

Civil & Structural Design Capability Statement



**TOTAL ENGINEERING SOLUTIONS  
FOR INSTALLATION, CONSTRUCTION,  
AND MAINTENANCE**

## Company Overview



MCA Engineering are specialised providers of total engineering solutions for the mining, industrial, and construction sectors. Building out of a combined six decades of engineering experience from founding Directors Paul Barwick and Andrew Pascoe, MCA has assembled a team of some 120 dedicated, professional experts – becoming one of the most sought after heavy industry contractors in Australia.

We offer access to key personnel across fabrication, construction, and procurement,

supported by a talented management team that ensures every project is delivered to schedule, within budget, and to our client's complete satisfaction.

MCA has the scalable resources to operate nationwide, with offices located in New South Wales, Queensland, and South Australia. We confidently tackle any project, getting the right people on the ground to deliver each and every job with the same innovation and excellence in engineering and construction that's come to be expected from MCA.

## Our Expertise



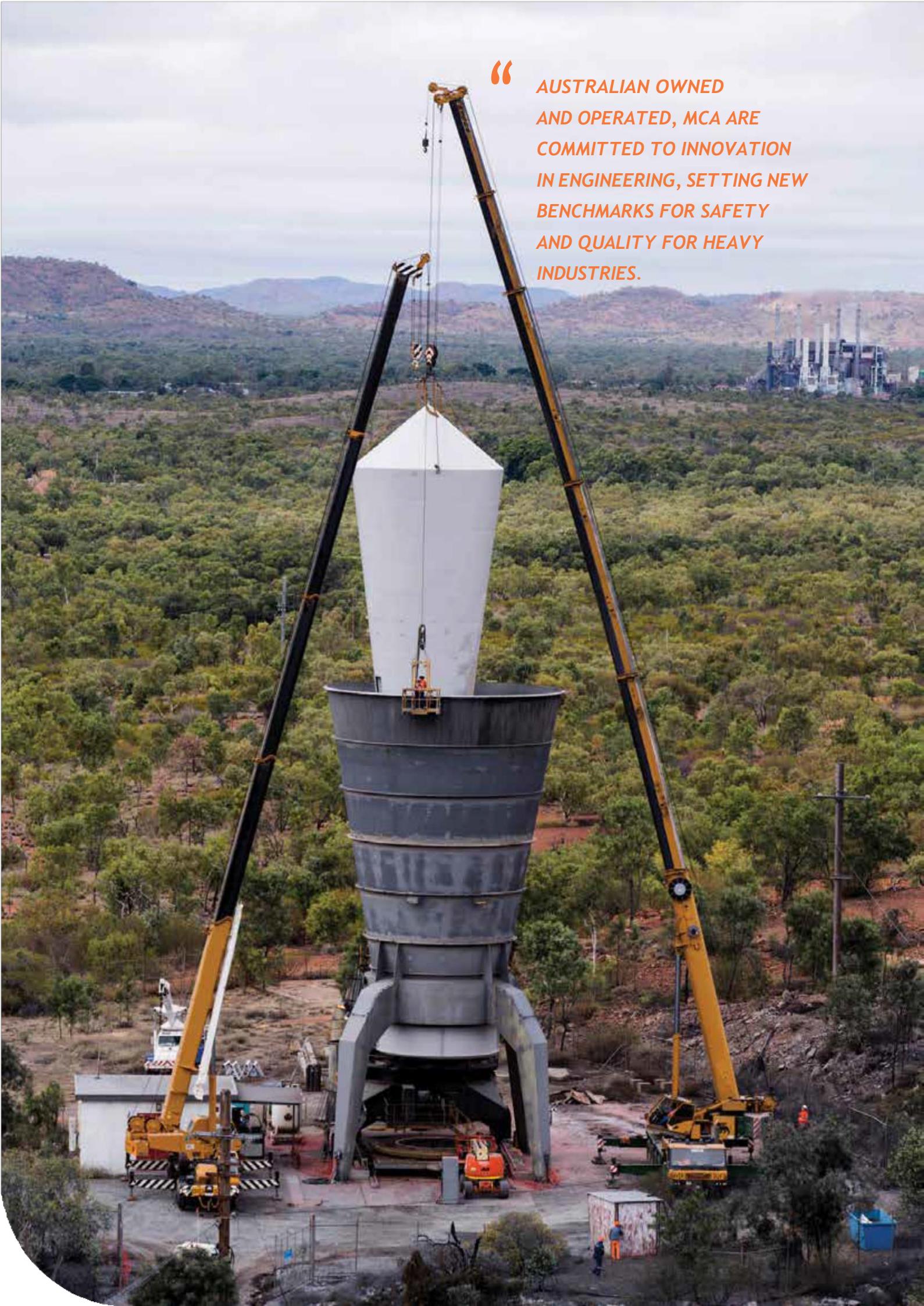
The MCA team provides a wide range of expertise, with capabilities across engineering, fabrication, mechanical, civil, installation, and construction services. We are dedicated to providing innovative solutions, employing highly qualified operators with a passion for problem solving.

