

Reviving Heritage: Conservation and Infill Design at Alimar Hotel Malang

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Article Info:

Submitted: May 6th, 2025

Reviewed: June 18th, 2025

Accepted: September 20th, 2025

Keywords:

Hotel;
Conservation;
Malang;
Revitalization;
Historical Building

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Abstract

Colonial buildings in cities like Malang face pressure to modernize without losing historical identity. This study applies a descriptive qualitative method involving field observations, literature review, and interviews, analyzed using conservation architecture principles. The research highlights the importance of preserving colonial heritage by adapting it to modern functions while maintaining architectural integrity. The transformation involved converting residential spaces into hotel facilities and adding new infill structures to support the new function. Findings reveal that interventions respecting minimal intervention, reversibility, and adaptive reuse enable both preservation of heritage and modern functionality. This research aims to promote sustainable preservation practices and demonstrates how adaptive reuse can help colonial buildings remain functional and relevant in today's urban context.

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INTRODUCTION

Malang's historical identity is rooted in its socio-cultural development, trade history, and diverse architectural legacies, not solely in the number of colonial buildings. This is also influenced by the issuance of the mayor's regulation which regulates the areas that are included in the cultural heritage area that must be maintained and preserved, the cultural heritage area includes, Ijen area, Kayutangan area, Chinatown area, military area and Dutch era residential area (Fathony et al., 2019). During the Dutch colonial rule Jalan Pasar Besar was formerly called Chineeschestraat in the area the buildings were dominated by colonial era buildings. The colonial residential building which now functions as a hotel is located on Pasar Besar Street No. 58 Malang and has a unique form of Indische Empire Style architecture (Setiamurdi & Santosa, 2017) which is distinctive and thick with a colonial atmosphere compared to other buildings around the location.

With the addition of the function as a hotel, the building has undergone a stage of functional adjustment, where the building whose original function as a residence has adapted according to the needs of the present time without changing the original form of the building, so that with changes in function and the addition of new buildings there will be changes and have an influence on the environment around the Dutch colonial building (Hardianningrum, 2023). Buildings around the Chinatown area of Malang City, especially in the Jalan Pasar Besar area, used to have a very strong identity that the area had great architectural diversity, as well as a mixture of architecture from various eras of colonial architecture and traditional Chinese architecture, because the area was once a Chinatown and trading area.

In general, preservation is an effort to maintain, keep important objects from being damaged or losing the historical value of a building due to changing times, so that it can be seen, felt, and enjoyed by current and future generations. Colonial buildings used as places of business, especially hotels, will have an influence on the surrounding environment and the building itself. The development of business activities in colonial buildings must

also be planned properly so that the preservation of the building can be maintained and maximize its uniqueness and architectural characteristics without damaging it (Hardianningrum, 2023).

