

BCA

AWARDS 2026

**DESIGN AND ENGINEERING
SAFETY AWARD**



DESIGN & ENGINEERING SAFETY AWARD

The BCA Design & Engineering Safety Award (DESA) gives recognition to the Qualified Person for Structural Works [QP(ST)], QP(ST)'s firm and the project team for ingenious design processes and solutions in overcoming project challenges to ensure safety in design, construction and maintenance of building and civil engineering projects locally.

The Award aims to:-

- a) Inculcate a strong safety culture among building professionals in developing our built environment
- b) Give recognition to QP(ST)s and their firms for engineering achievements
- c) Provide an avenue through which competition for work excellence can be enhanced.

The Award will be given out in the following categories:

- Commercial
- Institutional
- Industrial
- Civil Engineering
- Mixed Development
- Residential

DESIGN & ENGINEERING SAFETY AWARD

Award Winners of BCA DESA 2026



Commercial Category

IOI Central Boulevard Towers

Commercial Category

1 Science Park Drive, Geneo

Institutional Category

NEW CMPB

IOI Central Boulevard Towers

Winner of Commercial Category



BCA DESIGN AND ENGINEERING SAFETY AWARD 2026



Photo Credit to IOI Properties Singapore

Qualified Person

Er. Aaron Foong Kit Kuen

Architectural Consultant

architects 61 Pte Ltd

C&S Consultant

KTP Consultants Pte Ltd

Concept Architect

CallisonRTKL

Builder

Hexacon Construction Pte Ltd

Specialist (Geotechnical)

Er. Khoo Kok Sing

Developer

IOI Properties Singapore

KEY CHALLENGES

- Nearly one-third of the site was constrained by critical infrastructure, including a functioning Common Services Tunnel (CST), major monsoon drain, MRT Reserve Zone and conserved heritage trees, severely constraining the development footprint and foundation arrangement.
- Challenging ground conditions comprising of reclaimed land over approx. 40m deep soft marine clay, combined with stringent movement control requirements to safeguard the operational Downtown MRT line and other sensitive public infrastructure.
- Major construction works in the heart of Singapore's CBD, adjacent to the nationally conserved Lau Pa Sat and surrounded by live roads, transport networks and high-rise developments, requiring careful management of construction risks.

SOLUTIONS

- Interstitial transfer trusses system was engineered to span over protected infrastructure corridors, unlocking valuable development space while enabling the harmonious coexistence of private development and critical public infrastructure through innovative structural design.
- Integrated dual-function SBP walls serving as both ERSS and permanent foundations, maximising land use efficiency while protecting critical underground infrastructure.
- Semi-composite buttress SBPs and an innovative Observational Method enabled safe excavation and stringent deformation control adjacent to the operational MRT tunnel and sensitive infrastructure.

1 Science Park Drive, Geneo

Winner of Commercial Category



BCA DESIGN AND ENGINEERING SAFETY AWARD 2026



Photo Credit to CapitaLand

Qualified Person

Er. Teoh Eng Sin
Er. P. Thusiyanthan

C&S Consultant

Mott MacDonald (Singapore) Pte Ltd
Ronnie & Koh Consultants Pte Ltd

Builder

Woh Hup (Private) Limited

Developer

CapitaLand Development

Architect

Surbana Jurong Consultants
Pte Ltd

Design Consultant

Serie + MultiPLY Pte Ltd

KEY CHALLENGES

- **Complex Site Constraints** – The development site featured a 19 m level difference and was constrained by existing bored piles and surrounding critical infrastructure, including the MRT First Reserve, MRT station entrance, underground pedestrian link, AYE slip road, 400 kV transmission line, Science Park Drive, NUH facilities, and adjacent developments.
- **High-Performance Workplace and Laboratory Spaces** – Delivering large, column-free and highly flexible Grade A Office, Wet Lab, and Wet Lab-Ready spaces while meeting the stringent vibration criterion of 4,000 MIPS.
- **Landmark Mass Engineered Timber (MET) Structure** – Constructing a 27 m-tall Mass Engineered Timber (MET) structure spanning a 3,000 m² public plaza within a highly restricted site bounded by three towers.

