<b>6. Bangunan umum</b>			
Bandara :			
- Ruang keberangkatan	45	60	-
- Ruang pengambilan koper	45	60	-
- Ruang pemeriksaan keberangkatan	45	50	-
Galeri seni	40	50	-
Auditorium :			
- Restoran teater dan kabaret	30	30	Kurva 3
- Ruang konser dan resital	20 NR	25 NR	Kurva 2
Balai sidang dan konperensi			
• Tanpa sistem tata suara			
- s/d 50 orang	30 NR	35 NR	Kurva 1
- 50 sampai 250 orang	25 NR	30NR	Kurva 1



**Gambar 1**  
Waktu Dengung Rata-rata

**Figure 2.26** Reverbration time standard  
Source : SNI-03-6368-2000

#### Reverbration Time Calculation Formula

$$RT = \frac{0,05 \times V}{.a}$$

$$.a = \sum S \times \alpha$$

RT = Reverbration Time  
V = Room Volume (ft<sup>3</sup>)  
.a = Total Sound Absorption  
S = Surface Area (sqft)  
α = Sound Absorption Coefficient

## Indoor Event Space Reverbration Time Calculation



Total Sound Absorption Calculations, Reverbration Time in room  
 Based on the formula in reference to the theory of room acoustics to predict the acoustic performance of space  
 Name of Room = Indoor event space  
 Function = Music Performance, Film Screening, Exhibition, Discussion Event  
 RT standard = 0.8-2.2

No	Name	Area/vol	Units					$\alpha$	Total Reverbration time (SCHEMATIC DESIGN)
		Quantities	Units						
<b>I GENERAL DATA</b>									
	Space Volume	22987,536	feet cubic						
A	Floor Area	1229,28	square feet						
B	Wall Area	2640,44	square feet						
C	Ceiling Area	1229,28	square feet						
<b>II INTERIOR Data</b>									
A	Floor Area								
1	Concrete flooring	1229,28	square feet						
2	wooden flooring	1229,28	square feet					0,1	122,928
3	Carpet on concrete	1229,28	square feet					0,6	
....	....								
B	Wall Area								
1	Painted brickwork	2640,44	square feet						
2	Carpet/Fabric on foam (Absorber)	813	square feet					0,7	569,1
3	harwood Diffuser	581	square feet					0,3	174,3
4	Hardwood Reflector	439,7	square feet					0,3	131,91
....	....								
C	Ceiling Area								
1	Gypsum Board	1229,28	square feet						
2	Hardwood reflector	1229,28	square feet					0,3	368,784
....	....								1367,022
<b>Result of RT</b>								RTA	<b>0,84078881</b>
<b>Conclusion</b>									
RT Result >RT standar Failed									
RT Result <RT standar Success									

### Conclusion

Based on the final results of the reverberation time calculation, the result of schematic design produces a number that successful in closed to the reverbration time standard because they achieved the reverbration time standard which is 0.8



**4**

**Design Result Description.**





#### 4.1 Design Result

The design of this creative hub was initially targeted as a response to limited land and various kinds of creative activities that have taken place or as future developments for this creative hub. The design problem was attempted to be responded to by implementing space flexibility, starting with the implementation of the design in the form of combining functions and being applied to the formation of new spaces based on the type of activity and also the users. Thus, the application of space flexibility can be in the form of a space program or an application in the form of interior design of space and also the response of space to site conditions.

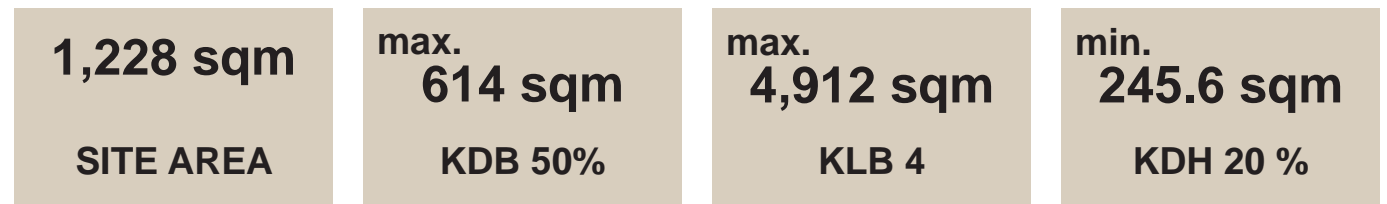
The next problem that is formed is how the spaces that have been formed based on the space flexibility program can be optimally used. In the indoor event space, this space has a problem as a space that can accommodate various indoor activities so that it is responded by applying interior-

space flexibility in the form of retractable stages and also retractable seating stands as well as the application of acoustics for optimal room conditions. Then in the outdoor area how the outdoor space can also be an event area which is then responded to by the application of outdoor furniture in the form of seating stands that are seamless and integrated with stair access so that it aims to save space. Then the problem in the community room where the number of users fluctuates so that the application is in the form of a space area that can be connected or not according to the needs and the application of an adjustable facade in response to site conditions so that the space can be used optimally.

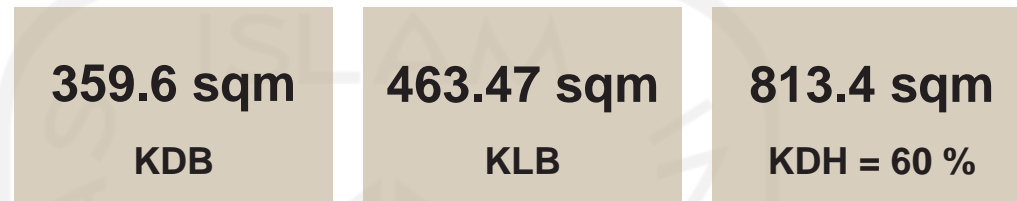
In the design of this creative hub there are factors of consideration with limited land and also a variety of activities.

The need and use of space related to the size of the space and the total number of buildings in each are presented based on space zones based on space flexibility, type of activity and also the number of users in these activities.

## Regulation

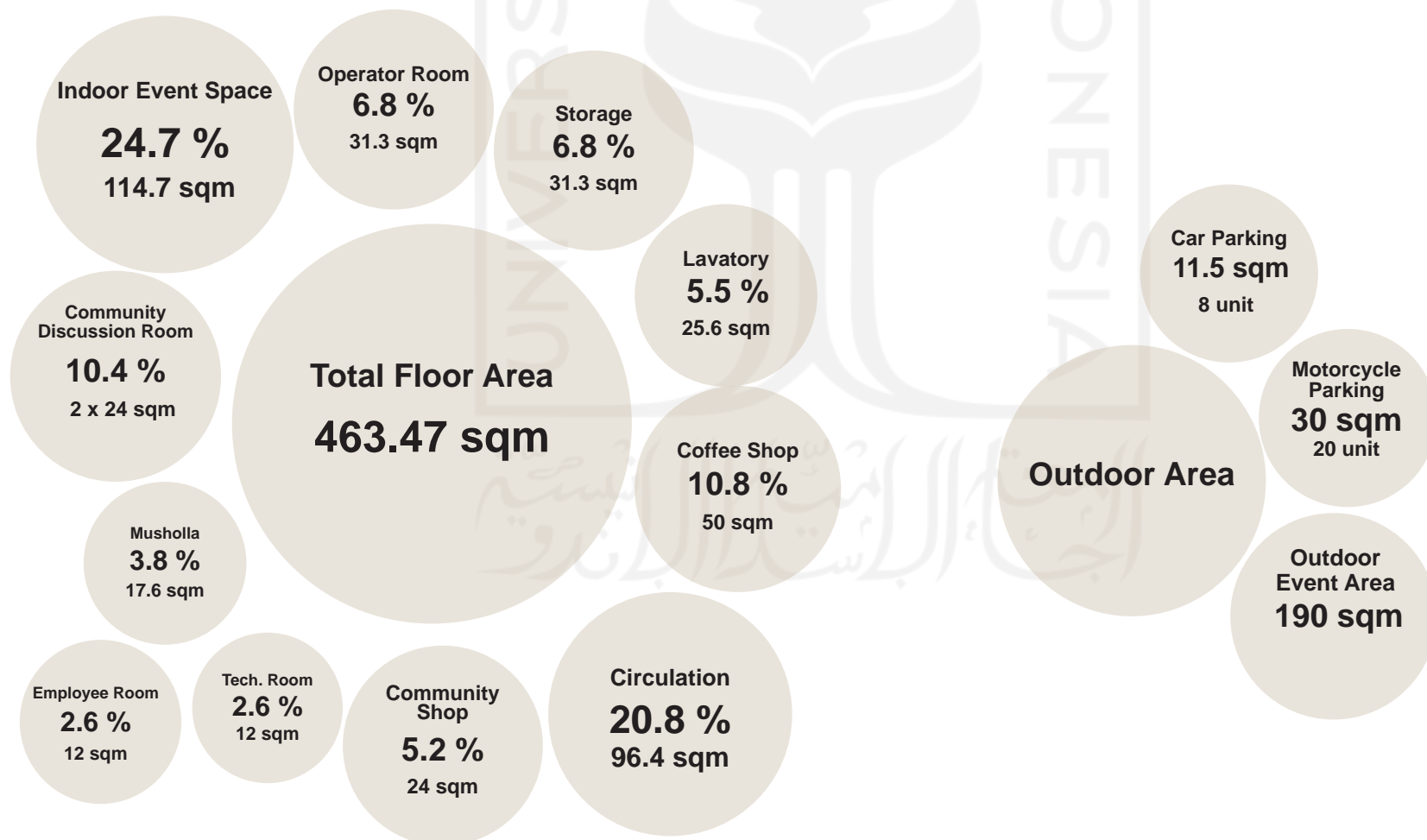


## Design Result



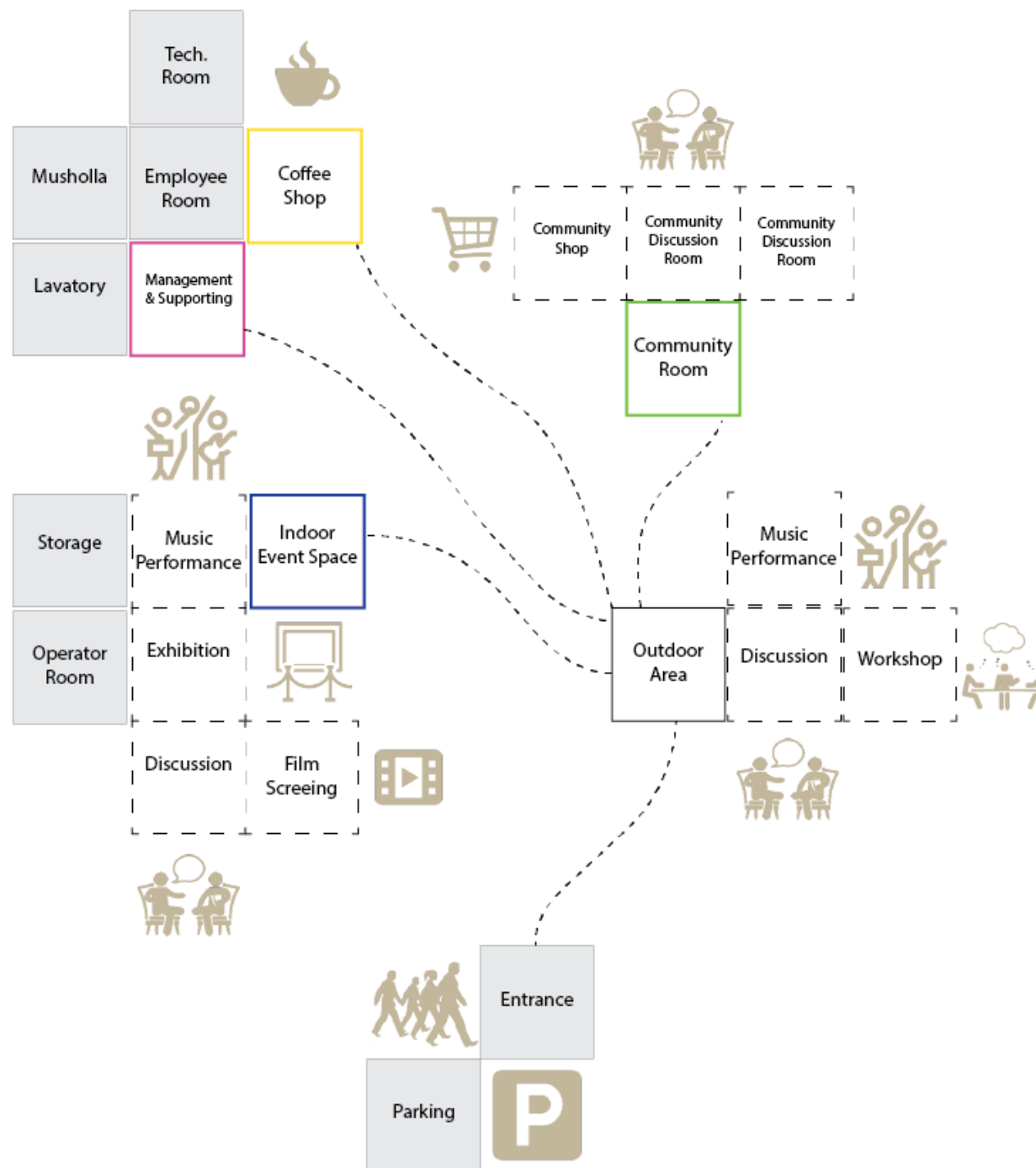
\*KDB = Building Coverage Ratio  
\*KLB = Floor Area Ratio  
\*KDH= Green Coverage Ratio

## Property Size





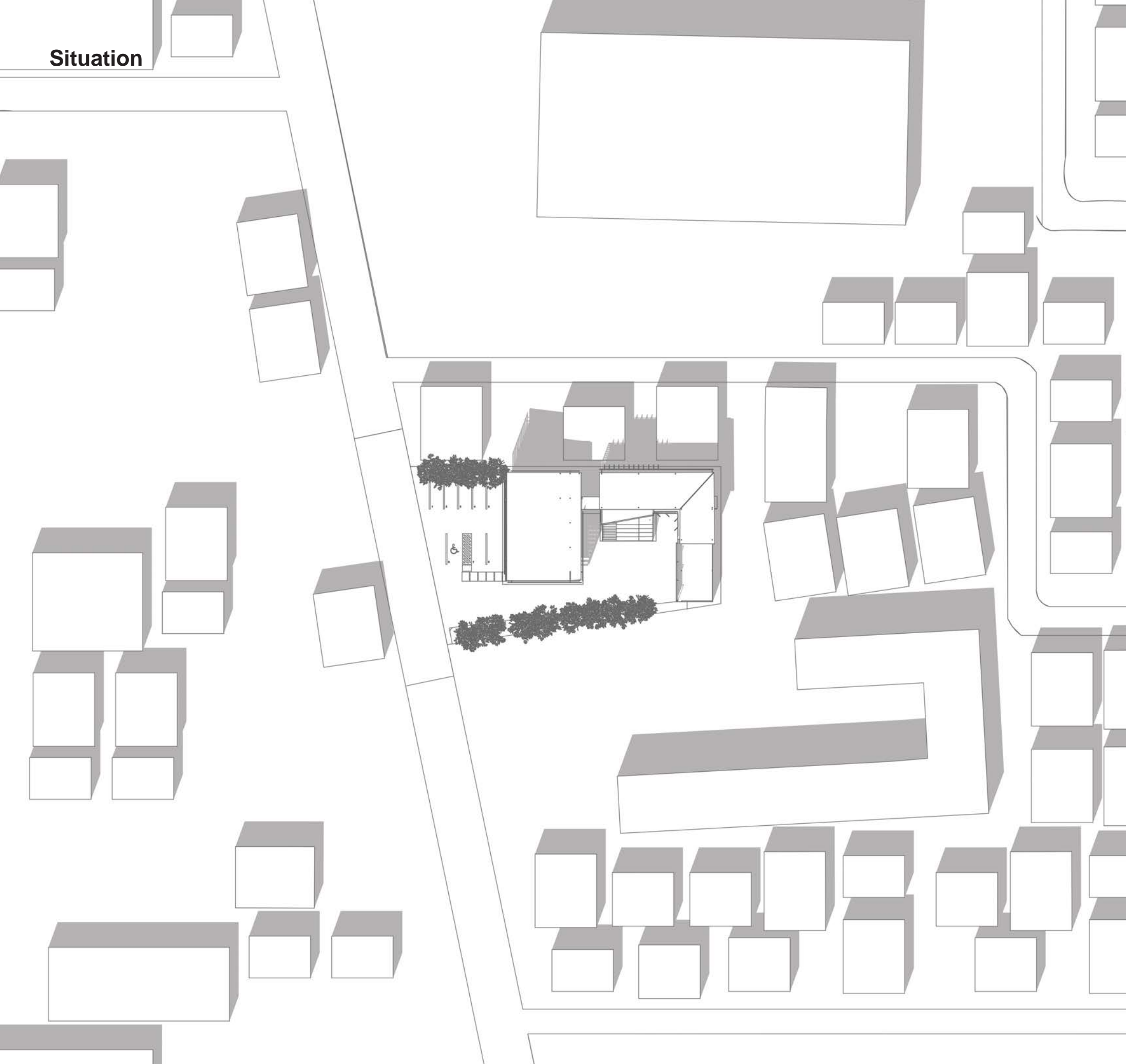
## Room Programming



This space program was developed based on analysis to create a form of room programming based on activity and also consideration of user circulation. To answer the problem formulation to accommodate various activities on limited land. The linear circulation program centered on the outdoor area becomes the main focus on circulation between zones which is divided based on space flexibility and also the type of activity and the number of users or activity participants.



Situation





## Site Plan

Site design that can respond to existing conditions which are very limited in the area of access and circulation but also make the outdoor area a flexible area and can also be used as an outdoor event area because it uses a grass block pavement so that it remains an absorption area but if it is raining or wet still not muddy and respond to the opportunity of flood. And also space flexibility implementation on the outdoor space there is a seating stands that seamless with the stage access to save the space on outdoor area The use of tall pine tree vegetation has a function as a border between-

the creative hub site and the surrounding area.

The building design is made following the direction of the main circulation of the site which extends from south to north which makes the outdoor area between the 2 building masses a connecting point between space functions.

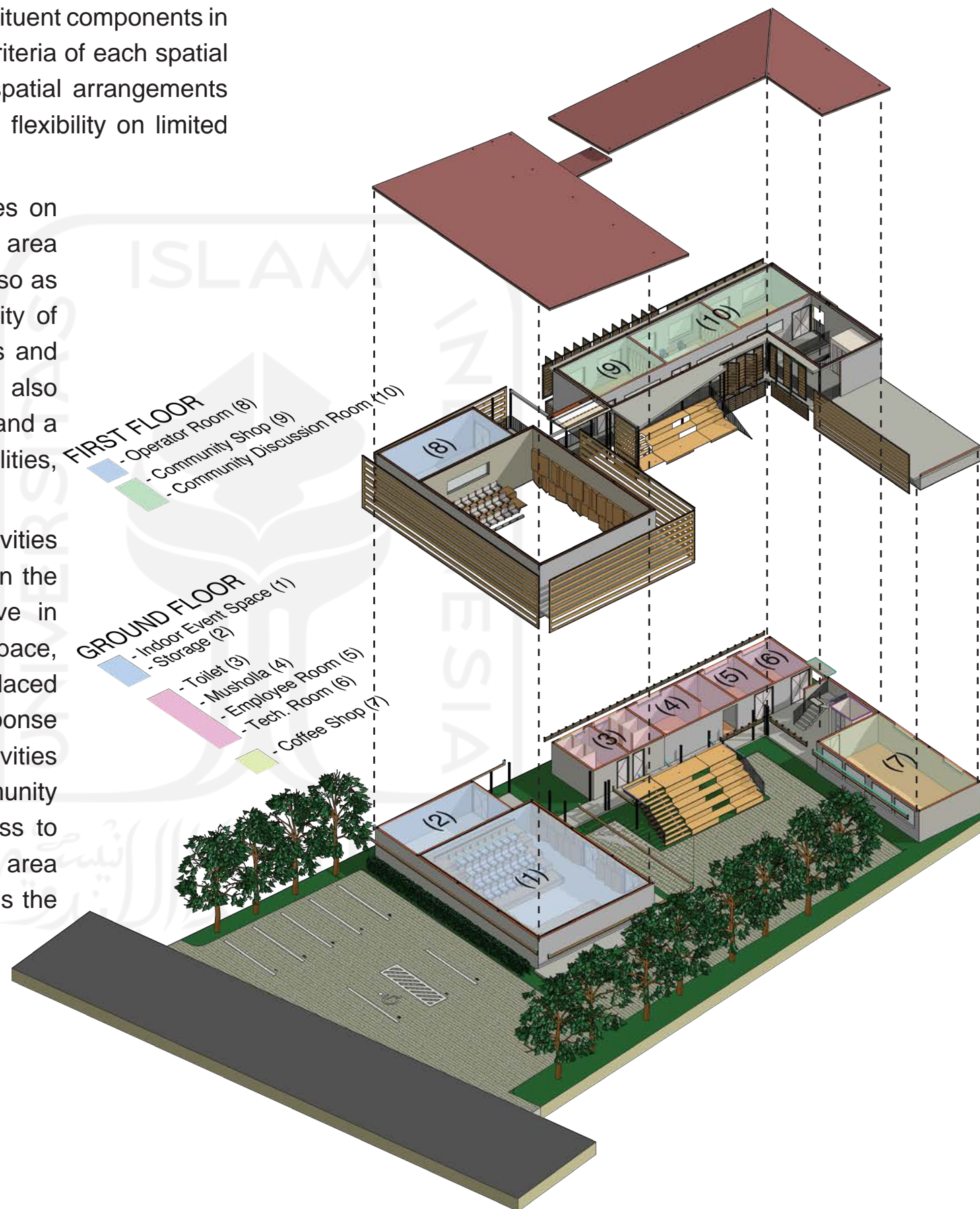


## Floor Plan Design

Shows integration in each space, related spatial functions horizontally and vertically, space constituent components in accordance with the limitations and criteria of each spatial function with spatial programs and spatial arrangements that refer to the application of space flexibility on limited land of the creative hub.

The ground floor area design focuses on activities and events that require an area that can accommodate many people so as to facilitate the circulation and mobility of people, such as indoor event spaces and outdoor areas. However, there are also supporting areas such as a lavatory and a prayer room as well as additional facilities, such as coffee shop.

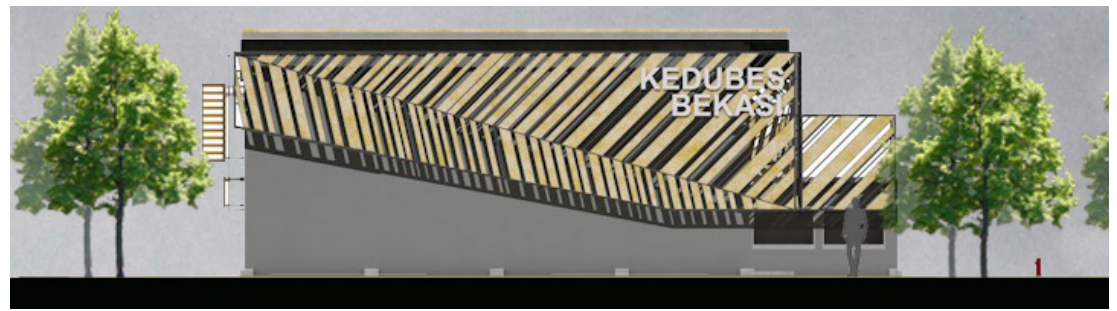
The first floor area is functioned for activities that have fewer users and focuses on the community as users remain creative in this hub, but there is also a general space, namely a community shop which is placed on the first floor area because as a response to limited land and also daily activities must connected to the office or community discussion room so that direct access to the store is needed from the outdoor area to make it easier for visitors to access the store.





## Elevation

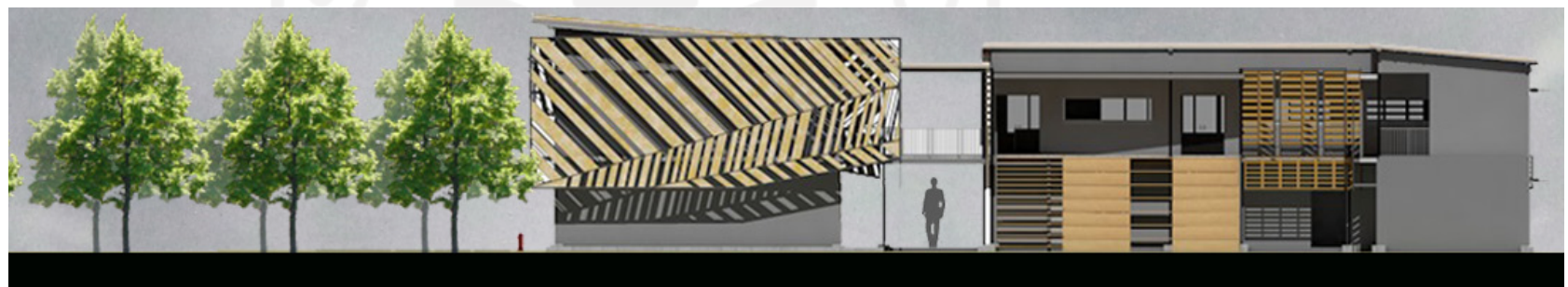
Elevation with a horizontal line character formed from secondary skin material which is useful for reducing direct lighting as a form of daylighting optimization, especially in community rooms that exist from the west elevation and also as a response to the shape between buildings so that they have unity in the form of elevation.



South Elevation



North Elevation



East Elevation



West Elevation

## Section

In this section drawings shows the integration related to functions between spaces including; indoor event space, outdoor area, community room and supporting space areas. This section also explains the building components that respond to existing problems, including the use of secondary skins and also the acoustic interior of the indoor event space.



**A-A' Section**



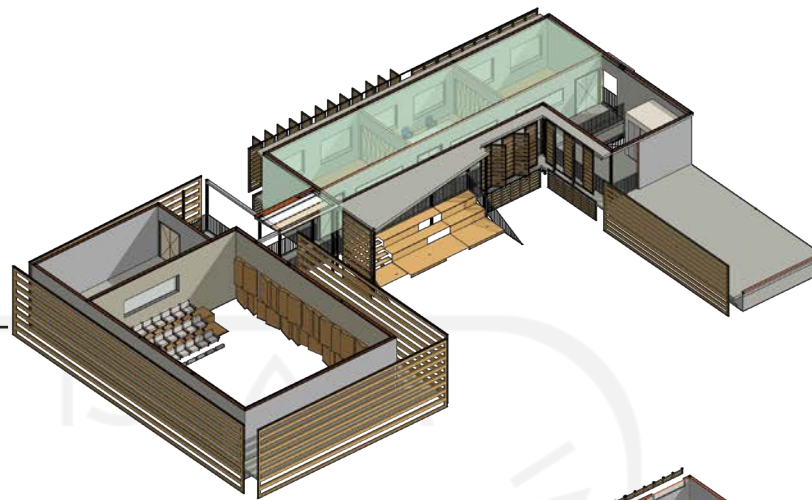
**B-B' Section**



## Interior Design

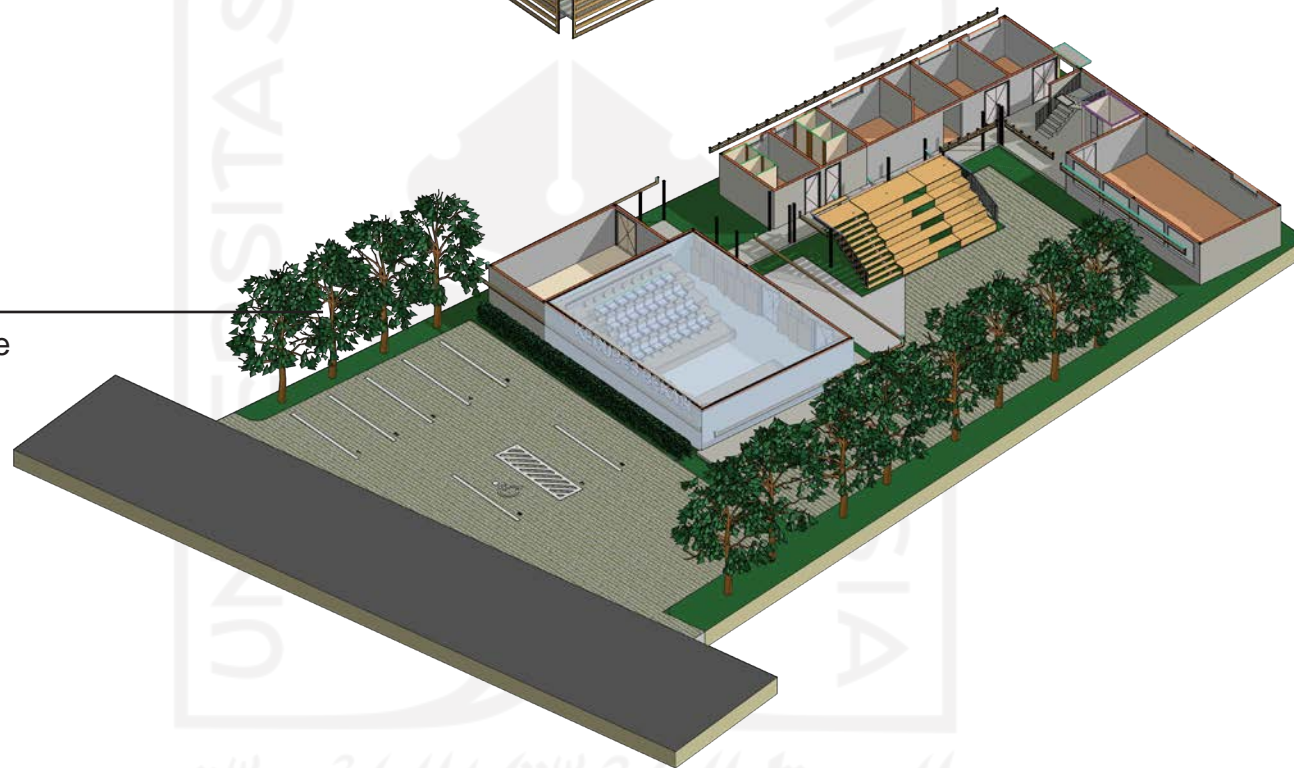
### FIRST FLOOR

Community Room



### GROUND FLOOR

Indoor Event Space

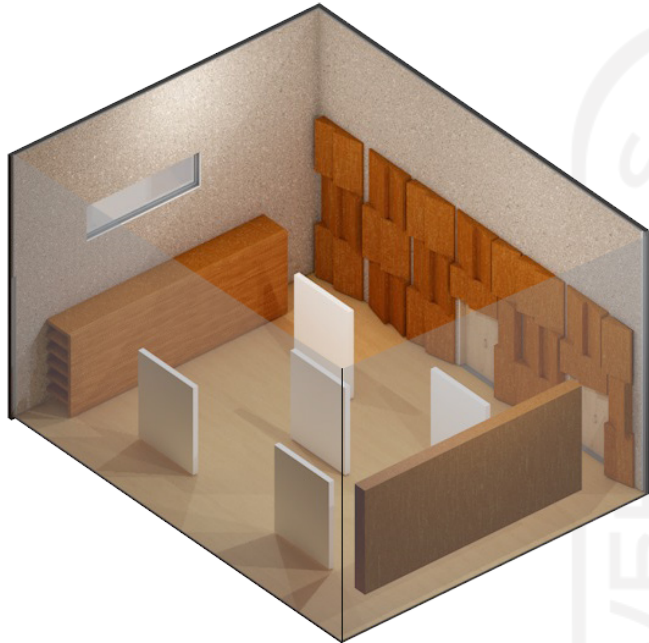


This Interior Design relates to the size and space requirements, in the space that is the main activity, namely the Indoor event space and also the Community Room. Application of the concept of space flexibility in interior design with the aim of responding to various kinds of creative activities in the indoor event space, then fluctuations in the number of users and types of activities that can change according to the wishes of users in the community room.

Schemes that allow space to be flexible following activities and also the application of architectural architecture to the interior are a form of response to various kinds of creative hub activities on limited land and also ways to optimize space functions.



**Indoor Event Space** as an area of creative activity that is carried out and is indoor. This area is located on the ground floor of the first building mass and also has direct access from the outdoor area or plaza. Activities that this space can accommodate include; exhibitions, musical performances, film screenings, discussion events. There are several schemes regarding the layouting based on the space flexibility approach to respond to the variety of activity based on each of space layout requirement and needs.



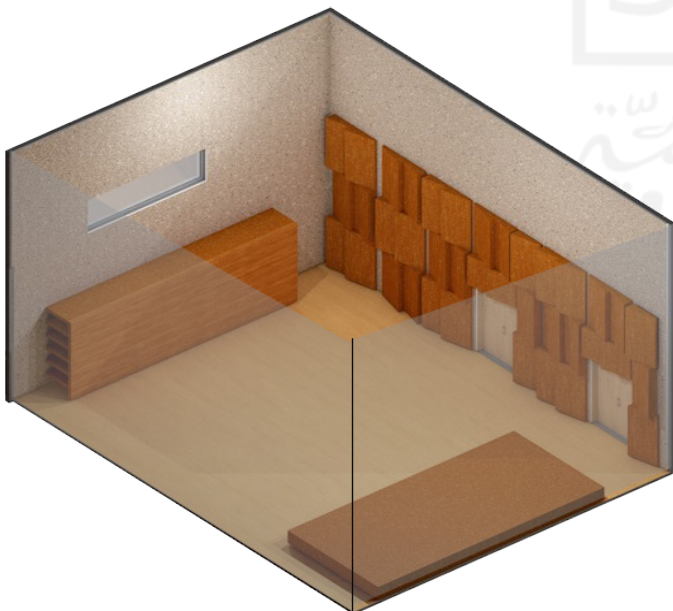
#### **Exhibition**

Weekday and holiday

Mon - Thu 11.00 - 17.00

Frid 11.00 - 20.00

**indoor event space conditions** with open plan or universal space flexibility when seating stands and the stage is closed so that the open area with additional partition can be used for activities such as exhibitions



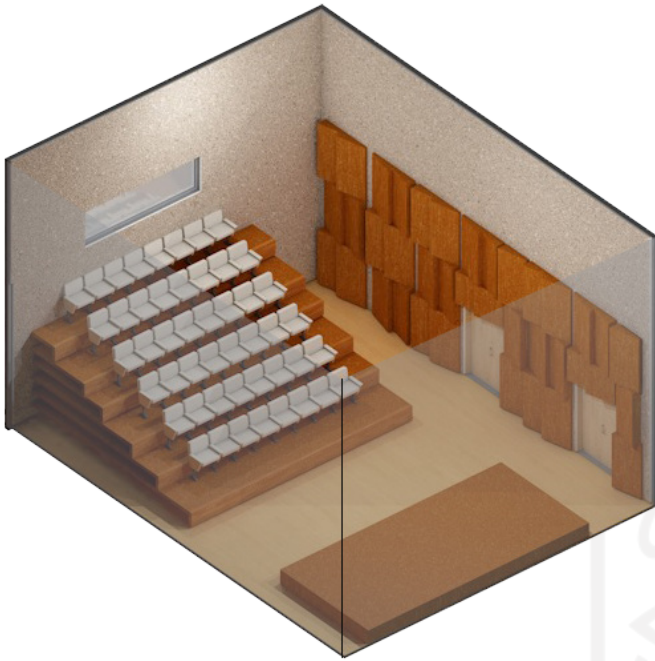
#### **Music Performance**

Every Saturday and Sunday afternoon or evening

13.00 - 15.00

16.00 - 18.00

**indoor event space conditions** with open plan or universal space flexibility when stage retractable in the condition of open.



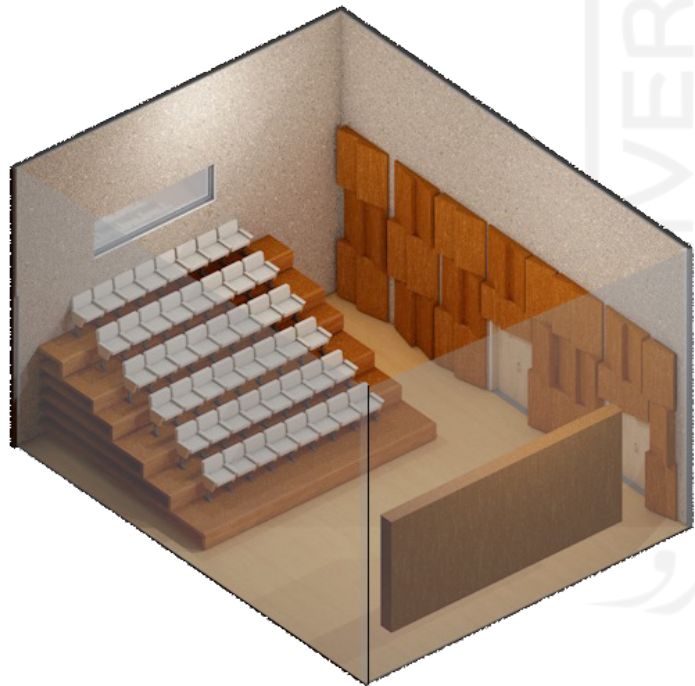
### **Workshop / Discussion**

Every Saturday and Sunday afternoon or evening

13.00 - 15.00

16.00 - 18.00

indoor event space conditions with open plan or universal space flexibility when seating stands and the stage retractable in the condition of all open.

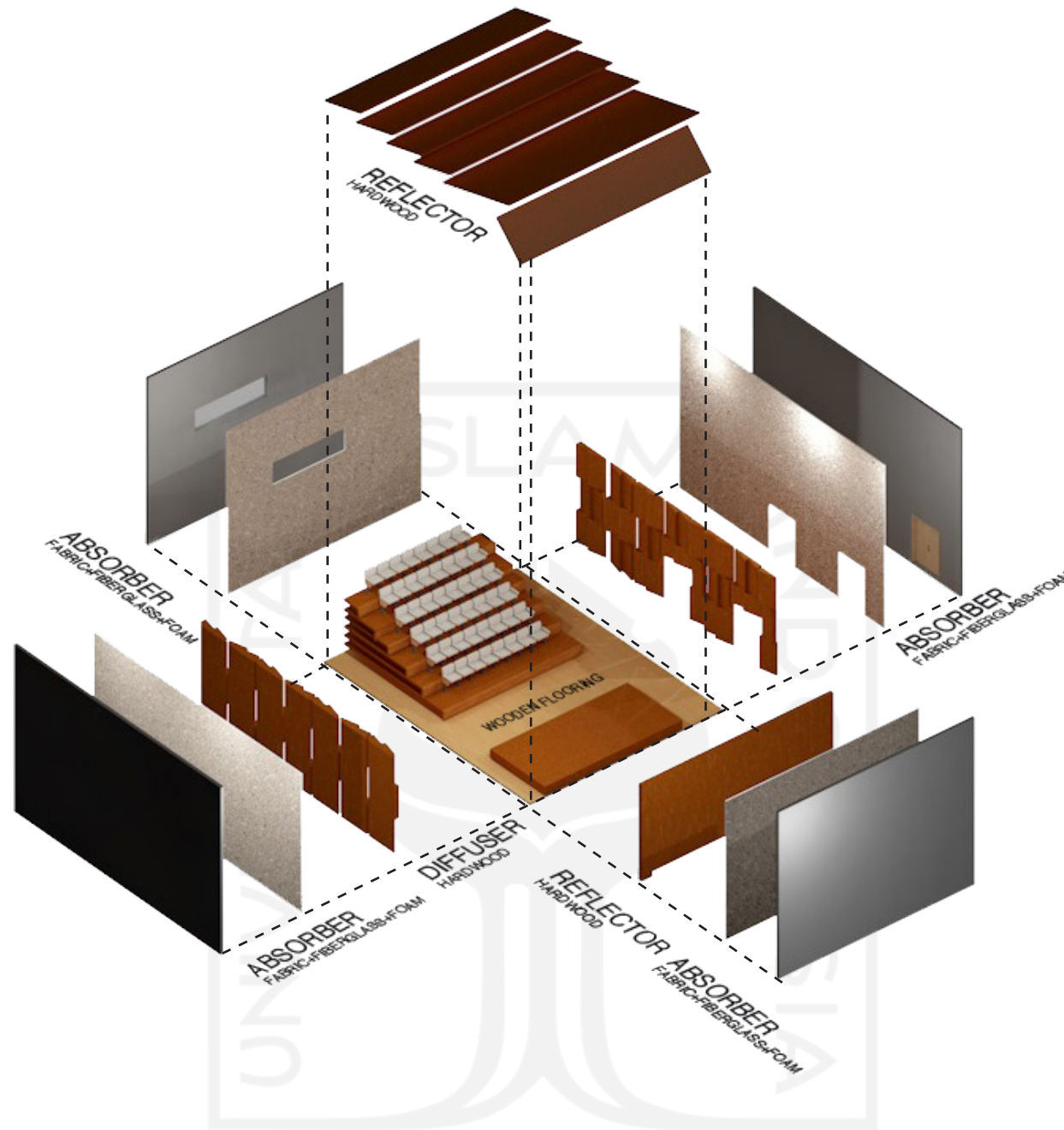


### **Film Screening**

Every Saturday night

18.00 - 20.00

indoor event space conditions with open plan or universal space flexibility when seating stands retractable in the condition of open.