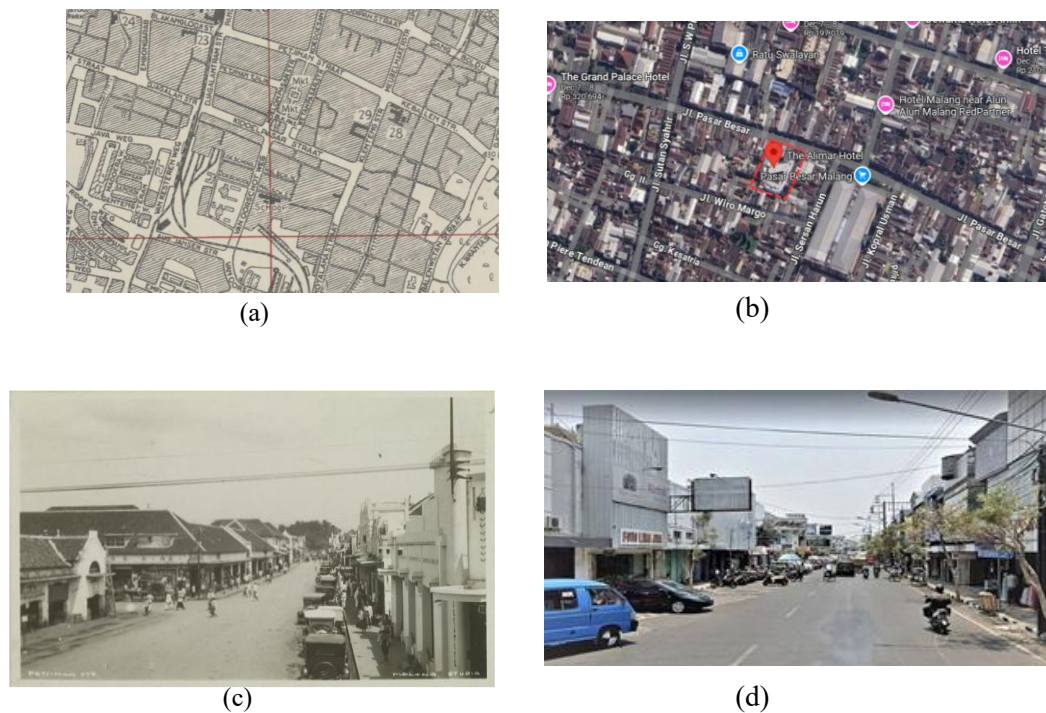


Figure. 1. Chinatown Area at different periods: (a) 1946 (source: *jalankertaslawas.wordpress.com*, 2020), (b) 2024 (source: *Google Maps*, 2024), (c) 1935 (source: *Leiden University Digital Collections*, 2020), and (d) 2024 (source: author's own documentation)

The Chinatown area in the Pasar Besar area had a very different atmosphere in 1895 and 2024 (Santoso & Hartanti, 2023). The identity of the area in 1895 was very much felt in the Chinatown atmosphere, while in 2024 the area has changed and transformed with new faces and activities, so that in the current era there are no old buildings in the area because they have been demolished and changed functions with new buildings on the same land, But there is one building that still retains its original style of architecture which is now also transformed as the Alimar hotel, which used to be a former Chinese residence, The hotel owner wants to maintain the image of the building and the area so that it can still be enjoyed by the current generation and make a different attraction and create a distinctive beauty from the buildings around the area.



Figure. 2. The Alimar Malang

This study aims to examine how infill design and conservation principles are implemented in the adaptive reuse of the Alimar Hotel, contributing to broader discussions on sustainable heritage architecture in Indonesia.

LITERATURE REVIEW

Cultural Heritage Buildings

Cultural Heritage is an immaterial cultural heritage in the form of Cultural Heritage Objects, Cultural Heritage Buildings, Cultural Heritage Structures, Cultural Heritage Sites, and Cultural Heritage Areas on land and/or in water that need to be preserved because they have important values for history, science, education, religion, and/or culture through the determination process (Pemerintah Republik Indonesia, 2010). A building can be categorized as a cultural heritage building if it meets criteria such as being 50 (fifty) years old or more, represents a style period of at least 50 (fifty) years old, has special significance for history, science, education, religion, and/or culture, and has cultural value for strengthening the nation's personality. The building is not a cultural heritage so there are no special regulations so it can be demolished, but the architect deliberately maintained the building because it has good value.

Buildings that hold historical, architectural, cultural, or social significance and are preserved for their value in representing a city's identity, heritage, and collective memory (Hniloskurenko et al., 2021). These buildings are part of a broader classification of cultural heritage which encompasses objects, structures, sites, and areas that possess significant historical, scientific, educational, religious, or cultural value. Although the building in question does not officially hold the status of a designated cultural heritage asset—meaning it is not legally protected under heritage

Conservation Principles

An architectural conservation is a way of saving objects or architectural buildings and urban design in the past inherited by the founders of the city/local community in appreciating a story of the journey of a past event described as a history in order to build an intellectual insight into future generations (Hardianningrum, 2023).

Conservation is all the processes of caring for a place to maintain the importance of its cultural heritage. Conservation principles guide decisions about changes to a place (UNESCO, 2015). The publication *Caring for your Heritage Building* (UNESCO, 2015) describes the principles of conservation as follows.

- **Identifying significance.** Understanding the significance and values of a place is critical to making decisions about its future.
- **Minimal intervention.** Intervene to the extent necessary, but as little as possible to ensure the integrity of a historic place is maintained. Minimal intervention is the preferred course of action.
- **Integrity and authenticity.** The value of cultural heritage lies not only in its appearance, but also in the integrity and authenticity of all its materials. New works should not copy the original, but should complement and sympathize with the original building.
- **Reversibility.** Where possible, any measures adopted should be "reversible" so that they can be eliminated or replaced with more appropriate measures as new knowledge is acquired.

