

# FLASH

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Term 2021-2022 25<sup>th</sup> Feb 2022  
PPK469/01/2017(034673)

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**THE EXPANSION OF THE  
BAGAN SPECIALIST CENTRE**  
BUTTERWORTH, PENANG

*by MinWee Architect*

*The sky above the courtyard is framed by the new Ward Block, the Clinical Block and the existing hospital.*



The hospital complex from the main road; the Clinical block is in the foreground with the Ward block in the background.

## ARCHITECT'S STATEMENT

**B**uilt in the 1980s, the Bagan Specialist Centre along Jalan Bagan 8 in Butterworth, Penang, is ready to grow and better serve its clients. The original hospital building was built at the widest perpendicular corner of a triangular site, overlooking a large field. Its recent expansion, completed in 2020, more than doubles its bed capacity from 150 to 350 beds and includes a new Cancer Care Centre with a radiotherapy bunker, and a Chemotherapy department.

The existing hospital is still the cornerstone of the site. Opposite it, directly facing the Perai River, is the ward block, an 8-storey building with eggcrate sun-shading to protect against glare. Service spaces are plugged into leftover spaces: a carpark block occupies the narrowest corner of the site, while an M&E block fills the gap between the new and old wards.

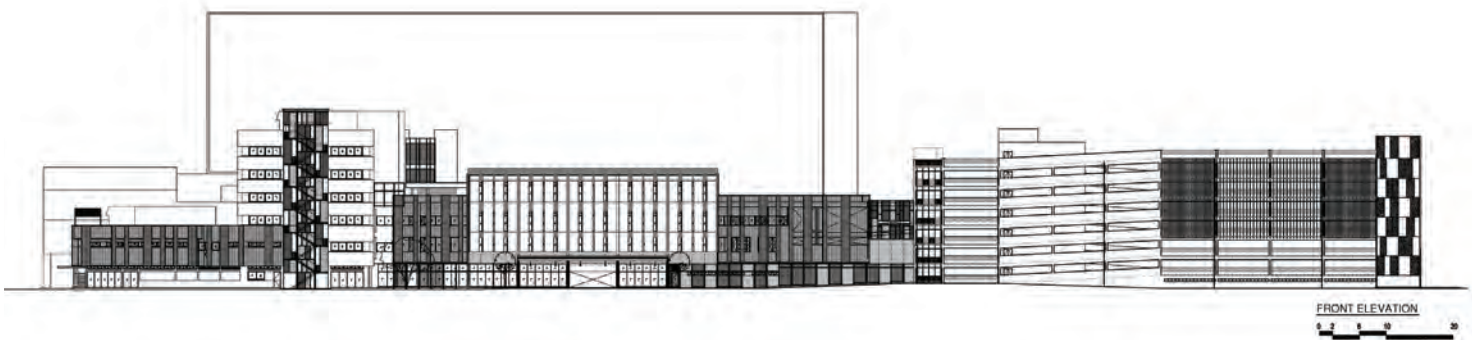
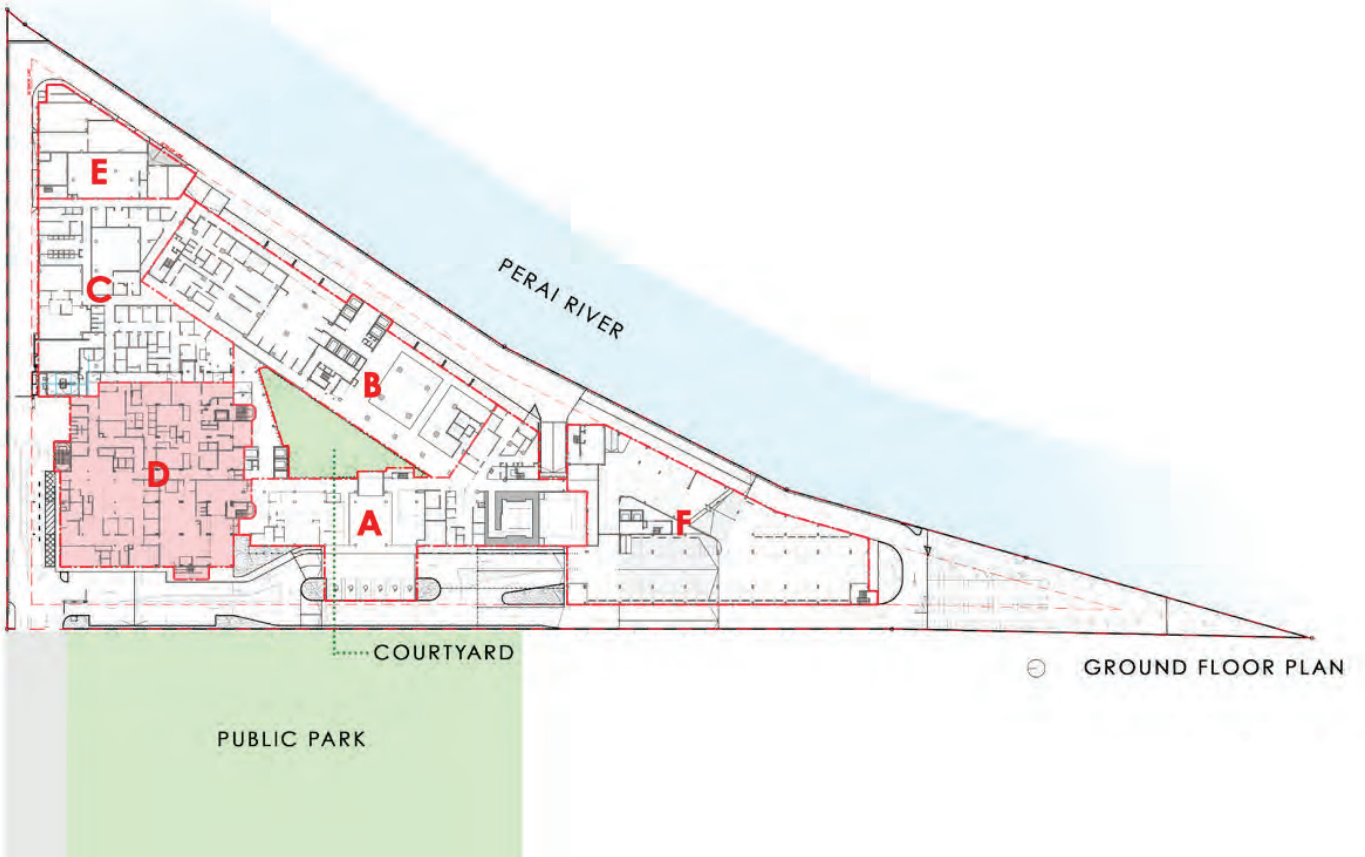
The arrangement of the building programmes also coincides with the phases of the new expansion, given that the existing hospital continued operating throughout the construction process. The M&E block was completed first in order to take over support services from the existing M&E plant. After building the carpark came the clinics, operating theatres, and then the ward block, allowing existing facilities to be transferred over from the original building, which was finally upgraded into a wing for new A&E, Dialysis and Imaging Departments.

