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Designing destination image: Integrating hotel and MICE functions to strengthen a coastal city's global competitiveness

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ABSTRACT

Background: The development of the Ancol coastal area as an integrated tourism and business destination still faces limitations in the capacity of MICE (Meetings, Incentives, Conferences, and Exhibitions) facilities and internationally standardized hotel accommodations. This design project aims to develop a five-star convention hotel in the Pantai Indah area of Ancol that integrates hotel and convention functions while responding to the characteristics of the coastal environment through a modern-contemporary architectural approach. **Methods:** The design method involves literature study, site analysis, benchmarking, and the formulation of spatial, structural, and building-system concepts. **Findings:** The results indicate that the main site issues include tidal flooding, high humidity, noise, and exposure to sea winds, while the greatest potential lies in its orientation toward views of the Java Sea and strong accessibility. Design strategies are implemented through elevation of the ground floor, clear zoning of public–semi-public–private areas, optimization of natural lighting and ventilation, integrated HVAC systems, and the use of corrosion-resistant materials combined with green-building principles. The final design produces a convention hotel that meets five-star service standards, supports MICE activities effectively, offers luxurious and comfortable spatial experiences, and strengthens Ancol's image as an international-class business tourism destination. **Conclusion:** This study concludes that the proposed contemporary convention hotel integrates functional efficiency, coastal environmental responsiveness, and a strong destination identity, positioning it as a resilient MICE facility that supports tourism development and city branding in Ancol. **Novelty/Originality of this article:** This study proposes a coastal-responsive convention hotel design that integrates environmental adaptation with destination identity to strengthen Ancol's city branding as an international MICE tourism destination.

KEYWORDS: Ancol; coventionhall; MICE; modern contemporary; sustainability.

1. Introduction

Jakarta has undergone significant transformation following the relocation of Indonesia's national capital to Nusantara under Law No. 3 of 2022. Despite this shift, Jakarta remains the country's principal center for economic activity, cultural production, tourism, and business exchange, in line with the long-term aspirations of Indonesia Emas 2045 data from *Badan Perencanaan Pembangunan Daerah/Regional Development Planning Board* (Bappeda DKI Jakarta, 2024b). The Regional Long-Term Development Plan (RPJPD) 2025–2045 positions Jakarta as a globally connected, competitive, equitable, and sustainable

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metropolis through a polycentric development strategy intended to distribute growth more evenly across the urban region (Bappeda DKI Jakarta, 2024a). Within this spatial policy framework, the coastal zone is identified as a strategic corridor for future intervention, and Ancol emerges as one of the most important sites for tourism-led diversification and higher-value urban development (see Figure 1).

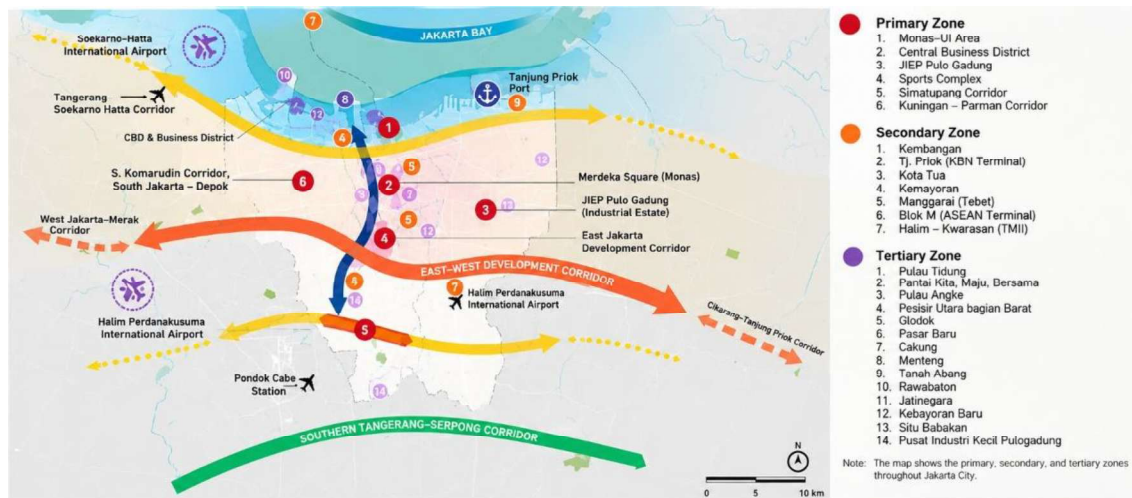


Fig. 1. Map of primary, secondary, and tertiary zones in Jakarta (Bappeda Jakarta, 2024b)

Ancol is a coastal precinct of approximately 500 hectares that combines recreational attractions, cultural amenities, and hospitality assets, including Dunia Fantasi, Pantai Karnaval, and Sea World (PT Pembangunan Jaya Ancol Tbk, 2024). Its proximity to Jakarta International Stadium and the historic Kota Tua district strengthens its potential as an integrated destination that connects leisure, culture, and business. However, despite this strategic position, the area remains dominated by four-star hotels and leisure-oriented services. A five-star convention hotel with full MICE (Meetings, Incentives, Conferences, and Exhibitions) capabilities is still absent, limiting Ancol's ability to capture business tourism and large-scale events, as illustrated in the Ancol area master plan in Figure 2.



Fig. 2. Ancol area master plan – 2024 (PT. Pembangunan Jaya Ancol Tbk, 2024)

The urgency of MICE development is supported by current market indicators. Convention center utilization in Jakarta reached 55% in 2024, suggesting that existing facilities are under considerable pressure and may not be sufficient to accommodate large or simultaneous events. At the same time, Indonesia's MICE market is projected to grow strongly through 2032, indicating expanding opportunities for urban destinations capable of providing internationally standardized event infrastructure (Yahoo Finance, 2024). To respond to this opportunity, facilities must provide column-free ballrooms, flexible exhibition areas, efficient logistics circulation, robust audiovisual and information technology systems, and high-quality hospitality services that meet international expectations.

Beyond its functional role, architecture also contributes directly to place branding by shaping destination image, identity, and visitor experience. Empirical and theoretical studies show that built form, materiality, and spatial sequencing help produce distinctiveness and perceived authenticity, which in turn influence tourist satisfaction and destination reputation. Framing the proposed five-star convention hotel as a strategic urban signifier therefore situates the project within Ancol's broader destination strategy: the building's formal expression, public interfaces, and experiential sequences are expected not only to serve MICE functions but also to reinforce Ancol's identity as an internationally competitive yet contextually grounded business tourism precinct.