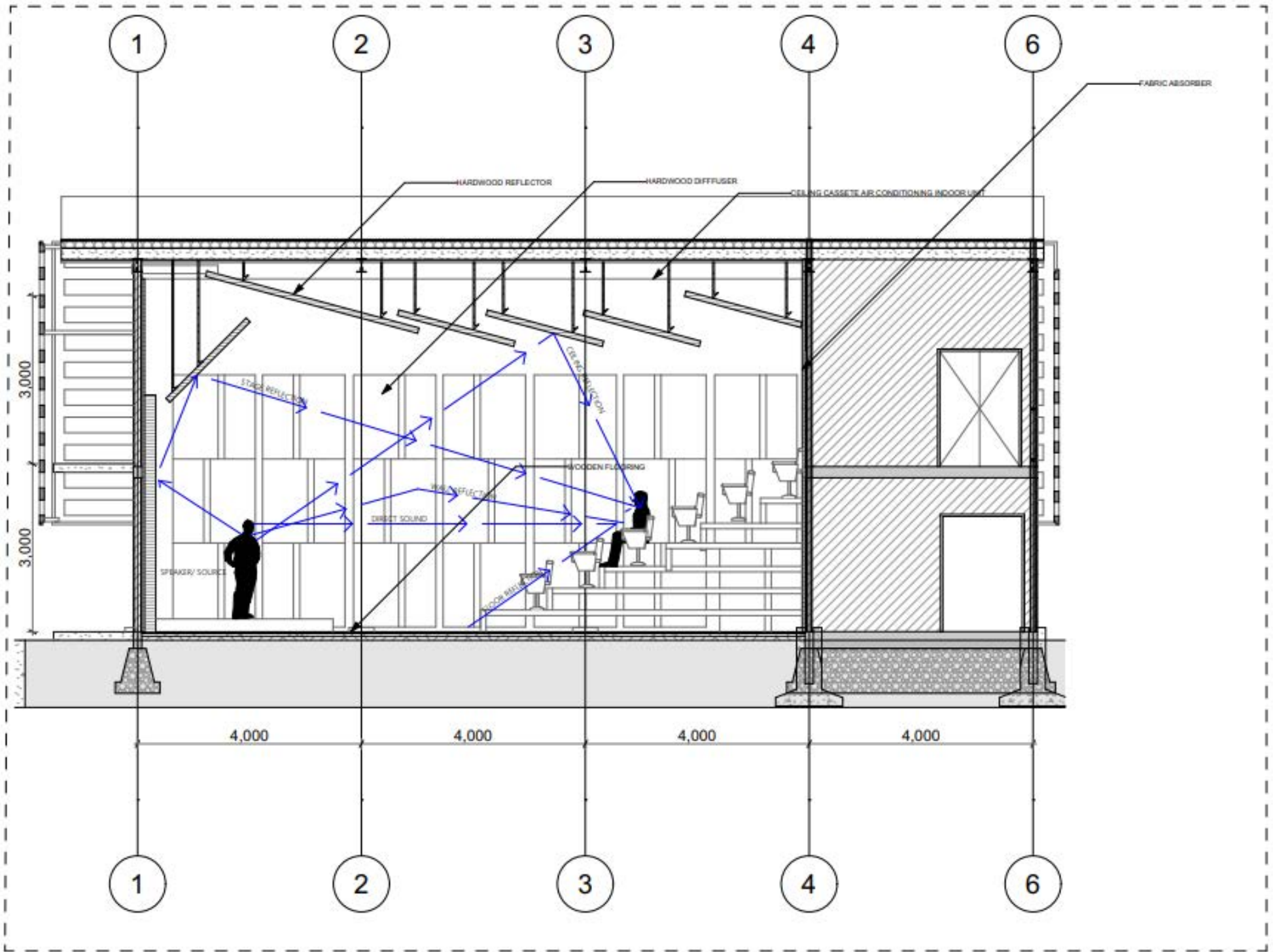
## Interior Acoustic on Indoor Event Space

**Indoor Event Space** is a space used for activities such as music performances, discussions and also film screenings that require good sound optimization. To avoid acoustic defects, interior acoustic planning is needed so that the reverberation time meets the standard and does not become an acoustic defect so, it will respon to achiceve the optimiza. The steps taken are in the form of planning acoustic materials such as diffusers, absorbers, and reflectors that are placed in areas of the **indoor event space**, such as; ceiling, floor and walls.

- **Reflector**  
This acoustic material functions as a reflection of the sound source towards the audience, so the audience can hear the sound easily.
- **Absorber**  
This acoustic material functions as an absorber of reflected sound so that acoustic defects do not occur, can also function as insulation that the sound defect can't go outside the room or space
- **Diffuser**  
This acoustic material functions as a spreader of reflected sound so that acoustic defects do not occur.



## Sound Distribution on Indoor Event Space

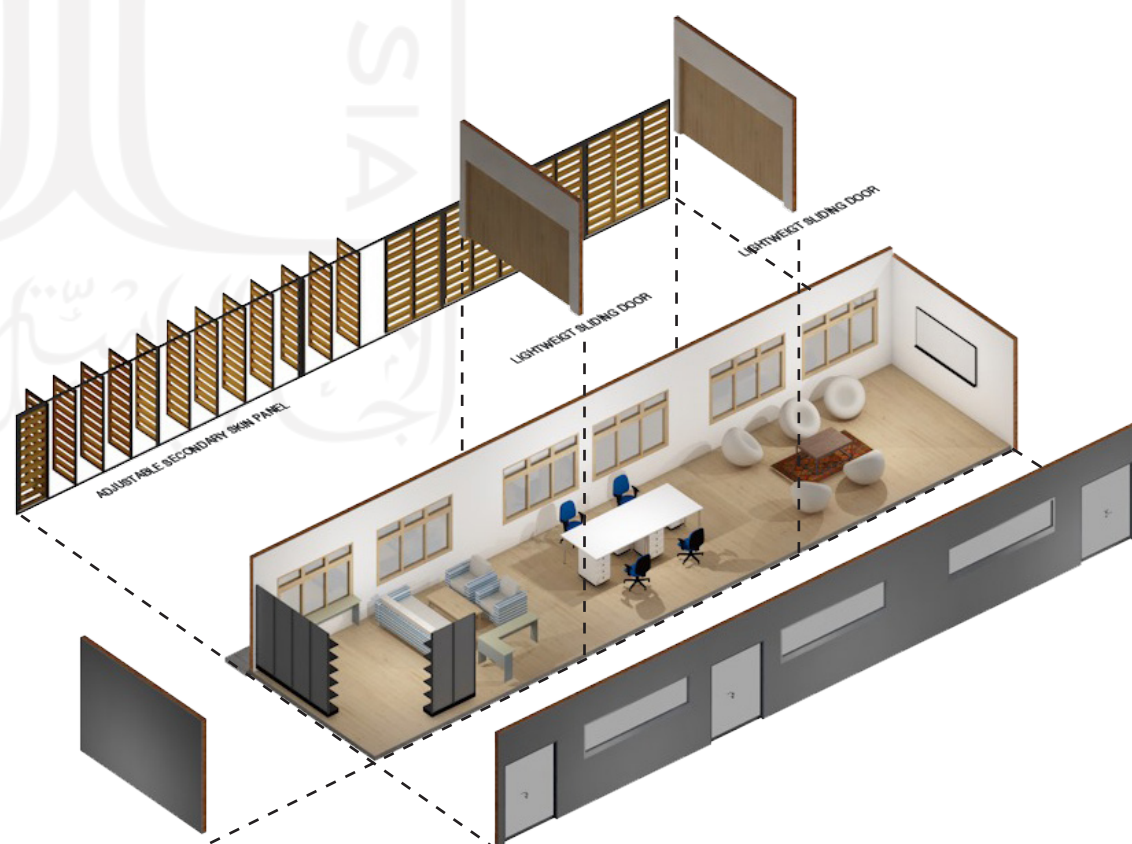
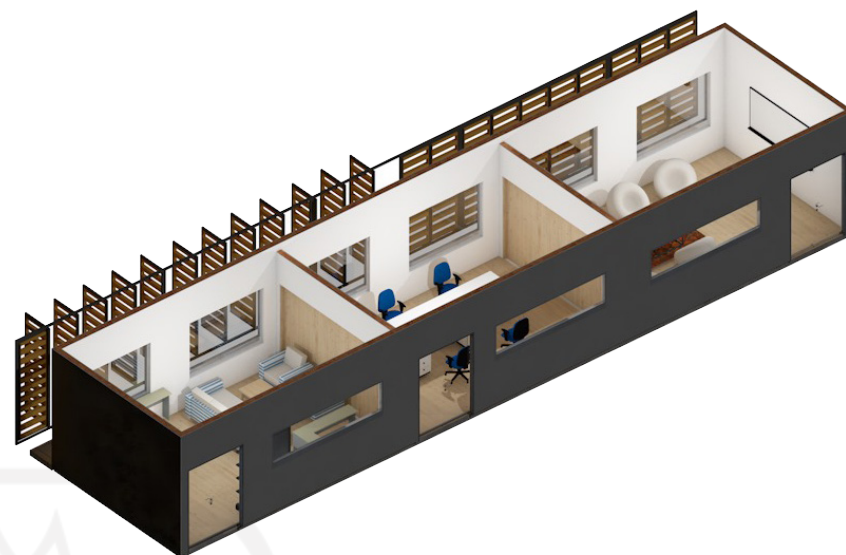


INDOOR EVENT SPACE SOUND DISTRIBUTION  
SCALE 1:50

There are 5 sound distribution schemes, the first is sound reflection from the sound source to the ceiling with the application of the design in the form of false ceiling, then there is stage reflection in the form of a sound source that is reflected to the stage wall area and false ceiling, then there is stage reflection in the form of a sound source that is reflected to the stage wall area and false ceiling before being reflected to the audience, then there is also wall reflection, direct sound and also floor reflection. The sound reflections are in line with the choices of acoustic materials in the design results.

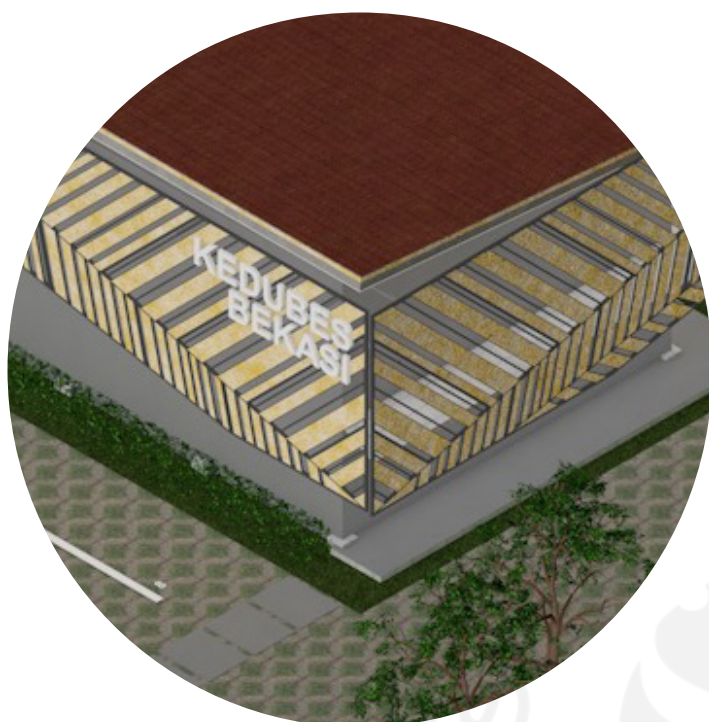
**Community Room** is a space related to the permanent use of the creative hub, namely the “KEDUBES Bekasi” community. In its design, there are three parts of the room consisting of 1 shop room and 2 discussion rooms. Fluctuations of users or community members who attend certain situational problems in this space so the concept of space Flexibility responds by providing lightweight sliding doors as a separator between each spaces so that the amount of space can be adjusted according to situational activities and user desires at certain times.

Follow-up problems or the other problems that responded which related to optimizing the use of space, especially those related to daylighting. To respond to this problem, there is an adjustable secondary skin with hinges on the panels that can be adjusted according to the user’s wishes for daylighting in the three rooms in the **community room**.

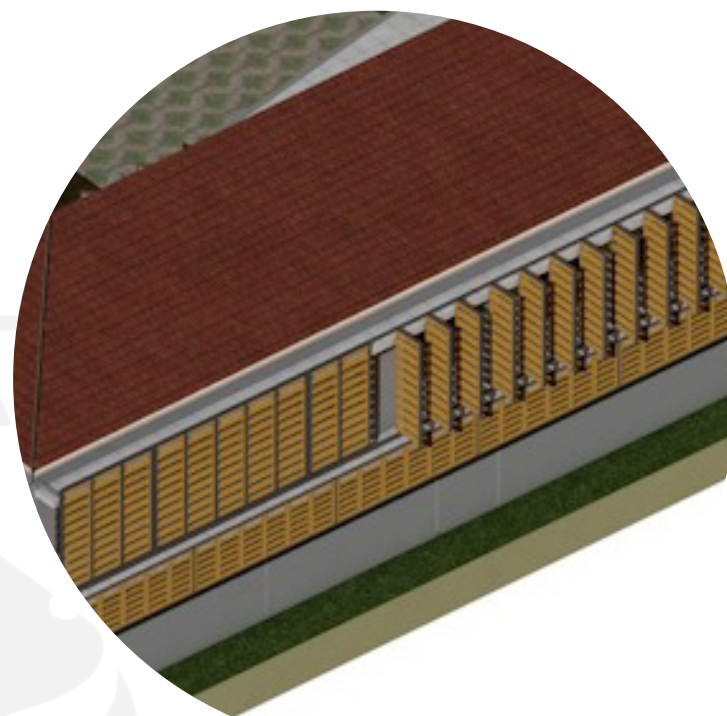




## Building Envelope Design



First Building Mass Envelope



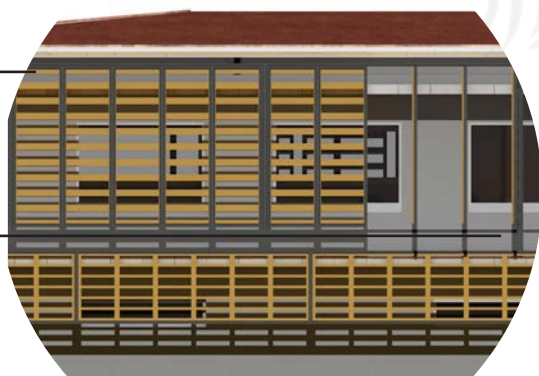
Second Building Mass Envelope

The building facade formed is a aluminium secondary skin in the form of a horizontal linear line with a concept of floating facade to make it attractive and simple that functions as shading devices to reduce the sunlight and visual privacy and also serves as a form of alignment of the building appearance between different building masses.

On the secondary skin side that covers the opening and also the corridor, the secondary skin module panel is slightly different because there is a hinged which becomes the facade of the secondary skin that can be opened and closed as responsive space flexibility.

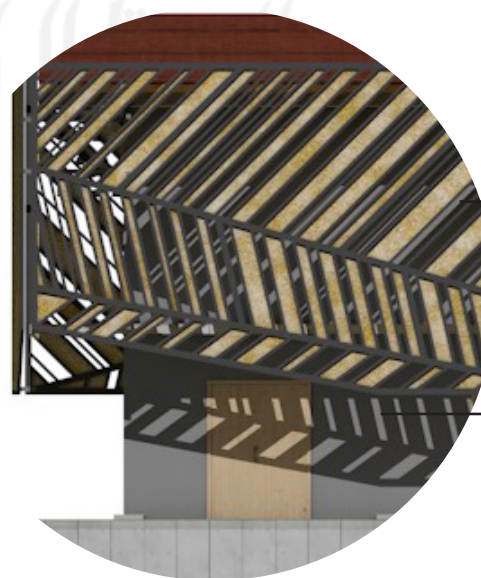
Adustable  
Alumunium Panel  
Secondary Skin

Paint Finished  
Light grey



Alumunium Panel  
Secondary Skin

Paint Finished Light grey



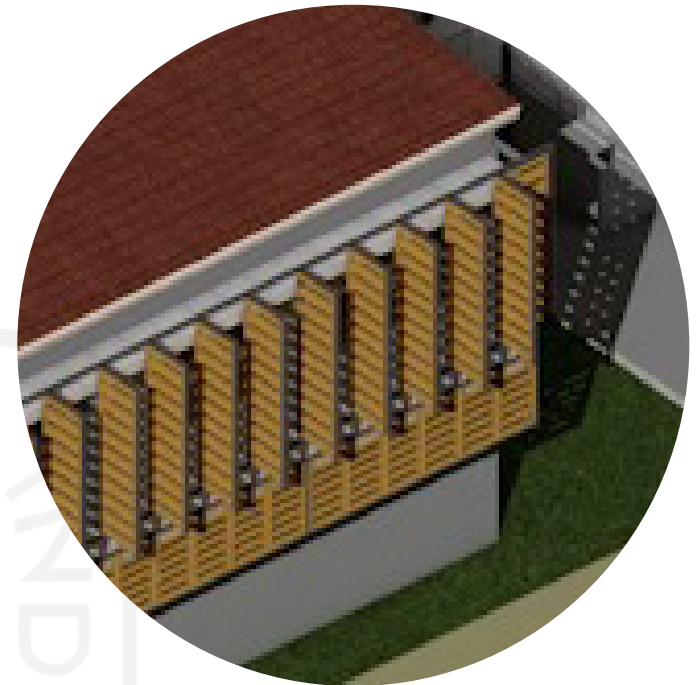


## Architectural Detail

### Building Facade

The modular facade with hinged secondary skin that can be adjusted according to the user's wishes is used to reduce daylighting as a form of response to environmental conditions, especially during daytime conditions in the community room. The secondary skin module scheme that can be opened and closed is designed with a module size of 0.75 m wide and 2.5 m high, the material used is an aluminum panel supported by an iron frame that is forged to the wall and also the overhang of the building mass. so it can be concluded that the function of this secondary skin is as follows;

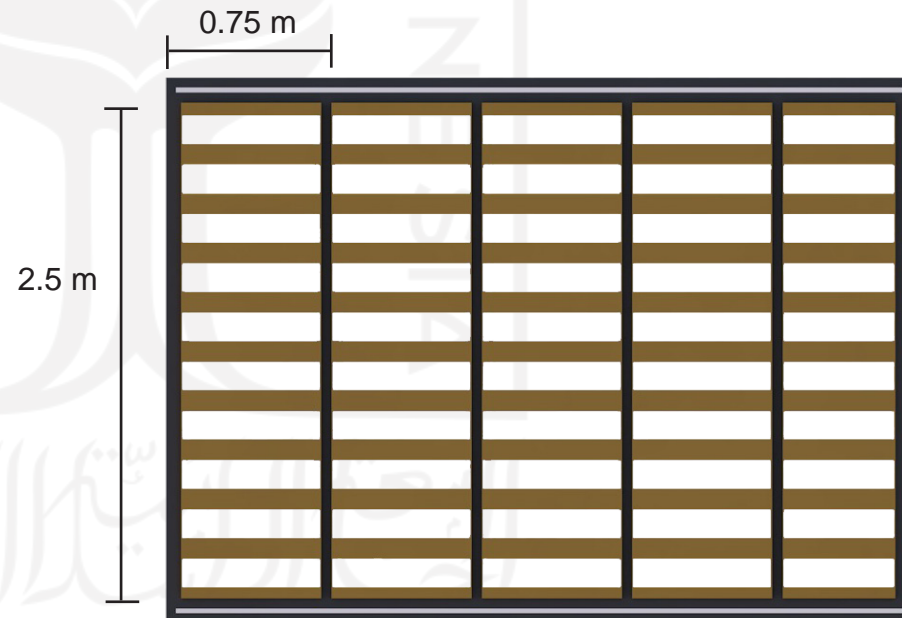
- Building Appearance  
as a form of harmony in the appearance of the building with other masses
- Reduce Daylighting  
reduce the incoming sunlight, especially during the day in the community room.



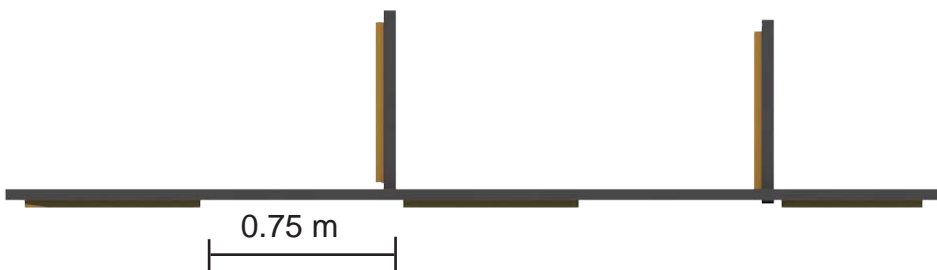
Second Building Mass Envelope



Secondary Skin Facade Module



Secondary Skin Module Elevation Detail

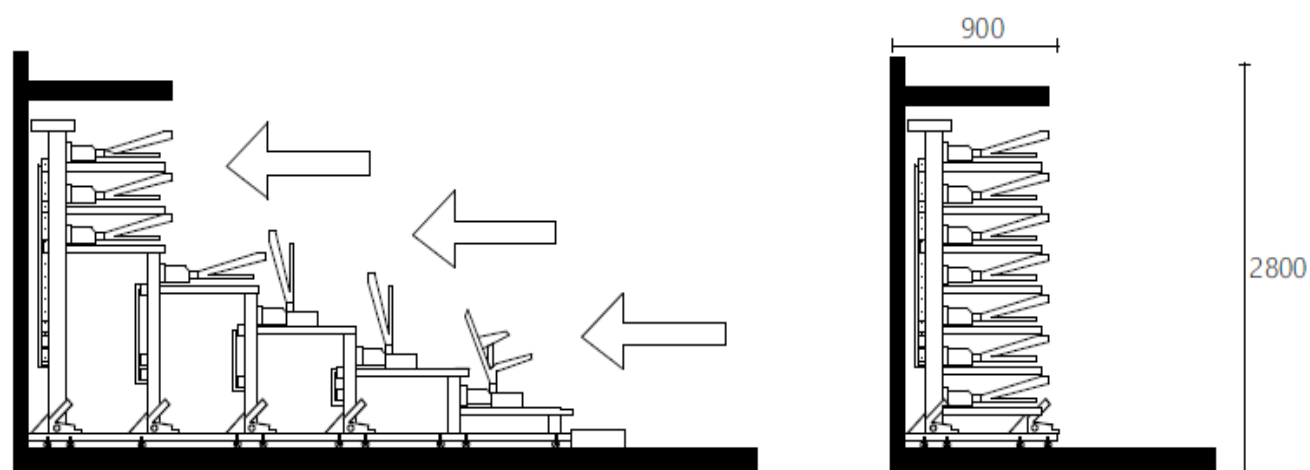


Secondary Skin Module Plan Detail

## Indoor Event Space

The indoor event space consists of several different functions and activities, namely; musical performances, exhibitions, discussion events and film screenings. However, the problems that exist in the four activities have different needs, especially in the interior configuration.

### Retractable Seating Stands



the process of retracting the audience seats

Retractable seating stands are the application of transformable space flexibility where the audience seats can be retracted or opened according to the user's needs or the type of activity that will be carried out in the indoor event space. seats can be opened if the user is going to hold activities that require audience seats such as discussion events and film screenings, but when the audience seats are not needed because the activities that take place require a flat area without benches, such as; exhibitions as well as musical performances with a standing audience.

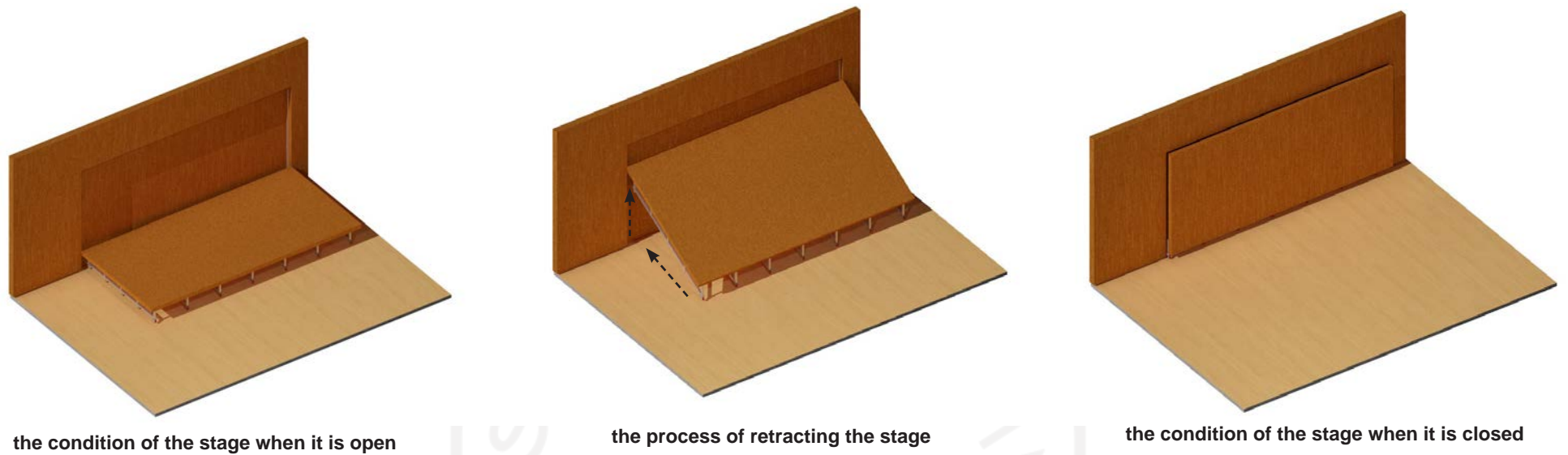


the condition of the audience seats when it is open

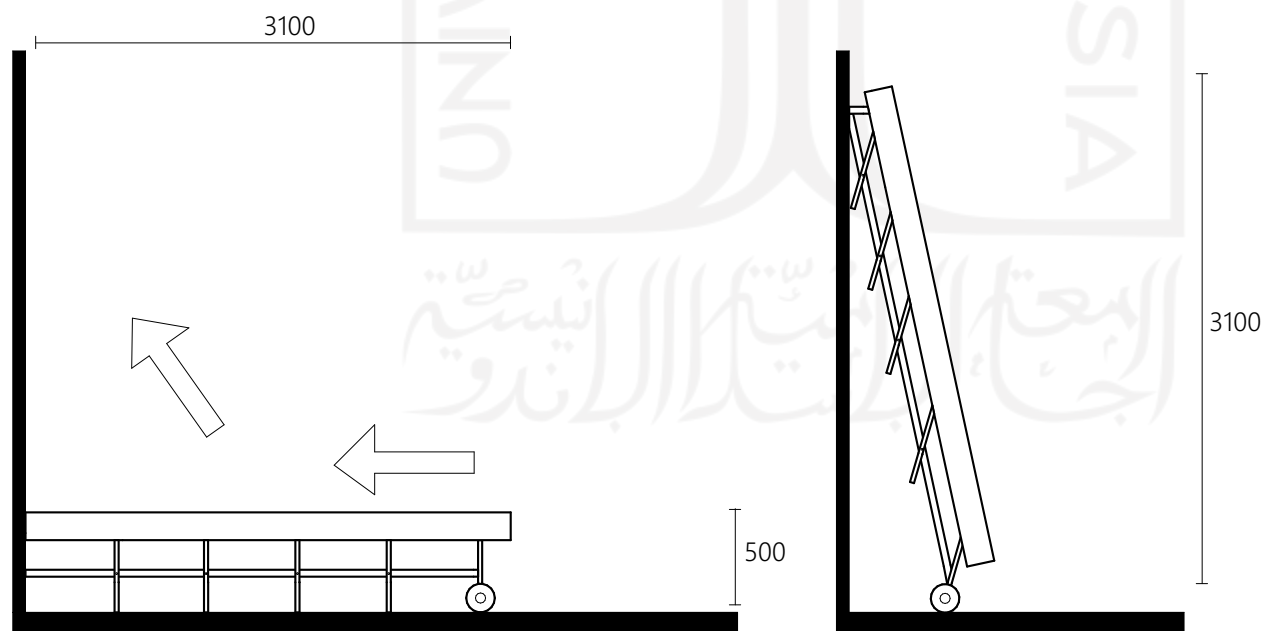


the condition of the audience seats when it is closed

## Retractable Stage



Retractable stage are the application of transformable space flexibility where the stage can be retracted or opened according to the user's needs or the type of activity that will be carried out in the indoor event space. The implementation of retractable stage system can save the space and it also can be a solution for being adapt on the condition of each activities that exist which the stage can be retract as a wall of the space.



the process of retracting stage



## Exterior

The building exterior shows a building design that responds to the limited land used as a creative hub area, which can be seen from the entrance access to the building which is integrated with the parking area, site entrance access and parking located next to the main road which is used as the main access to the site. Then visitors lead directly to the central area which functions as the outdoor creative hub area.

The application of secondary skin can also be seen as a response to the harmonious building appearance of the two building masses in this creative hub. there is also an adjustable facade on the second building mass as a form of response to optimizing daylighting in the community room.



Entrance and Parking of Creative Hub



Application of secondary skin on the first building mass



Application of Adjustable secondary skin on the second building mass



As a response to the various activities at this creative hub, space flexibility is applied to the outdoor area where the outdoor area can also be used as a location for discussion or music events. There is landscape furniture in the form of stairs that can also function as an audience sitting area.

Aside from being an audience seat, the stairs located in the outdoor area also function as direct circulation access leading to the community room and also the community shop, so that this area can be known and visited by creative hub visitors.



Condition of Outdoor Area



Condition of Outdoor Area



Connection between Outdoor Area and Community Room



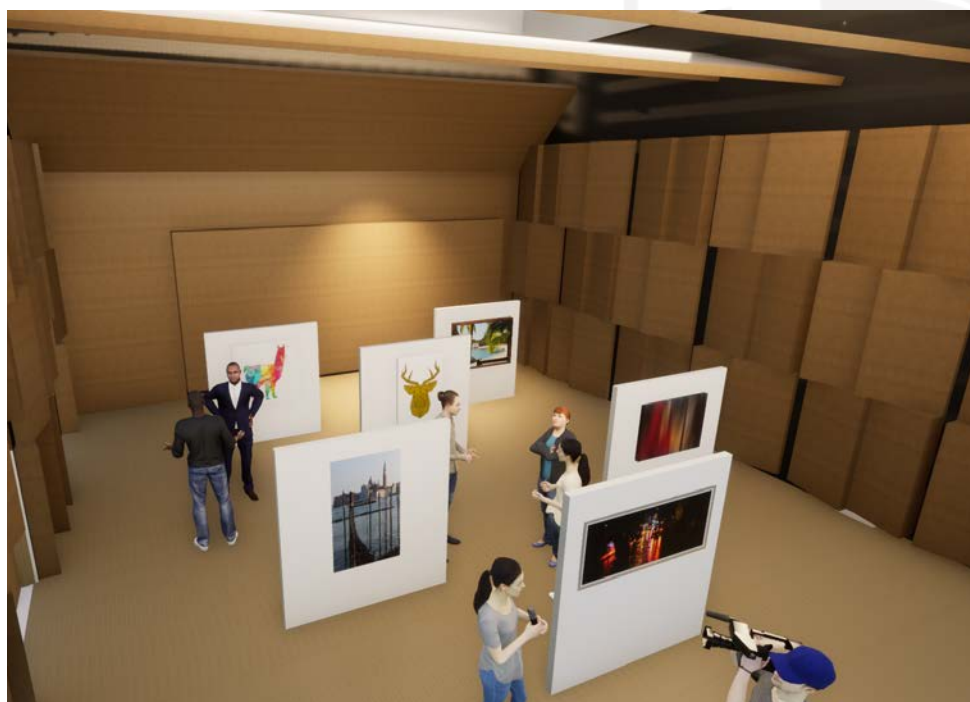
## Interior

The interior of the building shows a building design that responds to the limitations of land with a variety of existing activities. The problem was responded to by applying space flexibility in various forms including; in the indoor event space the ability of the space to change by adapting based on the needs of the types of activities that exist, in the community room where all rooms are connected and can be combined if there are situational conditions that require space that can accommodate more people than usual.

Indoor event space is designed for activities related to the appearance and performance of works as well as activities for more people and public. Such as music performance, film screening, exhibition and discussion event.



Indoor Event Space Condition 1



Indoor Event Space Condition 2



Indoor Event Space Condition 3



The next indoor area that becomes the main focus is the community room, where the community room is divided into 3 rooms including; 1 community shop and 2 community discussion rooms. This space is used daily by the “KEDUBES Bekasi” community as the main user of this creative hub. The application of space flexibility carried out with lightweight sliding walls is expected to respond to situational conditions of activities that have fluctuating user space needs seen from the number of people.



