EXPERIENTIAL LEARNING TRIP MELAKA 2018

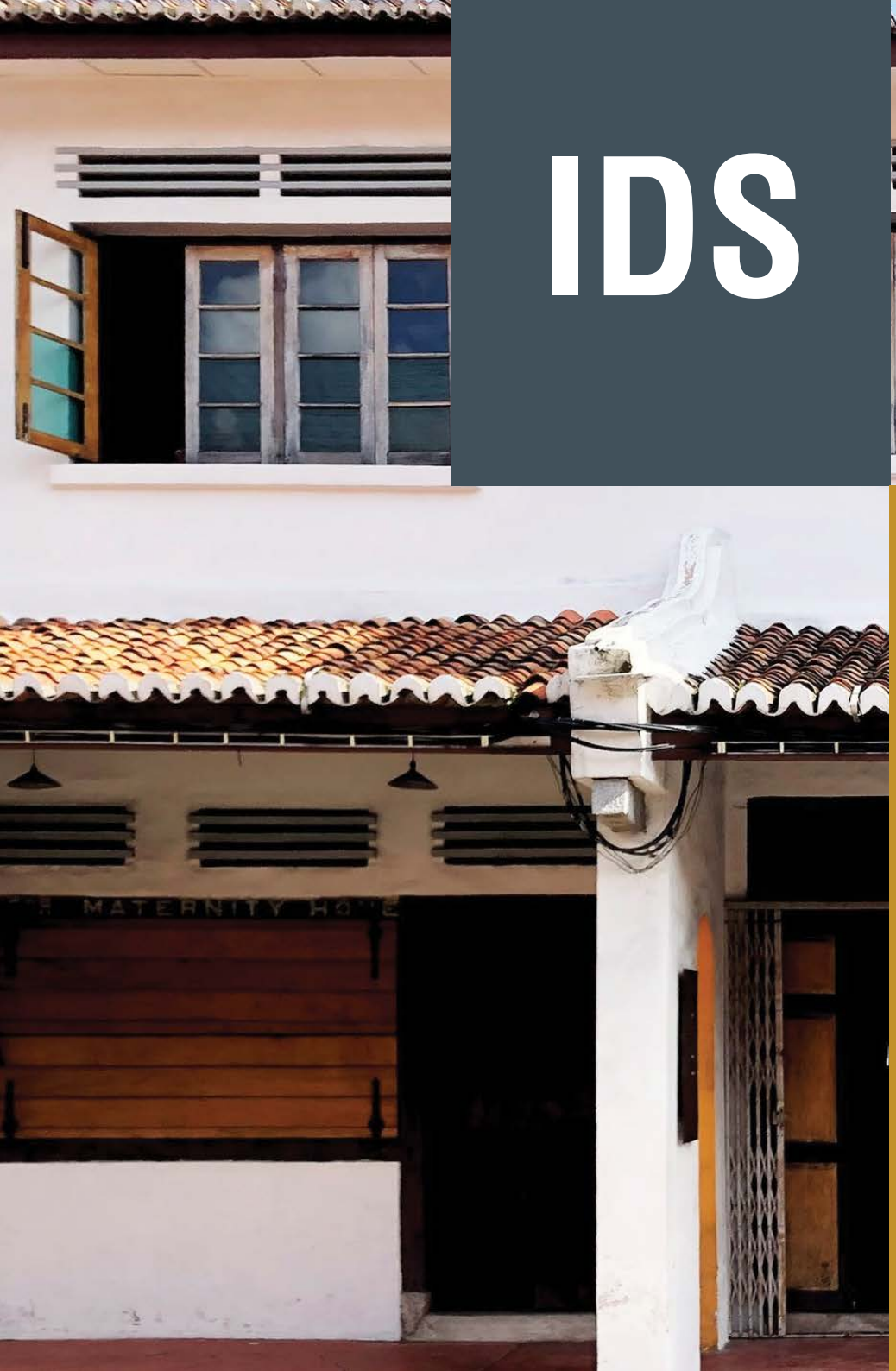
CONTENT

IDS1
SPATIAL ANALYSIS AND DOCUMENTATION
-Analysis Report + Analysis Images & Diagrams
-1 set of spatial analysis for Malay house
-1 set of spatial analysis for Shophouse
Both sets to include:
• Introduction
• History
• Analysis of Space (spatial organisation, hierarchy etc.)
• Key Factors (factors influencing the design)

MAT1
MATERIAL & DETAIL STUDIES
1 set of material study for Malay House.
1 set of material study for Shophouse.

Both to include:
• Unique architectural/spatial features - min. 3
• Material and application - min. 5
• Material processes and details
• Malay house: min. 3 joineries (sketch/CAD)
• Shophouse: brickmaking process and bond types

IDC1
DRAWING DOCUMENTATION (Manual + CAD)
-Ability to deliver an organised set of manual and CAD drawings.
-Ability to produce clear and good quality linework and to manage proportion and scale of visual content
Malay House:
• 2 x Elevation & 1 x Interior Perspective (Manual)
• 1 x Plan & 1 x Elevation(CAD)
Shophouse:
• 2 x Interior Perspective & 1 x Axonometric (Manual)
• 1 x Plan & 1 x Elevation (CAD)



IDS

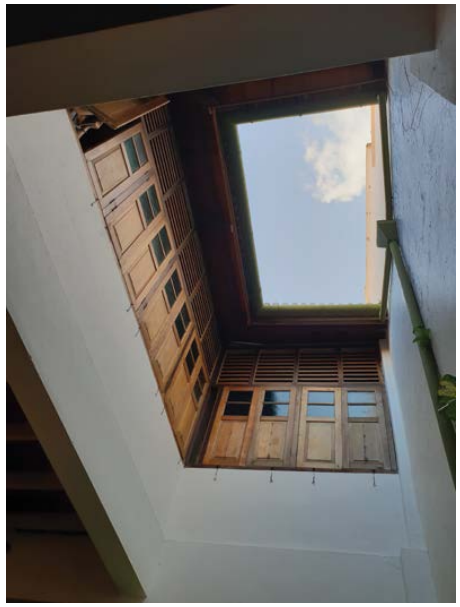
A BRIEF SUMMARY

During our trip we visited the Traditional Malay House of Melaka, as well as a ShopHouse. On our journey, we managed to explore these houses and learn more about their history and designs.

The type of traditional Malay house we focused on during our visit was the Penang Melaka. The basic features of the house consist of a roof, walls, floor, stilts, louvered windows and pillars which acted as a support for the entire house. The Malay House we had visited is Melaka Malay House. It is a two-storey Malay House with different types of materials used and is located at Malacca Mini Malaysia & ASEAN Cultural Park for tourist to take a picture and feel the life-size house.