Designing such a facility in a coastal context requires careful negotiation between ambition and environmental reality. Ancol faces tidal flooding, long-term land subsidence, high humidity, salt exposure, and strong sea winds, all of which affect structural performance, material durability, and occupant comfort. Solar orientation and wind patterns also influence thermal conditions and façade performance. These challenges make resilience a central design concern. Elevating occupied spaces, using flood-resistant ground plane strategies, selecting corrosion-resistant materials, integrating active water management, and shaping the landscape to improve microclimate conditions are essential responses to the site's environmental risks.

Beyond technical response, this study positions architecture as a strategic instrument for city branding and place identity. Contemporary destinations compete not only through infrastructure, but also through image, experience, and symbolic value. In this regard, a hotel-convention complex can function as more than a programmatic container; it can become a visible marker of place that shapes how visitors perceive the destination. The analytical framework used in this study combines place branding concepts, such as visibility, distinctiveness, and accessibility, with theories of authenticity and sense of place to guide the design process. This means that the building is evaluated not only in terms of function and efficiency, but also in terms of its ability to communicate identity, create memorable experiences, and strengthen Ancol's image as an authentic yet internationally competitive business tourism destination.

This perspective is especially important because architecture in a tourism setting often contributes to the formation of destination reputation. The physical form of the building, its material expression, spatial sequence, public interface, and relationship to the coastal environment all influence how place is experienced and remembered. For Ancol, this means that the convention hotel should not simply imitate global luxury typologies, but should reinterpret them through a local lens. Modern-contemporary architecture is therefore selected not only for its functional flexibility and clean formal language, but also for its capacity to integrate premium quality with contextual expression.

Operationally, the hotel-convention model is organized through a clear hierarchy of zoning. Guest circulation and service circulation are separated to ensure operational efficiency, while public functions are placed on an elevated podium to reduce flood risk. The guest room tower is oriented to maximize sea views and to function as an acoustic buffer against entertainment areas. Transitional spaces such as atriums, pre-function zones, terraces, and semi-public lounges are designed to support both hotel and event functions while creating a layered spatial experience. In addition, sustainability principles are integrated from the conceptual stage through passive and active strategies, including

massing orientation, cross-ventilation where possible, efficient Heating, Ventilation, and Air Conditioning (HVAC) systems, greywater reuse, and photovoltaic applications on suitable roof areas.

Methodologically, this study adopts an integrative design research approach that combines multiscale site analysis, review of international MICE and hotel standards, environmental risk assessment, precedent study, and iterative conceptual-to-schematic design development. The analysis operates at the urban, precinct, and micro-site levels in order to understand how larger spatial policies, coastal environmental conditions, and immediate site characteristics influence design decisions. Performance criteria include flood resilience, spatial flexibility for MICE programming, guest comfort in thermal, acoustic, and visual terms, and operational efficiency. The resulting design is evaluated through qualitative interpretation and selected quantitative checks, such as daylight factor estimates, flood clearance calculations, and functional area benchmarking against international standards. The main research question of this study is: How can a five-star convention hotel in Ancol integrate MICE facilities and luxury accommodation within a modern-contemporary architectural framework that is resilient to coastal challenges while also strengthening city branding and destination authenticity? The study aims to produce a conceptual and schematic design that balances symbolic urban identity, operational performance, environmental resilience, and market viability. Its broader contribution lies in offering a design approach that is relevant not only for Ancol, but also for other coastal urban destinations seeking to combine tourism development, climate responsiveness, and place-based identity in a single architectural strategy.

2. Methods

This study employs a descriptive-qualitative design research approach supported by literature study, precedent analysis, site analysis, form development, and building system evaluation. The method is structured to generate an architectural concept and schematic design for a five-star convention hotel in Ancol by integrating functional, environmental, regulatory, and contextual considerations. The design process is iterative, moving from analytical stages to conceptual translation and schematic refinement.

2.1 Precedent and Literature Review

The precedent and literature review stage was conducted to establish the theoretical and technical foundation of the design. This stage focused on international MICE standards, convention hotel planning principles, biophilic design principles, and coastal building strategies. The review was used to identify spatial requirements related to guest circulation, delegate circulation, service circulation, public access, and operational efficiency so that the building program could be organized in a clear and functional manner.

A regulatory review of the Ancol area was also conducted to ensure that the proposed design complies with applicable spatial planning regulations. The parameters analyzed included the Building Coverage Ratio (KDB), Floor Area Ratio (KLB), and Green Base Coefficient (KDH), which were used to determine the allowable building mass, open space proportion, and land-use intensity. This step ensured that the conceptual design remained both feasible and legally compliant within the spatial framework of the site.

Benchmarking was carried out on convention hotels and mixed-use hospitality projects in tropical coastal contexts. The benchmarking criteria included podium-tower configuration, separation of public and private zones, circulation clarity, flood adaptation strategies, façade response to humid and saline conditions, and integration of event and accommodation functions. The selected precedents were compared to identify spatial patterns, operational strategies, and environmental responses that could inform the design of the proposed hotel-convention complex. The benchmarking process was not used to copy formal appearance, but to extract transferable planning principles relevant to the Ancol context.

2.2 Macro and micro site analysis

Site analysis was conducted to understand the environmental and spatial conditions of the site at both macro and micro scales. At the macro scale, the analysis examined the coastal climate, sun path, wind direction, humidity, and tidal influences in the Jalan Pantai Indah area. The data were interpreted to determine the building orientation, mass placement, shading strategies, and façade response. This stage also informed strategies for reducing solar heat gain and improving thermal comfort through passive design approaches.

At the micro scale, the analysis focused on accessibility, noise sources, surrounding land use, and potential user movement patterns. Noise mapping was used to identify areas with high acoustic disturbance that could affect guest room comfort and convention activities. Accessibility analysis assessed entry points for guests, delegates, service vehicles, and emergency access, allowing the circulation system to be organized more efficiently. These findings were then translated into zoning decisions, entrance placement, and the distribution of public, semi-public, and private areas.

The site data were also used to formulate cross-ventilation and microclimate strategies. Wind direction, building spacing, opening placement, and mass configuration were considered to optimize natural air movement where possible. This approach supported thermal comfort while reducing dependence on mechanical cooling in transitional spaces.