Community Shop



Community Discussion Room



Community Discussion Room

# Structural System Scheme

## Structure System

**Roof**  
Roof Tile

**Roof Structure**  
Frame Truss

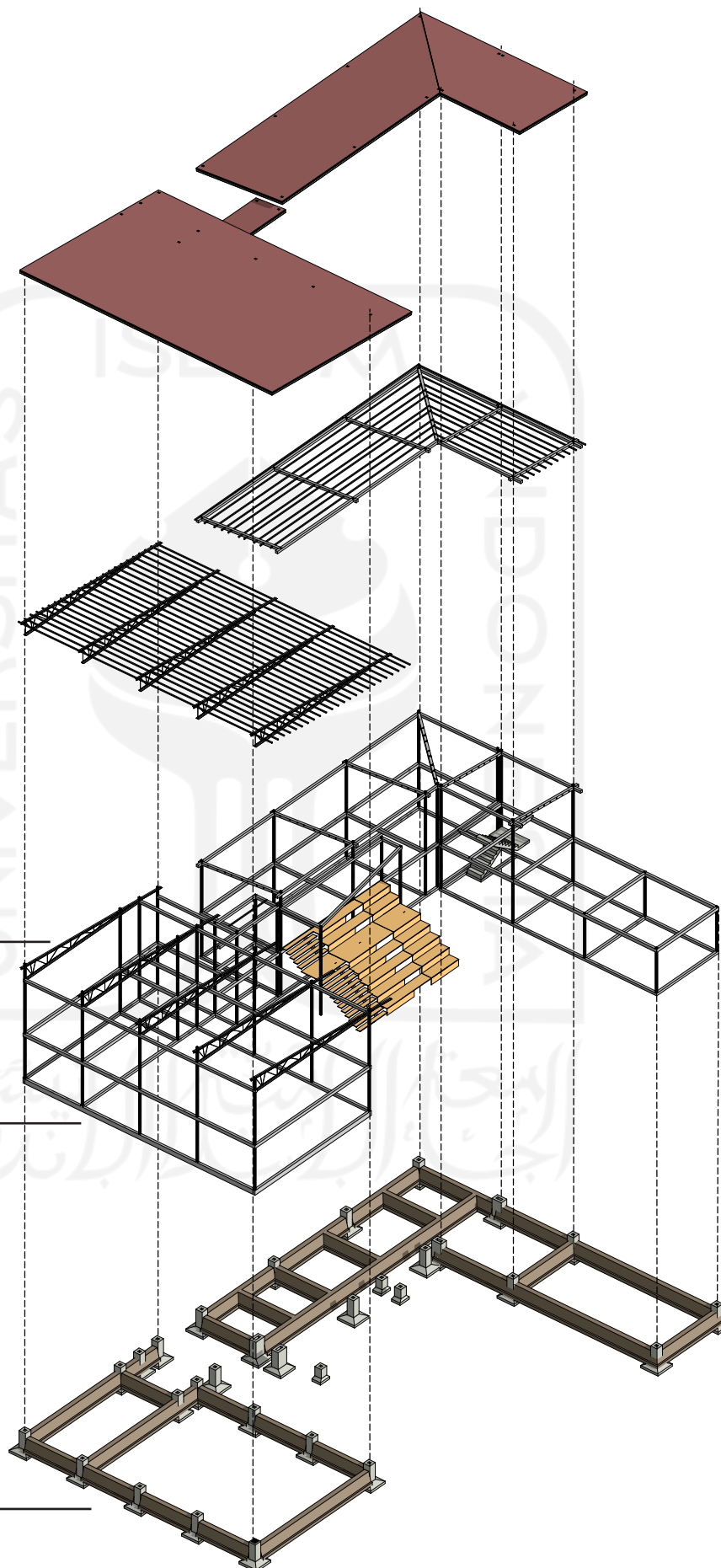
**Beam**  
WF Steel 150 x 100

**Column**  
WF Steel 100 x 100

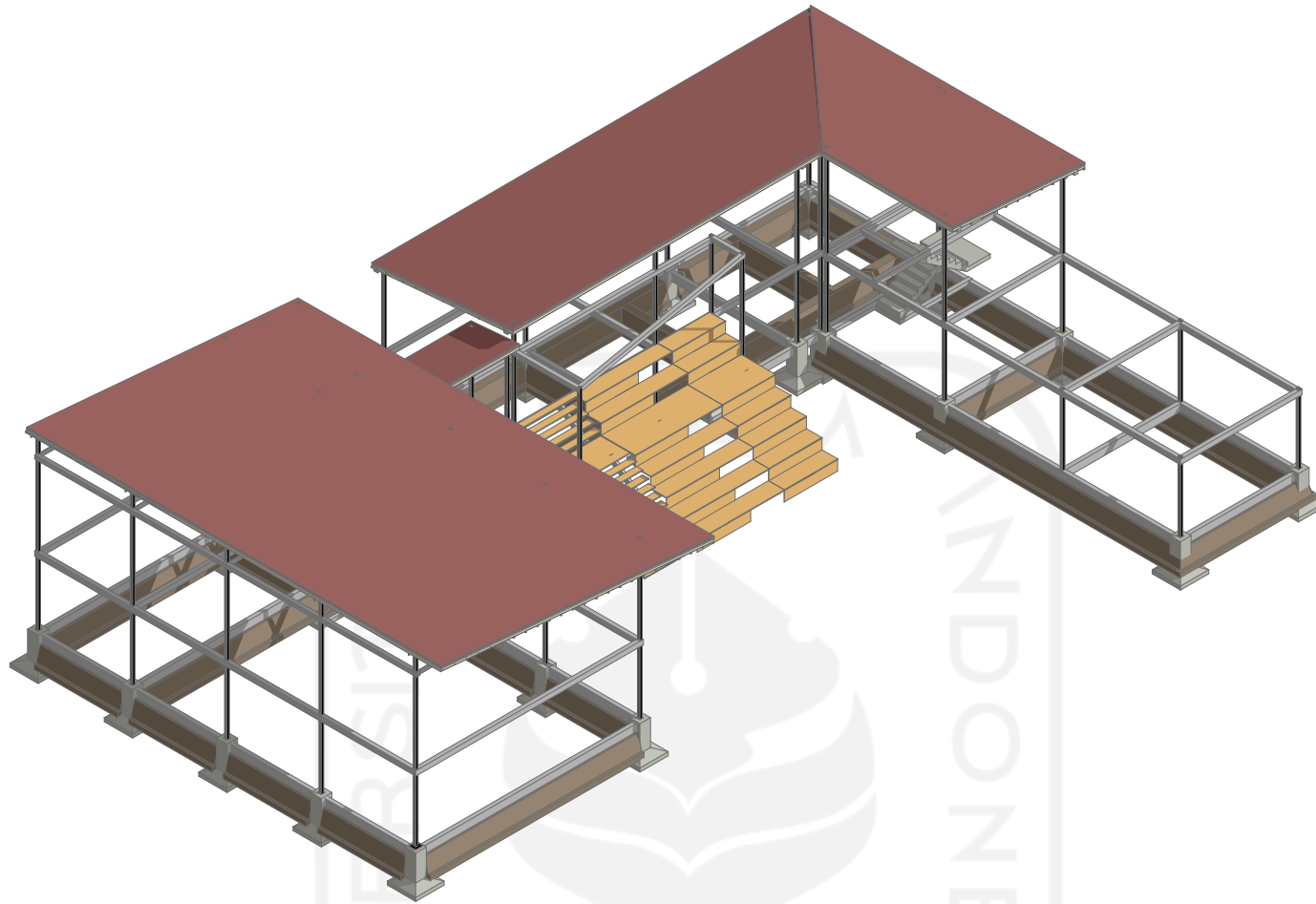
**Sloof**  
Concrete Sloof 300 x 150

**Foundation**  
Foot plate Foundation

**Foundation**  
Rubble Stone Foundation



## Structure Integration

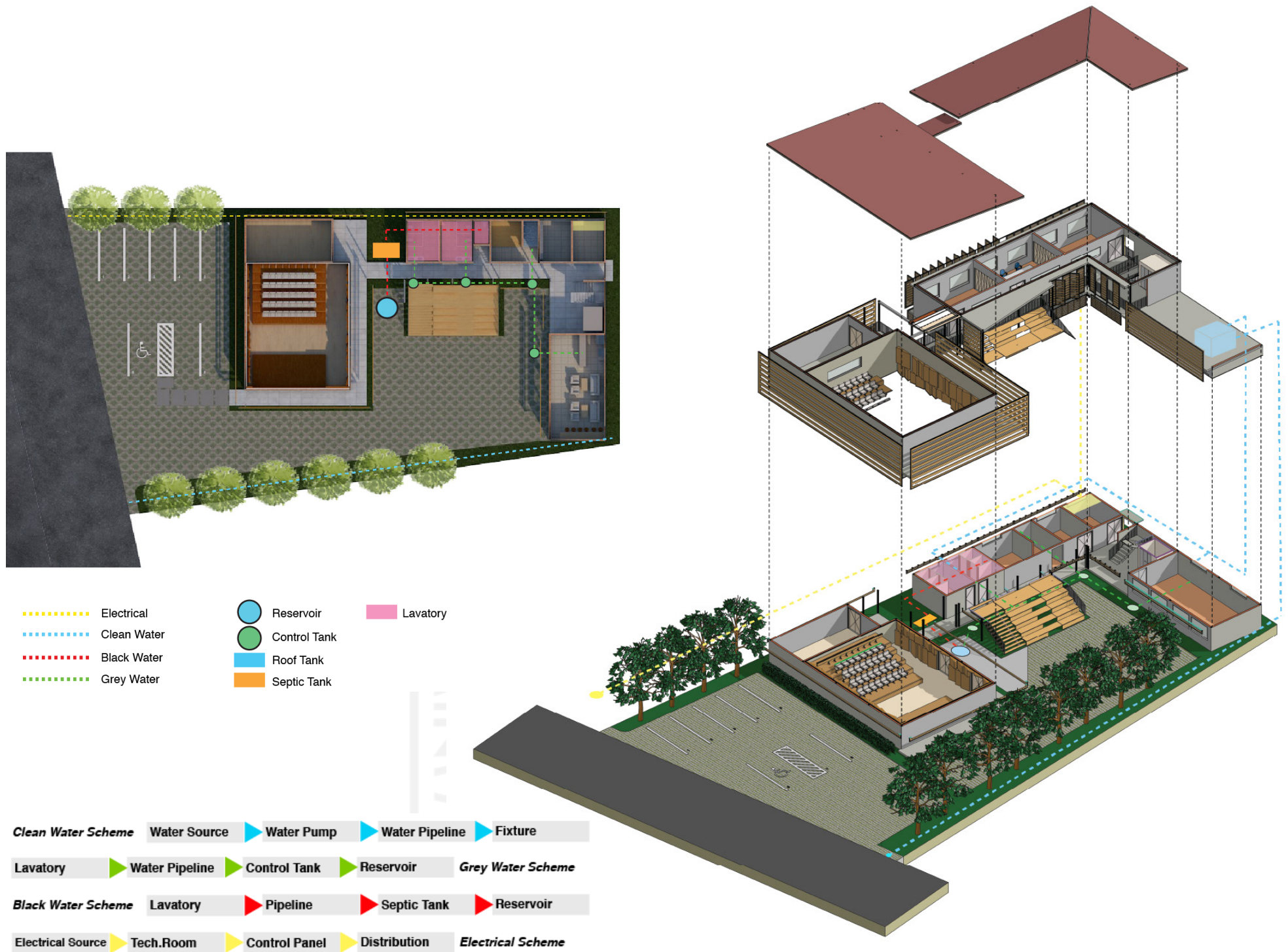


The structure used in this creative hub uses a steel structure. The indoor event space building mass uses a grid with the farthest span of 9 meters with a girder system and the closest span of 4 meters. The second mass of the building uses a beam with a span of 6 meters. Then in the third mass structure in terms of dilatation with the farthest span of 5 meters. Based on the calculation of the tributary area, it can be concluded that for the use of columns with dimensions of 100 mm x 100 mm, then the beam used has dimensions of 150 mm x 100 mm.

Structural Integration from lowest part of the structure until the highest part of structure. The lowest part is the footplate foundation as the foundation and also river stone foundation to support the wall that exist on above of the foundation, after that goes to the column and beam with a steel material, and then the frame truss roof structure as the structural part that exist in the top part.



## Utility System Scheme



In principle, the utility system in this design The clean water utility network system in this design uses a down feed system with water sources coming from PDAM is pumped into the water tank shown on the first floor before being distributed to the ground floor. The dirty water system is divided into 2 different pipes, namely for black water and gray water.

Electricity needs are taken from PLN which is supplied from a power pole at the south of the site. Electricity will be supplied to the transformer located in the technician's room on the ground floor before it is distributed to the creative hub system of electrical.



## Barrier Free Scheme



Building design has provided points that can facilitate access for people with disabilities. Special parking or the diffable parking is provided at the front of the main entrance of the building which is also equipped with an access corridor for diffables using guiding block. In the building an elevator is also provided for diffable access to the First floor.

The difference of material using the concrete block to make easire movement for the wheel chair and also the Ramp to provide the higher area or elevation.



## Building Emergency Scheme







5

**Design Evaluation Result.**

## 5.1 Design Evaluation Conclusion

Design evaluation is carried out by examiners and supervisor to provide suggestions and criticisms of the designs made so that the quality of the design is even better. The evaluation process was carried out on July 16<sup>th</sup>, 2021. There are several evaluation notes from the examiner and the supervisor, the first regarding the building envelope that responds to daylighting, which must be focused on which side of the area with clearer problems and reasons for responding to site conditions. The second concerns the performance stage that work in design regarding to the acoustic performance on problem of indoor event space. The third thing is what are the advantages of this new building design that respond the design problems in the old demolished building. The fourth is the building envelope and facade design which is mainly for the Venusitas aspect, especially for commercial appeal.

### 5.1 Building Envelope Concept to Respond Problem on Community Room

The building envelope concept was created based on problems formed from the results of the spatial arrangement concept and also the concept of building mass, there is a space called community room which has design problems so that daylighting can be optimal.

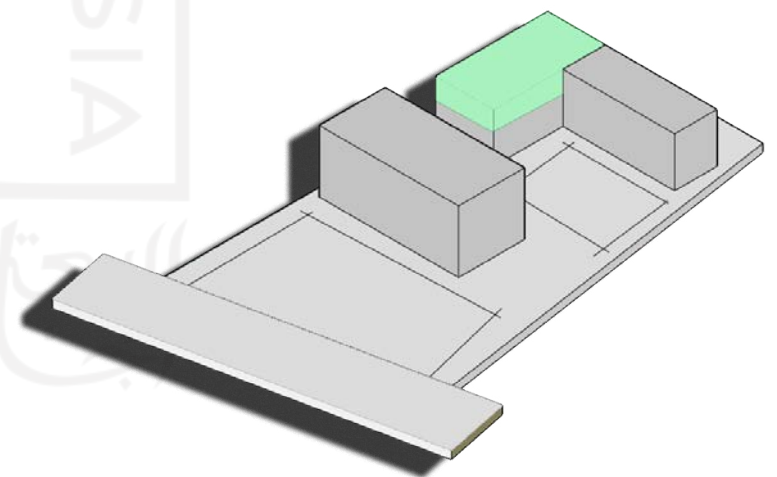
Based on site analysis, mass selection and user complaints based on the results of discussions and interviews that have been conducted Community rooms become a problem in daylighting optimization problems due to conditions in the old building designs which tend to be modest and space is very minimal in daylighting. In the latest building mass concept, there is a new problem where because of the shape of the site and building that extends from the south to the north and the location of the community which is located on the first floor on the westernmost side which is potentially exposed to direct sunlight especially in afternoon. So that it can be strived to be a solution to reduce direct sunlight.

Based on the activities, there are 3 activities in three types of activities in this space, namely Shops, Workspaces, and Discussion Rooms. Based on SNI 6197: 2011 the three rooms have a standard quantity of lighting as follows:

Activity	Minimun Standar of lighting (Lux)
Shop	300
Office	350
Meeting Rom	300



Activity of Community Room



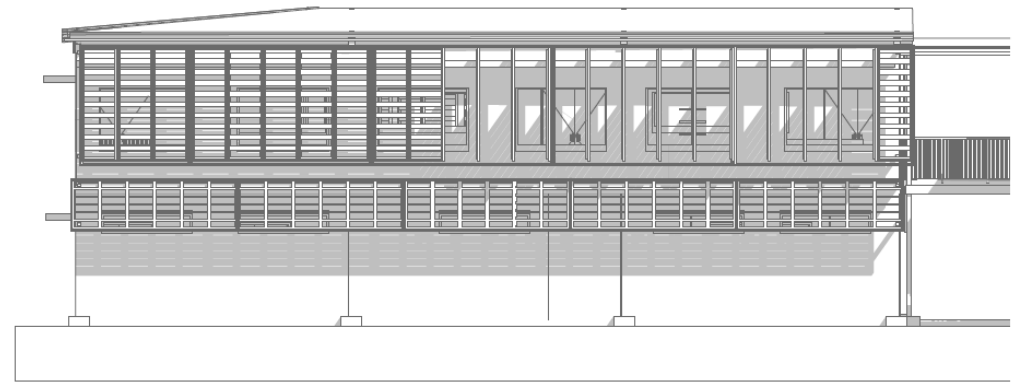
Location of Community Room on site

As maximum of illuminance is 500 lux so, it is not possible to create glare. It is conclude as benchmarking for this design is around 300 - 500 lux for standard .

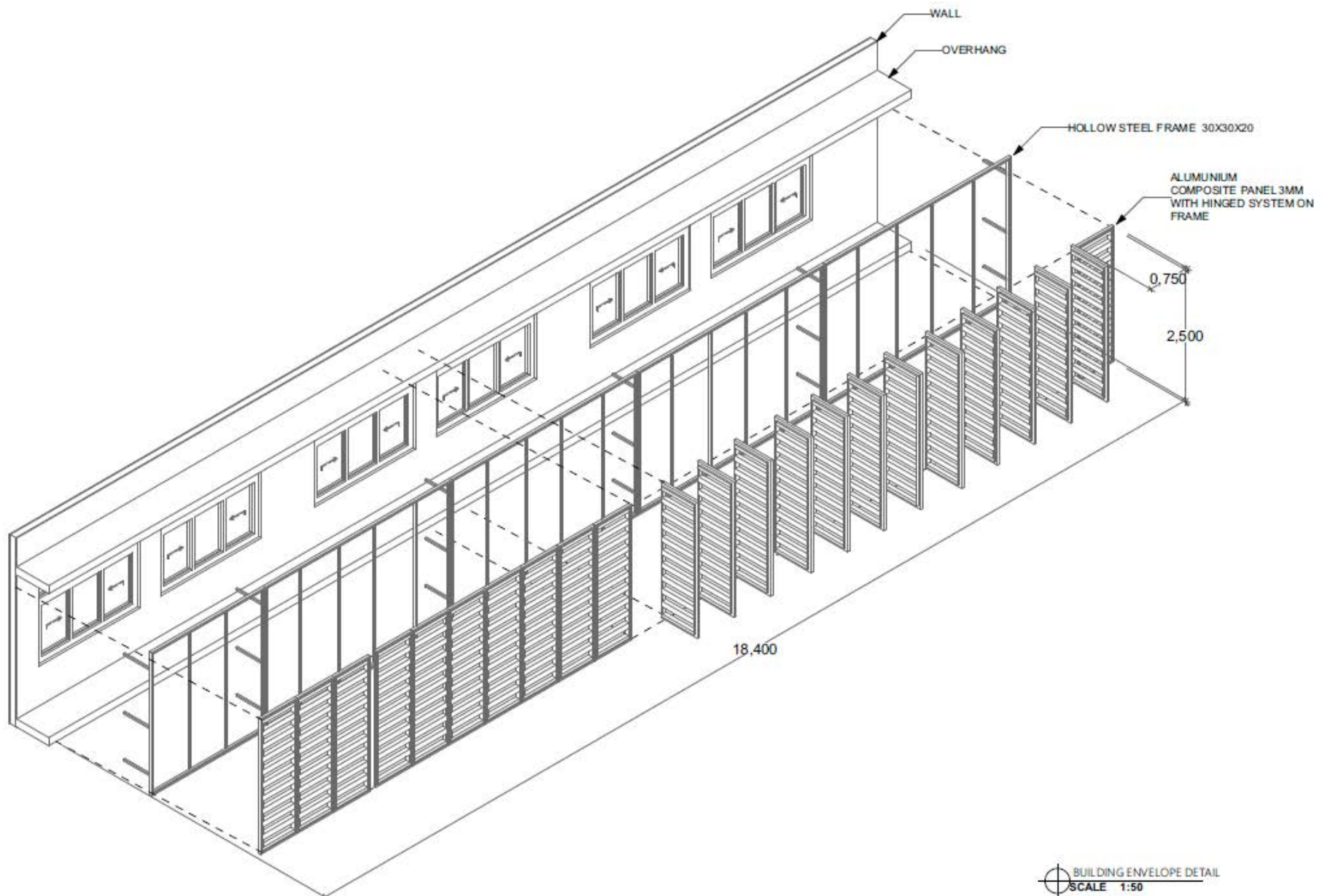
## Implementation of Adjustable Facade on western part of Community Room

Responsive space flexibility is a space flexibility concept design for space that can adapt to environmental conditions from outside or the needs of its users, in the form of the application of responsive space flexibility can be applied to building facades that can be opened and closed so that the intensity of passive lighting can be adjusted based on user comfort of space.

The facade and the secondary skin module that already designed has additional hinged on the area that covered a space like corridor and openings, so that the panel can be opened and closed by the user as a flexibility



SECOND BUILDING MASS WEST ELEVATION  
SCALE 1:50

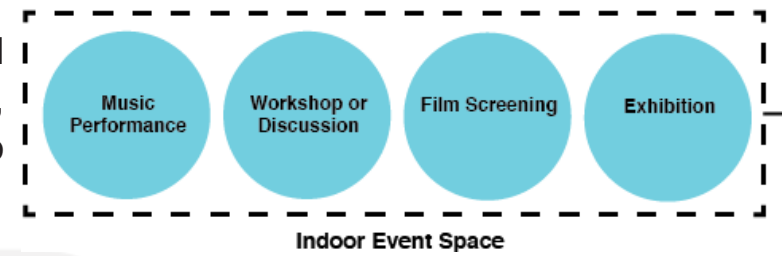


BUILDING ENVELOPE DETAIL  
SCALE 1:50

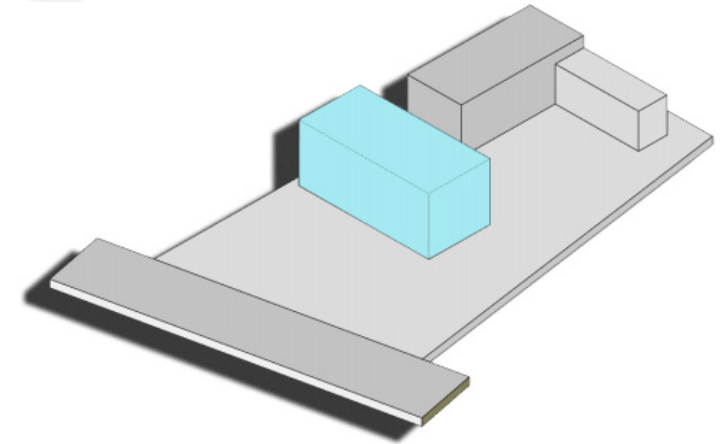


## 5.2 Design Stage Regarding to the Performance of Acoustic on Indoor Event Space

Based on the results of the space program formed based on space flexibility, there is a room called an indoor event space which is used for music concerts, screening films, discussions and exhibitions. If it is related to these activities, this closed space is related to sound and room acoustics, so that in this space planning, good planning is needed so that there are no acoustic defects.



One of the selected acoustic plans is to optimize the space with a reverberation time that meets the standards, especially for the project and also the indoor event space, this refers to the acoustic planning of the auditorium. Reverberation Time shows how long sound energy can last in the room, which is calculated by measuring the decay time of sound energy in the room.



**Indoor Event Space**

According to the SNI-03-6368-2000, there is a reverberation time that we need to fulfill in terms of acoustic. Based on the SNI or regulation not every space function has a standard of reverberation time. In this case of indoor event space or the auditorium has standard chosen for the “Ruang Konser dan Resital” with a number of reverberation time 0.8 - 2.2.

Jenis Hunian ---	Tingkat Bunyi Yang Dianjurkan		Waktu Dengung (T) Yang Dianjurkan [detik]
	Baik [dBA]	Maksimum [dBA]	
1	2	3	4
<b>6. Bangunan umum</b>			
Bandara :			
- Ruang keberangkatan	45	60	-
- Ruang pengambilan koper	45	60	-
- Ruang pemeriksaan keberangkatan	45	50	-
Galeri seni	40	50	-
Auditorium :			
- Restoran teater dan kabaret	30	30	Kurva 3
- Ruang konser dan resital	20 NR	25 NR	Kurva 2
Balai sidang dan konperensi			
• Tanpa sistem tata suara			
- s/d 50 orang	30 NR	35 NR	Kurva 1
- 50 sampai 250 orang	25 NR	30NR	Kurva 1

Figure 2.26 Reverberation time standard  
Source : SNI-03-6368-2000



Gambar 1  
Waktu Dengung Rata-rata

### Reverbration Time Calculation Formula

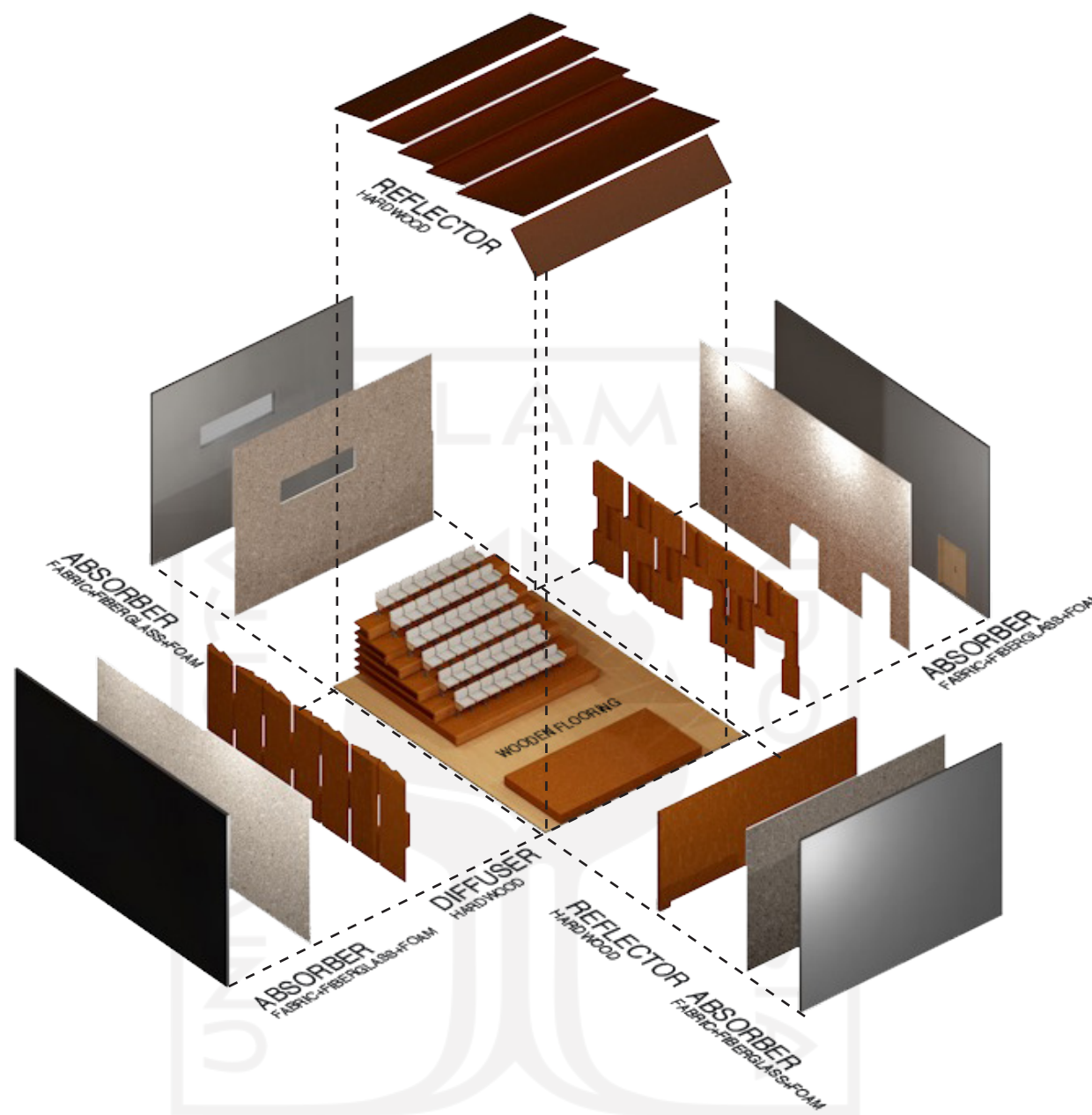
$$RT = \frac{0,05 \times V}{.a}$$

$$.a = \sum S \times \alpha$$

RT = Reverbration Time  
V = Room Volume (ft<sup>3</sup>)  
.a = Total Sound Absorption  
S = Surface Area (sqft)  
 $\alpha$  = Sound Absorption Coefficient

The result of the design in case of acoustic regarding to the material will be evaluated using the calculation of reverberation time that use SNI as a benchmarking or the standard for the achievement of Reverberation Time calculation

## Interior Result of Acoustic in Indoor Event space



### Interior Material

- Ceiling Area
  - Hardwood (Reflector) ( $\alpha = 0,3$ )
- Wall Area
  - Fabric+Fiberglass+Foam (Absorber) ( $\alpha = 0,7$ )
  - Hardwood (Reflector) ( $\alpha = 0,3$ )
  - Hardwood (Diffuser) ( $\alpha = 0,3$ )
- Floor Area
  - wooden floor ( $\alpha = 0,1$ )

$\alpha$  = Sound absorption coefficient

- Reflector  
This acoustic material functions as a reflection of the sound source towards the audience, so the audience can hear the sound easily.
- Absorber  
This acoustic material functions as an absorber of reflected sound so that acoustic defects do not occur, can also function as insulation that the sound defect can't go outside the room or space
- Diffuser  
This acoustic material functions as a spreader of reflected sound so that acoustic defects do not occur.

## Indoor Event Space Reverbration Time Calculation



Total Sound Absorption Calculations, Reverbration Time in room  
 Based on the formula in reference to the theory of room acoustics to predict the acoustic performance of space  
 Name of Room = Indoor event space  
 Function = Music Performance, Film Screening, Exhibition, Discussion Event  
 RT standard = 0.8-2.2

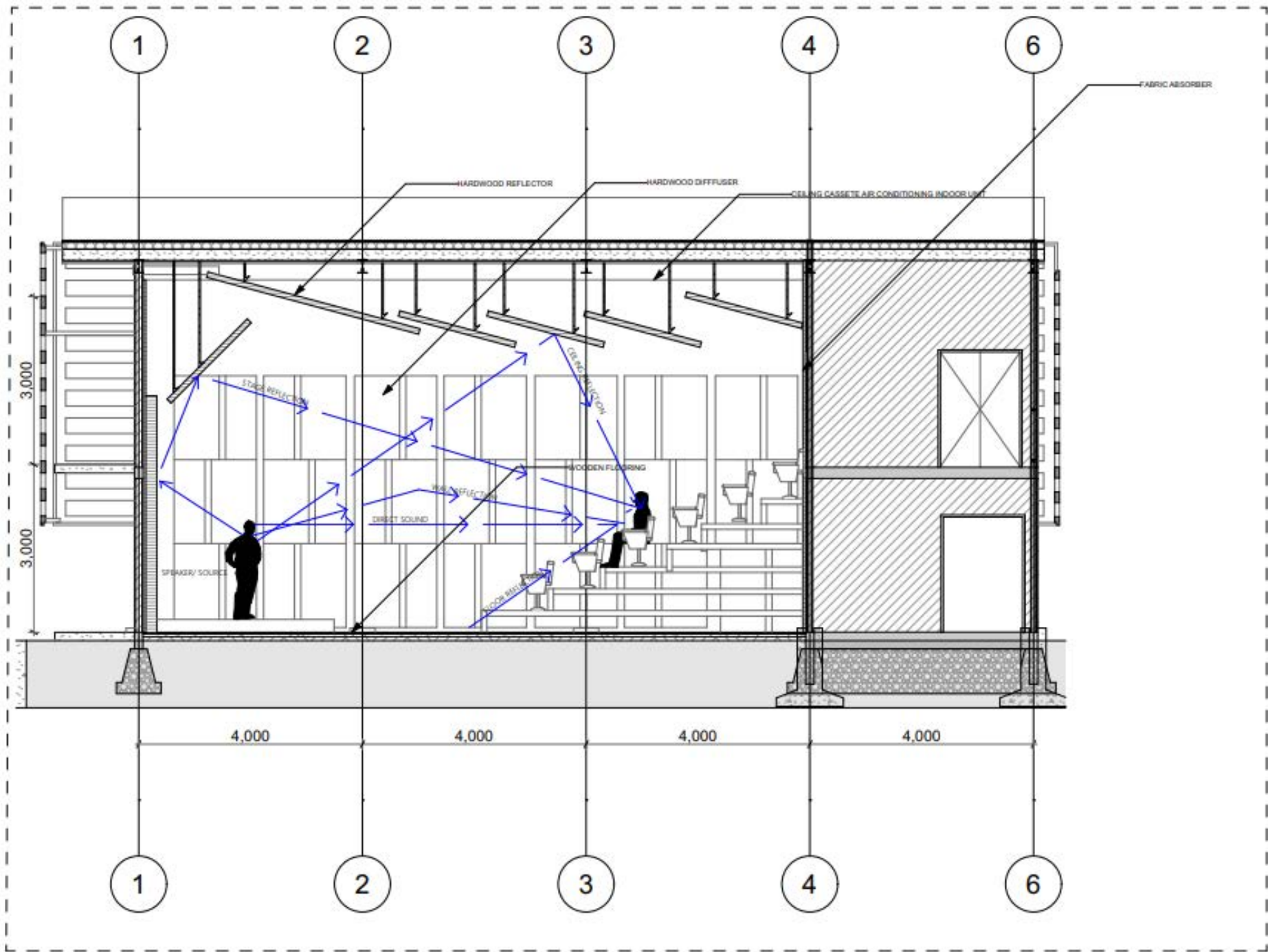
No	Name	Area/vol						$\alpha$	Total Reverbration time (SCHEMATIC DESIGN)
		Quantities	Units						
<b>I GENERAL DATA</b>									
	Space Volume	22987,536	feet cubic						
A	Floor Area	1229,28	square feet						
B	Wall Area	2640,44	square feet						
C	Ceiling Area	1229,28	square feet						
<b>II INTERIOR Data</b>									
<b>A Floor Area</b>									
1	Concrete flooring	1229,28	square feet						
2	wooden flooring	1229,28	square feet					0,1	122,928
3	Carpet on concrete	1229,28	square feet					0,6	
....	....								
<b>B Wall Area</b>									
1	Painted brickwork	2640,44	square feet						
2	Carpet/Fabric on foam (Absorber)	813	square feet					0,7	569,1
3	harwood Diffuser	581	square feet					0,3	174,3
4	Hardwood Reflector	439,7	square feet					0,3	131,91
....	....								
<b>C Ceiling Area</b>									
1	Gypsum Board	1229,28	square feet						
2	Hardwood reflector	1229,28	square feet					0,3	368,784
....	....								1367,022
<b>Result of RT</b>								RTA	0,84078881
<b>Conclulsion</b>									
RT Result >RT standar Failed									
RT Result <RT standar Success									

### Conclusion

Based on the final results of the reverberation time calculation, the result of schematic design produces a number that successful in closed to the reverbration time standard because they achieved the reverbration time standard which is 0.8



## Evaluation Revision Sound Distribution Performance



Based on the results of the evaluation seminar, there is an addition in the form of a sound distribution scheme so that the performance achieved is better. Based on the picture above is an image of the sound distribution scheme from the sound source.

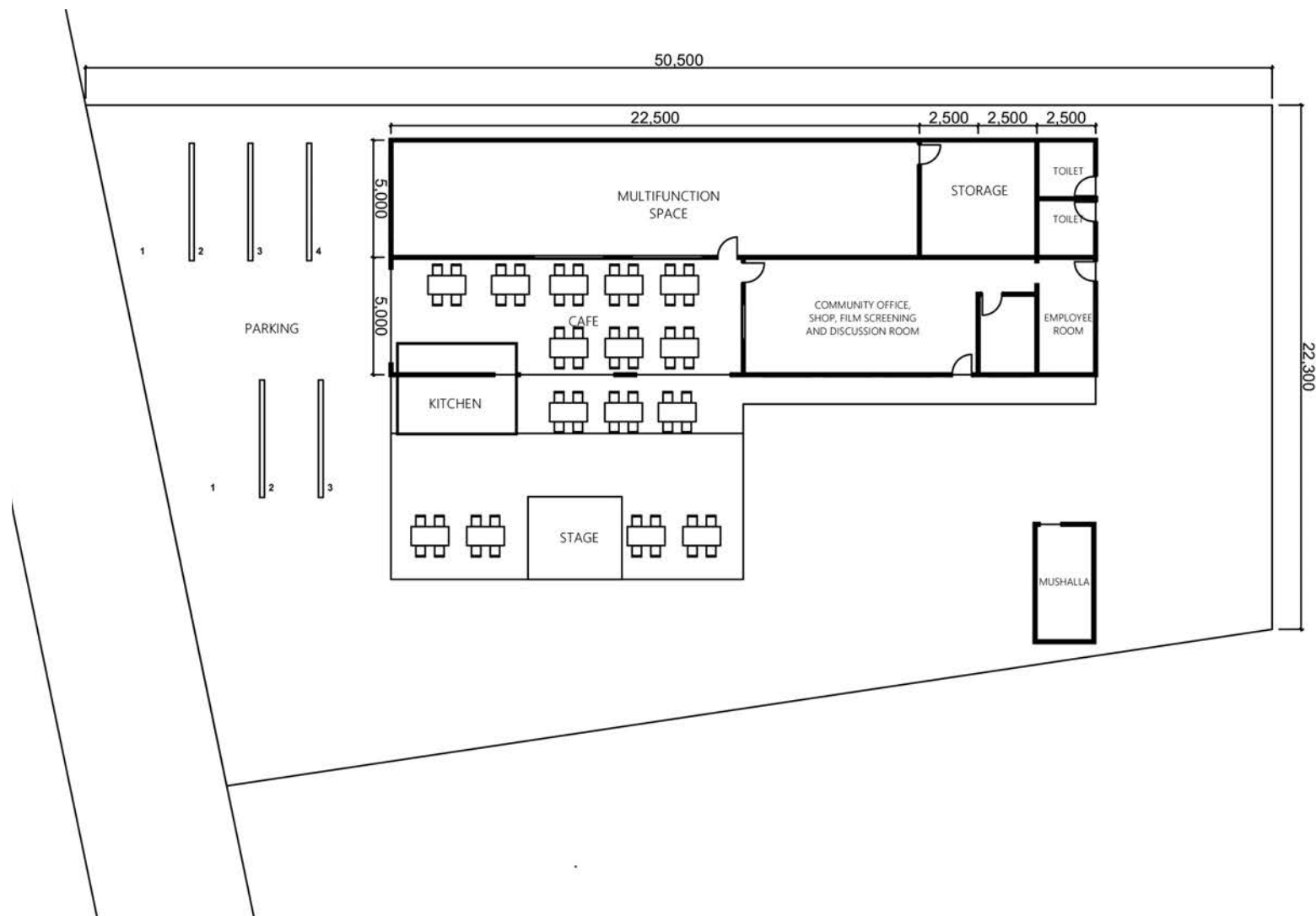
ceiling, then there is stage reflection in the form of a sound source that is reflected to the stage wall area and false ceiling before being reflected to the audience, then there is also wall reflection, direct sound and also floor reflection. The sound reflections are in line with the choices of acoustic materials in the design results.

There are 5 sound distribution schemes, the first is sound reflection from the sound source to the ceiling with the application of the design in the form of false ceiling, then there is stage reflection in the form of a sound source that is reflected to the stage wall area and false-

### 5.3 Respond of the disadvantages of the old demolished building as an advantages in the new building design

Because this building was originally conceptualized as a restaurant which later changed its function as a place to accommodate the creative community, there are several problems that are mostly related to space effectiveness and space optimization related to creative events being held. So that the design results try to meet those criteria.

#### Previously Existing Building/ Demolished Building



Basically this building was made as a restaurant and then its function was changed mostly for community activities that mostly cannot accommodate optimally, so that there are several disadvantages including;

- There is a multifunctional room which utilization cannot be optimal for events because the dimensions of the space are too narrow, around 22.5 m x 5 m
- In film screening activities, the space used is a community room and film screenings cannot be optimal because the audience area is just like sitting on the floor and the capacity is very limited.
- This community often holds outdoor events in this creative hub area, it's just that the problem is that the location of the performer's stage is not optimal for the audience, even though the land area is still quite large if it can be designed more effectively for outdoor events.



## Previously Existing Building/ Demolished Building



Figure 2.10 Existing condition of Kartin Kedubes  
Source : Author



Figure 2.11 Existing condition of Community room  
Source : Author

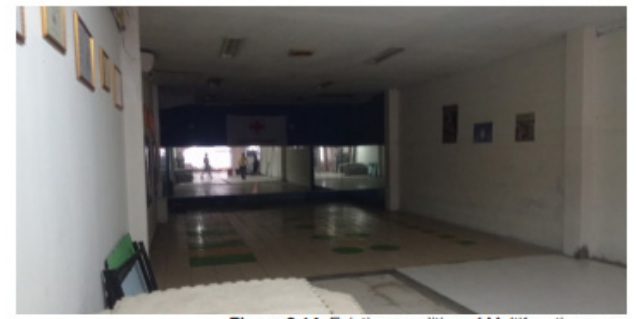


Figure 2.14 Existing condition of Multifunction room  
Source : Author



Figure 2.12 Existing condition of Toilet  
Source : Author



Figure 2.13 Existing condition of Community room  
Source : Author

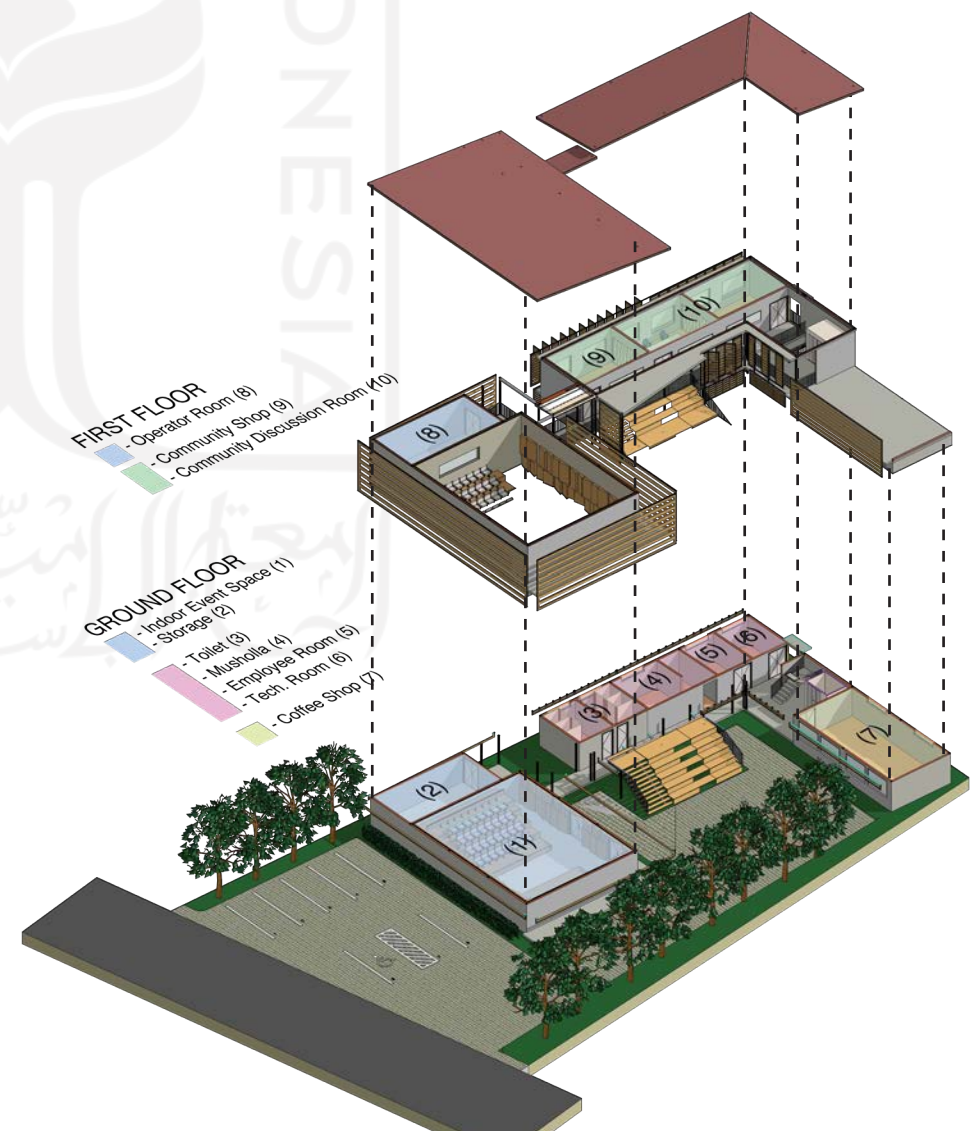


Figure 2.9 Condition while on the Film screenings  
Source : <https://www.instagram.com/patriotfilmbekasi/>

## Design Result Advantages

The final target of this design is how this creative hub can accommodate various creative activities that have existed in this community so that they can run optimally and effectively.