In line with these international principles, conservation within the Indonesian context is defined as a deliberate action to restore the inherent character of cultural heritage objects and to reinforce their structural stability when needed. This effort aims to sustain the archaeological, historical, and technical aspects of heritage buildings (Pemerintah Republik Indonesia, 2010). Conservation, therefore, is not merely a technical restoration process, but a holistic preservation strategy rooted in multidisciplinary considerations—architecture, history, archaeology, and material science—aimed at ensuring that cultural heritage continues to have relevance, meaning, and function in the contemporary built environment (Liu, 2023).

From Burra Charter principles, conservation is centered on understanding and retaining the cultural significance of heritage places through careful, minimal, and well-informed interventions that respect the place's history, fabric, use, and community values while ensuring its ongoing care and appropriate use (Australia ICOMOS, 2013). conservation becomes an active agent in sustainable development and cultural continuity, positioning architecture as both a steward of the past and a platform for future innovation.

Table 1. UNESCO conservation principles (UNESCO, 2015)

Aspect	Description
Identifying Significance	Understanding the historical, cultural, architectural, or social value of the building/site.
Minimal Intervention	Any intervention should be as minimal as possible to protect the structure's value and significance.
Integrity & Authenticity	Maintain original design, materials, and character wherever possible to ensure the authenticity of the site.
Reversibility	Any changes or additions should be able to be reversed in the future without damaging the original structure.

Intervention of Conservation

Activities carried out in various related to the conservation of cultural heritage area/architecture that need to be considered in handling based on (Maryland Department of Planning, 2001), among others:

Table 2. Conservation approach (Maryland Department of Planning, 2001)

Conservation Approach	Definition	Purpose Goal
Maintenance	Regular upkeep of culturally significant fabric to prevent deterioration.	To preserve cultural significance and extend the life of original materials.
Preservation	Keeping the building and its materials in their existing condition without attempting to stop weathering or aging.	To maintain the authenticity of the building while minimizing intervention.
Restoration	Returning a building to a known earlier state by reinstating lost elements using original or matching materials, without introducing new additions.	To recover the historical appearance and integrity of the building.
Reconstruction	Rebuilding a building or part of it using a mix of old and new materials, distinguishable from restoration by the inclusion of new elements.	To re-establish the form of a lost building or component where sufficient evidence exists.
Adaptation	Modifying a building so it can serve a new or continued function.	To ensure the building remains usable while respecting its cultural values.
New Work	Constructing a new structure or addition that is distinguishable from the original and has minimal impact on cultural significance.	To provide necessary functionality without compromising the heritage value.
Retain/Re-Use	Keeping existing elements or reintroducing new uses that respect the building's significance.	To preserve heritage while allowing functional upgrades.
Interpretation	Explaining or presenting the cultural significance of a place through signage, displays, or other communication methods.	To enhance public understanding, appreciation, and engagement with heritage.

Infill Design Principles

Building infill is defined as development that takes place on an undeveloped or unprofitable site with other buildings in the vicinity. Building infill is also often defined as development that fills in gaps in the existing built environment (Maryland Department of Planning, 2001). Infill design also refers to the development of vacant or underused land within existing urban areas, rather than expanding outward into undeveloped land. This includes constructing new buildings or redeveloping sites (Glendening & Kienitz, 2001).

There are more guidelines and principles for infill design, such as UNESCO conservation principles and Guidelines for Infill Development in the Historic Environment (New South Wales Heritage Office, 2005). Which both principle provides design criteria to achieve a successful infill design, as follows:

Table 3. Guidelines for Infill Development in the Historic Environment (New South Wales Heritage Office, 2005)

Aspect	Description
Character	Respect the historical context and essential character elements like landscape, building style, and urban patterns.
Scale.	Align the new building's size, height, and proportions with surrounding buildings and landscape.
Form	Reflect or respond to dominant building shapes, volumes, and rooflines without direct imitation.
Placement (Siting)	Respect the location, street alignment, views, and relationship to neighboring structures or landscapes.
Materials and Color	Use materials and colors that reflect or reinterpret the local palette and textures; modern materials can be used if compatible.
Detailing	Draw inspiration from local architectural details and decorative elements to ensure visual cohesion with the heritage context.

