

# Historical and Architectural Studies of Masjid Warisan Kampung Parit Melana in Alor Gajah, Melaka

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## Abstract:

The mosque is a building built by Muslims to perform prayers and other activities related to Islam. The design of a mosque must meet the original purpose of the building, while other factors, such as its surrounding environment, influence the architectural aspect of the mosque. The objective of this study is to identify the origin and architectural influences of Masjid Warisan Kampung Parit Melana and determine sustainable features adapting to its construction. The study was conducted through desk study, site observation, and interviews with the identified respondents. Result shows that the building portrayed an archipelago architectural style with several Chinese influences on its construction, while few sustainable features have been discovered from the building plan, design, material usage, and construction of the old mosque. Other than a place for worship, the old mosque is an important piece of historical evidence and is part of the studies in the quest for national identity. Therefore, a heritage building, such as the Masjid Warisan Kampung Parit Melana, shall be conserved because it is an important reference for the future generation.

**Keywords:** Masjid Warisan Kampung Parit Melana, historical building, old mosque design, traditional construction, sustainable features

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## I. INTRODUCTION

Malaysia is well known for its diverse range of old buildings with architectural heritage features that are still existing as of today. The uniqueness of old buildings portrays the craftsmanship and construction, as observed in most heritage buildings. The old mosque is one of the concrete evidence of a civilization that once formed the *Malaya*. Among various old traditional heritage mosques, the Masjid Warisan Kampung Parit Melana (heritage

mosque) is located in Alor Gajah district of Melaka. This mosque is nearby the small towns of *Belimbing Dalam*, *Beringin*, *Krubong*, and *Durian Tunggal*. According to the *Perbadanan Muzium Melaka* (PERZIM) and based on the technical reports and conservation proposal, this heritage mosque was built by an Arab immigrant around 1920, and the building cost was obtained from the contributions of villagers and individuals. The base of the mosque was established using laterite stone, which was the main building material during the Portuguese

occupation era. The mosque still maintains the original architectural design despite the addition of a small area for the *imam*, and its original structure remains the same.

Based on the previous report of Lukisan Terukur Masjid Warisan Kampung Parit Melana by Politeknik Merlimau, the mosque was built by the villagers in 1901 through the contribution of Khali Bachik's son, a Muslim-Indian ancestry. In 1974, a new mosque called Al-Rahman Mosque was built to cater to the growing number of congregations. Therefore, this mosque was rarely used by villagers, except for daily prayers and Islamic classes.

Masjid Warisan Kampung Parit Melana was considered by PERZIM to be a heritage mosque under the Cultural Heritage Conservation and Restoration Enactment of 1988. The first conservation work was implemented by PERZIM through the provision from the Conservation and Restoration Trust Funds 2005. However, in 2010, this mosque went through repair works, maintaining the same façade and architectural features using the allocation fund provided by the Pembangunan Negeri Melaka (Melaka State Development).

In 2016, Al-Rahman Mosque was demolished to build a large mosque. Therefore, *Masjid Warisan Kampung Parit Melana* was reutilized for daily prayers until the reconstruction of Al-Rahman Mosque was fully completed. The construction period took almost two years. At that time, the heritage mosque was restored to its previous function through the implementation of numerous Islamic activities, especially during the month of Ramadan. All activities in the mosque were gradually stopped when the new Al-Rahman Mosque was inaugurated on December 2017.

At present, Masjid Warisan Kampung Parit Melana is no longer used as the main mosque of the nearby community, especially in organizing

Islamic programs and activities, such as religious classes and Yassin recitation ceremony. This heritage mosque is still used for congregational prayers during the Ramadan month and frequently utilized as a temporary stop for weary travelers to unwind and perform prayers.