- Based on the concept of space flexibility by combining the functions of space or activities, this creative hub can accommodate film screenings, exhibitions, discussion events, music performances, outdoor events, community rooms, and coffee shops.
- For indoor creative activities, there is an indoor event space with dimensions of 9.5 x 12 m which can accommodate more than 30 people.
- There is an outdoor area which in its arrangement makes more use of the open area on the site and is also more effective and optimal for events.
- The community room is more focused as a discussion room, office and creative product shop located on the first floor





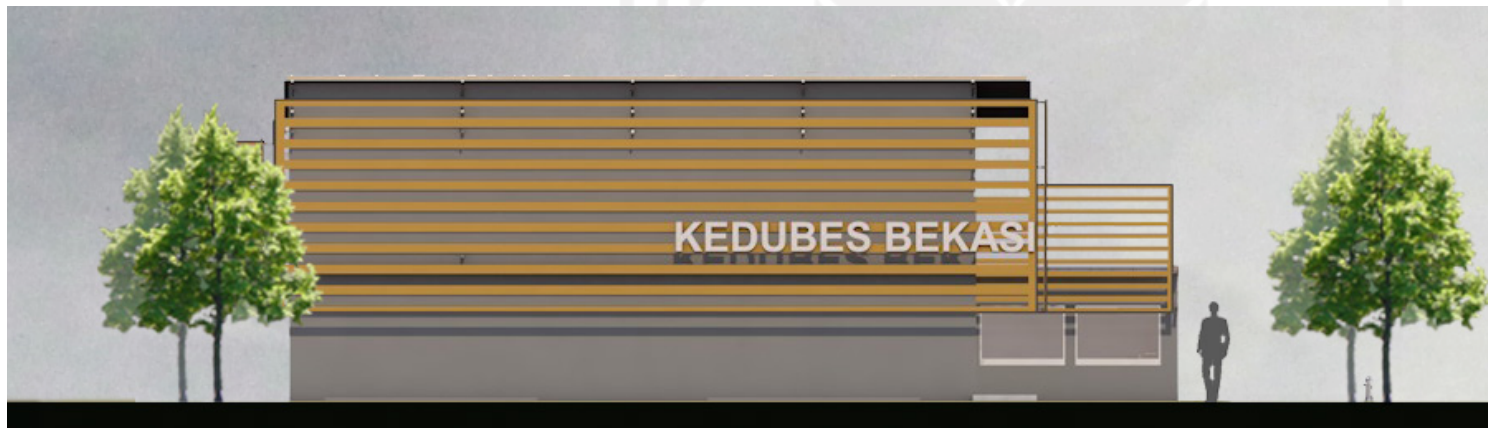
## 5.4 How the building facades have demonstrated venustas principles, sepcificaly from the commercial perspectives.

The facade of the building related to the commercial perspective is the southern facade as a front elevation. The concept used on the facade is the floating facade concept with a secondary aluminum skin panel. Floating facade is a form of the concept of the outermost facade of the building that is floating or not in contact with the ground, with a secondary skin in the form of customized aluminum panels. It is hoped that the design of the facade of this building will be attractive but still simple in terms of Venustas.

The risk is taken from the optimal use of outdoor areas for events so as not to be disturbed by road or outside conditions, so that the front area looks massive covered by one mass of buildings. However, it is a challenge in itself to deal with these risks and try to respond to create an attractive building design.

The facade of the building related to the commercial perspective is the southern facade as a front elevation. The concept used on the facade is the floating facade concept with a secondary aluminum skin panel. Floating facade is a form of the concept of the outermost facade of the building that is floating or not in contact with the ground, with a secondary skin in the form of customized aluminum panels. It is hoped that the design of the facade of this building will be attractive but still simple in terms of Venustas

### Previous Design Result



South Elevation

### Revision from Evaluation Design Result



South Elevation



## Previous Design Result



## Revision from Evaluation Design Result





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**Attachments.**

# List of Attachment

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## 1. Detailed Engineering Drawing.

DED Cover  
DED Drawing List  
Situation Plan  
Site Plan  
Ground Floor Plan  
First Floor Plan  
First Building Mass Partial Plan  
Second Building Mass Partial Plan  
Site Elevation  
First Building Mass Elevation  
Second Building Mass Elevation  
Site Section  
First Building Mass Partial Section  
Structural Scheme  
Clean Water Scheme  
Waste Water Scheme  
Electrical Scheme  
Lamp Scheme  
HVAC Scheme  
Emergency Scheme  
Vertical Transportation Scheme  
Barrier Free Scheme  
Building Envelope Detail  
Indoor Event Space Flexibility Detail  
Indoor Event Space Acoustic Detail  
Indoor Event Space Sound Distribution  
Exterior Perspective  
Interior Perspective



## 2. Architectural Presentation Board.

APREB page 1  
APREB page 2  
APREB page 3  
APREB page 4



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**3.**

**3D Video Model**



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**4.**

**Video Presentation.**





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*Bismillaahirrahmaanirrahiim*

*Assalamualaikum Wr. Wb.*

Dengan ini, menerangkan Bahwa:

Nama : Bhanu Arsyi Akila  
Nomor Mahasiswa : 17512148  
Pembimbing : Dr. Yulianto P.Prihatmaji, ST., MT., IPM., IAI  
Fakultas / Prodi : Fakultas Teknik Sipil Dan Perencanaan/ Arsitektur  
Judul Karya Ilmiah : Redesign Creative Hub of “KEDUBES Bekasi” Creative Community with Space Flexibility Approach on Limited Land

Karya ilmiah yang bersangkutan di atas telah melalui proses cek plagiasi menggunakan **Turnitin** dengan hasil kemiripan (*similarity*) sebesar **6 (Enam) %**.

Demikian Surat Keterangan ini dibuat untuk dapat dipergunakan sebagaimana mestinya.

*Wassalamualaikum Wr. Wb.*

Yogyakarta, 21 Juni 2021

Direktur



Joko S. Prianto, SIP., M.Hum

# CREATIVE HUB OF "KEDUBES BEKASI"

## CREATIVE COMMUNITY

IN KOTA BEKASI  
WITH SPACE FLEXIBILITY  
APPROACH AS LAND OPTIMIZATION  
FOR VARIETY OF CREATIVE  
ACTIVITIES

DETAILED ENGINEERING DRAWING

BY:  
BHANU ARSYI AKILA

SUPERVISOR:  
Dr. YULIANTO P. PRIHATMAJI, ST., MT.,  
IPM., IAI



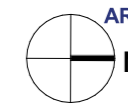




## DRAWING LIST

ARCHICAD EDUCATION VERSION

NO.	DRAWING TITLE	DRAWING NUMBER	SCALE
1	SITUATION PLAN	A.00.01	1:500
2	SITE PLAN	A.00.02	1:150
3	GROUND FLOOR PLAN	A.01.01	1:100
4	FIRST FLOOR PLAN	A.01.02	1:100
5	FIRST BUILDING MASS PARTIAL GROUND FLOOR PLAN	A.01.03	1:75
6	SECOND BUILDING MASS PARTIAL GROUND FLOOR PLAN	A.01.04	1:75
7	SITE ELEVATION 1 (SOUTH AND EAST)	A.02.01	1:100
8	SITE ELEVATION 2 (NORTH AND WEST)	A.02.02	1:100
9	FIRST BUILDING MASS EAST ELEVATION	A.02.03	1:50
10	FIRST BUILDING MASS SOUTH ELEVATION	A.02.04	1:50
11	FIRST BUILDING MASS WEST ELEVATION	A.02.05	1:50
12	FIRST BUILDING MASS NORTH ELEVATION	A.02.06	1:50
13	SECOND BUILDING MASS EAST ELEVATION	A.02.07	1:50
14	SECOND BUILDING MASS SOUTH ELEVATION	A.02.08	1:50
15	SECOND BUILDING MASS WEST ELEVATION	A.02.09	1:50
16	SECOND BUILDING MASS NORTH ELEVATION	A.02.10	1:50
17	SITE SECTION	A.03.01	1:100
18	FIRST BUILDING MASS A-A' SECTION	A.03.02	1:50
19	FIRST BUILDING MASS B-B' SECTION	A.03.03	1:50
20	STRUCTURAL SCHEME	STR.01.01	1:200
21	CLEAN WATER SCHEME	MEP.01.01	1:100
22	WASTE WATER SCHEME	MEP.02.01	1:100
23	ELECTRICAL SCHEME GROUND FLOOR	MEP.03.01	1:100
24	ELECTRICAL SCHEME FIRST FLOOR	MEP.03.02	1:100
25	LAMP SCHEME GROUND FLOOR	MEP.04.01	1:100
26	LAMP SCHEME FIRST FLOOR	MEP.04.02	1:100
27	HVAC SCHEME GROUND FLOOR	MEP.05.01	1:100
28	HVAC SCHEME FIRST FLOOR	MEP.05.02	1:100
29	EMERGENCY SCHEME	I.01.01	1:150
30	VERTICAL TRANSPORTATION SCHEME	I.02.01	1:150
31	BARRIER FREE SCHEME	I.03.01	1:150
32	BUILDING ENVELOPE DETAIL	D.01.01	1:50
33	INDOOR EVENT SPACE "SPACE FLEXIBILITY" COMPONENT DETAIL	D.02.01	
34	INDOOR EVENT SPACE ACOUSTIC DETAIL	D.02.02	
35	INDOOR EVENT SPACE SOUND DISTRIBUTION SCHEME	D.02.03	
36	PERSPECTIVE EXTERIOR	PERS.01.01	
37	PERSPECTIVE EXTERIOR	PERS.01.02	
38	PERSPECTIVE EXTERIOR	PERS.01.03	
39	PERSPECTIVE EXTERIOR	PERS.01.04	
40	PERSPECTIVE EXTERIOR	PERS.01.05	
41	PERSPECTIVE EXTERIOR	PERS.01.06	
42	PERSPECTIVE EXTERIOR	PERS.01.07	
43	PERSPECTIVE EXTERIOR	PERS.01.08	
44	PERSPECTIVE INTERIOR	PERS.02.01	
45	PERSPECTIVE INTERIOR	PERS.02.02	
46	PERSPECTIVE INTERIOR	PERS.02.03	
47	PERSPECTIVE INTERIOR	PERS.02.04	
48	PERSPECTIVE INTERIOR	PERS.02.05	
49	PERSPECTIVE INTERIOR	PERS.02.06	
50	PERSPECTIVE INTERIOR	PERS.02.07	
51	PERSPECTIVE INTERIOR	PERS.02.08	



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Bekasi" Creative Community

**LOCATION**

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Jati Asih, Kota Bekasi

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Bhanu Arsyi Akila  
17512148

**SUPERVISOR**

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**DRAWING TITLE**

SITUATION PLAN

A.00.01

**SCALE**

1

**DESCRIPTION**

- ① KEDUBES Bekasi Creative Hub
- ② Supermarket
- ③ Wood Shop
- ④ Residential
- ⑤ BKKBN Equipment Storage





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**DRAWING TITLE**

SITE PLAN

A.00.02

**SCALE**


1:150

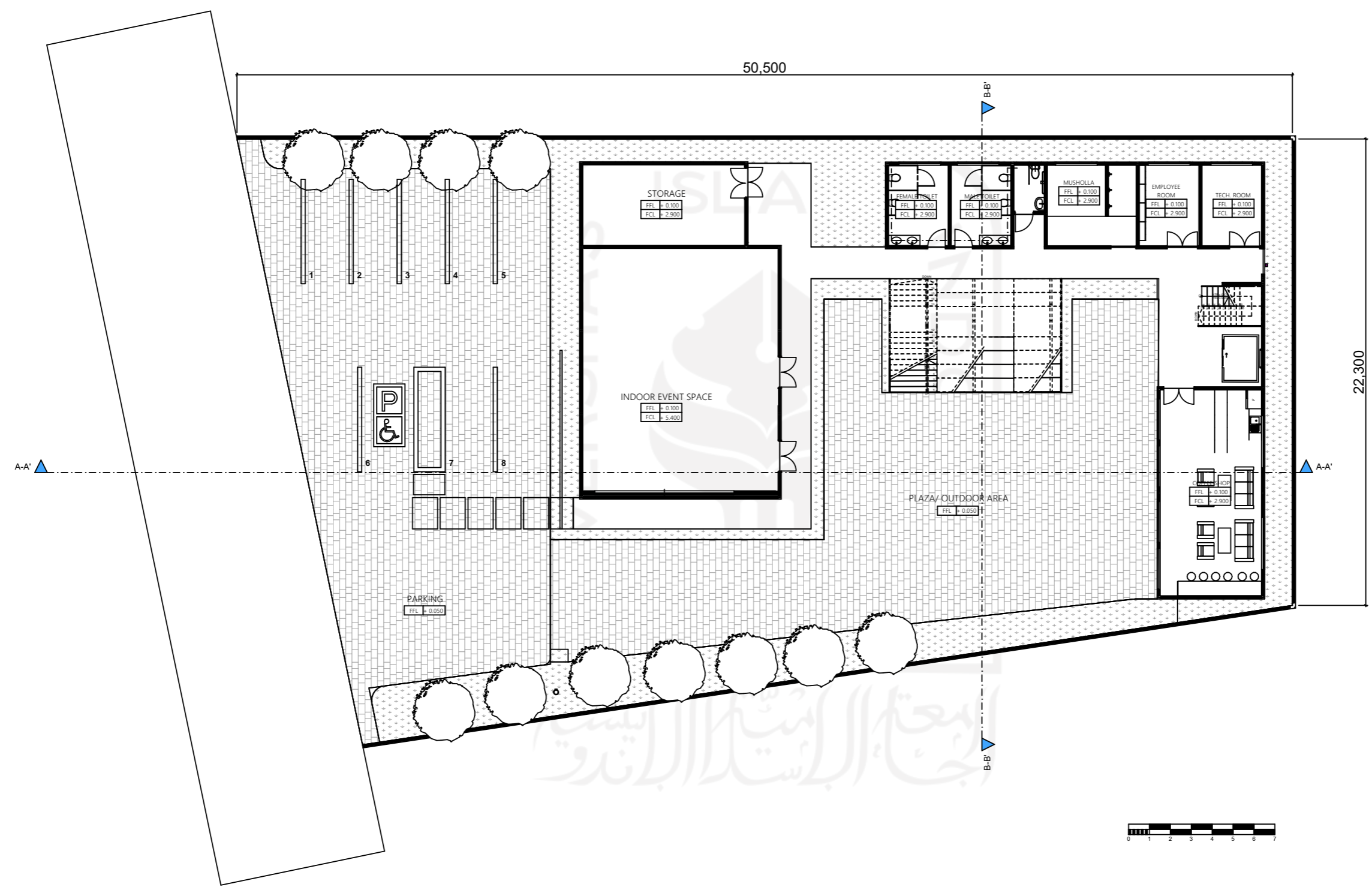
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FFL : FINISHED FLOOR LEVEL  
FCL : FINISHED CEILING LEVEL

**SOFTSCAPE**  
 : GRASS

**HARDSCAPE**  
 : GRASS BLOCK

 : DISABLED PARKING



SITE PLAN  
SCALE 1:150





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**DRAWING TITLE**

GROUND FLOOR PLAN

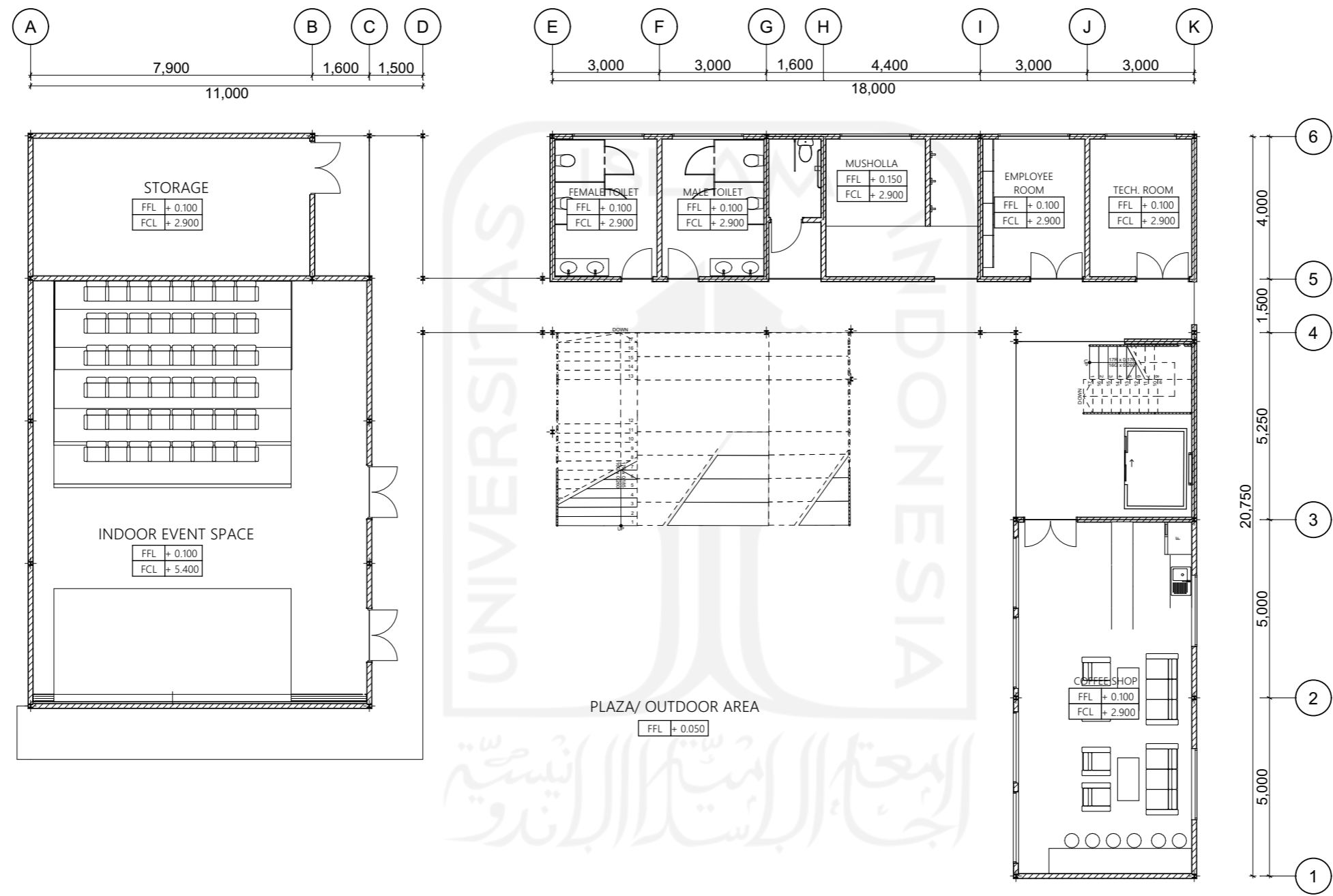
A.01.01

**SCALE**

1:100

**DESCRIPTION**

FFL : FINISHED FLOOR LEVEL  
FCL : FINISHED CEILING LEVEL



GROUND FLOOR PLAN  
SCALE 1:100



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**DRAWING TITLE**

FIRST FLOOR PLAN

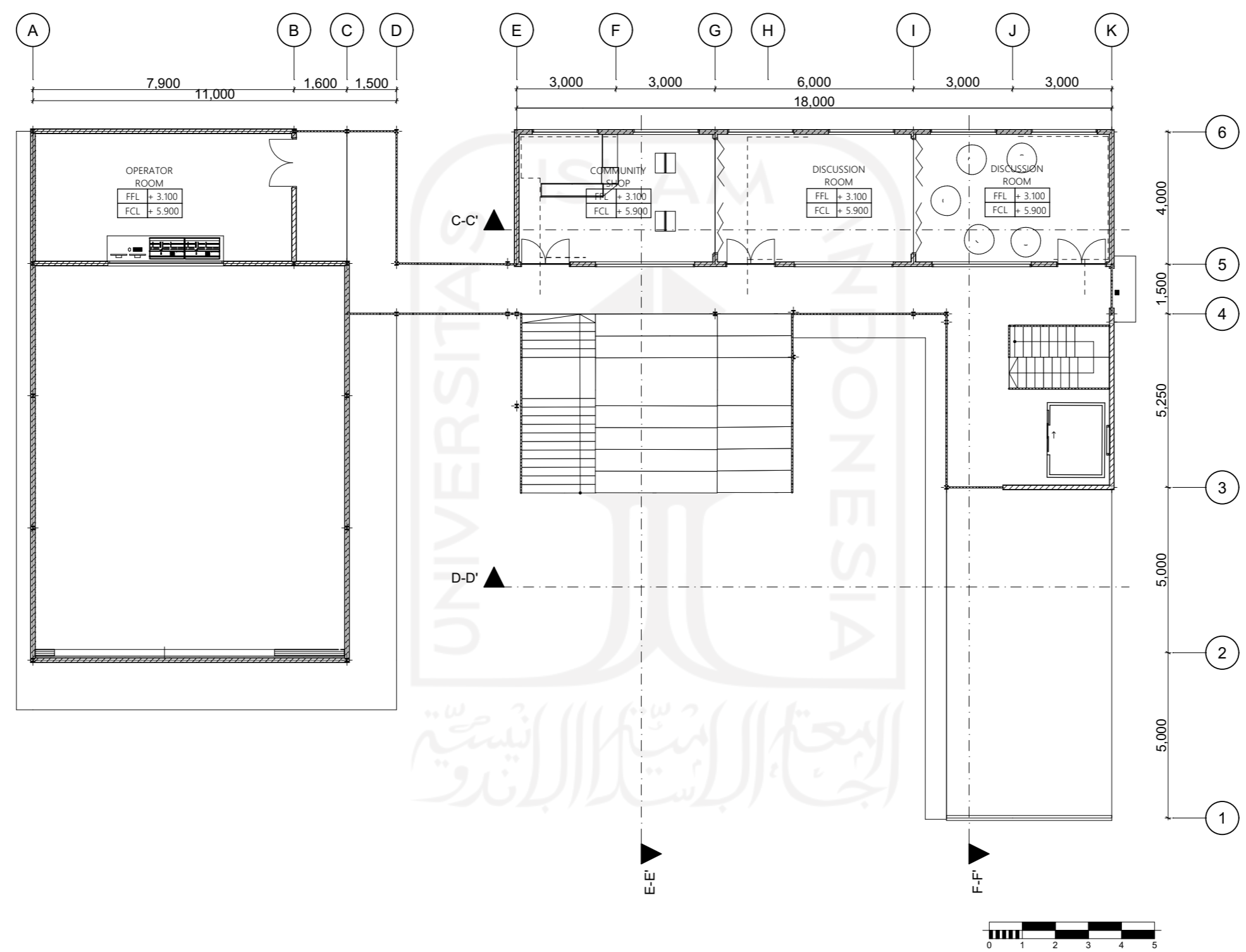
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**SCALE**

1:100

**DESCRIPTION**

FFL : FINISHED FLOOR LEVEL  
FCL : FINISHED CEILING LEVEL



FIRST FLOOR PLAN  
SCALE 1:100



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**DRAWING TITLE**

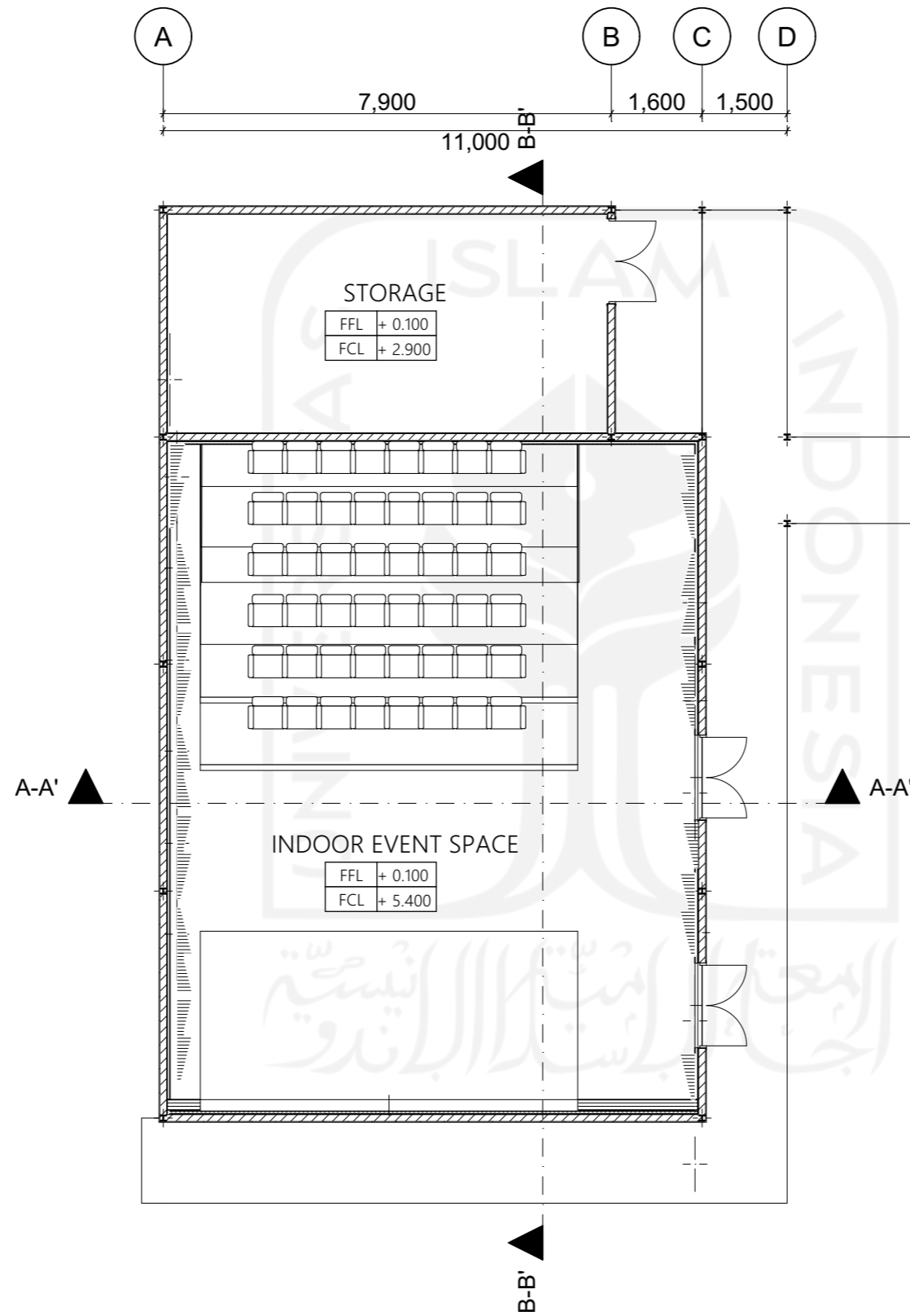
FIRST BUILDING MASS PARTIAL  
GROUND FLOOR PLAN  
A.01.03

**SCALE**

1:75

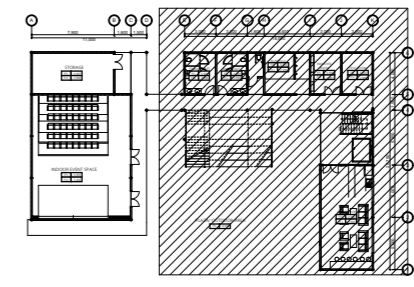
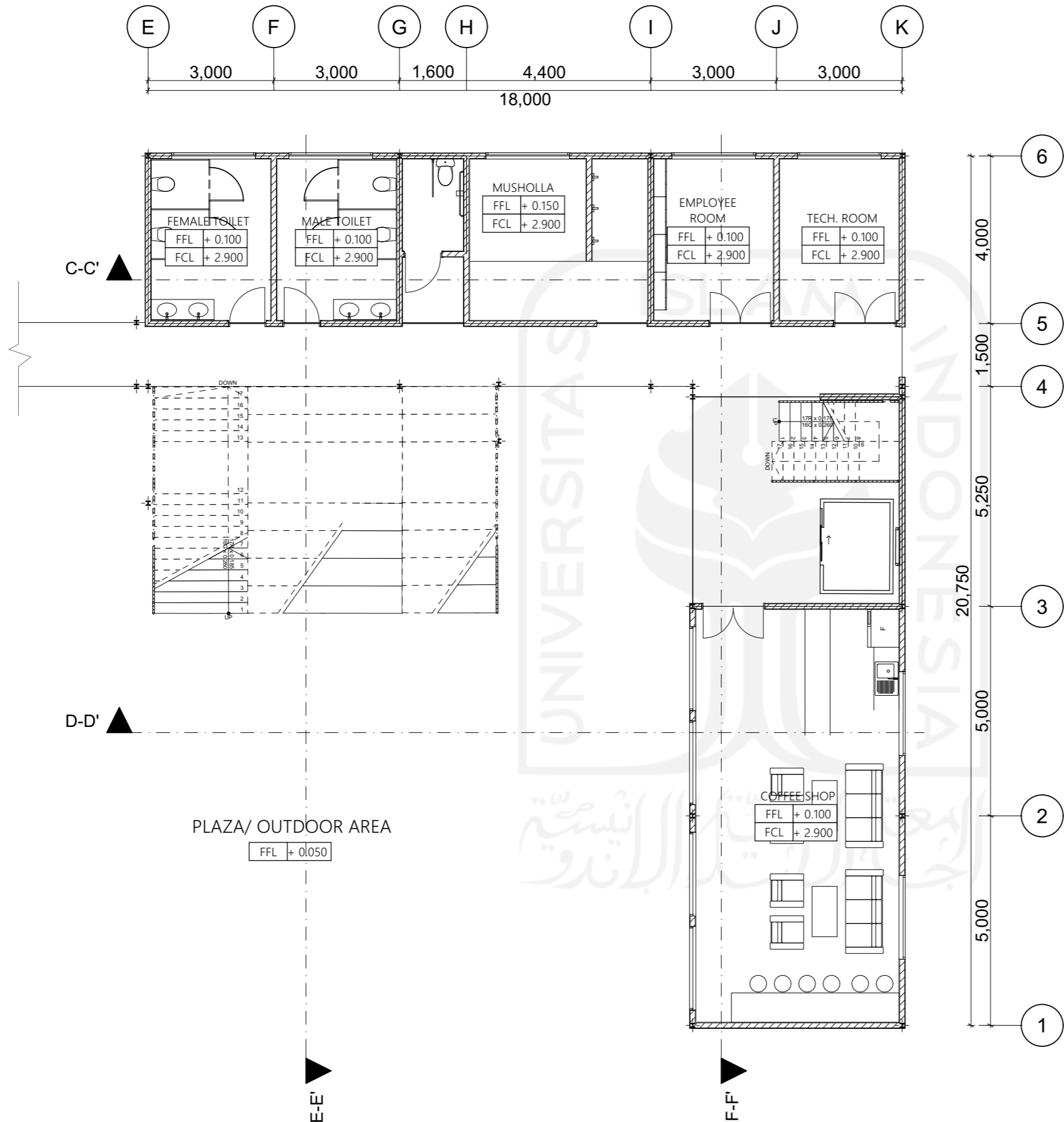
**DESCRIPTION**

FFL : FINISHED FLOOR LEVEL  
FCL : FINISHED CEILING LEVEL



FIRST BUILDING MASS PARTIAL GROUND FLOOR  
SCALE 1:75





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**DRAWING TITLE**

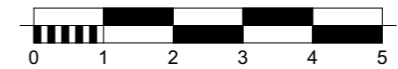
SECOND BUILDING MASS  
PARTIAL GROUND FLOOR PLAN  
A.01.04

**SCALE**

1:75

**DESCRIPTION**

FFL : FINISHED FLOOR LEVEL  
FCL : FINISHED CEILING LEVEL



SECOND BUILDING MASS PARTIAL GROUND FLOOR  
SCALE 1:75



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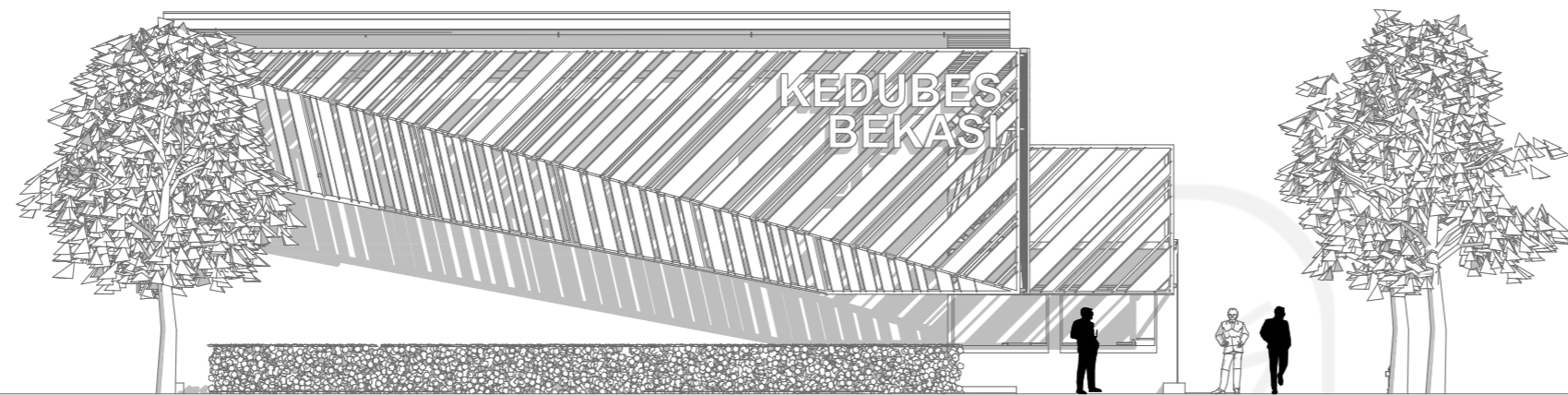
SITE ELEVATION

A.02.01

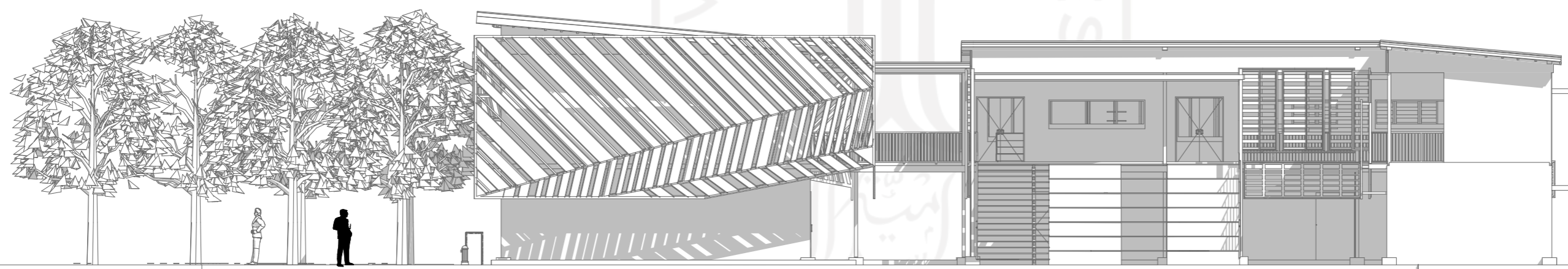
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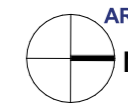


