

**DESIGN INTERNATIONAL PASSENGER TERMINAL AIRPORT IN
ZINTAN CITY WITH STRUCTURE AS ARCHITECTURE
APPROACH**

FINAL TASK

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ISLAMIC STATE UNIVERSITY MAULANA MALIK IBRAHIM

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ZINTAN CITY WITH STRUCTURE AS ARCHITECTURE
APPROACH**

FINAL TASK

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ABSTRACT

Abdalraof nsraldin melad , 2019 Design International passenger terminal airport in zintan city with structure as architecture approach . Advisor: Tarranita kusumadewi, M.T., Dr. Agung Sedayu, M.T.

Keywords : Zintan, International , Airport , terminal, International terminal,

Zintan is one of the cities of Libya and is located on one of the peaks of the western mountain, 136 km south-west of the city of Tripoli, which is centered in the center of the western mountain. Zintan is the second urban community in the western mountainous region of Ghiran. From what we conclude is that the geographical location of the city of Zintan will be sufficient for an international airport and not only a local airport, just as the existing local airport is not sufficient to support the logistical and economic of the city, which makes the importance of designing an international airport in the city of Zintan one of the most important priorities at the present time

The design of the international airport station of Zintan at the site of the local airport, which is currently 18 km from the city centre

ABSTRAK

Abdalraof nsraldin melad, 2019 Design Bandara terminal penumpang internasional di kota zintan dengan struktur as arsitektur pendekatan . Penasihat: Tarranita kusumadewi,
M.T., Dr. Agung Sedayu, M.T.

Kata kunci: Zintan, Internasional, Bandara, terminal, terminal Internasional,

Zintan adalah salah satu kota di Libya dan terletak di salah satu puncak barat gunung, 136 km barat daya kota Tripoli, yang berpusat di tengah gunung barat. Zintan adalah komunitas urban kedua di wilayah pegunungan barat Ghiran. Dari apa yang kami simpulkan adalah bahwa lokasi geografis kota Zintan akan cukup untuk bandara internasional dan tidak hanya bandara lokal, sama seperti bandara lokal yang ada tidak cukup untuk mendukung logistik dan ekonomi kota, yang membuat pentingnya merancang bandara internasional di kota Zintan salah satu prioritas paling penting saat ini

Desain stasiun bandara internasional Zintan di lokasi bandara lokal, yang saat ini 18 km dari pusat kota



نبذة مختصرة

عبدالرؤوف نصرالدين ميلاد ، تصميم محطة المطار الدولي 2019 ،
 ، Tarranita kusumadewi :في مدينة الزنتان مع نهج هيكل كما العمارة. المستشار
 MT ،D. Agung Sedayu ،M.T.

الكلمات الرئيسية: الزنتان ، الدولي ، المطار ، الصالة ، الصالة الدولية ،

الزنتان هي إحدى مدن ليبيا وتقع على إحدى قمم الجبل الغرب

كم جنوب غرب مدينة طرابلس ، والتي تتمركز في وسط الجبل الغربي. الزنتان هو ، 136
 المجتمع الحضري الثاني في المنطقة بعد مدينة غيران . من ما استنتجناه هو أن الموقع الجغرافي
 لمدينة الزنتان سيكون ممتاز لمطار دولي وليس فقط مطارًا محليًا ، تمامًا كما أن المطار المحلي
 الحالي غير كاف لدعم احتياجات الناس والاقتصادية للمدينة ، مما يجعل أهمية تصميم مطار دولي
 في مدينة الزنتان من أهم الأولويات في الوقت الحاضر

تصميم محطة مطار الزنتان الدولي في موقع المطار المحلي الذي يبعد حاليًا 18 كم عن وسط
 المدينة

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Chapter 1

Introduction

1 1.1 Background

The independence of the Principality of Berqa city of LIBYA was proclaimed on June 1, 1949 as a result of the battle of the Senusi army next to Allied forces in World War II in the Battle of North Africa and the defeat of fascist fascists and German Nazis. Meanwhile, the colonial circles were plotting the future of Libya. 10 March 1949, on the Bifen Sivorza project for Libya, which stipulates the imposition of Italian tutelage on the territory of Tripoli and the British guardianship of Barca and the French guardianship of Fezzan. Libya should grant independence after ten years from the date of approval of the trusteeship project. But the project failed to obtain a small number of supporting votes, as a result of the strenuous negotiations to mobilize support for the independence of Libya carried out by a delegation of Liberals and activists of Libya to demand the unity and independence of the country and spoke in their name Umar Faeq Shneib , The General Assembly of the United Nations issued resolution No. 289 on 21/11/1949, which provides for the granting of independence Libya no later than January 1, 1952, and formed a committee to work on the implementation of the United Nations resolution and to do everything possible to achieve the independence of the entire Libyan territory and transfer Tuberculosis Independent of the Libyan government

Zintan is one of the cities of Libya and is located on one of the peaks of the western mountain, 136 km south-west of the city of Tripoli, which is centered in the center of the western mountain. Zintan is the second urban community in the western mountainous region of Ghiran.

The area is considered mountainous, very cold in the winter and occasionally snowed, but hot in the summer. The inhabitants of the region have long relied on rainfed agriculture as their primary occupation, and some people maintain agriculture as their primary occupation, especially wheat and barley, in areas such as gorges and valleys. Currently, the population practices the trade profession and the region is a center for the trade of TURFAS (local fruit) The population of Al-Zintan and its affiliated villages is 62,000, according to the 2017 census Zintan Municipality also has several main cities, namely, (Al-Murhan), which is about 90 km / km south of Al-Zintan city. .(layer) and away from Zintan about 350 k / m in the south-east direction. (Western Qurays) and about 300 km / h south. (Eastern Qurayat) and about 300 km south of Zintan. (Staircase) and about 450 km / h south-west of Zintan

Zintan Domestic Airport is a civil airport located 18 km from Zintan city - Libya in the south-west direction of the city and runs flights to all the airports in the Libyan cities and provides excellent services despite the lack of possibilities. The airport is the link between East and West in the current conditions and is still under reconstruction and maintenance. To start facilitating his trips to other countries

the reason of international airport in Zintan city of Libya it's the its very important geographical point for air navigation, which is located between Europe and Africa, is an important point for the conversion of international flights between continents

It will be a busy air navigation intersection Which links the Middle East with Arab Maghreb Countries and also links the South African states with Europe countries

In addition, the majority of the western population of Libya, the population of Zintan city and neighboring cities, have difficulty traveling to other countries because of the long distances of roads and difficulty of congestion between the borders of countries

The geographical location of Libya is about; Libya occupies an area of about 1,759,540 km² from the north of the African continent. It extends from the Mediterranean in the north to the borders of the Republics of Chad and Niger in the south and from the Egyptian and Sudanese borders in the east to the borders of Tunisia and Algeria in the west. Extending roughly between latitudes 9 and 25 east, and the maximum extension from the north side reaches latitude 57 ° 32 north of the Green Mountain, with the southernmost extension extending to latitude 30 19 north. In the south-eastern tip of Libya.

1. It is a major link between the countries of the Arab Mashreq and Maghreb countries, especially as they are linked to all these countries with historical and cultural ties.
2. Its location in the Mediterranean basin gives it great strategic importance for the sea itself,
3. Its territory penetrates into Africa between 1900 and 2000 km and is linked to the Sudan and West Africa range of convoys that have played important roles in transport and trade between the Mediterranean and sub-Saharan Africa. Is now reduced due to the progress of air navigation, large parts of which have been paved and turned into car transport routes between the coast and the desert urban centers. The paving of these roads (old convoys between Libya and the desert countries), together with the development and Build an international airport, Will revive it again, and the importance of the geographical location of Libya has been growing.

The architectural structure is most often used in protection from the desert and geographically surrounding areas. It is very important for the demarcation of the tarmac

expression of Structure; Within the context of the built environment , the term 'structure' refers to anything that is constructed or built from different interrelated parts with a fixed location on the ground.

This includes buildings, but the term structure can also be used to refer to anybody of connected parts that is designed to bear loads, even if it is not intended to be occupied by people. Engineers sometimes refer to these as 'non-building' structures

In a recent "Reader Poll" on design preferences published in Progressive Architecture, a majority of respondents agreed that "structural systems should be expressed" in works of architecture. But what does it mean to "express" structure? This question is not merely a matter of defining terminology, but goes to the heart of the relationship between the art of architecture and its technological basis. In examining how structure differs from expression of structure, the following propositions are developed

- 1) Exposed structure does not "express" structure but simply is structure
- 2) What structure expresses is not "structure," but a set of culturally-determined beliefs about structure
- 3) The expression of structure is different from the actual behavior of structure
- 4) The behavior of structural elements and systems is not self-evident; and
- 5) Form is not determined by structure.

Despite the use of structure architecture in the protection, external structures can be formed in the form of olive leaf patterns and on typical forms of internal Islamic, because olive in the Arabs is a symbol of peace as it is important in many uses such as treatment and perfume making and is mainly in the cooking of food. The structure in the buildings is considered more important because it supports the building in a typical style, and it is essential to protect from the cold wind and the warm wind, which is considered very dangerous for the buildings that are not complete in the structure

Review of Islamic values Islam; Islam has an elaborate treatment for almost every aspect of life including the affairs of business. Business is an acceptable and dignified occupation, which has to be conducted within the given frameworks. Islam

encourages the creation, acquisition and consumption of wealth, and the fulfilling of certain conditions in so doing. Wealth is held in trust as a gift from God. The terms of reference of this trust are to be complied with. Ethical principles do play a major role in shaping the behavior of a Muslim, in or out of business. In an era of globalization

Review of Islamic values Islam in Libya Islam arrived in Libya after its opening by Amr ibn al-Aas in the seventh century and the end of Byzantine Christianity in it. Libya considers Sunni Islam to be the doctrine of Imam Malik, as more than 95% of Libyans are Sunni, while part of the Amazigh is followed by the Ibadi sect, and there are no non-Muslim groups or other Islamic sects.

Hadith of the Messenger of Allah Muhammad peace be upon him. About Travel

Praise be to God and prayers and peace be upon the Messenger of Allah and his family and companions, but after:

This hadeeth was narrated by al-Bayhaqi in Sunanah from Ibn Abbas (may Allaah be five benefits pleased with him) who said: The Messenger of Allaah (peace and blessings of Allaah be upon him) said: "Go and sit and watch." This is the phrase in the Mushad al-Shahab. Shaykh al-Albaani (may Allaah be pleased with him) narrated this hadeeth in the hadeeth. See the chain of weak hadeeths, hadeeth no. 255. Narrated by Imam Ahmad in his Musnad from Abu Hurayrah (may Allaah be pleased with him). This hadeeth was narrated by Shaykh al-Albaani in his series of saheeh ahaadeeth, Hadith no. 3352, and narrated by al-Tabaraani from Ibn Umar (may Allaah be pleased with him) who said: The Messenger of Allaah (peace and blessings of Allaah be upon him) said:

This hadeeth indicates some of the benefits of traveling. Al-Manawawi said in Fayadh al-Qadeer when he explained this hadeeth. They traveled to the Sahih and Tgnmoua. Al-Bayhaqi said: It indicates to him what the cause of wealth is.

O people, indeed we created you from a man and a woman and made you nationals and tribes so that you knew each other. Surely the most noble among you by Allah is the most pious among you. Truly Allah is All-Knowing, All-Knowing). (QS Al Hujurat 49:13)

Conclusion

- the granting of independence Libya no later than January 1, 1952,
- Zintan city is one of the cities of Libya and is located on one of the peaks of the western mountain, 136 km south-west of the city of The capital Tripoli,
- Zintan city is considered mountainous area, very cold in the winter and occasionally snowed, but hot in the summer.
- The population of Zintan and its affiliated villages is 62,000,
- Zintan Domestic Airport is a civil airport located 18 km from Zintan city - Libya in the south-west direction of the city
- The reason for the international airport terminal in Zintan is the very important geographical point of air navigation, which is located between Europe and Africa, is an important point for transforming international flights between continents
- The architectural structure is most often used in protection from the desert and geographically surrounding areas
- expression of Structure; Within the context of the built environment , the term 'structure' refers to anything that is constructed or built from different interrelated parts with a fixed location on the ground.
- Despite the use of structure architecture in the protection, external structures can be formed in the form of olive leaf patterns and on typical forms of internal Islamic,
- Review of Islamic values Islam; Islam has an elaborate treatment for almost every aspect of life including the affairs of business.
- Islam in Libya Islam arrived in Libya after its opening by Amr ibn al-Aas in the seventh century and the end of Byzantine Christianity in it. Libya considers Sunni Islam to be the doctrine of Imam Malik,

1 1.2 Defining the problem

1 exist a pressed on African Airlines, which is part of the Alibiya Airlines, is being charged with arranging flights at Zintan Domestic Airport

2 Increasing the number of passengers at Zintan Domestic Airport each week leads to only one trip

3 The capacity of the apron is one trip per week and the passengers must wait a week after booking a trip to return or leave

4 The small area of the airport, which leads to some of passengers being forced to waiting out of the airport with no hotel close to the airport and a short waiting list, includes the area: terminal area, check-in, exit lounge

5 The airport area is empty spaces in the desert, making it difficult to build and provide water and building materials

.13 Problem Formula

- What is the design of the international airport terminal Zintan new domestic airport in the special area in South Zintan ?
- How is the structure applied to the design of the new Zintan international airport terminal?

1.4 Purpose

1. To Design of the new zintan International Airport Terminal in a special area of South zintan
2. To Application architecture Structure of the new Zintan International airport terminal design

1.5. Benefits

1. Support and prosperity of trade
2. Support the economy
3. Open the field for other projects next to the airport
4. Strengthen relations with other countries
5. Strengthening and supporting tourism

1.5.1 Authors

1. Knowledge of international air transport knowledge and understanding of infrastructure, facilities and all requirements at international airport stations
2. The structure approach can be applied in the design of the new Zintan International Airport Terminal

1.5.2 Communities

1. Give an overview of services and airport facilities that are good and international class
2. Provide a description of a design that is not bound by the shape of a building but still retains the value and character of the building where it was designed

1.5.3 Space temples

Provide a reference to the international standard airfield with a structural architecture approach that can provide a futuristic impression and still depict the character of the special area in zintan

1.6 Limits

The preparation, discussion of the construction of the new airport terminal in New Zintan International Airport have the following limitations:

1.6.1 Limits of Objects

1. The study discussion is the design of the New Zintan International Airport passenger terminal to become an international class airport passenger terminal with a range of domestic and international flights
2. Detail design of the object only covers all the needs of the domestic and international airport passenger terminal and airport runway
3. Adding the passenger terminal facilities of New Zintan International Airport to support user convenience

1.6.2 Consumer Limits

Limitations of users include local and international visitors consisting of all ages ranging from children, adolescents, and parents and people with disabilities. With different jobs or professions

1.7 Approach

Based on the issue that occurred at Zintan International Airport, one of which is the number of obstacles around the airport, so the need to Amplify the location of the new airport to support the level of demand for flight services whether it is departure or arrival. Furthermore, in a design, an approach is needed as a basis for the design direction for the designer as a determinant of success of a plan in responding to the various problems that exist within the object of planning. In addition the approach can be interpreted as a connecting medium between the object of design and also the cultural context around the site so that there is an alignment between the two.

Furthermore, in the design of the airport, the new terminal at Zintan International Airport will use the architecture structure which is expected to be able to address issues in the design process. The basic structure of its own architecture has anti-depth more than just construction support. Because the beauty of the interior and exterior of the building and be the link between imagination and the truth in design. In addition, the structure method can be interpreted as a reflection of the model that is used in drawing in general to apply changes to both shape and surface and object combat. Diversification of the shapes in which you are actually shaped, Rotation in all directions, Pressure, Tension, Tension, Tensile, Cloud, Friction, Circulation, Wrapping, Drilling, Therefore, the application of the curriculum is to apply all these changes in the structure of the building, which is above the solid ground so that you apply it from the beginning of the foundation of the initial structure of the building where the basis of balance on the pressure and clouds should also be a sufficient amount of friction to face the wind and fluctuation degrees The heat is also to be observed in the zoological structure no matter how consistent with all the sides of the structure

As such, this structure is a solid building that bears heat, coldness and seasonal desert winds, and this is one of the main purposes of designing the structure.

Chapter 2

LITERATURE REVIEW

2.1 Overview of Design Objects

The Designing of the New Zintan International Airport Terminal is the object to be designed. In this sub-section, it will explain the meaning of the object, but before that it will be hacked together on several aspects that can affect the development of an airport terminal. This is because the airport terminal is one of the building parts in airport infrastructure. Besides that the operation cannot stand alone because the function of the building in the airport infrastructure is related.

2.1.1 Definition of Design Objects

Aviation is a unitary system consisting of utilization of airspace, aircraft, airports, air transportation, flight navigation, safety and security, environment, as well as supporting facilities and other public facilities (Article 1 Number 1 of Law Number 1 of 2009 concerning Aviation) Dart explanation above can be interpreted that flight is one part of a public transportation system that utilizes airspace as a transportation rate. This opinion was supported by Brian Edward's statement in his book explaining that aviation is a major international industry, capable of carrying around 1.3 billion passengers in 2003. In addition, from various types of transportation, using the type of air transportation to travel long distances can save costs, reduce time estimation and has a better level of security. This type of transportation is often the only choice in international travel, so the comfort and efficiency factors are the main points that must be considered and must refer to international standard parameters and regulations that affect the layout, specifications of aircraft, engineering and infrastructure of the airport itself. Furthermore Man airport infrastructure consists of five basic zones, namely: runways, aircraft refueling areas and maintenance, apron and taxi aircraft and terminal buildings which are functions and main layouts in airport operations. While secondary buildings can cover flight control towers, links between public transportation (such as train stations), road systems, parking lots and hotels (Edwards: 2005).

Talking about flight is certainly closely related to Airport Terminal. This is because the airport itself is an infrastructure that plays an important role in the smooth running of a flight. Then the dart, to understand more Further about the design object needs to know some of the meanings related to the design object.

2.1.1.1 Definition of Airports

In its development the airport underwent several changes, which at first were private and public facilities now began to experience very significant changes towards the airports that were social, commercial and tourism. So, on the current trend an airport can be interpreted as a large, complex and generally very profitable industrial company. However, it does not change its essence which is part of the important transportation infrastructure in the country, which in addition to providing thousands of jobs within the airport itself, can also support a much wider area in terms of social and e. the height of the Airport building consists of various parts, including:

- Runway and taxi area
- Air traffic control buildings
- Airplane maintenance buildings
- Passenger terminals and parking lots
- Cargoes or goods warehouses

In the past, the airport compiled activities that were implemented in the five zones above which were divided into land zones and air zones, but because of the era and increasing need for greater profits in airport management, many airports began with conference, hotel and retail facilities. That can be rented out. In addition the airport is also considered an integrated transportation system, not only connected by cars and buses but also through subway lines or underground lines (Edward: 2005).

Furthermore, the airport is a major transportation infrastructure facility, but on the other hand they are also a very significant source of pollution. This problem is also explained in more detail in the primary aviation and emissions-A document (2005) issued by the FAA (Federal Aviation Administration) which states that aircraft engines have emissions that are the same as motor vehicle engine emissions, namely Carbon Dioxide (CO₂), water vapor (H₂O), Oxide Nitrogen (NO₂), Carbon monoxide (CO), Oxide Sulfur (NO₂) and Organic Compound Volatile which have an impact on the environment and there will be a very large use of energy concentrations in the future if there is no innovation to reduce these problems. Apart from that, the airport is also a point of cultural, social, economic and commercial exchange. In his book "The Modern Airport Terminal" Brian Edward describes the bandara is a city microcosm that is likened to a satellite that orbits on the edge of a main conurbation but operates almost as a city itself. There are three main groups of players in an ordinary airport:

- Airport companies that have an airport area
- Airlines that use it
- Passengers

But because the airport is becoming more complex and more attractive to become a destination, it finally shakes up new user groups. At present the modern airport has extensive retail and recreational restaurant facilities and is often used by people who are not members of the 3 main groups above, as well as security police, fire and ambulance police. Many large airports have become holiday destinations, attracting people to take day trips and other places just to enjoy the facilities in the airport. The functional and social diversity within the modern airport makes the airport experience the obscurity of building functions, especially the terminal itself. In some cases, a large airport is like a new city. This resulted in a huge economic impact and made enormous demands on regional infrastructure. Conceptually airports are structured like a city, with a center (where terminal buildings are located), industrial estates (hangars and warehouses), effective road systems, and residential areas (hotels are located in the center and the mantle is in their heads).

2.1.1.2 Airport Compensation

The airport consists of several components to support flight activities. Among the most important are (Horonjeff, 1993):

A. Side of Air (Air Side)

- Runway which is not needed by the aircraft. The length of the runway usually depends on the size of the aircraft served. For pioneer airports that serve small planes, the ground is sufficiently dartered with grass or hardened soil (stabilization). The length of the pioneer shelter is generally 1200 meters wide by 1 meter, mass serving Twin Otter, Cessna and others. Two small propeller planes (generally enough 600-800 m). whereas for bandanas which are rather crowded, it is used asphalt construction, with a length of 1800 meters and a width of 20 meters. The aircraft served are types of turbo-props or small jet jets such as Fokker-27, Tetuko 234, Fokker-28, and so on. At crowded airports, generally with concrete construction with a length of 3600 meters and a width of 30 meters. Planes served

are medium jets like Fokker-100, DC-10, B-747, Hercules and so on. International airports have more than one platform to anticipate traffic congestion.

- Apron is a plane parking lot that is close to the terminal building, while taxiways connect the apron and runway. Apron construction is generally reinforced concrete because it carries a large static load from the aircraft.
- Air Traffic Controller, in the form of a special monitoring tower equipped with radio control and radar.
- The accident response unit consists of cutting and firefighting platoons, fire engines, fire extinguishers, ambulances, etc.
- Fuel service to fill avtur fuel

B. Side of land (land side)

- Terminal is the center of business for passengers who come or go. Inside is a check-in counter for international airports, and a waiting room and various facilities for passenger comfort.
- Curb, where passengers go up and down from land vehicles into the terminal room
- Park the vehicle, for parking the passengers and escort / pick-up.

2.1.1.3 Category of Airport Terminal (The types of Airport Terminal)

NO	location	Area category	Area type
1	Terminal	Type A Passenger Handling Facilities	A. Lobbying Handling B. Toilet C. Service desk area D. Baggage collection facilities E. Repair and storage area
2	Terminal	Type B Surgery room company flight or the real tenant is finished all of them	A. Office of subscription services B. Agent supervisory office, report completion and agent waiting room C. Toilet D. VIP room E. "Lost and found" room
3	Terminal Or liaison	Type C Place of operation of the company flight, level	A. Office B. Tire repair shop (including equipment) C. Warehouse

		lower is not finished	D. Space planning and cargo planning E. cupboard F. The dining room G. toilet
4	Connectors	Type D Passenger handling	A. Corridor B. Toilet

Table 2.1 Airport Terminal Category (Horonjeff, 1993).

2.1.1.4 Definition of Airport Terminals

For architects, terminal buildings are the main airport buildings that can be given opportunities as architectural expressions, while such as hangars and control towers are considered structural challenges. Functionally the terminal is a building that divides land between private areas of airports and public areas. That is likened to the customs clearance system and also baggage, allowing the terminal to become the main control organization mechanism at the airport. This explanation is explained

System	Infrastructure
Aircraft	Terminal buildings Hangars Air traffic control Runways and aprons
Airways	Air traffic control Runways and aprons
Airports	Terminal buildings Hangars Air traffic control Runways and aprons Warehouses
Airlines	Terminal buildings Hangars Air traffic control Runways and aprons
Air passenger	Terminal buildings Hotels Car parks
Air freight	Warehouses

Table 2.2 Interactions between airport systems and infrastructure

more detailed in table 2.1 if terminal infrastructure is always a space that contains a variety of main systems that exist in the airport including airports, airlines, aircraft and water supply. Furthermore, the above statement is also supported by an explanation in the Airport Passenger Terminal Planning and Design guidebook that defines the terminal complex to be the three main components, namely airside, terminal, ground side which will be explained in more detail in the next section

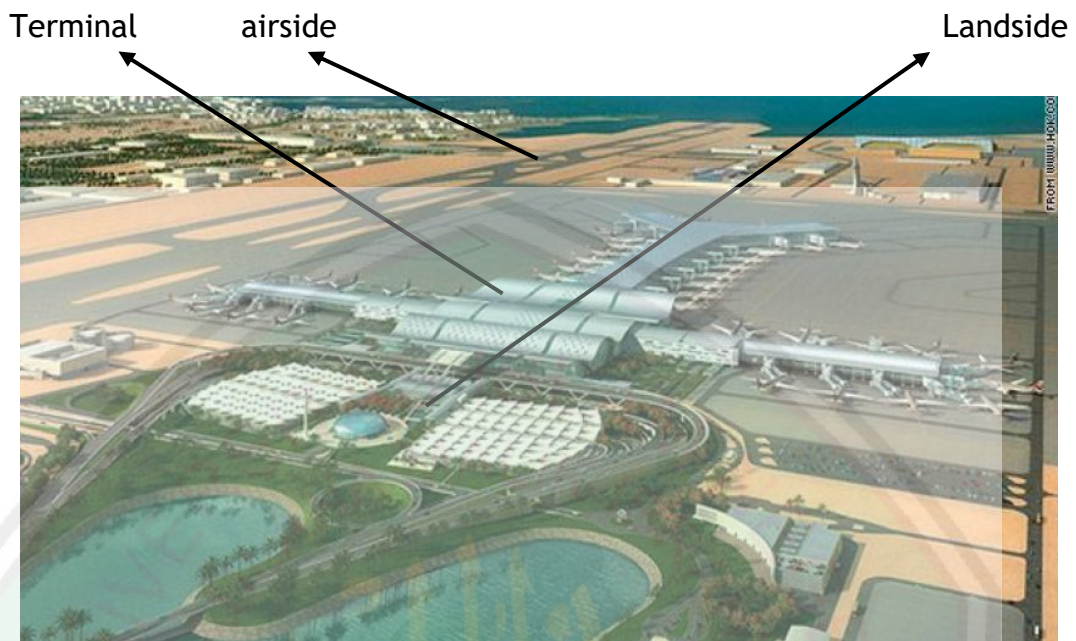


Figure2.1; Hamad International Airport of Qatar ;

www.rhinocarhire.com/Car-Hire/Qatar-Car-Hire/New-Doha-International-Airport-Car-Hire.aspx

Organizationally, the element plan is a major airport area and is part of an integrated system that includes complex interactions between airlines, airport authorities and travelers. Because of this, the station is the main activity center located in Doha, so that the reputation of the airport is determined by the quality of the terminal building, but not only as an architectural image but also determined by facilities needed by customers or users. So be sure that passengers enjoy the time Wang gets and enjoy the time they travel from Earth to the air or as accurately as possible. Moreover, as explained in the reason, it is actually about understanding airports that, according to Brian Edward, if the airports are independent urban entities no different from the new city on the edge of the city, the building will have its own role which is a place for people who have money, Sharing snacks and gifts. Use tools and enjoy traveling. The modern stations provide in-house shopping centers and recreational facilities for the entertainment of travelers, while the external device provides control when assembling aircraft outside the terminal. In addition to the hustle and bustle of many people's movement with a variety of distinctive features giving a more interesting spectacle, so that the terminal can also be used to celebrate various activities, arouse enthusiasm and to increase anticipation of air travel

2.1.1.4.1 Measurement international airports stander

A. Terminals

The following functional areas determine the airport capacity:

- Take-off and landing runway system (possible movements of aircraft per unit time);
- Taxiways and number of arrival/departure gates;
- Passenger terminal buildings (possible movements of passengers, baggage and air-freight per unit time). The capacity of the check-in system is determined by:
 - The related road and rail systems (including parking provision, capacity of roads);
 - Passenger/baggage check-in clearance (number of counters and capacity of conveyor/transport system);
 - Passport control, security checks, checks prior to boarding the plane (size of waiting rooms, number of counters). The apron is the area that connects runways to the terminal. It includes taxiways, aircraft maneuvering/parking areas, associated traffic areas and roads for service vehicles, as well as storage areas for service vehicles and equipment, and should therefore be developed in conjunction with the terminal.

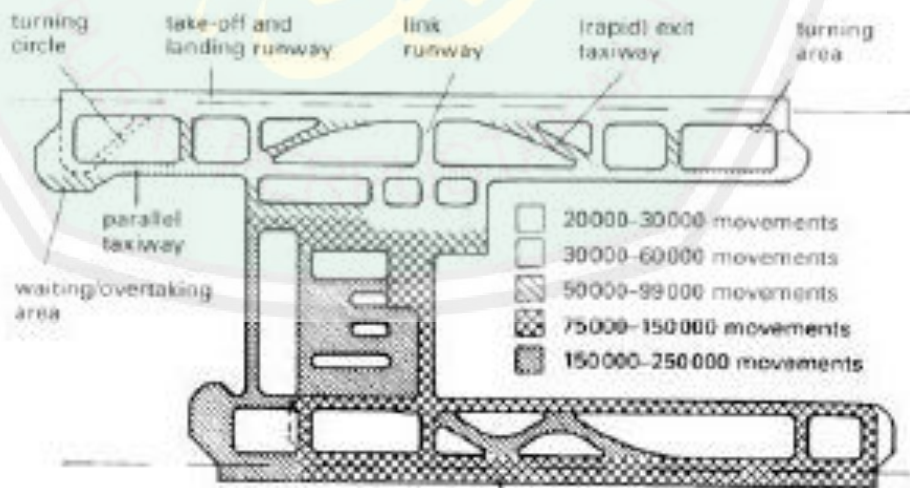


Figure 2.2; stander Sizes of international airports Neufert emst 2003


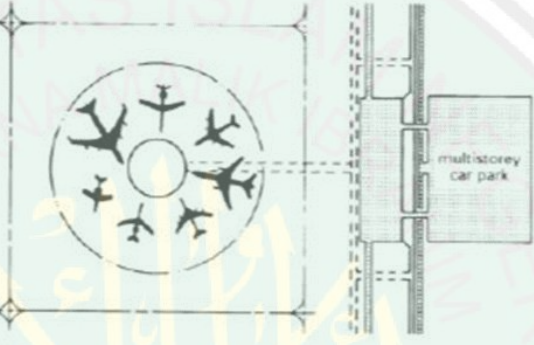
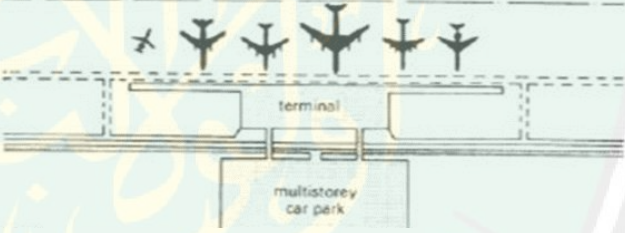
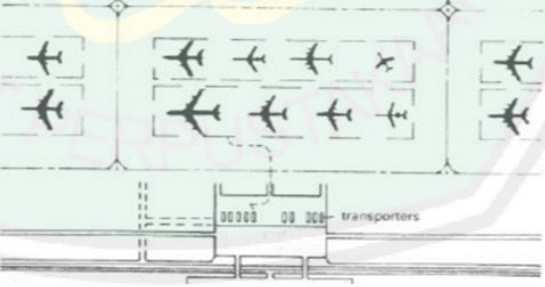
Name concept	Form concept
Pier concept	
Satellite concept	
Linear concept	
Transporter concept	

Table 2.3 concept of forms terminals . Neufert emst 2003

Passenger terminal concepts Airports use different methods of accommodating aircraft and linking them with terminals and the main buildings. There are four main concepts.

1. Pier concept (with central main terminal p. 448, C) + 0). Aircraft park on both sides of a pier connected to the terminal building. Where there are two or more piers, the space in between has to be sufficient for 1-2 apron taxiways each (allowing taxiing in and out at same time)
2. Satellite concept (with central main terminal p. 448. +(3). One or more buildings, each surrounded radially with aircraft parking places, are connected to the main terminal, generally by large underground corridors.
3. Linear concept p. 448, © +0)). Aircraft are parked alongside the terminal building in a line next to one another in nose-in, parallel or diagonal positions. The parking position determines to a great extent the overall length of the terminal.
4. Transporter concept (-r p. 448, 0 + (4). Aircraft parking is spatially separated from the terminal and the passengers are taken to and from their flights by specially designed transport vehicles. Further mixed variations (hybrid concepts) can be developed from these basic layouts.

5.

Concept of different take off/landing runway system

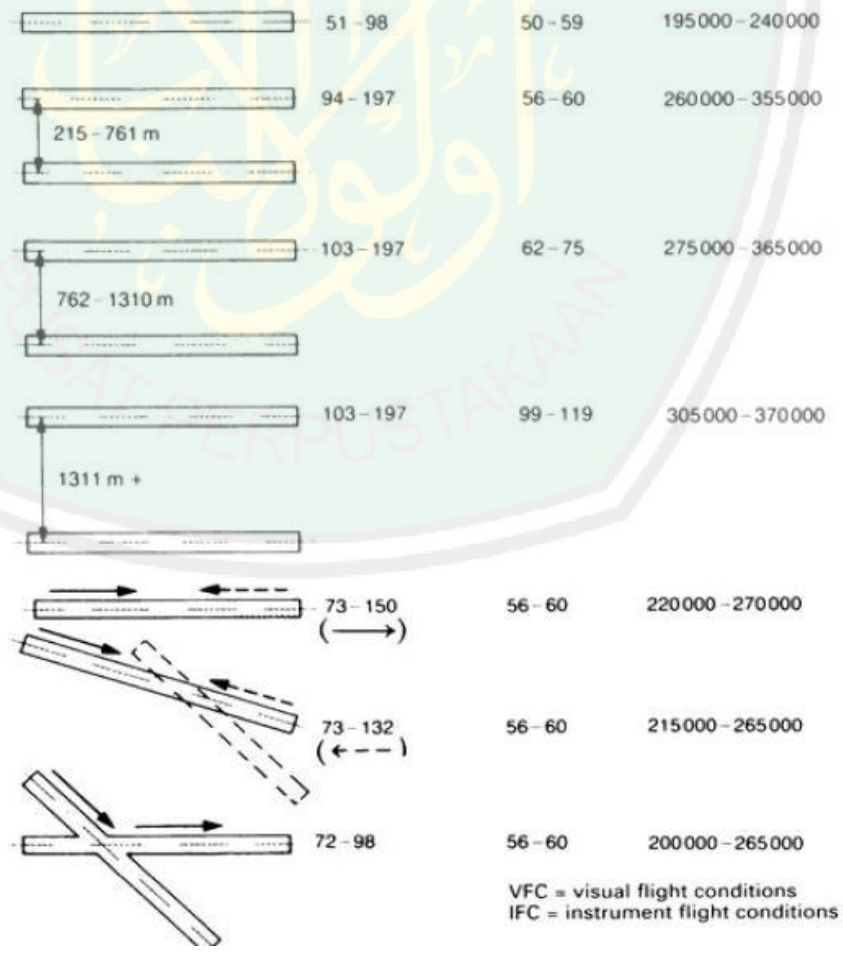


Figure 2.2; standard Sizes runway system, Neufert 2003

B. Runways and Aprons

The orientations, lengths and numbers of take-off and landing runways are determined by a number of factors:

- Orientation is determined essentially by the prevailing local wind direction, the aim being to make it possible to approach the airport for 95% of the year (with a maximum side wind of 20 knots). Frequent strong crosswinds may make a corresponding second runway necessary p. 4465 +
- Length is determined by the type of aircraft, predominant climatic and topographic conditions, such as temperature, air pressure (related to height above sea level), land gradient etc.
- The number of runways is dependent upon the volume of traffic to be handled. A parallel arrangement (note that the minimum separation is 215 m) is particularly advantageous and, if the separation is more than 1310m, simultaneous take-offs and landings are possible, which allows the highest theoretical capacity to be reached. p. 449 0

The taxiing area is to be designed in such a way that the runways can be cleared as fast as possible after a landing ('fast exit taxiing runways') and parking positions can be reached by the shortest possible routes. In especially busy airports, provision of overtaking areas or by-pass runways can help to increase capacity.

