

A Review of Biophilic Factor for Hotel Design Implementation in Batam

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Abstract - Batam City has a high potential in the tourism sector. In this field, Batam City attract tourists for natural tours, shopping tours, culinary tours, sport tours and history tours. Those are supported by the natural conditions of Batam, which consists of several islands that are interesting for tourist attraction. In addition, Batam City is also a destination for local people outside Batam to find work, because of many manufactures (local or foreign companies) have established in Batam. The developments triggered a significant increase in population. As the effect population growth, development in Batam city is also growing. It has a major impact on the reduction of green space too. Many buildings have been created only focus on their strategic location and the beauty of their exterior design. Therefore, the next development in Batam city must be controlled, so that there is a balance with environment and does not cause new problem in the future. In other side, young people nowadays, who are in productive age, demand comfort and practical life. Staying in hotel (in the purpose of work or vacation) is a new desire for them to adapt their modern lifestyle. In order to meet the demands of modern life and to overcome the potential problems that will arise in the future, the need to realize a hotel that environmentally friendly is a must. Biophilic is a concept strategy which modified by addition of green plants as a guide to balance biotic life on the environment. Biophilic's design has embodied an auspicious momentum in human's relationship with nature. The implementation of a biophilic hotel design is awaited. With a biophilic design will encourage the environment by using the same concept in the future.

Keyword: Biophilic, Hotel Design Implementation, Batam

Introduction

Both urban growth rates resulting from urbanization, birth, and tourism have affected uncontrolled, ever-changing, and always-giving settlements (Farizki & Anurogo, 2017). According to (Suryani et al., 2020), land limitation is human efforts to meet life's especially secondary needs, including urban housing. The City of Batam consists of 12 districts, namely Belakang Padang, Bulang, Galang, Sei Beduk, Sagulung, Nongsa, Batam Kota, Sekupang, Batu Aji, Lubuk Baja, Batu Ampar and Bengkong. The total population of Batam City reached 1,141,816 people (59.55%) with a density of 1482 people/km². Batam includes 3 criteria where its consist of high density, medium density, and low density. The lowest population and density are in Bulang District (11,484 people with a density of 72.34 people/km²) and in Galang District (16,955 people with a density of 48.34 people/km²). (Alimah et al., 2016) Each year, the number of tourists coming to Batam will increase beyond the expectation. The development programs are being further increased by the expansion and potential use of tourism (Wijaya & Permana, 2018). According to (Isa et al., 2019) Tourism sector is a most economic driver growth and development in several countries. Its help to increase income as well as generate demand and growth in other sector.

The problem is the land constraints on the community's secondary need for added housing, which can be applied to vertical accommodation (hotels) as one of the integrated and centralized housing projects (Permana et al., 2020) that narrow use of land could be a problem-solving solution

to existing land constraints. This day Modern urban sprawl is becoming very congealed. Generally, cities gradually become more divided and flourish above the ground. There are not enough green areas in the city where urban housing will be lacking in green spaces. This causes air pollution and noise that can affect human health and boost energy sources for building thermal comforts. The selection of building materials, such as concrete and road asphalt, is thought to bring heat around. Studies indicate that plants have an essential effect on reducing city thermal temperatures. (Tarboush, 2019)

Therefore, the Biophilic strategies design began to build, and public space was introduced into buildings. The green system of architectural design (Permana, et al., 2020) is an essential and well-used element. The need for green systems like the plants is one of the factors in this day high levels of living development. Biophilic concept stores the loss of green areas with active biology that affects green systems, reduces rainwater flow to sewage systems and exploits costs. The walls of a building that uses the concept of green vegetation have a substantial environmental impact compared with the use of green roofs on a building. Biophilic on a building affects the changing appearance of buildings, promotes a microclimate toward buildings, produces oxygen, absorbs carbon dioxide, and captures atmospheric pollution particles (Golasz-Szolomicka & Szolomicki, 2019). The construction of high-rise buildings like hotel can overcome land limits in Batam urban areas and is one of the factors in the balance of neighborhoods, as buildings that are designed are elevated and will thus save land for use. It is one of the good alternatives to which land on which the nanites will be used for development does not require eviction and sufficient green space, may also use secure vacant lots without damaging green areas in the vicinity.

The Material

55% of world population is living in urban area and its expected increase almost 68% by 2050. (UN, 2022) The world is growing toward urbanscape and its important to understand and internalize the need of integration and balance of both value; natural and both environment.