SOUTH ELEVATION  
SCALE 1:100



EAST ELEVATION  
SCALE 1:100

SITE ELEVATION  
SCALE 1:100



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**DRAWING TITLE**

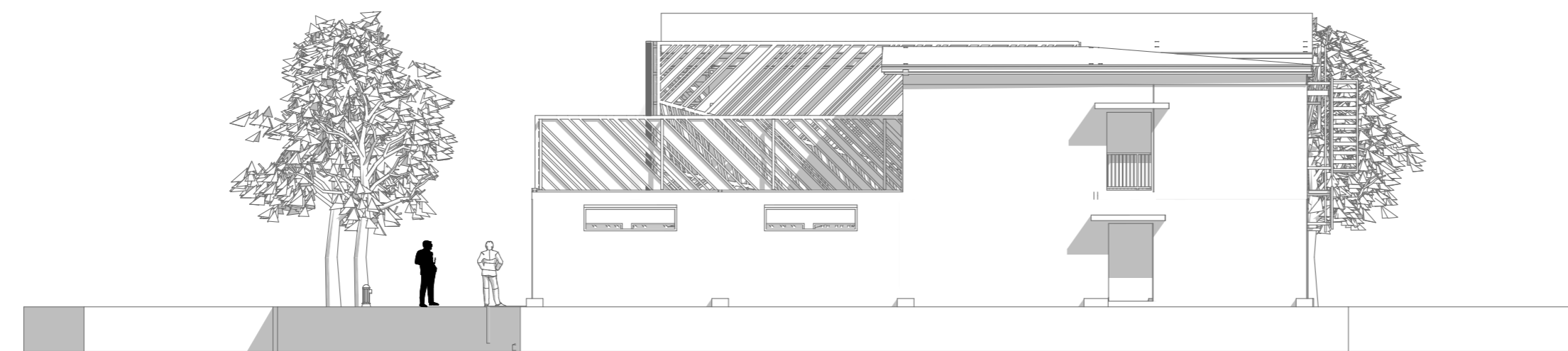
SITE ELEVATION

A.02.02

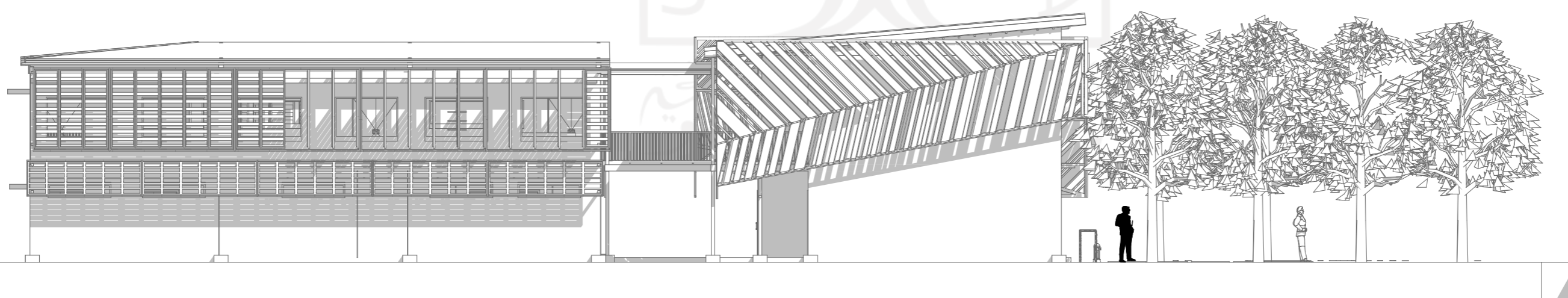
**SCALE**

1:100

**DESCRIPTION**



 NORTH ELEVATION  
SCALE 1:100



 WEST ELEVATION  
SCALE 1:100

 SITE ELEVATION  
SCALE 1:100





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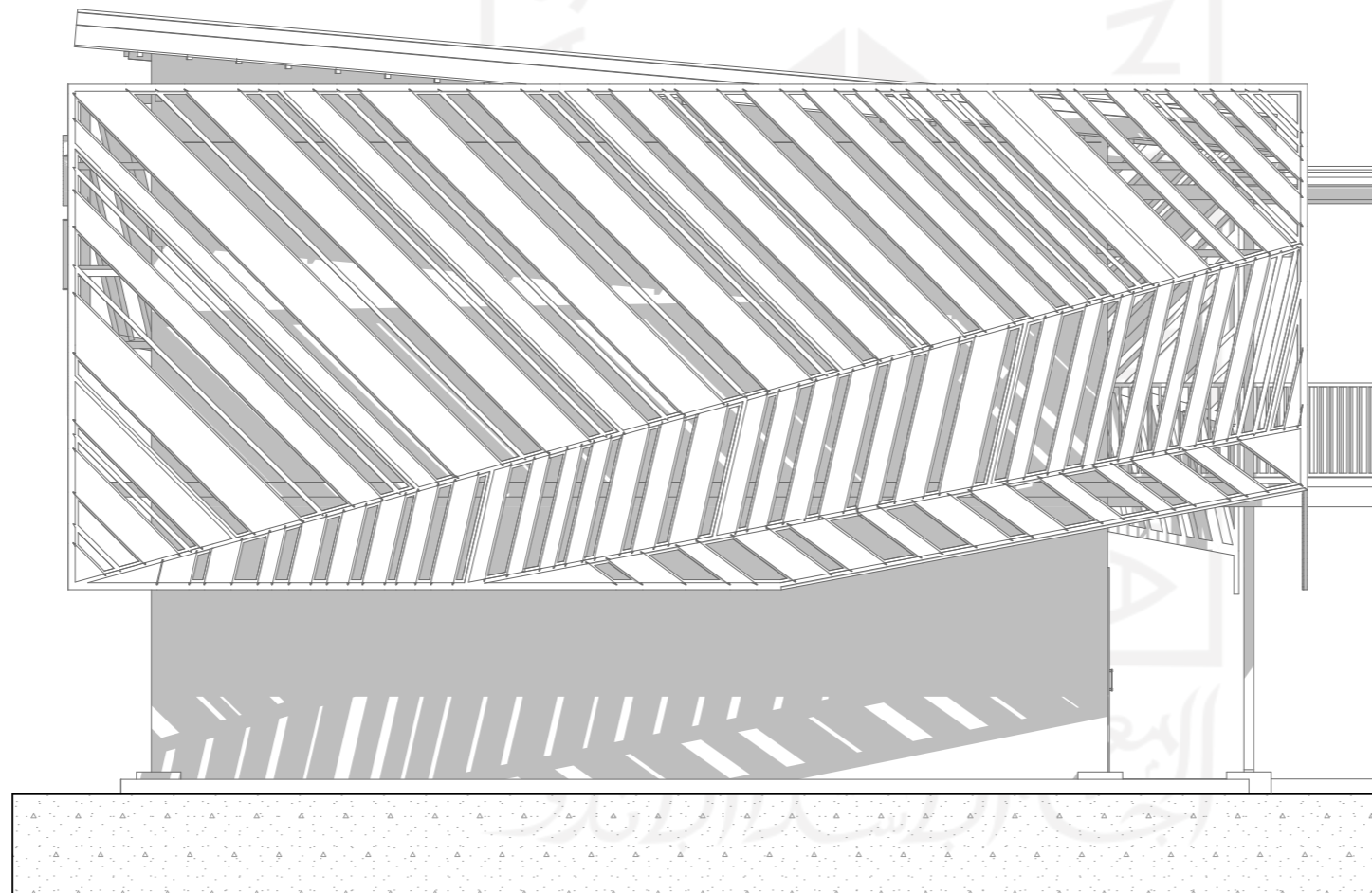
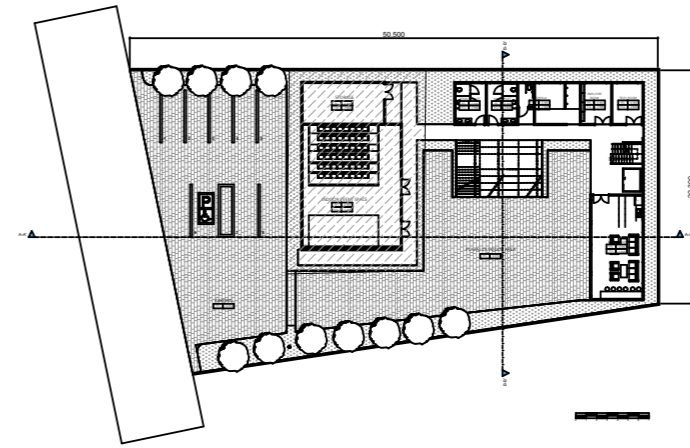
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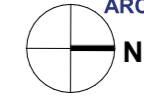
FIRST BUILDING MASS EAST  
ELEVATION  
A.02.03

**SCALE**

1:50

**DESCRIPTION**





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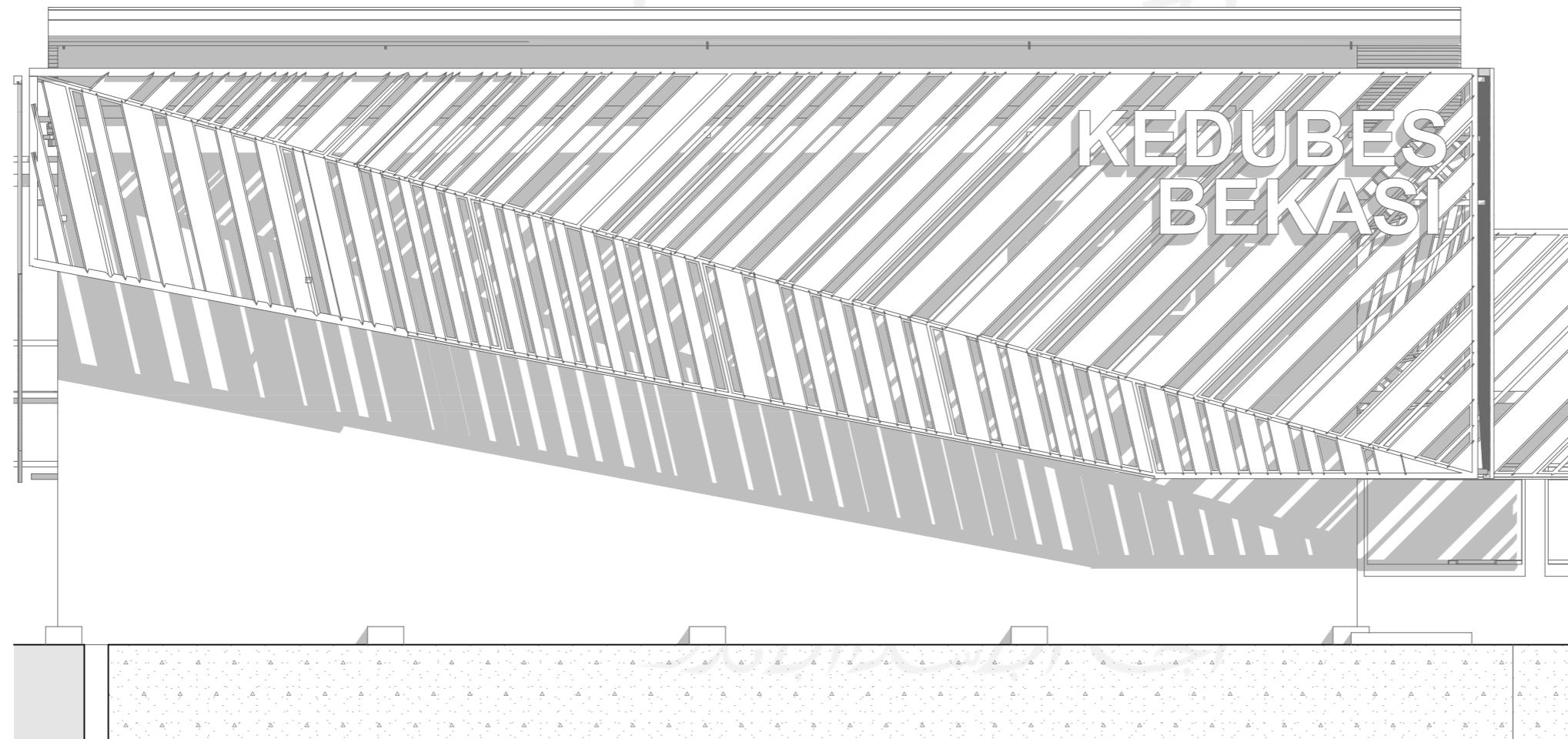
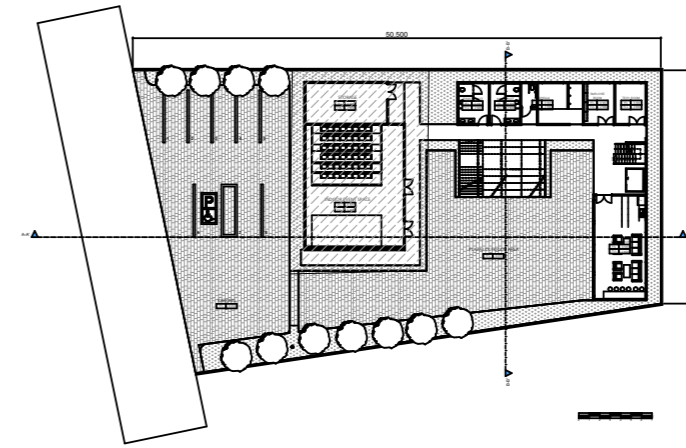
**DRAWING TITLE**

FIRST BUILDING MASS SOUTH  
ELEVATION  
A.02.04

**SCALE**

1:50

**DESCRIPTION**





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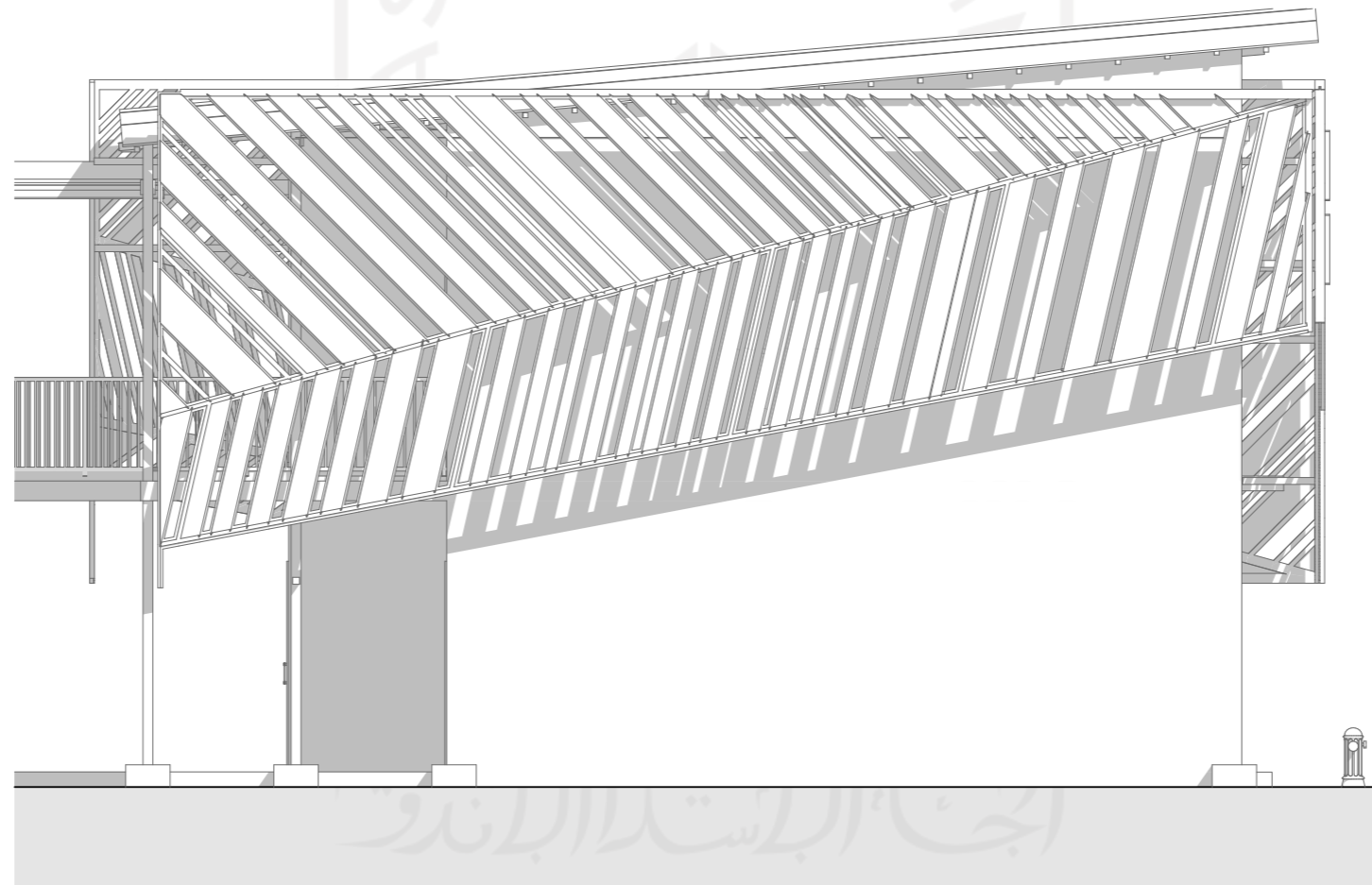
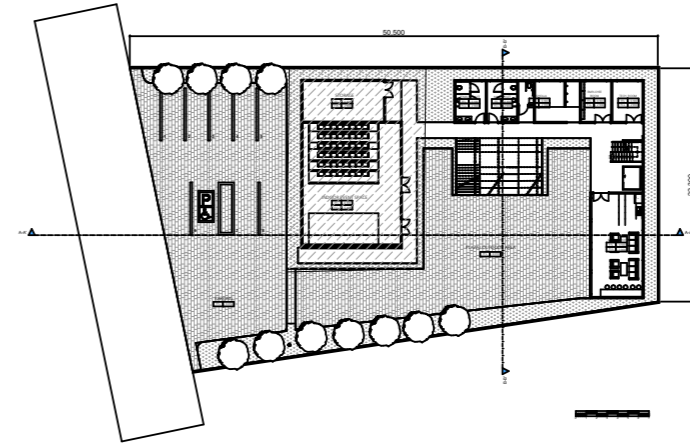
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ELEVATION  
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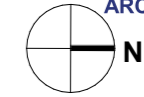
**SCALE**

1:50

**DESCRIPTION**







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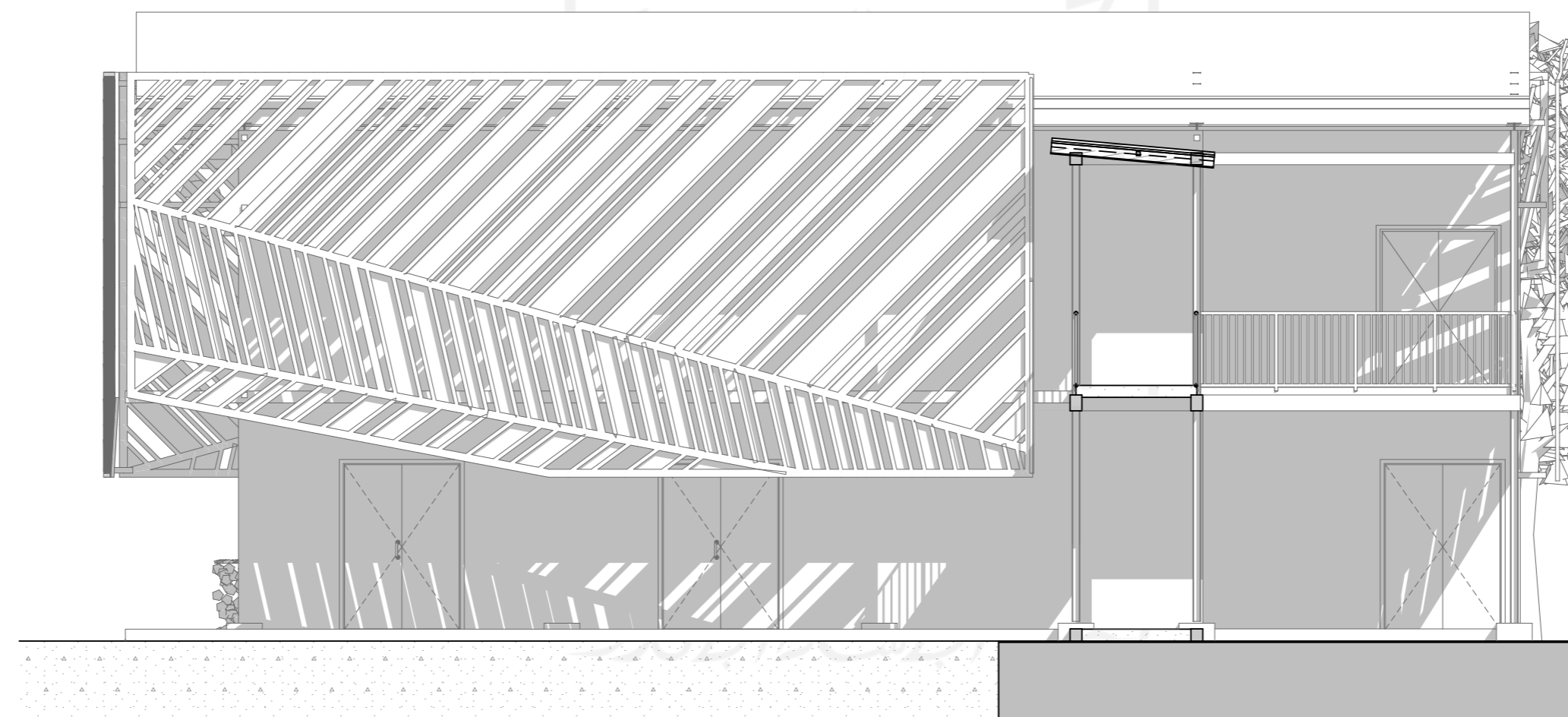
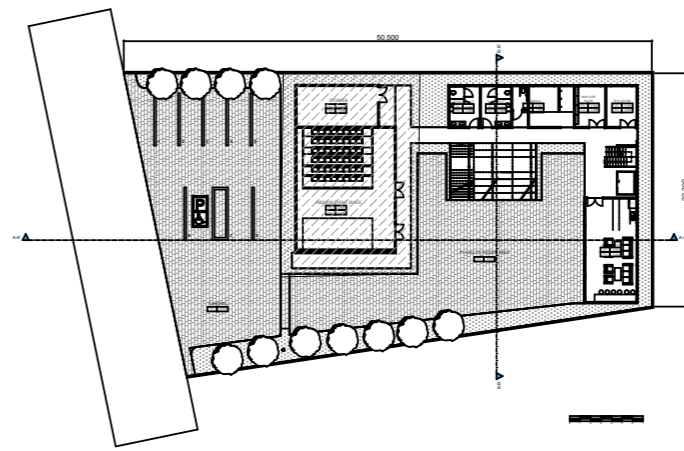
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FIRST BUILDING MASS NORTH  
ELEVATION  
A.02.06

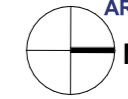
**SCALE**

1:50

**DESCRIPTION**



FIRST BUILDING MASS NORTH ELEVATION  
SCALE 1:50



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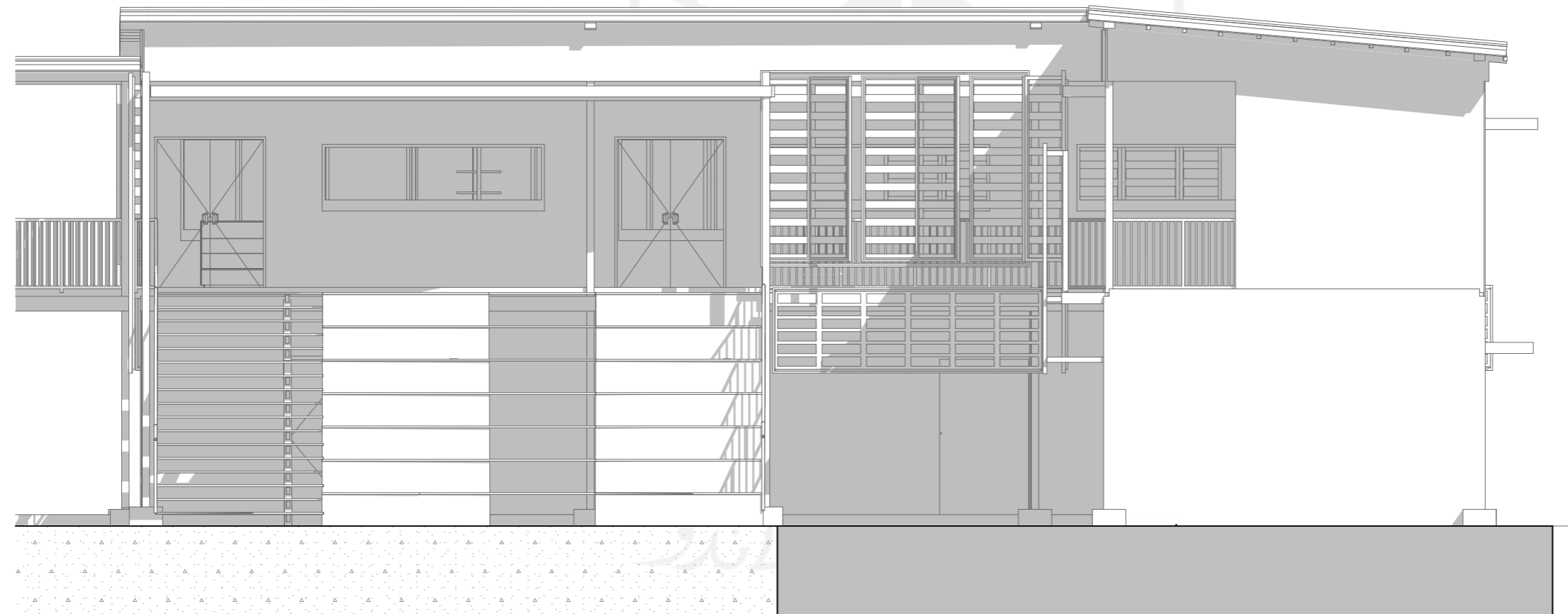
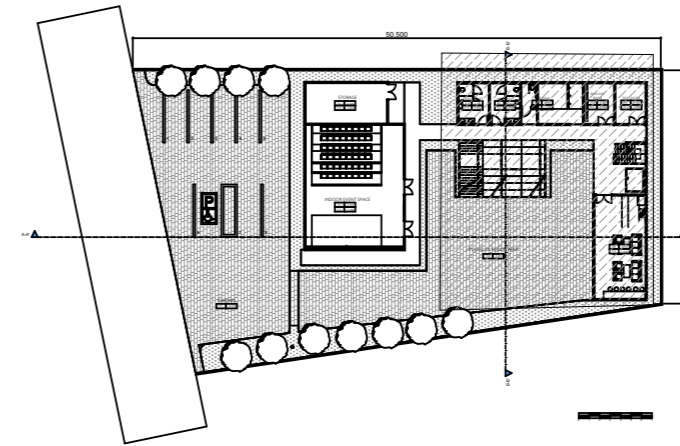
**DRAWING TITLE**

SECOND BUILDING MASS EAST  
ELEVATION  
A.02.07

**SCALE**

1:50

**DESCRIPTION**





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**PROJECT**

Creative Hub of "KEDUBES  
Bekasi" Creative Community

**LOCATION**

Jl. Raya Jatikramat  
Jati Asih, Kota Bekasi

**ARCHITECTURE STUDENT**

Bhanu Arsyi Akila  
17512148

**SUPERVISOR**

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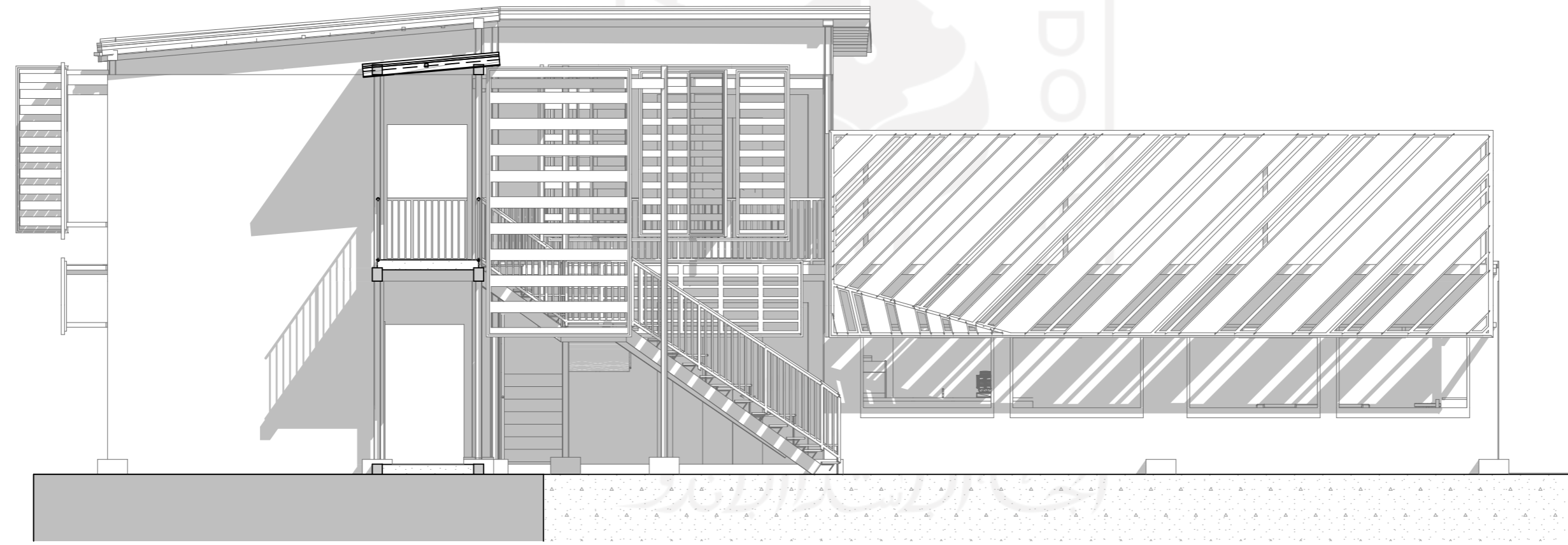
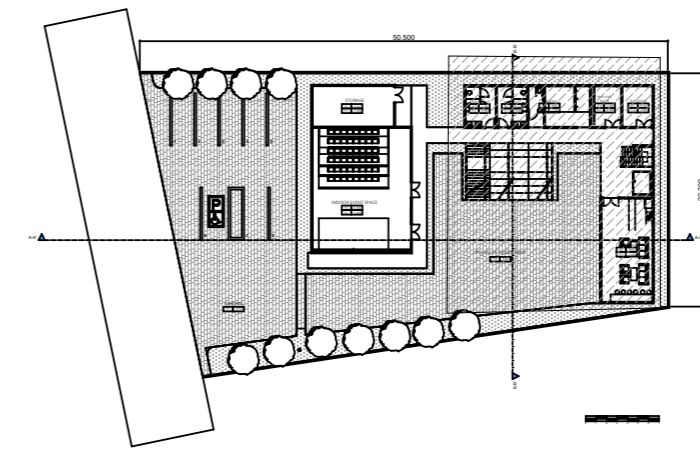
**DRAWING TITLE**

SECOND BUILDING MASS  
SOUTH ELEVATION  
A.02.08

**SCALE**

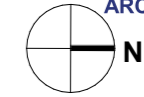
1:50

**DESCRIPTION**



SECOND BUILDING MASS SOUTH ELEVATION  
SCALE 1:50





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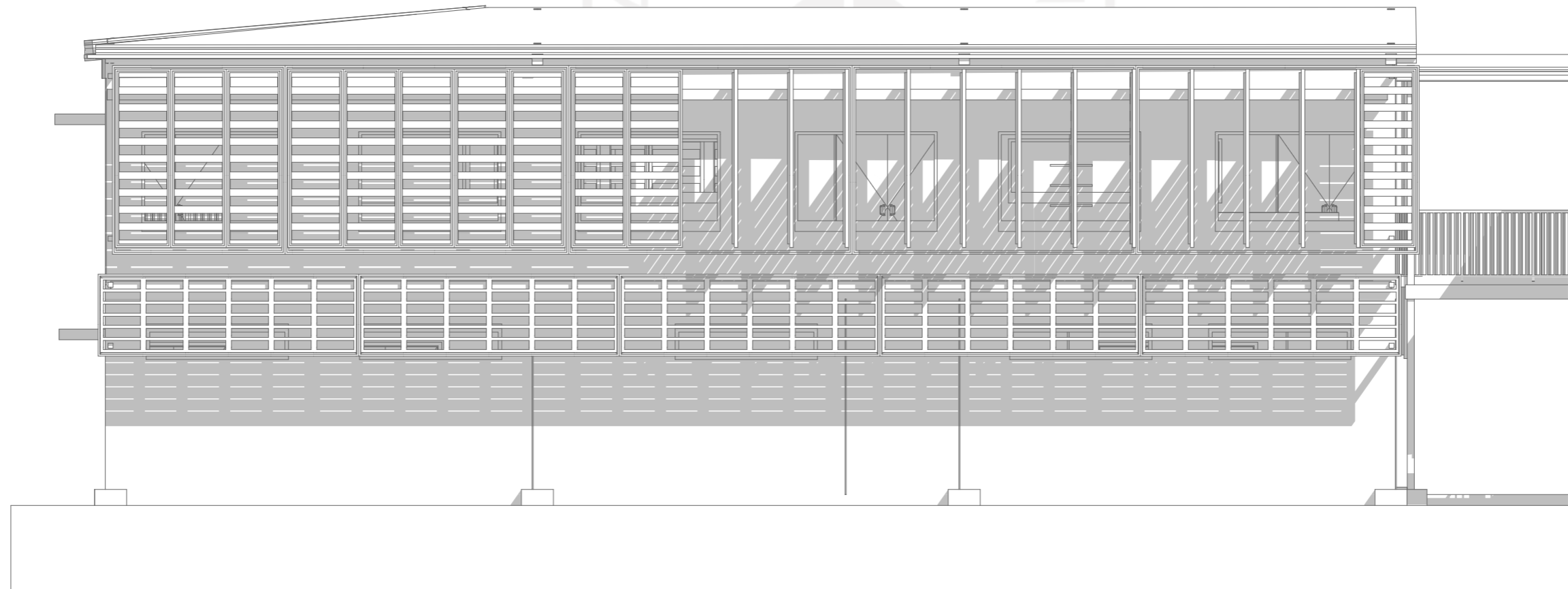
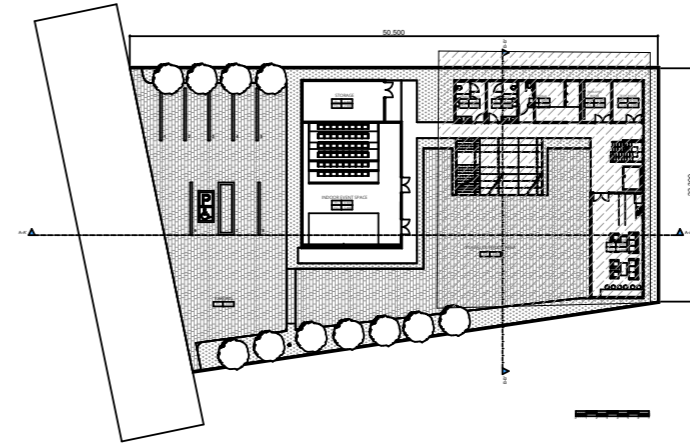
**DRAWING TITLE**

SECOND BUILDING MASS WEST  
ELEVATION  
A.02.09

**SCALE**

1:50

**DESCRIPTION**





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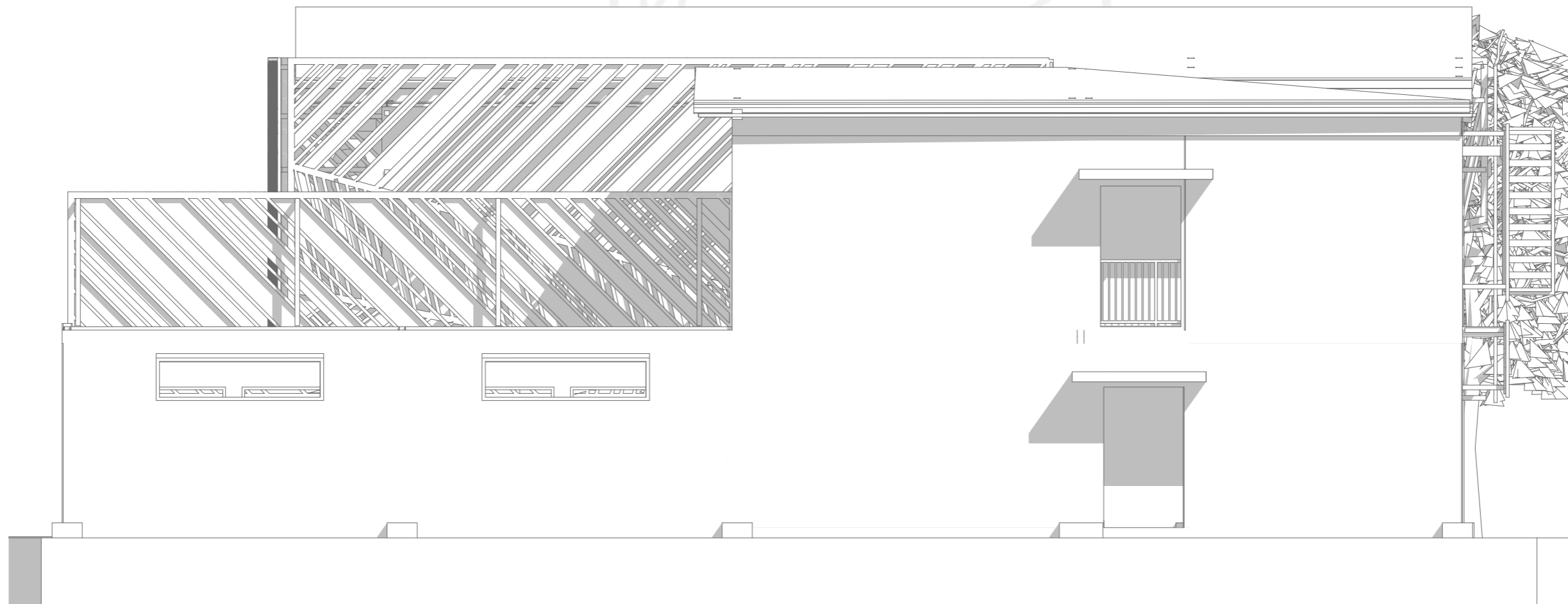
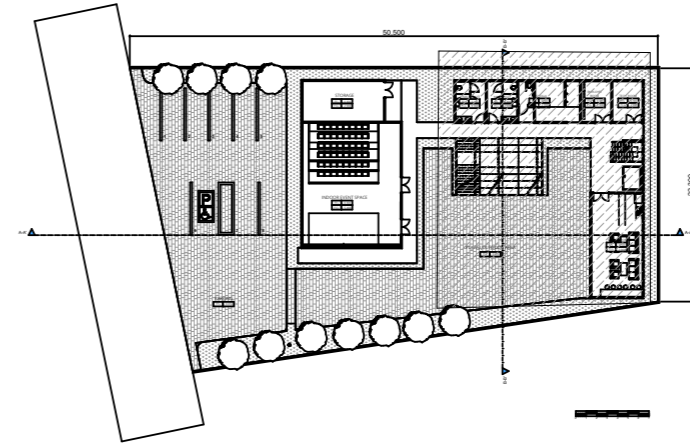
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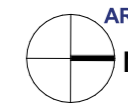
SECOND BUILDING MASS  
NORTH ELEVATION  
A.02.10