Aircraft parking positions

The 'nose-in' position p. 447 0) has the following advantages: small space requirements; few problems with exhaust streams for personnel, equipment and buildings; quick servicing times as the necessary equipment can be made available before arrival; and ease of connection to passenger bridges. However, this position requires a means of towing for maneuvering purposes and this adds time and calls for trained personnel. With 'taxi in/taxi out' parking (e.g. diagonal nose-in p. 447 C) and diagonal nose-out - p. 447 0 towing is not necessary. However, such parking needs a larger space and creates more fumes and noise pollution directly in the vicinity of the terminal as the aircraft are taxiing, thus making it necessary to add protective measures such as blast barriers. The parallel parking system offers the easiest maneuvering for arriving and departing aircraft and there is no need for towing. The disadvantages are that parallel parking has the greatest overall space requirement and limits activity in neighboring aircraft positions during taxiing.

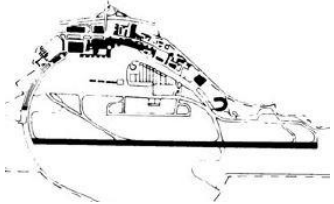
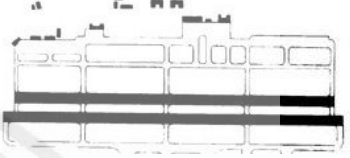
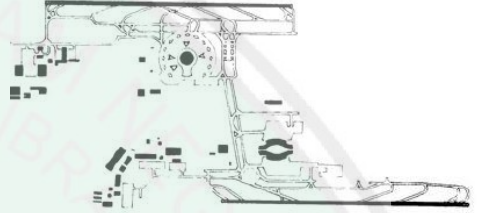
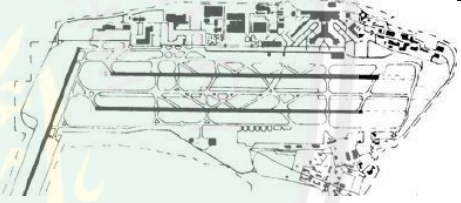
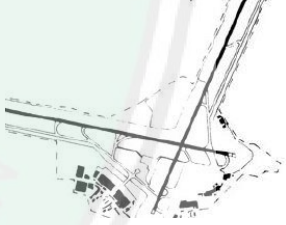
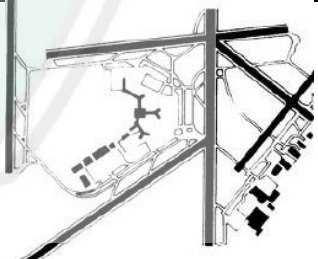
Name airport	Runway
Munich Riem	
Moscow shermetyevo	
Paris Charles de Gaulle	
Frankfurt/main	
Hamburg	
Amsterdam schipol	

Table 2.4 Types of runway international airports . Neufert emst 2003

C. AIRPORTS: PLANNING

Forward planning requires a traffic forecast based on the following data:

- average/peak passenger movements (overseas/ domestic, arrivals/departures, transfers/transits, short-haul/long-haul);

- average/peak air-freight/mail take-offs and landings (overseas/domestic, import/export/transfer), proportion of standard dimensions (containers, pallets), average/peak total tonnage, number of items or volume of goods);
- average/peak movements of aircraft according to types of aircraft (passenger, freight, or mixed traffic). Other factors important to planning are:
- choice of mode of transport by passengers (private car, taxi, public transport);
- average number of people accompanying each passenger, average number of pieces of luggage per passenger, number of visitors to airport {unconnected to passengers, employees}.

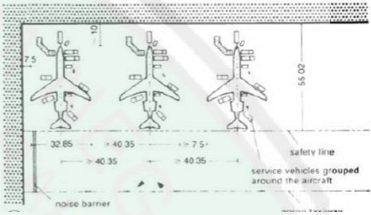
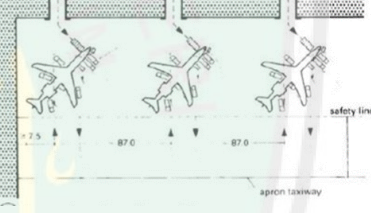
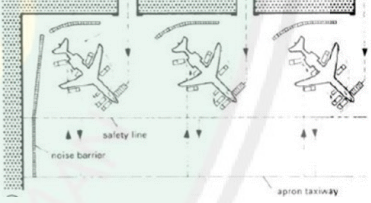
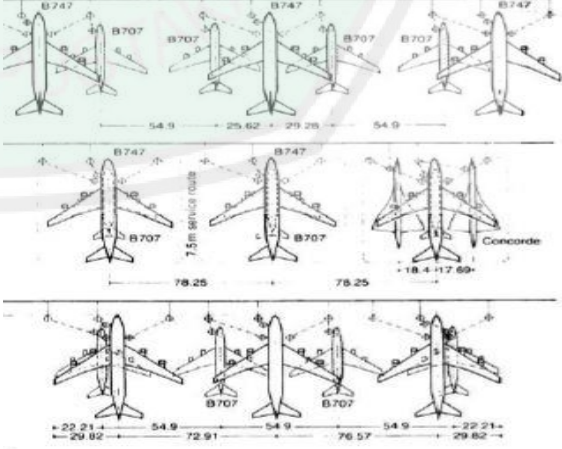
Name parking position	Side parking position
Nose-in parking position	
Diagonal Nose-in parking position	
Diagonal Nose-out parking position	
Typical aircraft parking arrangements	

Table 2.5 Types of Aprons (parking position) international airports . Neufert emst 2003

2.1.1.4.2 Passengers Census of international airports stander

Is to have the Arab airports company the state of the large number of African aircraft and manages the operation of the airports of East Africa and the Middle East and the airports of the desert and the largest of them. One example is the number one in the world for international travelers and second for international cargo, Dubai International Airport.

The following table shows the number of the average .Passengers expected to start at Zintan International Airport as a primary base for example in the Middle East

no	Number of flights	Number of passengers	Passenger Nationality
A day	200	10.000	Europeans 30%
A week	1400	70.000	Africans 40%
A months	6000	300.000	Americans 10%
A year	72.000	3.600.000	Asians 30%

Table 2.6 Types of Passengers Census of international airports stander. Abdalraof nsraldin melad

2.1.2 Overview of Non-Architectural Design Objects

The airport is an infrastructure that plays an important role in the smooth running of a flight. Furthermore, to further understand the understanding of the airport, it is necessary to study how the system in an airport works, starting from the ownership of an airport, how airports generate revenue, the growth of airport demand and will be continued by knowing several other systems, including: how the airport grows, how funding growth at the airport, the economic impact of the airport and the airport's growth limit. In addition, the location taken in the design of the New ZINTAN International Airport Terminal is located in the Special Region of ZINTAN which is a very thick contextual cultural area. So that in the design process it is necessary to review further the culture of the Special Region of Yogyakarta which aims as an expression of the building.

2.1.2.1 Airport contextual

2.1.2.1.1 Airport Ownership

In this ASEAN economic era, it seems that the government is beginning to realize the importance of opening up investment opportunities to develop public national infrastructure, if reviewed in the previous two years the government of Libya was completely closed to foreign investment. Thus, with the opening of these opportunities, it seems quite tempting for foreign investors to invest in Libya, one of which is investing in aviation. This investment is carried out by the operator of Egypt Airport in Cairo through the formation of a joint venture company or the airline of Africa with Saudi Airlines and United Arab Emirates, one of which is the construction of a new airport in Doha Qatar.

However, when looking at the case of foreign investment to build infrastructure, especially airports for a country, it was revealed by Brian Edward in his book *The Modern Airport Terminal*, published in 2005, to reveal if the trend had become a trend in the period before the book was published. Even in the book it was revealed that the current trend was how ownership of an airport is private ownership in private or a partnership between private and government investors. Like the Stuttgart airport in Germany and Milan in Italy, which is now not owned by the state. The reason is quite clear because the airport needs an injection of funds



Figure2.3; <http://www.destination360.com/europe/germany/munich-airport>



Figure2.4 ; Milan Malpensa Airport;

<https://www.google.com/search?q=airport+milan&safe=active&source=lnms&tbm=isch&sa=X&ved=0:>

large enough to adjust to changing regulations, market conditions and commercial opportunities. In addition, with private capital, airport infrastructure can always be updated so that it can keep up to date and not be remembered. That's what most Western countries believe. In developing countries there are still a lot of governments in a country that govern and own airports, but when the airport has other options that are considered to provide substantial profits, they quickly sell to foreign or private investors. The question of this problem is whether the air transportation industry exists to differentiate public services, or the benefits for shareholders? Practicing on these questions, of course, there is still a government in a country that can control its own airport amidst the decline in airport ownership by the state government. For example, like Kansai international airport in Japan which is dikotola, its own government. Sometimes the ownership of an airport can be gained () by the government, but the main buildings such as airport terminals are owned, rented, in cities private organizations such as airlines. Mixture



Figure2.5; Hamad International Airport of Qatar ;

<https://www.google.com/search?safe=active&biw=1366&bih=608&tbm=isch&sa=1&ei=UHQTXKbAO8vB9QPqhb3wCQ&q:>

has the effect of operating to a certain extent for handling parts of it. If the ownership is held by the government, Aer will tend to control the appearance of the entire airport area, from hotels to parking lots, terminals to control towers. If WE—: is it divided or in the same financing, usually a pluralism of design approaches often gives flexibility to the • designers who make their choices

2.1.2.1.2 How the airport generates revenue

The development of modern airports makes the airport a choice of transportation = Mk that is comfortable and efficient and saves time, so they assume unison is the point of departure or arrival, while seen from ieg: er / the management of this is one very complex part. On the side of MK Dag 'the airport manager is a means of earning amount income. In general there are 5 ways to generate tuatara income, including (Edwards: 2005):

- Landing costs
- Terminal building bills
- Renting airport buildings to flight managers
- Renting non-flight operations such as parking lots
- Equipment rental (such as baggage handling)

with income of the airport city must set two costs, including:

- Maintenance costs (building maintenance, facilities and records)
- Operating costs (staff costs, security, utility costs).

income and also the costs that are raised or vice versa, determine the income earned by the airport. while in accordance with Minister of Communication Decree Number KM 29 year 29 of 1998 concerning Tariff Structure and Tariffs that are Aeronautical and Aviation Services at Airport services provided by the city owner of an airport will generate 5601: 11 revenues divided into 2 namely, Aeronautical and Non aeronautical. Aeronautika's own income is usually income derived from arresting services on aviation activities while Non-Aeronautika's income is x'tah income derived from business services that support flight.

With regard to airport revenue cases, each airport has its own: way of generating profits to be gained from airport airports: that, like the heart of Stansed airport in London

that gets revenue from: four parking lots that exceed the cost of paid revenue () Lehigh flight companies, and at Heathrow International Airport, which is also located in London, earns revenue from sales or leases with private parties which are the main income earners, who are able to exceed the cost of landing.



Figure2.6; London Stansted Airport ;
https://www.google.com/search?q=stansted+airport+to+london&safe=strict&source=lnms&tbn=isch&sa=X&ved=0ahUKewjZxoqX6K_1366&bih=657#imgrc=edAhlMjabc78UM:



Figure2.7 ; London Stansted Airport ;
https://www.google.com/search?q=Stansted+Airport+in+London+Source&safe=active&source=lnms&tbn=isch&sa=X&ved=_AUIDigB&biw=1366:

Apart from the strategy implemented to generate revenue at each airport, in the amount of airport benefit planning, terminal buildings are playing a very large role. As

an airport that continues to grow by generating more and more traffic, of course it will generate a percentage of income obtained from the terminal building, besides that with the increase in the number of users, of course, the number of sales from retail companies and restaurants will increase. Increasingly operational activities have become the main goal of airport managers, which can reduce the costs imposed on airlines (for parking lots and airplanes, dtl) to increase the passenger pass, which in general the larger the airport the greater the percentage of revenue from the passenger terminal. Furthermore, if we look at the consequences of the above issues, it impacts on design and urbanization to create as much space as possible in or around the terminal for secondary activities and ensures that the environment formed is conducive to traveling around to the plane and if possible managing flights to maximize "residence time". The goal is clear to get more income for airport managers, including some of the more maintenance and other operations.

2.1.2.2 Context of Zintan culture

The Renaissance of the Zintan after the Qaddafi war is an idea that promotes culture as an independent (in the mainstream) development of manual work directed at human efforts for society as a whole. This idea of water - the philosophy of the philosophy of the Libyan poets, which became an umbrella as well as the interpretation and philosophical guidelines of the government administration and the life of the Renaissance community in Zintan was aimed at creating a new civilization that caused the "main man" based on democracy, the sense of freedom and sense of development, Culture and education "social capital". The renaissance of Zintan must also be the land of growth and development of a civilization based on the values of freedom and ethics of Islam, a civilization full of harmony in diversity. It is not a globally biased civilization. Everything is integrated into understanding, appreciation, respect, care, change, adaptation and develops and grows in a homogeneous and respectful manner. The renaissance of Zintan is specifically aimed at appreciating evolution with efforts to revitalize civilization and promote local zintan through cultural renaissance, which contained local wisdom, which theoretically regulates the harmony of the relationship and the average of human interaction. With their environment, between humans and God and referring to the applicable laws. Al-Nahda Zintan outlined nine strategies: education, tourism, technology, economy, energy, food, health, citizen protection, abiding by the principles of religion and preserving the environment. Cannot be achieved without human vigilance and hard work. The dead and what is meant is awareness of the environmental degradation that will happen if humans begin to greed. Thus, with this philosophy, it is expected that the Zintan population will not become greedy societies to share the

existing natural wealth. The philosophy there used by Zintan as evidence of government activities certainly has certain objectives to be achieved. This goal is the desire of the ancestors to become Zintan an advanced area of development, but always maintain their environment and purity. The wise management of the environment and its transformation has become a concept of development in Zintan, based on the philosophies used. The use of olive trees creates its uniqueness and unique distinction for environmental development in the Zintan region.

2.1.2.2.1 Application of the Concept of Philosophy in Zintan City Arrangement

One real thing that was used after the war in Libya is a spatial concept known as modesty. In Zintan, this concept was obtained through the manufacture of tools from the remnants of the war in the form of artistic formations in the form of olive trees, which symbolizes the peace and freedom that links the ethics of Islam and freedom and democracy. Zintan in the western mountain of Libya and this area linking the cities in the Mediterranean coast and the cities of the south of the Sahara during the presentation of the Islamic ideals. Zintan is located in the western mountain of Libya in the North West or in the Upper part of the African continent. This means that western mountain is an important region of North Africa, as well as the main resource for the southern cities of southern Libya and the branches of government, which is symbolized by the Grand Mosque, State independence, or free Libya. The open desert spaces and the public spaces represented by the market of President Zintan and the Scouts, which are used as a place to gather the population. Settlement settlements are achieved by housing the residents in the south of the special canteen Zintan with the nappy on the heritage buildings and nappy on the olive groves. The environment in customs and traditions for the establishment of an area that includes cooperation with nature and the diaspora on the heritage and with the development that preserves the context of the religion of Islam, which is God Almighty. Zintan International Airport Terminal is designed in a way that uses the values of wisdom for the principles of Islam and peace with the intention to keep all the talk and use it always and nothing more.

2.1.3. Overview of Architectural Design Objects

2.1.3.1 Movement Systems In Terminals

The aircraft terminal is basically a movement system. There are two main currents that occur inside the terminal, namely the collector current and also the baggage flow and both have a current that is hostile to the outside and inward direction. So it is important for designers to recognize the necessity of motion in space allocation, structural planning systems and light handling. So that it can control the set of circuits in accordance with the allotment of space and must be how the grooves are occupied by the space. Therefore there are four ways to make this happen (Edwards: 2005):

A. Directing Users with Space

In a terminal space not only functions as a container of activity but can function as a direction or as a marker. So that in determining the small size of the space in the airport terminal can help users to find out what they are. When watching the volume of the loft of a large building can indicate a concourse space which is a meeting room that all passengers pass when assessing existing facilities in the airport. While the shape of a narrow corridor with a single height can indicate the route to the toilet or emergency route

B. Directing Users by Utilizing Building Structures

The role of the three main elements of column structure, walls and beams is a physical terminal support element which can also be used to support the perception of the main route psychologically. A column that runs in a gathering place is more than just lifting a roof or other structures. However, the column can be used to guide passengers through complex spaces within the bandana. In addition, the beam can also be used to show the direction of the flow or to scale in a public area. It is easier to articulate when there is a large column clearly showing large public spaces, small columns showing smaller spaces. The main route through the terminal from land to airside must be accompanied by structural elements such as the Kansai Bandana, indicating the development of land-to-air. To take advantage of possibilities

aesthetics and structure is to see columns, beams and walls as useful elements in determining and articulating the movement system.

C. Directing Users by Using Light

The terminal is a separate building in an open landscape, so the terminal can utilize more light in most types of buildings. Light to terminal designers is more important than spat lighting levels, when light can be printed, manipulated and directed according to the sensitivity of the designer correctly then light can be a solid and expressive material to guide travelers or passengers through changes in the direction and level of complexity faced in modern flight terminal.

D. Directing Users by Using Objects

Facilities for space orientation can be strengthened by the use of elements of art such as sculptures. The use of a free standing statue in the area of the concourse can determine the reference point, especially if it is at a crossroads in the flow of passengers. Similarly, murals attached to walls can give the wall an extra meaning in the perception of interior routes. The main volume in the terminal can be exchanged for a combination of light, structural expression and art. Combined datas, these elements must make passengers reduce doubts about the hierarchy of routes and space in the terminal.



Figure2.8; Hamad International Airport of Qatar
 ;https://www.google.com/search?q=&bih=657#imgrc=_oxRXjs0UrLHVM:

2.1.3.2 Principles of Passenger Flow at the Airport Large Complex

Passenger needs must be an important point in designing terminal facilities. The flow of passengers and baggage must have an easy and easy set of obstacles, from which there are ten design principles that must be followed, namely (Edwards: 2005):

- The concourse route must be as short and straight as possible.
- The area used for passenger flows is not hampered by concessions, airlines or government facilities.
- There should be no flow currents.
- Routes should be able to be used safely and comfortably with disability users
- Changes in levels must be kept as minimal as possible, but if needed, they should be accessed by elevators, escalators and stairs.
- All flow areas must be able to use multi-airlines unless they have a special terminal or dock.
- Several routes must be provided to give passengers a choice of passport position and customs contract.
- Layout flexibility must be provided to meet unexpected needs.
- The design of the check-in area must allow for processing passengers individually and in groups.
- Flow routes must be able to operate in reverse conditions.

2.1.3.3.1 Control Function in the Airport

Most of the construction mechanisms at the airport are a result of government requirements. The controversy of immigration, health and customs includes screening and careful passenger routes. Airports that serve domestic flights exclusively do not show the same internal complexity as international terminals. The challenge for the designer is to provide a clearer route for passengers, which is certainly herded through the government's control points.

On International trips there are two or three intentional controls to travel from land to air, namely:

- ticket check-in (when passengers and baggage are separate)

- immigration control (outward)
- flight check-in

At the congregation as strictly as there are three interruptions for international flights, and one usually for domestic:

- immigration control (inward)
- retrieval of baggage (optional)
- customs control.

2.1.2.3.2 Allocating Circulation Based on Flight Types

On arrival, international and domestic passengers must be separated at the terminal air side and often by using separate air corridors. For security reasons, passengers who come and depart are also usually separated in the immigration control. The requirements for government control at airports (immigration, health, customs) and the need for operational flexibility are often in conflict. Regulations that are too rigid can cause terminal buildings to be divided, which do not have architectural quality. Wang's large volume interpenetration, quality of view and quality of light are often compromised at the terminal by the rigidity of government regulations. Here, management needs for the flexibility and aspirations of designers for open democratic terminals conflict with security policies (Edwards: 2005).

2.1.4.1 Baggage Handling

one of the main reasons why multilevel terminals are to handle the complexity of luggage movement. Baggage is loaded onto airplanes at the apron level through luggage holders, while passengers boarding planes are almost 4m above the apron level. The height difference between the passenger door and all baggage is still needed, except for the simplest terminal to divide the passenger level from the baggage level immediately upon check-in. Baggage handling is one of the most complex in terms of passenger perception and, the most important factor in the success of a terminal (Edwards: 2005).

The passenger load factor (passenger flow generated from the number, size and frequency of the aircraft) determines the required luggage handling capacity. Not all

2.1.4.2 Terminal Design Concept

Today there are five different concepts of terminals and docks, each of which has its respective advantages, and each of which is suitable for a versatile situation:

- Central terminal with bridge / finger (centered terminal)
- open apron or tinier terminal (semi-centralized or decentralized)
- remote apron or transporter (centralized terminal)
- central terminal with long distance satellite (centralized terminal)
- terminal units (semi-centralized or decentralized terminals).

The various terminal concepts require the selection of the most suitable system with the airport in question, but if the airport is expanded to be developed from a note the choice is often less open. For example, if the terminal is experiencing periodic enlargement, the possibility of an open apron or the concept of an .ferr will be adopted, or the terminal unit. The central terminal with docks / fingers, although popular with airport authorities, airlines with airport authority, and are the most numerous configurations, are inherently not when it comes to future expansion. As for extortion and each foreign concept above:

2.1.4.3 Central Terminal with Pier / Finger

This concept is usually a widely used layout (for example Amsterdam Schipot Airport, Kansai Airport), with the main terminal serving directed, orthogonal or linear and gate groups that provide direct access to aircraft. The main advantages are the centralization of facilities (shops, duty free, restaurants, immigration control, check-in) and clear and visible relations between the terminal dock and departure.



Figure2.9; Dubai international airport; <https://www.aremnews.com/economy/travel/564163>

2.1.4.5 Apron open or linear terminal (semi-centralized Decentralization)

This concept consists of a long linear line with a semi-central set of countermeasures that form nodes in linear buildings. For example, International Chase usually has three international departure units. The jet park is next to the station (on the side of the ground entrance), usually without the pavement. The driveway provides access along the entire building to the departure (and arrival) gate. The main advantage is that it is a short walk between the terminal and the gate, and a short trip to luggage handling. The passenger separation arrives and departs simply (the airway can be compared to different levels). Easy passenger orientation (the aircraft can be seen on arrival at the station) and the length of the road is restricted, allowing plenty of room for passengers to be placed and connected.



Figure2.10; Dubai international airport; <https://www.aremnews.com/economy/travel/564163>

The weaknesses are duplication of facilities and services (check-in, shops, restaurants, immigration control, flight information boards, etc.), running long distances for passenger transfers, high capital and building costs, and lack of flexibility to cater for design different planes.

2.1.4.5.1 Apron or Remote Transporter (Centralized Terminal)

This system consists of a centralized terminal with the position of the cargo plane spread on an apron. Examples can be seen at Mirabet International Airport, Montreal. The plane is parked in an open apron and transported by a transporter, which functions as a mobile lounge and gate guard room. Baggage is also transported to aircraft with separate mobile apron equipment. The main advantage is the flexibility of operations, reducing the cost of terminal buildings, ease of separating passengers arriving and departing, and reducing walking distance.

load aircraft; maintenance and operating costs are high, this system is vulnerable to industrial disputes, and is slow to transport passengers from terminals to airplanes and there is a need for additional airlines and security staff.

load aircraft; maintenance and operating costs are high, this system is vulnerable to industrial disputes, and is slow to transport passengers from terminals to airplanes and there is a need for additional airlines and security staff.

2.1.4.5.2 Central Terminals with Remote Satellites (Centralized Terminals)

The design here consists of the central airport building and a number of satellites around the parked aircraft to receive passengers. An example is Stansted Airport, where the satellite is accessed via a fast-moving system. Stations and units join up or down. The baggage is separated from the passengers at the inspection center and is usually transported by cars operating in the apron. The main advantage of this concept is the centrality of facilities and services, although more duty-free shops or outlets are provided in each unit. This has the added advantage of being able to perform security checks easily at the entrance of each satellite. The system also allows the construction of more satires without causing major disruption, if demand grows. Typically, one airline is responsible for each unit, thus enhancing the sense of brand identity and allowing passengers to change planes without having to pass through the station. The disadvantages are: high capital, operating and operating costs (relatively expensive compared to open concept or linear concept, for example, transportation costs are very expensive, costly baggage handling, staff costs are high), limited terminal coverage (eg, against satellites) ; Long distances, requiring early check-in, and transfers between airlines (if not between aircraft on the same aircraft). However, these arrangements were considered very attractive to become the new Heathrow 5 Base.

2.1.4.5.3 Terminal Units (Semi Centralized or Decentralized Terminals)

This concept is based on a number of terminals connected by the airport road system, subway or pedestrian pedestrians. A very good example is John F. Kennedy, New York, where there are nine terminals, each managed by different airlines. Each terminal provides integrated passenger and baggage facilities, with a flight stand and check-in gate near or inserted into one service. This is an arrangement that allows airports to grow in stages, with different airlines taking major shares in each terminal. The main advantages are short distances between check-in and airplanes (and hence at late check-in), and relatively low construction costs. The disadvantages are the difficulties experienced by passenger transfers, the need for flight information and complicated signposting, duplication of staff and facilities in different terminal units, the difficulty of providing public transport networks, and the need (finally) to join each terminal () emerging. However, the interesting design that overcame these difficulties was Seoul, Incheon International Airport by Terry Farrell and Partners. Here a large transportation center, where ret, buses, cars and taxi services gather, is directly connected to two new terminal buildings: one for domestic flights and other international flights.



Figure 2.11; Dubai international airport; <https://www.aremnews.com/economy/travel/564163>

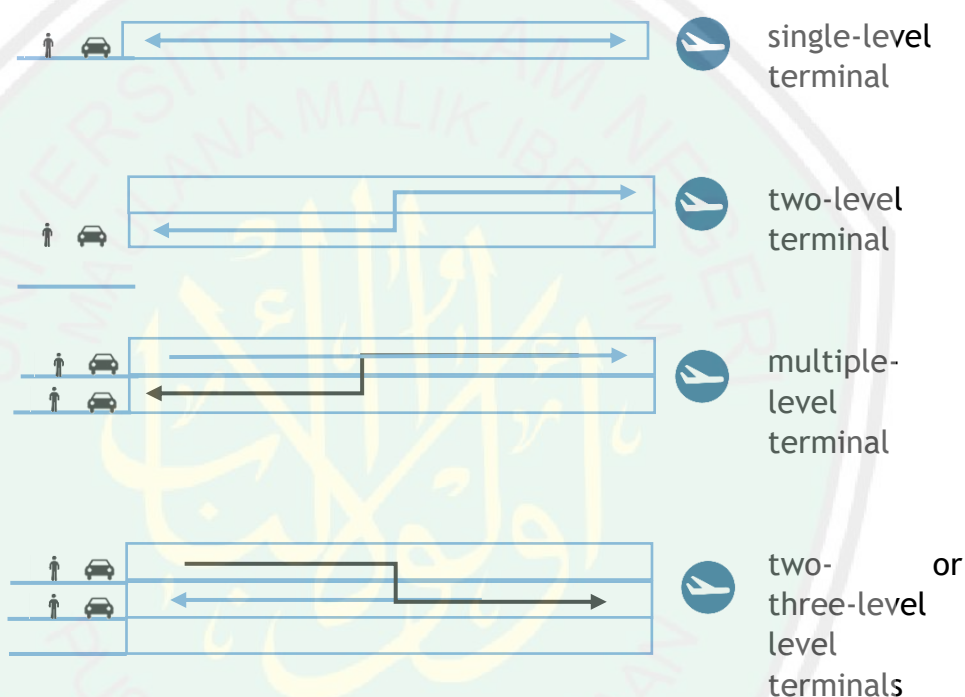
2.1.4.6 Concept of Terminal Level Changes

The concepts in the plan and arrangements in the terminal building section have close correspondence. Certain types of plans require passengers to change level to distinguish between those who arrive and depart. The rate of change also helps in handling and security of baggage, which is often provided by private training between the two main terminals. Four basic plans / part arrangements commonly adopted:

- single-story roads, single-level terminals, and apron access to aircraft
- single-story, one-half and two-level terminals, and high access to aircraft

- double-storey roads, multiple-level terminals, and high access to aircraft
- increased high-rise roads, two- or three-level level terminals, and higher access to aircraft.

The four basic layouts are each designed to separate the arrival of passengers and baggage from departure. The use of each system, or combination, is largely a result of capacity: a high level of passenger flow requires greater separation in plans and parts than low-level flows. This is clear in the fourth layout especially the design and terminal, with the elevation of the road system, requiring zoning



horizontal and vertical. Different passenger processing systems apply to any airport planning concept, but the more complex the terminal, the more it is probable that some levels of change will need to be employed. Obviously, passengers who move up or down have implications for the airport as a whole; the Banda deck system includes complex interchanges; terminals and floors may include docks as high as twice, gate and satellite lounges; and intermediate floors may be needed to transport luggage. In the same way, the more levels adopted, the more difficult the terminal will be for internal changes and external expansion. However, the advantage of a two-tier road system on land is that passengers have been categorized vertically as they enter the terminals so that they simplify interior planning. With large volumes, the multilevel terminal is inevitable, and because departing passengers need more space than they arrive, the

incorporation of arrival facilities and lower levels of baggage handling tend to be the norm of neglect in rural areas



Figure 2.12;

https://www.academia.edu/23556430/MAKALAH_PROFIL_BANDARA_INTERNASIONAL_SULTAN_AJI_MUHAMMAD

2.1.4.7 Choose Between Single Level and Multi-Level Terminals

The main function of changing the level of the terminal is to improve the operational efficiency of the movement of passengers and baggage. There are four main factors that need to be considered in determining between single, double and multilevel terminals:

- Passenger flow volume
- A combination of destination and passenger transfers, and between domestic and international
- The relationship between walking distance and airport capacity
- Type and size of aircraft using terminals.

The two-level terminal reduces the distance passengers need to travel, and allows direct access from the top to the door of the aircraft. Because aircraft doors are usually 4m above ground, most airports use numbers this or slightly higher (5 or 6m) for the height between the ground floor and the floor One.

The smooth movement of passengers and their bags is the main factor that determines the profit of the terminal section. Structural elements, such as columns, windows and walls contribute to the aesthetic appearance and help determine the flow pattern through the terminal. Space and facilities for the general public must be under the passenger area and passenger facilities. 7 The interaction between passenger flows,

terminal space and structure is important. Organizing buildings in plans and parts is the main factor that determines all other decisions. The first

Design and construction method supports passenger perceptions of current through the building. They also need to support building arrangements in terms of flight staff. The functional level that is followed by passengers on the first floor of the ground floor and baggage at the same or different level is a system that is reinforced, unobstructed, by architectural design.

Because multilevel terminals are confusing to buildings, the design task is to form movement patterns that are efficient and give a sense of orientation. The design must encourage passengers to use architectural instructions to find their location. This means utilizing sunlight and sunlight as a navigation aid, using the main structural elements to signal the presence of the main routes and concourses, and using interior volume design to signal the pattern of atypical Important points in the current, such as the main entrance, ticket check-in and customs control, must be marked with a design change. The ingredients, colors, textures and surface profits must first signal the presence of important events in the movement through the terminal.



Figure 2.13;

https://www.academia.edu/23556430/MAKALAH_PROFIL_BANDARA_INTERNASIONAL_SULTAN_AJI_MUHAMMAD

2.1.4.8 Airport Facility Technical Requirements

2.1.4.8.1 Airport Pavement

Pavement serves as a fuselage for the average plane so that it must be able to withstand the weight of the aircraft, both when stopping, walking, and taking off or landing. Damage. The pavement structure is made of an aggregate mixture with a binder. The pavement layer consists of

- Flexible pavement is a high quality aggregate pavement with asphalt binder. This layer consists of the surface course, base course, and subbase course.
- Rigid pavement is a pavement layer with cement binder. This pavement is made of concrete, which is spread over a compacted layer. Usually the layer below this layer is a lower quality concrete mixture (lean concrete). This is to press as little as possible the effect of the pump (pumping), which is the rise of the ground water level to the pavement filter.

2.1.4.8.2 Marking

Markers serve to help pilots to control or drive the aircraft properly. The types of markers are:

- The runway axis, is the gads that show the axis of a foundation. It is advisable to reflect light. The installation is the same as the one on the highway.
- Direction guidance, is a long line which is the center line and edge line. Altitude information, in the form of ILs on land, is used to help instruments that are on the plane. At airports that do not have ILS, a visual aid is used to determine the desired path, namely VAS! (Visual approach slope indicator)
- Ability to land, generally landing capability uses lights of sufficiently high intensity, especially the outermost units.
- Zone touchdown.
- Base number, to show magnetic azimuth (north chest clockwise) on the runway hin the direction of landing.
- Threshold The shape, color and size of each mark are determined based on ICAO's runway classification (ICAO, 1990)

2.1.4.8.3 Airport Drainage

In planning the airport drainage, it is necessary to pay attention to a number of factors as the following points:

- Time of concentration, which is the time used by water to reach the tub from the farthest place in the water flow area.
- Rain intensity.
- Runoff discharge.
- Charge capacity.
- Sub surface drainage, which is a system of breaking the ground water surface due to rainfall by absorbing the soil to be accommodated and arranged to provide porous pipes to the drainage system around the site.

2.1.4.8.4 Parking Stand

Parking stands are usually a part of the apron that is limited by markers to function as a place to stop the aircraft when parked in the apron area. In this area there are several terms that are divided based on their functions and are set for aircraft security during service on land, including:

- Equipment Parking Area (EPA) Parking Area Equipment has a function as a limiter for an aircraft with an area intended for the parking area of an aircraft's ground service equipment. This shape and mark matches the image below. Marking is usually a sign in the form of a white line in the apron area with a width of 0.15 m.

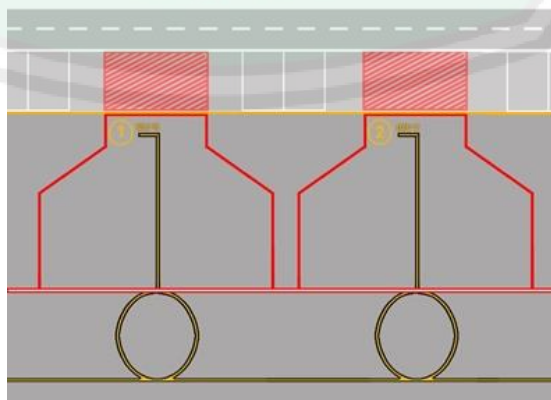


Figure 2.14 ; equipment parking

(source. Federal aviation administration 1988)

- Aircraft Safety Area (ASA) Aircraft Safety Area functions usually show safe boundaries for aircraft from the movement of ground service equipment.

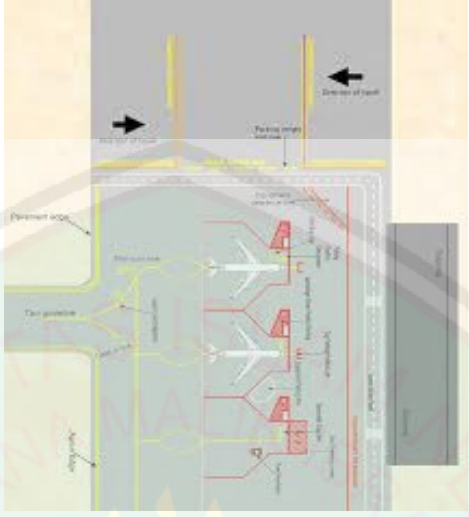


Figure 2.15; aircraft area

(source. Federal aviation administration 1988)

- Equipment Staging Area (ESA) An area that is located at the distance of the ground outside the ASA that is used as a vehicle standby place and / or GSE (Ground Support Equipment) waiting for aircraft docking that is ready to perform service tasks.