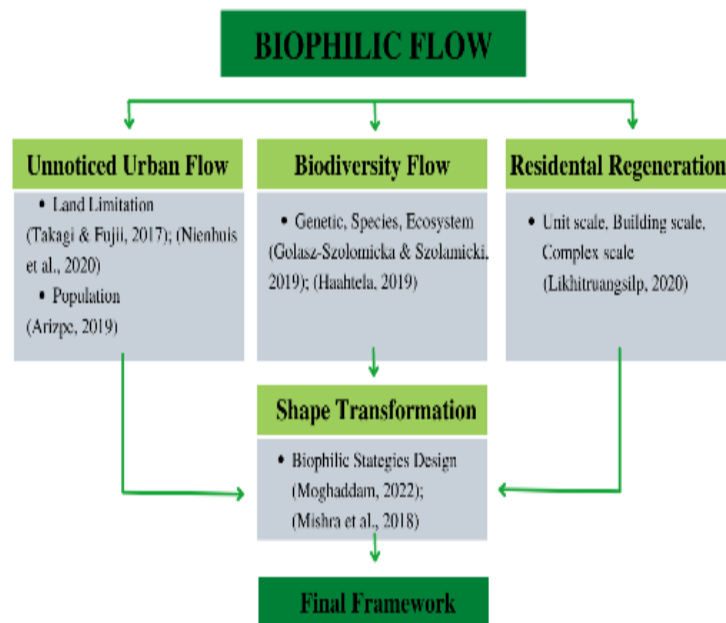


Figure 1: Theoretical Framework Of Biophilic Flow
Source: (Author, 2022)

Based on the theoretical framework diagram, as shown in Figure 1, biophilic flow planning consists of:

- a. Unnoticed Urban Flow
In unnoticed urban flow certain things can affect biophilic design in a vertical building such as population growth and a high percentage of land limitations. At this phase results in the design of vertical buildings needed to minimize population density toward residences.
- b. Biodiversity Flow
Biodiversity flow is biophilic concept of studying natural ecosystems as well as genetics and plant species found on earth. Biodiversity explains the selection of a plant suitable to the building. Usually the selected plants are the plants that grow in all media and that can easily grow in buildings and provide aesthetics on buildings.

- c. Residential Regeneration
Explains the magnitude of the building to be designed on it.
- d. Shape Transformation
All concepts are developed as 1, which has looked into population density and land deficiencies, so the writer advises hotels with biophilic strategies design that have many positive benefits for the building.

On the diagram, the author noticed that Batam had a huge population and tourism that came every month. Because of that situation the Land on Batam will be reduced over the years. Every high rise building in Batam never consider about the biodiversity of biophilic. This cause make the land of Batam lack of green spaces. The purpose of the design is to aims how to build a hotel in Batam that has comfortable facilities by maximizing function using a biophilic concept.

Biophilic Strategies

Biophilic strategies are added to the principles of Green architecture. In fact, biophilic design includes some of the green building standards but it targets not only energy saving but also human wellbeing, good mood and productivity. Biophilic strategies and their sub-relevant categories are matched with updated Green Building Rating Tools (GBRTs) as LEED (Leadership in Energy and Environmental Design), BREEAM (Building Research Establishment Environmental Assessment) GM NRB (Green Mark Non Residential Building), GBL (Green Building Label), WBS (Well Building Standard) and LBC (Living Building Challenge). The framework is used in a recent study to emphasize the shifting of GBRTs from the energy-oriented approach to a human-oriented approach through biophilic strategies. (Güngör, 2020) Biophilic Design aim to enhance the alignment of human life mentally and physically, the concept also can reduce stress, increase creativity and clarity of mind, and accelerate the healing process (William Browning et al., 2014).

Another thing in biophilic design is to unify the balance between nature and the environment. Biophilic design requires repeated and sustained engagement with nature, and its focuses to human adaptions to the natural world that advanced people health. Positive factor interaction between human and nature is a sense of balancing relationship and responsibility (Tetik, 2019). Biophilic design pattern can be used as a tool to improve health and well being in the environment which is categorized into 3 categories: Nature In Space, Nature Analgoues, Nature Of the Space.

Nature In Space addresses the direct, physical and ephemeral presence of nature in the built environment. Nature in space have to concern 7 type of biophilic pattern:

1. Visual Connection with Nature
Visual connection with nature has an enormous impact on humans. Creating a visual experience inspired by nature can be both stimulating and calming.
2. Non-Visual Connection with Nature
Simply hearing or feeling certain familiar incitements from nature, our mind can be stimulated to relieve stress and work more efficiently. Other ways that promote the feeling of non visual connection with nature include the stimulus of other senses through touch and smell. With the main goal of increasing mental health and focus, the sound of water, a crackling fireplace, and the smell of pines are one of many tools that are being used when trying to bring nature closer
3. Non-Rhythmic Sensory Stimuldi
A natural design that full of unexpected movement, sound, and smell. This Pattern are not predictable cause everything just happen at the same time.
4. Thermal & Airflow Variability
An invisible essential aspect to achieve healthy and comfortable airflow
5. Presence of Water
Experience of a place through touching, hearing, and seeing water
6. Dynamic & Difuse Light
Lighting effect achieved in nature element. Light and colour changing.
7. Connection With Nature Systems
A relationship with the nature including emotions, attitudes and behavior.

