



# COWORKING SPACE DESIGN IN MEDAN CITY WITH GREEN ARCHITECTURE CONCEPT

Bagas Prayoga<sup>1\*</sup>, Faurantia Forlana Sigit<sup>2</sup>, Cut Nuraini<sup>3</sup>

<sup>1,2</sup> Architecture Department, Universitas Pembangunan Panca Budi – Indonesia

<sup>3</sup> Master of Urban & Reg. Planning Dept., Univ. Pemb. Panca Budi – Indonesia

\*Corresponding author: [bagassprayogaa25@gmail.com](mailto:bagassprayogaa25@gmail.com)

---

ARTICLE INFO	ABSTRACT
Date received : 18 Oct 2022 Revision date : 1 Nov 2022 Date received : 15 Nov 2022	<i>Designing a Coworking Space with a Green Architecture concept in Medan City is a design project aimed at creating a flexible and environmentally friendly workspace in Medan City. The Green Architecture concept is applied in this design to have a positive impact on the surrounding environment. This Coworking Space has several unique features, such as the use of workspace, private space, and relaxation space. It is expected that this Coworking Space will contribute to the development of businesses and entrepreneurship in Medan City. The design process of this Coworking Space is explained in detail in this article, from the concept to the final design.</i>
<b>Keywords:</b> <i>Leadership, Employee, Performance</i>	

---

## INTRODUCTION

Coworking Spaces are generally multifunctional buildings, combining office functions and community centers (Utami 2017 in Ramdani, et al., 2020). These buildings provide a shared space sufficient to accommodate office activities, especially for businessmen and entrepreneurs.

The use of Coworking Spaces as multifunctional buildings has become a trend and has increased rapidly in recent years around the world, especially in large cities such as London, New York, Berlin, and Tokyo (Waters-Lynch et al., 2016). The popularity of coworking spaces continues to increase in Indonesia, driven by changes in work styles and the need for flexibility in the digital era (Clark, 2020).

Coworking spaces in Indonesia such as CoHive, DW20, and WeWork have grown rapidly in recent years, especially in big cities (Spreitzer et al., 2017). In the city of Medan, the use of Coworking Spaces or flexible offices is becoming more popular. There are several Coworking Spaces in the city of Medan, including CoHive at Clapham, CoHub Indonesia, KAMI SPACE, and BETAHIVE. The economic growth, career mobility, and business development in Medan currently show that Coworking Spaces or flexible workspaces in this city can continue to grow.

Several Coworking Space designs have been done quite a lot in the last five years. There is also a Coworking Space design by Wibowo (2020) located in Tangerang, which carries Sustainable Architecture. This design emphasizes sustainable economic development and creates business opportunities in workspace rentals.

## METHOD

### Design Process

The design follows a cyclic process of five steps. It begins with the design problem, followed by the second stage, which is site and building programming, then continues to the third stage, which is site and building analysis. Next, the fourth stage is the design concept, encompassing both site and building concepts. The final stage is design synthesis, including pre-design and complete design (Nuraini & Sudrajat, 2010; Nuraini & Suprayetno, 2021)

The sampling technique used is Simple Random Sampling. So that the sample in this study was 93 people who were employees who had the status of ASN of administrative personnel within the North Sumatra Provincial Labor Office.



## Location

The design of a Coworking Space in the city of Medan, with a green architecture approach, is located at Jln.Karya Darma and Jln.Pipa, Medan Johor District, Medan City. It can be seen in Figure 1.



**Figure 1.** Design Location

(Source: Processed by the author based on Google Earth)

## THE ORETICAL FRAMEWORK

### Definition

A collaborative community for independent and remote workers, startups, entrepreneurs, and other professionals who want to work in an open and supportive environment (Foertsch. C, 2019). Unlike traditional offices, coworking spaces have an open layout and the people working within them are typically not employed by the same company. Coworking provides a collaborative community while also allowing flexibility and affordability in sharing resources and office facilities.

This concept originated from members of the technology startup community in San Francisco in 2005. Since then, coworking spaces have grown globally as an alternative to working from home or a private office. Coworking spaces provide not only desks and wifi, but also meeting rooms, print and mail services, snacks, events, and networking opportunities. Coworking spaces attract a diverse membership, from entrepreneurs and freelancers to company employees with distributed workforces.