We have significant experience in underground work and are leaders in mine shaft engineering and maintenance. Our equipment and heavy machinery specialists have practicable industry knowledge and are supported by in-house manufacturing, fabrication, and machining facilities.

MCA has a long history of delivering successful projects for our clients, owing in large part to our dedicated, internal Project Management team – a team that brings all of our technical expertise together to ensure a smooth, structured rollout, from conceptual design through to final commissioning.

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AUSTRALIAN OWNED  
AND OPERATED, MCA ARE  
COMMITTED TO INNOVATION  
IN ENGINEERING, SETTING NEW  
BENCHMARKS FOR SAFETY  
AND QUALITY FOR HEAVY  
INDUSTRIES.



## The MCA Difference



MCA is moving the industry forward through innovative engineering practices driven by local, Australian expertise. We approach every single job with the aim of creating the best solution for all stakeholders, combining our specialised experience, creativity, expansive capabilities, and adaptable service to consistently deliver beyond client expectations.

All of our operations are domestically managed, providing nationwide support to small, medium, and large corporations. We understand what it



takes to work within Australian conditions, and we strive to implement every project ethically, sustainably, and with the utmost levels of safety and compliance.

We don't deliver short-sighted solutions. We think toward the future, providing highly engineered answers that deliver on all of our clients' needs whilst offering ongoing benefits for the communities that we serve - and that's the MCA difference.

## Mining

We offer a comprehensive range of services for every industry, from concept design and detailed design, through fabrication, construction, and installation. MCA has extensive experience in Civil & Structural engineering allowing its exceptional design, project management and site supervision to be applied to the projects.

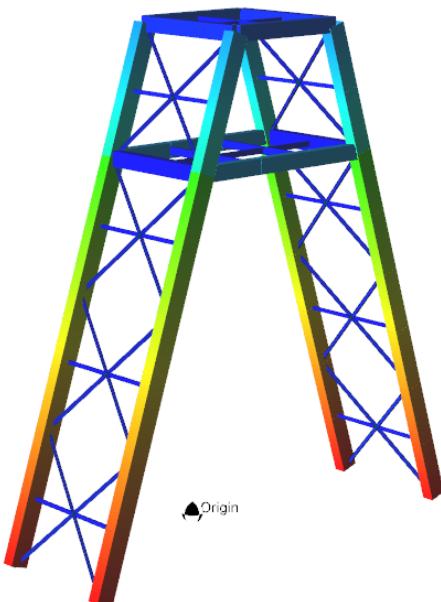
We have access to software packages to provide services with all stages of design process. We provide Civil & Structural design services in mining and industries.



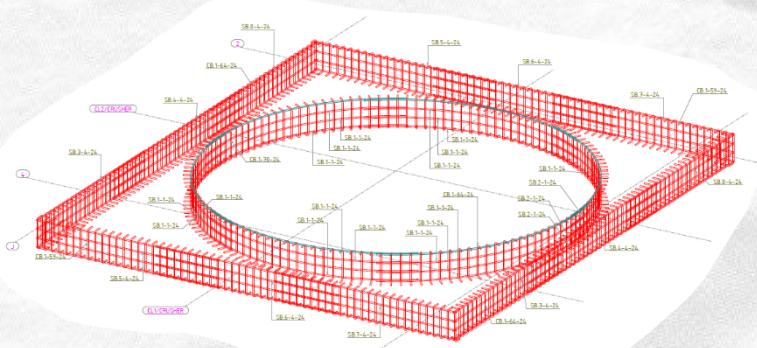
## Structural Design Services Capabilities