2.3 Form transformation

Form transformation was carried out through iterative massing studies to translate programmatic and contextual requirements into an architectural form. The initial stage involved the development of several massing alternatives to examine the relationship between the podium and tower components. These alternatives were assessed based on functional clarity, spatial efficiency, environmental response, visual identity, and compatibility with the surrounding coastal setting.

The principle of form follows function was applied so that the architectural form emerged from the building program rather than from formal expression alone. The podium accommodates public and convention functions, while the tower houses the more private hotel functions. This separation supports operational clarity, spatial hierarchy, and improved guest experience. At the same time, the configuration allows the building to respond to flood risk by elevating critical functions above the ground plane.

Façade development focused on creating a modern architectural character that is appropriate for the coastal environment. Material selection, shading devices, and façade articulation were tested to ensure durability against sea air corrosion, while also contributing to the building's landmark potential. The final form was selected based on its ability to balance functionality, environmental performance, and visual identity.

2.4 Structural and building system analysis

Structural and building system analysis was conducted to determine the most suitable technical solution for a high-rise convention hotel in coastal Jakarta. Because the site is located on soft coastal soil, the structural system had to ensure load stability, minimize settlement risk, and support long-term building performance. The analysis considered soil conditions, vertical and lateral load requirements, flood vulnerability, and operational demands of MICE and hotel functions.

A raft foundation was selected as the main foundation system to distribute structural loads more evenly across the subsoil. This system was chosen to improve stability and reduce differential settlement, particularly under conditions of soft ground and potential tidal influence. The structural configuration also supports elevated public functions and a clear separation between the ground plane and occupied areas.

The building envelope and material system were evaluated based on resistance to humidity, salt exposure, ease of maintenance, and long-term operational efficiency.

Corrosion-resistant materials were prioritized for exposed components, especially in façade and external circulation areas. In addition, HVAC systems, water management, and energy-saving measures were considered as part of the overall building system to improve environmental performance and operational resilience.

2.5 Design evaluation

The design was evaluated through a qualitative-analytical process supported by selected quantitative checks. The qualitative evaluation examined the coherence between program, circulation, zoning, massing, façade expression, environmental response, and contextual identity. Each design iteration was reviewed to determine whether it satisfied the functional requirements of a convention hotel while also responding to the coastal setting and the city branding objective.

The quantitative evaluation was used to verify key design assumptions. This included benchmarking of functional areas against comparable convention hotels, checking circulation efficiency, assessing the adequacy of public and service zoning, and estimating environmental performance through daylight and flood-clearance considerations. In addition, the proposed spatial organization was reviewed against regulatory constraints such as KDB, KLB, and KDH to ensure compliance with planning provisions.

The final design was selected when it demonstrated a balanced performance across four criteria: functional efficiency, environmental resilience, regulatory conformity, and architectural identity. In this way, the evaluation process served not only as a technical verification stage but also as a design refinement mechanism that guided the transition from concept to schematic design.

3. Results and Discussion

This section presents the main analyses that form the basis of the design of the Convention Hotel in Ancol. The discussion begins with the technical planning parameters of the site and continues with an analysis of spatial function, vertical zoning, building massing, façade response, structural strategy, and waterfront conditions. These aspects are closely related and are used to ensure that the design not only meets the requirements of a five-star convention hotel, but also responds appropriately to the coastal context, regulatory constraints, and principles of sustainable design. The following subsections explain each consideration in greater detail.

3.1 Technical planning parameters

Based on the site analysis and the regulatory framework of the area, the Convention Hotel in Ancol is planned on a 30,000 m² site located at Pantai Indah street No. 7, RW 10, Ancol, Pademangan District, North Jakarta, Special Capital Region of Jakarta 14430. The site is located in a coastal area with high tourism and economic potential, but it also faces environmental challenges such as high humidity, exposure to sea winds, the possibility of tidal flooding, and relatively soft soil conditions. Therefore, the technical planning parameters are determined not only by spatial needs, but also by the physical conditions of the site and the applicable spatial regulations. In this context, the values of a Building Coverage Ratio (KDB) of 40%, Green Base Coefficient (KDH) of 40%, Floor Area Ratio (KLB) of 2, a Building Setback Line (GSB) of 8 meters, and a Coastal Setback Line (GSP) of 10 meters serve as the main basis for organizing building mass, land-use intensity, and open-space proportions. As shown in Figure 3 and Figure 4, these regulations directly shape the placement of the building mass, the proportion of green open space, and the relationship between the built form and the coastal edge.

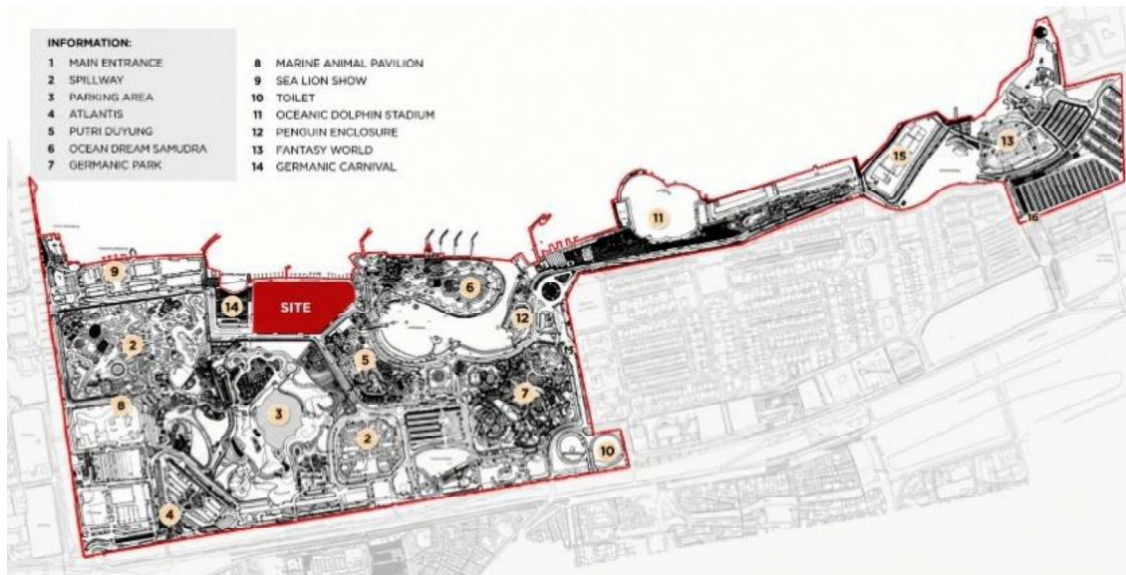


Fig. 3. The planning location is situated within the Ancol area master plan.
(PT. Pembangunan Jaya Ancol Tbk, 2024)

The application of a 40% KDB means that only part of the site may be covered by the building mass at ground level. This condition provides an opportunity to create a relatively generous amount of open space on the site, allowing the building to respond more effectively to the coastal climate. Meanwhile, the 40% KDH requires nearly half of the site to be maintained as green space. This is highly relevant to a sustainable design approach because green areas can function as water infiltration zones, natural shading elements, and microclimate modifiers around the building. In this sense, the technical parameters are not merely administrative limitations, but also a basis for creating a design that is more adaptive to its environment.