THE TUN TAN CHENG LOCK SHOPHOUSE

A SHORT INTRODUCTION



Located at Malacca Heeren Street Unit 54-56 Jalan Tun Tan Cheng Lock was left in a dilapidated state, Unit 54 and 56 used to be practical and colourless “Shop Houses” since Heeren Street was a place for wealthier Peranakan families.

These shophouses contrasted from the rest of the other houses on this street, and appeared to challenge the stereotype and purveyed view of wealth, in addition to that it also highlighted the diversity and dynamism of changes on this illustrious Melakan street.

THE HISTORY OF THE SHOPHOUSE

Mid 19th Century

Unit 56 Was purchased by Mr Ong Keng Hoon and was used as an office for the rubber and real-estate businesses of the family, and its backyard was used as a stable at some point of time.

1920


Dr Ong Bak Hin

In unit 54, Dr Ong Hin Tiang established a medical practise named Ong Dispensary which turned out to be very successful and

1934

Dr Ong Bak Hin used Unit 54 as a a maternity home.
As Dr Ong Bak Hin reach retirement age, the maternity “home” [Ong Dispensary] business was sold to Yeoh and renamed ‘’Yeoh Maternity Home and Clinic”.

1975

Dr Yeoh reached retirement age and retired from medical practice

1977 -1979

Units 54 and 56 were leased out to general practice, renamed Aik Siew Clinic.

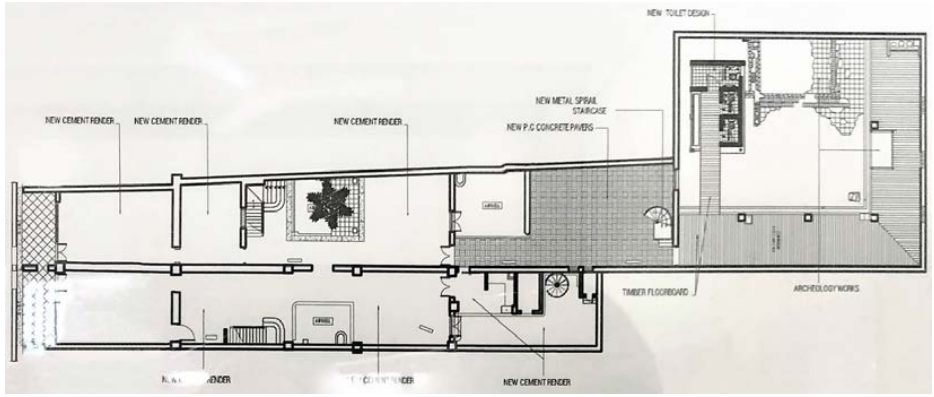
1980-1992

For a period of time, Units 54 and 56 were used as “Rumah Tumpangan” or rest-house and subsequently a storage warehouse for antique and junk dealer, Syarikat Abdul.

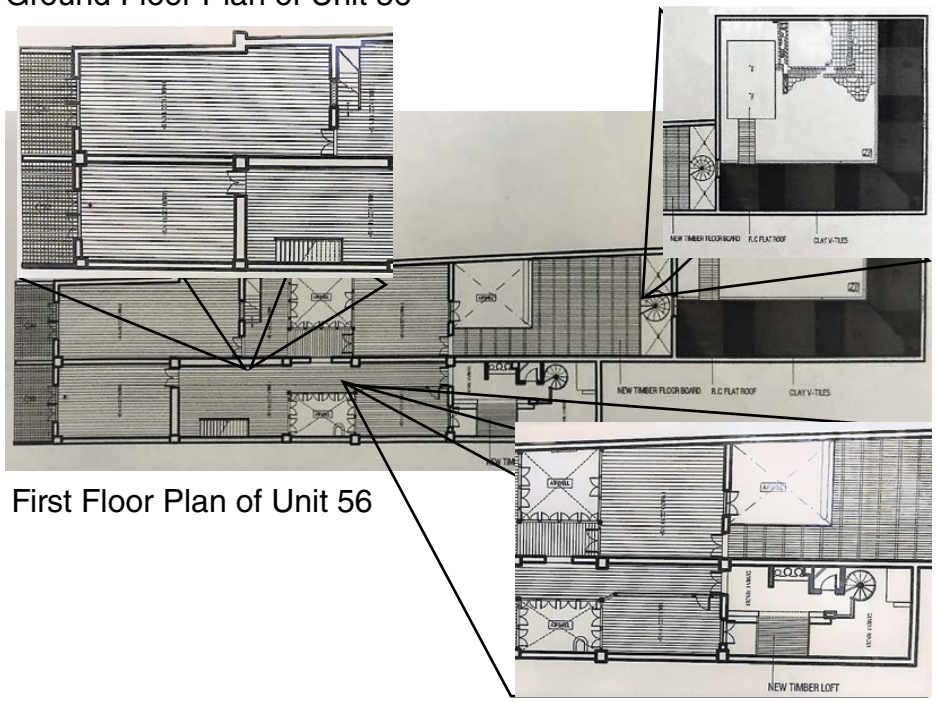
1992

In December, the 2 shop-houses, Units 54 and 56 were sold to Tay Kheng Soon, a Singaporean Architect and was then purchased by Ms Agnes Tan Kim Lwi who bequeathed it to the Department of Architecture, National University of Singapore in 2004.

