

DISCIPLINE BROCHURE

Construction Engineering

OPPORTUNITIES
THROUGH
EXCELLENCE

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BG
&E

Introduction

BG&E is a globally renowned civil and structural engineering consultancy celebrated for its innovative, cost-effective, and award-winning designs.

With a dynamic team spanning 15 offices worldwide - including Australia, New Zealand, South East Asia, the United Kingdom and Middle East - we unite local and international professionals to deliver practical solutions with a strong focus on constructability.

Our Clients consistently return to us, attesting to our exceptional service, responsiveness, and track record for delivering tailored solutions for technically challenging projects. The quantity and scope of engineering awards we've received acknowledge our diverse industry contributions and the exceptional quality of the services we deliver across a host of regions, disciplines, and sectors.



Safe and Innovative Solutions

In a city where skylines are aglow with the lights of bustling development, the significance of robust construction engineering and well-designed temporary works, that guarantee both safety and buildability, are front-of-mind for our Clients and partners.



*Sapphire by the Gardens
(McLaren Supercar Lift)
– Melbourne, VIC, Australia.*

We excel in providing innovative, customised designs for projects of all sizes and briefs, with a proven track record of versatile solutions that defy standard, budget-focused approaches to meet the needs of unconventional projects. For example, in 2023 we coordinated the crane lift of a \$3 million McLaren supercar into the 54th-floor penthouse in Melbourne – a delicate operation that involved meticulous review of the car's rigging arrangement to ensure a secure and level lift.

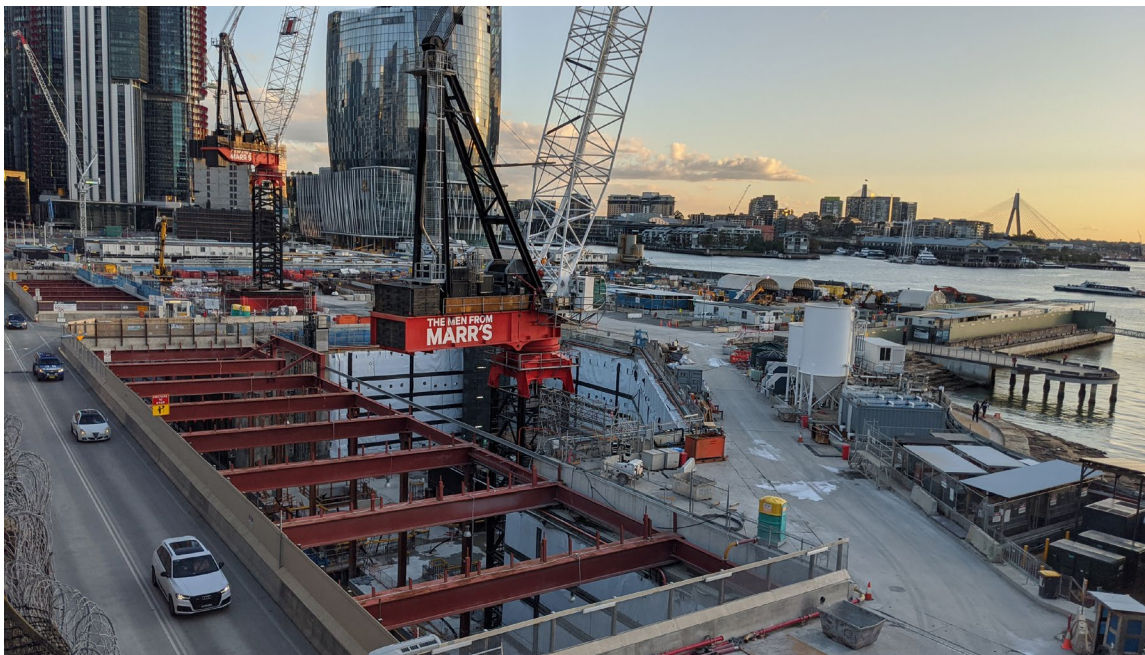
Our team operates from various locations across the globe, our key strength lies in our ability to handpick the most qualified

individuals for the job, regardless of where they are based, which ensures the seamless execution of your project, free from state-based model disruptions.