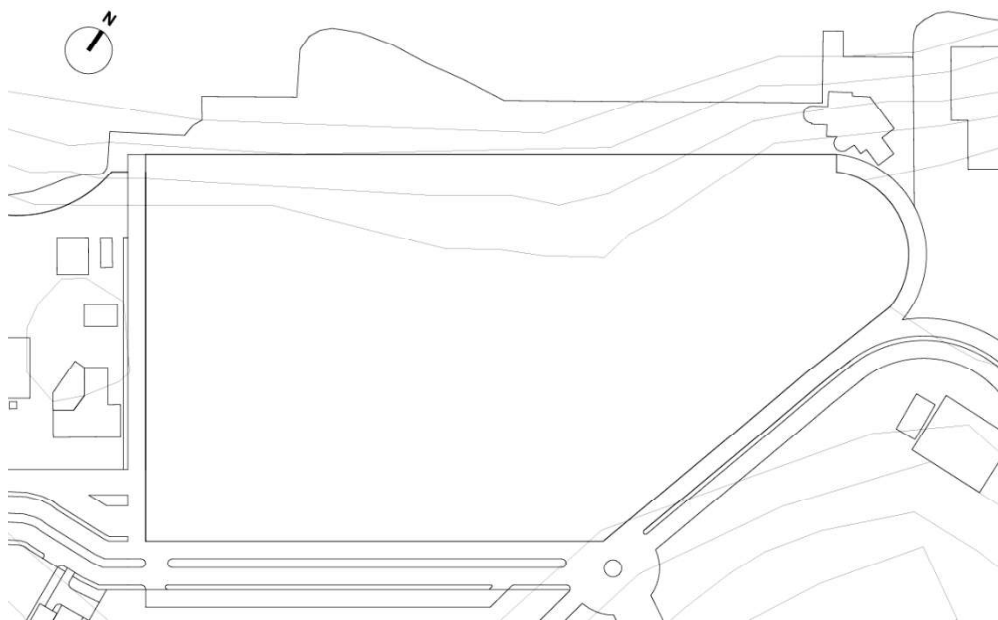


Fig. 4. Location of the convention hotel planning by Autocad

A KLB of 2 indicates that the total allowable floor area is twice the site area. This encourages an efficient vertical organization of the building mass, especially because a convention hotel has a complex spatial program that includes public areas, meeting rooms, a ballroom, guest rooms, restaurants, support facilities, and service areas. For this reason, vertical distribution becomes the most rational strategy for accommodating the entire

program without compromising spatial quality or operational efficiency. The 8-meter building setback line and 10-meter coastal setback line also affect the placement of the building mass so that it is not positioned too close to the site boundaries and still allows space for airflow, landscaping, and transitional zones that enhance spatial experience in the coastal setting. These findings are summarized in Table 1 and visually reflected in the site planning diagram.

Table 1. Short label for the parameter

Address	Pantai Indah Street No. 7, RW 10, Ancol, Pademangan District, North Jakarta, Special Capital Region of Jakarta 14430, Indonesia.
Site Area	30,000 m ²
Floor Area Ratio/ KLB	40% (maks)
Building Coverage Ratio/ KDB	2
Open Space Ratio/ KDH	40% (minimum; tourism zone per Jakarta spatial plan)
Minimum Frontage Setback / GSP	10 m (measured from GSP or adjusted to surrounding conditions)
Building Setback/ GSB	8 m
Maximum Building Height/ KB	Max. 160 m (due to Soekarno–Hatta Airport operational height restriction)

(Nova et al., 2026)

Overall, these technical parameters establish the fundamental framework for the design, guiding how the building is positioned, how much mass can be developed, and how the relationship between the building and the outdoor space is formed. In this project, the technical parameters are understood not as limitations alone, but as part of a design strategy that ensures the building can function optimally, comply with regulations, and remain in harmony with Ancol's identity as both a coastal destination and a business tourism area.

3.2 Design outcome and functional analysis

The design outcome shows that the convention hotel is conceived as a five-star building that functions both as accommodation and as an international-scale MICE facility. The central idea is to integrate hospitality and convention functions into one interconnected system while maintaining clear spatial separation. In this context, guest comfort, smooth event operations, and efficient service circulation become the primary considerations in shaping the spatial program.

The building is designed as a 14-story structure without a basement. This decision is based on technical considerations related to the coastal setting, particularly the risk of tidal flooding and soil conditions that are not ideal for underground construction. Instead, parking requirements are accommodated in a separate parking building so that utility systems, structural safety, and vehicle management can be handled more effectively. The building height also responds to the allowable floor area intensity set by the KLB, making vertical development the most suitable solution for accommodating the entire program within the limited site area.

The building is divided into two main zones: the podium and the tower. This zoning results from a functional analysis based on privacy levels and activity intensity. The podium area, located on the first to third floors, is dedicated to public and convention functions. It includes the main lobby, reception area, ballroom, meeting rooms, pre-function areas, restaurants, and other MICE support facilities. This zone is designed to provide easy access, clear circulation, and sufficient capacity to accommodate large numbers of users. The tower

area, located on the fourth to fourteenth floors, is dedicated to the private zone and contains hotel rooms, including Standard Rooms, Suite Rooms, and a Presidential Suite.