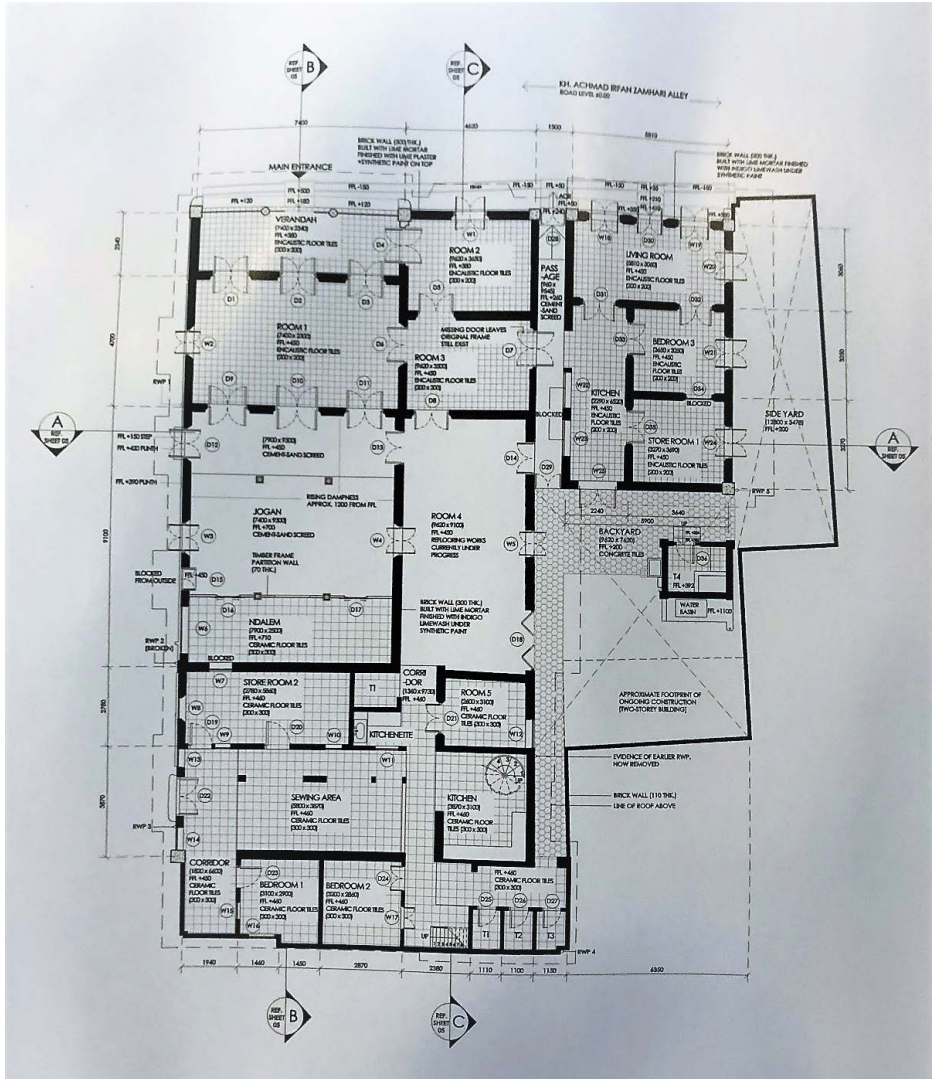
FLOORPLAN ANALYSIS



Ground Floor Plan of Unit 56



First Floor Plan of Unit 56



The Ground Level Floor Plan

SPACIAL ANALYSIS

UNIT 54

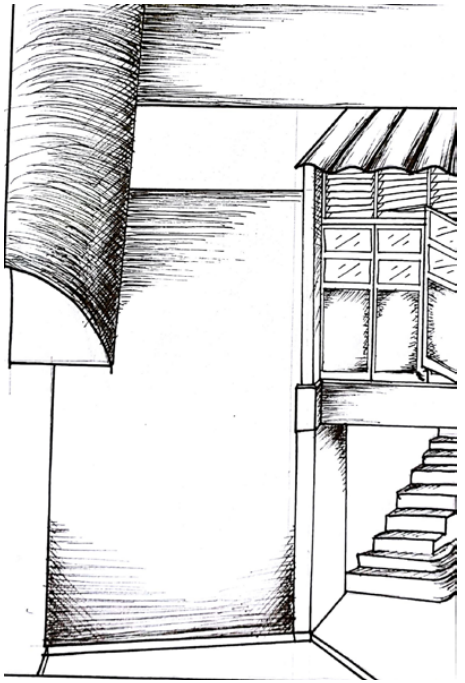
- It is deeper than unit 56
- It has 2 air-wells
- It has a distinctive feature for the domestic helpers or the workers to use, the open courtyard cum garden
- It can also be served as a fire-refuge area or an open garden.
- A back-lane access would be required if the back area is utilised. However, it might not be as it does not fit the development pattern.

UNIT 56

- It is shallower than unit 54
- The typical kind of Melaka shop where the house in the new areas
- Consists of front room, mid-position timber stairs.
- The RC-structure allows higher headroom.
- All spaces seem to be work-rooms.
- The surroundings around the air-well is sufficiently lighted up but the brightness in unit 56 is comparatively lower than unit 54.
- In order: the first storey space includes a waiting room/dispensary, a consultation room, an air-well with a small cistern, and possibly a laboratory, toilet area & backyard. The second storey consists of a high front room with a view down the street, a corridor to the back-room & kitchen area /toilet, and an opening connecting both units.

KEY FACTORS THAT INFLUENCED THE DESIGN

UNIT 54



On 54 Heeren Street, unit 54 which had been used as a maternity house was altered in 1940 to feature the “present-day” architectural sensibilities and skills of the period.

The interior was destroyed and the functional rooms were re-configured to achieve the level of quality of a modern clinic space. The party wall structure was made bigger in size and thickened with concrete piers and RC-beams; a higher headroom was realised throughout; the pre-cast ventilator units allows for better ventilation.

During post-WWI years, an architectural accumulation was prescribed in the new building and the sanitary by-laws, thus the backyard of Unit 54 has a contemporary kitchen, a bathroom, a RC-spiral fire-stairs and a stand-alone out-house.

After multiple alterations, Unit 54 is a representation of the late 19th-century shophouse on Heeren Street despite its humble appearance.

KEY FACTORS THAT INFLUENCED THE DESIGN

UNIT 56

The strip foundations of the older Dutch laterite, architectural components, and motifs such as the windows and the stoop-stairs are present to show that Unit 56 was older than Unit 54. This unit was initially used as a workplace for the family's businesses.

Unit 56 on 56 Heeren Street has an attached back courtyard which was used as a stable for a period of time in which, this feature verifies the "Dutch" offspring and gentry affiliations. There was a common practice where the horses and ponies were separated from the carriage houses and were secured here through the guidance of the door opening at the back of the house.

During the inter-war or post-WWII years, Unit 56 was rebuilt, making it look newer than Unit 54.

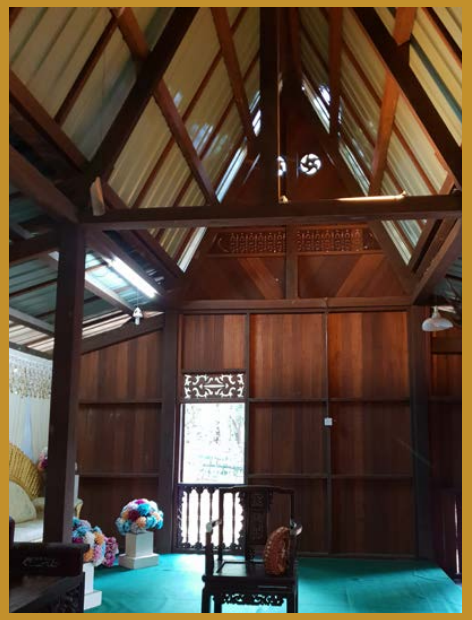
THE RUMAH MELAKA

A SHORT INTRODUCTION

A life size example of the Rumah Melaka Malay House is located at Mini Malaysia & ASEAN Cultural Park Melaka.

