Introduction: Engineering with Integrity, Cultural Sensitivity, and Strategic Foresight

Since its establishment in 2020, **BRIC Consulting Engineers Pty Ltd** has grown into a respected, Western Australian-owned civil and structural engineering consultancy, distinguished by our focus on **technical excellence, cultural sensitivity, and sustainable infrastructure development**.

Our founding vision is rooted in the belief that engineering is more than solving technical challenges—it's about shaping inclusive, resilient, and forward-looking communities. As such, our approach combines **engineering precision** with a **deep respect for local heritage, social inclusion, and environmental stewardship**. We strive to design infrastructure that not only meets stringent technical standards but also **enhances the wellbeing and identity of the communities we serve**.

At BRIC, we view every project as a partnership. We work closely with clients, community representatives, and government bodies to develop tailored solutions that are **context-sensitive, cost-effective, and future-ready**. Our agile and collaborative delivery model ensures timely responsiveness, stakeholder alignment, and minimal disruption—especially on projects requiring sensitivity to **cultural heritage, community expectations, and public value**.

With an experienced leadership team, scalable internal capacity, and a track record of successful project delivery across Western Australia, BRIC is uniquely positioned to lead and support projects of all scales—from heritage site refurbishments and rail infrastructure to water systems and community facilities.

Whether we are restoring a culturally significant structure or delivering the next phase of transport infrastructure, **we engineer with intent—to strengthen communities, preserve heritage, and enable sustainable growth.**

Our Capabilities & Service Offerings: Integrated Solutions Across the Infrastructure Lifecycle

At BRIC, we deliver end-to-end infrastructure consulting services designed to ensure quality, resilience, and community value. Our multidisciplinary expertise allows us to manage every phase of a project—from concept to completion—with professionalism and precision.

■ Civil & Structural Engineering Design & Certification

We design with both function and legacy in mind. Our team produces detailed, compliant designs across a variety of asset classes including:

- Retaining walls, culverts, stormwater systems, bridges, and roads
- Building superstructures (steel, timber, concrete) for commercial, industrial, and community buildings
- Civil layouts, earthworks, and grading for new developments
- Design certification per Australian Standards, Codes, and local authority requirements
- Value engineering to ensure designs meet both performance and budgetary targets

Each solution is engineered with constructability, environmental impact, and lifecycle efficiency as core design principles.

■ Transport Infrastructure & Rail Engineering

We support major transport initiatives through detailed engineering and integrated coordination. Our experience includes:

- Civil interfaces and corridor integration for passenger and freight rail
- Rail bridge analysis, strengthening, and compliance upgrades
- Access platforms, embankment stabilization, and structural retrofits
- Multi-disciplinary collaboration with rail operators, local councils, and urban planners
- Strict compliance with **ONRSR**, **PTA**, and **ARTC** requirements

We help reduce risk and deliver rail assets that meet the demands of growing populations and future mobility trends.

■ Community & Public Facility Development

Community infrastructure is where BRIC's cultural sensitivity and inclusive design ethos shine. We provide:

- Concept-to-delivery solutions for community centres, aged care homes, recreational parks, and cultural venues
- Designs that incorporate **accessibility (DDA)**, **universal design principles**, and **heritage considerations**
- Collaboration with local councils and community leaders to ensure facilities meet evolving demographic needs
- Integration of green spaces, passive recreation areas, and adaptable infrastructure

Our goal is to deliver infrastructure that enhances social cohesion and public wellbeing.

■ Inspection, Assessment & Lifecycle Support

BRIC offers comprehensive support to maximize the lifespan, safety, and compliance of existing infrastructure assets through:

- Structural inspections of bridges, community assets, industrial structures, and heritage buildings
- Condition reports with risk rankings, deterioration analysis, and prioritised remediation strategies
- Preventative maintenance planning and asset management support
- Lifecycle modelling using predictive methods to reduce cost of ownership over time

This service ensures that critical infrastructure remains safe, reliable, and fit for purpose.

■ Project & Construction Management

We lead projects from feasibility through construction with a focus on clear communication, quality outcomes, and cost control. Services include:

- Project scoping, planning, and scheduling
- Tender preparation and evaluation
- Contract administration and site supervision
- Construction staging and site logistics support
- Transparent reporting frameworks and milestone tracking

Our project managers act as trusted client representatives, ensuring successful delivery with minimal disruptions.