## II. METHODOLOGY

The study was conducted through literature review, observation, and interviews. First, a preliminary study was conducted by obtaining background information of the building and its surrounding area through historical, measured drawing, and classified reports from authorities. Second, a series of site surveys with a total of three visits, in which each visit has different objectives, were conducted. The site survey was performed to create as-built drawing to identify any historical features and construction and obtain additional historical information from the locals. The building is measured from the highest point to the bottom, including the building parameter, by using digital laser distance and measuring tape. Any special features (the detailing) are recorded using a camera to aid with sketches with annotated diagram. Furthermore, an unstructured interview session with three selected respondents was conducted. Two respondents were from the nearby elderly resident that had settled down in Kampung Parit Melana and one came from the authoritative bodies, namely, the PERZIM. The interview session with an officer from PERZIM was conducted to acquire some ideas and information related to the construction and any refurbishment works that were once performed. All the data, including archived photos and images, old drawings, and current photos, are gathered and processed to perform a complete measured drawing report.

### III. HISTORY OF MASJID WARISAN KAMPUNG PARIT MELANA

In line with the considerably growing interest in Islam in the land of Melaka during that time, the mosque was built following the demands of the locals to have a house of worship and a proper meeting place (*musyawarah*) during the early days of their settlement in the ParitMelana. The mosque is built entirely by the local workers but has mixed characteristics of ancient Chinese architecture and Javanese. The construction is also based on locally available building materials, such as laterite stones, which are easily obtained during that time.

According to one of the villagers, Mrs. Kamariah Sahat, the mosque was surrounded by paddy fields. At the hilly area exactly behind the mosque, rubber trees became the main economic source of the villagers. A spring water pond also served as a water reservoir and became the main attraction for the villagers because it was the main source of water for the community and its surrounding areas (Figures 1 and 2). The reservoir is believed to have a bay in the middle, which is probably the source of the spring. The pool has a wooden platform, and the depth of the pond was said to have waist level height. This pool is used for bath, ablution, and other activities related to domestic cleaning. The water from this reservoir was drained to the nearby rice paddy field. Based on the interview, the spring gradually began to dry when the nearby quarry began its operation. Since then, the pool was no longer used and demolished to give space for toilet and ablution areas as in the present day.



FIGURE 1. Illustration of a mosque with a pool for water reservoir based on the description in the interview session.



FIGURE 2. Rear view of the mosque

The Masjid Warisan Kampung Parit Melana was once in a damaged condition from 1972 to 2002. Throughout that period, all repair works were undertaken by the villagers and PERZIM (the museum association of Melaka Region). An effort of keeping and maintaining the usage of the building was performed to preserve the heritage elements of the structure. Several improvements, including repairing and changing old deteriorated roofs, setting up a new toilet, and renovating a new storage room (Figures 3 and 4), have been made to ensure continued use of the mosque. The construction aims to provide comfort as well as facilities to committee members and the locals or travelers during their performance of prayers.



FIGURE 3: Installation of “Marseille” roof tiles on the second and third roof tier (Source: PERZIM)



FIGURE 4: Construction of toilet and ablution area (Source: PERZIM)

#### IV. MASJID WARISAN KAMPUNG PARIT MELANA ARCHITECTURE

Masjid Warisan Kampung Parit Melana is one of the traditional archipelago buildings that portray the Javanese–Malay architecture and has also been influenced by the characteristics of Chinese architecture. The Javanese–Malay influences can be observed on the elevated Meru roof, which is built and supported by Cengal timber as the main column of this structure. The architecture of Masjid Warisan Kampung Parit Melana is similar to Malay and Javanese cultural patterns in Indonesia and Malaysia, and the design is the same with Demak Mosque located in Indonesia. The mosque is built with a rectangular floor plan surrounded with a hallway and a pyramid or Meru tier-style roof. The uniqueness of the architecture is observed in the decorative

ornamental features, which illustrate the influence of design from other countries. Figure 5 shows the roof plan, floor, and side view of the old mosque.