Adaptive Reuse

Adaptive reuse has become a critical strategy within architectural practice and heritage conservation, particularly in response to the growing need for sustainable development in urban environments. Defined as the process of repurposing heritage buildings for new functions, adaptive reuse seeks to preserve cultural and historical values while ensuring continued use and relevance (Rabbaniyah & Setiawan, 2019).

The adaptive reuse process typically includes several key stages: identifying the reuse potential, conducting a thorough analysis of the building's physical and cultural values, developing potential scenarios, and implementing the most appropriate solution (Arfa et al., 2022). The decision-making process must consider the authenticity and character of the existing structure, as well as the suitability of the new function in relation to the building's form, scale, and context. Furthermore, literature emphasizes the importance of stakeholder participation and value-based assessments to ensure that reuse outcomes are socially accepted, economically viable, and environmentally sustainable (Arfa et al., 2022).

METHODS

This research on The Alimar Hotel Malang building analyzed the conservation principles applied to the building. It examined the infill design carried out to maintain its existence using qualitative data collection methods. Qualitative data collection methods approaches such as participant observation and in-depth interviews allowed researchers to immerse themselves in urban environments and engage with architects, urban planners, and historians to understand local preferences and challenges (Gaber & Akçay, 2020).

Data Collection

For the data collection stage, this research used qualitative data collection methods. This was conducted in stages, namely primary qualitative and secondary qualitative methods.

- **Primary Data:** Primary data collection was done through a direct visit to The Alimar Hotel building, guided by the hotel keeper, and by interviewing the architect. The direct visit was carried out on May 1, 2024, at The Alimar Hotel Malang. The interview was conducted on July 24, 2024.
- **Secondary Data:** Secondary qualitative data collection was conducted by obtaining sources from the internet, social media, book documentation, and photos of the original and existing buildings.

Data Reductions

Data reduction is the process of summarizing and selecting important information that is relevant to the research topic (Sugiyono, 2017). The process involves systematically filtering, organizing, and coding raw data to highlight significant themes while eliminating irrelevant information. Within the context of new infill designs in historic

environments, data reduction helps researchers identify key urban patterns, resident preferences, and design elements that align with both cultural heritage and modern architectural principles (Purwanza et al., 2022).

Data Presentation

After the data had been reduced, the next step was to present the data. In qualitative research, data presentation can be done in the form of tables, graphs, pie charts, pictograms, and others. This presentation helped the data become organized and form relationship patterns so that it was easier to understand and allowed researchers to assess the spatial and aesthetic impact of infill designs (Gaber & Akçay, 2020). In addition, data presentation in qualitative research can be in the form of brief descriptions, charts, relationships between categories, flowcharts, and others, but the most commonly used is narrative text. With this data presentation, the data became more organized and easier to understand (Sugiyono, 2017).

Data Analysis

For the qualitative descriptive data analysis stage, the data that had been obtained were identified and categorized as follows:

- Data Collection: Collecting data through interviews, observations, or documents relevant to the research.
- Data Transcribing: Converting audio or video data into text form to facilitate analysis.
- Data Organization: Organizing data into categories or themes based on the topic or research question.
- Coding: Reading through the data and assigning codes or labels to relevant sections to identify key themes.
- Categorization: Grouping similar codes into larger categories to gain a clearer understanding of the data.
- Reporting Results: Compiling a report of the analysis by presenting key findings and interpretations in narrative form.






The interview was conducted with the architect responsible for the project to gain insights into the adaptive reuse process. Questions addressed the rationale for preserving non-listed buildings, challenges in integrating new structures, and strategies for maintaining authenticity. For instance, the architect was asked: 'What were the challenges in adapting the old building for a new function?' and 'Why was the bridge added to the building?' The responses emphasized deliberate design contrasts, minimal intervention, and preserving spatial identity.