**SCALE**

1:50

**DESCRIPTION**





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**DRAWING TITLE**

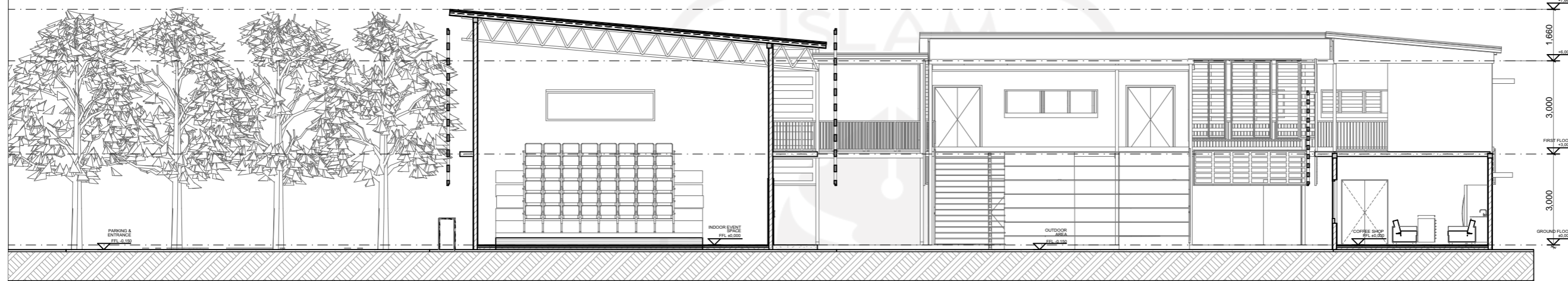
SITE SECTION

A.03.01

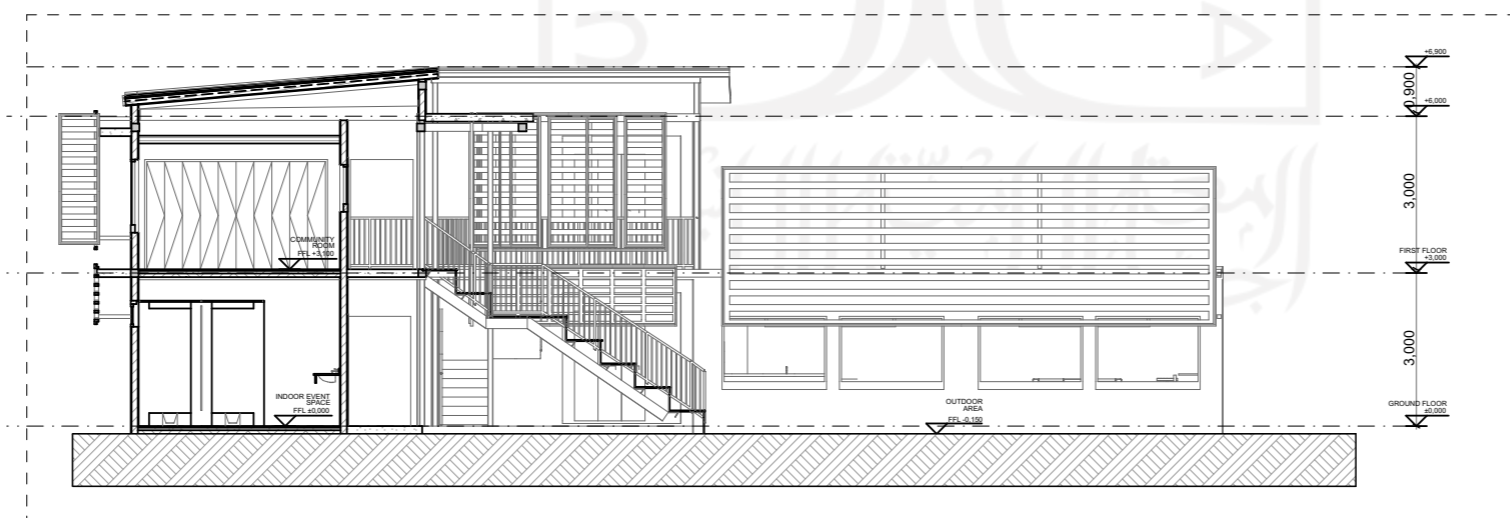
**SCALE**

1:100

**DESCRIPTION**



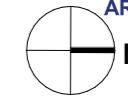
SITE A-A' SECTION  
SCALE 1:100



SITE B-B' SECTION  
SCALE 1:100

SITE SECTION  
SCALE 1:100





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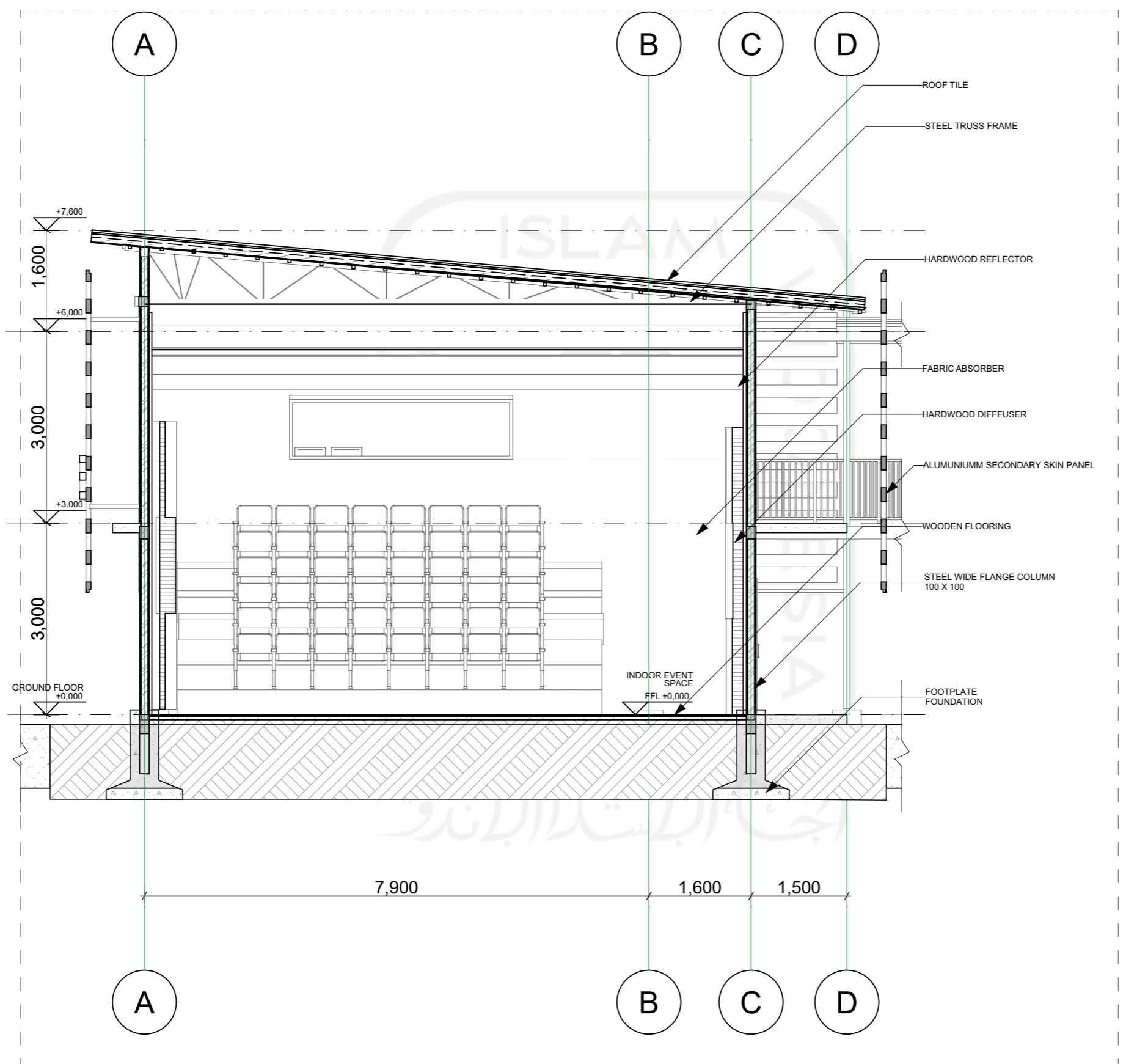
**DRAWING TITLE**

FIRST BUILDING MASS A-A' SECTION  
A.03.02

**SCALE**

1:50

**DESCRIPTION**



FIRST BUILDING MASS A-A' SECTION  
SCALE 1:50



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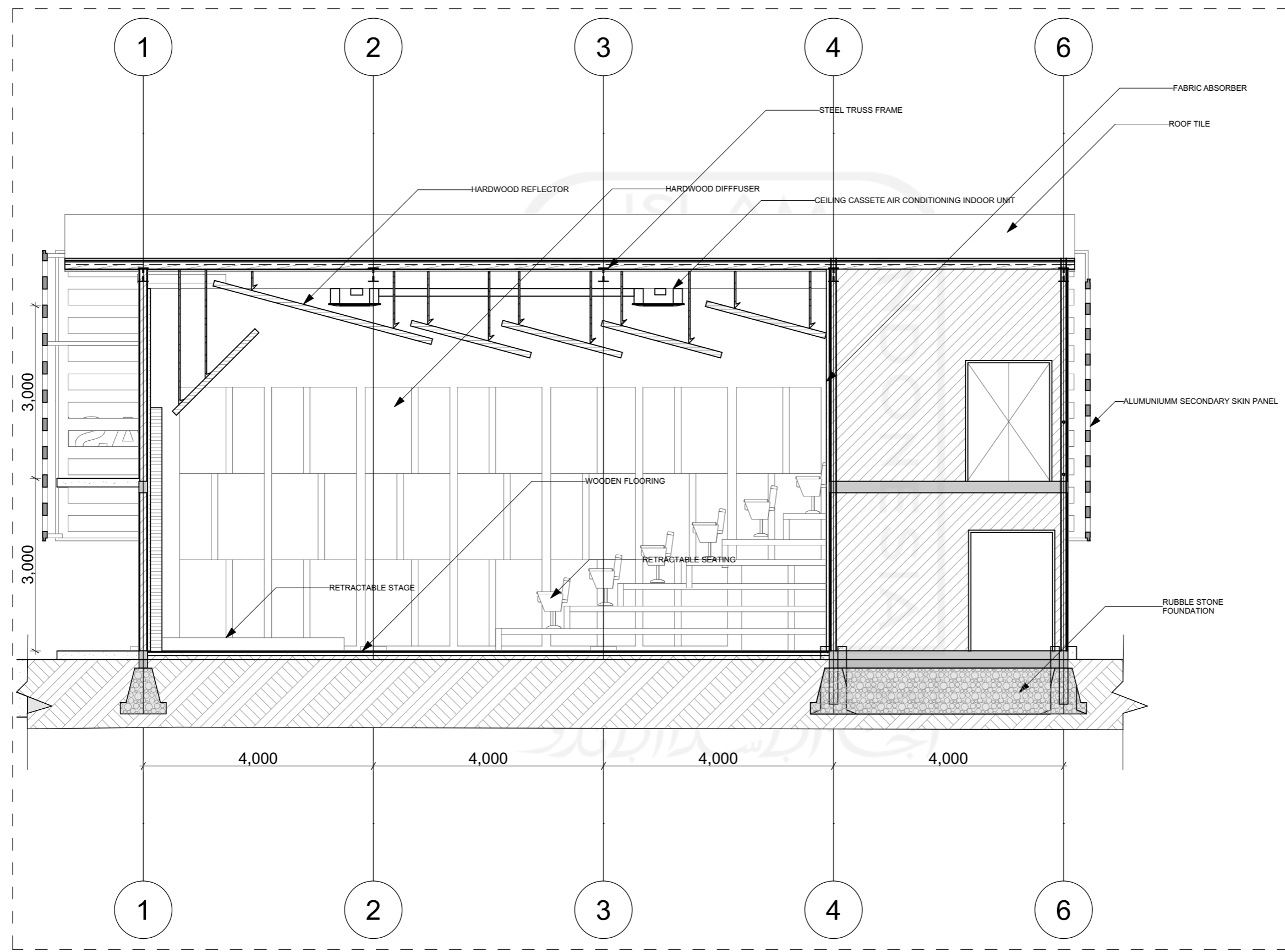
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Bhanu Arsyi Akila  
17512148

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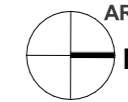
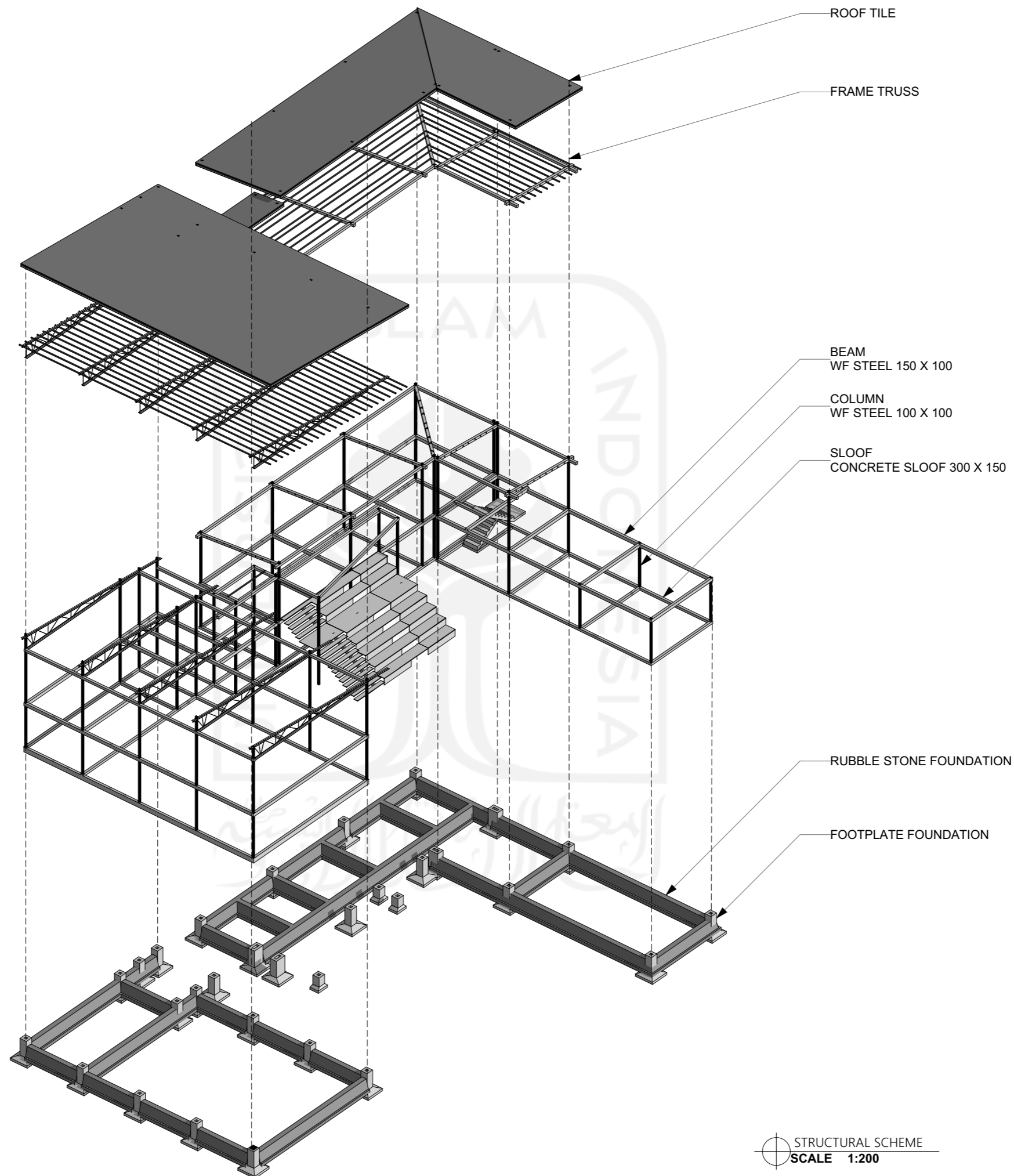
**DRAWING TITLE**  
FIRST BUILDING MASS B-B' SECTION  
A.03.03

**SCALE**  
1:50

**DESCRIPTION**



FIRST BUILDING MASS B-B' SECTION  
SCALE 1:50



ARCHICAD EDUCATION VERSION



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**DRAWING TITLE**

STRUCTURAL SCHEME

STR.01.01

**SCALE**

1:200

**DESCRIPTION**





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**DRAWING TITLE**

CLEAN WATER SCHEME

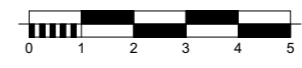
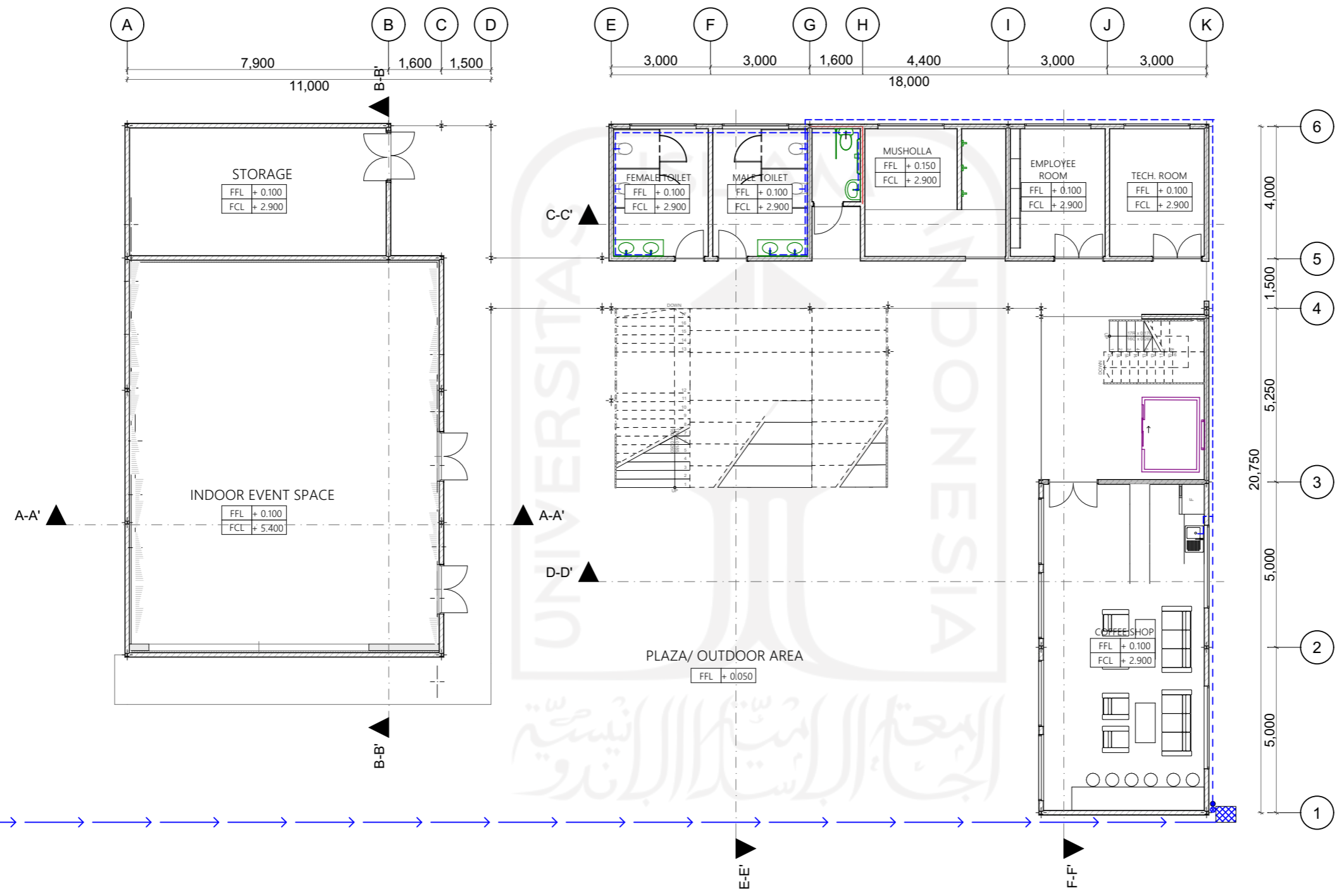
MEP.01.01

**SCALE**

1:100

**DESCRIPTION**

- FFL : FINISHED FLOOR LEVEL
- FCL : FINISHED CEILING LEVEL
- : PVC PIPE 1/2" (DOWNFEET FROM ROOF TANK)
- : PVC PIPE 1/2" (UPFEET TO ROOF TANK)
- : CLEAN WATER PIPE LINE
- : WATER SOURCE (PDAM)
- : WATER PUMP



CLEAN WATER SCHEME  
SCALE 1:100



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**DRAWING TITLE**

WASTE WATER SCHEME

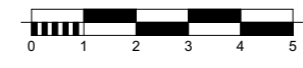
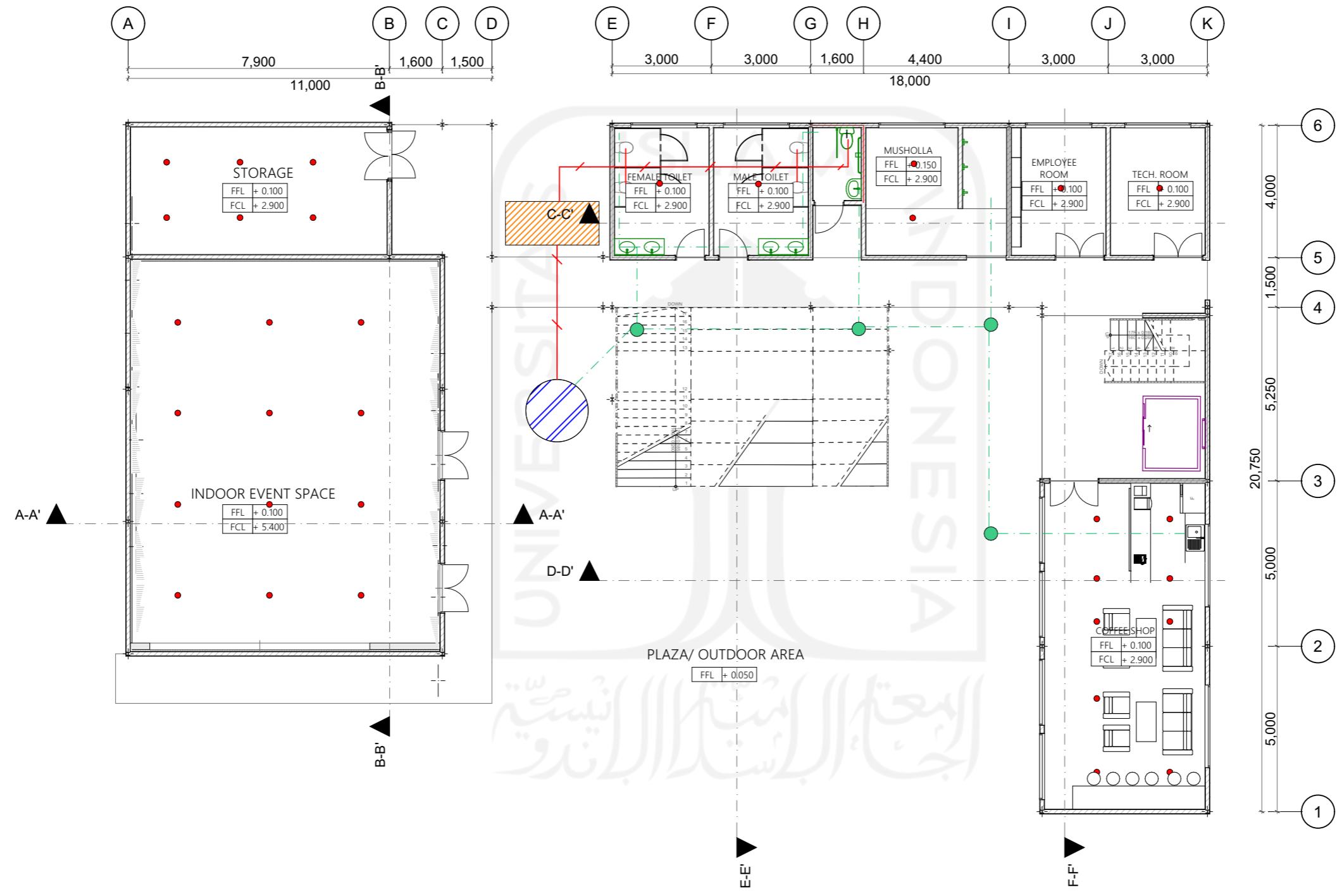
MEP.02.01

**SCALE**

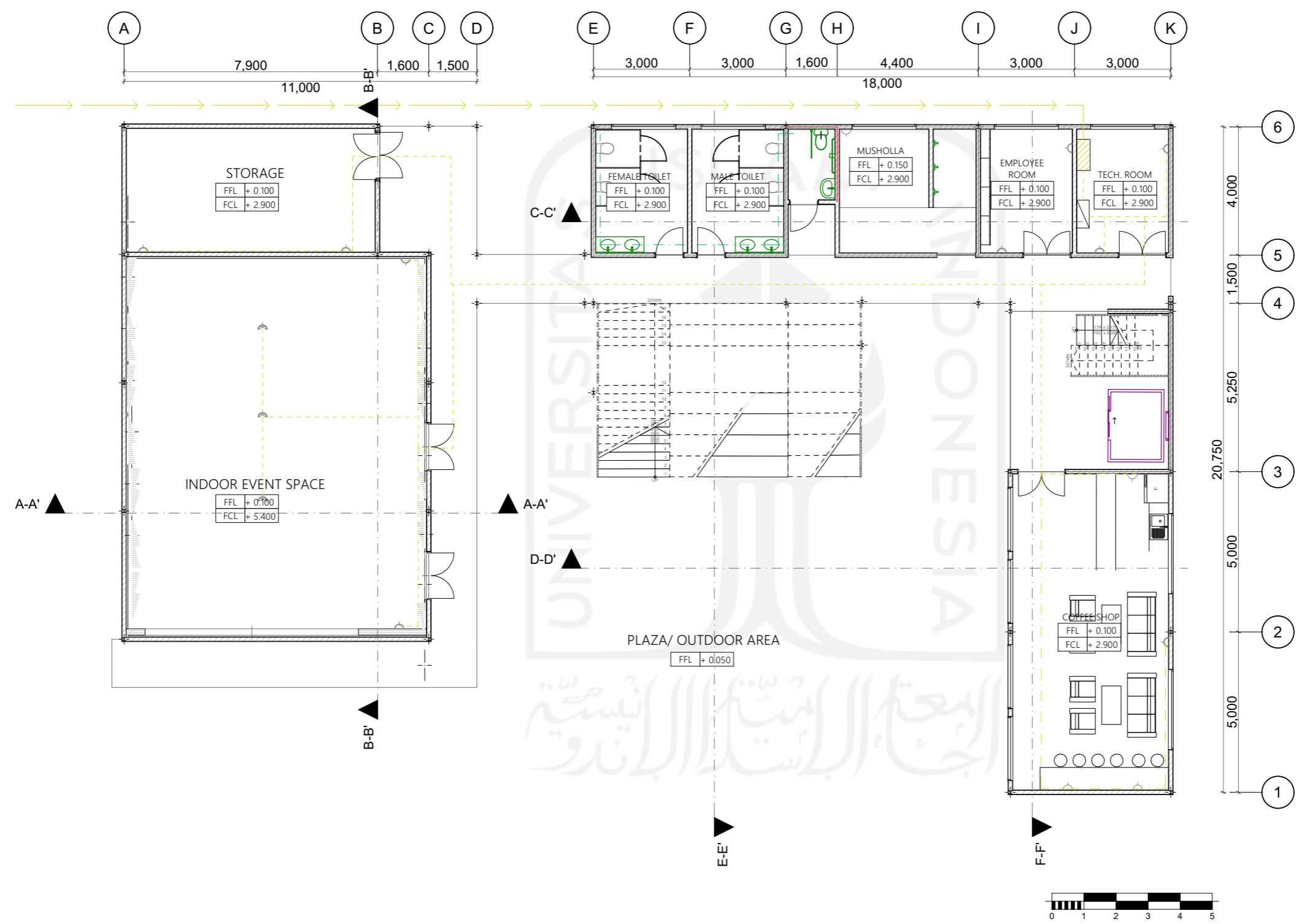
1:100

**DESCRIPTION**

- FFL : FINISHED FLOOR LEVEL
- FCL : FINISHED CEILING LEVEL
- : RESERVOIR
- : CONTROL TANK
- : GREY WATER PIPE LINE
- : BLACK WATER PIPE LINE
- : SEPTIC TANK



WASTE WATER SCHEME  
SCALE 1:100



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ST, MT, IPM

**DRAWING TITLE**  
ELECTRICAL SCHEME GROUND FLOOR  
MEP.03.01

**SCALE**  
1:100

**DESCRIPTION**

- FFL : FINISHED FLOOR LEVEL
- FCL : FINISHED CEILING LEVEL
- : MAIN PANEL
- : CONTROL PANEL
- : ELECTRICAL LINE
- : ELECTRICAL SOURCE LINE
- : SOCKET OUTLET SINGLE GANG
- : SOCKET OUTLET MULTIPLE 2 GANG
- : SOCKET OUTLET MULTIPLE 2 GANG FLOOR MOUNTED





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17512148

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**DRAWING TITLE**

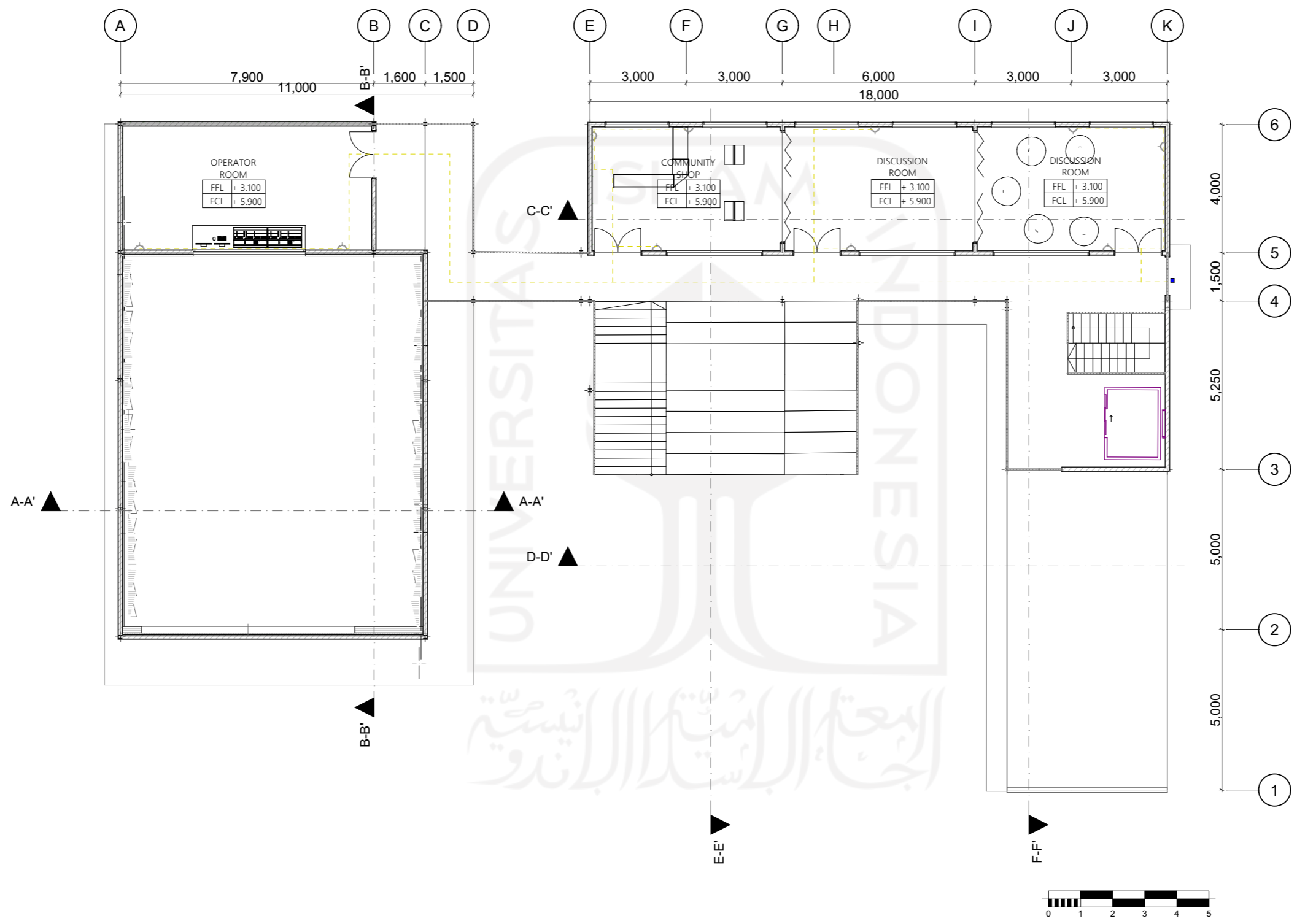
ELECTRICAL SCHEME FIRST FLOOR  
MEP.03.02

**SCALE**

1:100

**DESCRIPTION**

- FFL : FINISHED FLOOR LEVEL
- FCL : FINISHED CEILING LEVEL
- : MAIN PANEL
- : CONTROL PANEL
- : ELECTRICAL LINE
- : ELECTRICAL SOURCE LINE
- : SOCKET OUTLET SINGLE GANG
- : SOCKET OUTLET MULTIPLE 2 GANG
- : SOCKET OUTLET MULTIPLE 2 GANG FLOOR MOUNTED



ELECTRICAL SCHEME FIRST FLOOR  
SCALE 1:100



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**DRAWING TITLE**

LAMP SCHEME GROUND FLOOR

MEP.04.01

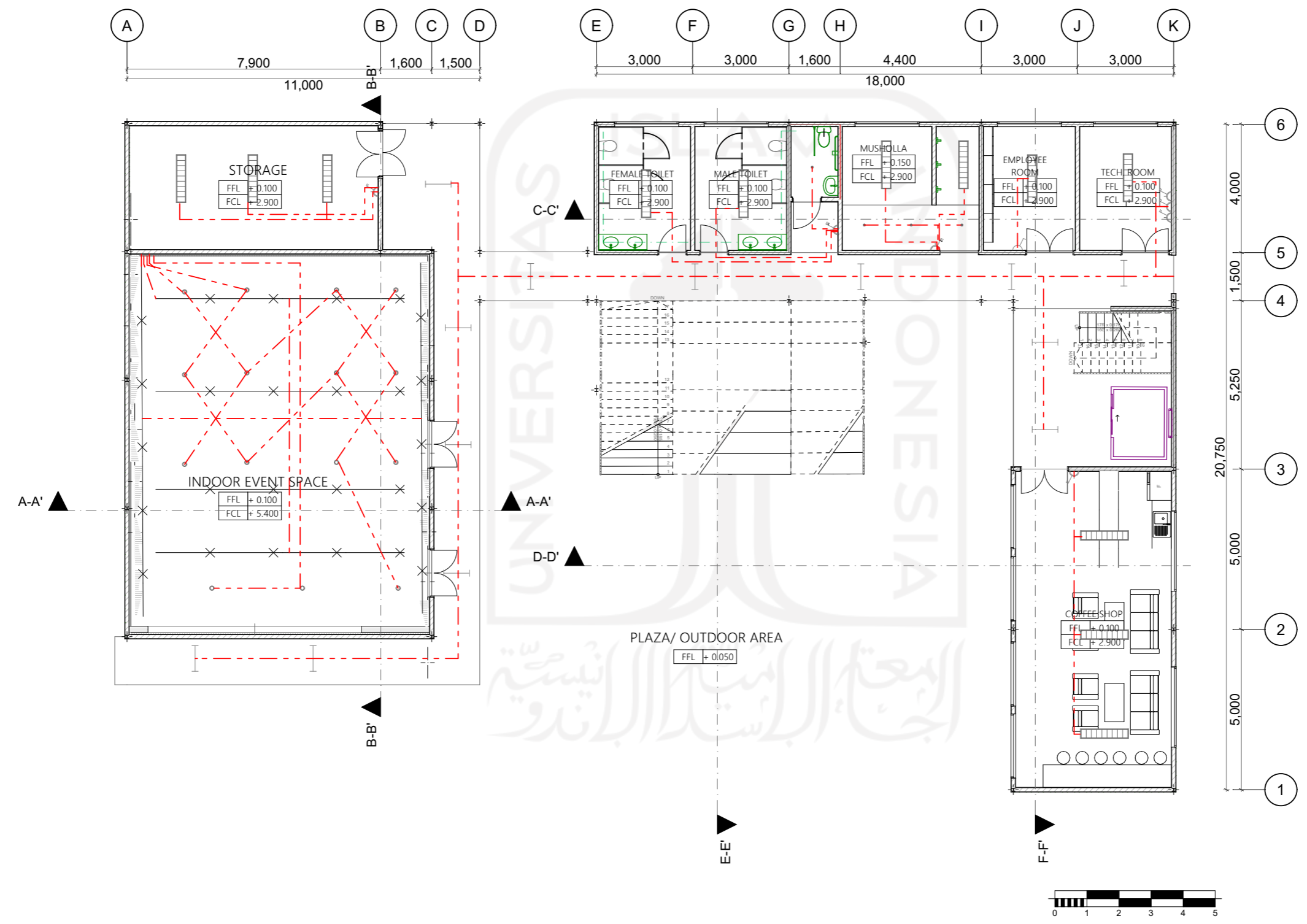
**SCALE**

1:100

**DESCRIPTION**

FFL : FINISHED FLOOR LEVEL  
FCL : FINISHED CEILING LEVEL

- - - - - : CABLE LINE
- : SOCKET OUTLET SINGLE SWITCH
- : SOCKET OUTLET DOUBLE SWITCH
- : SOCKET OUTLET TRIPLE SWITCH
- : FLUORESCENT LAMP SINGLE
- : FLUORESCENT LAMP BOX
- : RECESSED LIGHT
- : STRIP LIGHT



LAMP SCHEME GROUND FLOOR  
SCALE 1:100



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**DRAWING TITLE**








LAMP SCHEME FIRST FLOOR

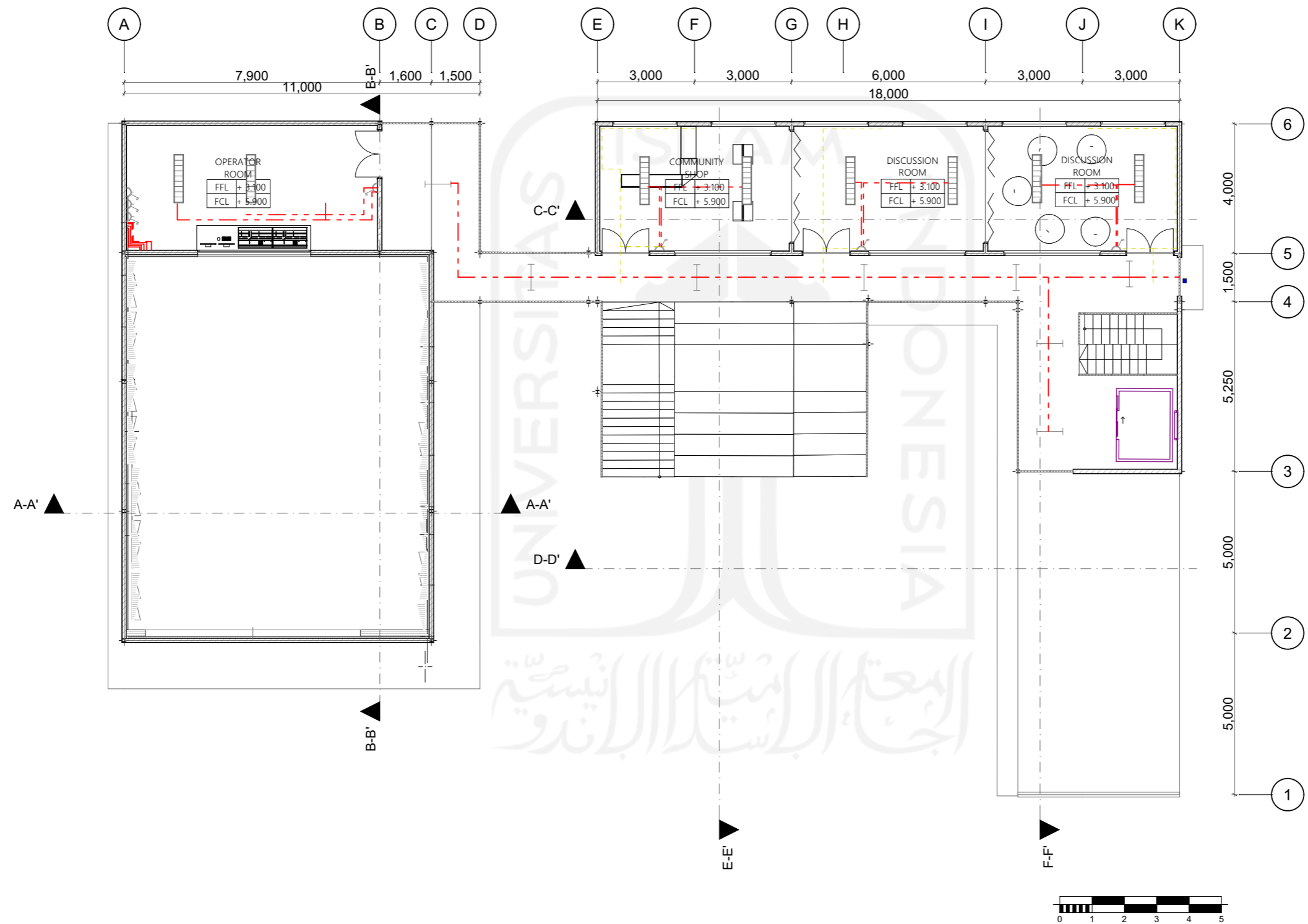
MEP.04.02

**SCALE**

1:100

**DESCRIPTION**

- FFL : FINISHED FLOOR LEVEL
- FCL : FINISHED CEILING LEVEL
- - - - - : CABLE LINE
-  : SOCKET OUTLET SINGLE SWITCH
-  : SOCKET OUTLET DOUBLE SWITCH
-  : SOCKET OUTLET TRIPLE SWITCH
-  : FLUORESCENT LAMP SINGLE
-  : FLUORESCENT LAMP BOX
-  : RECESSED LIGHT
-  : STRIP LIGHT