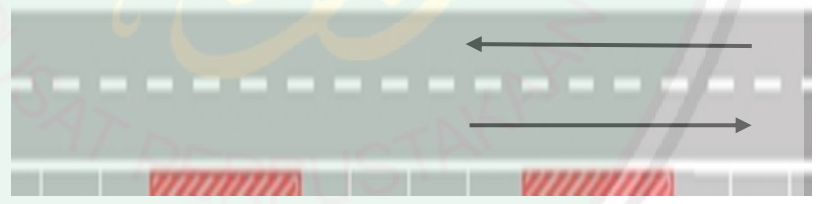


Figure 2.16; equipment staging area

(source. Federal aviation administration 1988)

APRON SERVICE ROAD

- Non Parking Area (NPA) The function of a Non Parking Area is to be used for towing tractor maneuvers and is used when an emergency occurs. The form of Non Parking Area Marking is like in the picture below

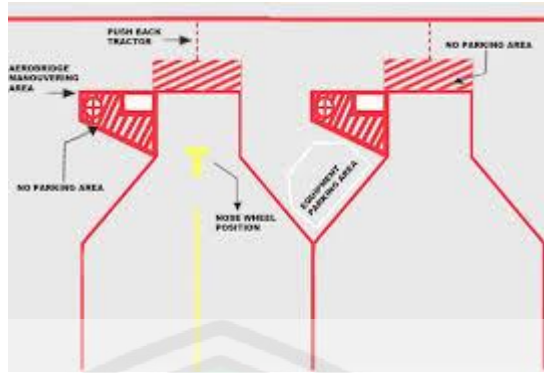


Figure 2.17; non parking area

(source. Federal aviation administration 1988)

2.2 preview Design Approach

2.2.1 Definition of the Design Approach

Progress in the development sector can be seen as advancing technology and knowledge in designing structures to acquire buildings requires good structural design. Structural design is one part of the entire development planning process. The design process itself can be interpreted as a combination of elements of art and science that require skills and knowledge to address them (Wahyudi and Rahim, 1999: 2). The main purpose of the structure design is to create a structural architectural design and obtain a structure that is safe against the load or bearing effect that works during the period of use of the building. In essence, the objectives of architectural structure design include serviceability, adequate strength, function, aesthetics, and economics (Wahyudi and Rahim, 1999: 3). Forming strong compressive and architecturally weak tensile concrete. It is therefore necessary to fit the architecture with the architectural structure fully. These architectural structural systems are formed of various concrete structural elements that when combined produce a complete system. One of them is a beam. Beams are architectural structural components that coordinate fully by directing the building to an external and internal structure.

Principles the support Energy	Applying it in the architectural language	Type of applicable inheritance	Efficiency Resistance
Roofing	Roof	International Zintan terminal is under the roof of a unified structure that support all the wide size of the terminal	The roof enjoys a very high temperature against the wind, rain, heat and cold by 80%
walling	Walls Class Windows	The walls show the architectural structure externally and internally via glass	The walls have a strong structure and an insulator for the warm sun where travelers provide a comfortable climate for comfort 95%
structuring	1 Material 2 Structure 3 Arrangement of space 4 Utility	The vertical structure of the ceiling, walls and bases combines them, providing a strong construction body	The structural provides a smooth resistance to the construction block safely and continuously
ornament	Faced	The Zintan International Station has a lot of structure in the exterior structure, providing a structural architectural view, Resistance is at the same level as building internal resistance	Resistance is at the same level as internal resistance building
Widening	Wide interior	The internal and external space of the terminal is very spacious can be accommodate all the airport systems with the comfort of the passengers	Resistant to change the oxygen continuously within the area of the terminal and nappy on the temperature of the internal

The application of architectural structure is not the final stage in the design process, with the importance of structural analysis and is a tool used to support the design process. The main purpose of applying architectural structure is to take the structure forms to suit the shape of architectural design. As a result of the structural application of the architecture in the small forms of the structure that works the design of the overall building form is completed:

- Changes in the position of elements or forms of structural configuration
- Internal forces on structural elements: axial force, bending moment and torque



Figure 2.18; structure Hedmark museum building

Concrete Structure Reinforced concrete to support the architecture of the structure. Concrete is strong against pressure, but weak against tensile strength. Therefore, it is necessary to strengthen the tensile forces to withstand loads affecting the concrete such as bearing the weight of the roof structure. There are times when reinforcement is used to reinforce the compressed area on the cross section of the package with the main rules of the architectural structure. Steel reinforcement is necessary for heavy loads in terms of reducing long-term deviation. In addition, the concrete structure must be compatible with the design and sufficiently capable of accepting the workload conditions with respect to obtaining the backup strength needed to withstand the burden of the border.

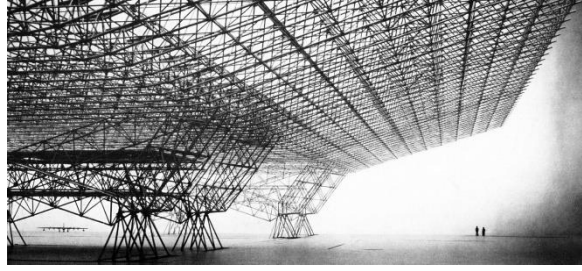


Figure 2.19; space frame structure

Architectural Structure System Each structure is a combination of architecture and engineering (engineering) so that it meets certain functions. Form and function are closely linked and the best structure is the best that can meet the needs of potential users along with serviceability, economical attractiveness and cost-effectiveness despite the design of almost all structures for 50 years, concrete structures made of good concrete mixtures that have a longer life with proportionality Architectural. Many distinctive buildings, with architectural structures, make structural designs of artistic value and knowledge of structural design, accompanied by honesty of logic and imagination. Examples of results include concrete-based buildings, including TWA, New York, Newark Terminal, New Jersey, Symphony Hall, Melbourne, Marina Tower, Water Tower Place, and The Dallas Super Dome.

2.2.2 Structure Study

The structure used for the Design of the New Zintan International Airport Terminal Complex is to use a wide span structure with several building structure engineering to meet the building's standard requirements, and with the use of a wide span structure and structural engineering it is expected to be able to accommodate the activities of the building structure.

A wide span building is a building that allows the use of as wide and as long as possible free space. Broad-span buildings generally consist of 2, namely simple wide spans and complex wide spans.

A simple wide span means that the existing wide span construction is used directly on the building based on the basic theory and no modification is made to the existing shape. Whereas the width of the complex width is a wide-span structure that modifies the basic form, sometimes even merging several systems of wide span structures. In order to function and function of a wide span of buildings used for activities that require a large enough column free space, such as for sports activities in the form of stadium buildings,

performances in the form of a theater, auditorium and exhibition or exhibition building activities. Wide span structure, has a different level of complexity from the other. The complexity that is caused is influenced by the force that occurs in the structure. In Schodek 1998, a wide span structure is divided into several structural systems, namely:

- Rod Frame and Space Frame.
- Furniture structure, namely cables and arches
- Plan and Grid Structure
- Membrane structure includes pneumatics and tent structure and net (net)
- Eggshell structure

While the foundations of the user structure, is divided into two parts, namely the space structure and surface structure of the field. The space structure consists of:

- Construction of plot buildings (trunk structure)
- Space frame structure

Surface structure of the field, consisting of:

- Eggshell structure
- Membrane and Membrane Structure
- Pneumatic structure
- Cable and Network Structure

For the Design of the New Zintan International Airport Terminal Complex using the type of building structure of a wide space frame and a tipped or folded plate structure in its structural planning. Because only a few structures can be used and make it easier to process shapes in the structure of an architecture.

2.1.5 Islamic Object Integration

In the time modesty, ALLAH SWT has made us different nations, different peoples, tribes, nationalities and different colors to get to know each other and learn from each other and benefit each other. As explained in the verse of the Qur'an

O people, indeed we created you from a man and a woman and made you nationalities and tribes so that you knew each other. Surely the most noble among you by Allah is the most pious among you. Truly Allah is All-Knowing, All-Knowing. (QS Al Hujurat 49:13)

In the verse, there is a sign of the greatness of Allah Almighty that he described the importance of learning and acquaintance and stay away from any kind of racism between human beings and guidance which facilitates the spread of Islam and the importance of ethics in Islam among the general public.

Moreover, the airport is a major facility for transport infrastructure, but on the other hand it is a very important source to meet people from different civilizations and acquaintance with each other and not monopolize each other.

And cause not corruption upon the earth after its reformation. And invoke Him in fear and aspiration. Indeed, the mercy of Allah is near to the doers of good. (QS Al-A'raf Verse 56)

So that in the design of the new Zintan International Airport Terminal Complex can use principles or inventions that can reduce side effects on the environment.

Apart from that, the airport is also a point of cultural, social, economic and commercial exchange. Therefore, the airport is a communal space for the community to recognize and understand all the differences because many enders from various regions gather and also meet at the airport so that it is possible for the end to know each other whether or not they are. in the hadith which confirms:

2.2.3 Integration of Islamic Patterns and Design approaches

The importance of the approach of the structure of all architecture conserving the natural environment created by God conquered, and in Islam preserving the natural environment is very important to us as ALLAH SWT said

and He (subordinates) what He has created for you on this earth in various ways. Indeed, there is indeed a sign for the people who learn. (QS An-Nahl Verse 13)

And it is He Who subdues the sea, that you may eat of it fresh flesh, and bring forth from it the ornament of your clothing; and ye see the ark sailing unto it, and that ye may seek for its bounty, and be thankful. (QS An-Nahl Verse 14)

And He established the mountains of the earth so that the earth might not shake with you, (and He created) rivers and paths for guidance., (QS An-Nahl Verse 15)

And the importance of the objectives of the airport du approach structure as architecture is the development of regional and social science and guidance goals share with Islamic goals as ALLAH SWT said

And when Moses was old and full of understanding, We gave him wisdom and knowledge. And so We reward those who do good. (QS Al-Qasas Verse 14)

ﷻ Which means that giving science, learning and social development is a gift from God Almighty to those who work good and thank God's grace.

Among the objectives of the project and the approach taken that share with the Islamic goals are psychological comfort and a sense of comfort and tranquility and is one of the most important goals and as the Koran shows us that the most important nirvana in the heart promotes safety and spread happiness among people

Allah says :

He is the One who has brought peace to the hearts of the believers so that their faith will grow in addition to their faith. And to Allah belongs the hosts of heaven and earth, and Allah is All-Knowing, All-Wise, (QS Al-Fath Verse 4)

2.3 Comparative Study

New Zintan International Airport Terminal Building is a building that has a high complexity due to its various functions. So it is necessary to have a comparative study that aims to obtain data from similar objects with design objects that are taken and used as references in the design so that they can be assessed from strengths and weaknesses which can later be used as benchmarks for design objects. Furthermore, comparative studies take on objects and similar approaches to the design of New Zintan International Airport. The object used is Shenzhen Bao'an International Airport which is located in Bao'an, Shenzhen, Guangdong, China.

2.3.1 Object Comparative Study

- Architects : Studio Fuksas
- Location : Shenzhen Bao'an International Airport, Bao'an, Shenzhen, Guangdong, China
- Architect in Charge : Massimiliano and Doriana Fuksas
- Architect of Record : BIAD (Beijing Institute of Architectural Design), Beijing
- Area : 500000.0 sqm
- Building Costs : 734,000,000 Euros
- Contractor : China State Construction Engineering Corporation

Comparative studies take on objects and similar approaches to the design of New Zintan International Airport. The object used is Shenzhen Bao'an International Airport which is located in Bao'an, Shenzhen, Guangdong, China. The airport in its design took the concept as an attempt to evoke the image of a stingray imagined to be breathing and changing its own shape into a bird that flies to feel emotions and fantasy of a flight.

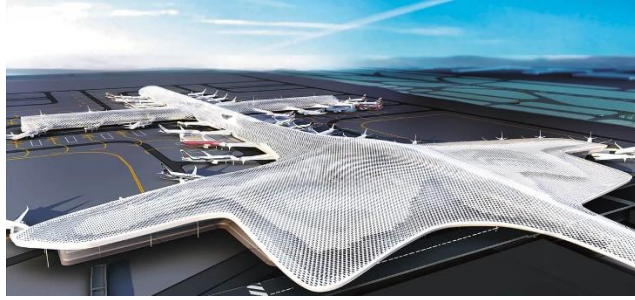


Figure 2.19; Shenzhen Baoan Airport;

<https://www.google.com/search?q=Shenzhen+Bao%27an+international+Airport+Terminal&safe=st>

:

Entering the interior of the building, which is unique, is the formation of a roof formed to hold elements of natural scenery, one of which is wind motion and is equipped with the addition of organic statues that have been designed for air conditioning along the terminal and concourse. In addition, the building is dominated by white to give a more natural impression but is packed in a formal element

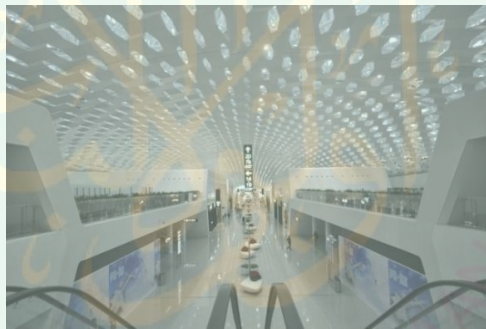


Figure 2.20; Shenzhen Bao'an International Airport Terminal 3 Building Interior;

<https://www.google.com/search?q=Shenzhen+Bao%27an+international+Airport+Terminal&safe=st>

Furthermore, the symbolic element of the design of the airport is the honeycomb motif which is manifested in the form of internal and external cues that wrap around the structural structure. Through double skin layering it is possible



Figure 2.21; Shenzhen Bao'an International airport, China - Focus structure;
<https://www.arketipomagazine.it/en/shenzhen-baoan-international-airport-china-focus-structure/>

Natural light enters, creating a light effect that serves as natural and aesthetic lighting in the room. The cladding is made of alveolar metal and glass panels of different sizes that can be partially opened. In addition, the structure of the building is strengthened by using a space frame that is encased by both the inner and outer skin. Furthermore, the space created by the structure contained in the two skins allows it to function as a space to reduce the sun's heat



Figure 2.22; Shenzhen Bao'an International Airport Terminal 3 Building Interior;
<https://www.google.com/search?q=Shenzhen+Bao%27an+international+Airport+Terminal&safe=strict&source=lnm:>

Furthermore, the division of passenger space begins with circulation into the terminal from the entrance located below the terminal tail 3. On the ground floor, the terminal concourse allows access to the luggage area, departures and arrivals as well as cafes and restaurants, offices and business facilities. The departure room displays a check-in desk, flight info and several help desks.

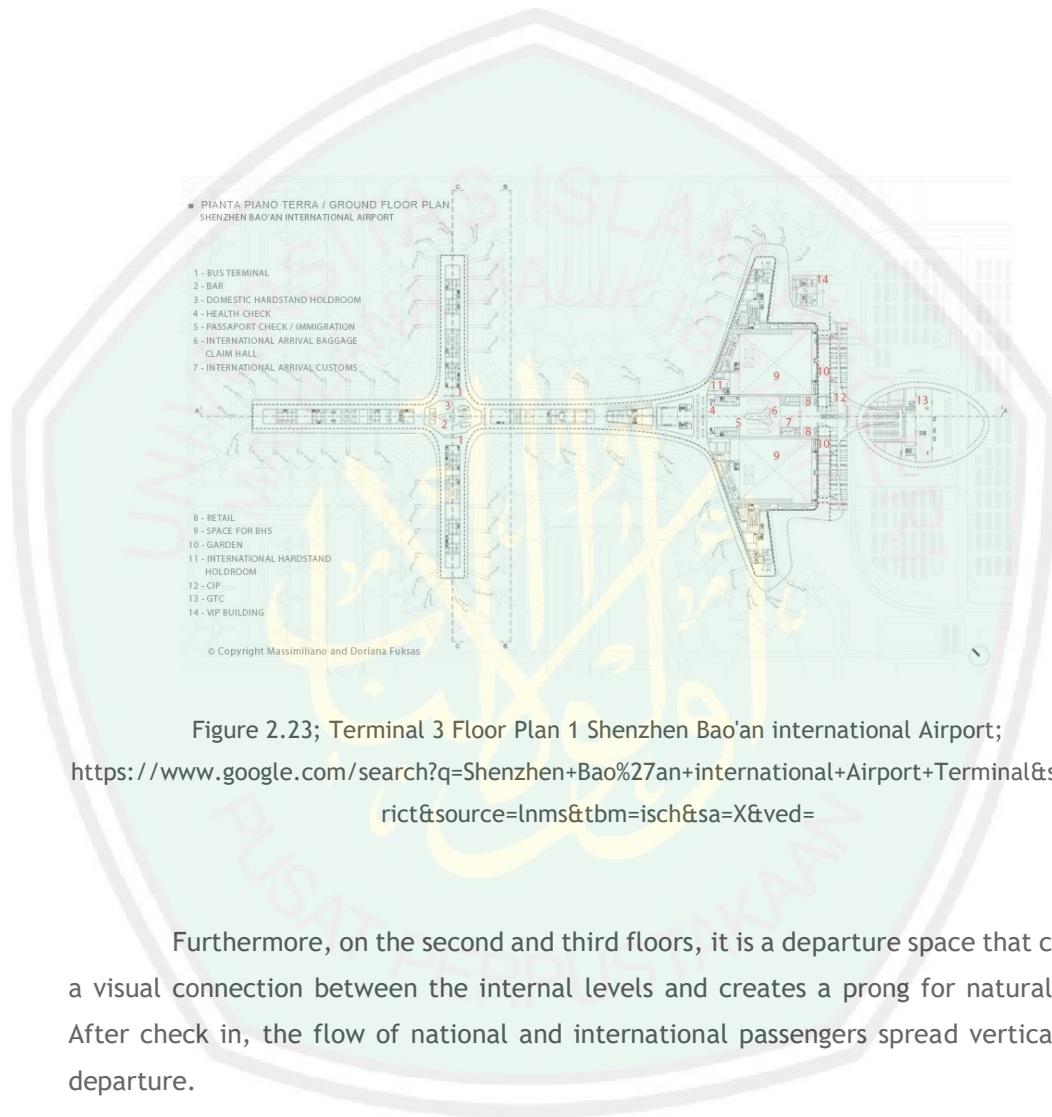


Figure 2.23; Terminal 3 Floor Plan 1 Shenzhen Bao'an international Airport;
<https://www.google.com/search?q=Shenzhen+Bao%27an+international+Airport+Terminal&safe=strict&source=lnms&tbm=isch&sa=X&ved=>

Furthermore, on the second and third floors, it is a departure space that creates a visual connection between the internal levels and creates a prong for natural light. After check in, the flow of national and international passengers spread vertically for departure.

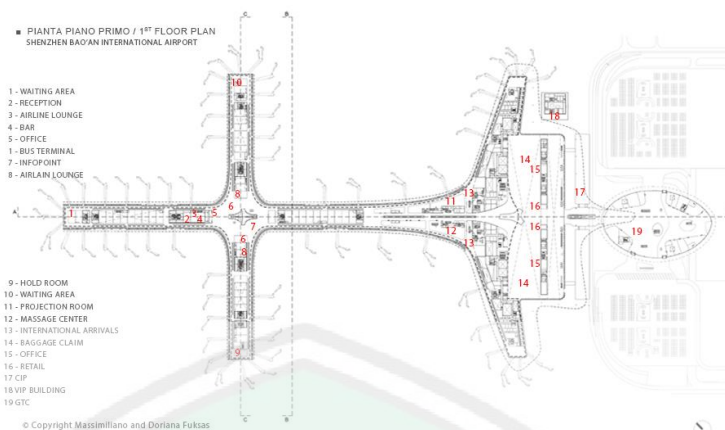


Figure 2.24; Terminal 3 Floor 2 Plan Shenzhen Bao'an International Airport Source; <https://www.theplan.it/eng/webzine/international-architecture/new-terminal-at-shenzhen-baoan-international-airport>

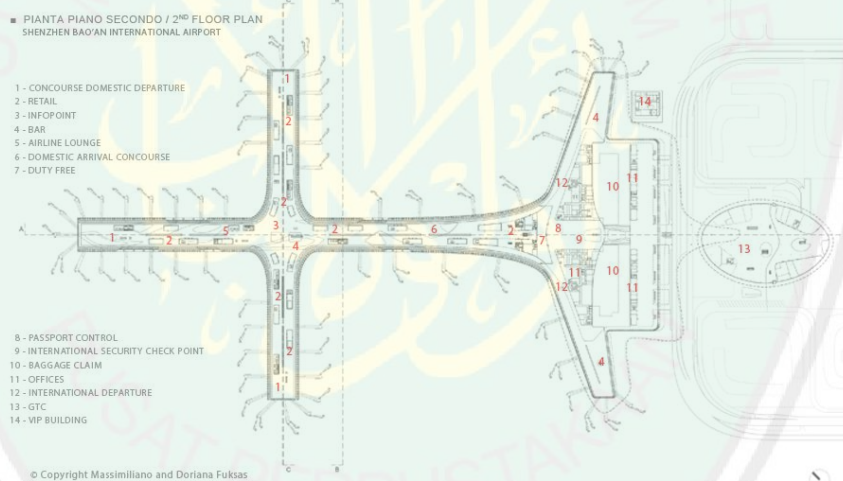


Figure 2.25; Shenzhen Terminal 3 International Airport Terminal 4 Floor Source: <https://www.theplan.it/eng/webzine/international-architecture/new-terminal-at-shenzhen-baoan-international-airport>

the concourse is an airport key area and consists of three levels. Each level is dedicated to three independent functions: departures, arrivals and services. There is an intersection where 3 levels of concourse are connected vertically to create void high-height that allows light to spread from the highest level to the waiting room at the node at level 0. The nest motif is transferred and replicated in interior design. Shop boxes,

facing each other, represent designs with the alveolus on a larger scale and repeat in various articulations along the concourse.

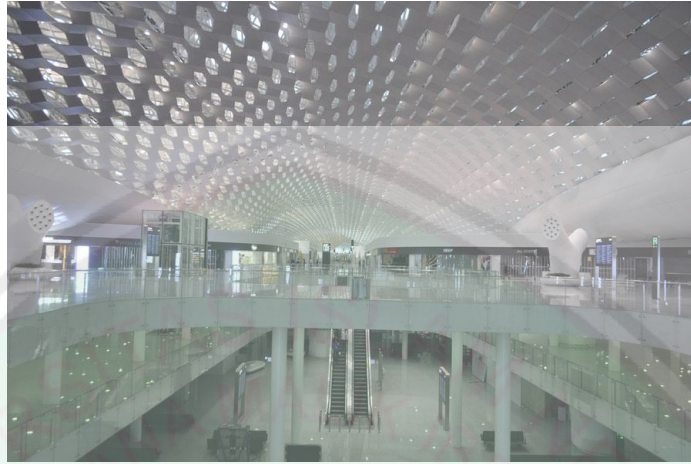


Figure 2.26; Shenzhen Bao'an International Airport Terminal 3 Concourse Section Interior Source: <https://www.theplan.it/eng/webzine/international-architecture/new-terminal-at-shenzhen-baoan-international-airport>

Shenzhen Bao'an International Airport is a building that has a characteristic in the details of the facade of the building. Ori is a typical honeycomb motif that is manifested in the form of internal and external skin that wraps the structural structure. If seen and the approach taken, namely structural Architecture, there are several principles and also the methods used in the building.

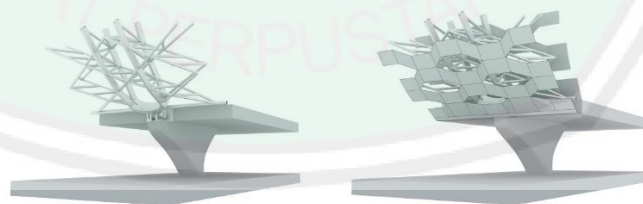
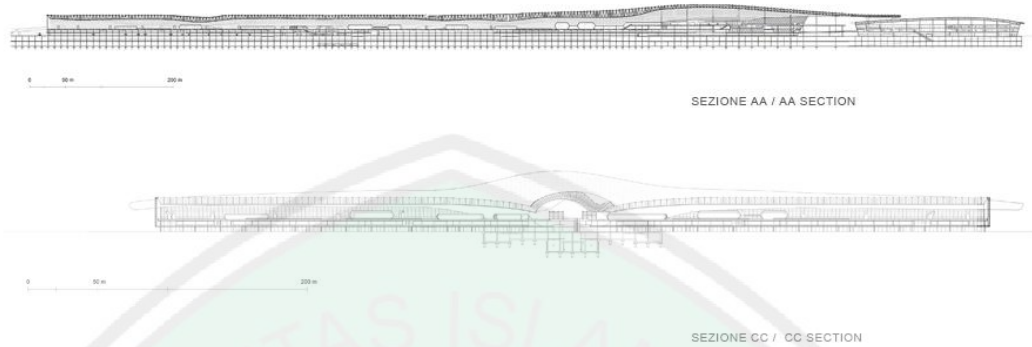


Figure 2.27; Shenzhen Bao'an International Airport Terminal 3 Building structural Architecture; <https://www.theplan.it/eng/webzine/international-architecture/new-terminal-at-shenzhen-baoan-international-airport>

■ SEZIONE AA E CC / AA AND CC SECTION
SHENZHEN BAO'AN INTERNATIONAL AIRPORT



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Figure 2.28; Shenzhen Bao'an International Airport Terminal 3 Building section;
<https://www.theplan.it/eng/webzine/international-architecture/new-terminal-at-shenzhen-baoan-international-airport>

In the book, Greg Lin said that in the 1990s the structure began to be formed or started with an angular theme and ended with a curved subject (the curve now called the structure). Looking at the detailed configuration of the facade, the Shenzhen International Airport Agency uses the structure of the structure by using a honeycomb formation that uses flexible structure, cutting and towing methods. So that gives a hole effect can give an impression in the inside of the building. In addition, the model arranged in the honeycomb formation was placed in the open structure method loop, an exploratory structure.



Figure 2.29; Shenzhen Bao'an International Airport Terminal 3 Building Interior;
<https://www.theplan.it/eng/webzine/international-architecture/new-terminal-at-shenzhen-baoan-international-airport>

The section is seen in the entire building if the building uses the principle of unfolding architecture which uses the open structure method as the foundation of the building. Therefore, if Greg Lynn is surveyed, the JNJ structure represents an evolution of structural architecture that begins with a solid structure outlined in the details of the facade until it is followed by a curved structure pictured in the building in the form of a basic building seen as dominant elements of legkung.

In addition, Shenzhen Bao'an International Airport Building uses several principles in architecture approach, namely the connection between the inside and the war, at the Shenzhen Baoan International Airport Building, where the detailed configuration of the building's facade greatly affects the atmosphere and interior of the building so that the outward appearance Great on the inside of the building. In addition, the structure architecture are open structures that occur through the process continue to form the base of the building

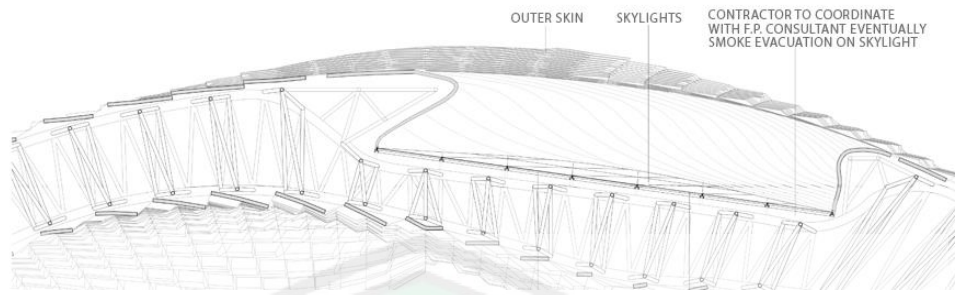


Figure 2.30 ; Shenzhen Bao'an International Airport Terminal 3 Building section;
<https://www.theplan.it/eng/webzine/international-architecture/new-terminal-at-shenzhen-baoan-international-airport>



CHAPTER 3

RESEARCH METHODS

The airport is a public building infrastructure that has a complex system in it. Brian Edward revealed in his book *The Modern Airport Terminal* Conceptually the airport is structured like a city, with a center (where terminal buildings are located), industrial estates (hangars and warehouses), effective road systems, and residential areas (hotels are centrally located and multi at the edge).so, when designing the New Zintan International Airport Terminal Complex, we were still considering other parts of the bandana building because each building had a functional relationship. On the other hand this design is located in an area that has a very thick contextual culture. So that in the design process there are many considerations that have to be solved in a proportion that is balanced and right on target. Therefore, it is necessary to do an appropriate design method so that it gets a hassle that can be held accountable for its validity.

Next before explaining more about how the design method to be used is in the design of the New ZINTAN International Airport Perk Terminal Complex, especially to know the meaning of the word "design method" itself. According to Sugiyono in his book, quantitative research methods, qualitative and Rai) explain the research method is a scientific way to obtain data with specific purposes and uses. So that the research method is considered very important in a design process to get the final results that are in accordance with the problems both macro and micro.

3.1 Formulation of Design Ideas

The design object is a public transportation infrastructure building in the form of an airport that takes the New ZINTAN International Airport Terminal Complex as a design object. The initial idea of the object of dating began with an interest in comfortable public infrastructure and reflected the character of a region or city where the building stood. Furthermore, the issue regarding the development of public infrastructure was strengthened by the existence of several problems in the ZINTAN Special Region, these problems were related to the plan to construct a new airport, because the old airport, a local Zintan airport, is considered unable to increase flights or use international flights, and Make coverage in the airport area. It is therefore necessary to build a new terminal located in the same location.

Furthermore, the design of the New Zitan International Airport Terminal Complex which is located in the Zinan Region, aims to build airports that prioritize user

convenience in accordance with the standards specified as international airports. Therefore, it is hoped that this will be able to answer the problems faced by Zintan Local Airport, which actually have less adequate facilities so that they have an impact on comfort. In addition, the airport design approach uses the Architecture structure approach which is expected to be able to reflect the international infrastructure that is hacked internationally but still represents the social life and culture of the people of Zintan city.

Furthermore, to realize this, there is a need to study the objects that are designed and contexts that are located in or outside the design area. So in the design of the New Zintan International Airport Terminal Complex it is necessary to do a systematic design method so that this method can describe problems or standards that must be met with design objects, design and contextual site issues around the site so that they can be accurately and precisely targeted.

3.2 Data Collection

The New Zintan International Airport Terminal Complex is a very complex building because this building contains a variety of activities ranging from airport companies that encircle the airport area, airlines that use it and passengers, but the development of modern terminal facilities also results in the emergence of other types of users in the the terminal. So the stages of data collection are very important to support the design process. Data collection is done as a way to get related information about design objects which can later be used as a reference standard in designing or comparative studies and literature studies. The same data collection also serves as the basis for doing a programing in determining zoning in the New Zintan International Airport Terminal Complex area because the Airport Passenger Terminal Planning and Design guidebook is explained. Or lack thereof) integrity and availability of data to become the basis of the program. Next in the design of the New Zintan International Airport Terminal Airport there are two types of data used, namely primary data and secondary data.

3.2.1 Primary Data

Primary data is data obtained based on direct observations. The results of these observations can be physical images, about attitudes, stances, behaviors, actions and overall human interactions. This primary data is factual or virtual data, there are two primary data used in the design of the New Zintan International Airport Terminal Complex, namely by conducting observational studies (direct observation) and

comparative studies that function to get data from similar objects with the design objects taken and used as a reference in the design so that it can be assessed from the advantages and disadvantages that can later be used as a measure of the object design.

3.2.2 Secondary Data

Secondary data is supporting data from primary data, this data is obtained from the literature and library data. In the same way, this data can also be obtained from government-registered print media, print media and the internet that are proven to be true.

3.3 Design Analysis

After doing the data collection related to the object of the New Zintan International Airport Terminal Complex scaffolding stage, afterward, usually doing anatomy, according to Wiradi in his book Agrarian Study Method: Selected Work Gunawan Wiradi explained that anatomy is usually an activity to pinpoint, distinguish, differentiate and grouped based on the relevance and interpretation of the meaning of each criterion. So that this stage is a stage to parse and group data obtained from various methods of metatui the process of inspection or observation to get the results and understanding comprehensively and precisely about object design. So that in the analysis of the object objectivity of the New Zintan International Airport Terminal Complex will be treated with several anatomy, including traditional area analysis, site anatomy, function anatomy, activity analysis, user analysis, spatial analysis, form anatomy, structural anatomy and utility anatomy.

3.3.1 Analysis of Regions

This anatomy generates macro data groupings that direct the culture of social, economic and cultural views in accordance with the area where the building was built. In the same way, this anatomy also classifies all the potentials and threats that exist around the area compounding which can later be directed into a potential or aesthetic value to support the object of compounding.

3.3.2 Site Analysis

In contrast to regional anatomy, in this analysis the data clustering is done in a micro way, that is, within the site itself, so that it leads more to grouping issues, either potential or threat in the site, which can later be directed as a support or aesthetic value of the object. In addition, in this analysis it also processes a data obtained from the site which later can become a zoning of the distribution of building facilities in accordance with the provisions of the design object.

3.3.3 Object Analysis

Furthermore, in the analysis of the object is an analysis which is more convoluted into the object of the object itself, but still considers area analysis and site analysis as some basic considerations in grouping a design problem or issue. Furthermore, this analysis is divided into several sections, including:

3.3.3.1 Function Analysis

This analysis is an analysis that groups' functions into several parts, this analysis will greatly influence the direction of a design. In the context of the Design of the New Zintan International Airport Terminal Complex is a very complex building because this building contains various kinds of new activities from airport companies that are located in the airport area, airlines that use it and passengers, at the same time the development of modern terminal facilities has also resulted in users another in the terminal complex. So this analysis is very important to group the types of functions inside the terminal to accommodate an activity so that there is no error in zoning which can have a negative effect on the circulating efficiency of an airport terminal.

3.3.3.2 Analysis of Activities and Users

Activity analysis is a grouping of various activities according to the division according to function analysis, in the analysis of this activity hatches a variety of linkages between the activities of the types of activity actors, the type of workshop used to show these activities and the characteristics of activities (private, semi-public, public). Whereas user analysis is a classification of data based on the user's circulation path which later can affect the zoning of space proximity or space programming.

3.3.3.3 Analysis of Space

This analysis is a grouping of function anatomy, activity analysis and user analysis that produces the type of room needed. This analysis is also a grouping obtained from secondary data relating to the standard magnitude of airport terminal scaffolding space.

3.3.3.4 Form Analysis

Form analysis is an architectural expression that is based on various considerations in analyzing classifications ranging from regional analysis, site analysis, function analysis, activity analysis, user analysis and space analysis. Which can later be described from various forms of analysis that are done

3.3.3.5 Structure Analysis

Structural Analysis is a grouping of data on various types of structures and materials that can support loads effectively and efficiently. While the determination of material is certainly inseparable from consideration of regional anatomy

3.3.3.6 Analysis of Utilities

Utility analysis is a grouping of water supply systems, sewerage systems, drainage systems, garbage disposal systems, electrical network systems, security systems and communication systems that are in accordance with objects of compounding. This analysis database deals with various types of anatomy, such as space analysis, form analysis, site analysis and also regional analysis. This is because the utility system is connected to each building, site and building area.

3.3.3.7 Form Fraction Method

In this method the object built is usually the New Zintan International Airport Terminal Complex which is a building with high complexity so that in the search for forms it needs to be built on the basis of the results of the better programming as a basis for processing forms. Furthermore, in defacing the form in the next stage using the architecture principles, but in its application the principles of architecture are not all applicable to the selection of several principles that are adjusted to the principles of the cultural values of the people in the Zintan Special Region.