Nature Analougues address to organic and non living of nature and concern 3 biophilic pattern:

1. Biomorphic Form & Pattern
A symbolic references through design, by taking form of an object and apply to the design that can persist of nature
2. Material Connection With Nature
A selection that using materials, elements in design that distinctly reflect the natural environment
3. Complexity & Order
Rich information and engaging and having a balance intriguing

Nature Analougues address spatial configuration in nature and concern 4 biophilic pattern:

1. Prospect
Ability to survey a environment (line of sight) through distance viewing, for surveillance and planning.
2. Refuge

- Ability to find haven from the main flow of a space, and often consists of a covering for an individual's back
- 3. Mystery
The promise of more information to the nature.
- 4. Risk/Perill
An indentifiable problem/ threat through nature

Table of Biological Responses in Biophilic Pattern

<i>Nature In Space</i>			
<i>Pattern</i>	<i>Stress Reduction</i>	<i>Cognitive Performance</i>	<i>Emotion, Mood, Preferences</i>
<i>Visual Connection with Nature</i>	Lowered blood pressure and heart rate	Improved mental engagement/attentiveness	Positively impacted attitude and overall happiness
<i>Non-Visual Connection with Nature</i>	Reduced systolic blood pressure and stress hormones	Positively impacted cognitive performance	Perceived improvements in mental health and tranquility
<i>Thermal & Airflow Variability</i>	Positively impacted comfort, well being and productivity	Positively impacted concentration	Improved perception of temporal and spatial pleasure (alliesthesia)
<i>Presence of Water</i>	Reduced stress, increases feeling of tranquility, lower heart rate and blood pressure	Improved concentration and memory restoration Enhanced perception and psychological responsiveness	Observed preferences and positive emotional responses

Source : Terrapin Bright Green, 2014

Architecture Indicator Towards Biophilic

- a. The Orientation of The Building
Applied to the building (Hotel) with view faces to north and south of the site to get more natural air ventilation.
- b. Sun-Shading
The axis of the building is on east and west of the site, where the sunlight is a best opportunity for the biophilic facade. The sun shading effect is applied to all side of the building to decrease heat from the sun. shading would block the maximum radiation of the sun while still allowing sight and wind to enter through the windows.
- c. Openings on Building
All of the room will have a window and ventilation which can be use for air changing and good for thermal in the room.
- d. Material Selection
Wise choosing material had to bring profitable to the building. This profitable could make comfort. The use of natural materials can enriches architecture design.
- e. Colour Selection
Colour that impair the building will be avoided and replaced with the colours that can support and help the thermal comfort to reduce heat.
- f. Vegetation
Vegetation can filter dirty air, resulting in thermal comfort and can minimize the heat of sunlight entering the building.

Hotel

Hotel are accommodations for a resting-place and a temporary residence. Hotel can also be uses as a place where formal and informal meetings are held, and a place to spend time relaxing and enjoy the facilities (Rejeki et al., 2020). According to (Adem, 2020) a good hotel design influences four elements of the building lodging industry which are the customer, employees, the business and the sustainability. A good hotel design might influence the customer's perception, feeling, attitudes, intentions and behavior. (Baek & Ok, 2017) conclude that a good hotel design affects the booking intention of customers through quality expectations However customer gender, age and generation may drive the effect of hotel design. A good design might support the hotel's entire business and also a hotel's design quality positively affects the building's performance. A hotel design is a phenomenon that related to sustainability. Since consumers, employees and the business itself is in the

microenvironment, the influence of hotel design on these elements has been identify as micro-level effects. On the other hand, sustainability can be considered as a macro-environmental element. A good hotel design can only influence sustainability practices in a longer period than consumers, employees and business performance. In addition, a positive change in sustainability practices such as increased number of green hotels might lead individuals to become green consumers (Hou & Wu, 2021). Presence of a good hotel is needed as comfortable stay for health and relaxation.

Biophilic Implementation on Hotel

An biophilic concept may be called that has a complex relationship between living organisms and environmental conditions. The percentage between afforestation and population must be equal in the design. Biophilic is vital to maintenance so that living creatures in the area are neither damaged nor extinct. The equanimity of the environment depends upon each other where, creatures of action need nature to meet their daily needs and vice versa, the environment must be kept by the living to keep its order and clean. When the balance of nature resources die out, it can affect living things and home ecosystems. (Widodo, 2021)

Method

The collection of data in the design is crucial since that data will be used as a design model, this data can be obtained in two ways using a study of direct observation and a study of literature on the design of a hotel. Direct observations can be carried out on the site of the selected design and obtain existing conditions, whereas the study of literature can be done by examining books, journals, or the Internet for standards and references to design (Creswell & Poth, 2016). Data obtained through field observation studies and literature studies get output in analysis which is the main step in the design. The analysis is obtained from the existential conditions and definitively designed standards such as the site analysis, the problem of the site, mass formation, the need and magnitude of space, and the selection of structures and materials. The concept is the next step from analysis, the concept needs to analyze such as solar, building orientation, wind direction, accessibility, circulation, noise, view, the need for space, the shape and mass of buildings, and the structure and materials.

The study is uses a quantitative research methods. This method summarizes all the data in the field, ex; Research may involve quantitative, study first with quantification and then followed by the hypotheses and theories research. The data collected are premier and secondary data. Primary data is data from the original or first source from which information is obtained either through the source or through the person's respondents obtaining information or data (survey & observation). Secondary data are those that support primary data needs such as literature, books, printing media and related literature on biophilic designs to be designed by the writers

Result AND DISCUSSION

The city of Batam covers a land area of 715 km², while the whole region covers 1,575 km² inland. The tropical city of Batam is temperate with an average temperature of 26 to 34 degrees Celcius and has rugged and valley plains. The land have poor red soil and oft-changing weather depended on the time of year in the city of batam.