This house consists of the basics which is a roof, several pillars as support, a few walls that serves as partitions to divide the spaces, louvered windows, the floor, the door, the staircase, as well as stilts which elevates the whole house. Something to note is that all of the stilts, walls, partitions, doors, as well as the flooring, are made of timber, which is a low thermal capacity material.

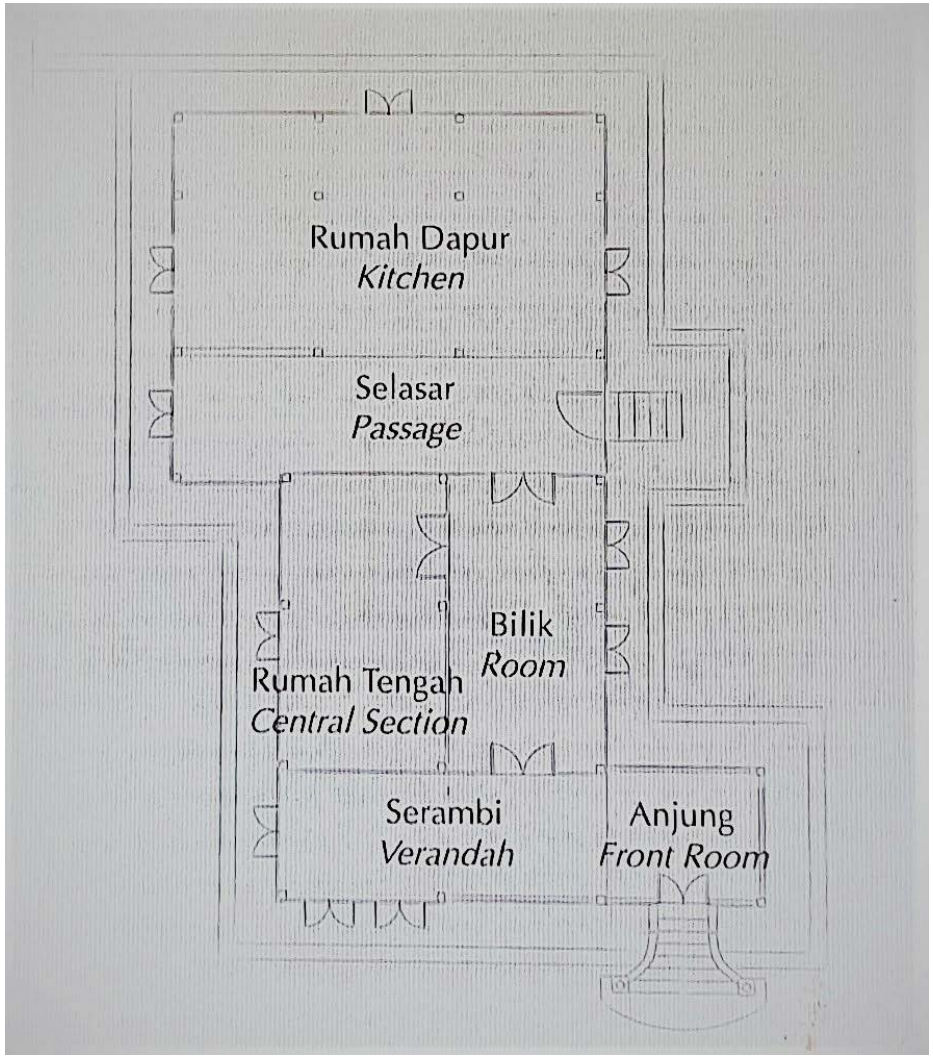
THE HISTORY OF RUMAH MELAKA



The traditional Malay house of Melaka is called the Rumah Melayu Melaka. This traditional Malay house has stilts to act as natural air ventilation and to also prevent floods from destroying the inside of the house.

A typical traditional Melaka house stands on 12 to 16 main pillars, each pillar is usually two metres in height. The decorative flower-motif tiled steps are its most striking feature. These traditional Melaka houses can still be found in rural communities, with the most famous being located in the Merlimau area that is about 20 km south of Melaka City on the coastal road to Muar and Johor.

FLOORPLAN ANALYSIS



SPATIAL ANALYSIS

The house was designed to suit the climate in Malaysia which is warm and humid. For example, the materials used are usually timber, bamboo, and atap which are all low thermal capacity material to ensure no additional heat is trapped in the house. In addition to having multiple windows this house also has carvings in some of the walls allowing for further ventilation throughout the house.

The structure consists of the main house, the central section and the kitchen. The main part of the house is made up of the verandah, and at times front room is added which has steps leading to it. In the central section, there is a room and separating the main house and the kitchen is a passage called ‘selang’. In addition to that, there is also an attic that can be used as a bedroom for the girls when there is a wedding ceremony or, it can also function as a storage space. The Malacca Malay house is normally built with ‘Cengal’, ‘Meranti’ and ‘Damar laut’ wood.

KEY FACTORS THAT INFLUENCED THE DESIGN

Colonial factors which resulted in the change of the design. (the Dutch, the British)

Firstly, the first type of Malay house that was introduced was the long-roofed house, follow by the pyramid-roofed house (limas).

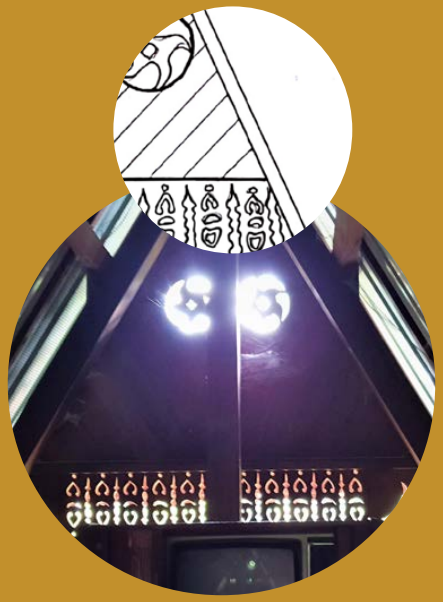
When the British colony first ruled over the Malaya Peninsula, the police stations, offices, government quarters, and schools all had a pyramid-roofed design. The richer Malays were more affected by the variation of contemporary cultural parts which invaded the Malay culture, and they made changes to the traditional Malay house to give it the pyramid-roof appearance.