3.4 Concept Formulation

In the formulation of the concept of the design object, the New Zintan International Airport Terminal Complex uses several stages. The first stage is in the form of data collection related to the design object, then proceed with the analysis phase. So that after doing these stages, there will be a number of problems that have been cut down so that the conclusions can be obtained which can eventually be used as a design concept by implementing the theme used in the design of the Architecture structure. Furthermore, the concepts used are conclusions that are in accordance with the anatomy studied before which produce several concepts, namely basic concepts, site concept, space concepts, form concepts, structural concepts, and utilities concepts. So that the integration of some of these concepts will result in the design of the New Zurich International Airport Terminal Complex in accordance with the design goals.

3.5 Visualization of Design



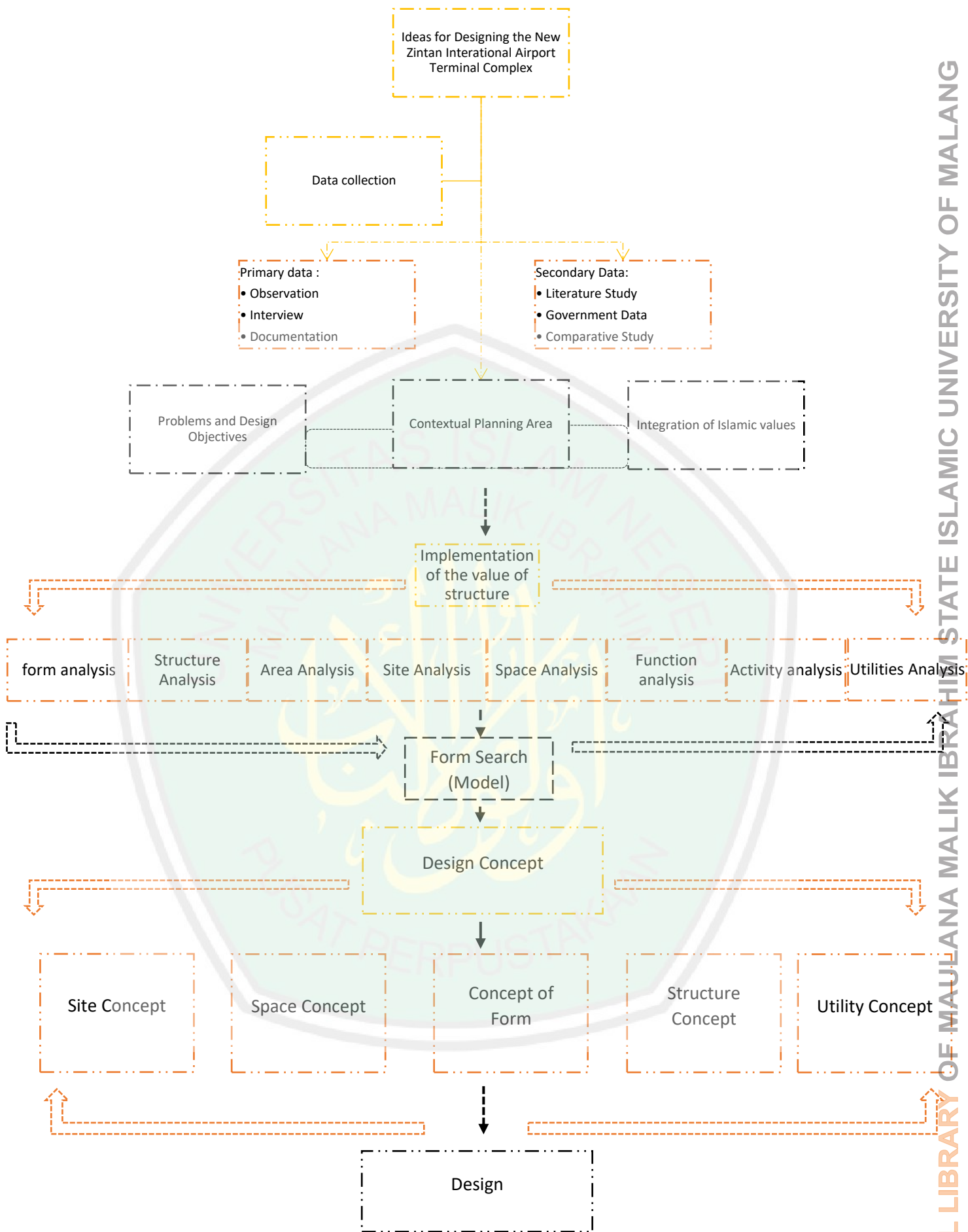


Image: Design Flow Scheme

CHAPTER 4

ANALYSIS

4.1 Review and Analysis of Regions

The object of the traditional display is the New Zintan International Airport Terminal Complex, this airport terminal is the design of a new building that replaces the previous building, namely the Zintan local airport. This airport change is done due to various underlying factors between them:

- A. Shortage of flights at Zintan Airport leads to a weekly occurrence of no more than one flight per week Until now And do not make any more than that.
- B. The capacity of the apron is only one parking space, so if there is more than one airplane leaving, it will directly affect the other transponders and cause queues in the air for at least one hour.
- C. The small area of the room which results in passengers having to squeeze the pressure and do a long queue, the space includes: terminal entry area, check in queue, departure waiting room, immigration counter to toilet
- D. Zintan local airport area is already limited and surrounded by factors such as the desert, which provide large areas already met for use with small construction limited use.

In the book from "Modern Airport Station" Brian Edward explained the key role in promoting the provision of airports and usually has:

- A. Lack of density and congestion that occurs in the air and the corridor and in the terminal building
- B. The scale of airside and landside provision is not adequate
- C. Environmental factors and planning delays
- D. Availability of land suitable for airport development
- E. The availability of unused air space
- F. The industry's desire to invest is expensive in the provision of terminals and runways (especially with regard to government-owned airports)

Furthermore, if we look at the issue in the Local Zintan Airport, the body has reached the limits of development. The airport is in accordance with the theory expressed by Brian Edward, so the need for a review of the new location is intended for new buildings. In the case study the determination of the location was carried out with various stages to be hacked in the following sections.



4.1;Determination of Alternative New Airport Locations; www.facebook.com/ZintanAirport/

4.1.1 Determination of Alternative New Airport Locations

The identification of this alternative has many areas identified by the Zintan Special Region Government as the original location. The area will then be reviewed as appropriate as a new airport location. Current location includes:

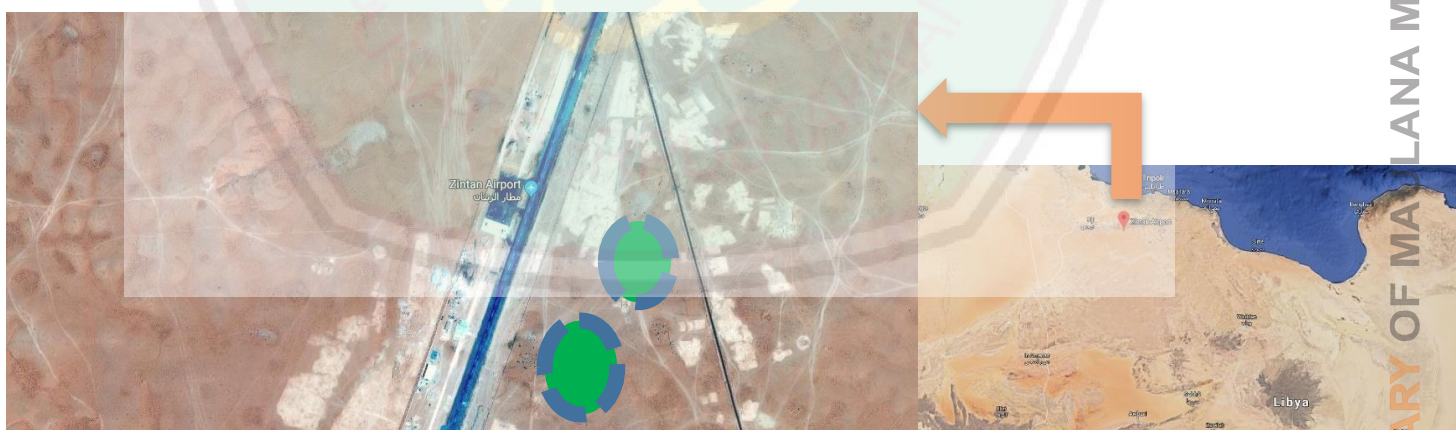


Figure 4.2; ZINTAN local airport location; Libya- zintan city, Q7G2+43 Alrujban, Libya

4.1.1.1 Alteration of ocean perimeter structures based on the effects of climate factors

4.1.1.1.1 Wind

Natural hazards come in the form of hot, dry, dust-laden (known in Libya as Gibli). These southern winds blow from day to four days in spring and fall. There are also storms of dust and sandstorms. These winds sometimes cause damage to power stations and telephone lines, causing problems in the infrastructure.



Figure 4.3; southern winds of Libya; <https://en.wikipedia.org/wiki/Libya>

should be planted Trees (hardwood trees) in the southern areas of the wind-blowing area to protect the airport and infrastructure foundations, which will provide a suitable climate for movement within the airport.

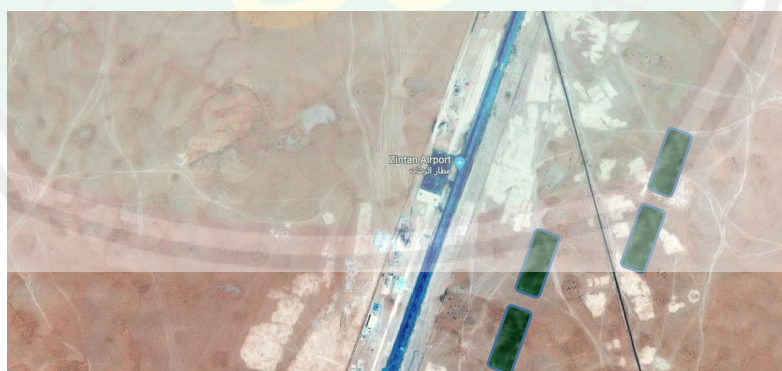


Figure 4.4; hardwood trees of zintan airport ; ZINTAN local airport location; Libya- zintan city, Q7G2+43 Alrujan, Libya

4.1.1.1.2 Temperature

Temperature changes in the Zintan region in particular and Libya in general, according to the seasons of the year, where between 0° C to 15° C percent in winter, causing freezing in the fuel of aircraft and diesel engines used, and you can reach in the summer of 48° C percent, causing heat in it. On September 13, 2002, the city of Zintan recorded a temperature of 50 ° C (136.4 ° F), which is a world record.

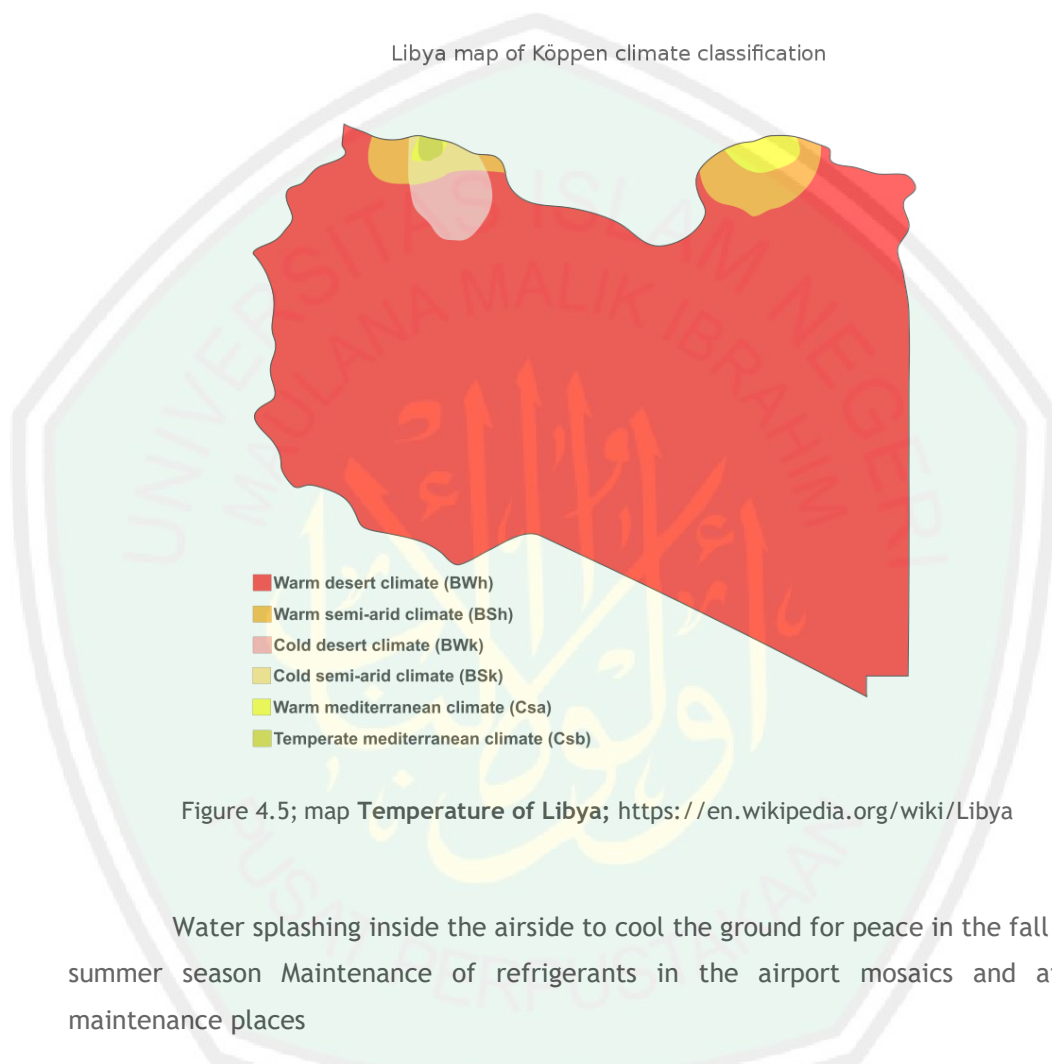


Figure 4.5; map Temperature of Libya; <https://en.wikipedia.org/wiki/Libya>

Water splashing inside the airside to cool the ground for peace in the fall in the summer season Maintenance of refrigerants in the airport mosaics and aircraft maintenance places



Figure 4.6; LOCAL ZINTAN AIRPORT; www.facebook.com/ZintanAirport/

4.1.2 Regional analysis planning

4.1.2.1 Analysis of design area

Design analysis consists of several types of analysis, i.e. activity analysis and space Requirements, site analysis and zoning area, measured criteria analysis, immeasurable Criteria analysis, urban image element analysis, urban design element analysis, and urban Aesthetic elements analysis.

Analysis of the design area is an analysis that aims to determine the factors that can affect the building. These factors are analyzed to then choose the best solution in terms of positive and negative.

Airport security and safety policies;

. To reconstitute the National Civil Aviation Security Committee and the Airport Security Committee in Libya , Article (4)

The National Committee for Civil Aviation Security has the following functions:

1. Follow-up on the implementation of all civil aviation security as defined in the Chicago Convention and its amendments by implementing the standards listed in its annexes, the Civil Aviation Security Security Manual of the Acts of Unlawful Intervention and Other Manuals Relating to the Security of Civil Aviation of the International Civil Aviation Organization, As well as the conventions in force in which Libya is a party, relating to the security of civil aviation and national and international legislation.

Provide advice on security protection measures to be taken to deal with threats against civil aviation, its installations and services, and prepare and review proposals for their development and amendments.

3. Issuing the instructions regarding the security procedures to be taken by each of the competent authorities in the aviation security, including airport management through the Airports Authority and other agencies and air investors, in coordination with the Civil Aviation Security Bureau at the Aviation Department.

4. Coordinate between the competent authorities to provide air navigation services and management of airports and air operators to face any threat to air traffic.

5. To submit proposals that would take into account security considerations in the design of new airports or the expansion of existing facilities.

6. Suggest changes to national civil aviation security policies.

7. To study the recommendations made by the airport security committees and take the necessary measures in connection with them in coordination with the competent authorities.
8. Proposing legal, financial and technical measures to support and ensure the success of the National Civil Aviation Security Program.
9. Arrange for periodic and sudden security checks on Libyan airports.

Maintenance of roads leading to the airport

The Libyan States are making a budget for the construction and restoration of roads, the most important of which are the roads leading to the airports, which are the most important and important roads for the ambassadors and the scholars.

And now the state has assigned some important partners and Aligian for the construction of Zintan airport road and its restoration and expansion initiated by the local government in Zintan



Figure 4.7; new roads to the new zintan airport; <https://www.facebook.com/ZintanAirport/>

A. Socio And economic picture people around the site the

The site is located in the southern part of the city, and the nearest building to the site is the Korean company for the design of the ways of expression, besides that the shepherds of sheep and camels come there and some of the fishermen of wild animals sometimes more than once because there is reason that the land around the site is not yet shown And still some of the land and this is a suitable space for construction with the lecture on nature and desert environment

There is a lot easier because of the fact that the kebab from the ground contains groundwater and it facilitates the construction of a large and provide the basic materials for each of the existing construction companies



Figure 4.7; the area around the new zintan airport; <https://www.facebook.com/ZintanAirport/>

B .Border and site models analysis.

Zintan is the largest city in the western mountain of Libya and is located in the middle of the mountain and has almost

The smallest airport in Libya so far and the worst flights are the gilla as the travelers are flugged because of the lack of availability of the cafeteria with the number of residents and the housing in the city due to the availability of adequate housing now.

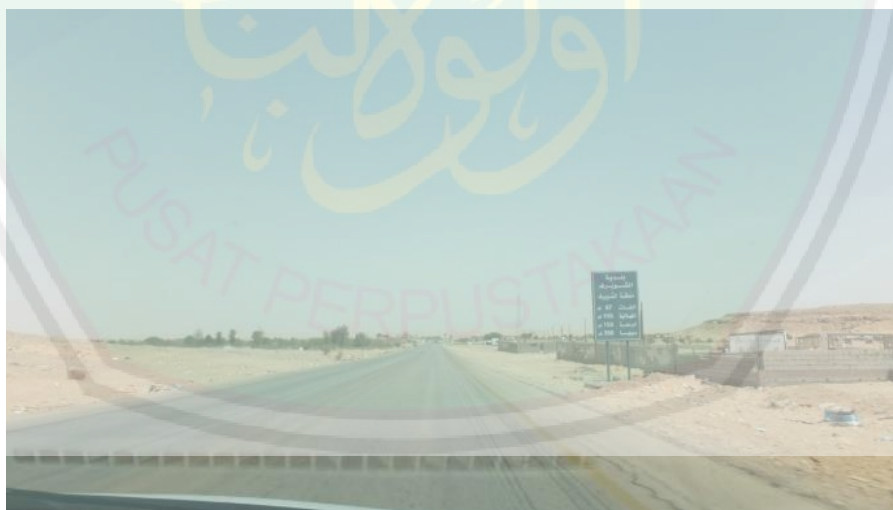


Figure 4.8; area near by zintan airport; ; <https://www.facebook.com/ZintanAirport/>



Figure 4.10; zintan airport; <https://www.facebook.com/ZintanAirport/>



Figure 4.11; zintan city map ;

<https://www.google.com/maps/@31.79067,12.2673962,4704m/data=!3m1!1e3>

The site is located through the Zintan Hall, which is located in the southern part of the city. The airport road is expanded so far. This part of the city is far away from the residents' houses and the muddy areas. This makes this site safe for the airport and the local population.

, And their mission is to restore the roads leading to the airport with the courtyard on this natural environment surrounding the rain, and the site is not close to any residential areas, making them suitable for construction and architectural expansion

It is part of the city which is almost desert land, where there are some water stores and some farms season in the compound there, including one of the largest wheat barley in the western mountain Libya

This side of the side enjoys great security and popularity in the western mountain of Libya with the availability of electricity, water, fuel and gas resources, and the basic materials of construction such as cement and iron. This makes the population increase with all the basic materials available for development, which makes it very popular.

Because of the popularity of this hurdle after the fall of the government of Muammar Gaddafi in 2011 because Zintan is protecting the desert and the Libyan territory and the province of Libya and the security and stability after the collapse of the Libyan army in 2011 and this facilitated Zintan army with the nearby outskirts of the city and because of this initiative of the people of the city Zintan Its popularity is growing.

The site is also close to some drinking water sources, which is 5 km away and more, which is also close to the military airport where the Libyan asylum is protected and the borders of the country.

This part of the zintan city is known as the Al-Marajan Road. The is a very small village and its far to inside the desert. This road was just a dirt track between the south of Libya and the north-west of the country where Zintan is now. The states are trying to rebuild the road, so far people are cutting land and farms near the site for reconstruction and construction of residential facilities around the airport.

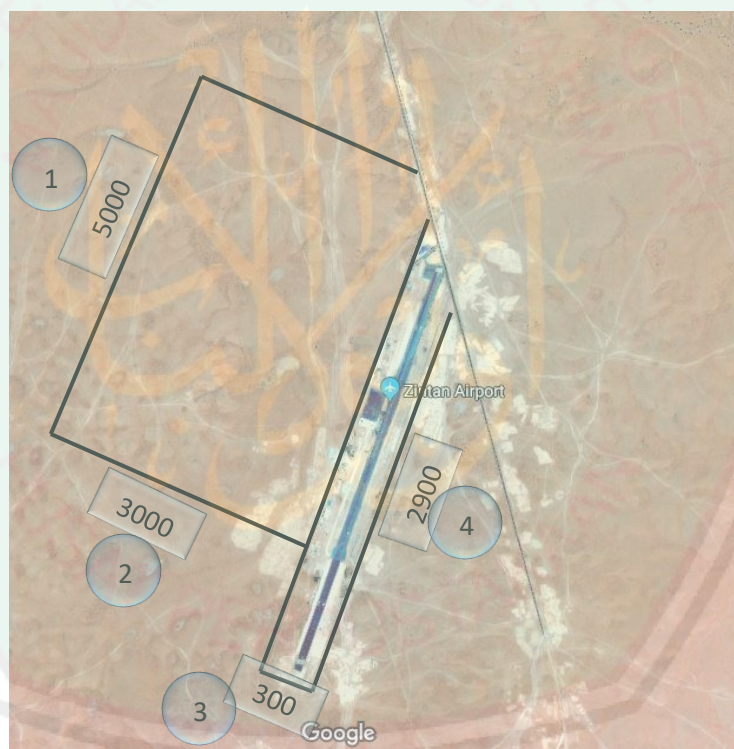


Figure 4.12; zintan airpor map scale the site ; google map.
<https://www.google.com/maps/@31.79067,12.2673962,4704m/data=!3m1!1e3>

The North West side of the site is 5000 meters, Southwest side of the site is 3000 meters, Southwest side of the site of The Airstrip is 300 meters and the Southeast side of the site is 2900 meters

4.1.2.1 Analysis of design area

A. Accessibility

The location is easily accessible by almost every car, as the location is close to the motorway, which is easily accessible by four-wheelers, trucks, transport and passenger buses.

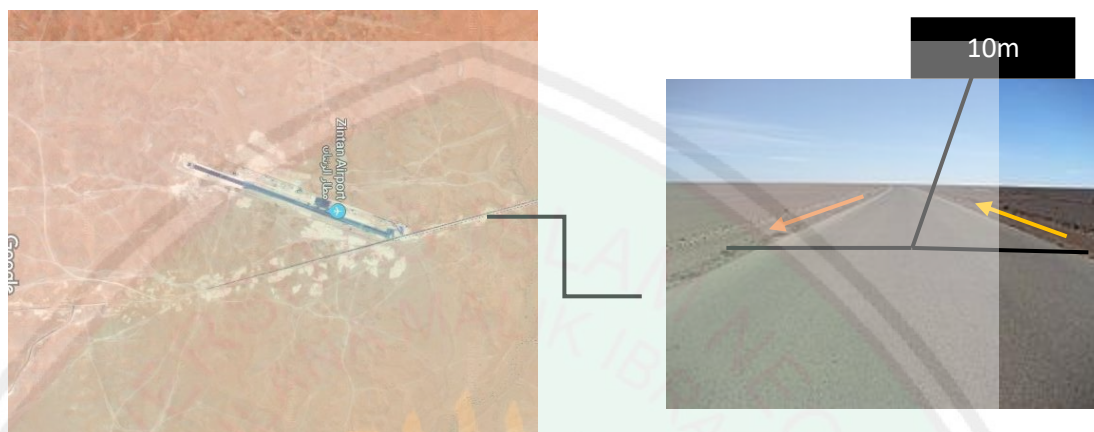


Figure 4.13; zintan airpor map access way.
<https://www.google.com/maps/@31.79067,12.2673962,4704m/data=!3m1!1e3>

B. Site view

The Amphitheater is very good compared to some of the airports in Libya; it has the finest space of the most beautiful architectural expansion and beyond. It is also one of the places in the city that contains good land and dry dust even if the rain is the ground and solid rock solid ground, and this is why he likes engineers to make the place of the runway in the area of the site can be farming and construction in one plac

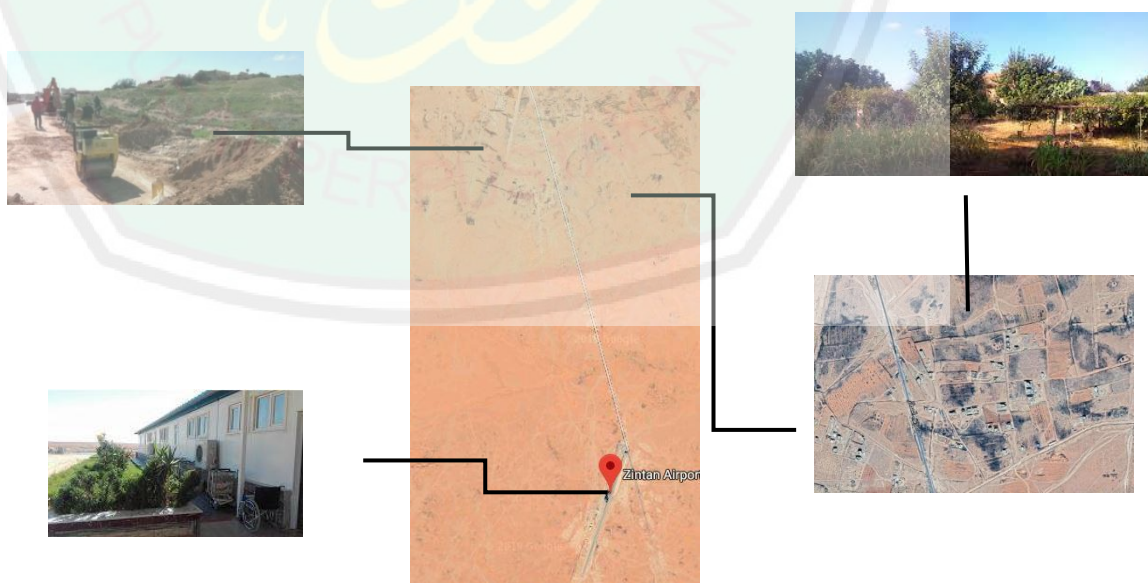


Figure 4.14; zintan airpor map , It contains a long distance on the city, but all the land is similar

Source: personal documentation

C. Site drainage

The sewage system is directed towards the drainage channel near the main road of the airport. Most of the time, rainwater is naturally channeled into existing valleys and wells, as it rarely rains and the government does not make much effort to install drainage networks in the desert. The water is usually left to remain on the ground for more than intended to.

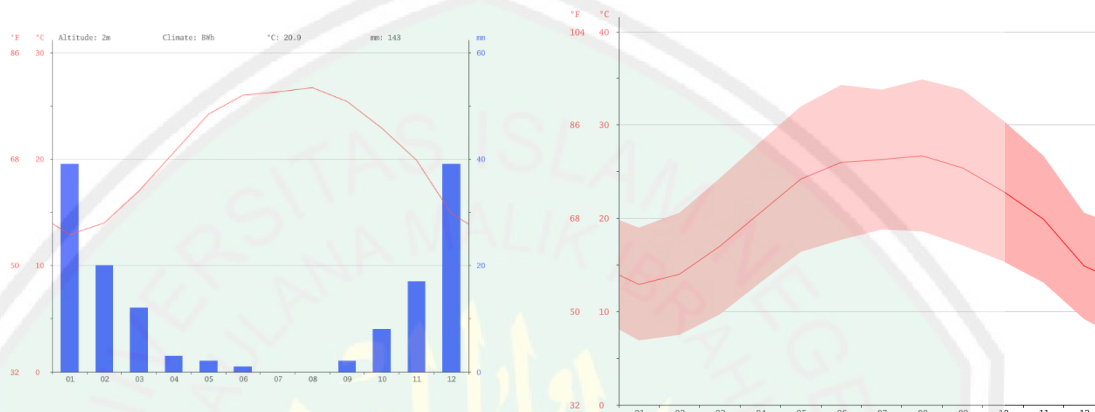


Figure 4.15; chirography of Libya-zintan city by month. <https://en.climate-data.org/africa/libya-176/>

The site has the typical desert climate which is hot during the day and sometimes extremely cold during the nights, the lowest temperature of the area cold go 10° c and during the days it could go as high as 30° c, the average humidity is around 64% with the average wind speed being 25 km/h, the highest precipitation fall recorded is 409 mm annually, and it usually rains 15-25 days in a year

4.1.2.2.2 Physical condition of the infrastructure

The physical state of this infrastructure exists in the infrastructure network that must be in the design area, for example , water clean water network ,water The tap water company for the airport (where the network covers all buildings at the airport)

- **Groundwater**



Figure 4.16; Groundwater of the airport,
<https://www.google.com/maps/@31.79067,12.2673962,4704m/data=!3m1!1e3>

- the communication network,
- communication A network is a complex, an underground telephone network at the airport

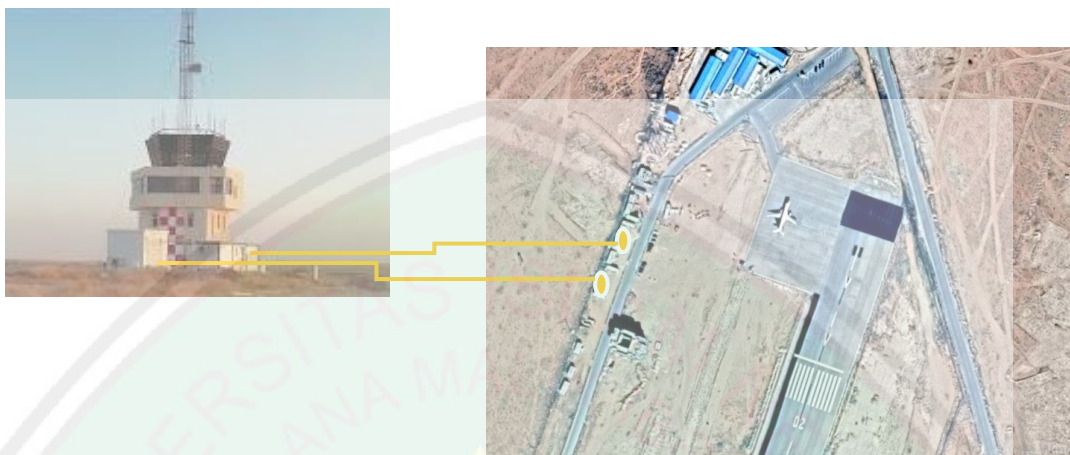


Figure 4.16; communication network of the airport,
<https://www.google.com/maps/@31.79067,12.2673962,4704m/data=!3m1!1e3>

- water Rainwater drainage,

The wastewater channel in this area is discharged through closed channels; the drainage in this area is covered by concrete and then outside the airport, which is collected in natural places in the desert.



Figure 4.17; communication network of the airport,
<https://www.google.com/maps/@31.79067,12.2673962,4704m/data=!3m1!1e3>

- Electricity network

electricity The electricity grid at Zintan Airport is supported by the State Electricity Company, which is connected to the highway area.



- Figure 4.18; Electricity network of the airport, <https://www.google.com/maps/@31.79067,12.2673962,4704m/data=!3m1!1e3>

The airport also relies heavily on electricity generators that operate with gasoline and diesel because the power outage continues in the desert



4.2 Function analysis

The design of Zintan International Airport has been planned for an international airport by the government. However, none of their attempts have been successful, and the passengers who are in need of travel outside the country have become highly Zintan and the need for international trade is constantly increasing. Trade and tourism are easier for the public.

A. Basic function

The primary function is the main function of the building. In designing the Zintan International Airport terminal, the building carries out the basic function, namely:

- Improve international travel

This provides different types of travel, such as international travel, reception travelers and transfer international flights.

B. Secondary function

Includes functions that support the primary function of the design object, Secondary Functions applied to the design are:

- trade Promotion
- Facilitating international trade

It aims to establish and promote the transportation of commercial goods between the Merchants who are in Zintan and Libya

C. Supporting function

Includes infrastructure needed by the International Airport terminal in Zintan city to support the functions above, namely:

- travel
- Comforts
- eater
- Shopping

D. Service function

It includes the facilities that support the function of the building, namely:

- Utilities
- Waste management facilities
- Security
- Parking

4.3 Activity Analysis

then the analysis of activity is needed to determine what activities can take place and that are in accordance with the principles of the design, the following tables is explained how the activity will occur.