■ Technical Support & Documentation

Accurate, clear, and compliant documentation is essential to project success. We provide:

- Detailed design drawings and 3D models (AutoCAD, Civil 3D, Revit)
- Engineering reports, design calculations, and certification statements
- Peer reviews and constructability audits
- BIM coordination and clash detection
- Tender-ready documentation and 'for construction' packages

Our robust documentation process supports timely approvals and ensures builders have the clarity to deliver efficiently on-site.

Our Capacity & Local Expertise: Scalable Resources with a Local Focus

BRIC's organizational model balances **agility with scale**. Our in-house professionals, complemented by strong local networks and approved subcontractor arrangements, allow us to respond dynamically to any project size or complexity. Highlights include:

- **Rapid mobilization** of experienced personnel for urgent or staged project needs
- **In-depth understanding** of Western Australian environmental, planning, and building codes
- **Flexible resourcing strategies**—we scale up or down based on project milestones
- **Stakeholder fluency**, especially in navigating the sensitivities of Culturally and Linguistically Diverse (CALD) communities
- **Proactive risk identification and mitigation** to maintain delivery continuity

This capacity is underpinned by strong quality assurance processes, internal knowledge sharing, and a hands-on leadership approach.

Our Leadership & Technical Experts: Trusted Advisors, Proven Deliverers

Name	Role	Qualifications	Core Expertise
Graham Davies	Managing Director & Project Manager	BEng (Hons), CPEng, RPEQ, MIEAust	Project leadership, stakeholder engagement, structural design, transport infrastructure, project planning

Kevin Ryan	Technical Director & WA Commercial Lead	BSc (Civ Eng), RPEQ	Over 35 years' experience in major civil infrastructure, structural engineering, and contract administration
Dharmesh Dookhit	Assistant Project Manager	BSc Civil Eng, MBA (PM), MIEAust	Project coordination, stakeholder liaison, documentation, multicultural engagement, construction support
Melynda Burch	Administration & Stakeholder Support	Cert. Business & Tourism	Community engagement support, administrative control, communications, and stakeholder interface

This team has successfully delivered for government clients, Tier 1 contractors, and community groups across WA. Their combined strengths offer clients technical depth, program efficiency, and trusted leadership.

Track Record: Demonstrated Delivery Across Sectors

BRIC's project experience spans public, private, and community sectors. Selected highlights include:

🏛️ Heritage & Community Projects

- **WA Garden of Remembrance & Dutch Annex**
  Delivered structural assessments, site remediation, and culturally appropriate upgrades for this sensitive heritage site.

🚇 Rail & Transport Infrastructure

- **Morley–Ellenbrook Line (METRONET)**
  Managed rail corridor integration, noise mitigation designs, and stakeholder engagement across multiple delivery interfaces.
- **Guildford & Canning Rail Bridges**
  Assessed, designed, and certified safety upgrades and maintenance access systems in a live rail environment.

🌆 Urban & Environmental Infrastructure

- Drainage and stormwater upgrades in metro councils
- Structural design of pedestrian bridges, shelters, and retaining structures in growth areas

- Creek realignment and culvert design to improve flood mitigation

⚙️ Industrial & Government Facilities

- Structural remediation of water treatment facilities and civil upgrades to remote operations
- Site audits, repair specifications, and compliance for aging infrastructure across regional WA

Each project showcases our ability to work within tight timeframes, balance competing priorities, and align with stakeholder expectations.

Our Methodology: A Systematic Framework Rooted in Collaboration and Control

Our delivery model is designed around **quality, predictability, and engagement**:

1. **Initial Scoping & Brief Alignment**
    - Clarify objectives, constraints, and success criteria
    - Conduct preliminary site and risk assessments
2. **Stakeholder & Community Engagement**
    - Identify all relevant stakeholders, especially CALD and Indigenous groups
    - Establish engagement frameworks aligned to project type and scope
3. **Detailed Design & Technical Development**
    - Engineering reviews, constructability assessments, and value engineering
    - Interface coordination with authorities, architects, and specialists
4. **Approvals & Compliance Management**
    - Navigation of DA, EPA, and building authority submissions
    - Tracking and managing permit dependencies
5. **Construction Phase Support**
    - Site inspections, QA/QC processes, contractor queries
    - Issue resolution, documentation updates, and practical completion
6. **Handover & Lifecycle Planning**
    - Maintenance manuals, asset lifecycle reports, and client debriefs
    - Continuous improvement feedback loop for future projects

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Our Commitment: Infrastructure That Connects, Protects, and Endures