There is another kind of pyramidal house which is either called the Perak or the Dutch house. The Perak-type house has a main characteristic whereby the roof of the house is long. Most of the houses constructed after World War 2 followed the Perak type house's structure. Basically, the influences of the long-roofed houses were disrupted by the five-ridged pyramidal house as well as the Perak house. Some of the Perak type houses were altered to make the spaces bigger and wider so that the owners can use the space beneath the house as a garage or a shop, et cetera. So since then, the design of the Perak houses drifted away from the traditional design as the space beneath the floor was made full use of.

UNIQUE FEATURES OF THE MALAY HOUSE

THE UNIQUE FEATURES

The unique features we have chosen are the wall carving decorations, the louvered windows, and the stairs at the entrance of the house. These decorative carvings can be found throughout the house, and it serves more purpose than just decor, it also helps to provide more ventilation openings around the house, allowing the house to stay cool. Next, the louvered windows, these windows allow air and light to pass through into the house so that the interior would be better air-ventilated. Finally, the steps of the stairs at the entrance of the house. These stairs have beautiful, eye-catching coloured tiles, and not all traditional Malay houses have them, which is why we selected them to be showcased under the unique features.



CARVING DECORATIONS

LOUVERED WINDOWS

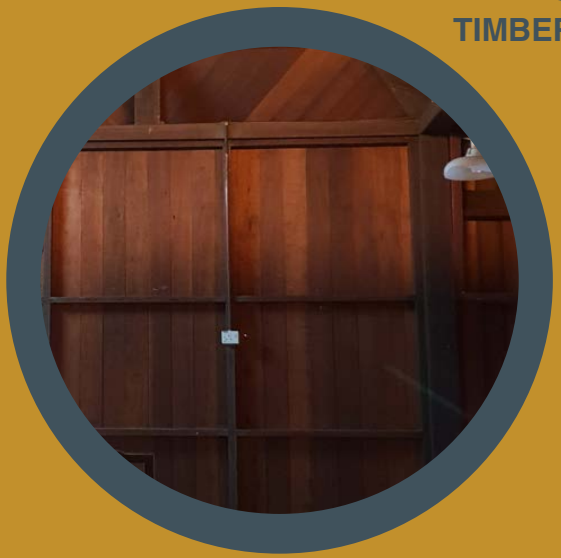
TILED STAIRS

MATERIAL APPLICATION FOR THE MALAY HOUSE

TIMBER FLOORS

TIMBER PARTITIONS

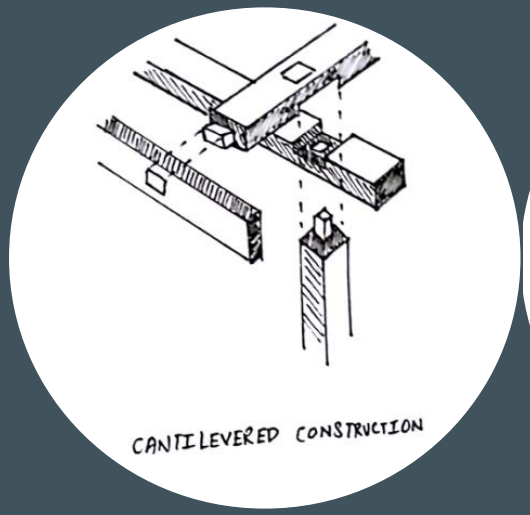
ATAP ROOF

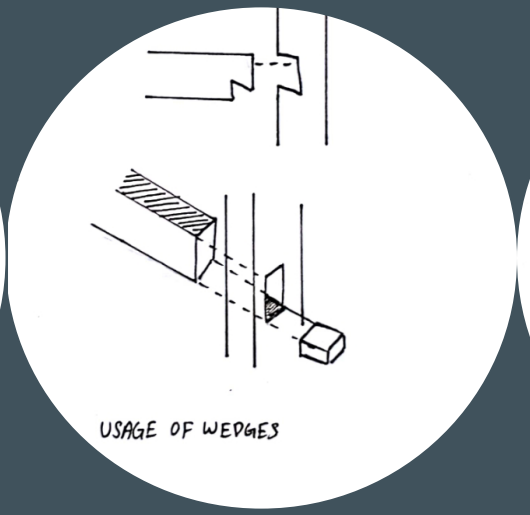


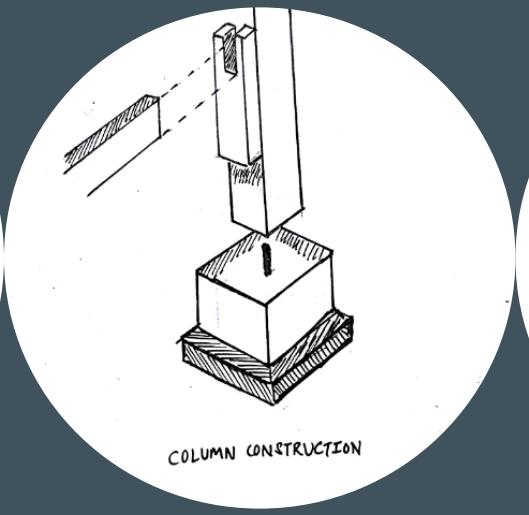
TIMBER WALLS

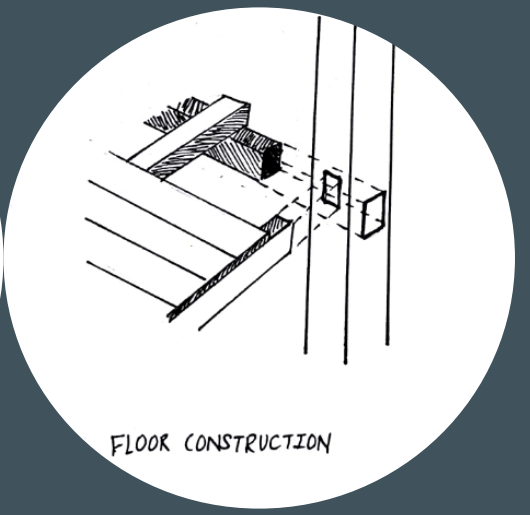
TIMBER STILTS

MALAY HOUSE JOINERIES









UNIQUE FEATURES OF THE SHOPHOUSE

THE UNIQUE FEATURES

The unique features of the shophouse that we have chosen to showcase are the precast ventilators, the airwells, the front facade of the house, and the casement windows. The precast ventilators are not something we commonly see in modern houses. These ventilators helped to ensure air circulated the whole shophouse. The airwells in shophouses played an important role in keeping the house well lit because light from the front and back windows were not sufficient in making the house bright enough, it also ensures the house was not stuffy. Next, the front facade of the house can tell you a lot about the house, for example when it was built. You can determine when it was built by the design of the facade of the house. Next, we have the casement windows. These windows ensure the house is well ventilated which is important because of the house's length which can cause the space to be stuffy and warm.