### Structural Engineering

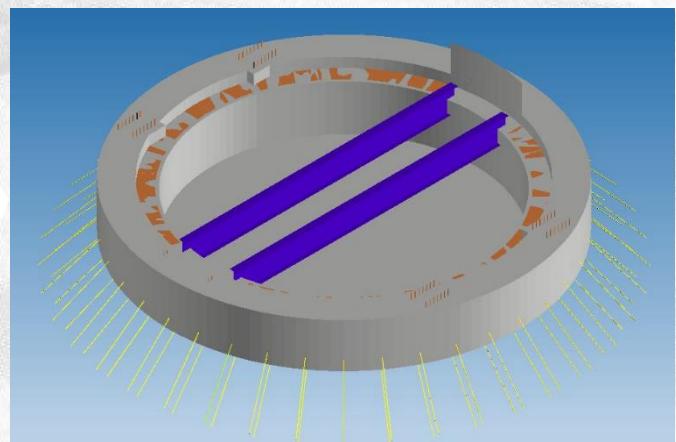
- Steel structures design
- Reinforced concrete structure design
- Industrial Building designs
- Walkway & Platform designs
- Gantry, trestle, Headframe and concrete foundation designs
- Pipe support structure designs
- Structure design to support Raise Bore
- Civil & Structure design verification
- Structural assessment of existing structures
- 3D modelling of structures



3D Finite Element model of Headframe structure



3D rebar detailing and shop drawings of Ore transfer Silo support beam and foundation

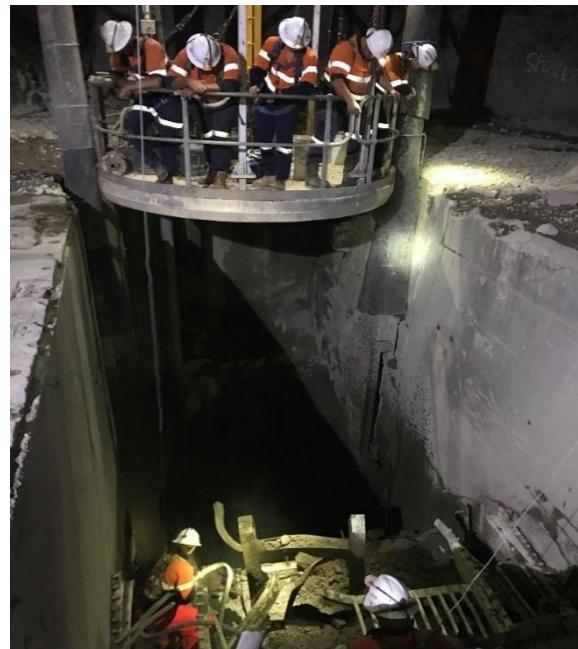


3D Model of Ore Transfer Silo support beam and foundation

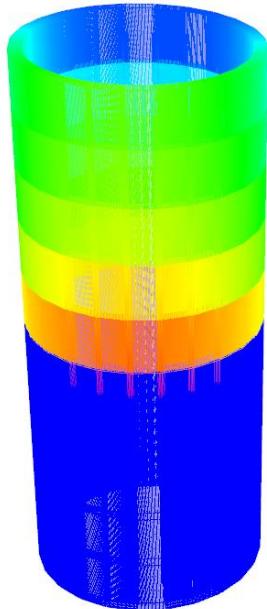
# Civil Design Service Capabilities

## Civil Engineering

- Civil design requirements for mining and industrial projects
- Egress and access design for mobile plants and vehicle
- In-ground services and trenching
- General FRP design
- Specialized foundation design
- 3D model and drawings