With all the blocks ringing the site, a central courtyard is formed in the negative space between them, offering the wards, clinics and training rooms direct views of softscape and the Perai River. Much of the ground floor is naturally ventilated.



6 Jan 1986

Project Name	: The Expansion of Bagan Specialist Centre
Project Scope	: Expansion of an existing hospital built in 1986 - to include a cancer care unit and radiotherapy bunker, chemotherapy department and the increase from 150 to 350 beds.
Project Location	: Butterworth, Penang
Area	: 205,534 sqft
Completion Year	: 2019
Architecture Firm	: MinWee Architect
Client	: Bagan Specialist Centre
Design & Project Team	: Wee Hii Min, Leong Gian Wen, Lee Peng Hui, Fiona Law, Claudia Law, George Lee
Medical Planner	: THChiam Architect & Health Facility
Contractor	: Shiangly Builder Sdn. Bhd.
Civil Engineer	: GTP Consultants Sdn. Bhd.
M & E Engineer	: TES Avenue Sdn. Bhd.
Quantity Surveyor	: Kuantibina Sdn. Bhd.
Landscaping	: Perunding Hijaureka Sdn. Bhd., MinWee Architect
Photographer	: Sean Wee, Lionel Kueh, CK Tan





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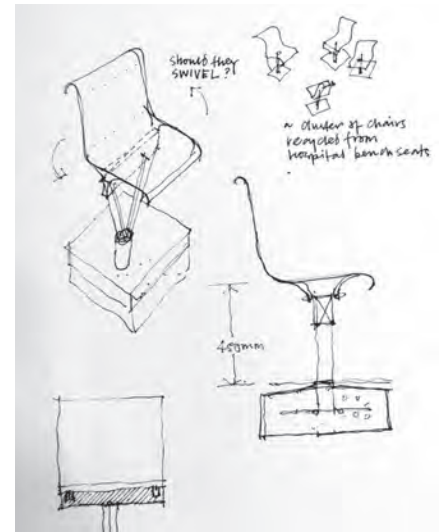
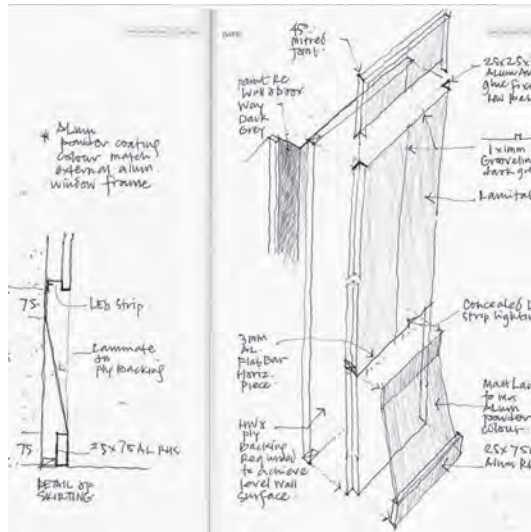
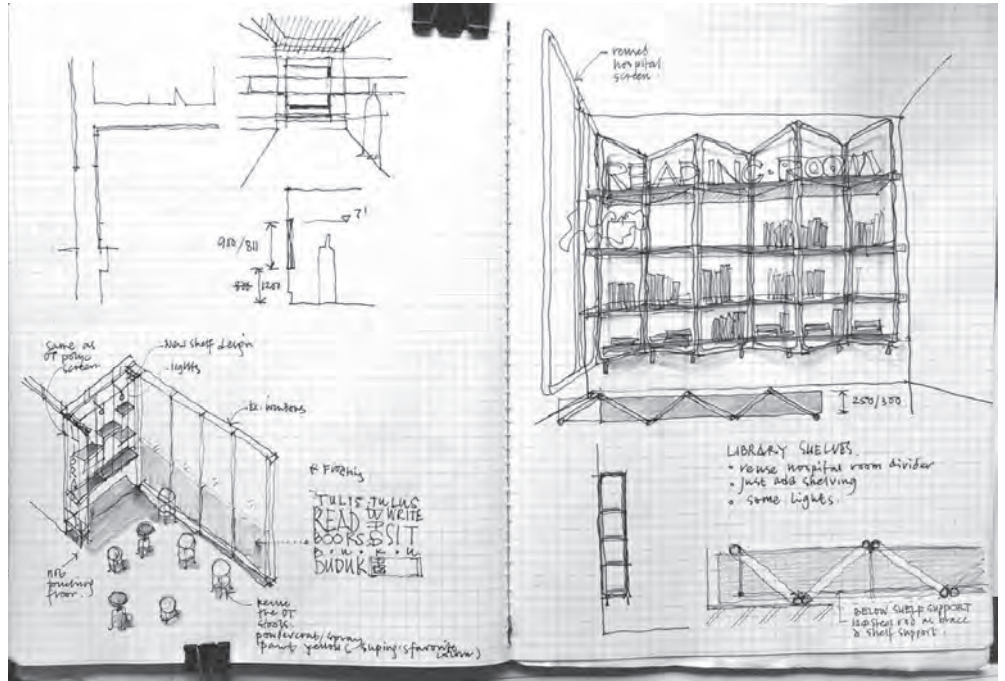
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CAPTIONS

1. The west walls of the Front block are slanted to avoid direct sun.
2. Bay-windows in external facade serve as a day-beds.
3. Patient and staff circulation are supported by outdoor corridor and stairs.
4. Construction of the main lobby ceiling.
5. Casting of Radiotherapy bunker.
6. Upcycling damaged link chairs into garden seats.



The landscaped courtyard may be the crown jewel of the complex, but greenery is a constant presence in and on the new hospital building. There are trees in the courtyard; leafy plants in planter boxes along the corridors; and creepers on the carpark block facade. The client also has plans to enhance the neighbouring field as a green forecourt and exercise area for the neighbourhood.

The emphasis on landscaping is a welcoming change to the often no-frills and efficient architecture of hospitals, helping the Bagan Specialist Centre to present a friendlier front to the community.

**Architecture**

The architectural scheme is a balance between compliance to medical flow and requirements, and tectonic expression and climatic response. Connection between the Ward, Clinical and OT blocks is by shaded corridors along the central courtyard; they are shaded with awnings and garnished with planters and views of the trees.

Ward blocks typically have 'thick' floor plans, resulting in squat proportions - this we mitigated by breaking down the facade into sun-shading fins and ledges, while service areas are represented in vertical strip windows to elongate the overall massing. This architectural treatment resulted in bay-windows in some of the ward rooms which serves as a day-bed for the patients' carer. The roof of the Ward block is capped with a light steel roof to harvest rain-water for the ward toilets, and provide heat and weather protection.