Research Location and Site Analysis

The planning location as shown in **Figure 2**, is located at Jl. Belian, Batam City, Riau Islands with a coordinate 1.1310241, 104.0591325.



Figure 2 : Map Site of the Location
Source: (Author, 2022)

Site area equals 20875.64 m² with a corresponding building base coefficient 45%, green area coefficient minimum 10%, Green Open Space 30% x Area. The boundary in the north direction is the

sea, in the south direction : empty land, in the west direction: Batam public service mall and east direction: a empty land of **Pulau Sembakau Kecil**.

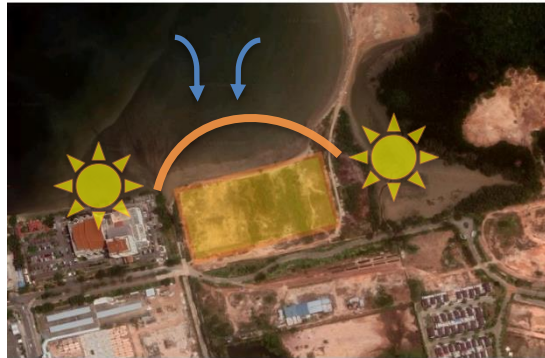


Figure 3 : Climate Analysis
Source: (Author, 2022)



Figure 4 : Climate Analysis
Source: (Author, 2022)

Figure 3 shows an illustration of the climate analysis at the site. The sun rises from east to west, with the most powerful wind in January-March toward north-east and quite strong in July-August to the southeast. By day's end, the northwest will have much light, shown in **Figure 4**, so the heat in site has soared at the temperature in Batam city. It requires Biophilic strategies design plants are recommended as shields that have advantages in order to minimize heat.



Figure 5 : Sensory
Source: (Author, 2022)

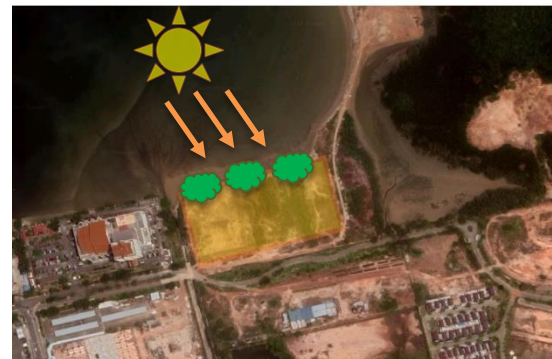


Figure 6 : Sensory
Source: (Author, 2022)

As shown in **Figure 5**, in the zone of view 1 is the best zone in the site. It has best potential view to the sea, which directly faces the direction of the sea. Different from the zone of view 1, the zone of view 2 and 3 have less potential to get a good view. However, in viewing zone 2, there is vegetation around the site and has the potential for sea views for the upper floors. The area of the site has an unregulated and wild vegetation, less than 20% of the plants found in the dedirection of the site and unregulated vegetation. Within the site only have one route that rider can cross at about 5-7m (which leaves another rider have to take turns to access the path). Widening and landscaping is required in order to increase the driving security in getting through this line

Floorplan

The existence of a design concept in the design is very important, with the concept that the whole problem will be solved in a design is formulated into one abstract formulation, as a basis or guide to be translated into a technical application, which can be applied from abstract action to visually measurable, tangible action. Therefore the design concept will be able to bind the result into an integrated design. The floor plan is defined as an illustration of the layout in place. The plan had a highly beneficial function and purpose for a person to discover the layout of a place. The purpose of the picture in a plan is to report, demonstrate, analyze, mutual understanding the interrelation of objects in general.

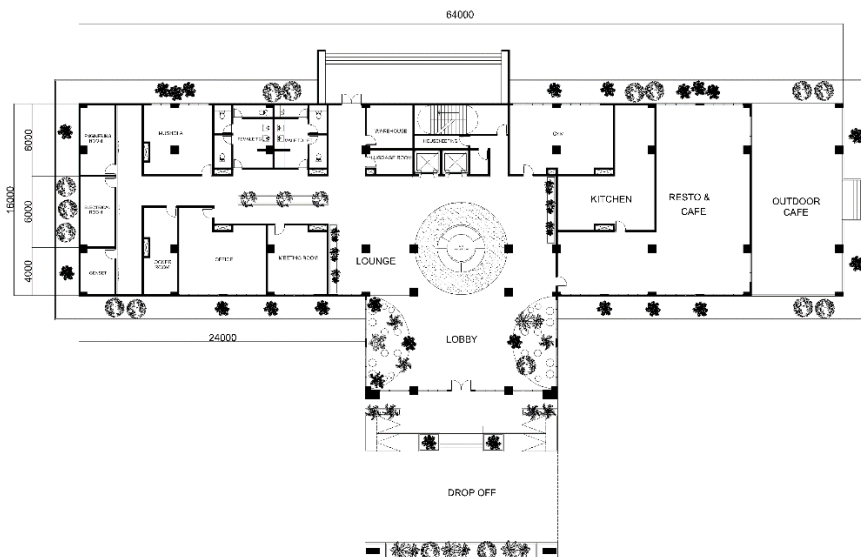


Figure 7 : 1st Floor Plan
Source: (Author, 2022)