Table 4.1 Passengers activity

Function classification	Function type	Activities type	Activities characteristics	Activity behavior	
Primary	Security bags Checking	<p>Check passenger bags with a radiation device X and make sure there are no flammable materials or prohibited materials according to the safety and security list</p> <p>Check passengers not to smuggle any material prohibited through metal identification devices according to the safety and security list</p> <p>Check the validity of the travel ticket and passport. (Be a right travel ticket time and passport name)</p>	Working	Private	Sit and stand in the entrance to the airport
			breaking		<p>Knowledge of materials prohibited through the X-ray</p> <p>Stand in front of metal detectors and make sure it works</p>
	Security / Check-in	<p>Check the validity of the travel ticket and passport. (Be a right travel ticket time and passport name)</p> <p>Register the reminder in the system</p> <p>Register weight bags</p>	Working	Private	Sit and stand in ticket system rooms
			breaking		<p>Knowledge of ticket types</p> <p>Knowledge of ticket times</p>

		Send the bags to the plane allocated to it through the system of bags			
	Customs	<p>Check the validity of the travel ticket and passport. (Be a right travel ticket time and passport name)</p> <p>Checking the passport visa according to the laws of the country</p> <p>Validation of passport of residents in the country according to the laws of the country</p> <p>Check the security and safety of passengers and aircraft coming and departing</p>	<p>Working</p> <p>breaking</p>	Private	<p>Sitting and standing in the customs chambers</p> <p>Stand in the entrance hall of aircraft</p>
	Airside Operations	<p>manage the runway, ensuring it is clear of debris</p> <p>This includes monitoring ground handling and taxiing of Aircraft</p> <p>Ensure safe operation of airport</p>	<p>Working</p>	Private	<p>Move within inside runway boundaries</p> <p>moving according to the agenda</p> <p>Use of auxiliary vehicles</p>
	Air Traffic Control	<p>clearing Aircraft for land or take off whether by Using the radar station and IRR system</p> <p>Design airway for aircraft by Using the radar station and IRR system</p> <p>Design the airway for aircraft by</p>	<p>WORKING</p> <p>Breaking</p>	Private	<p>Sit in front of the radar system of the airport</p> <p>Navigate inside the radar center and Air Traffic Control center</p>

		<p>Using the radar station and IRR system</p> <p>Ensure the correct airway aircraft continuously by Using the radar station and IRR system</p> <p>Ensure the planes are landing and takeoff on time by Using the radar station and IRR system</p> <p>Ensure there are no foreign objects in the airport's airspace by Using the radar station and IRR system</p> <p>Communicate with all aircraft within the airspace of the airport by Using the radar station and IRR system</p>			Sit inside specialized offices
	Flight runway	Airplanes or landing planes guide planes	Working Breaking	Private	Mobility within the private aircraft lab
	Passenger Services	Passenger service with limited mobility that requires support during their flight to their plane and offer a bag wrapping service	Working	Public	<p>Mobility within the terminal of the airport</p> <p>Search for passengers with special needs</p>

Secondary	Commercial cargo transportation center	Providing normal booking and Providing online booking and phone connection booking		Semipublic	Sitting inside Office Queries Of the Commercial cargo transportation center Mobility Inside the hotel
	Commercial cargo transportation center Assistants	Transfer of commercial goods		Semipublic	Mobility Inside the Chamber of Commerce Cargo Transportation System
	Store seller	Sell Merchandise the Store Helping the customers		Semipublic	Standing and sitting inside the cashier area of store Mobility Inside the Store
	Restaurant workers	Cooking food available restaurant answered Customer requests		Semipublic	Standing and sitting inside the cashier area of Restaurant Mobility Inside the Restaurant
	Cleaning Services	Clean the floor and the windows of airport by Using Vehicles sophisticated cleaning and equipment Cleaning	Working	Semipublic	Navigating the airport freely
	Fire Service	Preparing for critical situations Monitor fire alarms continuously	working		Sit inside fire extinguishing headquarters
	Commercial	develop and manage relationships with the business partners on airport	working	Private	Mobility between shops and businesses within the airport

Function classification	Type of the user		Type of users	Number of users	time	Circulation
	Security bags Checking	Insurance the passenger bags	Security	50-70 People	8 hours	
	Security / Check-in	Secure the passenger papers		80-90 People	8 hours	
	Customs	Insurance of public, passports and papers		80-90 People	8 hours	
	Airside Operations	manage the runway	Aviation Administration	150-200 People	9 hours	
	Air Traffic Control	the Administrators of Radar Device		80-90 People	9 hours	

	runway	Takeoff and landing		20-25 people	24 hours	<pre> graph TD A[come] --> B[General Entrance] B --> C[open space] C --> D[Aircraft maintenance buildings] D --> E[open space] E --> F[Exit Procedures] F --> G[go back] </pre>
	Passenger Services	Servicing the People with special needs	Services	40-50 People	9 hours	<pre> graph TD A[come] --> B[General Entrance] B --> C[open space] C --> D[room of Arrival and takeoff the passengers / General Entrances and General exits] D --> E[open space] E --> F[Exit Procedures] F --> G[go back] </pre>
	Chamber of Commerce Cargo Transportation	Information desk	Management of the office of Commerce Cargo Transportation	10-15 People	6 hours	<pre> graph TD A[come] --> B[General Entrance] B --> C[Hotel main Entrance] C --> D[open space] D --> E[Exit Procedures of office] E --> F[go back] </pre>
	Chamber of Commerce Cargo Transportation Assistants	Guest service	Management of the office of Commerce Cargo Transportation	10-20 People	6 hours	<pre> graph TD A[General Entrance] --> B[Hotel main Entrance] B --> C[open space] C --> D[Chamber of Commerce Cargo Transportation room] D --> E[Exit Procedures of office] E --> F[go back] </pre>
	Store seller	Selling	Management of the Store	20-25 People	6 hours	<pre> graph TD A[come] --> B[General Entrance] B --> C[open space] C --> D[The Shops] D --> E[open space] E --> F[Exit Procedures] F --> G[go back] </pre>

	Restaurant workers	Selling	Management of the Restaurant	20-25 People	6 hours	<pre> graph TD A[come] --> B[General Entrance] B --> C[Restaurant main Entrance] C --> D[open space] D --> E[Restaurant building] E --> F[open space] F --> G[Exit Procedures of Restaurant] G --> H[go back] </pre>
Supporting	Cleaning Services	Cleaning	Management Cleaning Center	15-20 People	5 hours	<pre> graph TD A[come] --> B[General Entrance] B --> C[open space] C --> D[area Cleaning Center / open areas] D --> E[Exit Procedures] E --> F[go back] </pre>
	fire extinguisher	fire extinguisher	Management Firefighting Center	20-25 People	Dangers time	<pre> graph TD A[come] --> B[General Entrance] B --> C[fire extinguisher building main Entrance] C --> D[open space] D --> E[Firefighting building] E --> F[open space] F --> G[Exit Procedures] G --> H[go back] </pre>
	Commercial	development	development and manage relationships with the business partners on airport	20-30 People	Working time	<pre> graph TD A[come] --> B[General Entrance] B --> C[open space] C --> D[business partners on airport] D --> E[Exit Procedures] E --> F[go back] </pre>

4.4 Space Analysis

In order to make the design better and more comfortable for the user, the general in all the work magazines at the airport, passengers and Transit Passengers, and make in detail the rooms in the new airport better and more suitable for the international airport.

Function Classification	Activity type	Space requirements		Total space	Space capacity	Standard measurements (m ² /person)	Space dimensions (total space x capacity x standard measurements)+ circulation	Space size	Room furniture
Primary	Passengers activity	Main Hall 1	Wandering areas	2	2000 People	3m ²	(2 * 2000 * 3)+2	12,000 m ²	Chairs and tables
			Waiting areas	4	66 people	3m ²	(4 * 66 * 3)+2	792 m ²	
			Rests area	4	66 people	3m ²			
		Restaurants 1	eating	1	50 people	3m ²	(1 * 50 * 3)+2	150 m ²	
		Goods transport offices	Staying	1	15 people	3m ²	(1 * 15 * 3)+2	47 m ²	
		checking bags Point 1	Entry	4	120 people	3m ²	(4 * 120 * 3)+2	1440 m ²	
		Main Hall 2	Wandering area	1	2000 people	3m ²	(1 * 2000 * 3)+2	6000 m ²	
	Waiting area2		4	280 people	3m ²	(4 * 280 * 3)+2	3360 m ²		
	Packaging Bags		7	3 people	3m ²	(7 * 3 * 3)+2	63 m ²		

		Passenger path	Mobility areas	8	2400 people	4m ²	$(8 * 2400 * 4)+2$	76,800 m ²		
								50,400		
		1	Change money	5	32	5	525 people	3m ²	$(5 * 32 * 3)+2$	75 m ²
			Resting area							
			Shopping	15	1	100	100 people	2 m ²	$(5 * 100 * 3)+2$	1000 m ²
			Eating areas	2		40	people	3m ²	$(2 * 40 * 3)+2$	240 m ²
		Restaurant area 2	Eating	1		50	people	3m ²	$(1 * 50 * 3)+2$	150 m ²
		Chick in	Check in	40		600	people	3m ²	$(40 * 600 * 3)+2$	72,000 m ²
		Customs	checking tickets	8		160	people	4m ²	$(8 * 160 * 4)+2$	5,120 m ²
			passenger papers							
		checking bags Point 2	Entry	6		60	people	4m ²	$(6 * 60 * 4)+2$	1,440 m ²
		Passenger path 2	Mobility	8		160	people	4m ²	$(8 * 160 * 4)+2$	5,120 m ²
		Flight lounge	waiting	40		1200	people	4m ²	$(40 * 1200 * 4)+2$	192,000 m ²
		Prayer room	praying	2		40	people	3m ²	$(2 * 40 * 3)+2$	240 m ²

4.4.1 Dimension and requirement of space.

The dimension and space requirements are formed due to user activities and the need for certain spaces so that a function

That is effective and efficient and comfortable is formed in accordance with the approach.

1. Prerequisites, areas that are formed because of the function of the building and the basic needs are also as

- A. terminal Main Hall
- B. checking bags Points
- C. Custom's gates
- D. Waiting & resting areas
- E. Flight lounge Internal and external

F. Passenger paths

G. Special handling lounge

2. Secondary requirements, this function focuses anything important other than studying or practicing that the design

A. Shops

1. Clothing shop
2. Perfume Shop
3. Food Stuff Shop
4. Dealers shops
5. Business Companies

B. supermarket

C. Commercial cargo office

1. Commercial cargo transport system

D. Restaurants

1. Restaurant area
2. Cashier restaurant
3. Chefs
4. Kitchen
5. Kitchen materials

3. Support requirements, the support function focuses in the security and comfort ability of the design

A. parking

1. Parking passenger cars area
2. Parking Buses passenger area
3. Parking works of the terminal
5. Parking Cars of the runway

B. balconies

1. Area balconies in the terminal

C. prayer room

D. toilet

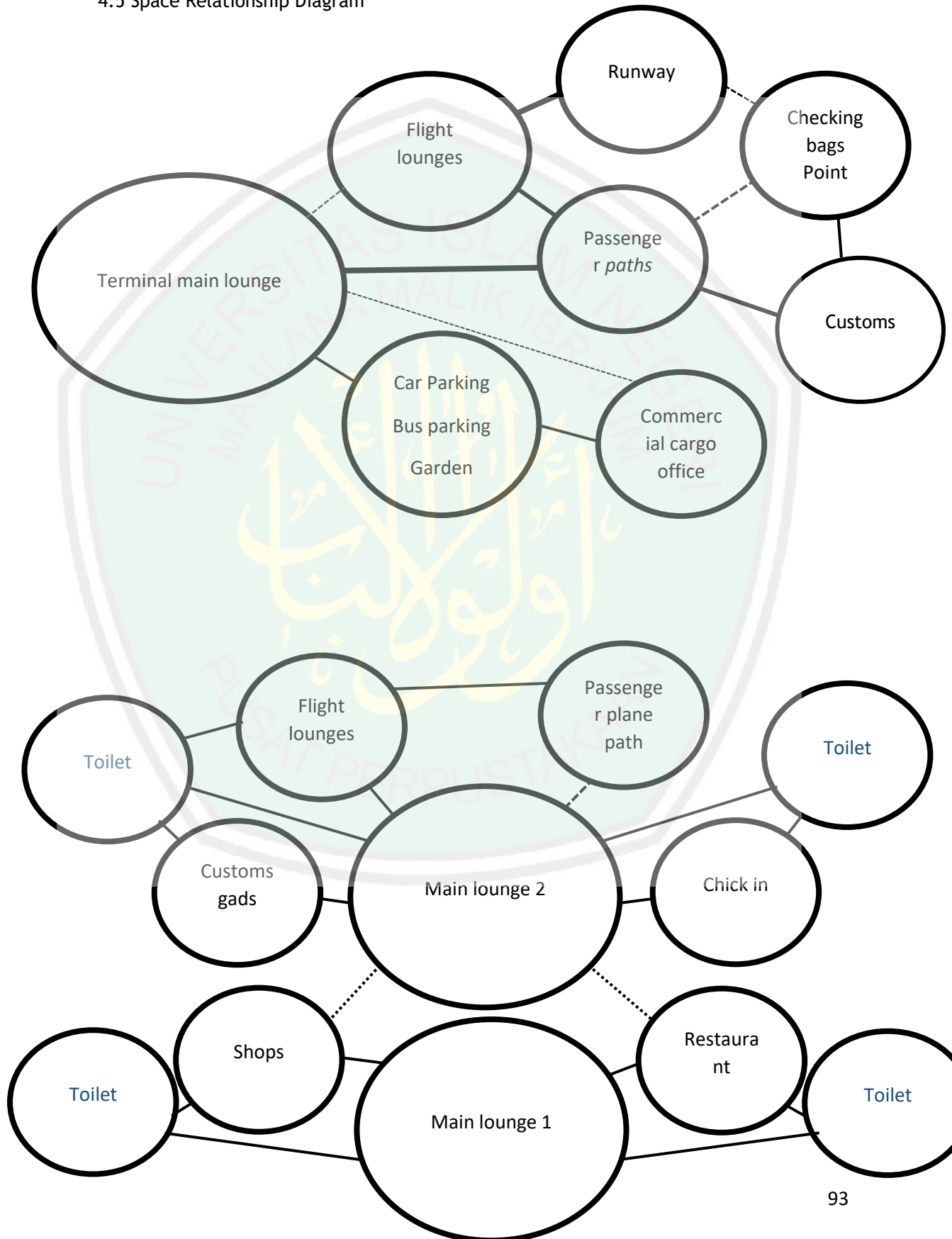
1. Clear water & wastewater, system
2. Distinguish between women's bath and men's bath

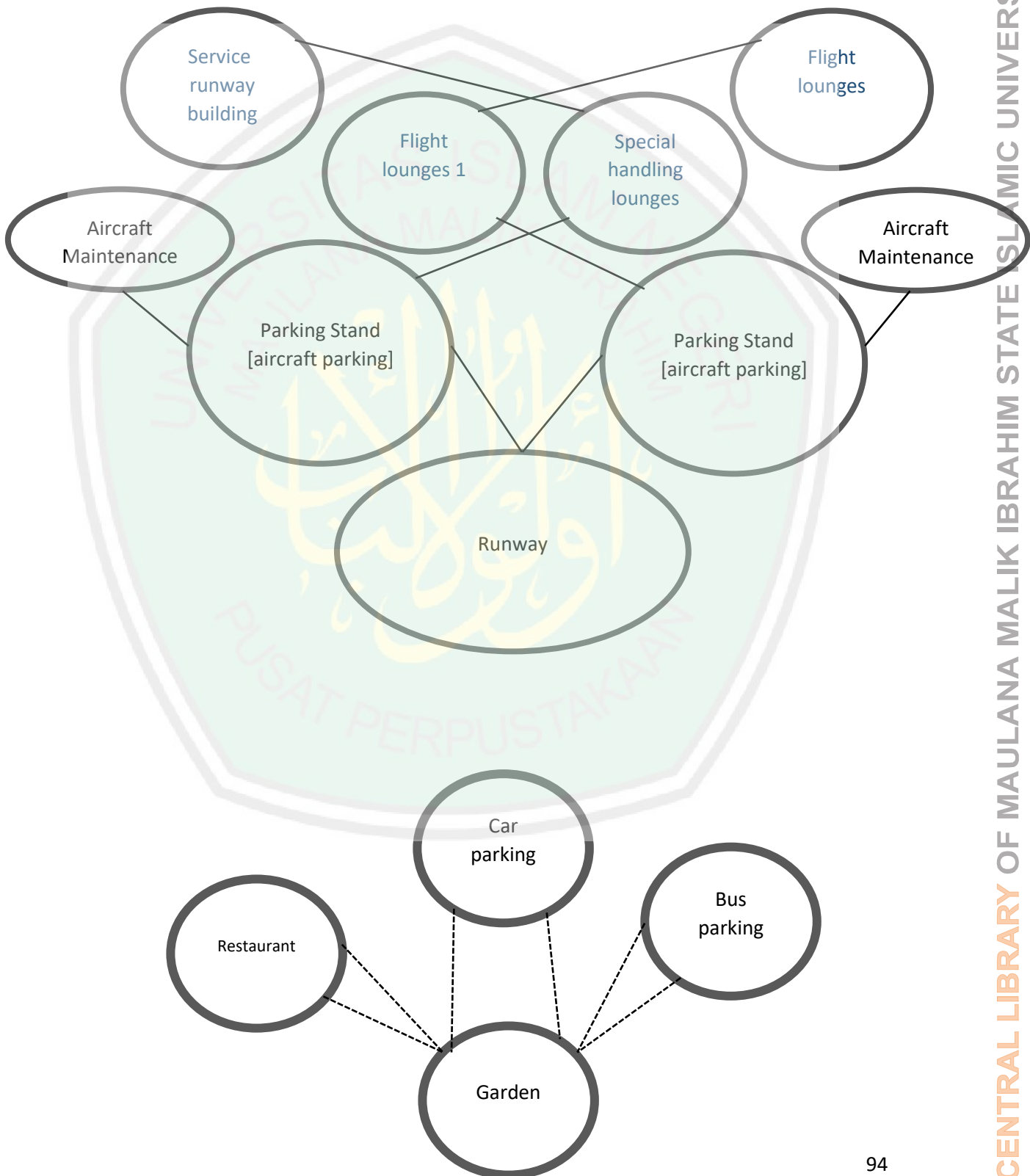
4.4.3 Space qualitative

Space type	accessibility	Air	Lighting	Quietness	View		Cleanliness	Speed of movement	Percentage of congestion each hours
					in	out			
Main Hall 1	++++	++++	++++	-	+++	+++	++++	+++	70%
checking bags Point 1	++++	+++	+++	-	++	++	++++	++++	80%
Main Hall 2	++++	++++	++++	-	+++	++++	++++	++++	70%
Chick in	++++	++++	++++	+	++	+++	++++	+++	60%
Customs	+++	+++	+++	+	++	++	++++	++++	70%
Passenger path 1	++++	++++	++++	-	+++	++	++++	++++	80%
checking bags Point 2	+++	++++	++++	-	++	++	++++	+++	70%
Passenger path 2	++++	++++	++++	-	++	+++	++++	+++	70%
Flight lounge	+++	++++	+++	-	+++	+++	++++	++++	90%
Shops area	+++	+++	++++	-	+++	+++	++++	++	40%
Restaurants area	++++	++++	+++	+	++++	++++	++++	++	50%
Commercial cargo office	++++	+++	+++	+++	+++	++	++++	+	70%
Toilets terminal	+++	++++	++++	+	+	+	++++	+++	50%
Car parking	++++	nature	nature	++	+++	+++	+++	+++	80%
Bus parking	++++	nature	nature	+	+++	+++	+++	++	60%
Runway	++	nature	+++	-	+++	++	++++	++++	80%
Parking Stand[aircraft parking]	++	nature	+++	+	++	++	++++	+++	70%
Aircraft Maintenance building	++	++++	++++	+	+	+	++++	++	50%
Radar building	++	++++	++++	+++	+	+	+++	+	70%
Prayer room	++++	++++	+++	+++	++++	+	++	++	70%

- : Not available
- + : Rarely available
- ++ : Available
- +++ : Available frequently
- ++++ : very much available

4.5 Space Relationship Diagram





4.5.1 Bubble Diagrams

Namely a diagram that shows the relationship between the outside in a more specific spatial graph about the closeness and relationship of space. The aim is to find out the description of zoning in the site.

A. Macro Bubble Diagrams

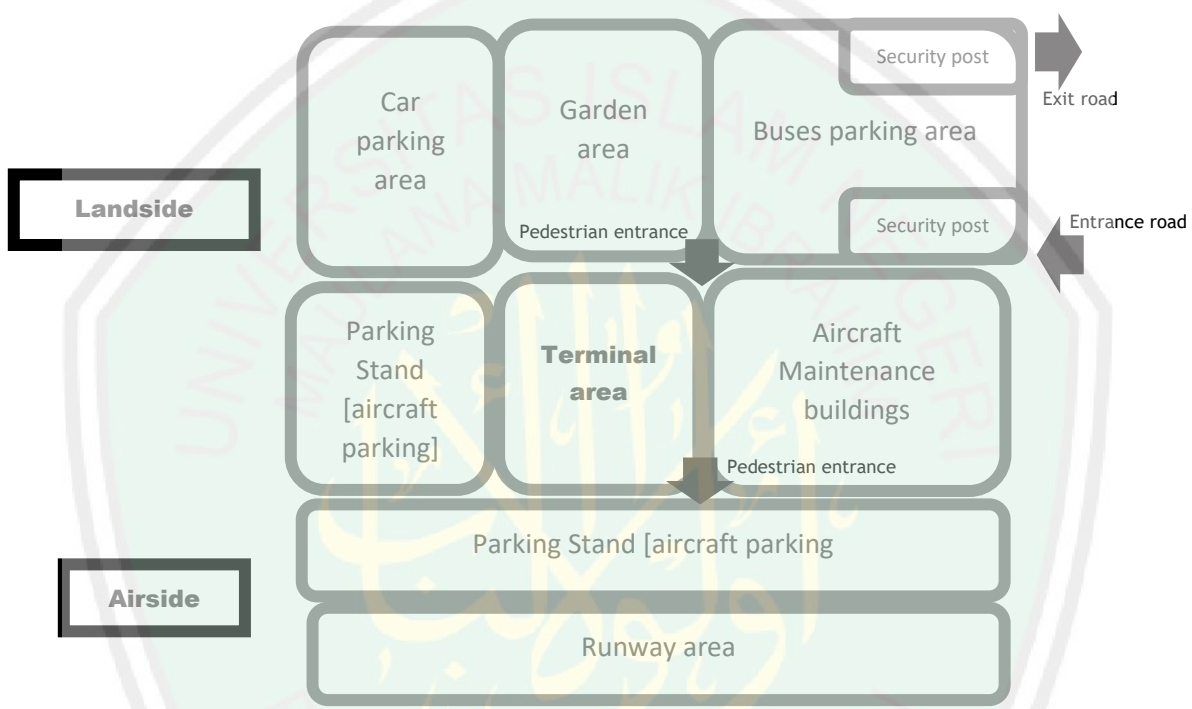


Figure 4.19; Macro Bubble Diagrams

B. Micro Bubble Diagram

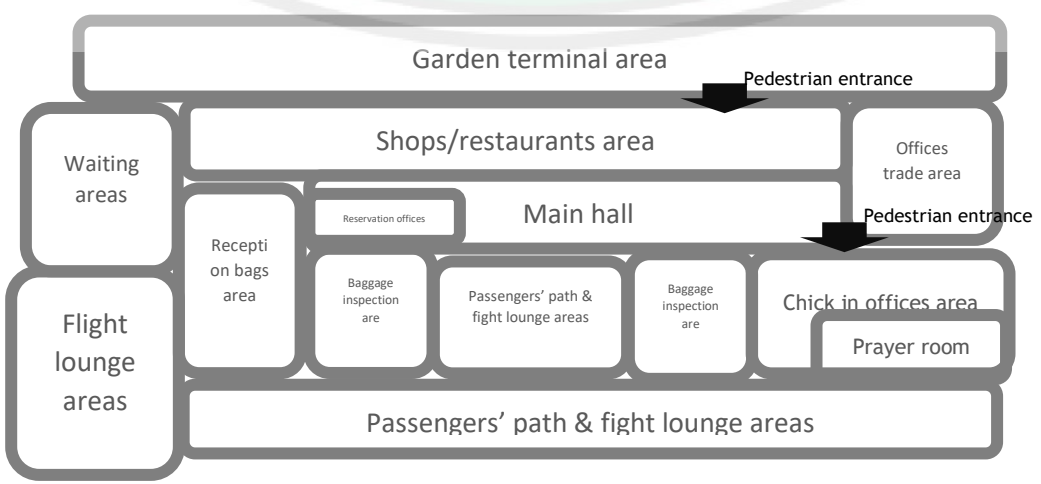


Figure 4.20; Micro Bubble Diagrams (terminal building) floor1



Figure 4.21; Micro Bubble Diagrams (terminal building) floor 2



4.5.2 Block Plan

Space Organization in the Site is a chart that approaches the results of the analysis of functions, namely the formation of space and spatial arrangement that determines the location or position of the room based on space considerations and requirements. The position of space is also determined based on the closeness relationship between spaces.

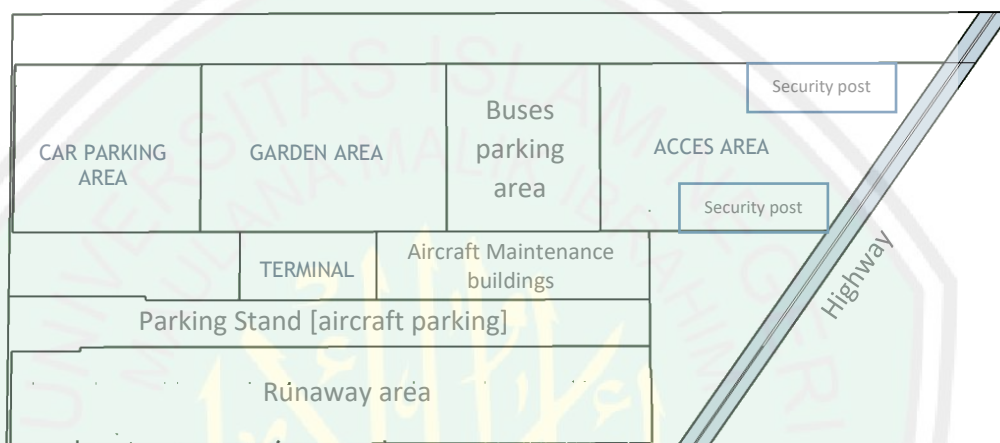
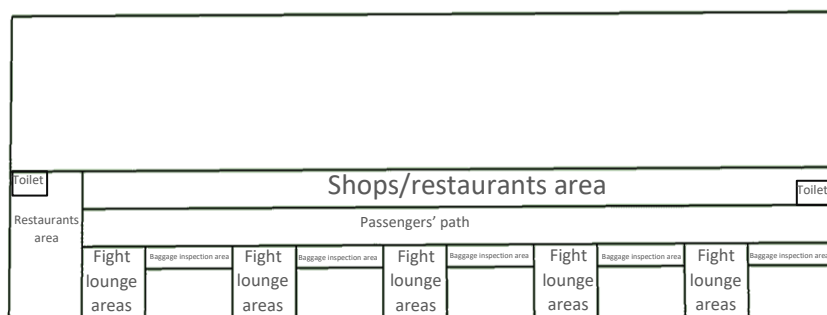


Figure 4.22; block plan Macro



Figure 4.23; block plan Micro (terminal building) floor 1

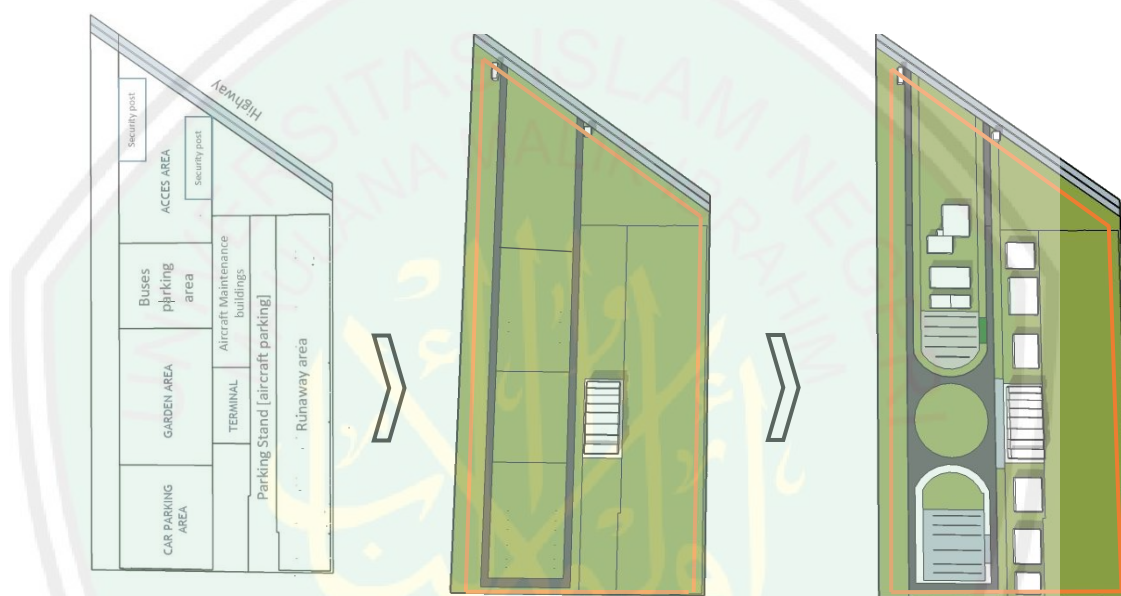


Passengers' path Passengers' path Passengers' path Passengers' path Passengers' path

Figure 4.24; block plan Micro (terminal building) floor 2

4.6 Site Analysis

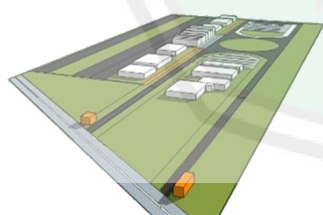
In the analysis of the site, a lot of design stuff has to be done, especially the site that the Civil Construction Authority has built so far. The site does not contain many sites, the site was chosen because no international airport has been designed so far. The normal airport is upgraded to an international airport in this design to be a world class airport. This location is located in the southern part of the city with minimal disturbance and noise.



Insert hash Analysis of functions in the form of block plans into the site

■ GST
the application of GST on land measuring 2 meters, the height of the building floor 4 meters, KDB 60% of the site

Changes in the shape park the terminal and parking area



Adding gates to enter the terminal of the airport terminal, with the addition of fences around the area of the private buildings between the public terminals

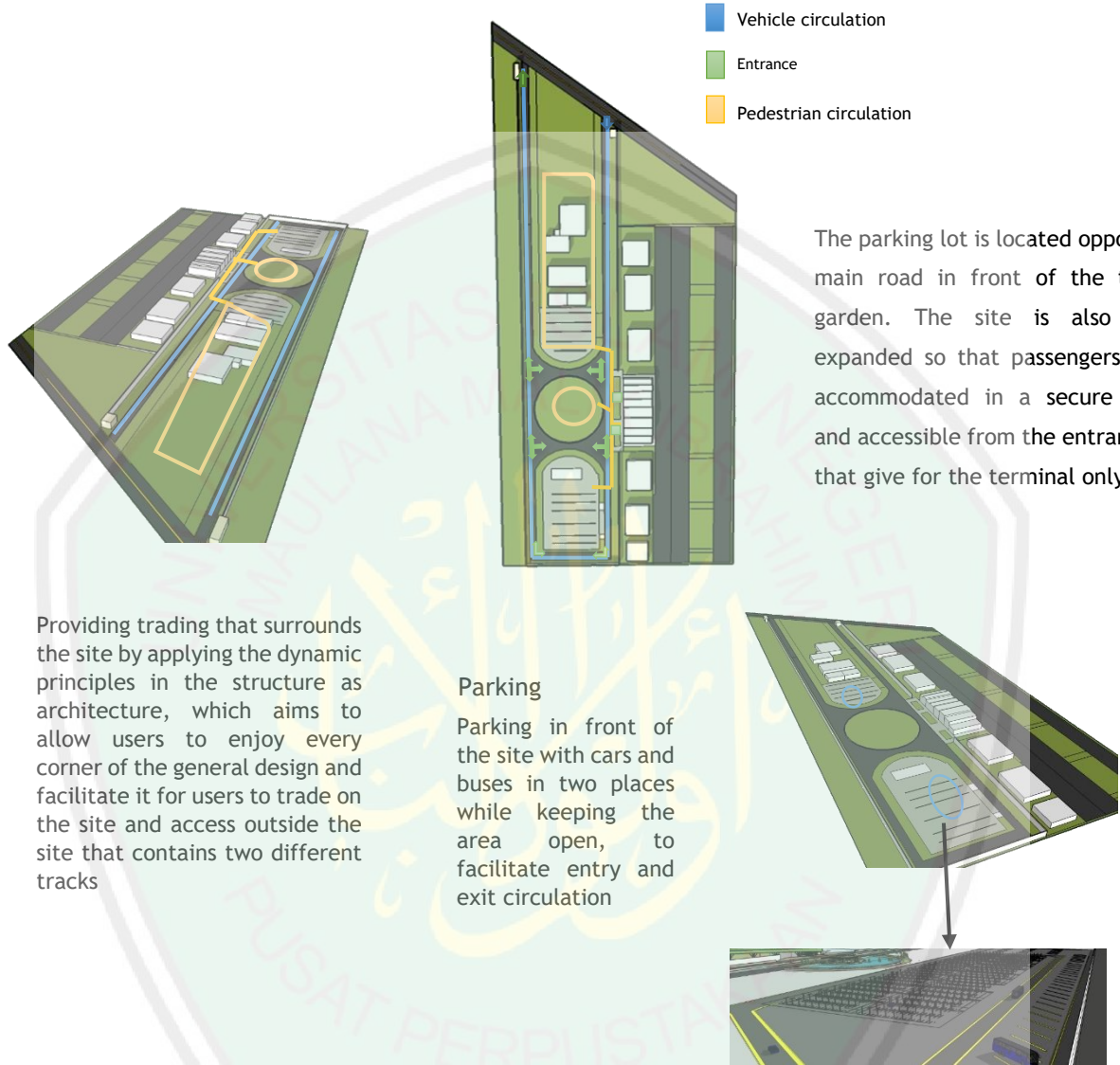


■ Pedestrian entrance
■ Pedestrian entrance

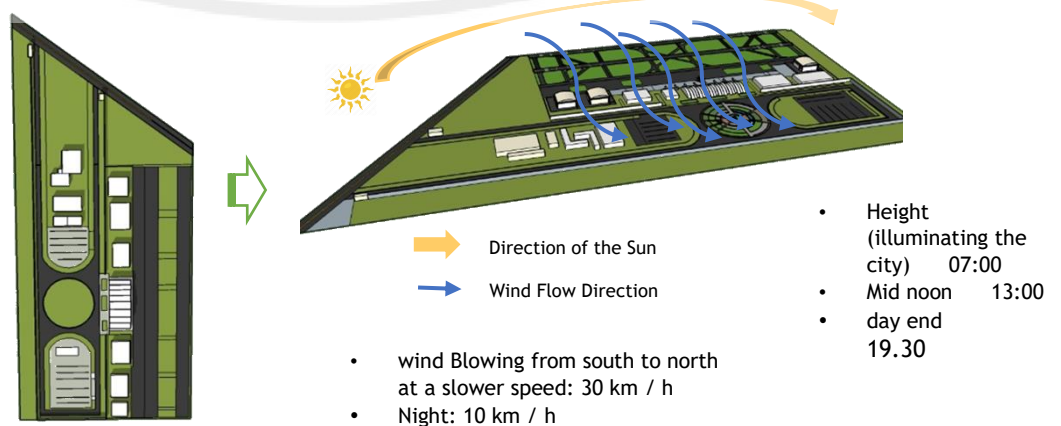
Give entrance

- The main entrance is located in the east of the site, because the entrance is connected to highways
- Entrance is connected to highways in addition a security room
- There is a pedestrian entrance inside the site to the terminal in front of the park's southern terminal from the site, in addition to the arrival signal, to facilitate the users' access to

4.6.1 Circulation

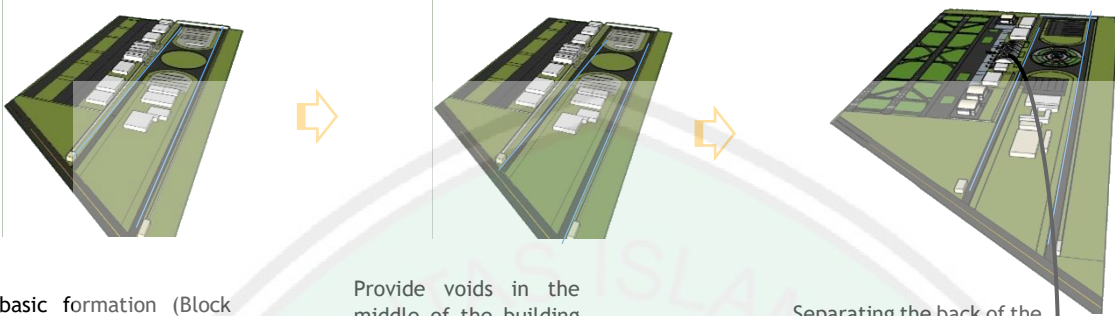


4.6.2 Climate (sun, wind and rain)



Input the results of the analysis and circulation

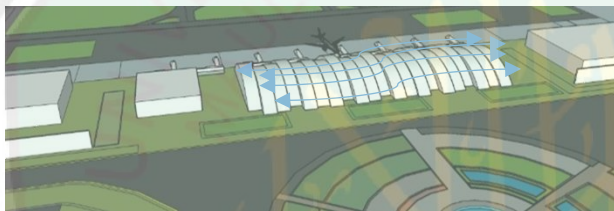
Input the results of the analysis and circulation



The basic formation (Block Plan), and the change in orientation of the circulation