LAMP SCHEME FIRST FLOOR  
SCALE 1:100





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**DRAWING TITLE**

HVAC SCHEME GROUND FLOOR

MEP.05.01

**SCALE**

1:100

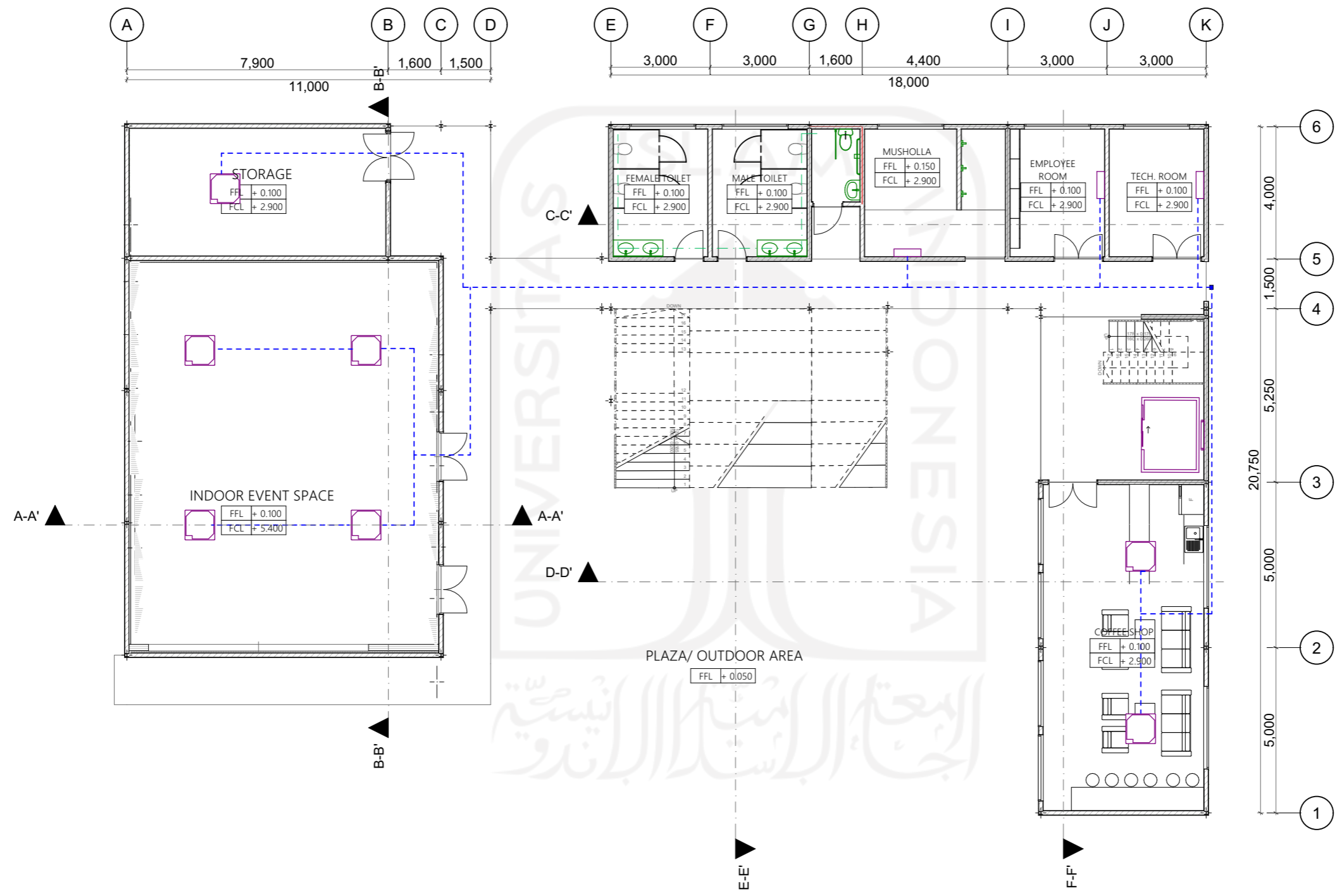
**DESCRIPTION**

FFL : FINISHED FLOOR LEVEL  
FCL : FINISHED CEILING LEVEL

--- : INSULATED HVAC DUCTING

□ : WALL MOUNTED INDOOR UNIT

□ : CEILING CASSETTE INDOOR UNIT



HVAC SCHEME GROUND FLOOR  
SCALE 1:100



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**DRAWING TITLE**

HVAC SCHEME FIRST FLOOR

MEP.05.02

**SCALE**

1:100

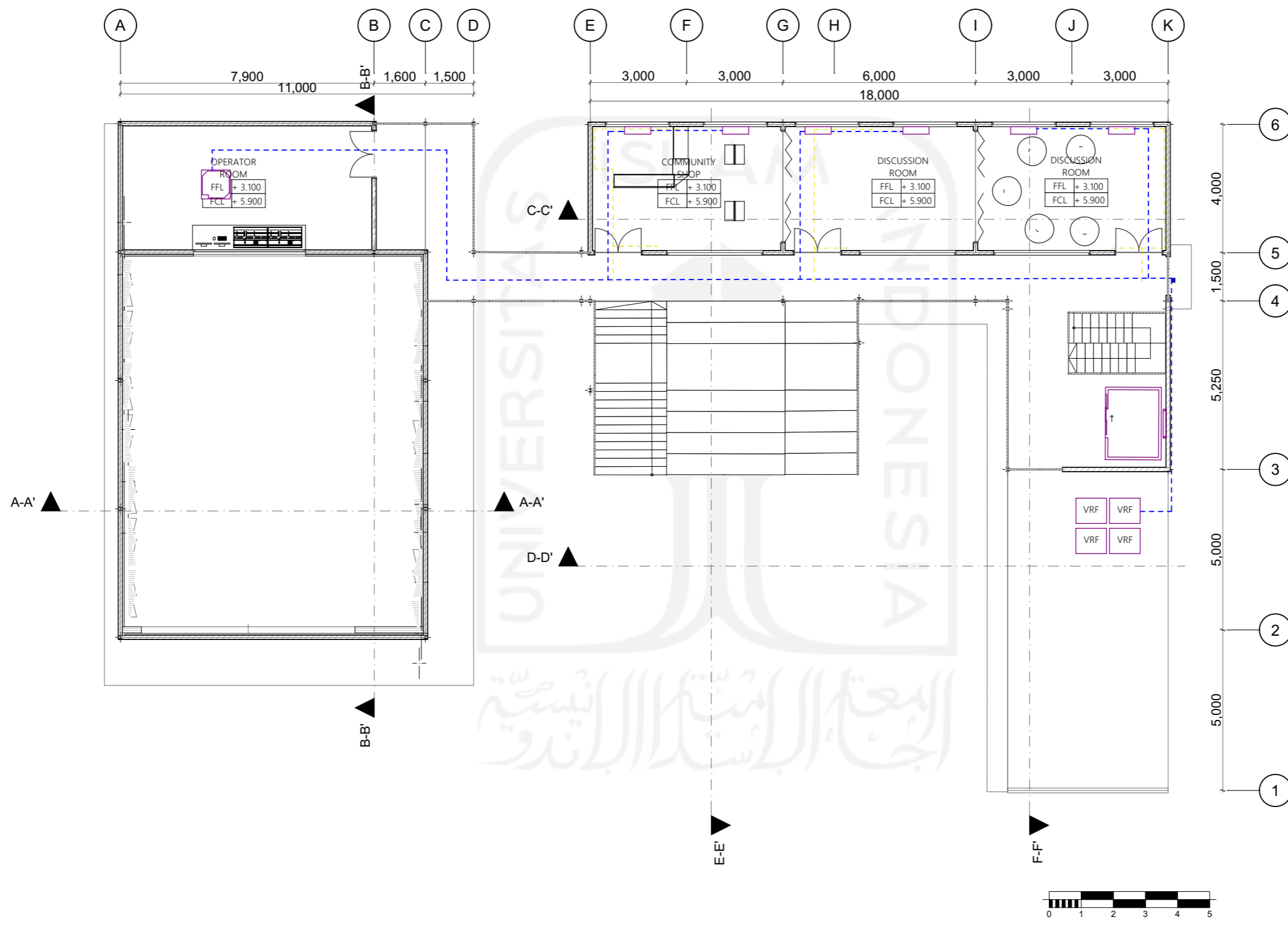
**DESCRIPTION**

FFL : FINISHED FLOOR LEVEL  
FCL : FINISHED CEILING LEVEL

--- : INSULATED HVAC DUCTING

□ : WALL MOUNTED INDOOR UNIT

□ : CEILING CASSETTE INDOOR UNIT



HVAC SCHEME FIRST FLOOR  
SCALE 1:100



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**DRAWING TITLE**

EMERGENCY SCHEME

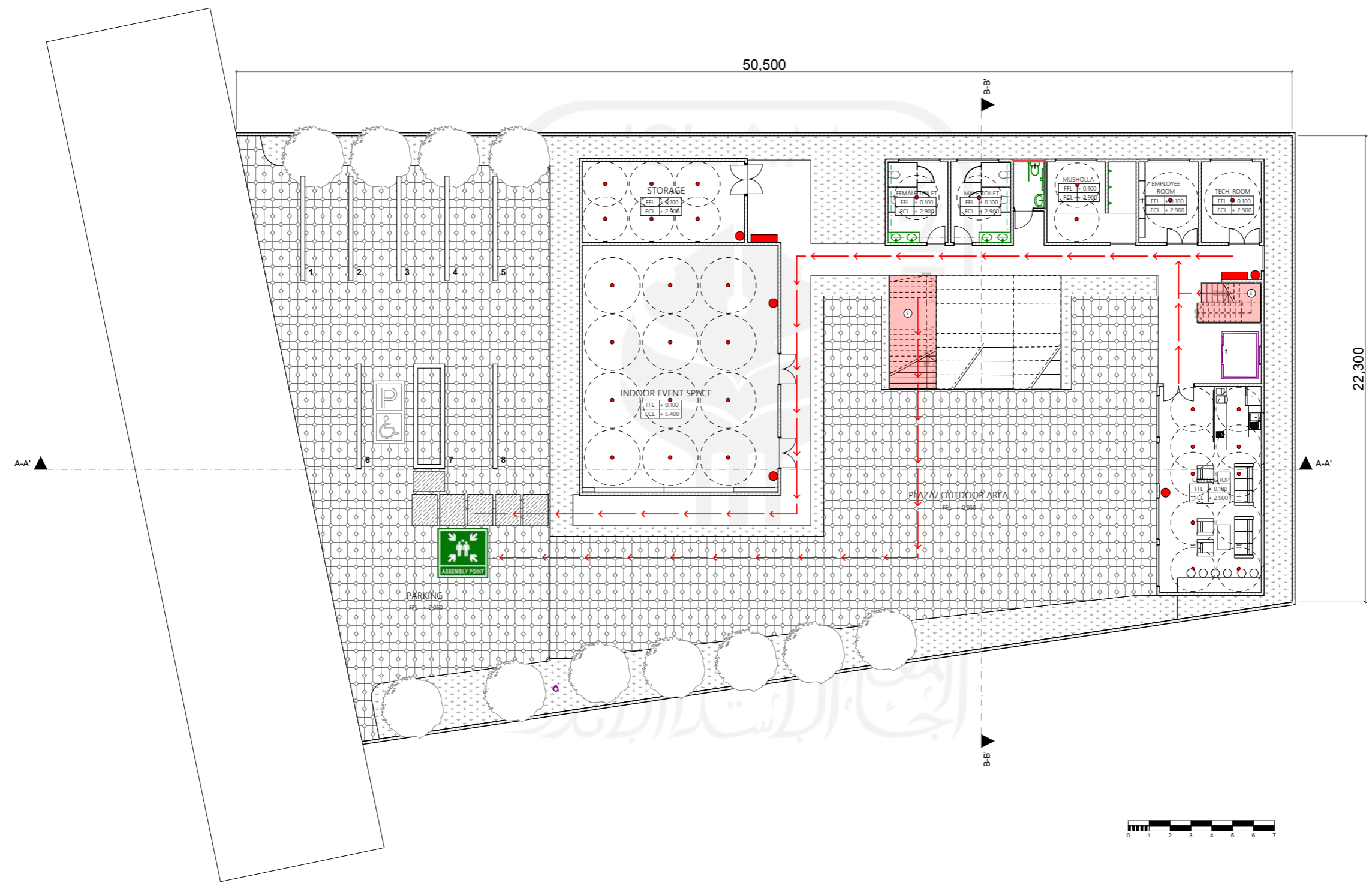
I.01.01

**SCALE**

1:150, 1:7,32

**DESCRIPTION**

- FFL : FINISHED FLOOR LEVEL
- FCL : FINISHED CEILING LEVEL
- → → : EVACUATION ROUTE
- : FIRE EXTINGUISHER
- : HYDRANT BOX
- : HYDRANT PILLAR OUTDOOR
- : STAIRS
- : ASSEMBLY POINT
- : SPRINKLER







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**DRAWING TITLE**

VERTICAL TRANSPORTATION SCHEME  
I.02.01

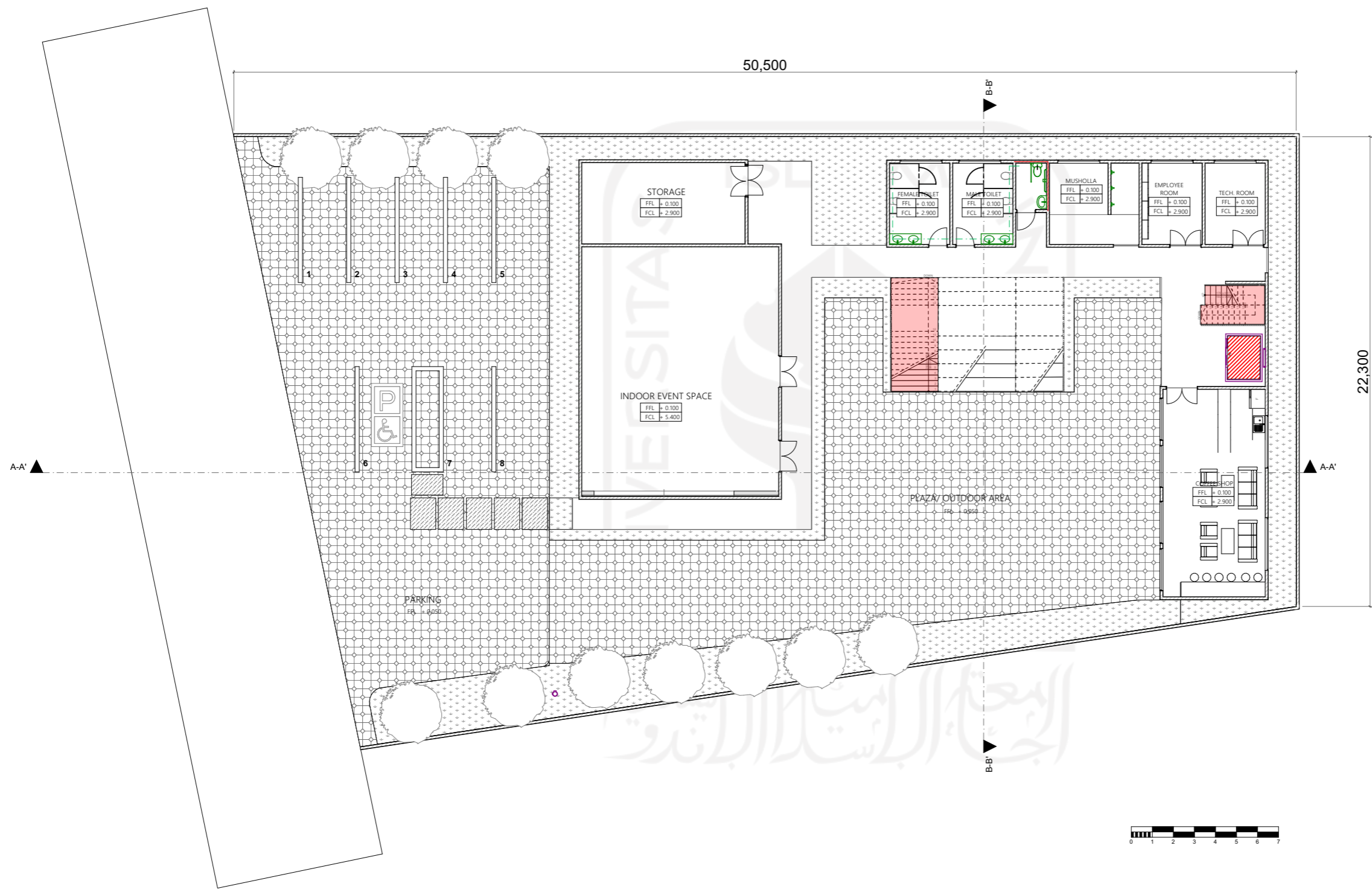
**SCALE**

1:150

**DESCRIPTION**

FFL : FINISHED FLOOR LEVEL  
FCL : FINISHED CEILING LEVEL

- : ELEVATOR
- : STAIRS





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**DRAWING TITLE**

BARRIER FREE SCHEME

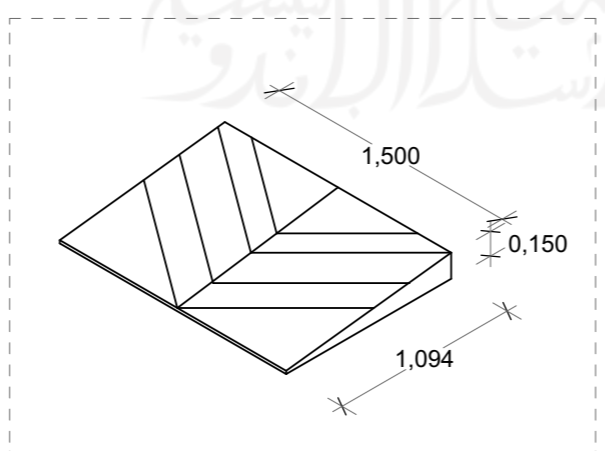
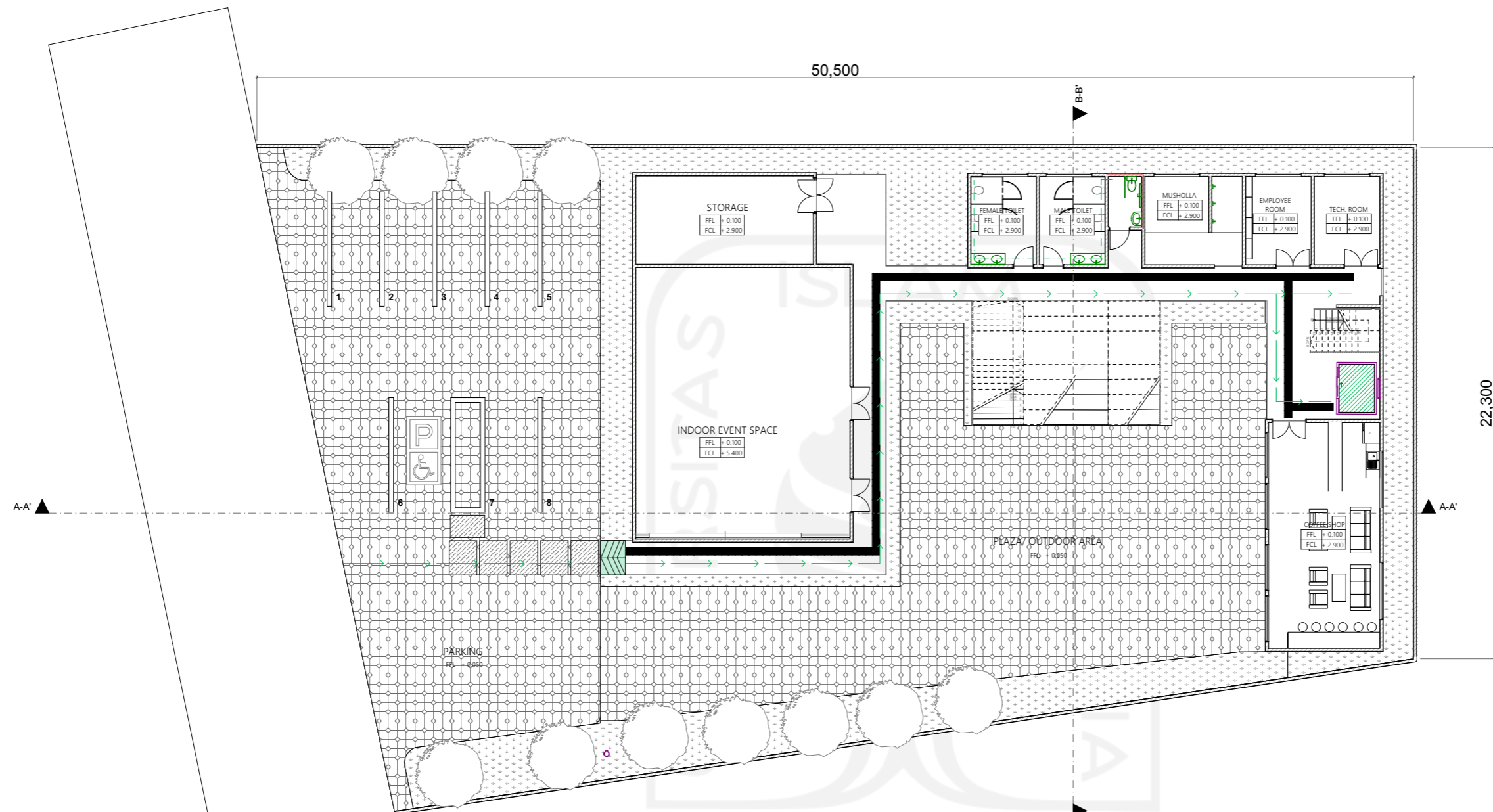
I.03.01

**SCALE**

1:150

**DESCRIPTION**

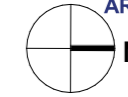
- FFL : FINISHED FLOOR LEVEL
- FCL : FINISHED CEILING LEVEL
- : DIFFABLE ROUTE
- : ELEVATOR
- : DIFFABLE RAMP
- : DIFFABLE GUIDING BLOCK



DIFFABLE RAMP  
SCALE 1:30



BARRIER FREE SCHEME  
SCALE 1:150



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ST, MT, IPM

**DRAWING TITLE**

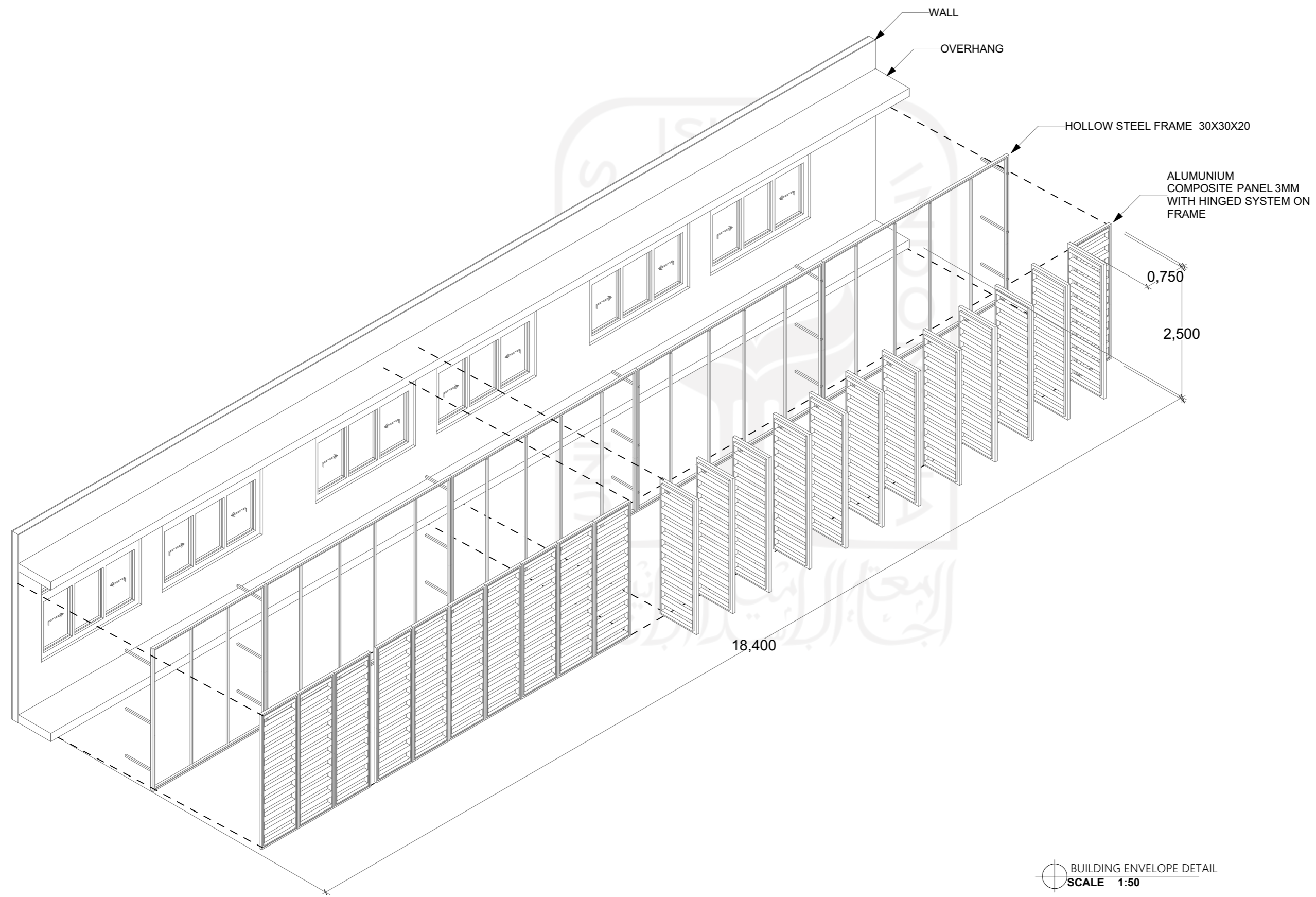
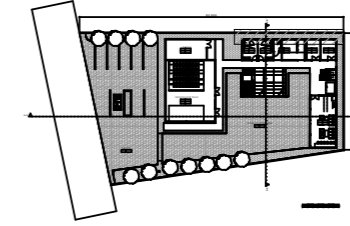
BUILDING ENVELOPE DETAIL

D.01.01

**SCALE**

1:50

**DESCRIPTION**







PROJECT

Creative Hub of "KEDUBES Bekasi" Creative Community

LOCATION

Jl. Raya Jatikramat Jati Asih, Kota Bekasi

ARCHITECTURE STUDENT

Bhanu Arsyi Akil  
17512141

SUPERVISOR

Assist Prof. Dr. Yulianto P. Prihatmaji  
ST, MT, IPK

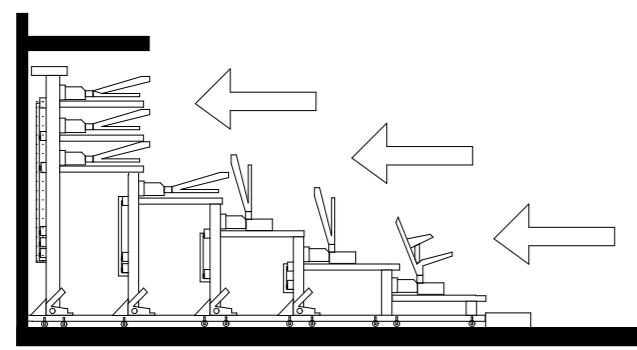
DRAWING TITLE

INDOOR EVENT SPACE "SPACE FLEXIBILITY" COMPONENT  
DETAIL

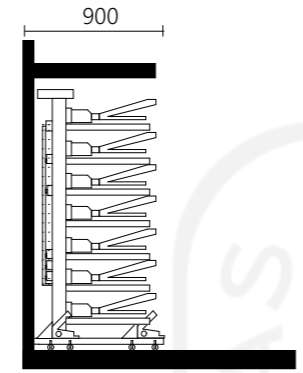
SCALE

1:50

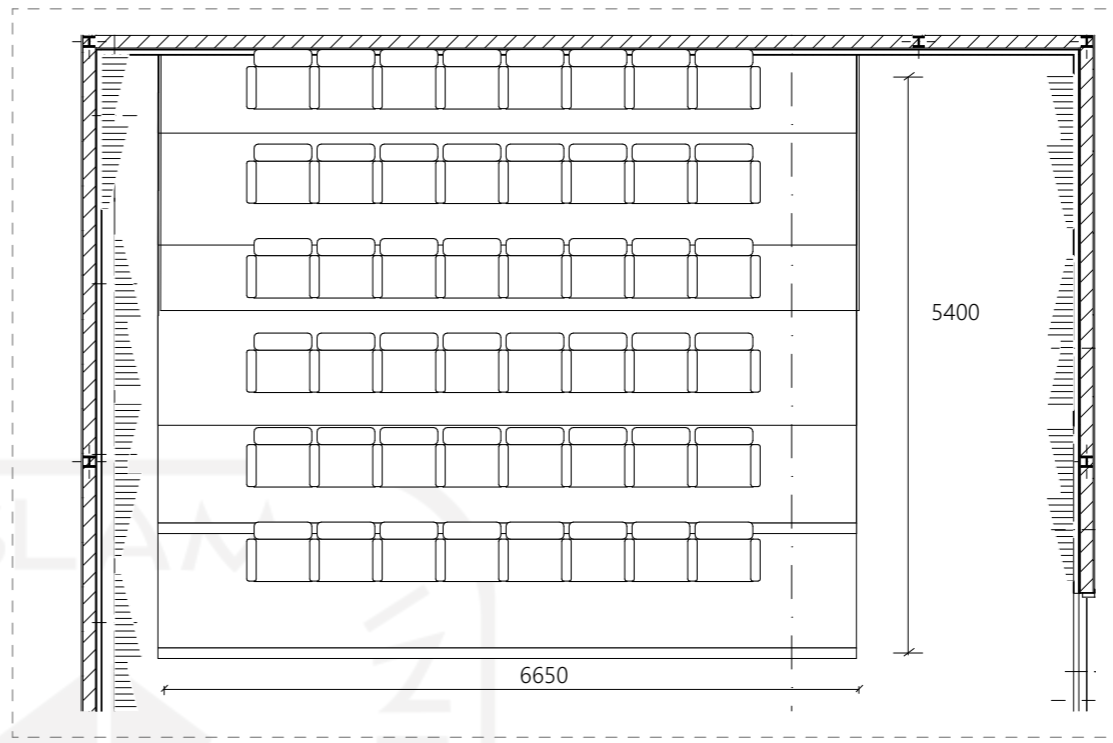
DESCRIPTION



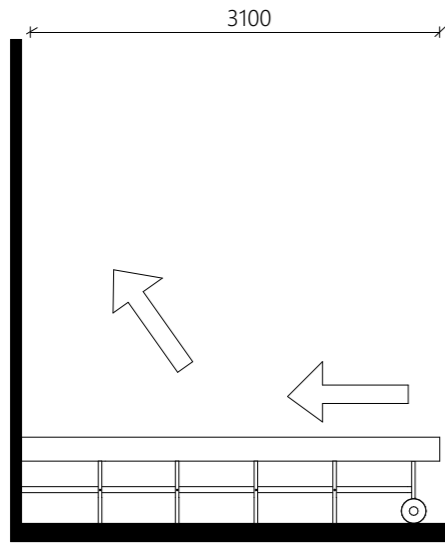
RETRACTABLE SEATING SIDE ELEVATION



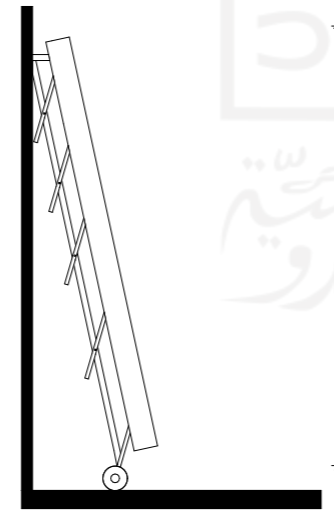
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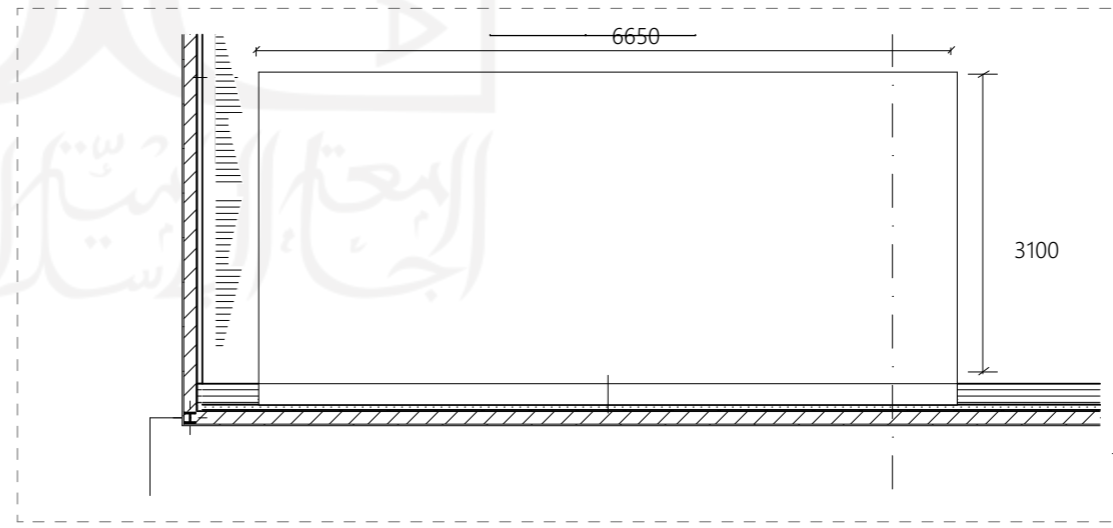
RETRACTABLE SEATING PLAN



RETRACTABLE STAGE SIDE ELEVATION



3100



RETRACTABLE STAGE PLAN



**FINAL ARCHITECTURAL DESIGN STUDIO**

Department of Architecture  
UNIVERSITAS ISLAM INDONESIA



**PROJECT**

Creative Hub of "KEDUBES Bekasi" Creative Community

**LOCATION**

Jl. Raya Jatikramat  
Jati Asih, Kota Bekasi

**ARCHITECTURE STUDENT**

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17512148

**SUPERVISOR**

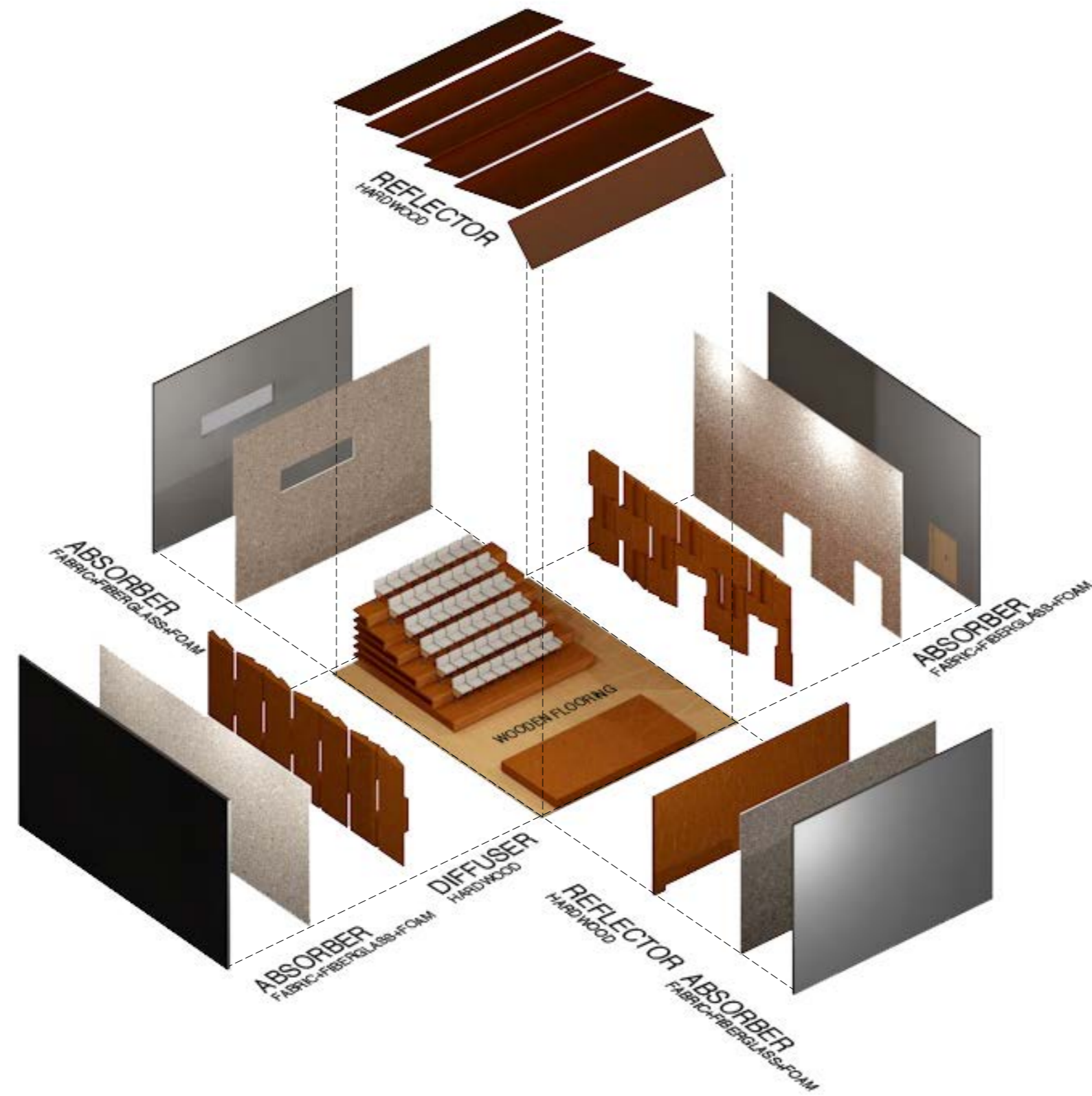
Assist. Prof. Dr. Yulianto P. Prihatmaji,  
ST, MT, IPM

**DRAWING TITLE**

INDOOR EVENT SPACE  
ACOUSTIC DETAIL  
D.02.02

**SCALE**

**DESCRIPTION**





**FINAL ARCHITECTURAL DESIGN STUDIO**

Department of Architecture  
UNIVERSITAS ISLAM INDONESIA



**PROJECT**

Creative Hub of "KEDUBES Bekasi" Creative Community

**LOCATION**

Jl. Raya Jatikramat  
Jati Asih, Kota Bekasi

**ARCHITECTURE STUDENT**

Bhanu Arsyi Akila  
17512148

**SUPERVISOR**

Assist. Prof. Dr. Yulianto P. Prihatmaji,  
ST, MT, IPM

**DRAWING TITLE**

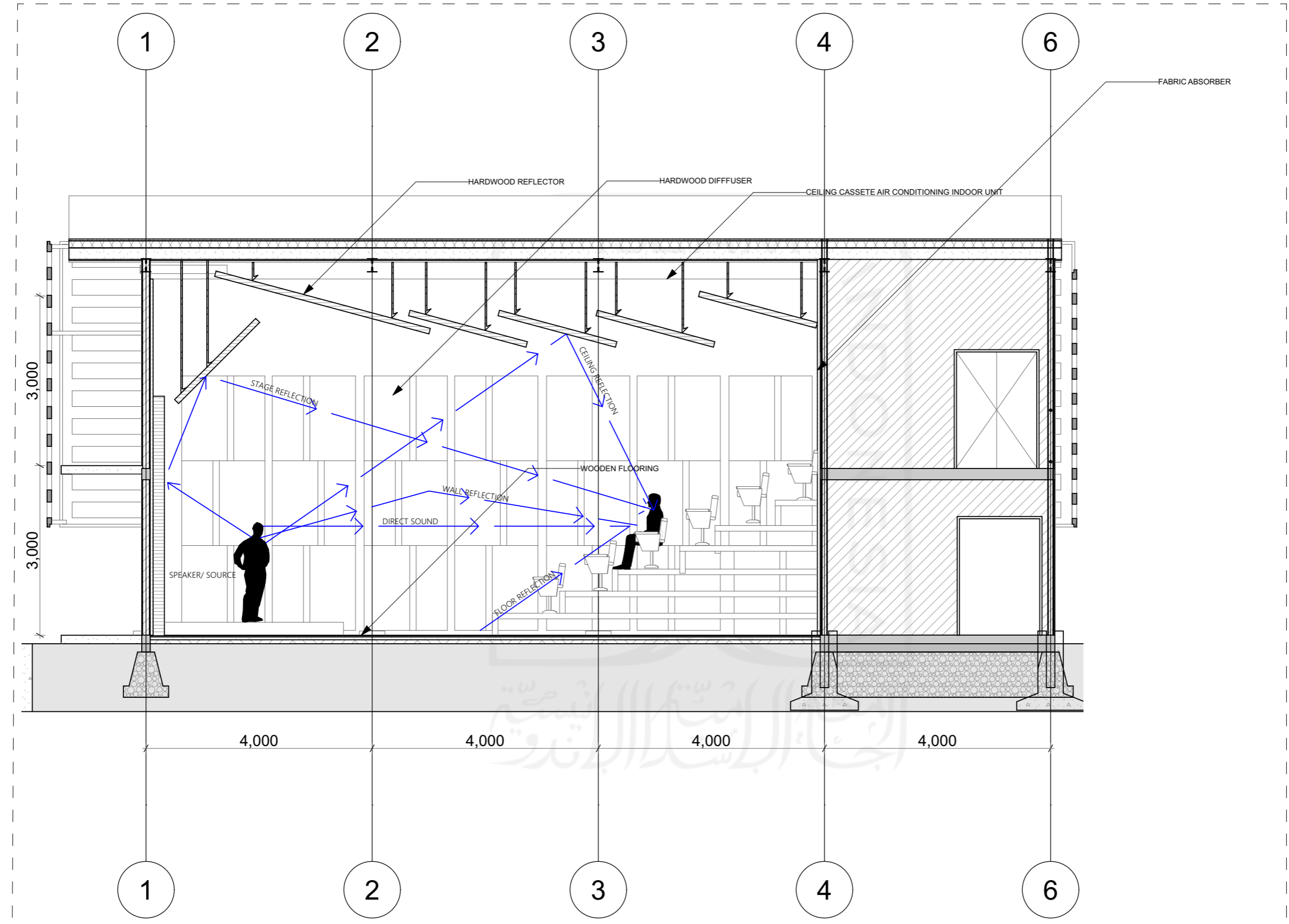
INDOOR EVENT SPACE SOUND DISTRIBUTION SCHEME  
D.02.03