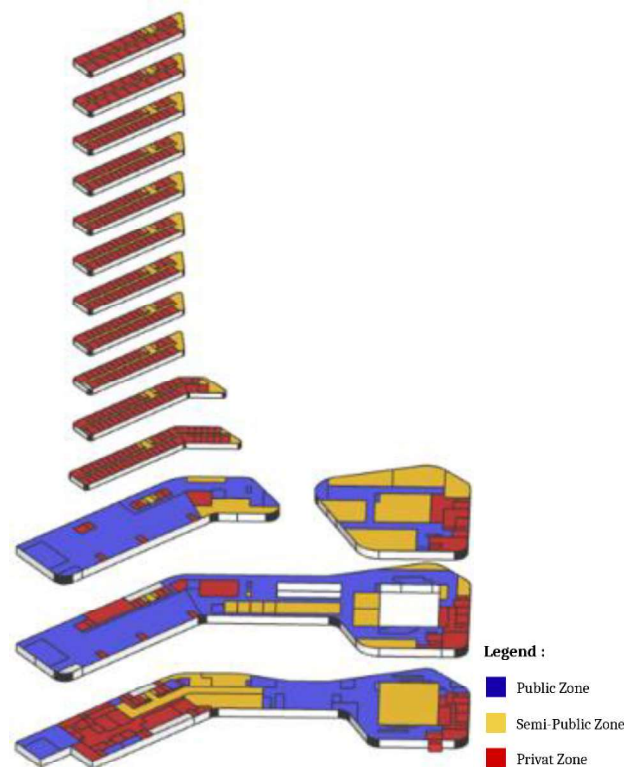


Fig. 5. Functional space zoning guidelines for the building
(Nova et al., 2026)

This spatial arrangement shows that the design emphasizes not only completeness of facilities, but also operational efficiency and user comfort. The Standard Room is designed as the primary room type and represents the largest proportion of the guest rooms, serving general guests and event delegates. The Suite Room is provided for guests who require greater comfort and more generous space. The Presidential Suite serves as a premium accommodation unit that supports the five-star service standard. With this program structure, the building can serve different types of users without compromising the privacy of each area, as indicated in Figure 5.

The functional analysis also shows that the convention hotel is designed not only as a place to stay, but also as an active social and business venue. Therefore, the relationship between public and private spaces must be carefully managed so that convention activities, which tend to be highly active, do not disturb the guest rooms. For this reason, vertical zoning becomes the most effective approach. By placing public functions below and private functions above, the building can maintain circulation order while creating a functional organization that is easy for users to understand.

3.3 Vertical zoning and circulation strategy

The application of vertical zoning in the Ancol Convention Hotel is a primary strategy to address the building's functional complexity. The design establishes a clear separation between public and private zones while maintaining efficient connections between them. The podium (first to third floors) functions as the public and semi-public zone, accommodating reception, gathering, and convention activities. The tower (fourth to fourteenth floors) serves as the private zone, reserved for hotel guests and authorized staff. This strategy responds to differing user intensities across hotel functions. During MICE events, visitor numbers can increase substantially, whereas guest room areas must remain

quiet and private. Vertical separation reduces conflicting user flows and prevents disturbances: guests can access their rooms without mixing with event attendees, while participants reach convention spaces directly from the lobby or the designated drop-off area.

Operationally, vertical zoning enhances service efficiency. Service routes for food delivery, event logistics, linen handling, and daily operations are routed through circulation paths separate from guest circulation. Consequently, backstage activities do not interfere with guests' experience in public areas—an important consideration for maintaining five-star standards of comfort, service speed, and operational discretion. As shown in Figure 6, public circulation is concentrated at the podium level. Moreover, the zoning system facilitates building security management. With clearly defined access zones, each area can be controlled according to its security level. For example, the convention area may be publicly accessible during specific hours, whereas the guest room zone remains restricted to residents and authorized staff. This arrangement improves the building's organization, security, and suitability for diverse activities.

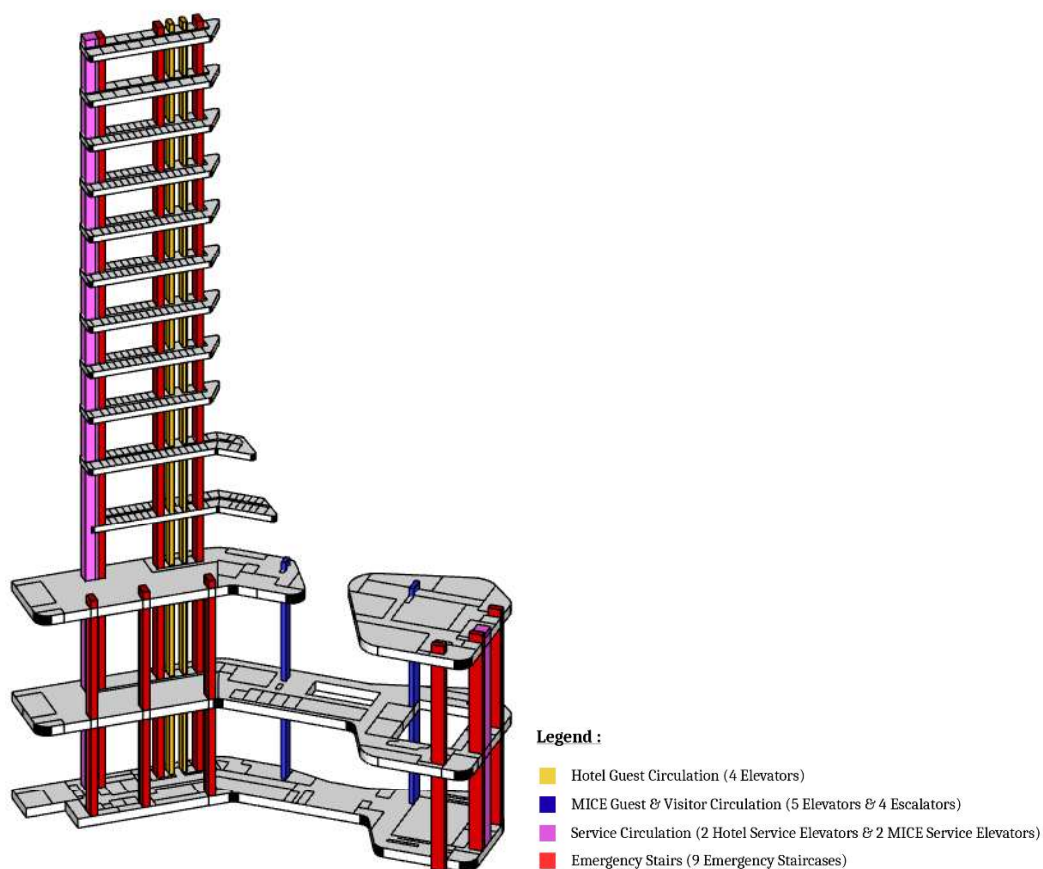


Fig. 6. Guest, service, and public circulation zoning diagram
(Nova et al., 2026)

3.4 Massing and building orientation

The massing analysis indicates a semi-fragmented composition, with intentional gaps between volumes that act as transitional spaces and cross-ventilation corridors. This configuration responds to the coastal climate, daylight requirements, prevailing wind direction, and the visual potential of the sea view. By reducing the solidity of the massing, the building appears visually lighter and more responsive to environmental conditions. The building is oriented north-south to minimize direct solar heat gain from the east and west. In Jakarta's tropical climate, east- and west-facing façades receive intense, low-angle sunlight that is harder to control; a north-south orientation stabilizes solar exposure and

reduces façade heat load. This orientation also optimizes sea views, a key asset of the Ancol site. As shown in Figure 7, the volumes are arranged with gaps that serve as transition spaces and cross-ventilation channels.