Excavation of Load Pocket



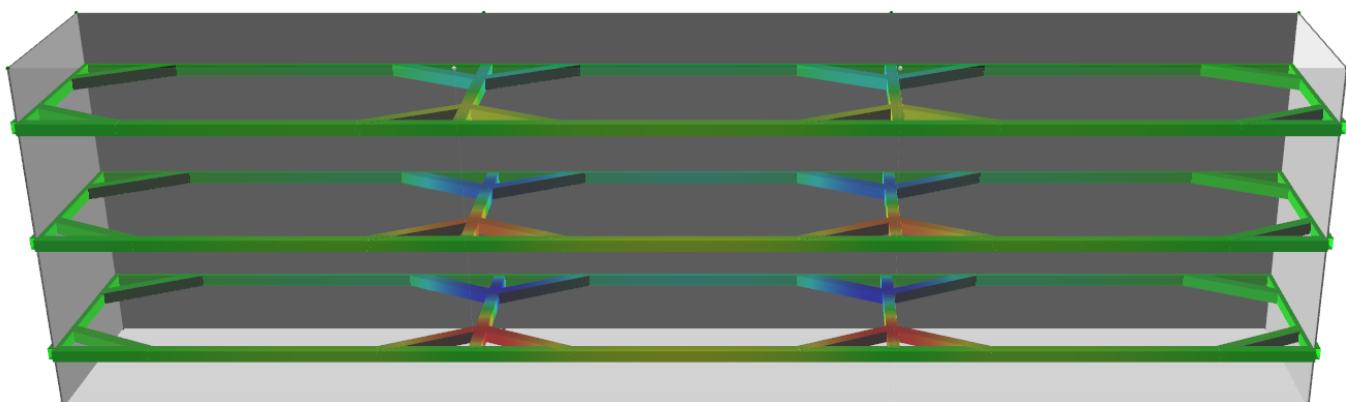
3D Finite Element model of Concrete Underground shaft lining

## Shaft reinforcement and Underground Structures

At MCA, quality assured means expertise and oversight at every step of our process. We provide Civil structural design services in shaft, and underground structures and excavation.

## Civil & Structural Engineering

- Shaft lining and underground support structures design for Ore pass, vent rise, conveyor shaft, emergency egress
- Temporary steel structure design to support excavation and shoring activities
- Temporary pile retaining structure designs
- Permanent concrete retaining wall design
- Bespoke underground structure designs
- 3D modelling of structures
- 3D model and drawings for fabrication



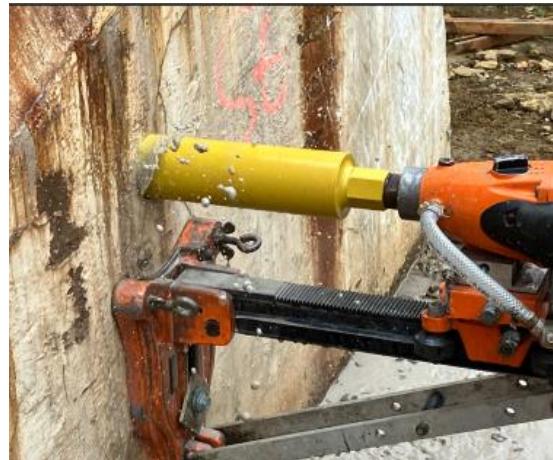
3D Finite Element model of Steel Earth Retaining Stabilising Structure (ERSS)

# Industrial Building and Infrastructure

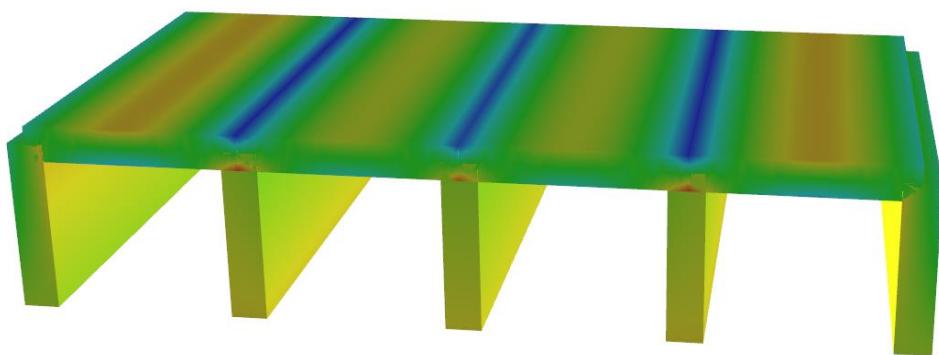
We have extensive experience in Civil structure design of industrial buildings and infrastructures. We provide design services throughout the full project life cycle from conceptual stage to detailed design and fabrication in building and infrastructure.

## Civil & Structural Engineering

- General Steel structure and reinforced concrete designs
- Box culvert structure designs
- Heavy Plant concrete support structure designs
- Design verification of steel and concrete structures
- 3D modelling of structures
- 3D model of Rebar detailing and shop drawings



Structural assessment of Foundation concrete



3D Finite Element model of Concrete Box Culvert

## DESIGN TOOLS



# Contact Us

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