### Green Architecture

The concept of sustainable Green Architecture. According to Wang et al., (2020). green architecture is a sustainable design approach that integrates environmentally friendly strategies into the planning, design, construction and operation processes of buildings. The measurement criteria for green architecture itself are measured based on certain criteria in measuring the environmental level of the area and building design. The environmental-friendly building standard applied in Indonesia is the Green Building Council Indonesia (GBCI), also known as Greenship (Akbar, et all, 2023). The concepts related to the term "green" are also closely tied to the surrounding environment where a building or space will be established. In this context, "green" is not only associated with green elements or materials but more broadly connected to the optimal utilization of the existing environmental potential (Nuraini & Surayetno, 2021).

The Green Building Council Indonesia has developed evaluation criteria for the Greenship standard, some of which are classified into six categories. There are two types of standards. The first is criteria that fall into prerequisites, and the second is as many evaluation criteria. Each category has the necessary criteria and must be met to continue the evaluation. According to Wang et al. (2020), green building assessments should use criteria and performance indicators that are relevant to the type and function of the green building. The seven criteria consist of one or more indicators, and the value of the indicators differs from one another. The number of factors or categories of green building assessment, criteria, and indicators are presented in Table 1.

**Table 1.** Categories In GBCI Environmental House Building Measurement

Category	Number of Criteria		Number of Indicators	
	Prerequisite	Valuation	Indicator	Value
Development	2	7	18	16



Situation/ASD				
Energy Efficiency and Conservation/EEC	2	7	15	36
Water Conservation/WAC	0	9	11	20
Material Resources & Cycle/MRC	3	5	9	12
Indoor Health and Comfort/IHC	1	7	14	20
Building Environmental Management/BEM	1	5	9	13
<b>Total</b>	<b>9</b>	<b>40</b>	<b>76</b>	<b>117</b>

(Source: Purwaningsih et al., 2018)

### Characteristics of Green Architecture

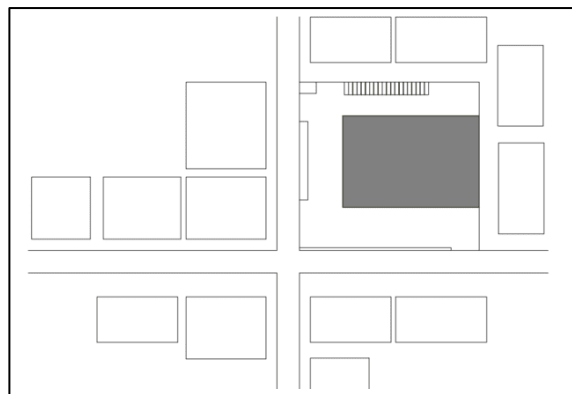
Several characteristics of green architecture, according to various literary sources, including:

- Energy efficiency* (Chen et al., 2020; Wu et al., 2019).
- Environmentally friendly materials (Wang et al., 2018; Peng & Zhang, 2021).
- Save water (Chen et al., 2019; Darko et al., 2020).
- Principles of sustainability (Wang & Chen, 2020; Jain & Tiwari, 2022).

## DISCUSSION

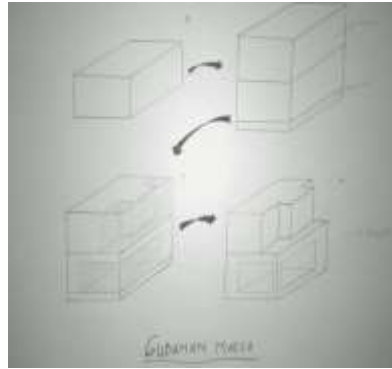
### Mass Compositon and Mass Arrangement

The Coworking Space, which functions as a rental office, is built on vacant land with a size of 969 square meters. The Coworking Space is designed to follow the contour of the land, where this design is intended to be able to maintain the main function as a flexible office. This design is intended to still be able to maintain the ecosystem around the site environment with the aim of providing a positive impact of the building on the environment. The site plan can be seen in Figure 2:



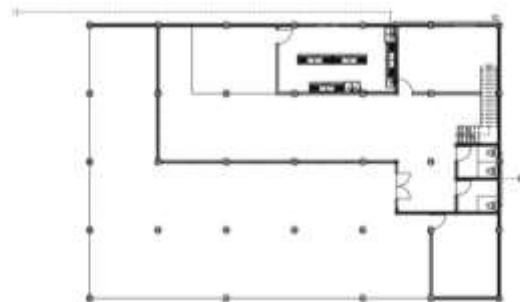
**Figure 2.** Coworking Space Site Plan

The Coworking Space takes on a square transformation in line with the theme of the Coworking space, which is green architecture that has a positive impact on the environment. The process of shape transformation is shown in Figure 3.