We collaborate with Property sector Clients to deliver temporary and permanent works, construction methodology development, facade restraint, and capacity assessments. For Clients in the thriving Transport sector, encompassing private and government entities, we offer temporary works, load rating and capacity assessments, and valuable construction support.

Services: Transport Infrastructure

From major infrastructure projects to high-rise property towers, we recognise the critical need to keep pace with various construction industry standards and safety regulations as projects increase in complexity and scale.



Barangaroo Station Excavation and Hickson Temporary Road Bridge – Sydney, NSW, Australia.

Construction Support

- Construction Reviews
- Construction Staging and Sequencing
- Staged Geometric and Deflection Control
- Lift Studies
- Movement of Heavy Loads

Load Rating and Capacity Assessment

- Load Rating of Existing / New Bridges
- Capacity Assessment of Existing Bridges
- Capacity of Bridge with Crane Loads
- Strengthening for Construction Loads
- Bridge Refurbishment

Temporary Works

- Secant Piled Walling
- Sheet Piling
- Cofferdams Formwork
- Travellers Launching
- Nose Tower Crane Supports
- Temporary Water Retaining Structures
- Temporary Retaining Walls
- Temporary Roads
- Temporary Drainage
- Services Relocation and Protection
- Casting Bed for Launching and Pre-Tensioned Girders
- Temporary Pedestrian Bridges / Accessways
- Jacking or Pulling of Bridges
- Braking and Restraining of Bridges
- Formwork and Falsework Design
- Temporary Bearings and Side Guides
- Temporary Piers and Supports
- Temporary Restraints of Bridge Girders



*Melbourne Metro – Melbourne,
VIC, Australia.*

Services: Property

We take pride in our market-leading expertise in construction techniques, developed through a long history of delivering practical engineering services to Contractors.



Fortitude Valley School –
Brisbane, QLD, Australia.

Construction Support

- Construction Reviews
- Connection Designs
- Construction Staging
- On-site Construction Engineering Support

Temporary Works

- Lifting of Precast Structures
- Lifting Frames
- Support Platforms
- Tower Crane Supports
- Personnel and Materials Hoists Supports
- Formwork Hoists Supports
- Climbing Concrete Boom Pumps Supports
- Formwork Design / Verification Formwork
- Stripping Sequences
- Jacking / Preloading
- Gantry Girders
- Demolition Staging
- Demolition Support and Restraint Structures
- Redesign of Permanent Works, including Temporary Construction requirements
- Design of Temporary Access Requirements

Capacity Assessment

- Structural Assessment and Verification
- Capacity of Structures with Crane Loads
- Strengthening for Construction Loads

Façade Restraint

- Existing Façades in New Buildings

Why Partner With Us?

At BG&E, we understand that choosing the right partner for Construction Engineering and Temporary Works is crucial for project success. Our proven track record of excellence reflects our dedication to delivering exceptional results.

KEY BENEFITS



REDUCTION IN
MATERIAL QUANTITY



REDUCTION IN
PROGRAMME



OPTIMISATION OF
DESIGN



ENSURE DESIGN IS
CONSTRUCTABLE



IDENTIFY AND
MITIGATE RISK



QUALITY CONTROL
STANDARDS

Industry Sectors We Service



Aged Care



Arts & Culture



Aviation



Commercial
& Office



Data Centres &
Mission Critical



Defence



Education



Entertainment
& Leisure



Healthcare



Heritage &
Refurbishment



Hotels &
Accommodation



Mixed-Use



Ports & Marine



Rail, Stations
& Over Rail



Renewables
& Energy



Residential



Roads, Bridges
& Tunnels



Sports, Stadia
& Recreation



Transit Oriented
Development



Water
Infrastructure

At BG&E, we are united by a common purpose – we believe that truly great engineering takes curiosity, bravery and trust, and is the key to creating extraordinary built environments.

Our team of more than 1100 highly skilled people, in 15 offices across Australia, New Zealand, Singapore, the United Kingdom and Middle East, design and deliver engineering solutions for Clients in the Property, Transport, Ports and Marine, Water, Defence, Energy and Resources sectors.

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