SOLUTIONS

- **Optimised Basement and Excavation Strategy** – Creative engineering solutions allow the basement layout to be reconfigured to achieve optimum space planning and profiled the basement levels to carefully match natural slope, hence eliminating deep Earth Retaining and Stabilizing Structures (ERSS) system, allowing open cut Earth Retaining and Stabilizing Structures (ERSS) system to take precedence and reducing cut-and-fill. This also avoids deep excavation and permanent Earth Retaining and Stabilizing Structures (ERSS) near MRT structures, 400kV line and along Science Park Drive. All these efforts contribute to significant cost and time saving and speedy construction sequence.
- **Efficient Long-Span Hybrid Structural System** – Adopting a hybrid PT-RC efficient structural system, with long span PT beam of 19.2m, with PT slabs spanning more than 10m, optimized for flexibility, vibration control and material efficiency.
- **Innovative MET Design and Construction Methodology** – Proposing the 27m tall MET structure with creative arches to ensure wider internal column spacings, prefabrication in controlled environment to ensure precision and minimize on-site works, customized connection systems and dry jointing to speed up assembly and ensure structural integrity efficient delivery plan to match construction stages and reduce on-site storage.

New CMPB

Winner of Institutional Category

BCA DESIGN AND ENGINEERING SAFETY AWARD 2026



Photo Credit to DP Architects Pte Ltd

Qualified Person

Er. Clement Chen Yipeng

C&S Consultant

Meinhardt (Singapore) Pte Ltd

Builder

Tiong Seng Contractors (Pte) Ltd

Developer / Owner

Defence Science and Technology
Agency / Ministry of Defence

Architectural Consultant

DP Architects Pte Ltd

Specialist (Geotechnical)

Er. Ling Chong Yuen

KEY CHALLENGES

- Auditorium suspended over high-volume Service Centre of PFB Building creating a column free space.
- Tall Slender Concrete Fins along frontage of Public Facing Block act as passive sun shading elements for the building, while preserving views
- Multi-span Pedestrian Overhead Bridge linking development to Cashew MRT Station, directly sitting over the existing underground MRT station.

SOLUTIONS

- Use of structural steel framings & trusses to reduce overall weight of the Auditorium structure. Steel trusses are prefabricated in segments off-site as part of DfMA process. Adoption of bolted splice connections allowed for fast on-site assembly. Prop-less steel decking adopted for the casting of concrete floor thus omitting temporary staging/props, leading to higher construction productivity.
- 68 Nos of 32m tall RC Fin Columns, oval shaped 0.6m x 3m, each precast into 5 segments considering the lifting weight constraint. Grouted splice sleeves provided full moment connection between the segments. Proprietary bracket system adopted during erection to provide a prop-less method of installation, eliminating temporary scaffold/props, thereby reducing the installation cycle time.
- Structural steel trusses selected for the POB due to long spans, lighter weight and ease of erection over drainage reserve, rail corridor and Upper Bukit Timah Road. POB steel trusses were divided into segments, prefabricated off-site and delivered to site for on-site assembly and erection, thereby reducing on-site welding and testing duration. A raft foundation system with void former was designed to keep within the allowable loading above the underground MRT structure while supporting the POB directly above.

WINNERS OF BCA DESIGN AND ENGINEERING SAFETY AWARD 2026

PROJECT NAME	PROJECT TYPE	QP / QP COMPANY
IOI Central Boulevard Towers	Commercial Category	Engineer Aaron Foong Kit Kuen KTP Consultants Pte Ltd
1 Science Park Drive, Geneo	Commercial Category	Engineer Teoh Eng Sin Mott MacDonald (Singapore) Pte Ltd Engineer Ponnampalam Thusiyanthan Ronnie & Koh Consultants Pte Ltd
NEW CMPB	Institutional Category	Engineer Clement Chen Yipeng Meinhardt (Singapore) Pte Ltd

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