CASEMENT WINDOWS

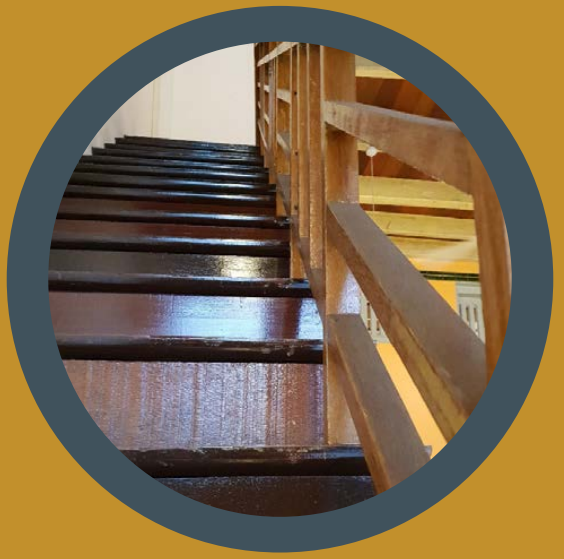
PRECAST VENTILATORS

FRONT FACADE

AIRWELL

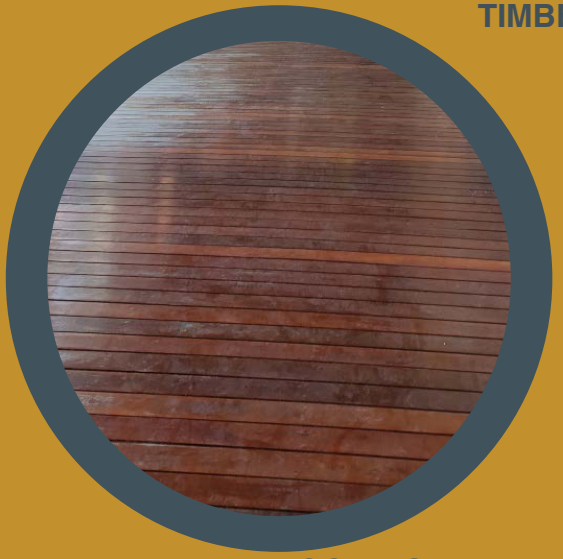
MATERIAL APPLICATION FOR THE MALAY HOUSE

BRICK WALL



TIMBER STAIRS

CHINESE U CLAY ROOF



TIMBER FLOORING

CEMENT STAIRS

BRICKMAKING PROCESS AND BOND TYPES

HOW BRICKS ARE MADE

Machines are used to make the bricks. The start is with sand. The bricks are made with a mixture of clay and water, as well as a small amount of oil to make the brick smooth. It is then mixed and extruded out of a machine which forms long pieces, after this it is cut into the proper size brick. It is then dried out to lower moisture levels, the best being lesser than 3%. After this process, it is sent to the oven to bake for 4 days, the oven will be at 200 degrees initially, however this temperature will slowly increase to 1100 degrees. After it is baked, it is packed and arranged onto pallets with 600 bricks in each, after this it is wrapped with cling wrap, taped and strapped down to ensure all the bricks are secure and will not fall out.

TYPES OF BRICK BONDS

One of the most common bonds used in building is the running bond, it is done by placing the bricking offset by half of the brick per course. Another type of common bond is the Flemish bond. This is done by alternation the stretchers and headers. All of the headers are centered above and below the stretchers.

COMPLETE BRICK MAKING PROCESS

Step 1: Mine the materials required then remove impurities

Step 2: Mix clay with water to obtain a paste-like substance (add small amount of oil to make the bricks smooth)

Step 3: Extrude the clay and trim to shape

Step 4: Send into the dryer to dry the brick after extruding

COMPLETE BRICK MAKING PROCESS

Step 5: Send into the kiln for firing at around 1100 degree via this route

Step 6: Cool the bricks

Step 7: Send to the packing machine (to stack, wrap and tie the bricks together)

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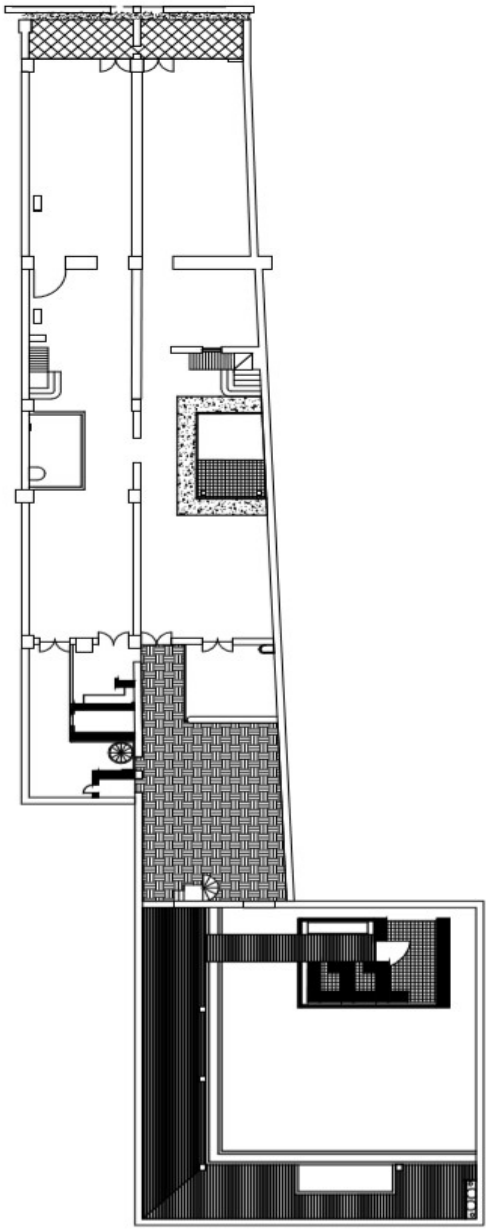
DRAWING DOCUMENTATION
CAD DRAWINGS