RESULTS AND DISCUSSION

Design Intervention of Alimar Hotel Building

Table 4 presents conservation interventions applied to Alimar Hotel, categorized by principle. Key elements include material maintenance, canopy addition, and protective measures ensuring reversibility. In the application of conservation principles at the Alimar Hotel, most interventions followed established guidelines such as minimal intervention, reversibility, and preservation. However, the aspect of 'Integrity & Authenticity' could not be fully analyzed due to the absence of original drawings, sketches, or photographic documentation of the building prior to transformation. Without reliable reference materials, it was not possible to assess the degree to which the building's original character was retained or altered. As a result, this principle was not included in Table 4.

Table 4. Design Intervention of Alimar Hotel Building

Infill Design Principles	Approach	Intervention
1. Identifying significance		
A. Terrazzo Floor Material	<p>In terrazzo ceramics, there are materials that have authentic (precious) indications, terrazzo floor materials that have motifs that are no longer available today.</p> <div style="display: flex; justify-content: space-around;">   </div> <div style="display: flex; justify-content: space-around;"> <p>Old Terrazzo</p> <p>New Terrazzo</p> </div>	<p>Maintenance of Terrazzo ceramic material, in the form of Preservation, where coating is used to slow down damage to old materials in building as well as Minimal Intervention for damaged Terrazzo ceramic material by replacing it with identical materials and motifs to maintain the original.</p>
B. Building Elements	 <p style="text-align: center;">Building Elements</p>	<p>Maintenance of building motif materials, in the form of preservation, where coating and paint are used to slow down damage to wooden materials in building. However, there is no material that is damaged and needs to be replaced so it does not require Minimal Intervention.</p>
C. Interior Ceiling	<p>The interior ceilings in the building also possess authentic value. They are made of pressed iron plates. However, the motif designs used are no longer found in contemporary buildings due to their old-fashioned style.</p>  <p style="text-align: center;">Interior Ceiling</p>	<p>Maintenance of the ceilings inside the building was carried out through preservation measures, including coating and painting, to slow down damage to the iron plates, as iron is highly susceptible to corrosion caused by exposure to outdoor air.</p>
D. Empire Style Building Motif	<p>The Empire Style motif elements in the building also possess authentic and historical value, as these motifs were only produced during the period when Empire Style architecture flourished. They are made from pressed iron plates and cement carvings that form decorative elements on the façade.</p>  <p style="text-align: center;">Empire Style Building Motif</p>	<p>The maintenance of the building's exterior walls and Empire Style motifs was carried out through preservation measures such as coating and painting to slow down material deterioration caused by rain, sunlight, and weather exposure.</p>

E. Door Frame	Frames, glass and doors in buildings also have an authentic (precious) value. The material is made of teak wood and has distinctive motifs and shapes and uses stained glass during the Empire Style period and cannot be found on frames and doors today.	Maintaining frame, glass and door materials made of wood require special attention because the material is susceptible to weathering, so preservation measures are taken, where coating and paint are used to slow down damage to the material caused by rain, hot sun and weather.
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Door Frame

2. Minimal intervention

Canopy	New materials added to the building are minimized so that when the new structure is dismantled it is not damaged and has minimal impact on the original building.	The connecting canopy between the new and old buildings uses the principle of minimal intervention, where the new building does not damage the wall structure of the old building by adding a new canopy using the New Work method where the new building can be identified from new materials (steel, polycarbonate), so that it is suitable with conservation principles.
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Canopy

3. Integrity And Authenticity

None

4. Reversibility

A. Bridge	During the process of constructing a new building, several parts of the roof of the old building were removed to be able to install a crane which was used to install the steel of the bridge above the old building.	Dismantling the roof structure on the old building is carried out carefully and one by one the parts are removed so that it can be returned to its original shape and minimize the damage caused to the old building during new building construction activities in accordance with the principle of Reversibility.
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Bridge

B. Terrazzo Wood Layer

During the dismantling process, the terrazzo floor roof in the old building was given a temporary layer of wood so that it would not be damaged when heavy equipment was on the floor to install the steel.