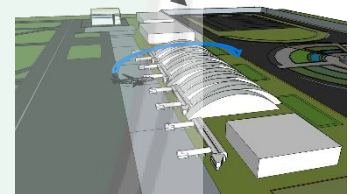
Provide voids in the middle of the building to put light into the building

Separating the back of the building (lodging area) to enter air circulation to the area within the building, changing the orientation of the building behind to enter sunlight and regulating the flow of air



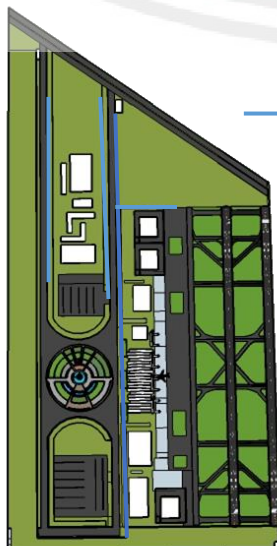
Rain Flow Direction

Make the roof structure of the main building in the shape of a staircase for the flow of rain water gradually and turn it into rain gutter tracks to take advantage of the rainwater and liquidate it in a system of natural water purification



Give roof of structure to ensure that the natural sunlight is relatively large for all the facilities of the terminal

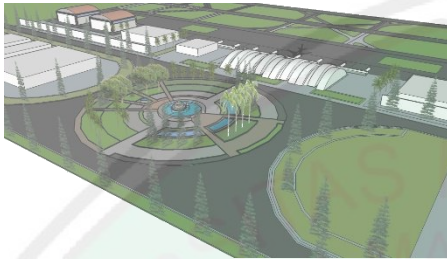
Noise



Wall noise reduction

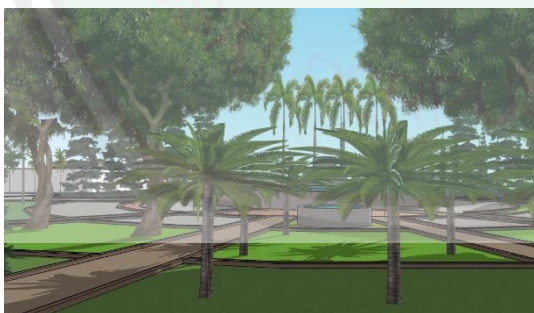
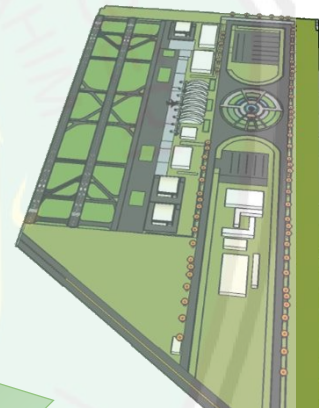
Due to the distance of the location from the city, it offers tranquility on the sides of the site except on the general road, Which have to build a wall on the one hand the general road of the airport with the space available between the road and the terminal of the airport where there is noise has fade

4.6.3 Vegetation



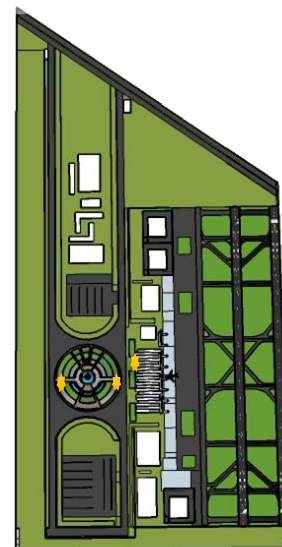
The vegetation is located on the site in the main garden of the site and the access road side, which acts as a noise barrier, the vegetation is not changed on the site and left according to the current

Sunbird trees provide the edge of the inner fence, long pine trees because it is commonly used there with easy availability as palm trees are used on site to give green color, so the application of these trees follows the principles of comfort, roominess, and repetition in the principles of the structure as architecture

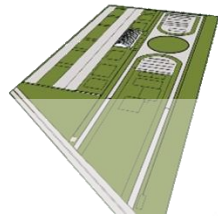


Apply palm trees in a garden, with row arrangement

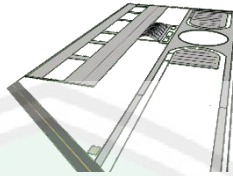
Adding olive tree lighting for straying, with ornamental plants added to the common area in front of the international airport terminal to calm down the weather in broad daylight



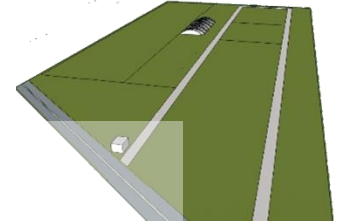
4.6.4 Form



take the formation of a block plan



Separating the driving area and main building



give openings to buildings

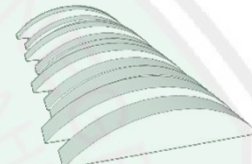
Main building (terminal)



Take the formation of Wide span structure



Take the formation of the curvature of the structure



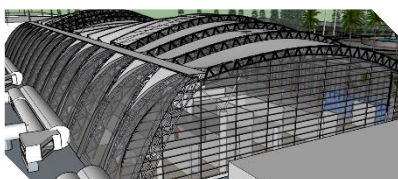
Take the formation of a block plan



Forming the arched structure as the main wall of the building, which applies the approach of the structure as architecture

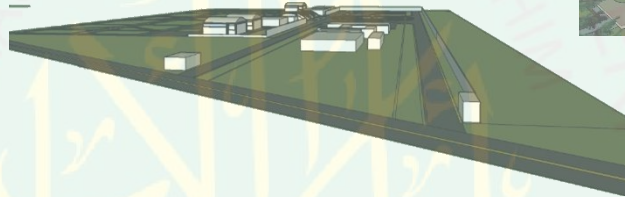
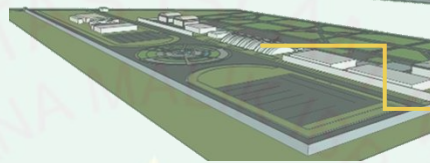
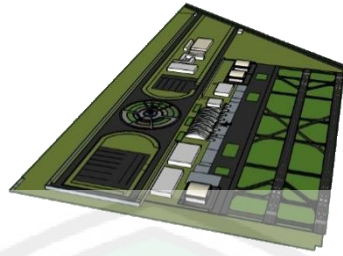
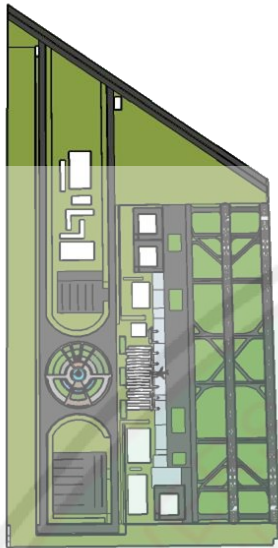


Repeat the arched structure of the arch along the land of the terminal building as a basic form of the building, which applies the approach structure as architecture

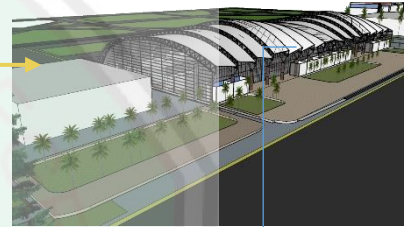


Formation of building cover from glass and structure, which shows the shape of the structure and mislead the building which applies the structure as architecture approach

4.6.5 View in - view out

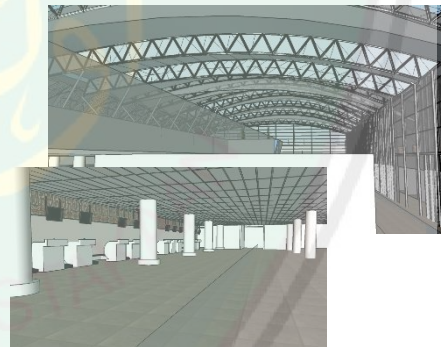


There are no buildings close to the international airport terminal, which makes the building a clear view from afar, which will witness changes from the surrounding range from the desert to the semi-city.

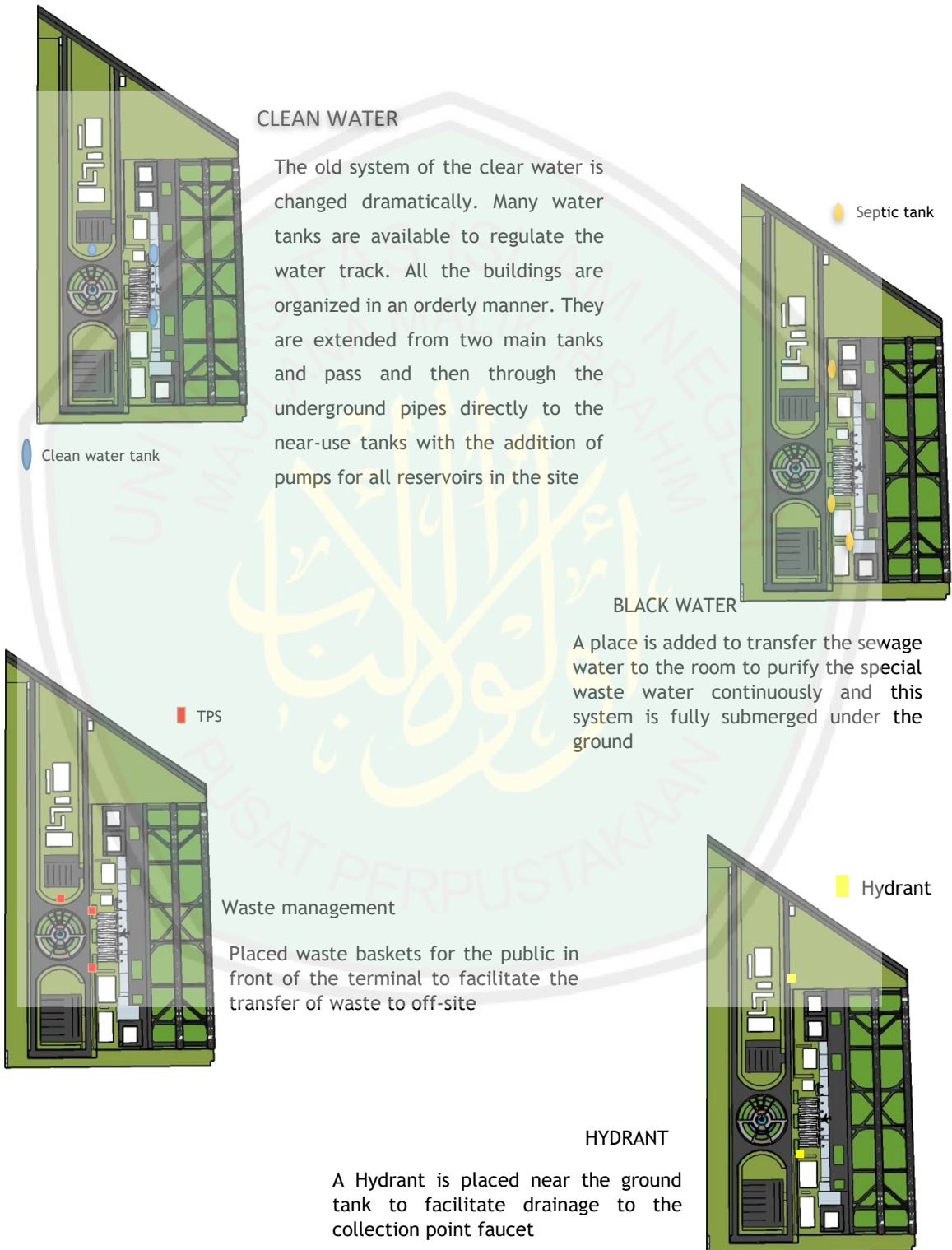


View out

Give a space frame structure with glass materials for the wall and roof to provide greater sunshine, and a balcony for rest and relaxation, with a large window in the flight rooms, as well as with a garden open in front of the main building where passengers can see outside each building clearly



4.6.6 Utility System

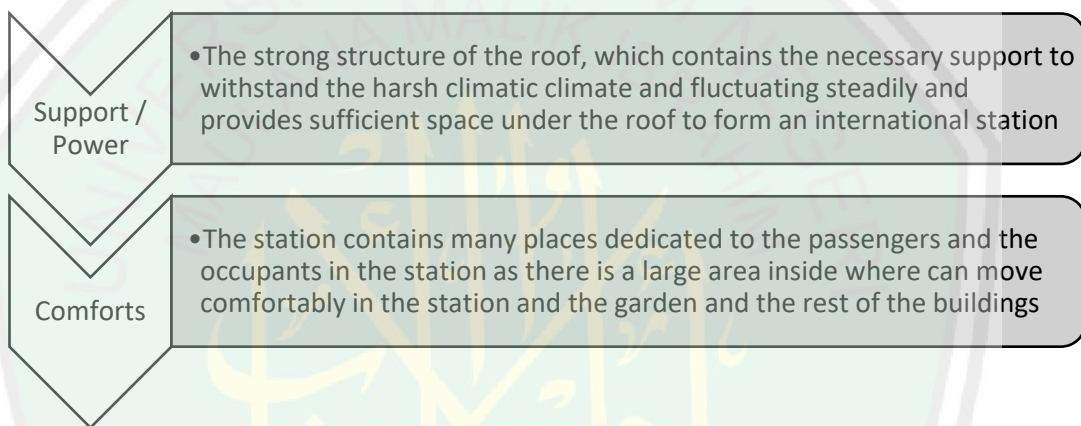


CHAPTER 5

CONCEPT

5.1.1 Basic concept

The basic concept of designing objects with enhanced construction support is the ongoing process between truss and architecture with the addition of an important element which is the strong structure to support the construction and structure of the structure to suit the needs of the airport and passenger crisis as it is large enough to travel more than a thousand passengers and has a strong structure to withstand the harsh desert climate with Wide architectural structure



Description

A, Strong & Resistance

This concept is applied through the structure of the powerful station which supports the strong of the architectural shape

The shape of the object is similar to the building structure, its shape resembling a faced structure Curved, while the shape is not necessarily an same because the roof is formed to suit all branches of the terminal

B, Wide

This concept is applied through the approach of the architect as the structure in the terminal building where a lot of varied activity within the station, the main building in the structure building ceiling design will be used as a master function management of the airport and in the trade where there are shops, restaurants, money exchange offices and pilots offices and also provides service and security and comfort for passengers , It

also happens to the hotel's guests, the passengers in the air lines and the airport residents,

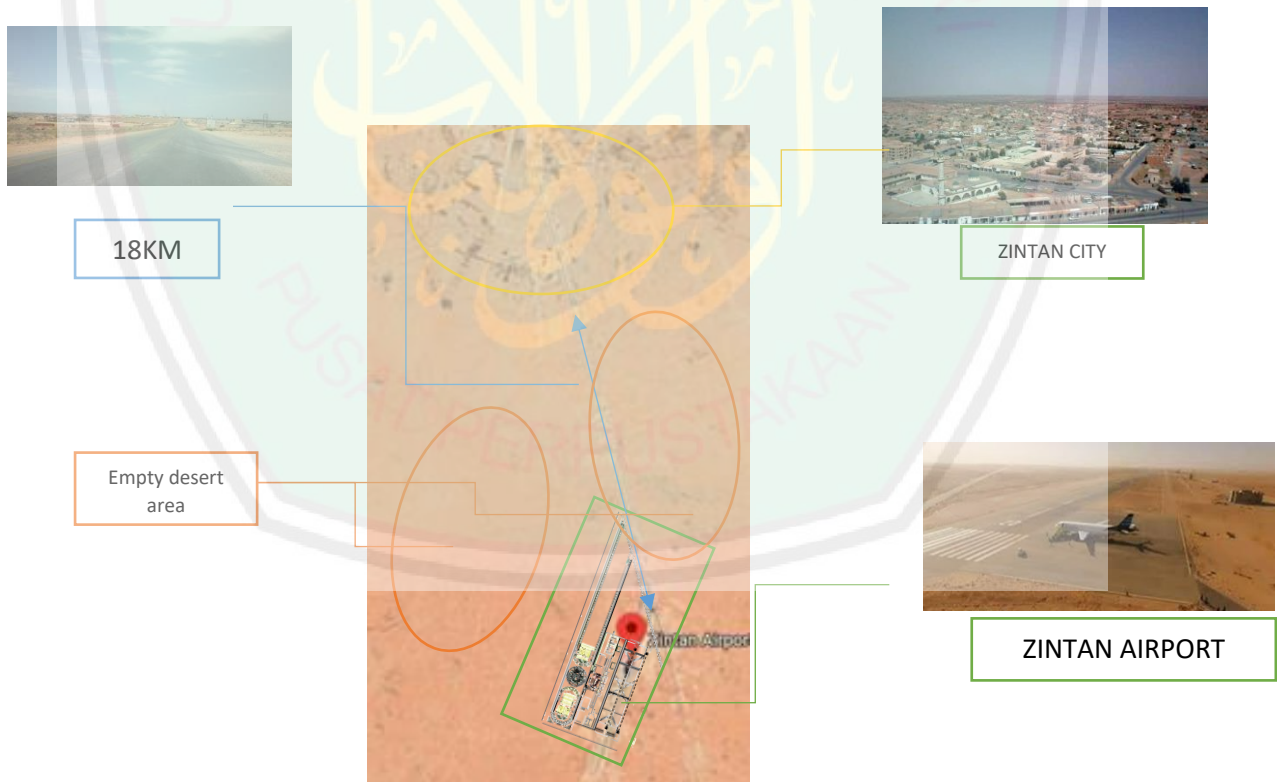
There are many entrances to the terminal, but the main entrance for passengers is located in front of the terminal where the park/garden surrounding the entrance In Front Of parking, It is the vanguard of the site for a comfortable feeling when entering or leaving the terminal,

The walls are composed of iron structure in the style of faced structure, which gives the feeling of the wide area of the station

5.2 Regional Concepts

In the region, the principle of the first concept, which is a strong and wide structure, is applied by following the structure as the architecture, so that other general people can travel better and more smoothly and comfortably, with the aim of spreading the love of traveling better than before. .

Using the structure approach as the architecture, the main terminal of Zintan International Airport Station can also be seen as a first of its kind in Libya. This applies to the principle of the concept of a strong and wide architectural structure.



5.3 Site Concept

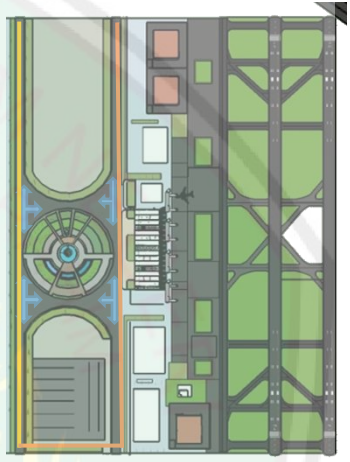


ORIENTATI

orientation the building that avoids sunlight while facing the main road to the airport, which has become an international airport terminal for the Zintan city, directing a building towards the city where the building is resistant to the climatic climate and is a form of application of strength and resistance, and provided a broad view towards the city

access and rotation

in this access and rotation application of the concept of comfort by providing free space for wandering and access in front directions sides and circulation that is available in front of the station and the adjacent building with two paths so that allows users to enter the aorta from the foot of the site that contains only one section

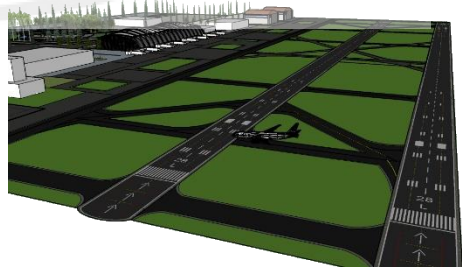


Constructed

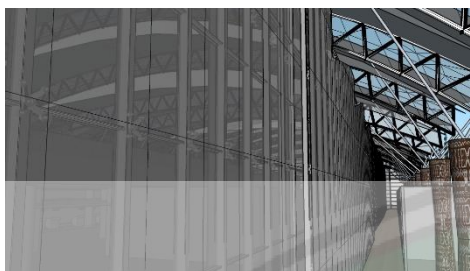
The site is decorated with an open space as a place for user interaction and garden area to relax the traveler, and the site is divided into two spaces in the middle of the park and station area

Runway

using the Linear concept with the Aircraft are parked alongside the terminal building in a line next to one another in nose-in, parallel or diagonal positions. The parking position determines to a great extent the overall length of the terminal to proportional with the stander runway of international airports This app applies with the wide concept.



5.4 Space Concepts

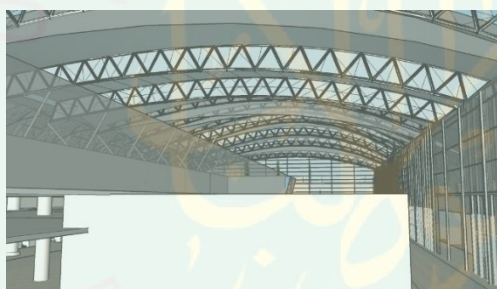
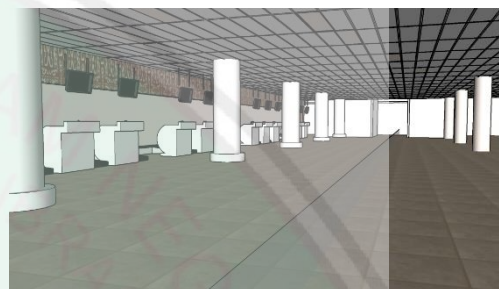


Interior

The interior is used in the terminal room. Show the internal structure of the station with the most important widening of the internal space, which applies with a wide and strong concept.

Interior

The importance of a wide range of ticket verification rooms to ensure the comfort of the traveler, which applies with a wide concept

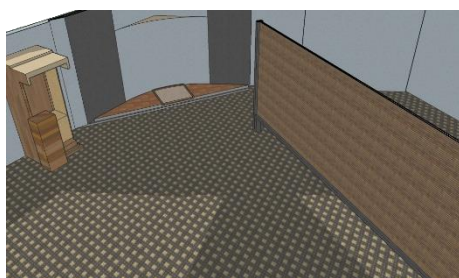
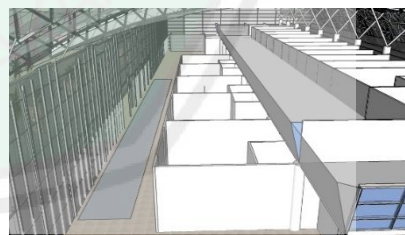


Materials

This dominant steel material is used in the structure, especially in heavy weight support to apply the concept of vomiting. And glass material for shading, interior and lighting, and the use of these materials aims to reduce the level of damage to the structure of the asylum factors, so that the application of comfort uses a broad and strong concept

Sectarian space

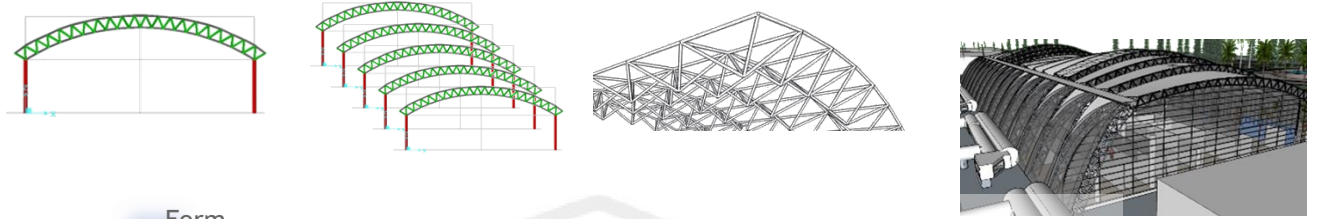
Providing an interaction space inside and outside the building using the structure space of the buildings and the main garden, and this is an application of the concept of spacious comfort, by giving the impression of comfortable travel for passengers through the wide available spaces,



Prayer room

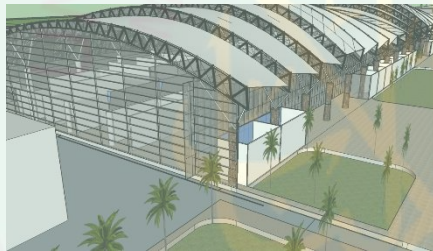
Providing an interactive space for prayer and worship inside the building using the building area of the buildings, which is an application of the concept of spacious comfort and the application of Islamic architecture inside the terminal, by giving the impression of comfortable travel for passengers through the wide spaces available,

5.5 Form Concept



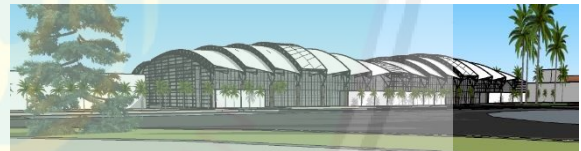
Form

The shape of the building includes an open space from the inside that works as an external space for the users of the main building, taking this model is applying a predatory study around the building by placing the arch of the structure the station building so that it is directed towards the ground



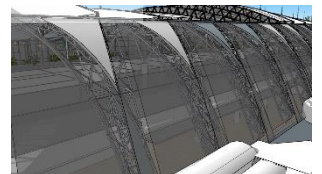
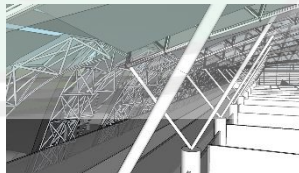
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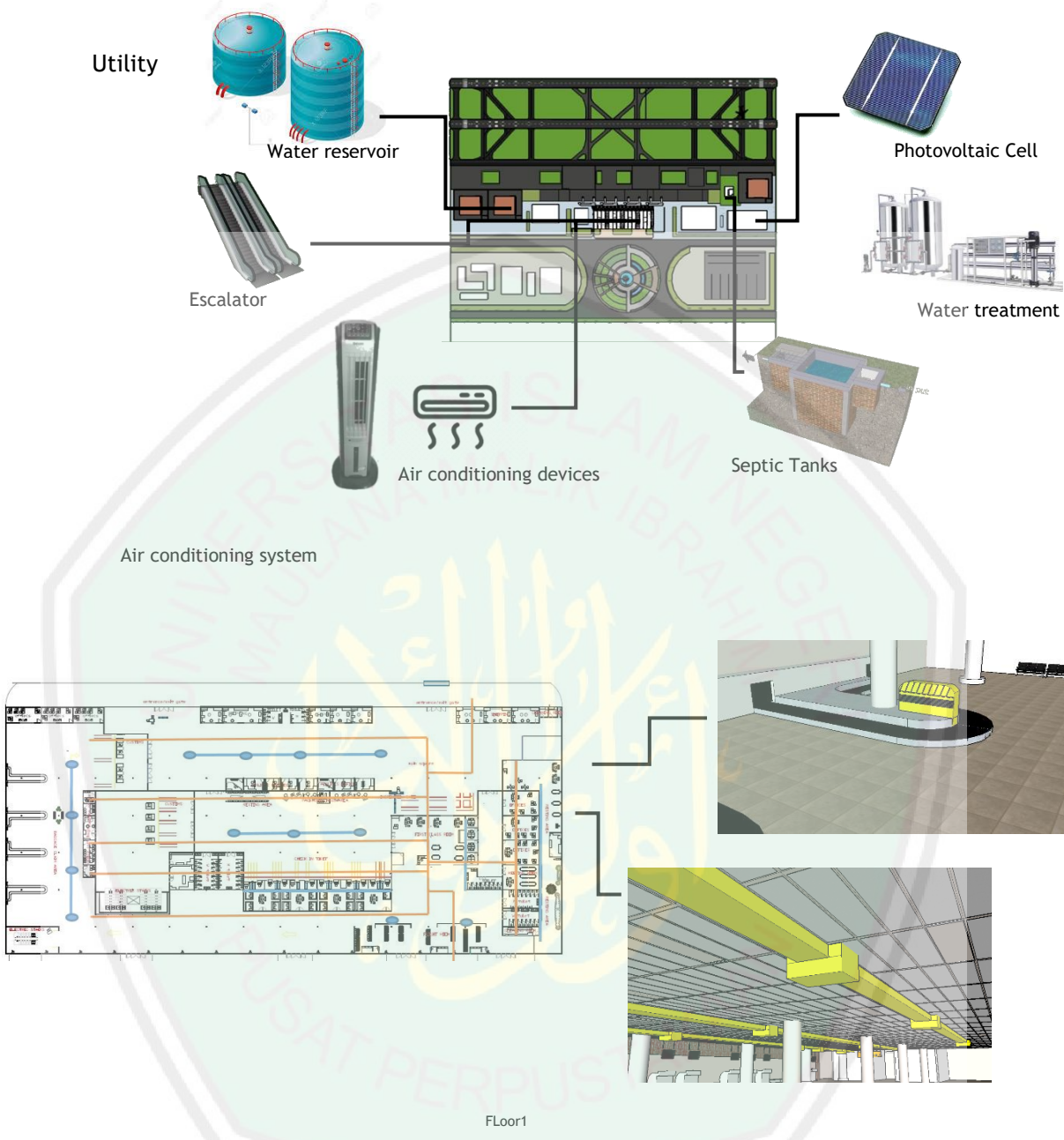
The building faced uses a structure that serves as an indication device that takes the form of the external building, and a picture of the station's shape where the front pillars of the station play an important role in showing the shape of the wall and ceiling structure.



Material

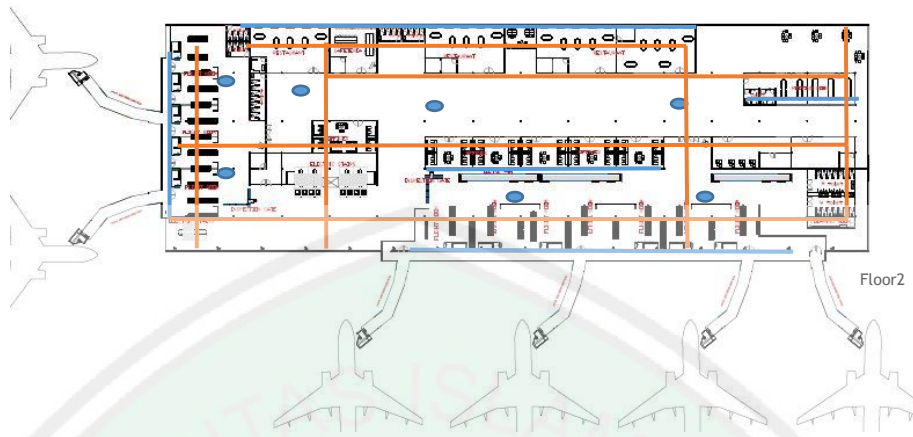
The material is used in the appearance of the dominant building with the glass that becomes the shading sector and some of the walls in the building that apply wide for comfort, while the columns are used concrete. The majority of the site is dominated by local materials, iron, glass and cement





It is the ventilation system for the terminal terminal's building, which is mostly used to continuously replace air. Which is proportional to the air cooling around the building, as the blue color shows in the top places of the air cooling machines and the orange color shows the air duct connected to the roof.

- Air conditioning devices
- Cold air ducts
- Air regeneration duct



In the second floor system, the same system is used, which is the ventilation system for the main terminal building of the airport, which is proportional to the cooling system itself shown in the figure above.

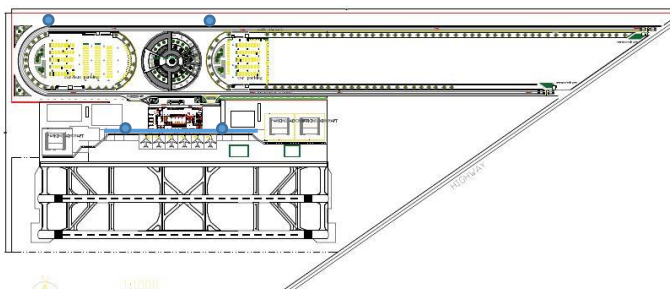
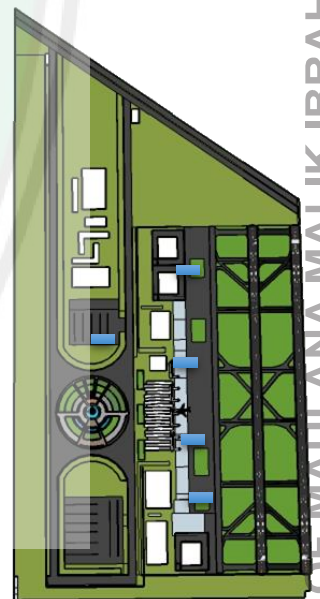
- Air conditioning devices
- Cold air ducts
- Air regeneration duct

Clean water



The clean water distribution system that uses the follow-up of the foam channels covered by the ground tank and the pump to the water tank for distribution over distances, can use more than negative water gravity systems inside the site

- Roof tank
- Ground
- Pump
- Main water pipe distribution
- Pipe distribution

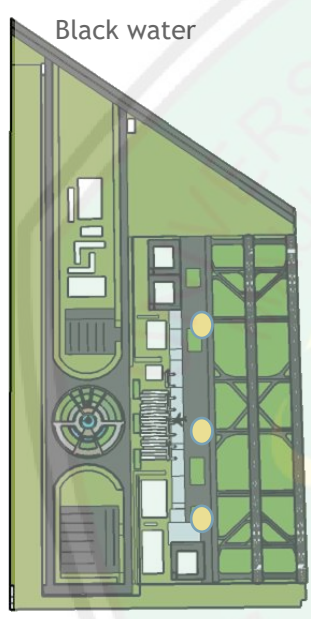


- Water treatment
- Water treatment

Reuse system



The system to recycle unclean water into clean that uses the follow-up of the covered foam channels four stores under the ground and the pump for the water tank for distribution through neighboring buildings, can use more than negative water gravity systems inside the airport ground



Black water

The unclean water channel was distributed to a separate tank factory after that it continued to receive well because of the pollution that could happen outside the site.



Infiltration
Sewer

Hydrogen

Hydrogen channels are defined in the ground approach to remove the water flow, where points are played points in the open fields at the front of the terminal the airport terminal.

Waste

Waste taken on the sides of the site and the construction side used as a garbage collection device and then in transportation by the officer through by the worker access



Hydrogen
Shelter garbage place

CHAPTER 6

DESIGN RESULTS

6.1 Basic Design

International passenger terminal airport in zintan city With structure as architecture approach has a design idea that aims to build a comfortable, spacious and safe building by combining the structure and architecture. From the results of combining the concept of the broad and strong, and therefore design can be able to solve the various types of problems that exist there, and of course the results of this design start from the analysis that was done, then to the concept of design, after that, we will move to the results of architectural design and scale.

With, this terminal aims to facilitate travel in other countries, so it also significantly depresses the economy in terms of work, trade and tourism in general.

6.2 Application of Concepts

The "wide and strong" was considered to be the basic concept of designing the international airport terminal of Zintan in an early form so far, and with some of the side architectural additions to attract travelers and travel and tourism companies. So that the implementation of this design indicates the values as follows:

1. Form
2. Trading and access
3. Structuring of buildings
4. Proportion between structure and architecture

6.3 Design Results

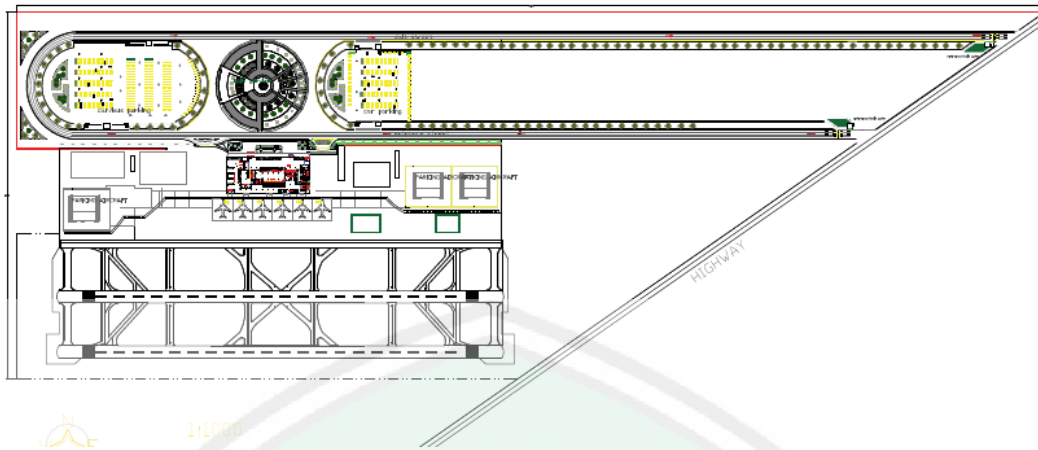
The results of the design of the former Zintan International Airport station with the approach to the structure as well as the architecture included three parts of the design, namely the design of the region, the building design and the interior and exterior design.