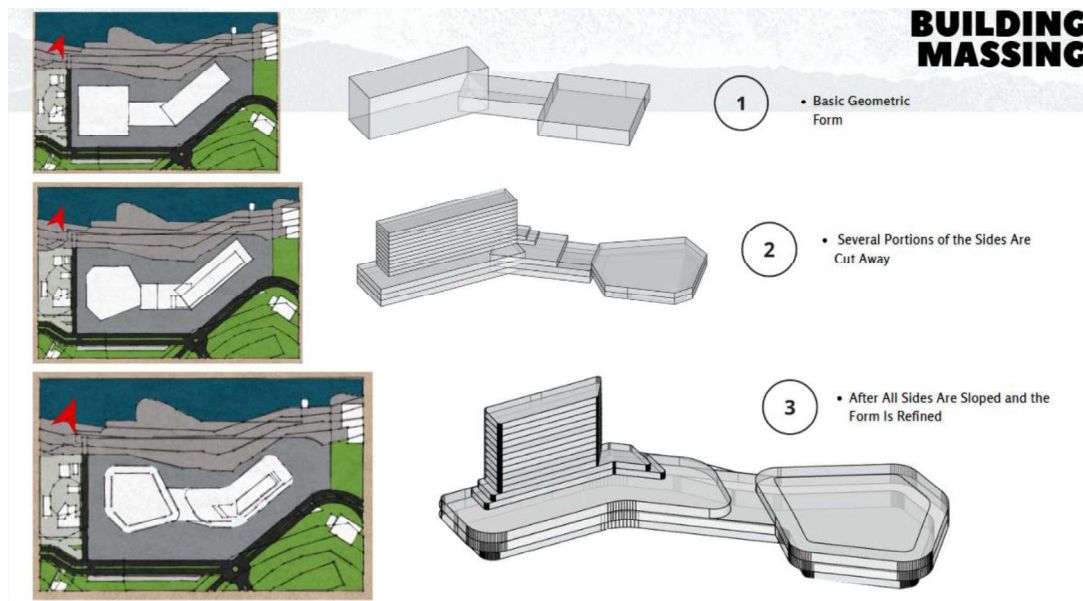


Fig. 7. Mass transformation diagram, north-south orientation, and form study (Nova et al., 2026)

The gaps between the building masses function not only as visual separators but also as climatic elements that support airflow. In a coastal building context, cross-ventilation is one of the most important passive strategies for improving thermal comfort. With better air movement, reliance on mechanical cooling can be reduced, making the building more energy efficient. At the same time, the spaces between masses create a dynamic visual effect and reinforce the modern-contemporary character of the building.

The semi-fragmented massing also contributes to a more iconic composition. In a visually prominent area such as Ancol, a building must not only function well but also possess a strong visual identity as a landmark. For this reason, the massing was developed by carefully considering proportions, rhythm, and the relationship between volumes in order to produce an elegant, modern appearance that is consistent with the identity of the coastal setting.

3.5 Façade and thermal response

The façade is conceived as a principal element integrating aesthetic quality, thermal comfort, and durability in a coastal environment. It functions not only as the building's outer skin but also as a protective system that mitigates solar heat gain, controls glare, and supports long-term performance. Given Ancol's high salinity and humidity, material selection prioritized corrosion resistance and low maintenance requirements.

A primary strategy is the use of a secondary skin on façades exposed to the greatest solar heat, particularly the east and west elevations. This secondary layer reduces direct solar radiation into interior spaces, improving indoor temperature control and lowering air-conditioning demand. Visually, the secondary skin introduces shadow patterns and textural variation that enrich the façade.

Shading devices such as overhangs and balconies complement this strategy. They block direct sunlight while adding spatial and experiential value for guests; balconies, in particular, enhance views toward the sea. Low-E glass is specified to improve thermal performance while retaining a modern, transparent aesthetic. As shown in Figure 8, the east and west façades are protected by the secondary skin, overhangs, and balconies to reduce

solar gain and glare. The façade's formal language remains simple, compact, and clean. A neutral, earth-tone palette reinforces an elegant and restrained appearance that harmonizes with the coastal landscape while preserving the building's landmark identity. In this respect, the façade mediates technical performance and architectural expression.



Fig. 8. Façade diagram, secondary skin, overhangs, balconies, or material study (Nova et al., 2026)

3.6 Structure and site mitigation

The structural analysis shows that the building requires a system capable of accommodating soft coastal soils and significant vertical and lateral loads. Because Ancol's subsoil is generally soft and prone to settlement, foundation and structural choices must mitigate differential settlement and ensure long-term stability. To preserve spatial flexibility for convention functions, the design employs wide-span columns that allow open, column-free interiors suitable for ballrooms, meeting halls, and adaptable event spaces. A raft foundation is proposed as the primary foundation system because it distributes loads evenly across the subsoil and reduces differential settlement, making it an appropriate solution for soft soil conditions. The raft foundation also contributes to overall structural stability and is integral to the site mitigation strategy given the site's exposure to tidal flooding.

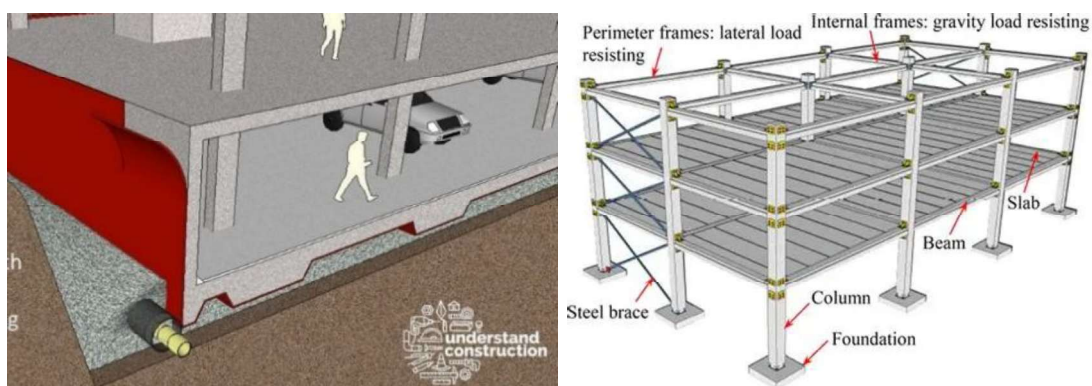


Fig. 9. Raft foundation and concrete frame system (Understand Building Construction, (n.d.); American Society of Civil Engineers, (n.d.))