**CAPTIONS**

- 7. Waiting area outside OT department - it uses steel and polycarbonate for lightness and transparency, borrowing its form from hospital bed-screens.
- 8. Central Courtyard looking towards the main lobby.
- 9. Mini-library built from bed screens.



The Front Clinical block is the 'face' of the hospital with its naturally ventilated main lobby and seminar rooms on the upper floors. It has views of the tapak lapangan but unfortunately faces west, which we took care of by slanting the west walls and inserting the windows in between them. This results in natural light diffusing into the clinics and waiting areas, enhanced by flowering creepers on the building's facade.

The Operating Theatre block is tucked in between the M&E block and the existing hospital building from which the former departments were decanted from. The connections are crafted to introduce public spaces such as the Physiotherapy terrace (between OT and Existing blocks), the Mini-library (between the Ward and Front blocks) and the Breastfeeding room (between the Front and existing blocks). Many of these public spaces takes the opportunity to explore design possibilities such as up-cycling hospital equipment into library shelves and seating.



**CAPTIONS**

- 10. Public lift lobbies are natural ventilated.
- 11. Lift lobbies are naturally ventilated with views of Sungei Perai.
- 12. Seminar Room using simple materials for its interior design.
- 13. All patient rooms are designed to have natural daylight.
- 14. Passive design is evident in the naturally ventilated public spaces.



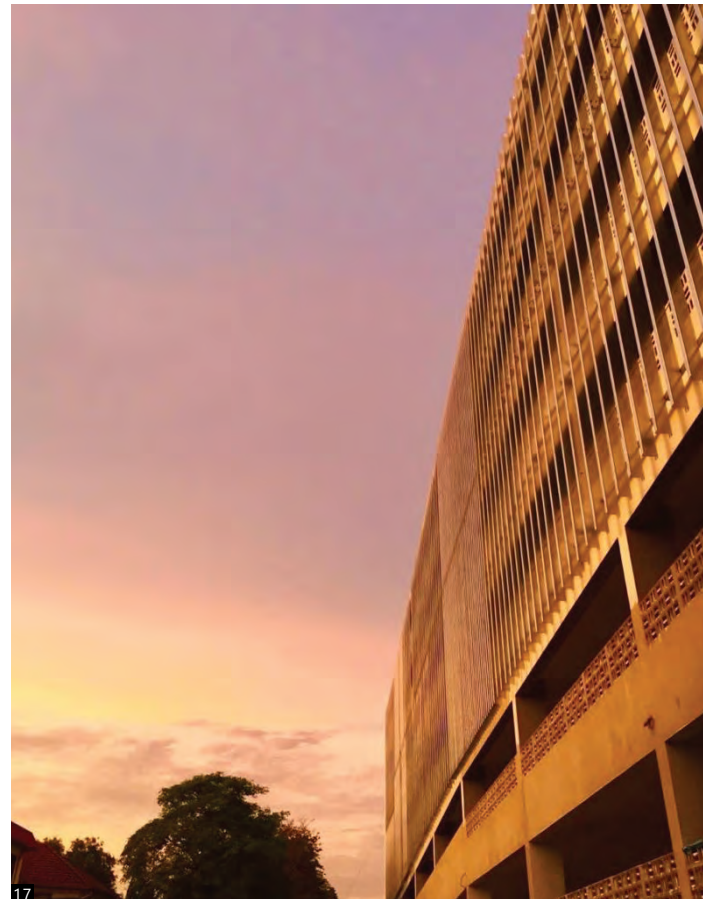
### Sufficiency

As a whole, the hospital complex utilises very few building materials; concrete, steel, aluminium and glass most of which are sourced locally. It also practices passive design whenever it is possible - lift lobbies are naturally ventilated and lit, patient and staff circulation are supported by outdoor corridor and stairs, ceiling heights are kept high (3.2m) to promote air circulation and landscaping is introduced into the common areas to cool and filter air. There are also plans to enhance the existing "tapak lapangan" as a green forecourt for the hospital and exercise area for neighbourhood.

The new Bagan Specialist Centre has been operational since early 2020, however the upgrading is on-going as the existing block is being upgraded to house Dialysis, Rehab, Endoscopy and A&E departments.

The journey continues.

END



### CAPTIONS

15. In the ward block, the facade is shielded by sun-shading fins and ledges.
16. The corridors linking the OT, Ward and Clinical blocks are protected with polycarbonate awning and trees.
17. The Car Park block is screened with galvanised steel purlins; part of the design approach of using standard building components in unorthodox ways.