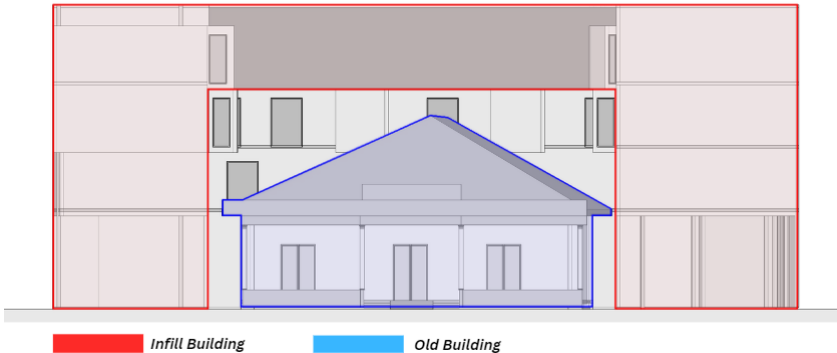
The use of covering material on the building's terrazzo floor to minimize damage resulting from work on the new building during the demolition of the building roof so that it complies with the principle of reversibility.

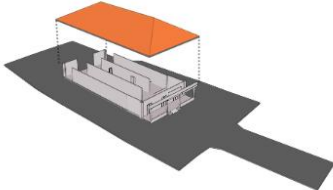
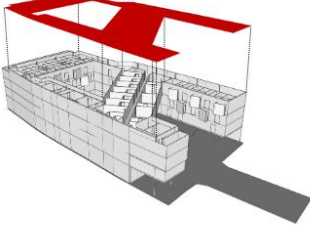

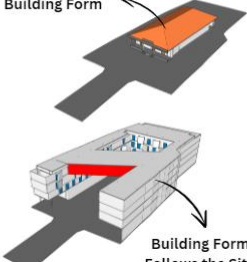


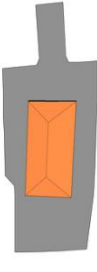

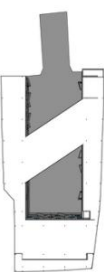




Terrazzo Wood layer

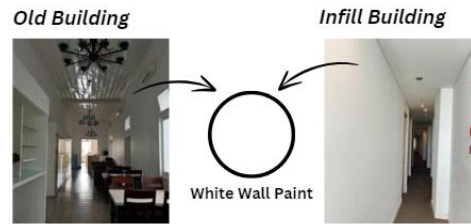
Conservation of Alimar Hotel Building

Table 5. Conservation of Alimar Hotel Building

Adaptive Infill Design Principle	Approach
Character Architectural Style	 <p>Contrasting - The old building uses a colonialism architectural approach, where there are many ornaments on the building, a symmetrical plan form with a terrace at the front of the building, while the infill building uses a modern architectural approach, where there are many square elements on the building, and not many decorations / accents on the new building.</p>
Scale Building height	 <p>Contrasting - Contrasting - The old building uses a design with a 1- floor building with a building that is not tall but wide, while the infill building uses a design with land utilisation, where the building design has 4 floors.</p>

Form	
A.Roof	<div><div><div>Perisai Roof Old Building</div></div><div><div>Concrete Roof Infill Building</div></div></div>
B.Building Form	<p>Contrasting - The old building uses a shield roof, while the infill building uses a roof deck to fulfil the needs of the service area.</p> <div><div><div>Old Building</div></div><div><div>Symmetrical Building Form</div></div><div><div>Infill Building</div></div></div> <p>Contrasting - The form of the old building is symmetrical, while the infill building utilises the remaining land, so it is not symmetrical.</p>
Siting	
Building Siting	<div><div><div>Old Building</div></div><div></div><div><div>Infill Building</div></div><div></div></div> <div><div>Green Area</div><div>Old Building</div><div>Infill Building</div></div> <p>Contrasting - The old building is placed in the centre of the site according to the typology of the old residential house with a garden surrounding the building, while in the infill building, the building surrounds the old building, so the garden is only left at the front of the old building.</p>
Materials and Color	
A. Structure	<div><div><div>Old Building</div></div><div><div>Infill Building</div></div></div> <div><div>Reinforced concrete columns</div><div>Steel Column</div></div> <p>Contrasting - The use of reinforced concrete construction in the old building structure while the infill building uses steel construction.</p>

B. Wall



Compatible - The wall material of the **old building** and **infill building** uses plaster finishing material with dominant white paint.



Contrasting - The facade material on the **infill building** bridge uses Aluminium Composite Panel with the use of contrasting colors (red color).