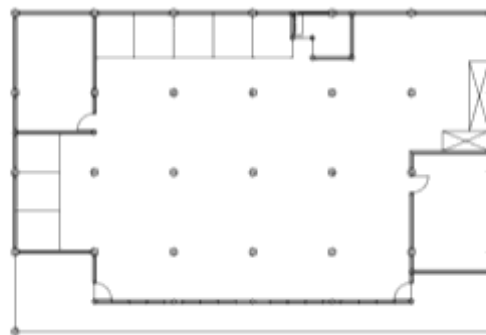


**Figure 3.** Mass Composition

In terms of the existing circulation and utilities of the site, the location of the Coworking Space design plan is situated between two roads that provide the main circulation and pedestrians on both sides of the site. The dirty water drainage channels on both sides of the site, with the access path located on both sides of the site area, also maintain the existing site as a well-arranged utility path, as can be shown in Figures 4, 5, and 6.



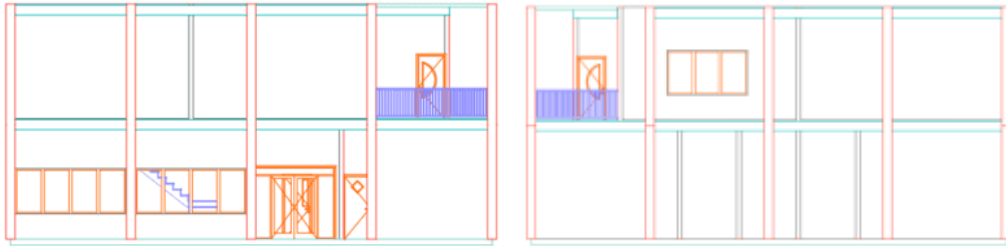
**Figure 4.** Utility Plan Floor 1



**Figure 5.** Utility Plan Floor 2

Access for users to get to the Coworking Space can be done through the west and south roads of the site. This access is planned to facilitate pedestrians, as shown in Figure 6.





**Figure 9.** Front and Back Views



**Figure 10.** Right and Left Side Views

The maintenance of a number of vegetation and existing sites, such as pedestrian paths, utility paths. The exterior atmosphere of this Coworking Space, which functions as a flexible office, can be seen in the following Figure 11.







Figure 11. Exterior Atmosphere (1)



Figure 12. Exterior Atmosphere (2)

## CONCLUSION

The design of the Coworking Space in Medan City with the concept of Green Architecture is a design project that aims to create a flexible and environmentally friendly workspace in Medan City. The concept of Green Architecture is applied in this design to give a positive impact on the surrounding environment. This Coworking Space has several unique features, such as the use of workspaces, private rooms, and relaxation rooms. This Coworking Space is expected to help the development of business and entrepreneurship in Medan City. The process of designing this Coworking Space is explained in detail in this article, from the concept to the final design.

## REFERENCES

- Chen, Z., He, B. J., Tang, C., & Xu, Y. (2020). Low-energy architecture: Comprehensive energy solutions for architecture and urban design. *Applied Energy*, 277, 115539.
- Clark, D. (2020). Coworking space and digital nomadism: Balancing mobile connectedness and disconnection. *Tourism Geographies*, 22(3), 567-588.
- Chen, L., Peng, Y., & Zhang, W. (2019). An occupant-participatory approach for thermal comfort enhancement and energy conservation in buildings. *Energy and Buildings*, 202, 109392.
- Darko, A., Chan, A. P., Ameyaw, E. E., Owusu-Manu, D. G., Pärn, E. A., & Edwards, D. J. (2020). Digital technologies adoption in the construction industry: a systematic literature review and future research directions. *Construction Management and Economics*, 1-42.
- Foertsch, C. (2019). *The coworking handbook: The guide for owners and operators*. John Wiley & Sons.
- Jain, M., & Tiwari, G. N. (2019). Sustainability assessment parameters for green buildings-A review. *Journal of Energy Management and Technology (JEMT)*, 3(1), 1-10.
- Nuraini, C., & Sudrajat, I. (2010). Metode Perancangan Arsitektur. *Bandung Karya Putra Darwati*
- Nuraini, C., & Suprayetno, (2021). Karakter Lingkungan Perumahan Berbasis Space Attachment yang Adaptif dan Responsif di Mandailing, *Jurnal Arsitektur NALARs*, Vol. 20, No. 1, Hal. 61-72.
- Peng, C., & Zhang, W. (2021). Urban regeneration through biophilic landscape design and