At BRIC, we believe the best engineering enhances more than physical landscapes—it strengthens social foundations and future readiness. Whether revitalising a community centre, upgrading vital rail links, or delivering flood resilience infrastructure, we remain dedicated to:

- **Sustainable outcomes** that reduce environmental impact
- **Inclusive practices** that give voice to community stakeholders
- **Long-term value** through technically sound and low-maintenance design
- **Respect for culture and heritage**,

Scope and Applicability

This methodology applies to all BRIC-led projects involving the design, modification, renewal, or development of PTA-owned infrastructure and assets. It encompasses:

- New installations
- System upgrades
- Complex interface projects
- Decommissioning of existing assets

Excluded from this approach are routine maintenance tasks, minor single-discipline works, or standalone projects with negligible interface or operational impact.

Our framework governs project execution across the full lifecycle and is designed to ensure compliance with legislative requirements, PTA specifications, and engineering best practices.

Core Principles and Methodology

BRIC's project delivery is underpinned by the following key principles:

- **Integrated Delivery:** Promoting cross-discipline collaboration with structured interface and risk management to ensure seamless execution.
- **Clear Roles & Responsibilities:** Alignment with PTA's RACI framework to define and communicate roles including CPE, PE, SEM, SRE, and other stakeholders.
- **Competency-Based Appointments:** All technical personnel are subject to formal assessments to ensure capabilities are appropriate to the project scope and complexity.
- **Structured Lifecycle Staging:** Projects follow a defined stage-gate process:
    - Needs Definition
    - Concept and Reference Design
    - Construction

  - Asset Acceptance
  - Project Closure

- **Engineering Documentation & Assurance:** Deliverables such as PRS, EMP, design reports, and verification documents are developed and reviewed to uphold quality and compliance.
- **Robust Change Control:** Engineering changes are subject to rigorous assessment and documented approval to manage impacts on safety, risk, and scope.
- **Final Asset Verification:** Systematic validation ensures that installed assets meet operational, technical, and contractual requirements prior to entry into service.
- **Continuous Improvement:** Ongoing lessons learned, independent verifications, and post-project reviews are embedded to enhance future delivery.

Roles and Responsibilities

BRIC aligns all project roles with the PTA's EM4P framework, ensuring accountability and clarity:

- **Coordinating Project Engineer (CPE):** Oversees technical delivery, liaises with PTA representatives, and ensures EM4P compliance.
- **Project Engineers (PE):** Manage discipline-specific tasks, ensuring technical outputs are robust, compliant, and aligned with the overall project goals.
- **Supplier's Engineering Manager (SEM):** Accountable for engineering coordination and quality assurance across all supplier activities.
- **Senior/Responsible Engineers (SRE):** Lead design development and verification within their discipline, ensuring technical integrity.
- **Designers and Reviewers:** Produce and independently verify engineering outputs, particularly for high-risk components or systems.
- **Stakeholders and Approvers:** Provide formal review and approval to confirm deliverables meet operational, safety, and quality criteria.

A supporting RACI matrix defining roles and intersections is available upon request.

Project Lifecycle and Key Deliverables

BRIC's delivery methodology adheres to a structured stage-gate approach, with specific deliverables and review processes at each phase:

Stage	Description	Key Deliverables

1. Needs & Requirements	Definition of scope and objectives informed by asset and operational planning	Needs Statement, High-Level PRS
2. Concept Design	Option development and feasibility assessment for business case support	Concept Design Report, Risk Register
3. Reference Design	Finalisation of technical solution, interface definitions, and design validation	Reference Design Package, Interface Plans
4. Construction & Delivery	Supervision of implementation, quality control, and compliance verification	Construction Support Docs, Inspection & Test Plans
5. Asset Acceptance	Verification of asset readiness, safety, and contractual compliance	Commissioning Reports, Asset Handover Docs
6. Project Closure	Review and documentation of outcomes, lessons learned, and closeout	Project Closeout Report, Lessons Learned Log

Engineering Assurance and Documentation

Engineering assurance is a cornerstone of BRIC's methodology:

- A tailored **Engineering Management Plan (EMP)** is developed for each project, outlining assurance processes, stakeholder responsibilities, and quality benchmarks.
- For complex or Category 3 projects, a comprehensive standalone EMP is mandatory, covering interface management, design assurance, risk mitigation, and verification strategies.
- **Interdisciplinary Checks (IDCs)** and **Independent Reviews (IDRs)** are undertaken for all key deliverables to verify technical compliance and safety.
- A strict **Change Management Process** governs all alterations to project scope or design, including impact assessments, stakeholder approvals, and documentation updates.