First floor in **Figure 7**, the reception area faces up to the entrance so access is made to hotel guests. bellhops located to the right entrance also make it easier for bellhops to help carry the load. There was no change in the lobby area and it was strategically located in the front of the elevator that made access easier for guests. As shown in **Figure 7**, the cafe is located on the right of the lobby in the 1st floor. The area of housekeeping were laid side by side on warehouse. In the first floor internal office is located on the left side of building with a changing rooms added inside of the office. The office area was maximized by reorganizing the work area, the manager's, and the employees. The gym area is facing a view of the sea on Jl. Belian, Batam city, the gym is fully furnish with gym tools such as, treadmill, static bicycle, barbell, etc.

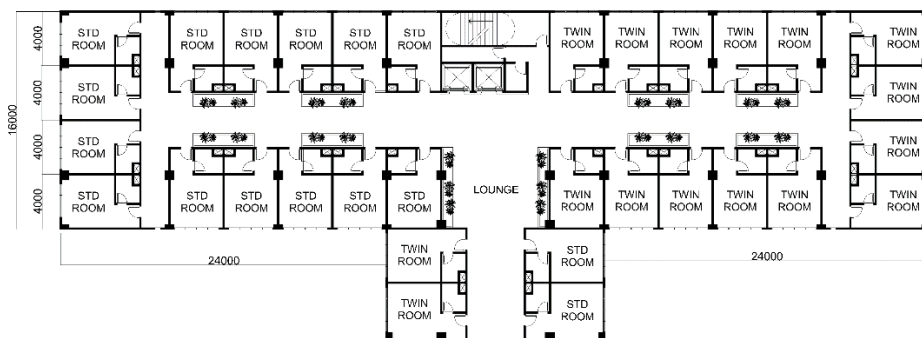


Figure 8 : 2nd – 4th Floor Plan
Source: (Author, 2022)

The 2nd – 4th floor in **Figure 8** shows 16 of standard room and 16 of twin room on each floor. There are no different sizes between both room, different only on the mattress selection. Each floor have their housekeeping room so every checkout on the date had to be clean immediately before other customer check in.

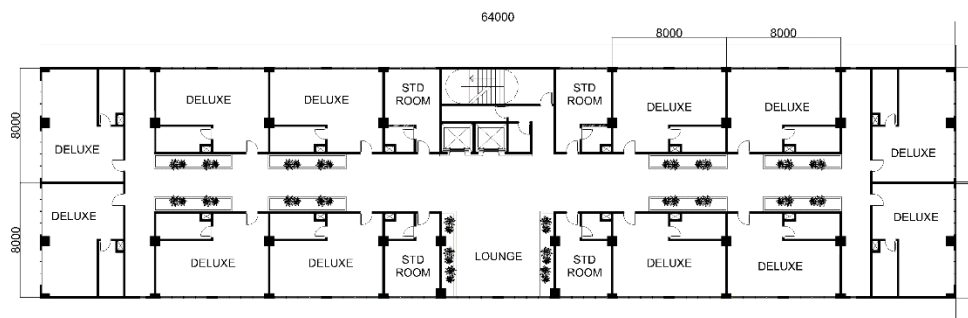


Figure 9 : 5th – 6th Floor Plan
Source: (Author, 2022)

The 5th – 6th floor in **Figure 9** shows 12 of deluxe and 4 of standard room on each floor. This deluxe type room was generally upstairs in order to make it easier for overnight guests to view the beautiful scenery from the balcony or so forth. The deluxe room is more complex. Some hotels normally add facilities such as coffee or tea maker, refrigerators, minibars, amenities, etc.

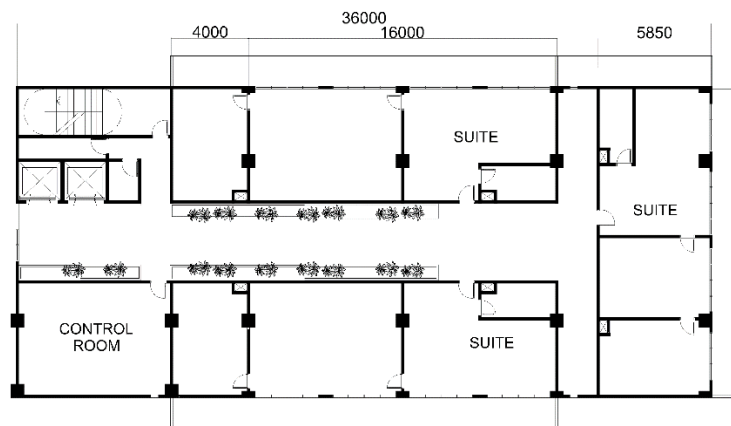


Figure 10 : 7th – 10th Floor Plan
Source: (Author, 2022)

The 7th – 10th floor in **Figure 10**, shows a different from other floor, 3 of suite room on each floor. The suite also has a space large enough to accommodate comfortably and freely with the family. In general, suites also apply to hotel rooms that have facilities different from other rooms. Suites have such areas as bedrooms, where there is a cooking room or a kitchen and a living room and is conducive to the comfort of the residents.