**SCALE**

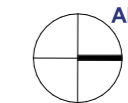
1:50

**DESCRIPTION**

→ SOUND DISTRIBUTION







**FINAL ARCHITECTURAL DESIGN STUDIO**

Department of Architecture  
UNIVERSITAS ISLAM INDONESIA



**PROJECT**

Creative Hub of "KEDUBES Bekasi" Creative Community

**LOCATION**

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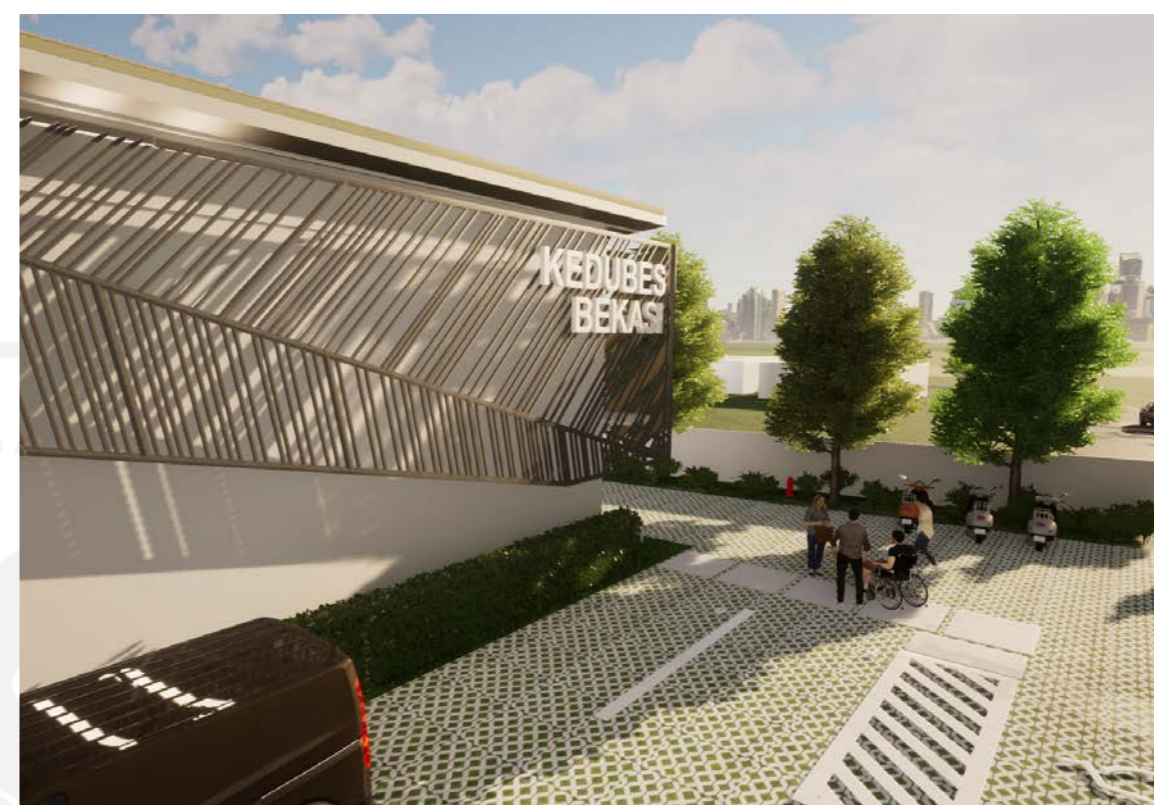
**DRAWING TITLE**

Exterior Perspective 1

A.06.54.1

**SCALE**

**DESCRIPTION**







**FINAL ARCHITECTURAL DESIGN STUDIO**

Department of Architecture  
UNIVERSITAS ISLAM INDONESIA



**PROJECT**  
Creative Hub of "KEDUBES Bekasi" Creative Community

**LOCATION**  
Jl. Raya Jatikramat  
Jati Asih, Kota Bekasi

**ARCHITECTURE STUDENT**  
Bhanu Arsyi Akila  
17512148

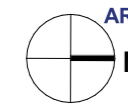
**SUPERVISOR**  
Assist. Prof. Dr. Yulianto P. Prihatmaji,  
ST, MT, IPM

**DRAWING TITLE**  
Exterior Perspective 2  
A.06.54.2

**SCALE**

**DESCRIPTION**





**FINAL ARCHITECTURAL DESIGN STUDIO**

Department of Architecture  
UNIVERSITAS ISLAM INDONESIA



**PROJECT**

Creative Hub of "KEDUBES Bekasi" Creative Community

**LOCATION**

Jl. Raya Jatikramat  
Jati Asih, Kota Bekasi

**ARCHITECTURE STUDENT**

Bhanu Arsyi Akila  
17512148

**SUPERVISOR**

Assist. Prof. Dr. Yulianto P. Prihatmaji,  
ST, MT, IPM

**DRAWING TITLE**

Interior Perspective 1

A.06.54.3

**SCALE**

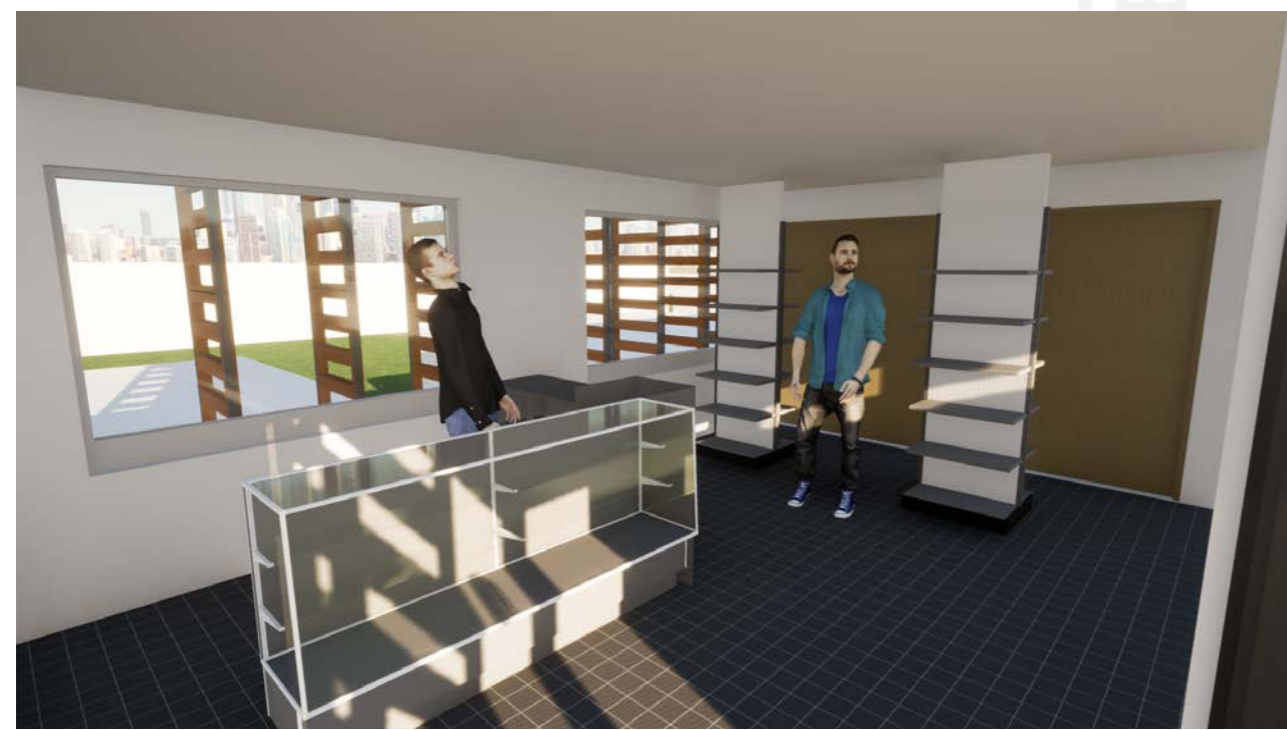
**DESCRIPTION**



OPERATOR ROOM



COMMUNITY ROOM

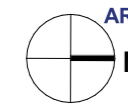


COMMUNITY SHOP



COMMUNITY ROOM





# INDOOR EVENT SPACE



## FINAL ARCHITECTURAL DESIGN STUDIO

Department of Architecture  
UNIVERSITAS ISLAM INDONESIA



### PROJECT

Creative Hub of "KEDUBES Bekasi" Creative Community

### LOCATION

Jl. Raya Jatikramat  
Jati Asih, Kota Bekasi

### ARCHITECTURE STUDENT

Bhanu Arsyi Akila  
17512148

### SUPERVISOR

Assist. Prof. Dr. Yulianto P. Prihatmaji,  
ST, MT, IPM

### DRAWING TITLE

Interior Perspective 2

A.06.54.4

### SCALE

### DESCRIPTION





# Creative Hub of "KEDUBES Bekasi" in Kota Bekasi

with *Space Flexibility* Approach for Variety of Creative Activities

Project Name : Creative Hub of "KEDUBES Bekasi" Creative Community  
 Location : Jl. Raya Jatikramat No.2a, RT.005 / RW.001, Jatikramat, Jatiasih District, Bekasi City, West Java  
 Site Area : 1228 sqm  
 Building Area : 463.47 sqm

KEDUBES Bekasi is a place that accommodates creative communities in the Bekasi area and its surroundings. KEDUBES Bekasi currently accommodating several facilities as well as communities, including films, music, fine arts and comics. This place also supported and combined with its function as a culinary place so that it can become an attraction for the public. Among the many activities and communities that are accommodated, limited land and space become a problem in this creative hub, it is necessary to rearrange building layouts and optimize the space requirements. The application of the concept of space flexibility has the aim of presenting a place for creative community activities that can accommodate a variety of different activities in a place that has limited areas. Various activities that occur at this creative hub include economic activities, discussions and art performances. Space flexibility is expected to be a solution to the limited space in this creative community space so that the spaces in it can be changed or transformed following the activities to be carried out. It is hoped that the development of this creative hub does not only accommodate creative actors, but it can become a place for new public recreation and also increase the development of the creative economy in the Bekasi area.

## BACKGROUND ISSUES



Kota Bekasi responds to creative economy and existing condition



The existence of "KEDUBES Bekasi" creative community



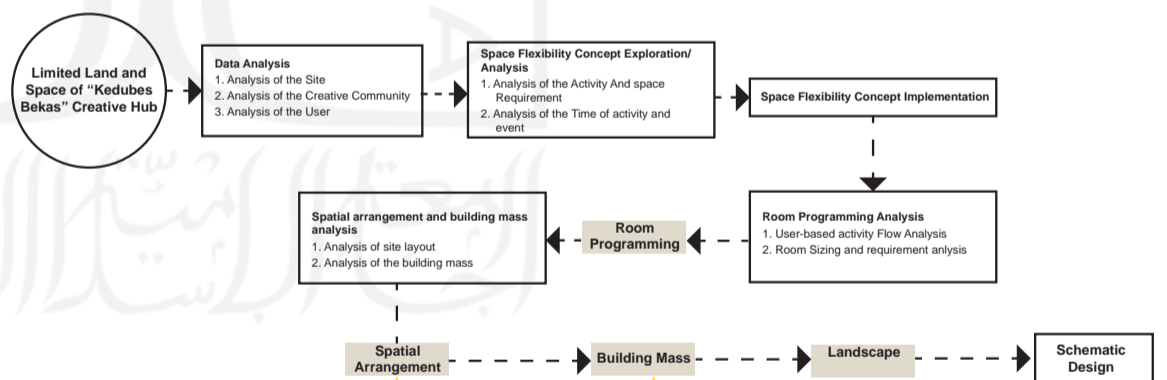
Responding the Limited land and space of KEDUBES Bekasi

## PROBLEM ISSUE

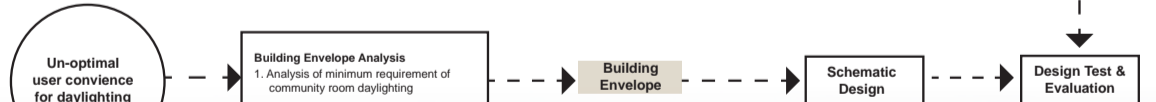
How to re-design creative hub of KEDUBES Bekasi Creative Community with variety of function on limited land that can be used optimally?

## DESIGN PROBLEM AND METHOD MAPPING

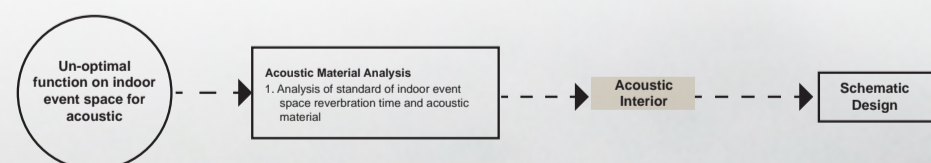
### Problem



### Problem



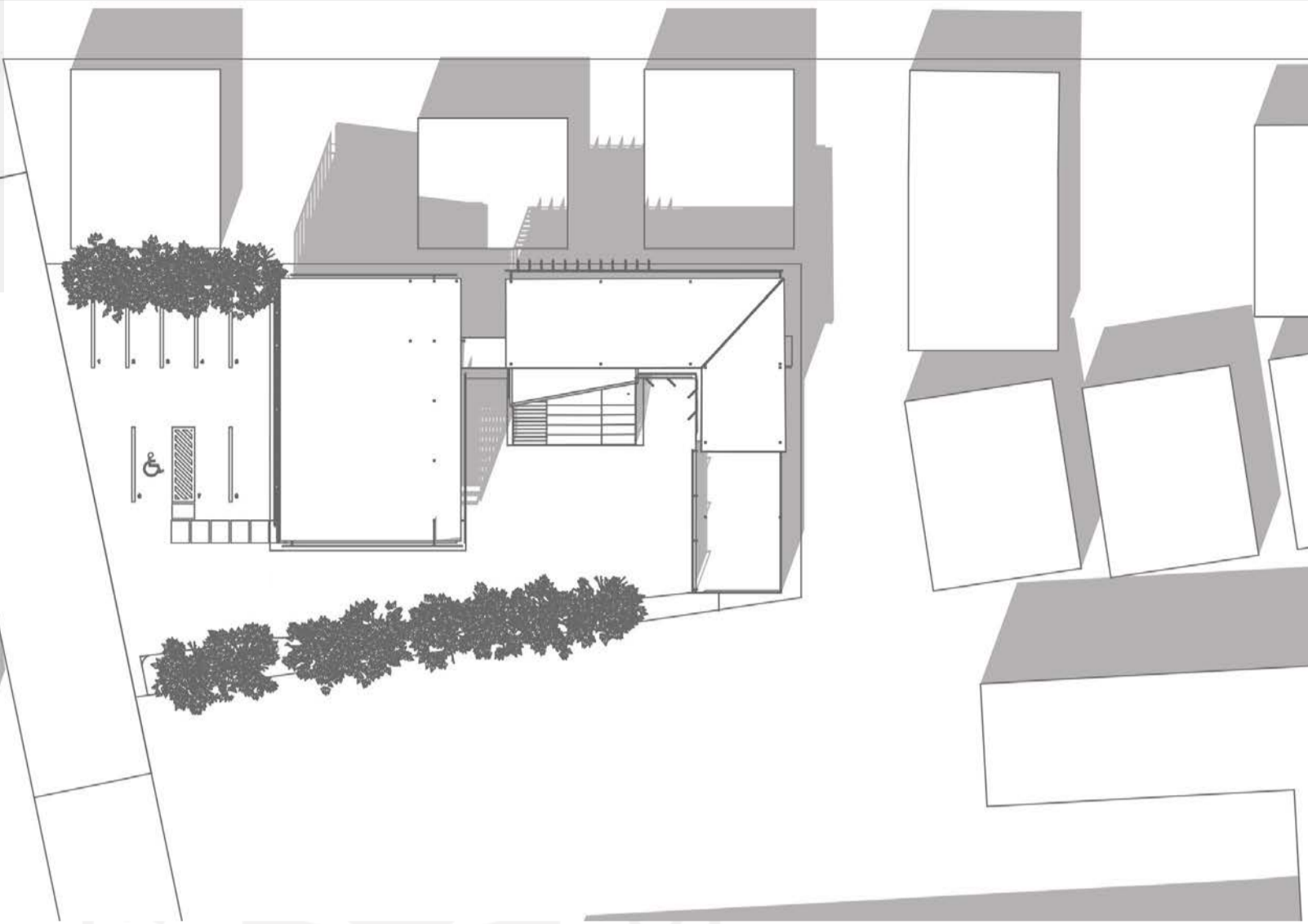
### Problem



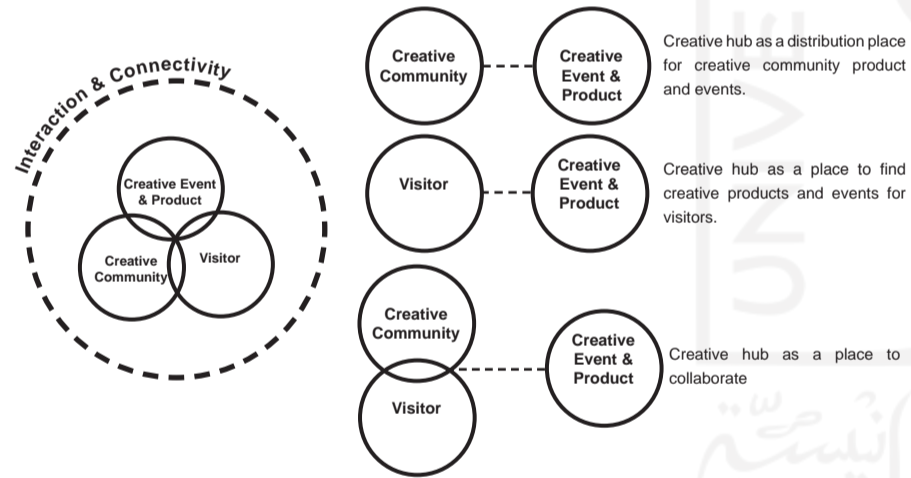


# SITE PLAN

The access for this site is came from the southern part which is respond the existng condition of the access. Site design that can respond to existing conditions which are very limited in the area of access and circulation but also make the outdoor area a flexible area and can also be used as an outdoor event area because it uses a grass block pavement so that it remains an absorption area but if it is raining or wet still not muddy and also there is a setaing area which is seamless with the stair access on the outdoor area as a respond for space flexibility to save space. The use of tall pine tree vegetation has a function as a border between the creative hub site and the surrounding area. The building design is made following the direction of the main circulation of the site which extends from south to north which makes the outdoor area between the 2 building masses a connecting point between space functions.



# CREATIVE HUB FUNCTION CONCEPT

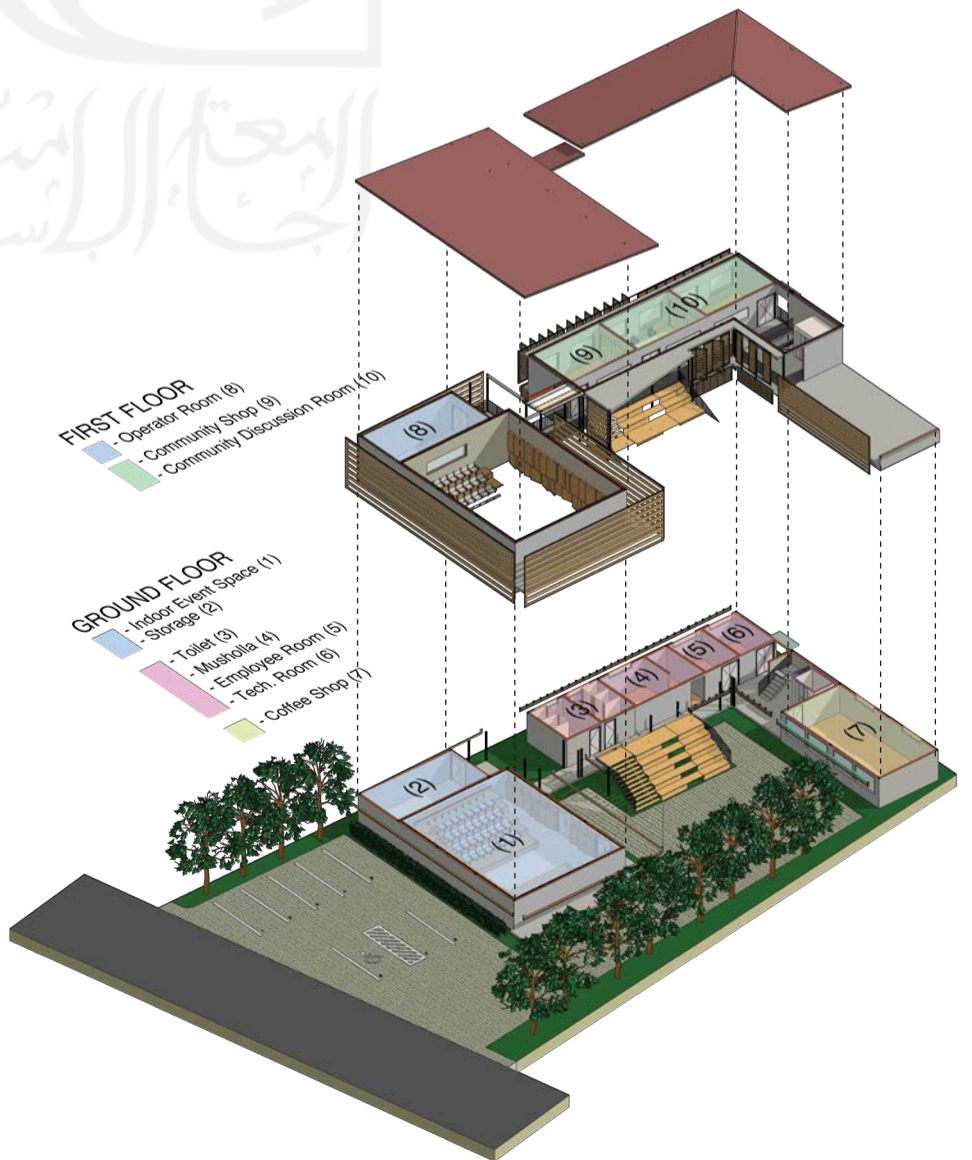
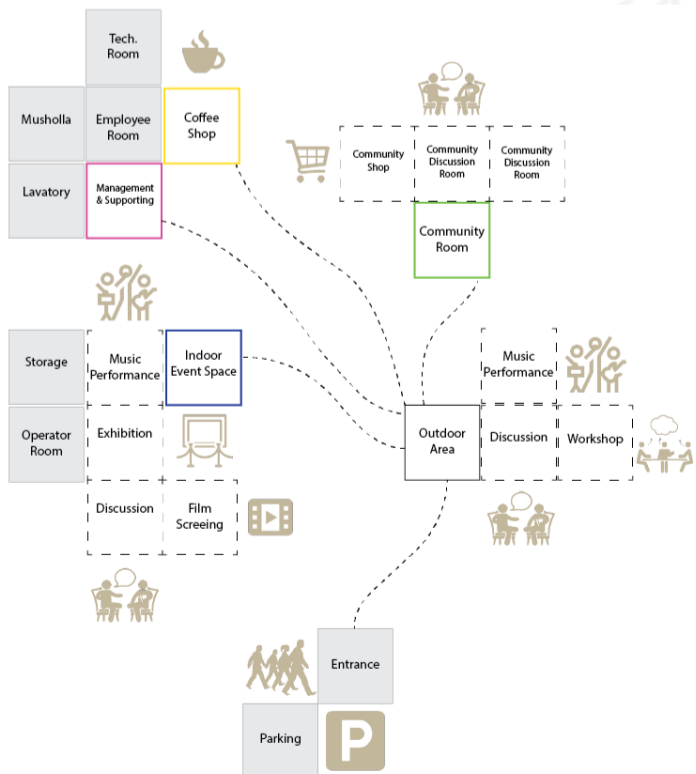


# BUILDING PLAN

The ground floor area design focuses on activities and events that require an area that can accommodate many people so as to facilitate the circulation and mobility of people, such as indoor event spaces and outdoor areas. However, there are also supporting areas such as a lavatory and a prayer room as well as additional facilities, such as coffee shop.

The first floor area is functioned for activities that have fewer users and focuses on the community as users remain creative in this hub, but there is also a general space, namely a community shop which is placed on the first floor area because as a response to limited land and also daily activities must connected to the office or community discussion room so that direct access to the store is needed from the outdoor area to make it easier for visitors to access the store.

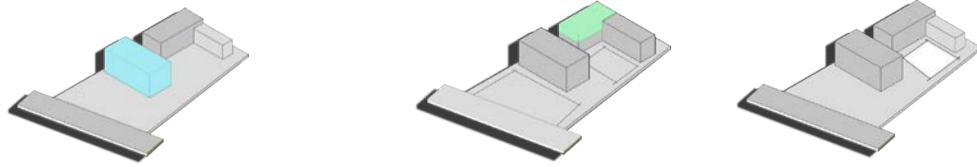
# ROOM PROGRAMMING



This space program was developed based on analysis to create a form of room programming based on activity and also consideration of user circulation. To answer the problem formulation to accommodate various activities on limited land. The linear circulation program centered on the outdoor area becomes the main focus on circulation between zones which is divided based on space flexibility and also the type of activity and the number of users or activity participants.



# SPACE FLEXIBILITY CONCEPT

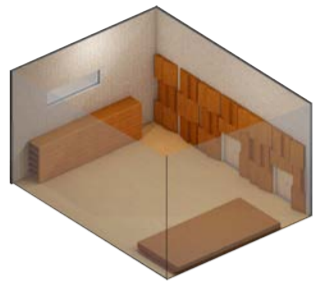


In the application of the concept of space flexibility, the application begins with knowing the type of activity, space requirements and also the time it takes place. So from this analysis the space functions can be merged and the results of the analysis produce 3 space zones, including;

- **Indoor Event Space**  
for screening films, music performance, workshops or discussion and Exhibition.
- **Community Room**  
for product distribution activities or shop , discussion activities or community meetings and office.
- **Outdoor Area**  
Outdoor Area is a space zone that is formed based on the same type of activity in outdoor space the kind of event that can be held on outdoor area including music or workshop event but this can also become an area for cafe or the visitor that want to gathered on outdoor.

## INDOOR EVENT SPACE

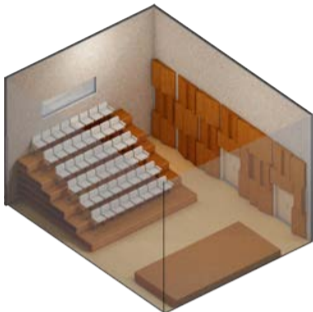
### Implementation of space flexibility on Indoor Event Space



**Music Performance**  
Every Saturday and Sunday  
afternoon or evening  
13.00 - 15.00  
16.00 - 18.00  
indoor event space conditions with open plan or universal space flexibility when stage retractable in the condition of open.



**Exhibition**  
Weekday and holiday  
Mon - Thu 11.00 - 17.00  
Frid 11.00 - 20.00  
**indoor event space conditions** with open plan or universal space flexibility when seating stands and the stage is closed so that the open area with additional partition can be used for activities such as exhibitions.



**Workshop / Discussion**  
Every Saturday and Sunday  
afternoon or evening  
13.00 - 15.00  
16.00 - 18.00  
indoor event space conditions with open plan or universal space flexibility when seating stands and the stage retractable in the condition of all open.



**Film Screening**  
Every Saturday night  
18.00 - 20.00  
indoor event space conditions with open plan or universal space flexibility when seating stands retractable in the condition of open.

### Detail System for the space flexibility

#### Retractable Stage



the condition of the stage when it is open



the process of retracting the stage



the condition of the stage when it is closed

#### Retractable Seating

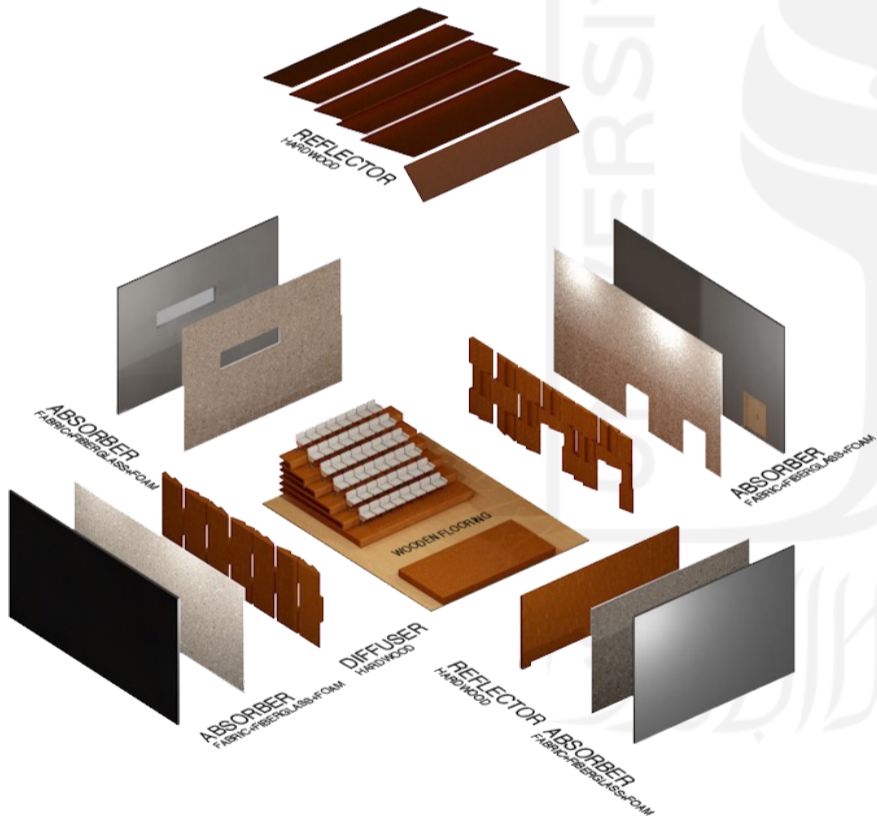


the condition of the audience seats when it is open



the condition of the audience seats when it is closed

### Optimization of acoustic on Indoor Event Space



### Interior Rendering of Indoor Event Space

The interior of the building shows a building design that responds to the limitations of land with a variety of existing activities. The problem was responded to by applying space flexibility in various forms including; in the indoor event space the ability of the space to change by adapting based on the needs of the types of activities that exist, in the community room where all rooms are connected and can be combined if there are situational conditions that require space that can accommodate more people than usual.

Indoor event space is designed for activities related to the appearance and performance of works as well as activities for more people and public. Such as music performance, film screening, exhibition and discussion event.



Indoor Event Space Condition 1



Indoor Event Space Condition 2

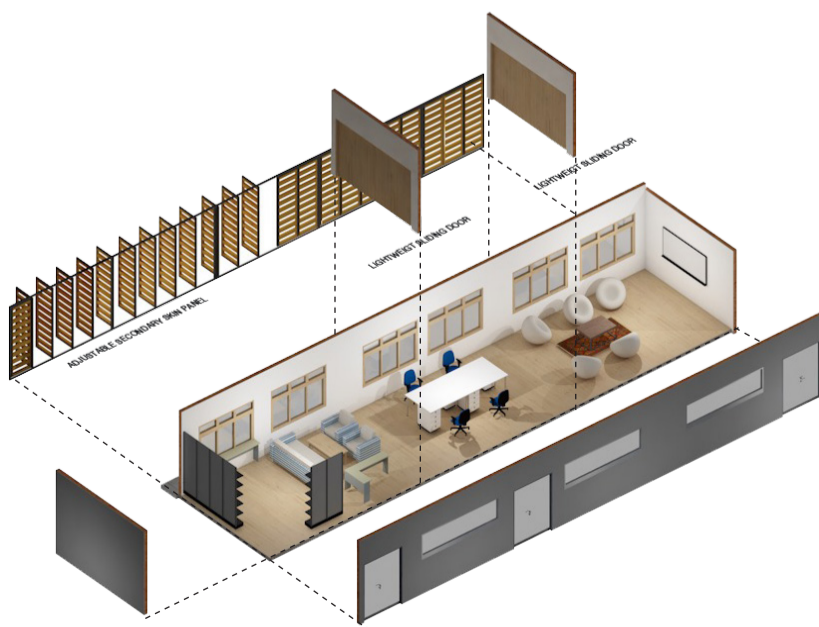


Indoor Event Space Condition 3

## COMMUNITY ROOM

**Community Room** is a space related to the permanent use of the creative hub, namely the "Embassy Bekasi" community. In its design, there are three parts of the room consisting of 1 shop room and 2 discussion rooms. Fluctuations of users or community members who attend certain situational problems in this space so the concept of space Flexibility responds by providing lightweight sliding doors as a separator between each spaces so that the amount of space can be adjusted according to situational activities and user desires at certain times.

To respond the problemo of daylighting optimization, there is an adjustable secondary skin with hinges on the panels that can be adjusted



### Interior Rendering of Community Room

The next indoor area that becomes the main focus is the community room, where the community room is divided into 3 rooms including; 1 community shop and 2 community discussion rooms. This space is used daily by the "KEDUBES Bekasi" community as the main user of this creative hub. The application of space flexibility carried out with lightweight sliding walls is expected to respond to situational conditions of activities that have fluctuating user space needs seen from the number of people.



Community Shop



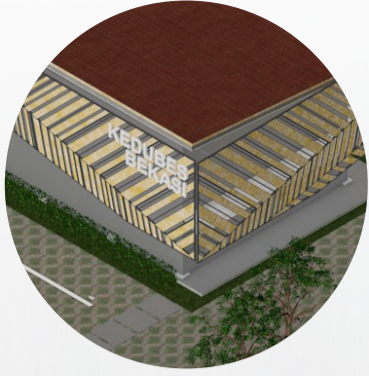
Community Discussion Room



Community Discussion Room



## BUILDING ENVELOPE DESIGN



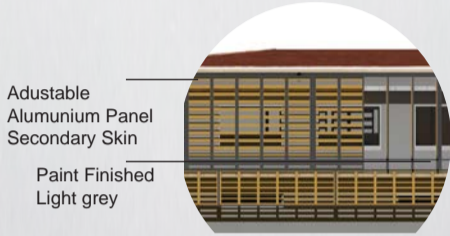
First Building Mass Envelope



Second Building Mass Envelope

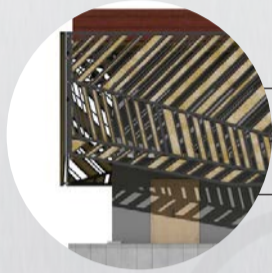
The building facade formed is a aluminium secondary skin in the form of a horizontal linear line with a concept of floating facade to make it attractive and simple that functions as shading devices to reduce the sunlight and visual privacy and also serves as a form of alignment of the building appearance between different building masses.

On the secondary skin side that covers the opening and also the corridor, the secondary skin module panel is slightly different because there is a hinged which becomes the facade of the secondary skin that can be opened and closed as responsive space flexibility.



Adjustable Aluminium Panel Secondary Skin

Paint Finished Light grey



Aluminium Panel Secondary Skin

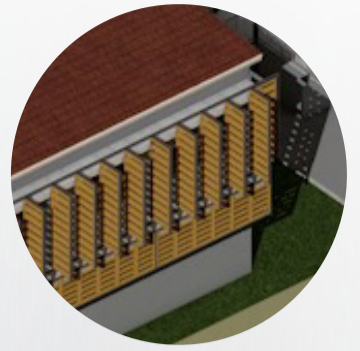
Paint Finished Light grey

## ARCHITECTURAL DETAIL

### Building Facade

The modular facade with hinged secondary skin that can be adjusted according to the user's wishes is used to reduce daylighting as a form of response to environmental conditions, especially during daytime conditions in the community room. The secondary skin module scheme that can be opened and closed is designed with a module size of 0.75 m wide and 2.5 m high, the material used is an aluminum panel supported by an iron frame that is forged to the wall and also the overhang of the building mass. so it can be concluded that the function of this secondary skin is as follows;

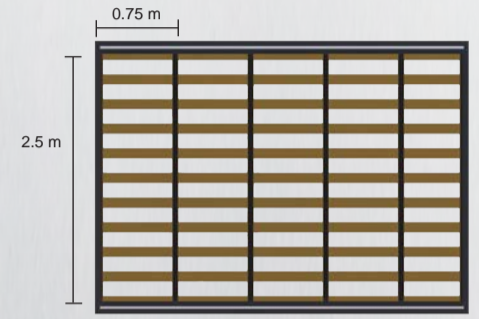
- Building Appearance as a form of harmony in the appearance of the building with other masses
- Reduce Daylighting reduce the incoming sunlight, especially during the day in the community room.



Second Building Mass Envelope



Secondary Skin Facade Module



Secondary Skin Module Elevation Detail



Secondary Skin Module Plan Detail

## EXTERIOR RENDERING

The building exterior shows a building design that responds to the limited land used as a creative hub area, which can be seen from the entrance access to the building which is integrated with the parking area.

The application of secondary skin can also be seen as a response to the harmonious building appearance of the two building masses in this creative hub. there is also an adjustable facade on the second building mass as a form of response to optimizing daylighting in the community room.



Entrance and Parking of Creative Hub

As a response to the various activities at this creative hub, space flexibility is applied to the outdoor area where the outdoor area can also be used as a location for discussion or music events. There is landscape furniture in the form of stairs that can also function as an audience sitting area.

Aside from being an audience seat, the stairs located in the outdoor area also function as direct circulation access leading to the community room and also the community shop, so that this area can be known and visited by creative hub visitors.



Condition of Outdoor Area



Application of secondary skin on the first building mass



Application of Adjustable secondary skin on the second building mass



Condition of Outdoor Area



Connection between Outdoor Area and Community Room

## ELEVATION