Quality and Compliance Commitment

BRIC is committed to excellence in project delivery. Our systems and procedures are designed to:

- Meet or exceed all PTA engineering, safety, and regulatory standards
- Facilitate internal and external **audits and verifications** to ensure continual compliance
- Promote a **culture of continuous improvement** through regular feedback loops, root cause analysis, and innovation

Insurance Schedule

Insurance Type	Insured Amount	Expiry Date	Exclusions
Public & Product Liability	$20,000,000	28/02/2026	None noted
Professional Indemnity	$5,000,000	28/02/2026	Exclude façade support structure design
Workers' Compensation incl. Common Law	$50,000,000	28/02/2026	None noted

Rates Schedule

Position Title	Pay Charge (ex. GST)
Senior Engineer (Civil/Structural/Rail)	$240/hr
Engineer (Civil/Structural/Rail)	$195/hr
Graduate Engineer	$115/hr
Project Manager	$225/hr
Site Engineer / Field Inspector	$150/hr
Drafter / CAD Technician	$115/hr
Project Administration / Admin Officer	$90/hr

CURRICULUM VITAE

Graham Davies – Managing Director

B.Eng (Hons), CPEng, RPEQ, MIEAust, APEC Engineer, RPEV
Registered Building Contractor & Practitioner (WA)

Graham Davies is a Chartered Civil and Structural Engineer with over 16 years of project delivery experience across public transport, rail, civil, and structural infrastructure sectors. He is the Managing Director of BRIC Consulting Engineers and a recognised industry leader in engineering coordination, design management, and stakeholder engagement.

A Rail Industry Worker (RIW), Graham holds PTA Category 2 and 3 competencies and has completed all relevant PTA CPE-specific inductions. His hands-on experience with the Public Transport Authority includes leading and coordinating complex multidisciplinary teams, managing major infrastructure designs, and ensuring safety, compliance, and community integration in high-profile rail projects.

Graham's key PTA-aligned experience includes:

- **Guildford and Canning Rail Bridges (PTA)**: Coordinating Project Engineer for the installation of maintenance walkways; led design reviews and specification development to ensure safe, load-compliant infrastructure for long-term asset maintenance.
- **Moore Street Level Crossing Removal (PTA)**: As CPE within PTA's Major Projects Division, Graham managed design reviews, contractor liaison, and internal discipline coordination; oversaw business case development, scope documentation, and stakeholder approvals.
- **Morley–Ellenbrook Line (METRONET)**: Senior Engineer and Design Coordinator (JAJV) working across organisations, managing the design of noise walls, supporting construction delivery, and ensuring compliance with client-led variations.
- **Tonkin Gap & Karel Avenue Upgrades (Georgiou)**: Delivered rail bridge and interchange works through construction oversight, structural reviews, and site coordination—ensuring safety, quality, and program efficiency.

With a career that spans both private consultancy and government, Graham combines technical depth with leadership and project management excellence. He is committed to delivering public infrastructure that is resilient, compliant, and community focused.

Kevin Ryan – Technical Director & WA Commercial Leader

BSc Civil Engineering, MIEAust, PrEng (South Africa), RPEQ (Queensland)

Kevin Ryan is a highly experienced Civil and Structural Engineer with over 35 years' expertise across commercial and railway infrastructure projects worldwide. As Technical Director and WA Commercial Leader at BRIC Consulting Engineers, Kevin leads a specialist structural engineering team focused on construction support, commercial design, and project delivery in complex environments.

His extensive rail sector experience includes design, construction management, and lifecycle support for major public transport and mining rail projects. Kevin has played key roles in the planning and detailed design of significant rail infrastructure, such as:

- **Pilbara Iron Ore Rail Line Triplication (BHP Billiton):** Managed design and documentation for a 280km rail corridor, including embankments, drainage, culverts, and bridges with environmental and heritage compliance.
- **Oakajee Port & Rail Detailed Design:** Delivered engineering solutions for a 530km iron ore rail line, coordinating complex stakeholder negotiations and environmental clearances across remote and urban sites.
- **Fiji Islands Bridges & River Crossings:** Led construction management for a diverse program of transport infrastructure, demonstrating multi-disciplinary coordination in challenging environments.

Kevin's expertise extends to structural assessments, retaining wall design, and infrastructure beautification projects, with proven capability in managing multi-jurisdictional requirements and technical commercial leadership within public transport authorities and private sectors