Identification of Biophilic Pattern on Hotel Design Implementation in Batam Visual Connection With Nature

Applying to the pattern maximizing concepts of biophilic design strategies that impact people, using visually inspired from nature and creating a new form that is incorporated into the concept. By demonstrating the concepts embedded in this pattern can reduce stress by lowering high blood levels, heartbeat so that fun and mental health can be maintained. Through the presence of natural elements (daylight, air, plant, water) visually it is expected to provide comfort for the guests. On daylight visual connection with nature concern of skylight, window and atrium. While air element concern of space orientation and other passive strategies. (Mauro et al., 2022)



Figure 11 : *Visual Connection with Nature*
Source: (Author, 2022)

As shown in **Figure 11**, the visual connection with nature factor applied in the hotel model facade. Optimizing daytime lighting, air flow and applying vertical plant into building surface were chosen to approach natural balance between environment and the building.

Non-Visual Connection With Nature

The application of concepts in a non-visual connection with nature pattern can be carried out in ways such as selecting materials and colors that can help for hygiene. In this pattern many things are happening simultaneously like hearing, smell, touch etc. Materials that can support this pattern are deliberately selected materials such as natural rocks and vines which provide many benefits. As an extra color it can also help relieve the stress(Dwiwanto, 2021). And color can also help in balancing nature and mending moods. Mentioned that the use of color was a primary focus in designing. Each color also has potential that can have a positive as well as a negative effect on a person. The use of color is linked to a person's psychological condition that will affect the body, mind, emotions and balance of all three in humans.(Wolfard, 2021)



Figure 12 : *Non-Visual Connection with Nature*
Source: (Author, 2022)

Simulation of natural sound by wind shown on **Figure 12**, focus on blowing the vine of Lee Kwan Yew plant make it shaking through the air and it can minimize the noise of the site. These vines can be used as a screen or a natural screen to protect a building from sunlight. By using Lee Kwan Yew as a second skin, the building always felt cool at all times. Moreover, his role as a protector can also provide a sense of security for those who need more privacy.

Thermal and Airflow Variability

Thermal and airflow variability pattern will be using material that make the area have a comfort sensation and also air conditioning through ducting on the building. On building will have some

window as the opening so that natural ventilation can get into the building Thermal comfort is a condition that is psychologically and human behavior to comfortably function with temperature predetermined within range. In behavior patterns, the human reflex mimically likens his face to his hands when in a hot, sultry room, whereas in psychological terms, perceptions of a comfortable temperature level different according to his expectations and experience.

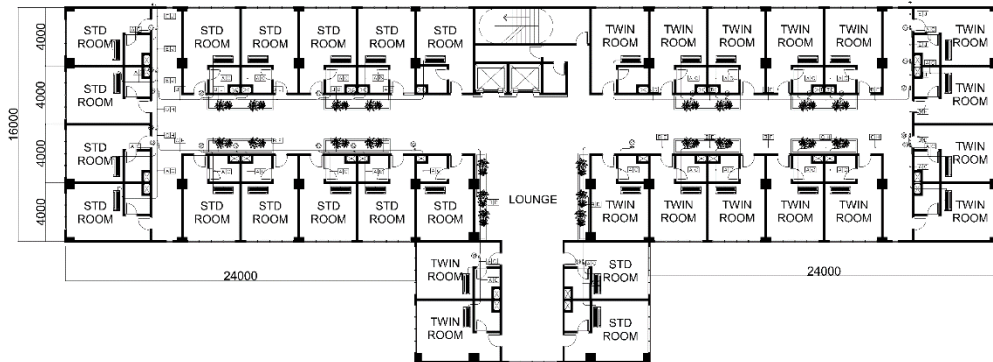


Figure 13 : Air Conditioning Layout 2nd – 4th
Source: (Author, 2022)

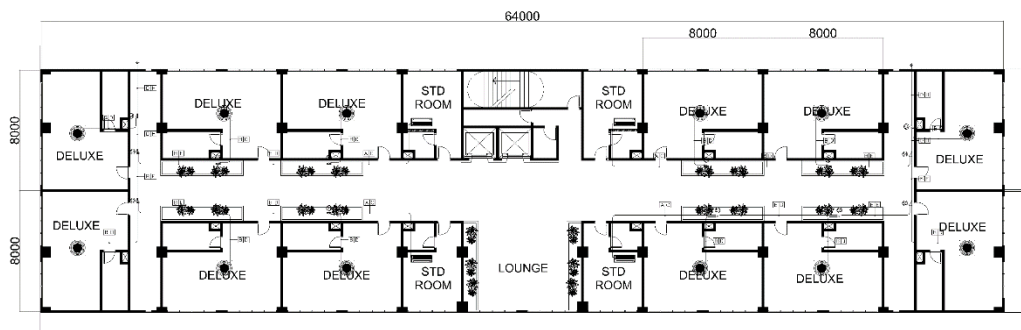


Figure 14: Air Conditioning Layout 5th - 6th Floor
Source: (Author, 2022)