To further reduce flood risk, the building omits a basement, and parking is accommodated in a separate parking structure. This approach lowers the risk of

underground flooding, simplifies vehicular circulation, and enhances structural safety. Additionally, the ground floor is elevated to provide extra protection against water intrusion during tidal events. Together, these measures demonstrate that structural design and site planning were developed to respond directly to environmental constraints as well as load requirements. The result is a building that maintains operational safety, occupant comfort, and resilience in a challenging coastal context, aligning with contemporary architectural principles that emphasize function, durability, and contextual adaptation. As shown in Figure 9, the raft foundation and concrete frame system support load distribution while enabling the elevated ground-floor strategy..

3.7 Waterfront Analysis

The waterfront analysis is conducted to understand how the building interacts with the coastal character of Ancol, which faces directly toward the sea. In the design of the Convention Hotel in Ancol, the waterfront is understood not only as a physical boundary between land and water, but also as an important element that shapes visual quality, environmental comfort, and user experience. Therefore, this analysis serves as a basis for determining building orientation, massing organization, outdoor spatial formation, and the strategy for connecting the building with the coastal landscape.

One of the key aspects of the waterfront analysis is the management of sea views. In a coastal area such as Ancol, the view toward the sea is a major asset that can improve the quality of hotel spaces, especially guest rooms, lounges, restaurants, and certain public areas. For this reason, the building mass is oriented so that as many spaces as possible have visual access to the waterfront. Spaces with the highest experiential value are placed on the sides with the best views, allowing the relationship between users and the coastal landscape to be maximized. In this way, the waterfront functions not merely as a visual backdrop, but as part of the guest experience and daily activity within the building.

In addition to visual qualities, the waterfront is also analyzed in terms of climatic response. Coastal areas are characterized by sea breezes, high humidity, and intense solar exposure. These conditions influence how the building is placed and shaped. In this design, the waterfront is used as a source of natural ventilation potential through the arrangement of openings and massing gaps that allow air to flow into the building. This strategy supports thermal comfort while reducing dependence on mechanical cooling. At the same time, shading elements, secondary skins, and overhangs are needed to reduce heat gain from both direct sunlight and reflected light off the water surface.

The waterfront analysis is also related to the formation of transition spaces between the building and the sea. These transitional spaces are important because they act as intermediaries that connect indoor activities with the coastal atmosphere in a more gradual way. In this project, the promenade, open spaces, and waterfront landscape can function as transitional elements that support pedestrian activity while enriching the outdoor spatial experience. The presence of such spaces is also important for reinforcing the building's identity as a convention hotel in a tourist area, because users do not only experience the building as an enclosed interior environment but also as part of a broader natural context.

From a massing perspective, the waterfront encourages a building form that is not overly massive or completely closed. Instead, the building mass should be arranged so that visual and air connections with the surrounding area remain possible. This is consistent with the modern-contemporary approach, which emphasizes clarity of form, spatial efficiency, and openness to context. By introducing gaps between masses, using appropriate orientation, and creating outdoor spaces connected to the coastal landscape, the building can respond to the waterfront more actively rather than standing as a detached object in the environment.

The waterfront analysis is also closely related to the identity of the area. As a coastal destination with strong tourism appeal, Ancol requires buildings that can reinforce its seaside character without overshadowing the natural quality of the setting. For this reason, the convention hotel is designed to blend with the waterfront landscape through its mass

proportions, material selection, and outdoor spatial composition. This approach allows the building to function not only as an accommodation and convention facility, but also as part of a broader coastal spatial experience.

As shown in Figure 10, the building is oriented to preserve sea views, improve daylight quality, and support natural ventilation potential. Overall, the waterfront analysis shows that the relationship between the building and the sea must be treated as a crucial part of the design process. The waterfront is not only a visual element, but also a source of comfort, identity, and environmental strategy. By optimizing views, ventilation, transitional spaces, and massing, the Convention Hotel in Ancol can become a building that is more responsive to the coastal character and stronger in creating spatial experience for its users.



Fig. 10. Waterfront perspective, sea view, promenade, or building–water relationship (Nova et al., 2026)

3.8 Design strategies based on contemporary modern architecture principles

The application of Contemporary Modern Architecture principles in the design of the Ancol Convention Hotel aims to present an iconic MICE facility that is also adaptive to coastal characteristics. The main design strategies are outlined in Table 2, which summarizes the key architectural responses related to spatial organization, massing, orientation, façade treatment, structural approach, and material selection.

Table 2. Design strategies based on contemporary modern architecture principles

No	Contemporary Modern Architectural Strategies	Description	Picture
1	Space & Function Organization (Tower- Podium)	The building mass is divided into two main parts to clearly separate public and private functions. The podium, located on the first to third floors, accommodates public and MICE-related activities such as the lobby, meeting rooms, ballroom, and supporting facilities. The tower, located on the fourth to fourteenth floors, is dedicated to private functions, mainly guest rooms and exclusive accommodation areas. This arrangement supports efficient circulation, improves privacy, and reinforces the building's functional hierarchy.	