C. Doors and Windows



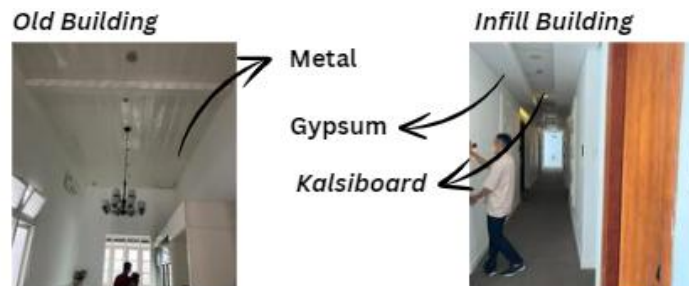
Compatible

- The **old building** door material uses wood with glass, and the **infill building** uses basic wood material coated with multiplex and HPL on the room door.
- The window color of the **old building** and **infill building** is white.











Contrasting

- The color of the door in the **infill building** is brown.
- **Infill building** window material using aluminum
- The door material on the ground floor of the **infill building** uses glass with an aluminum frame.

D. Ceilings



Contrasting – The **old building's** ceiling material uses metal, while the **infill building** uses gypsum and kalsiboard.

E. Floors	
<div>Old Building</div> 	<div>Infill Building</div> 
Contrasting - The old building material uses terrazzo, while the infill building uses ceramic, carpet, and parquet.	
Detailing	
A. Structure	
<div>Old Building</div> 	<div>Infill Building</div> 
<div>Columns with Ornaments</div> <div>Plain Columns Without Ornaments</div>	
Contrasting - In the old building , there are ornaments on the columns, while in the infill building , the columns are just plain.	
B. Doors and Windows	
<div>Old Building</div> 	<div>Infill Building</div> 
Contrasting - In the old building , there are motifs on the window and door glass, trellis above the door, and locking using conventional old door locking, while the doors and windows of the infill building are just plain.	
C. Ceilings	
<div>Old Building</div> 	<div>Infill Building</div> 
<div>Connection</div> <div>Shadow Line</div> <div>Drop Ceiling</div>	
Contrasting - The formation of the old building ceiling has a connection between the iron plates used, while the infill building uses a drop ceiling and the addition of shadow lines.	
D. Floors	
<div>Old Building</div> <div>Terrazzo With Pattern</div> 	<div>Infill Building</div> <div>Plain Ceramic and Parquet</div> 
Contrasting - The use of terrazzo in the old building with various motifs, while the infill building uses plain ceramics.	

Based on the analysis presented in Table 5, it is evident that the infill design strategy applied to the Alimar Hotel adheres to internationally recognized infill development principles. The deliberate use of contrast, spatial integration, and material compatibility reflects a contextual and respectful approach to heritage adaptation. As such, the design interventions align with the criteria set by the New South Wales Heritage Office and UNESCO guidelines, ensuring a harmonious coexistence between old and new architectural elements.

CONCLUSION

The architectural transformation of the Alimar Hotel in Malang represents a notable example of how conservation principles and infill design can be effectively applied within an urban heritage context. Originally constructed as a colonial residence in 1882, the building holds significant historical and cultural value. Through an adaptive reuse approach, the original architectural character has been preserved, maintaining essential features such as its symmetrical façade, window proportions, and material authenticity. This conservation effort aligns with the core principles of minimal intervention and respect for historical integrity, as emphasized in international charters such as the Burra Charter.

The new functions introduced—shifting from a private residence to a commercial hotel—are accommodated through carefully planned infill developments. These additional structures are positioned at the rear of the site and designed with architectural language that complements rather than mimics the historic fabric. Massing, scale, and spatial arrangement are carefully considered to ensure visual harmony and functional coherence between the old and the new. This strategy exemplifies a contextual design approach, where the new interventions are contemporary yet sympathetic to the heritage setting.

By merging conservation and infill design, the Alimar Hotel project successfully revitalizes a heritage site without erasing its historical narrative. It allows the building to remain relevant and functional in the present-day urban landscape while reinforcing its identity as part of Malang's architectural heritage. This study affirms the role of adaptive reuse and infill design not only in heritage conservation, but also in advancing sustainable urban development. The integration of new structures without compromising cultural values reflects a strategy that can guide future conservation projects in growing cities.

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