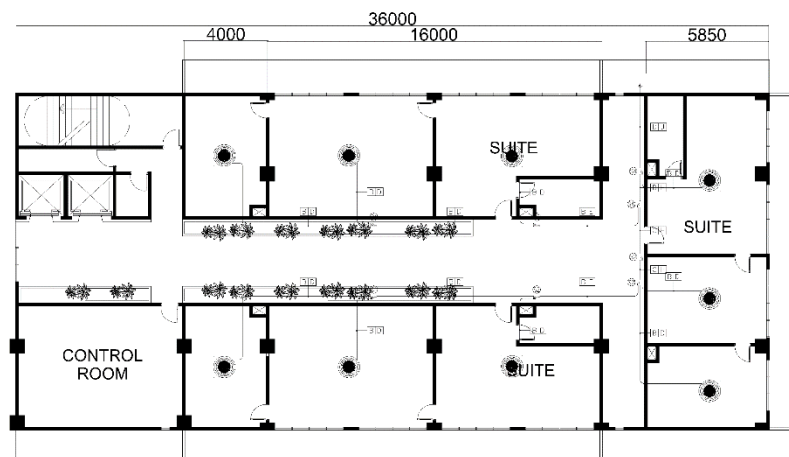


Figure 15: Air Conditioning Layout 7th - 10th Floor
Source: (Author, 2022)

1 way cassette air conditioning in **Figure 13** to **Figure 15** shows a supports of air-conditioning in all directions, so it can be clarified that this conditioner can be felt throughout the room and the cold emitted to its air conditioning function. Booster fan help to expel the cold air at a low angle area. It also creates a low-pressure zone in order to direct the cool air parallel to the ceiling of the room and causes it to spread over a wider area. (Agustian et al., 2022)

Presence of Water

Application to the hotel is carried out by the presence of a pond and pool in the area of the building. The water element is one of biophilic element the sound caused by the splashing water can reduce stress, increase calm feelings, and lower heart and blood pressure, so the users feel relaxed (Fitri et al., 2020). A presence of water pattern must contain one of 3 important design form: Form of dynamic water, form of flowing water and form of stable water.



Figure 14: Presence of Water
Source: (Author, 2022)

As shown on **Figure 14**, a pond and pool are create a restful environment, making the feel of nice and relaxed. This concept its a distinct healing after the people feel tired of activity or when its stressed mind. The sound of rushing water gives a measure of tranquillity. Use the coral rock around the pool to give natural impression. It links you to nature, water brings health, beauty, and harmony to the environment.

Dynamic & Diffuse Light

Lighting is a must for a comfortable environment in order to sustain human activities or productivity. Good lighting enables the sense of vision to capture objects clearly and quickly. To this day, the fact that we need light in every activity, both natural and artificial lighting that supports activity in times of scarcity and at night. Sunlight are the main sources of light that will never escape the earth. Most of our need for lighting can actually be met if the design of a building or a building is correct. Artificial lighting, however, is unavoidable when natural light is not available, or indoors is not equipped with natural lighting. A light normally uses electricity to produce light, but electricity produces heat, it reduces cooling energy. Therefore, the architectural design should give consideration to lighting for thermal comforts.

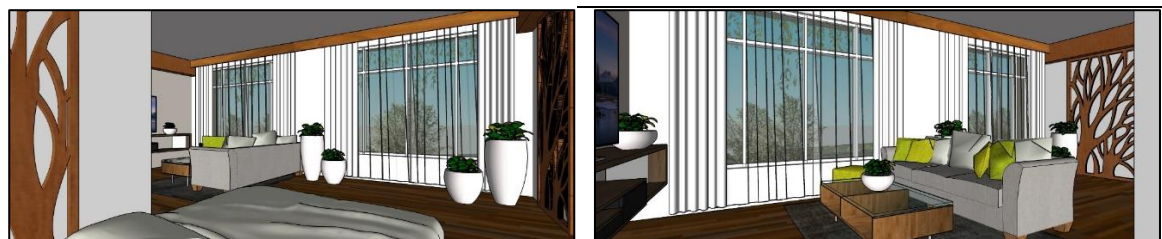


Figure 15 : Dynamic & Diffuse Light
Source: (Author, 2022)

As shown in **Figure 15**, the dynamic and diffuse light applied to the hotel openings. Using a natural lightning through the window would reduce the room on using lightning. Natural light applications in the hotel support energy - efficient lifestyles and also, reduce the cost of electricity use.

Biomorphic Form & Pattern

The application solves issue of built environment with nature, its biomimicry of alphabet T is nature inspired way as a technic for this pattern by observe surrounding nature and it local element.