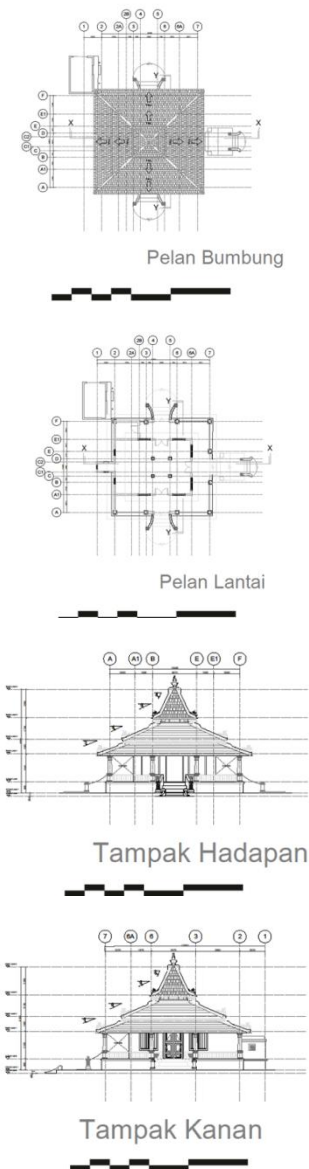


FIGURE 5. Roof plan, floor plan, and front and right views



FIGURE 6. Masjid Warisan Kampung Parit Melana has a three-tier roof.



The mainframe structure method is based on the use of column and beam techniques. The plan is square-shaped, followed by a three-tier layered roof that ends with a small pyramid-shaped roof at the top part (Figure 6). The upper roof is raised higher than the two roofs below. Under the top roof, a clerestory window, which facilitates the entrance of natural light and ventilation through the window, can be found. Each of the roof ridges has a carved *SulurBayuat* at the end that features the Chinese architectural influence (Figure 7).



FIGURE 7. Perabung *SulurBayu*

The roof and its material were said to be influenced by the Netherlands and China due to the invasion of the Netherlands to Melaka. “*SulurBayu*” is located at the second and third tiers of the roof and is believed to have Chinese influence due to the influx of Chinese labor and craftsmen, which indirectly affected the architectural design in Melaka.

An ornamental engraved sculpture located on the highest roof is known as the *MahkotaAtap* (Figure 8). This structure was originally made from manually crushed coral reef, which was then blended with egg to attach the material, forming into a sculpture called the crown of the roof. In some other parts of the archipelago, this ornament is known as “Martabha” or “Martaba.”



FIGURE 8. *MahkotaAtap* is located at the top of the roof.

The main prayer hall of Masjid Warisan Kampung ParitMelana is surrounded by stone walls made from laterite soil and is designed with four main columns in the middle of the prayer hall area. The function of the main column is to support the three-tier roof (Figures 10 and 11).



FIGURE 10. Column of the mosque located at the balconies.

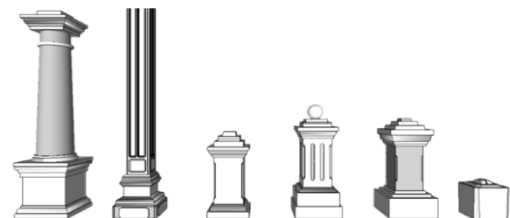


FIGURE 11. Design of the main columns and supporting pillars for the old mosque

The mosque was completed with terracotta floor finishes and overlaid with thick carpet at the prayer hall. According to the interview sources, the floor was constructed from hardwood and then

replaced with one layer of cement floor slab and was built up 1 m high from the ground level.

The old mosque obtains its natural lighting through its roof design that has an opening at every tier. Moreover, the mosque was designed to have large windows and three doors on each side of the building (except at the front), which helps illuminate the prayer hall. These openings allow natural ventilation into the building. Although the building has quite wide openings, it still uses artificial means of ventilation. The building was previously surrounded by trees, which provide good shades; hence, the use of a fan and an air-conditioning system is unnecessary. With all the developments conducted nearby, artificial ventilation is necessary to improve the thermal comfort of the occupant inside during prayers or any religious activities. The mosque is also surrounded by a veranda that has stairs on each side, except at the front elevation.