SHOPHOUSE

Elevation
Done by: Elaine Koh

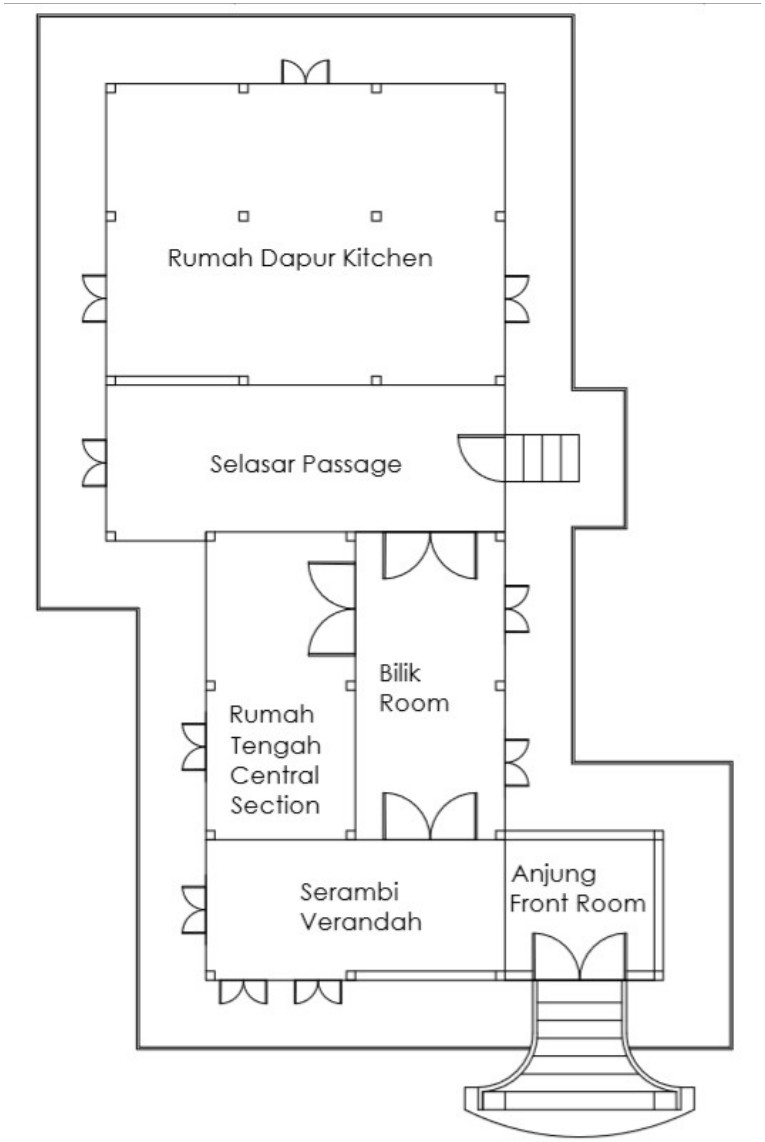


S.H. First Floor Plan
Done by: Elaine Koh

DRAWING DOCUMENTATION
CAD DRAWINGS

MALAY HOUSE

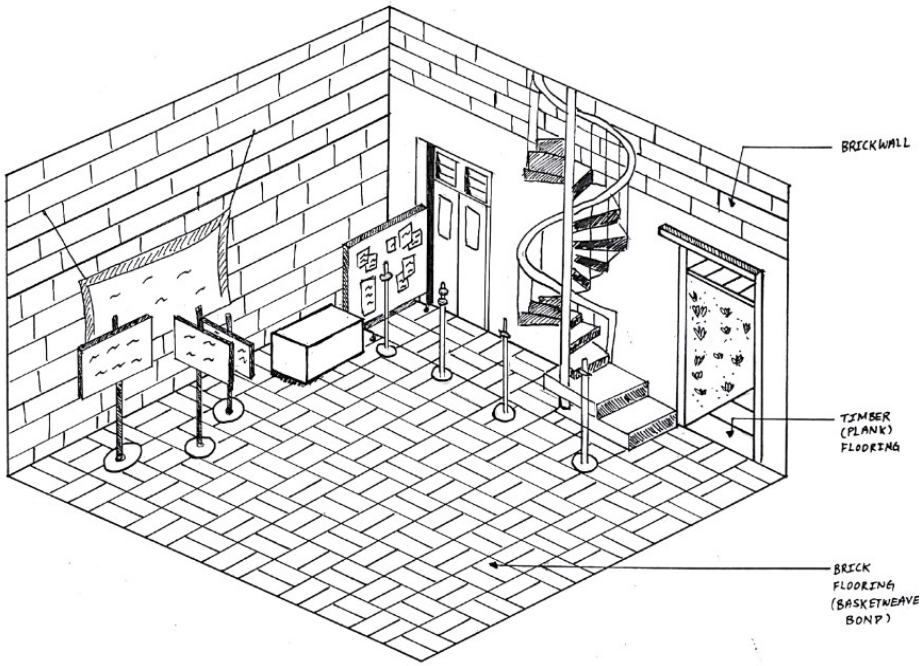
M.H. Elevaion
Done by: Elaine Koh



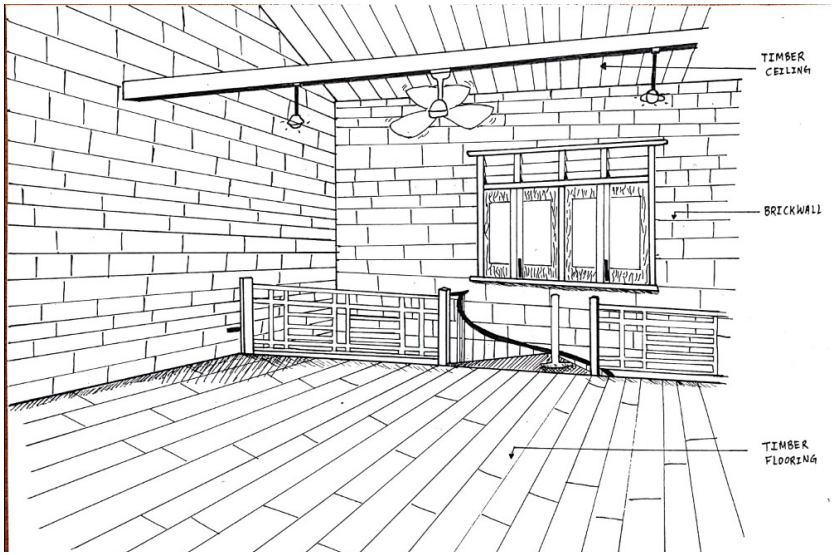
M.H. Floorplan
Done by: Elaine Koh

DRAWING DOCUMENTATION
MANUAL DRAWINGS

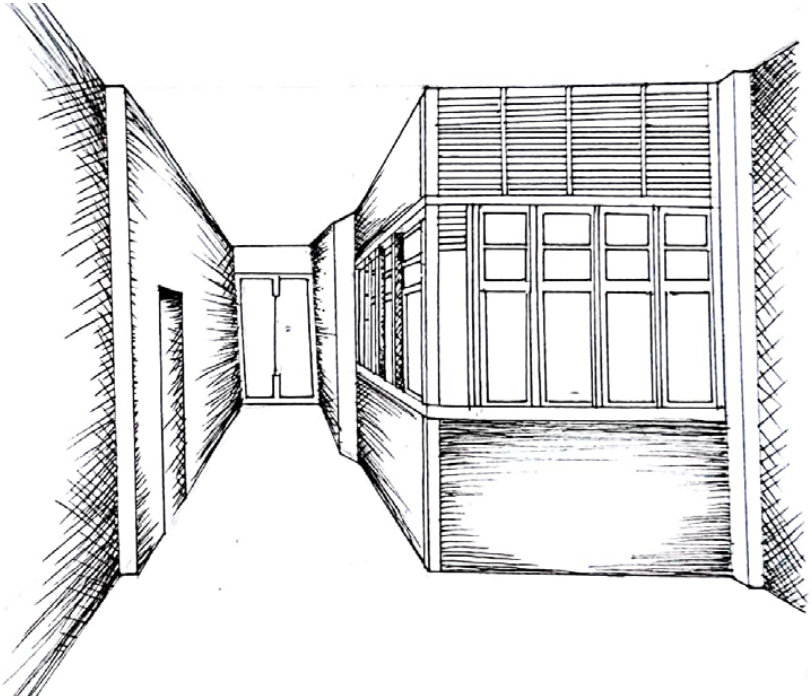
SHOPHOUSE



Shophouse Axonometric