T means time for this concept which is plants needs time to grow into a big tree. Biophilic design strategies concern all of the plants growing through the soil or nutrient. A good care and a lot of nutrient will support the plant to fast growing.



Figure 16 : Biomorphic Form & Pattern
Source: (Author, 2022)

The facade on floor 7th to 10th in **Figure 16** shows the form of using tree root and furnished with biophilic plants. This strategy makes the building rich of green facade.

Material Connection with Nature

Material are directly connected with human, the material that applied on the building where human can touch and smell and see. According to (TerraMai, 2022), Material connection may mean reflecting local ecology or simply utilizing a wide variety of materials to encourage visual difference, which can aid in maximizing the effects of biophilic design. By using plants as the main material it can create the balance between nature and environment.



Figure 17 : Material Connection with Nature
Source: (Author, 2022)

As shown on **Figure 17**, It's designed to optimize used materials to minimize the use of new materials. Eventually each building is built using a material that can support the concept.

Orientation Of The Building

As shown on **Figure 18**, the orientation of the building is laid between the trajectory of the sun and the wind. The orientation of buildings is crucial to creating energy conservation. Generally, building with openings facing north and south provides an advantage in reducing heat insulation. The

best orientation of the building is to put the lowest surface area of the building facing the axis of east-west, providing external walls in the exterior or open emulation.

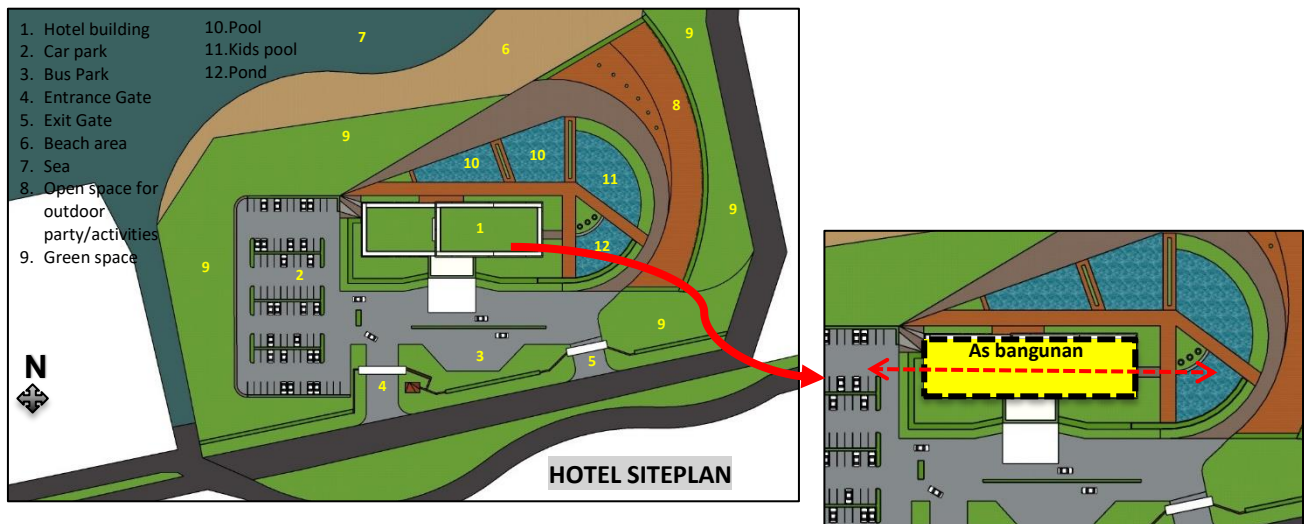


Figure 18: Orientation of the Building
Source: (Author, 2022)

Conclusion

Based on the discussion above, the hotel have a total of 56 standard room, 48 twin room, 24 deluxe room, and 12 suite room. The concept of Nature in Space on the Hotel influences the health and comfort of its users both directly and indirectly to relieve stress and to improve mood quality. Biophilic beside of reduce stress, biophilic improve cognitive function and creativity, improve well-being and promote healing; As the world population continues to be urbanized, these qualities are increasingly important. Given how quickly nature experiences can bring restorative responses, the design that connects us back to the natural world - biophilic design - is essential to providing for communities. Opportunities to live and work in a healthy place and space with less stress and better health and well-being as a whole. Condition of the room will have both natural and artificial lightning. Therefore natural lightning has a connection with nature (Natural preference) and was the most sought-after natural element. With the help of artificial lightning complete the concept of the pattern of biophilic.

Floorplan and Façade design was implementing a biophilic concept. With its abundant vegetation and distributed evenly across the facade, temperatures in the building would drop significantly. Its help on the coolness of quality air without air conditioning; besides making the air cleaner, fastening plants in the storm purify the rainwater that has acidic content. In an indirect way, rainwater is filtered gradually and improves groundwater.

Regarding aspect of biophilic pattern on this hotel design as follow: (1) Visual Connection with Nature; (2) Non Visual Connection with Nature; (3) Thermal and Airflow Variability; (4) Presence of Water; (5) Dynamic & Diffuse Light; (6) Biomorphic Form & Pattern; and (7) Material Connection with Nature

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