Among the furniture available in the prayer hall are wooden *Mimbar* and chandelier. The wooden *Mimbar* was no longer in use because the mosque no longer conducted Friday prayer and was handed over to the Melaka Islamic Museum for historical archive (Figure 12). A chandelier lamp was installed at the center to provide light during night usage. The lamp was previously fueled using gasoline and hung at the center between the four main columns that connect to the roof structure using the rabet system (*tanggam*). Today, the chandelier lamp is no longer in use and was hung as a decorative item. The lamp was later replaced with fluorescent lamps installed on the left and right sides of the prayer hall (Figure 13). Movable bookshelves, in which Quran and other Islamic books are organized, are also available.

According to locals, the mosque had a *beduk*. However, the *beduk* is no longer used and was replaced by a PA system, which is found in most traditional mosques. The *beduk* was made from hardwood either from Cengal, Merbau, Berlian, or

Jati. *Beduk*, which is a log with a hollow in the middle, is used to give the call for prayer time by hitting similar to that when ringing a bell. The *beduk* was usually placed in front of the main entrance. Currently, the *beduk* has been stored or archived; in some other traditional mosques, the *beduk* is left hanging as a decorative historical item.

The ablution area is separated from the main building. The ablution was previously using the pool and is now replaced by using tap water provided from the water supply system to the locals. This ablution area is built at the corner side of the mosque perimeter, which is adjacent to the toilet and the storage room.



FIGURE 12. Original *mimbar* of the Masjid Warisan Kampung Parit Melana which is currently displayed at the Melaka Islamic Museum.



FIGURE 13: Interior of Masjid Warisan Kampung Parit Melana

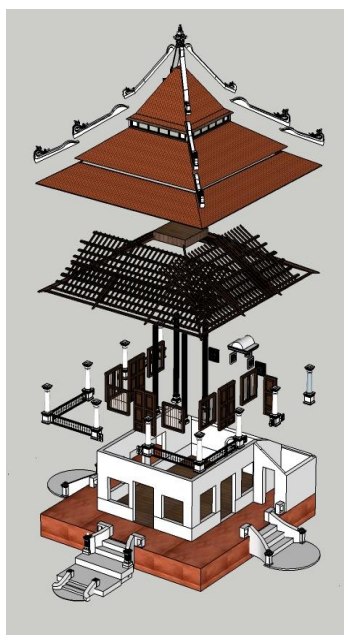


FIGURE 13. Axonometric illustration provided by the author

## V. ANALYSIS OF ARCHITECTURE INFLUENCE AND SUSTAINABILITY FEATURES OF MASJID WARISAN KAMPUNG PARIT MELANA

This section presents an analysis of the architectural influences of the building elements. The sustainability feature of the mosque is also identified to describe the specialty of this old structure.

TABLE 1. Elements/Components of the mosque

Element/ Component	Features, designs, and builds	Architectural influence
Roof	It is shaped similar to a pyramid with three tiers/layers and has a natural ventilation space. The roof structure is made of hardwood, while the ceiling is from a timber panel arrangement (interior side) and covered with roof tiles on the outside part. Each roof ends and the highest top has a decorated sculpture named	Javanese architecture is clearly shown based on the three-tiered pyramid roofs. This architecture can be explained through the observations of historical evidence. The oldest mosque