Done By: Tan Poh Ling



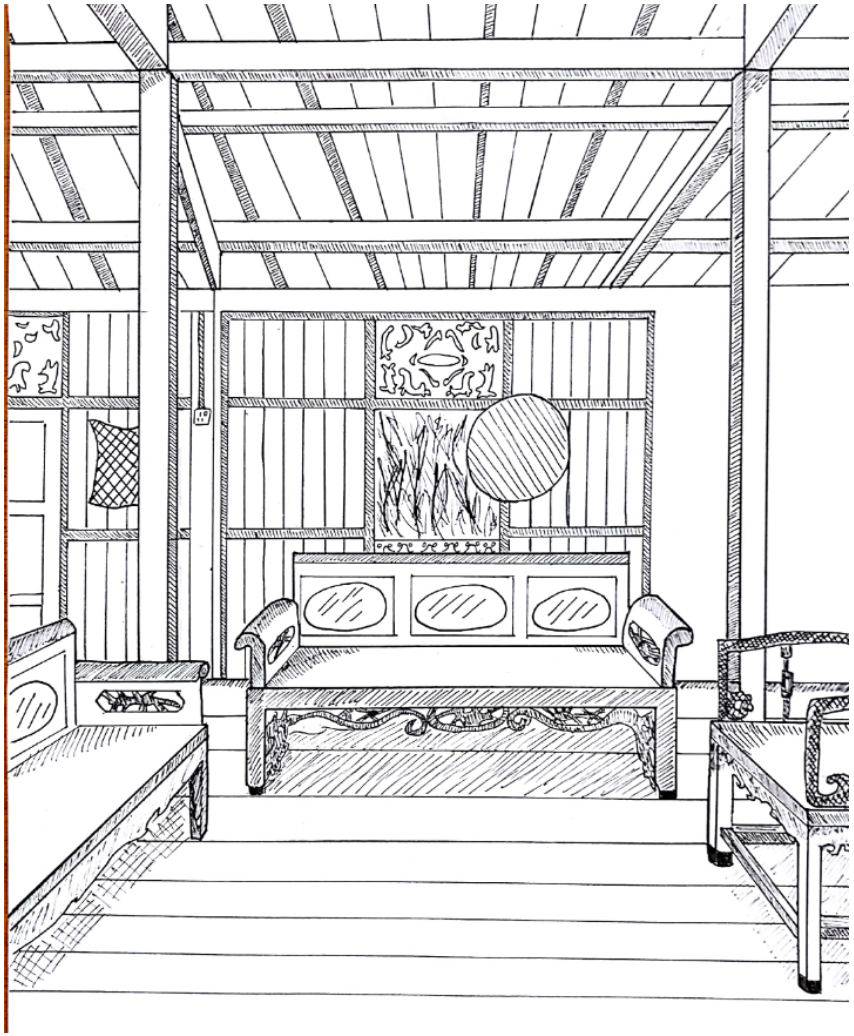
Interior Perspective
Done By: Tan Poh Ling



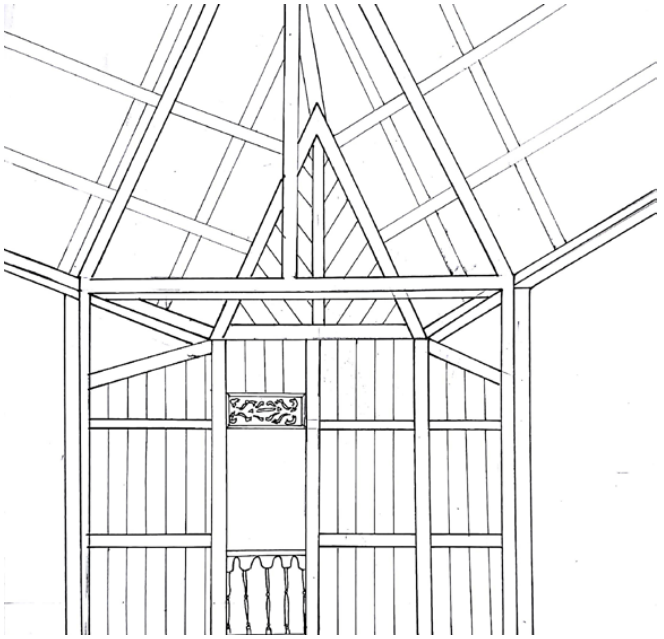
Interior Perspective
Done By: Ivana Cerdena

DRAWING DOCUMENTATION
MANUAL DRAWINGS

MALAY HOUSE



M.H. Perspective
Done By: Tan Poh Ling



Interior Elevations
Done By: Ivana Cerdena

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MAT

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