1. Regional design results

Inside the site gives priority to the circulation of passengers and passengers pedestrians by dividing the parts of the station and placing the car's rotation in front of the main building. With the addition of landing areas for a car and a bus on both sides of the main building, there is a pedestrian turnover that also acts as a speed shock so that the cars are more careful. In order to be able to offer ample comfort, the front garden was given a lot of shade trees and in the gardenland. The sidewalk in the garden is also made to resemble a floor, but with drawn concrete materials and a medium size.

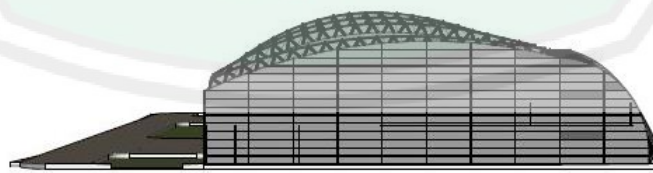
In the front area of the site there is also a fast car park that is used for visitors who come only to the dining hall or to the mosque only, and there is also a parking for the staff and bus.



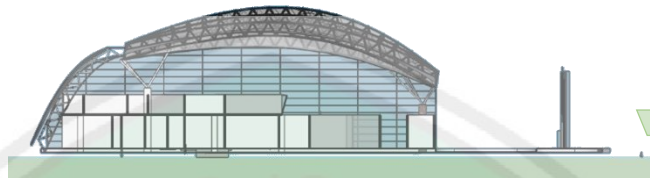


Lavout plane

Zintan is a city located in the mountains and semi-desert, and therefore the shape of the building resembles a mountainous desert silhouette and wide-spread, but there is an adjustment in the form that was emphasized to resemble the shape of the arched structure. The front end uses a structure (the structure is coated with glass), and reflective glass windows. The colors used are the same plants, so it is considered important to increase the plant to reduce desert dust.



FRONT. SIDE VIEW



FRONT, SIDE BUILDING SECTION

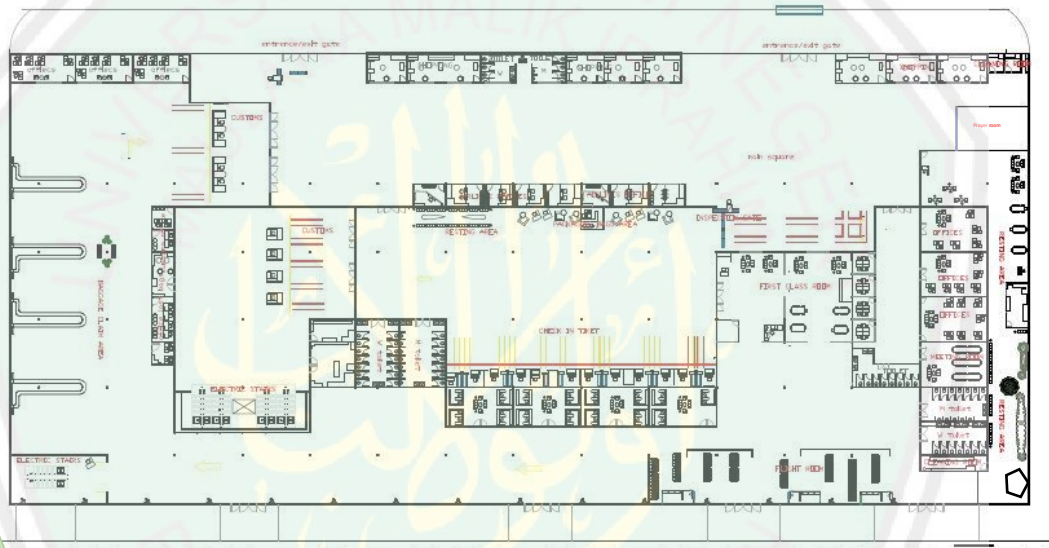
2. Building Design Results

The terminal

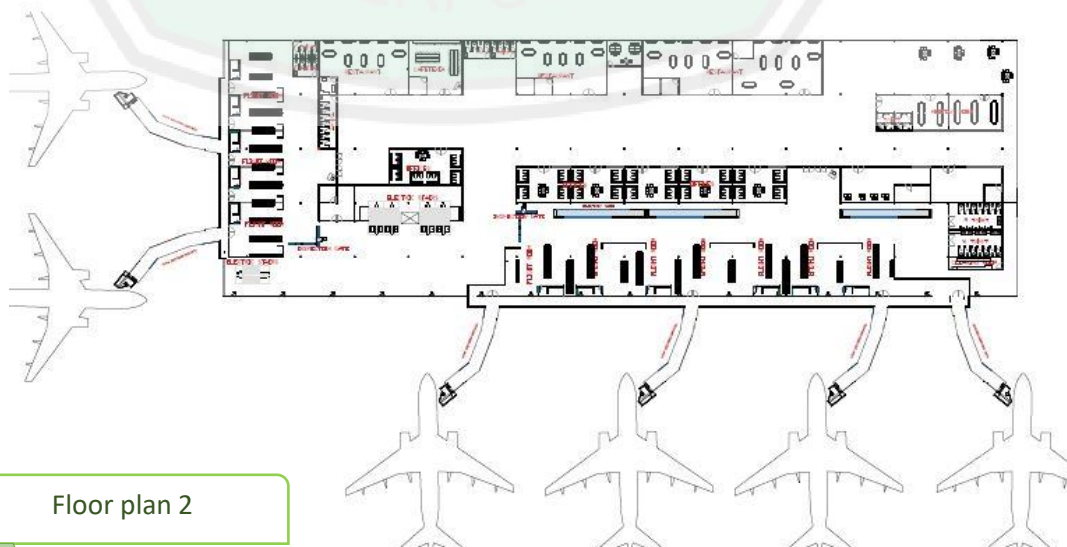
The plan of the international airport terminal of Zintan is designed according to the climate conditions for the city of Zintan, starting with the diversity of seasons during the year. In the interior circulation forum, it is a warm room during the winter and cool during the summer, along with the presence of additional plants around the building as a support for the atmosphere. The front circular garden, which is the green area where there are places for rest and hiking after the hassle of traveling. As a terminal supporter, the plant is made like a giant structure, and the interior design is made like a universal station. Inside the terminal, newly arrived passengers will have access to hall 1 that contains some shops and airline offices. And in the next hall for passengers there are check-in offices, registration and registration of tickets. Baggage checkpoints are always between the lounges. Then there are information offices and baggage desks, and after recording travel, there are customs to verify passports, and then to the second floor where there are departure halls and on the other side there are areas for receiving bags and then go out or go to the transit area. Also on the second floor there are some restaurants and work offices.

3. Responsibility to environment surrounding

Some of the facilities inside the terminal are designed to keep the environment surrounding the airport, such as rain water channels that transport rain water to stations that recycle the water and to watering tanks for watering the trees of the park. There is also a density of trees inside the airport to keep the pure oxygen and it also preserves the lack of environmental pollution. The walls around the airport site provide a tang noise for aircraft and public vehicle engines



Floor plan 1



Floor plan 2



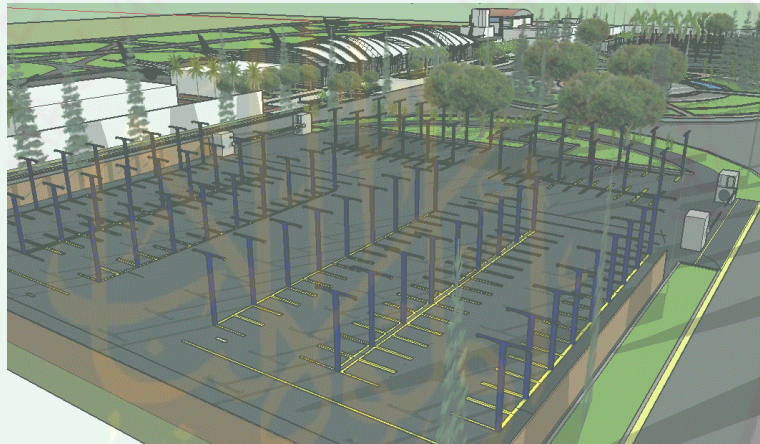
Regional Perspective

Regional front / side view

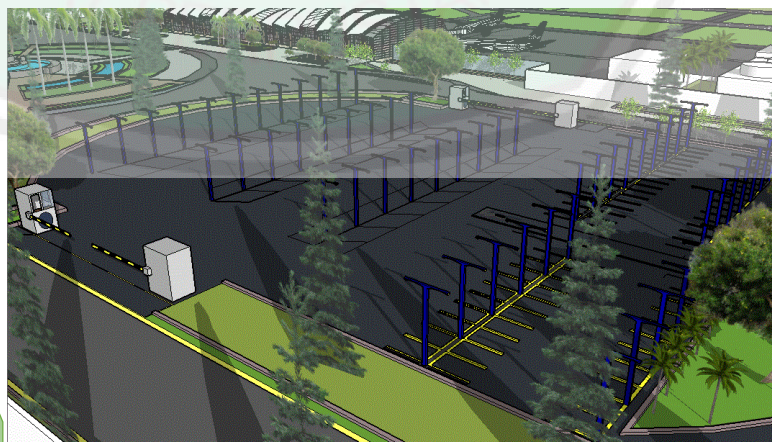




Front terminal Perspective



Passenger parking Perspective

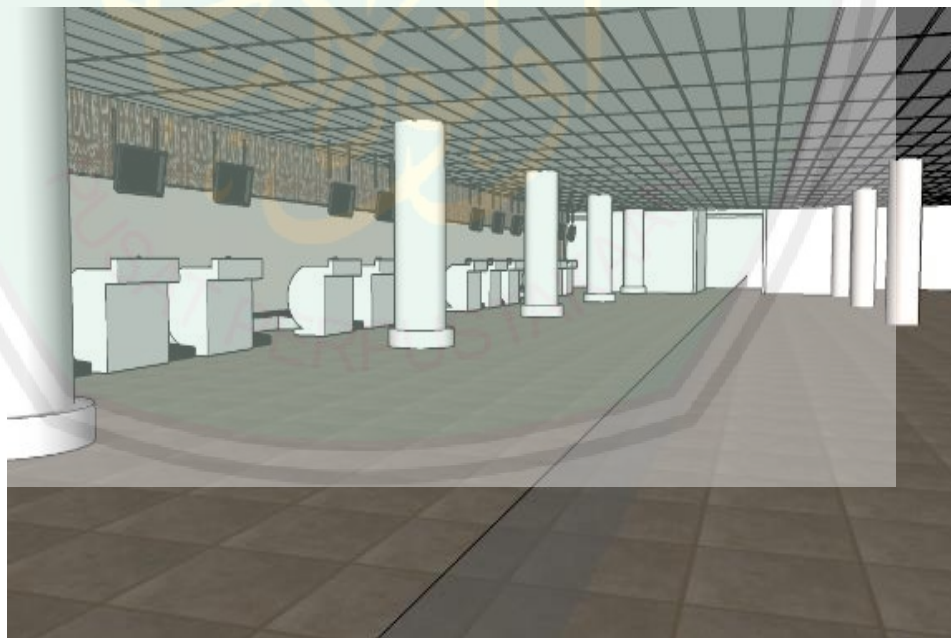


Bus / workers parking Perspective

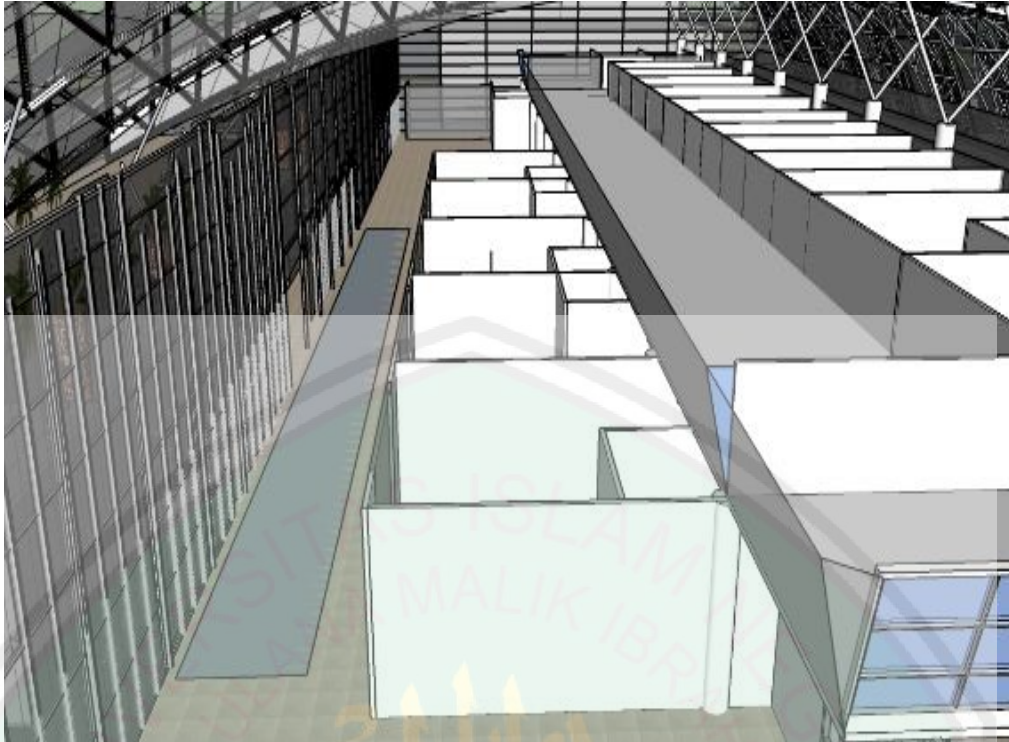
Regional front / side section



Perspective interior check-in hall

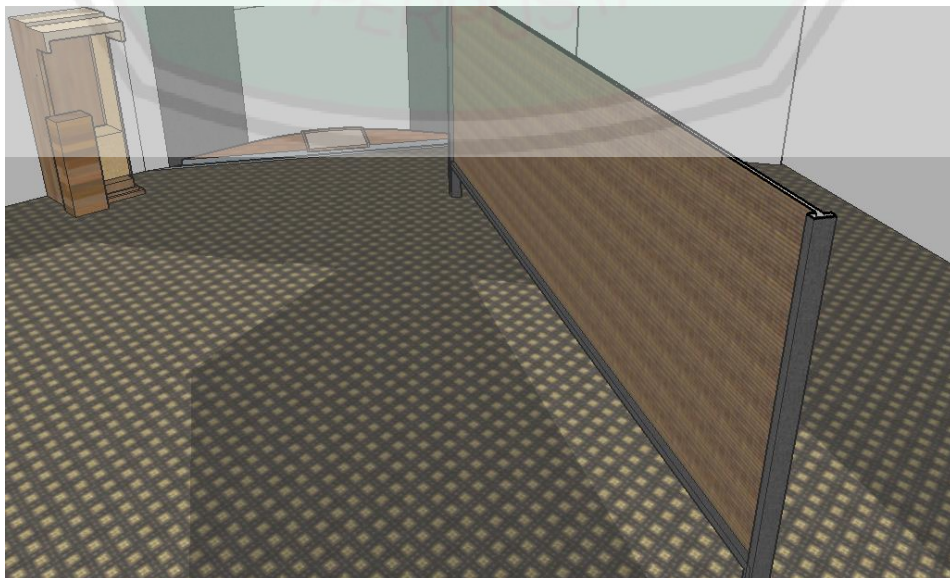


Perspective interior



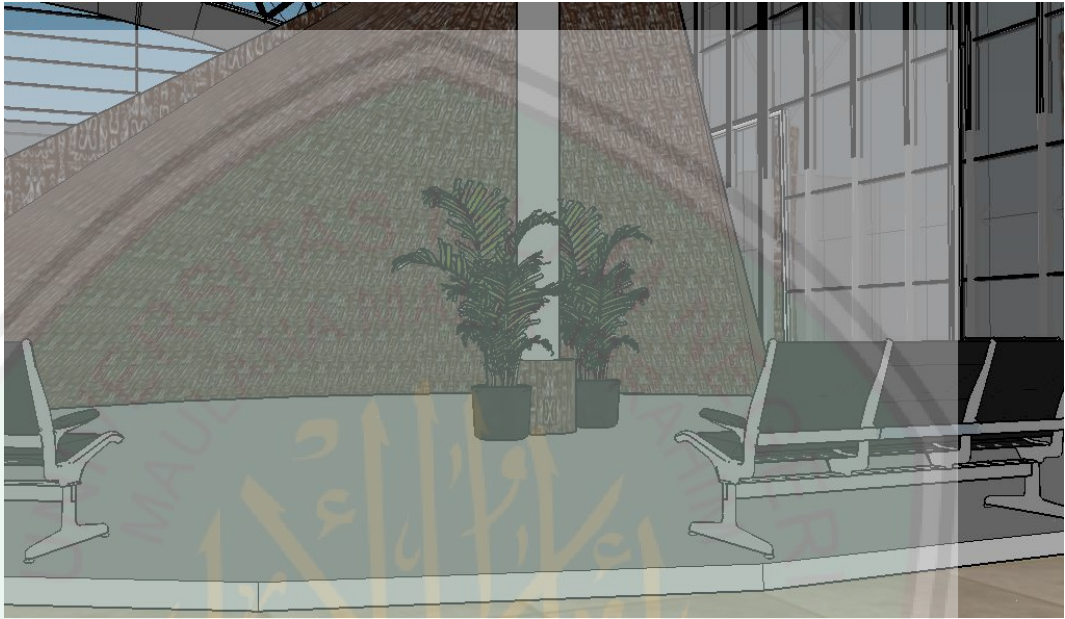
Prayer room located at the far right of the airport station, which applies Islamic architecture. This prayer hall is divided into two halves, where the right-hand half is for women and the left for men. There is also a bathroom and a place for ablution beside prayer.

Prayer room interior



The facility for resting passengers is within circulation inside the airport terminal, which provides a different place within the first public hall, which resembles the shape of the traditional Libyan tent,

Resting facility



CHAPTER 7

CLOSING

7.1 Conclusions

In order for the city of Zintan to improve in general in many ways Like improving travel for travelers for treatment Or study or tourism to other countries Or trade and to support the economy It is important to facilitate and simplify travel to the general public in the city of Zintan, It is hoped that the Zintan International Airport terminal will help in facilitating greater travel and strengthening the economy

7.2 Suggestions

Writing a research report on the Zintan International Airport terminal design with the structural approach as well as the architecture is expected to serve as a reference dam that could be of benefit to the relevant parties. This report is far from perfect, and therefore there is a need for criticism and suggestions to improve the future.

The weakness of the author lies in the search for the basic forms used, because the city of Zintan itself does not yet have the distinctive architecture of the city, and therefore there are still many forms that correspond to this design.

An understanding of the more detailed shape and characteristics of the city of Zintan will be an introduction to the future. The economy and infrastructure with characteristics of the city of Zintan are expected to be further developed.

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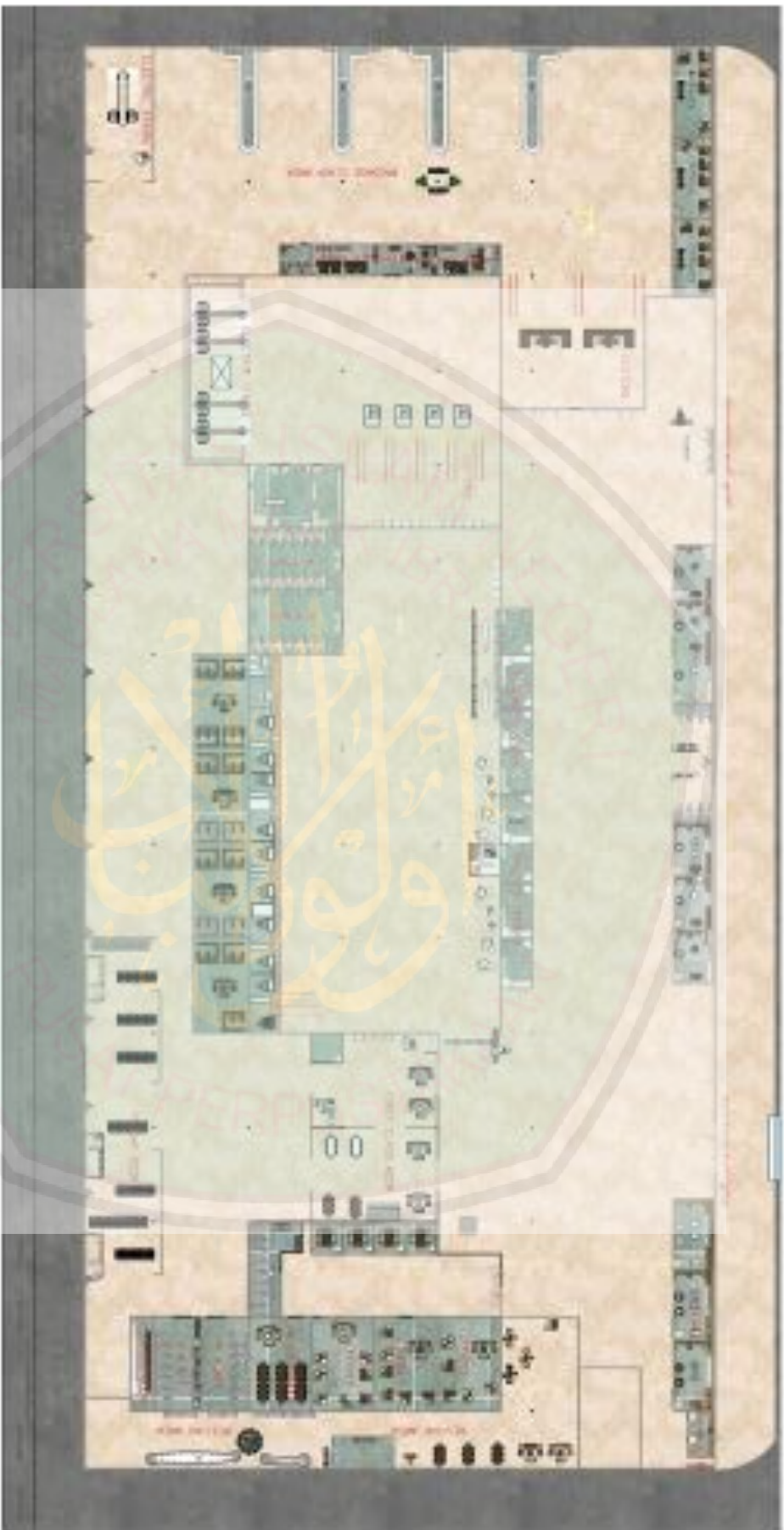
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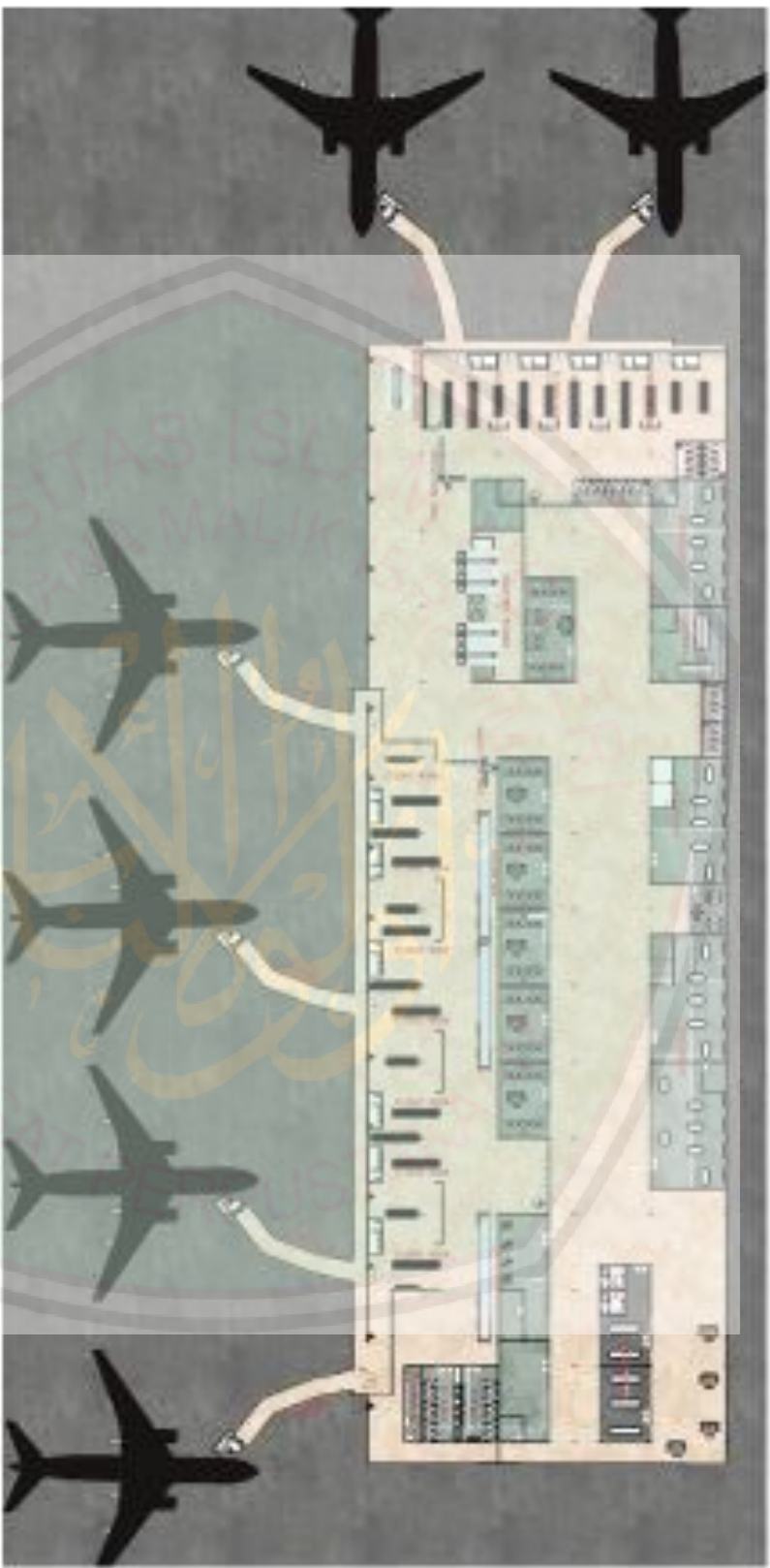
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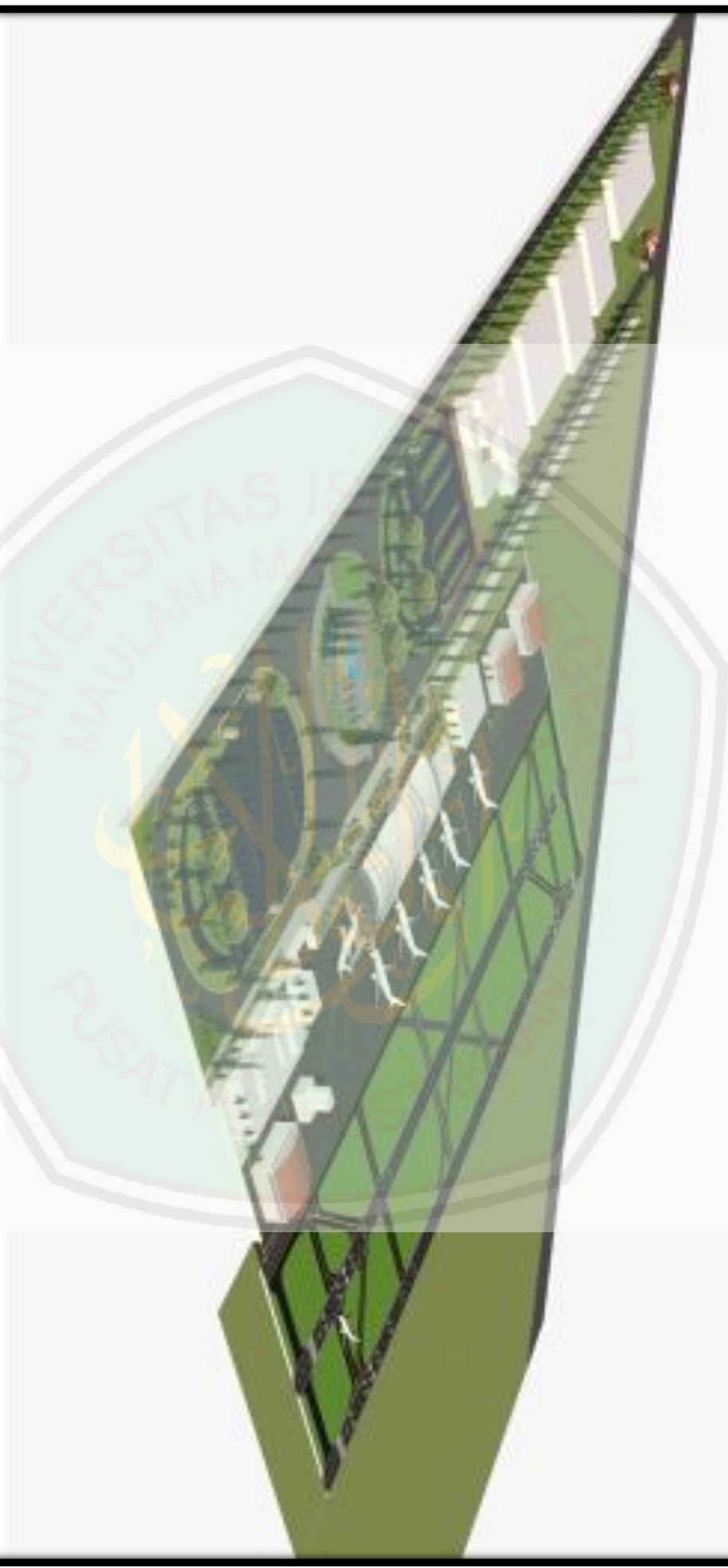




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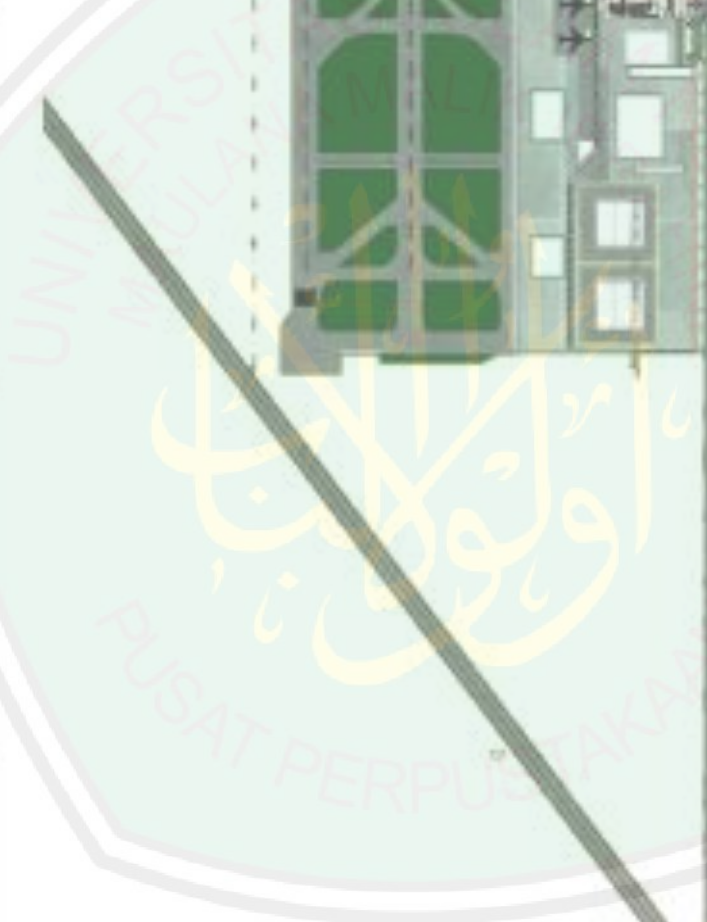
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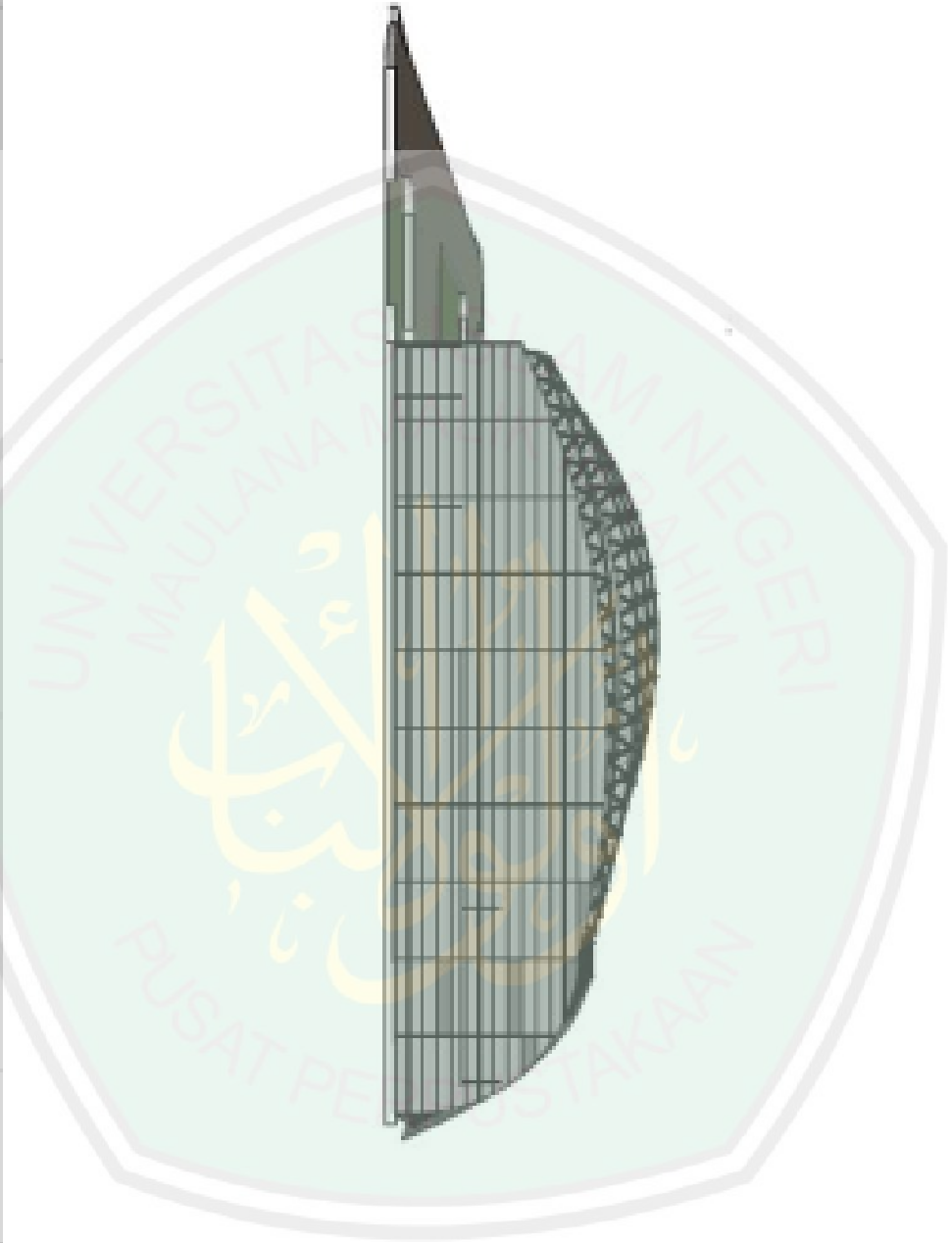