	<i>Perabung Sulur Bayu</i> and <i>Mahkota Atap</i> , respectively.	in the archipelago is the Demak mosque in Indonesia.
Wall	The walls are made of laterite bricks and finished with plaster finishes and white paint.	-
Floors	The mosque floor was built from concrete and the floor structure was from hardwood. Completed with floor tiles on the veranda side and thick carpet on the prayer hall throughout the prayer hall (for interior only).	Old Malay house architecture
Building structure (column and beam)	The column and beam structure were mainly from hardwoods and the column stumps were made from laterite bricks, wherein the surface is refined using plaster and paint. The connection between the structure systems is the rabbit technique ( <i>tanggam</i> ).	The construction of this structure features the traditional Malay craftsmen in the rabbit techniques for the beam and column connection.
Veranda	The veranda is built around the mosque (except at the muazin room). Floors were built from concrete with tile finishes. This area is decorated with lattice board made of timber plank and mounted at the end of the veranda floor as a barrier.	Traditional Malay house architecture
Openings (doors and windows)	Doors and windows are made of hardwood. The door is left open toward the inside of the mosque. Windows and doors are equipped with locking bolts.	Traditional Malay house architecture
Stairs	The stairs are made of brickwork and concrete finished with decorative	Chinese architecture through tile

	motive floor tiles.	finishes
Carving and ornamentation	Carvings are widely seen on the roof elements, such as the fascia boards, <i>Perabung Sulur Bayu</i> , and <i>Mahkota Atap</i> . The side of the window has no decorative engraving (at the time of the study), and the opening/hollow side at the top of the window has been sealed.	<i>The Perabung Sulur Bayu</i> and the <i>Mahkota Atap</i> are influenced by Chinese architecture.

### Sustainability features of Masjid Warisan Kampung Parit Melana

TABLE 2. Sustainability characteristics of the mosque

Sustainability element	Explanation
Opening	Three doors and six windows with a large opening area, enabling natural ventilation and lighting to reach the interior of the building. The opening space between the tiered roofs also permits the transition of hot to cold air, providing thermal comfort to the user.
Building materials	Building materials for structural components and the openings are made of durable hardwoods. Other parts (walls, floors, and slabs) are from bricks made of laterite soils. Components, such as the ornament and decorative sculpture, are made from coral reef.
Building plan	An open plan type without any divider or walls for the interior part. Square-shaped; each side has its openings to optimize the natural ventilation and lighting toward the interior.
Construction	The construction using local craftsmen with traditional archipelago style, which is evident in the system of pegs and joints ( <i>tanggam</i> ) on the main structure of the building.

Design	The building is built with raised-floor and stairs based on the traditional Malay house architecture. This style prevents animals from entering the building and provides thermal comfort. The high-pitch roof allows rainwater to runoff quickly and helps provide good ventilation for the upper part of the building. The hollow part at the building elevations allows the circulation of hot and cold air through the “stack effect” method.
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### SUMMARY

The study conducted on the Masjid Warisan Kampung Parit Melana found that the mosque architecture in Melaka has its own uniqueness, which distinguishes it from the other traditional mosques in other states. The local architecture features, combined with some influences from the colonist and trader activities, have made this structure an important piece of historical evidence. Built around the 1900s, this mosque is a strong proof of the extent of archipelago influences in the region, which is evident in the design and construction.

This traditional mosque was built to meet the religious needs of the locals, as evidenced by the minimum ornamental and decoration features that were adapted for its construction. This mosque was built almost two centuries later than the earliest mosque in Melaka, and the construction was facilitated by the villagers and nearby neighborhoods. The region was less populated; thus, construction demand is less than those living near the coast because the community already embraced Islam earlier than the rural area. From the theory of Islam advent to Malaya, the influences of Islamic architecture were spread from the trading activities that occurred around the city of Melaka ages ago.



This study found that the architectural features of the mosque markedly correspond to the local climate and the use of local materials in its construction. The use of local materials and indigenous technology in its construction has provided a form of knowledge, especially from the historical perspective, and serves as an important piece of evidence that must be preserved.

Overall, the architecture of the old mosque in Melaka must be conserved because it is an authentic proof in studying local architectural theory. In addition, this architecture is one of the important legacy evidence that can symbolize the identity and history of a country. The conservation activities through repair and improvement works could ensure continuity throughout the generations and must be properly maintained to reduce obsolescence. If neglected, then the value of the mosque will be lost and can never be replaced.

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