2	Structure and foundation	The structural system uses flexible column modules to accommodate the different spatial requirements of each function. Larger spans are applied in areas that require open and adaptable spaces, especially in convention areas. A raft foundation is used as the main foundation system to respond to the soft soil conditions and potential ground settlement in the coastal area. This solution helps distribute loads more evenly and improves long-term structural stability.	
3	Semi-Fragmente Mass Form	The building mass is developed as a semi-fragmented composition rather than a single solid block. This form helps reduce visual heaviness, improve airflow, and create a better relationship with the coastal surroundings. The gaps between masses also function as transitional spaces that support cross-ventilation and bring more natural light into the interior. In addition, this massing strategy gives the building a more dynamic and contemporary appearance.	
4	Building Orientation & Openings	The building is oriented in a north-south direction to reduce direct heat gain from the east and west. The main façade and larger openings are directed toward the Java Sea to maximize views and improve the quality of the guest experience. This orientation also supports natural lighting and ventilation while helping minimize thermal discomfort. As a result, the building responds more effectively to both environmental and experiential needs.	
5	Facade Strategy & Heat Protection	The façade is designed as a protective layer that helps control solar exposure and improve indoor thermal comfort. Shading elements such as overhangs and secondary skin are used to reduce direct sunlight, especially on façades exposed to stronger heat. These elements also add visual depth to the exterior and strengthen the building's architectural character. In this way, the façade	

6 Esthetics of Material & Neutral Colors	functions as both a practical and aesthetic component. A neutral color palette, including white, cream, and earth tones, is used to create a calm, elegant, and timeless appearance. These colors are combined with low-E glass and aluminum frames to support a modern expression while also improving building performance. The material selection is intended to balance visual clarity, durability, and environmental responsiveness. This approach reinforces the contemporary identity of the hotel without making the design feel overly decorative or excessive.	
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(Nova et al., 2026)

4. Conclusions

This study proposes a five-star convention hotel in the Ancol coastal area as a design response to the growing demand for high-quality MICE facilities and internationally standardized hospitality in Jakarta. The project is grounded in the understanding that Ancol has strong strategic potential as a coastal tourism and business destination, but its development still requires architectural solutions that respond to environmental constraints such as tidal flooding, soft soil conditions, high humidity, sea wind exposure, and the need for more integrated spatial organization. Based on these conditions, the design adopts a contemporary modern architectural approach that combines functional clarity, environmental responsiveness, and a strong visual identity. The design process was developed through literature review, precedent study, regulatory analysis, and macro-micro site analysis. These methods provided the basis for defining the building program, spatial hierarchy, massing strategy, structural system, façade response, and waterfront relationship. The findings show that the site has considerable potential due to its orientation toward the Java Sea and its accessibility within the Ancol area, but it also presents significant challenges that require careful planning. As a result, the design is not treated as a formal architectural object alone, but as a spatial system that must work in response to climate, regulation, function, and context.

One of the main outcomes of the analysis is the decision to organize the building into a tower-podium scheme. The podium accommodates public and convention-related functions such as the lobby, meeting rooms, ballroom, and support spaces, while the tower contains the private hotel rooms. This arrangement improves circulation, strengthens functional hierarchy, and prevents conflicts between public event activities and private guest accommodation. It also supports a more efficient operational system by separating guest, service, and public flows. In a convention hotel, this clarity of zoning is essential because the building must serve multiple user groups with different levels of access, privacy, and intensity of activity. The decision to use a 14-story building without a basement reflects both functional and environmental considerations. From a practical perspective, the absence of a basement reduces the risk associated with tidal flooding and unfavorable coastal soil conditions. Instead, parking is placed in a separate structure to maintain safer and more manageable operations. The use of a raft foundation further supports the building's structural stability by distributing load more evenly across soft soil conditions. This approach demonstrates that the project's structural strategy is not only technically appropriate but also directly responsive to the site's coastal challenges.

The massing of the building is developed as a semi-fragmented form rather than a single solid block. This strategy helps reduce visual heaviness, improve airflow, and create a more dynamic relationship with the surrounding waterfront environment. The gaps between masses are not merely formal gestures; they function as transitional spaces that support cross-ventilation and natural lighting. The building is also oriented north-south to reduce heat gain from the east and west, while larger openings are directed toward the sea to maximize views and enhance the guest experience. These decisions show that the building form emerges from both environmental logic and experiential quality. The façade strategy reinforces the project's modern-contemporary identity while addressing thermal comfort and durability. Secondary skin elements, overhangs, balconies, low-E glass, and corrosion-resistant materials are used to reduce direct solar exposure and improve the building's performance in a humid coastal environment. At the same time, the use of neutral colors such as white, cream, and earth tones creates a calm, elegant, and timeless visual character. This combination allows the building to appear contemporary without becoming visually excessive, while also supporting long-term maintenance and resilience. The waterfront analysis plays an equally important role in shaping the design direction. In Ancol, the sea is not only a visual backdrop but also a key spatial and environmental asset. The building is therefore designed to strengthen its visual and physical connection to the waterfront through view orientation, promenade integration, and the creation of open transitional areas. These elements help make the building feel connected to its coastal context rather than isolated from it. They also improve the quality of the user experience by allowing the hotel to offer both functional hospitality spaces and a strong sense of place.

Beyond its architectural and environmental performance, the proposed convention hotel also carries broader implications for tourism competitiveness and city branding. As a MICE-oriented landmark, the project can strengthen Ancol's position within Jakarta's tourism economy by offering a facility that supports business events, high-value accommodation, and destination diversification in one integrated complex. This is important because contemporary tourism destinations compete not only through accessibility and infrastructure, but also through image, identity, and memorable spatial experience. In this sense, the building can function as a visible marker of Ancol's identity and contribute to the city's effort to present itself as a globally connected, competitive, and culturally distinctive coastal metropolis. The project also suggests that architecture can actively support place branding when it is designed as part of a wider urban and tourism strategy. By combining modern-contemporary expression with coastal responsiveness and contextual identity, the convention hotel can help reinforce Ancol's image as a destination that is both internationally legible and locally grounded. This is significant for Jakarta's broader development agenda, because strengthening destination image and visitor experience can improve the area's competitiveness in attracting events, business tourism, and investment. In this regard, the design contributes not only to a single building program, but also to the symbolic and economic positioning of the city. Overall, this study concludes that the proposed Ancol Convention Hotel is capable of functioning as both a high-standard accommodation facility and a MICE destination with strategic value for North Jakarta. The contemporary modern architectural approach proves suitable because it allows the design to integrate spatial flexibility, operational efficiency, environmental adaptation, and architectural identity within a single coherent framework. More importantly, the project demonstrates that resilient coastal architecture can also serve as a tool for tourism development and city branding, making it relevant not only as an architectural proposal but also as a spatial strategy for strengthening Ancol's long-term competitiveness.

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Author Contribution

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The authors declare no conflicts of interest regarding this research work.

Declaration of Generative AI Use

In the preparation of this manuscript, the authors used Perplexity to enhance language clarity, refine grammar, and improve the overall structure. After using this tool, the authors carefully reviewed and edited the output to ensure accuracy, and take full responsibility for the final content of this work.

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