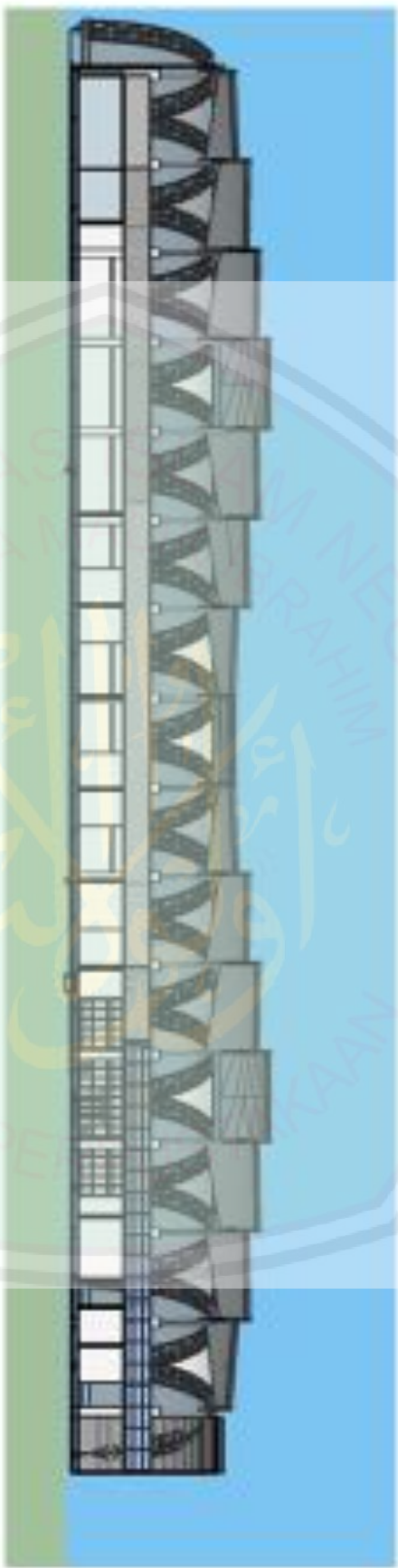
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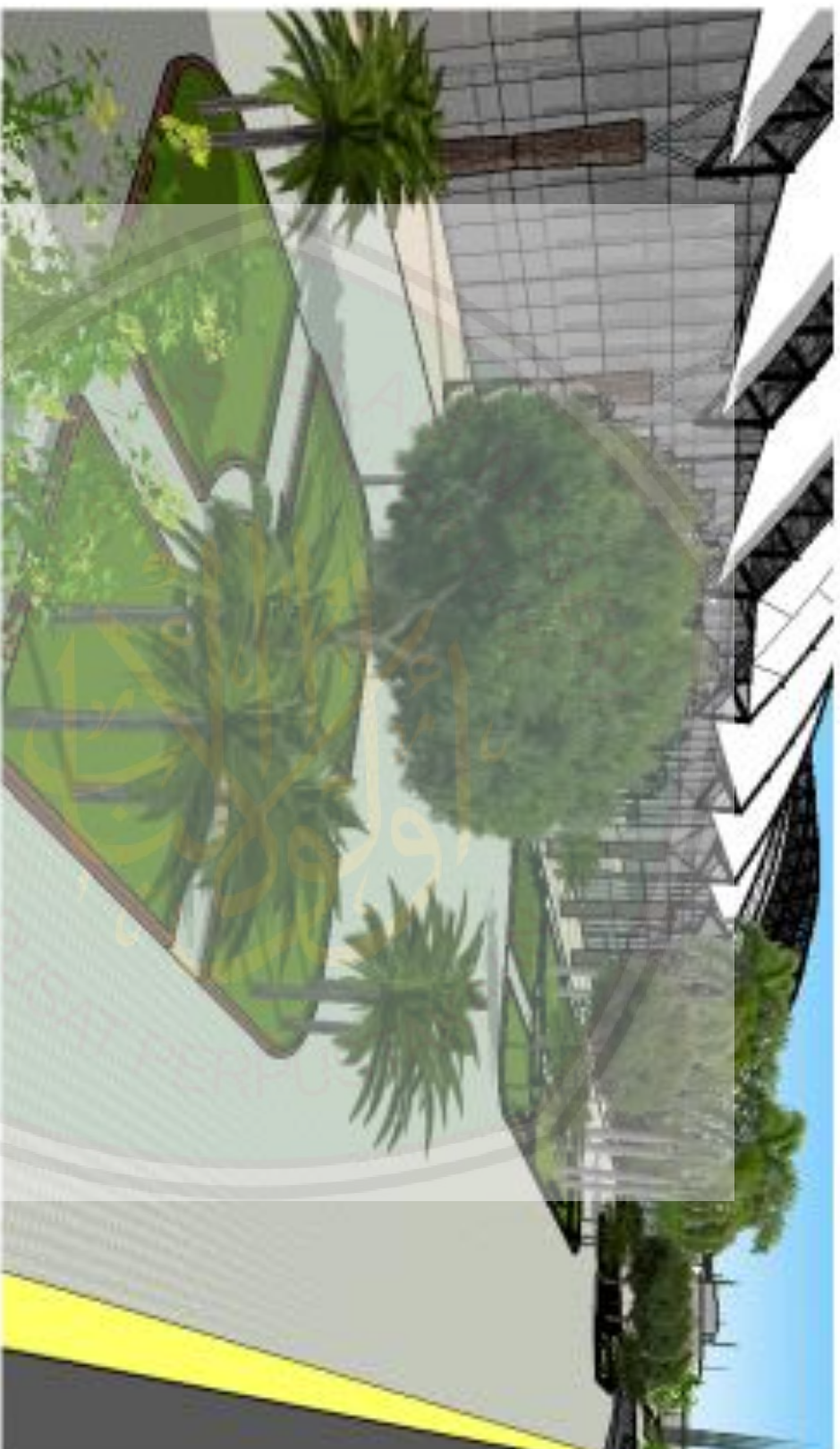




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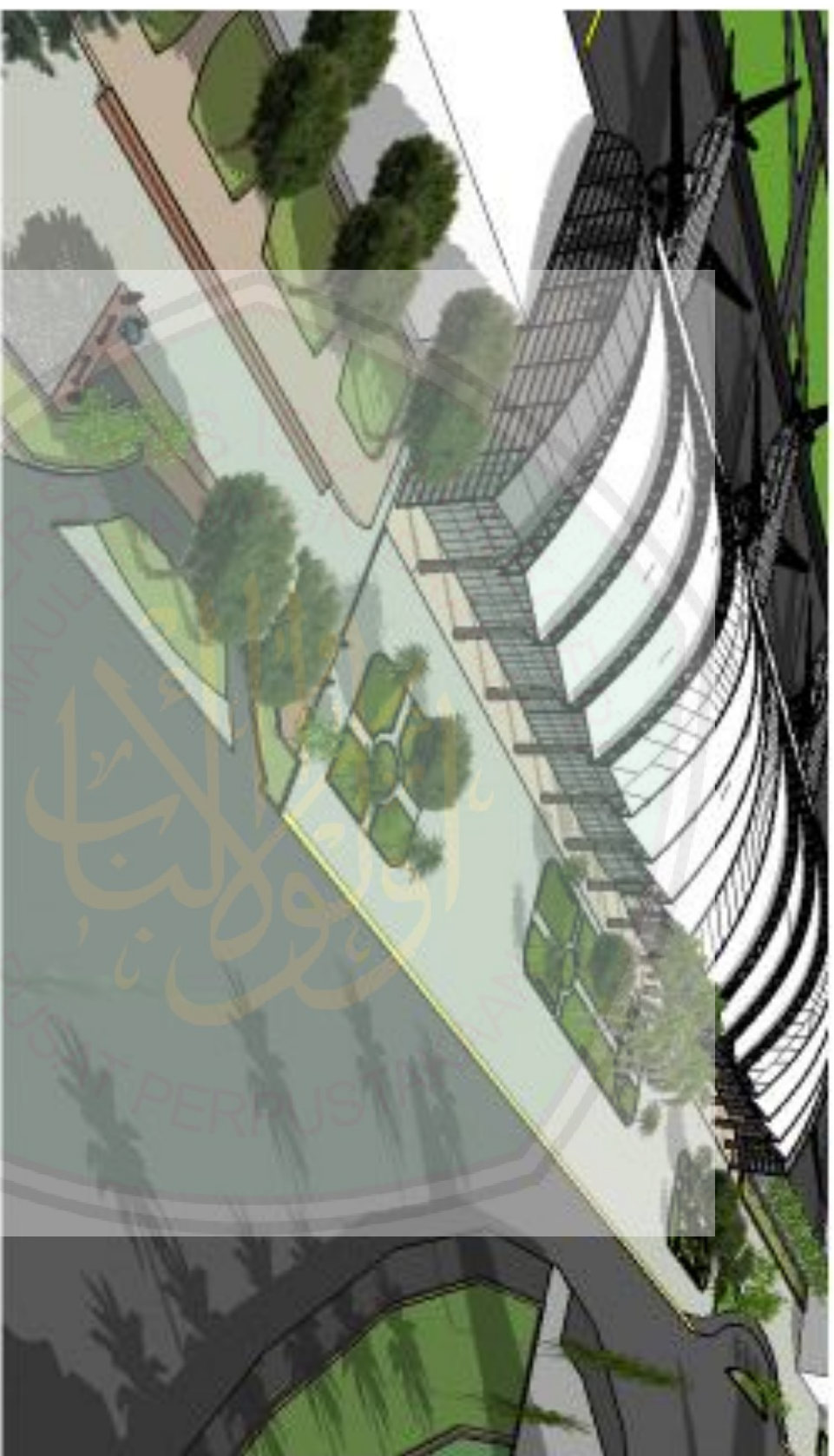
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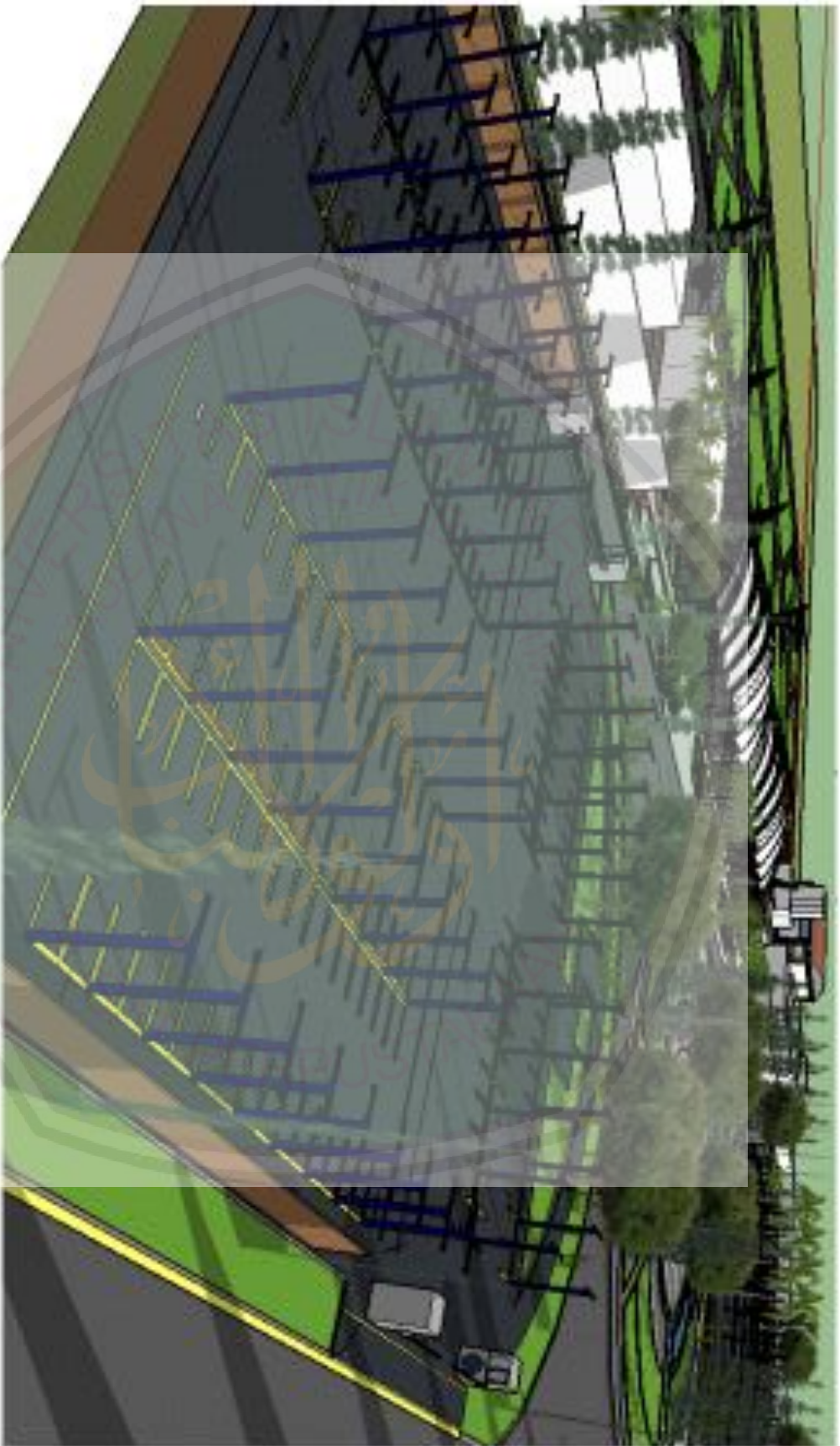
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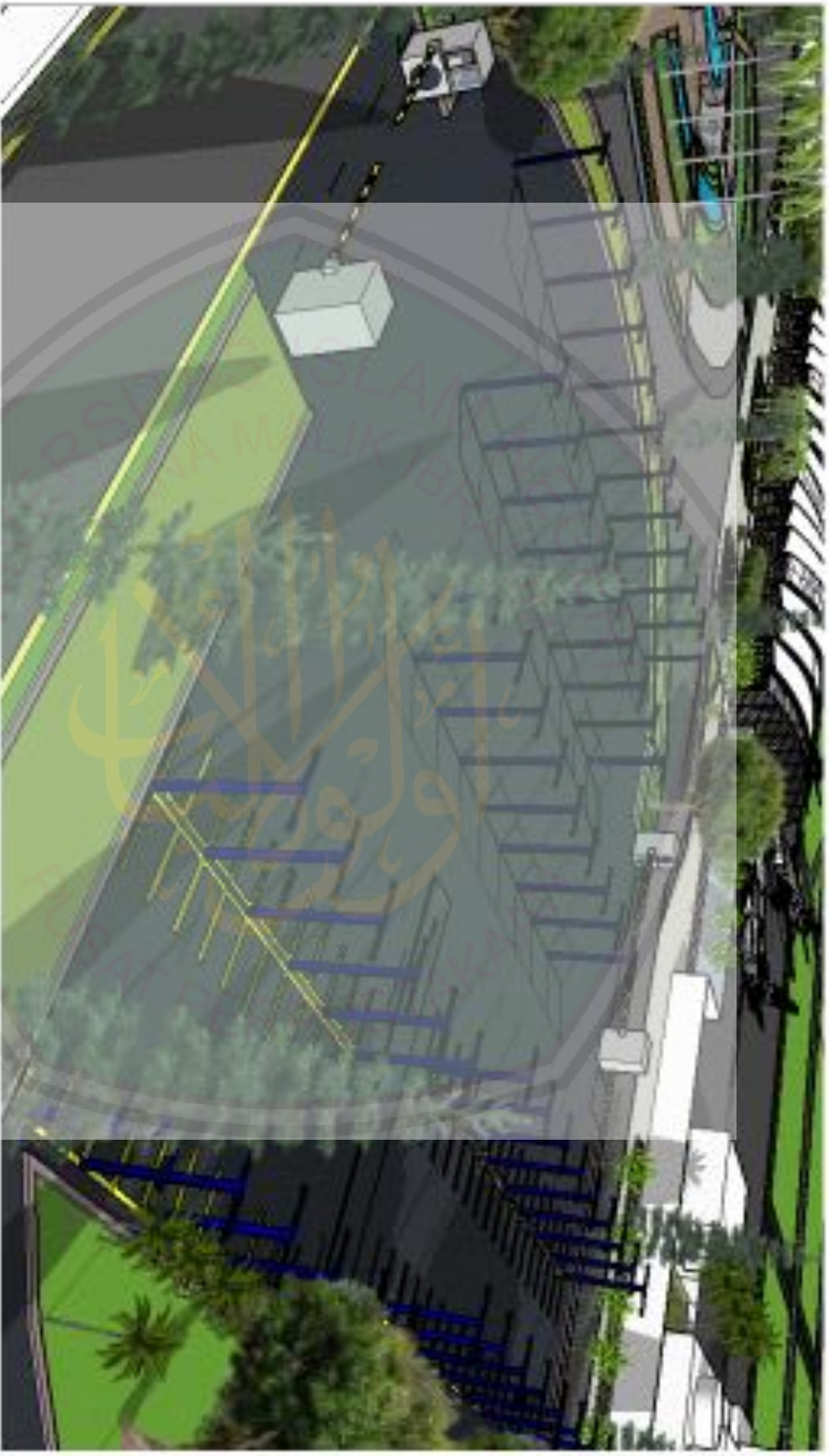
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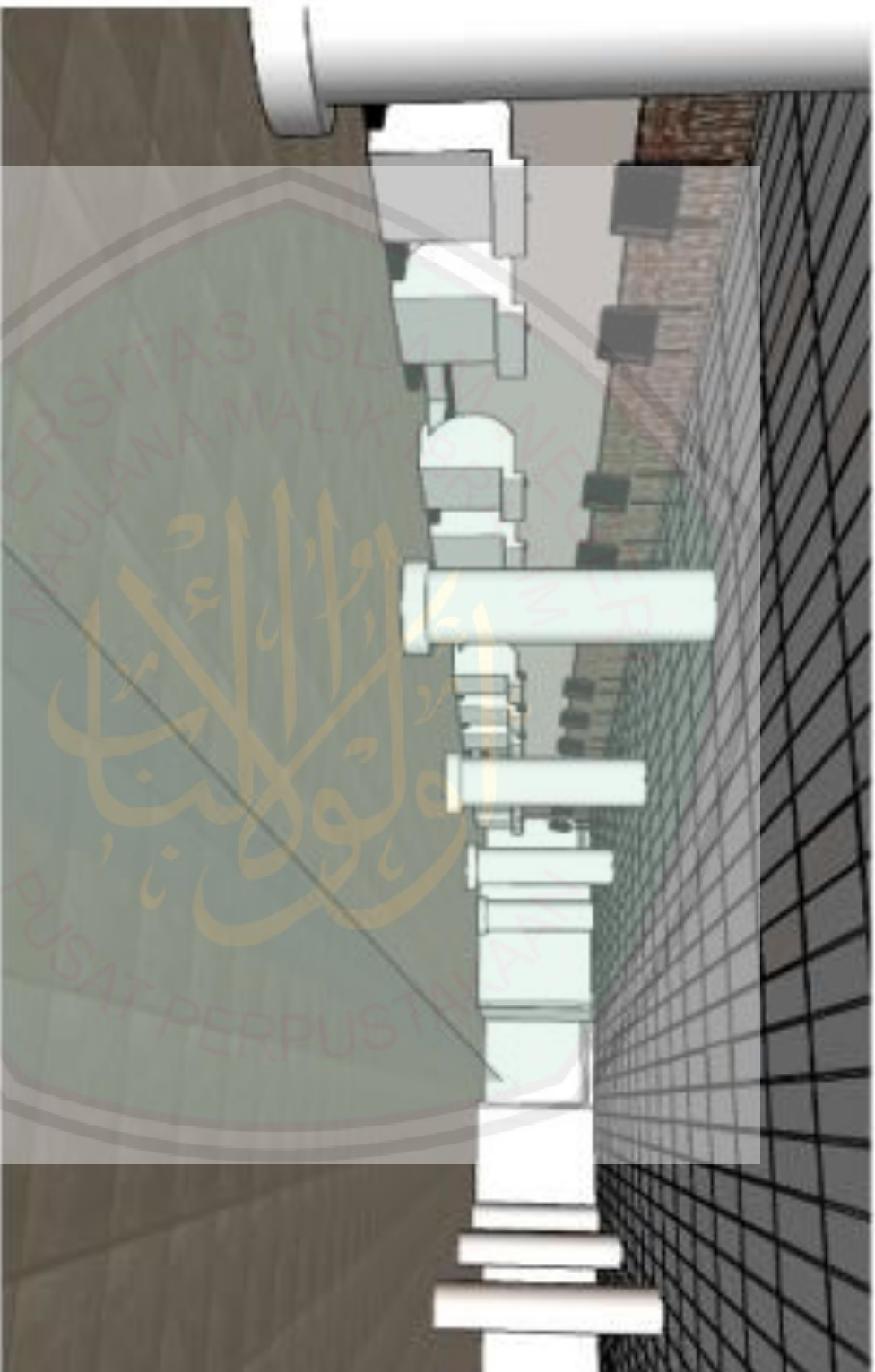
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	DOSEN PEMBIMBANG			



JURUSAN ARSITEKTUR	FAKULTAS SAINS DAN TEKNOLOGI	DOSEN PEMBIMBANG	NAMA TA KULIA TUGAS AKHIR	JUDUL TUGAS	Nomor/No. Abstrak / 19080114	DOSEN PENJAJI	HASILAN
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FAKULTAS SAINS DAN TEKNOLOGI	MATA KULIAH TUGAS AKHIR	JUDUL TUGAS:	Nama/Nim Ade Nur / 19060114	HASILAN:



FAKULTAS SAINS DAN TEKNOLOGI		NAMA KULLIA		FACULTY STUDENT		Nama/Nom. Abstrak / 15090114		HALAMAN	
JURUSAN ARSITEKTUR		TUGAS AKHIR		DOSEN PEMBIMBING		DOSEN PENJAJI			



FAKULTAS SAIN DAN TEKNOLOGI
JURUSAN ARSITEKTUR

MATA KULIA
 TUGAS AKHIR
 DOSEN BEMBRANGAN

Judul Tugas:

Nama/Nim.
 Adhena / 15900114
 DOSEN PENGUJI

HALAMAN



FAKULTAS SAIN DAN TEKNOLOGI
 JURUSAN ARSITEKTUR

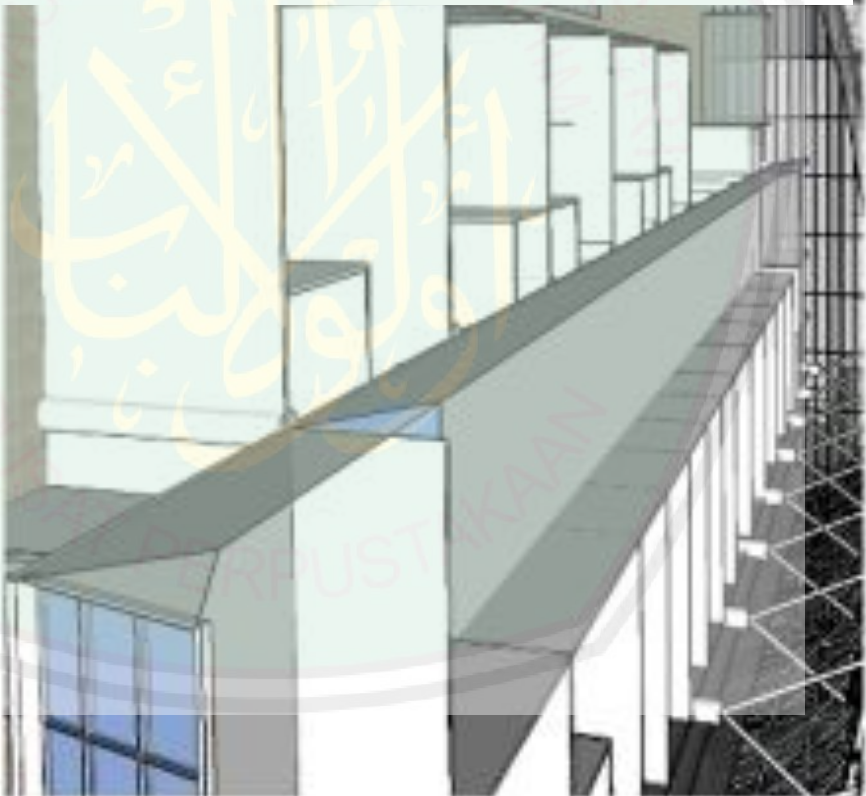
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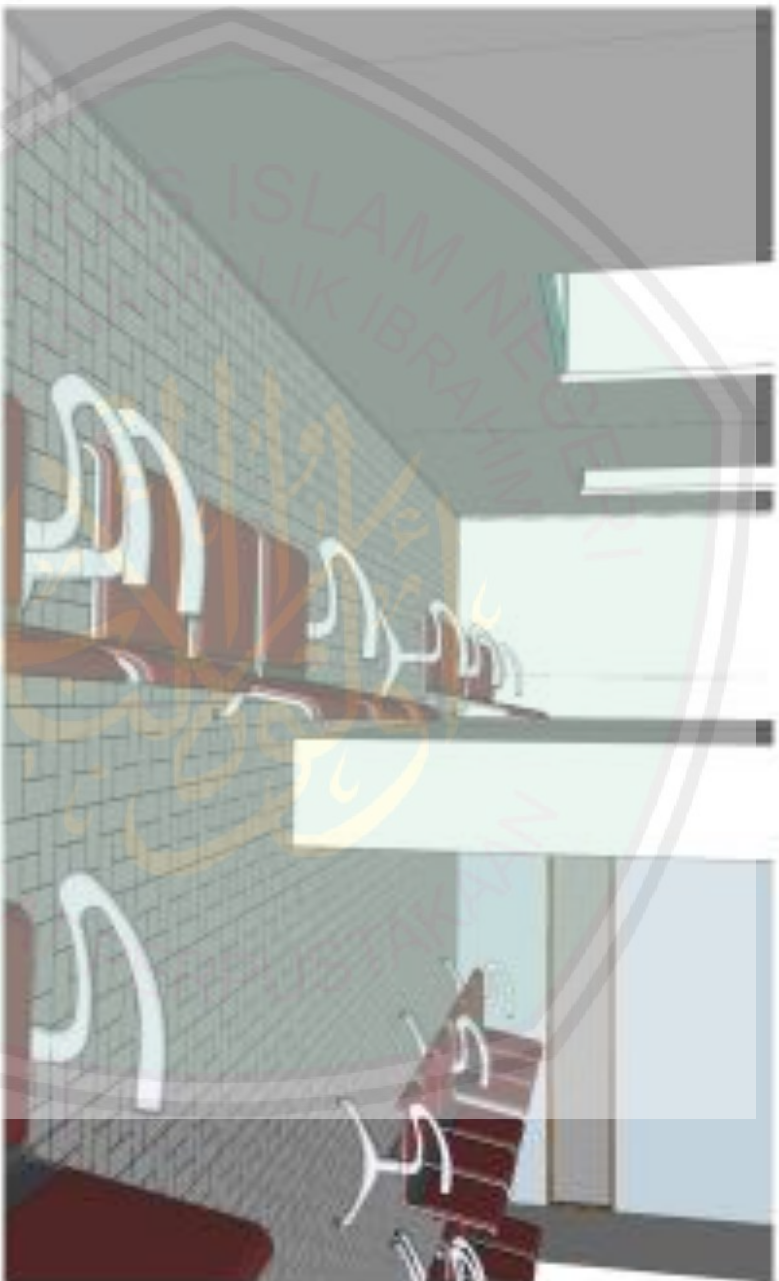
JUDUL TUGAS:


Nama/Nim.
 Adhena / 15900114

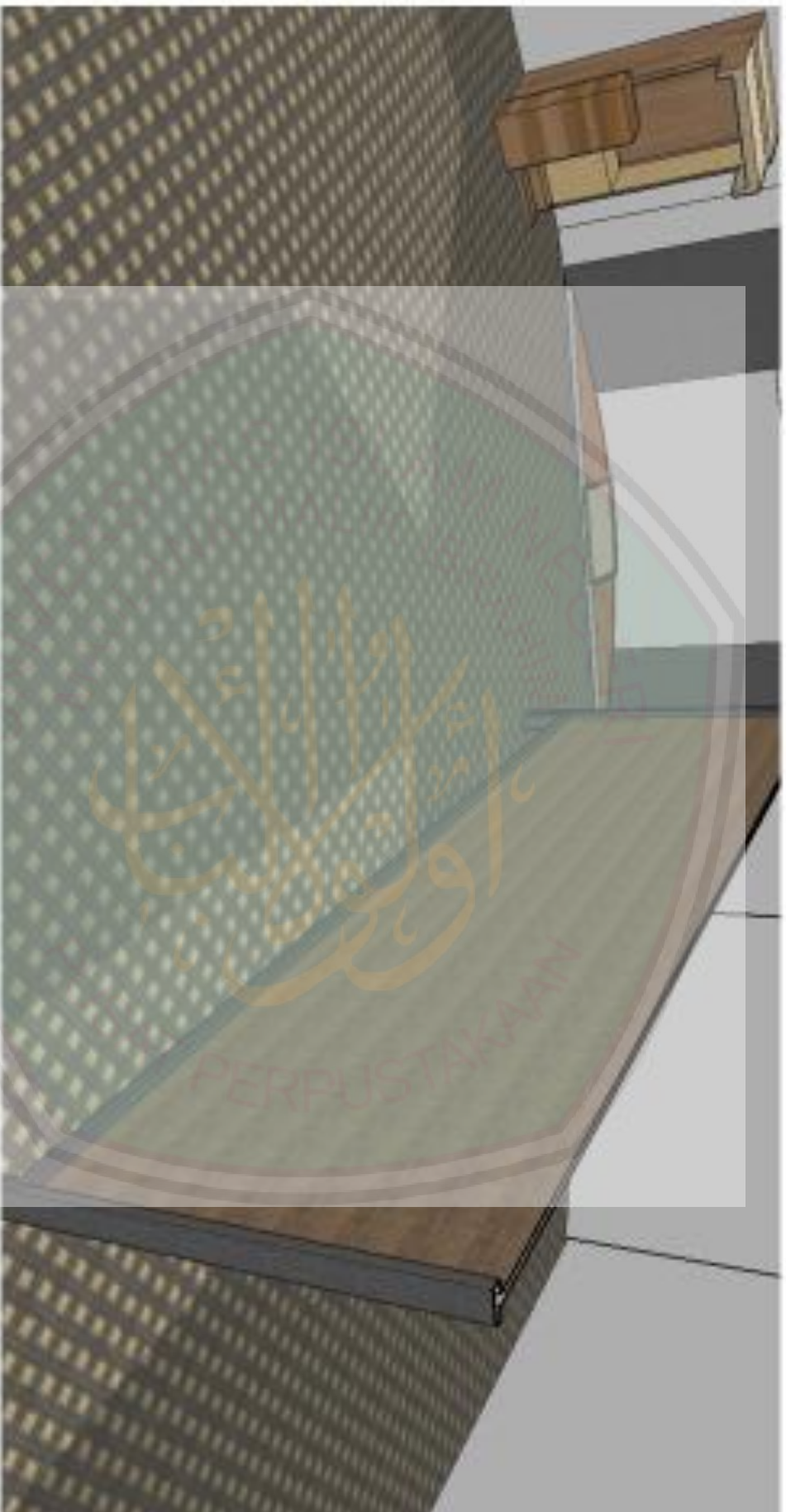
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HALAMAN





	FAKULTAS SAINS DAN TEKNOLOGI		MATA KULIAH TUGAS AKHIR	DOSEN PEMBIMBING	JUDUL TUGAS	Nama/Nom. Absen/No. / IDNOG118		Materi
	JURUSAN ARSITEKTUR					DOSEN PENYULUH		



FACULTAS SAINS DAN TEKNOLOGI		MATA KULIAH		TUGAS AKHIR		DOSEN PEMBIMBING		DOSEN PENJAJI		HALAMAN			
JURUSAN ARSITEKTUR		FACULTY OF SCIENCE		PERPUSTAKAAN		ANANTA KULLIA		TUGAS AKHIR		DOSEN FENJAJI			



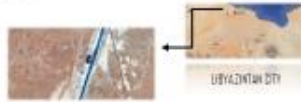
FAKULTAS SAINS DAN TEKNOLOGI		MATA KULIAH		FACILITATOR		Nama/Nom		HASIL
JURUSAN ARSITEKTUR		TUGAS AKHIR		DOSEN PEMBIMBING		Alat/No. / 19901118		
						DOSEN PENJAJI		

DESIGN INTERNATIONAL PASSENGER TERMINAL AIRPORT IN ZINTAN CITY

WITH STRUCTURE AS ARCHITECTURE APPROACH



LOCATION



Zintan is one of the cities of Libya and it is located on one of the peaks of the western mountains, 126 km southwest of the city of Tripoli, which is located in the center of the western mountain. This airport terminal is located 10 km south of the city of Zintan.

APPROACH

The application of architectural structure is not the final stage of the design process; with the importance of structural analysis, it is a tool used to support the design process. The main purpose of applying architectural structure is to take the structure forms to suit the shape of architectural design. As a result of the structural application of the architecture in the small forms of the structure that works the design of the overall building form is completed.

TERMINAL

ENTER/EXIT GATES

FRONT GARDEN

PARKING CAR

RUNWAY

PARKING STAND

PARKING PLANE

SITE



ARCHITECTURAL DRAWING

Description

Strong & Resistance
This concept is applied through the structure of the powerful station which supports the strong of the architectural shape. The shape of the object is similar to the building structure. Its shape resembling a faced structure. Curved, while the shape is not necessarily as same because the roof is formed to suit all branches of the terminal.

Wide
This concept is applied through the approach of the architect as the structure in the terminal building where a lot of varied activity within the station. The main building in the structure building ceiling design will be used as a master function management of the airport and in the trade where there are shops, restaurants, money exchange offices and pilots offices and also provides services and security and comfort for passengers. It also happens to the hotel's guests, the passengers in the air lines and the airport residents.
There are many entrances to the terminal, but the main entrance for passengers is located in front of the terminal where the park/garden surrounding the entrance in front of parking. It is the vanguard of the site. For a comfortable feeling when entering or leaving the terminal.
The walls are composed of steel structure in the style of faced structure, which gives the feeling of the wide area of the station.

concept

Basic concept

The basic concept of designing objects with enhanced construction support is the ongoing process between Truss and architecture with the addition of an important element which is the strong structure to support the construction and structure of the structure to suit the needs of the airport and passenger crisis as it is large enough to travel more than a thousand passengers and has a strong structure to withstand the harsh desert climate with Wide architectural structure.



Support/Power

The structure of the roof, which contains the necessary support to withstand the harsh desert climate and fluctuating strongly and provides sufficient space within the roof to form an international station.



Comforts

The station contains many glasses dedicated to the passengers and the station where the station contains a large area inside where car, plane, and hotel in the station and the garden and the rest of the building.

Form Concept



Structure and Utility Concept



Wide open structure



In the construction department of the terminal, it uses a space frame structure to facilitate the user's vision and facilitate the entry of sun and wind rays so that it does not fit from the local climate this structure that applies the strong concept.