



Capital Consulting  
ENGINEERS  
*"Your Partners in Success"*

DEVELOPING ENGINEERING SOLUTIONS

*Engineering Consultants  
Project Managers*

## CAPABILITY STATEMENT:

# Mechanical Engineering



**Capital Consulting Engineers Offer Innovative Solutions for:**

- Mechanical Design & Detail Drafting
- Project Management of Engineering, Procurement & Construction
- Commissioning & Operations Handover
- Bulk Handling and Process Engineering
- Conveyor and structural audits
- Coal Washplant Process Optimisation
- Quality Assurance

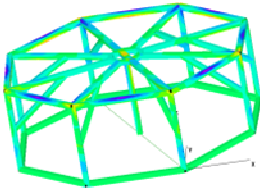
*For multi-discipline project delivery from concept through to commissioning and operations handover, Capital Consulting Engineers offer high quality certified Project Managers backed up by an experienced in-house Engineering Team. We offer innovative and cost effective solutions to your Engineering problems.*

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DEVELOPING ENGINEERING SOLUTIONS



## ENGINEERING SOLUTIONS

Bulk Handling Systems

Mineral Processing

Mechanical Structures

Pump and Pipe Systems

Compressed Air Systems

Dewatering Systems

Engineering Investigations

Design and Certification

Plant Structural Audits

Maintenance Planning

## PROJECT MANAGEMENT

Feasibility Studies

Budget Estimates

Capital Projects

Plant Upgrades

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## Engineering Consultants Project Managers

### Practical Experience

Capital Consulting Engineers have practical experience in projects from research and development, investigations, feasibility studies, planning, design and project management in industry and mining.

We are a multidisciplinary consultancy which leads to a well-rounded approach to project management, and delivers an integrated system that works.

### Complete Project Delivery

Capital Consulting Engineers provide clients with in-house services covering most aspects of mechanical engineering projects, ensuring a coordinated effort from concept development to final commissioning and project handover.

### Software Packages used:

- Microsoft Project/Primavera
- AutoCAD
- SolidWorks
- Helix Delta-T Professional Conveyor Analysis
- Helix Delta-Q Pipe Networks Network Flow Analysis
- Space Gass Structural Analysis

### Capabilities

Capital Consulting Engineers provides clients with value in the mechanical design process by clarifying their needs, challenging assumptions and developing solutions to achieve the highest level of design quality, sustainability and productivity. CCE's areas of capability include:

#### Project Management

- CCE manages mining and industrial projects, residential developments, equipment installations and commissioning in line with the PMI Project Management principles.

#### Feasibility studies

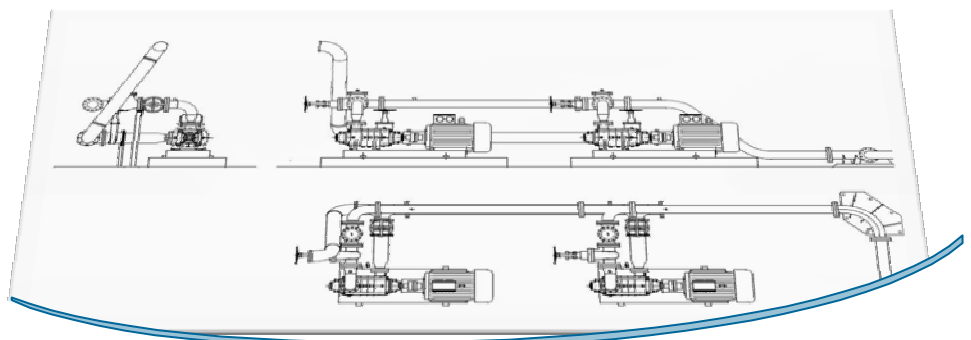
- Project evaluation and development potential analyses
- Financial evaluation and feasibility assessment
- Engineering Estimates

#### Engineering Design

- Detailed design analysis
- Component design
- Mechanical design certification

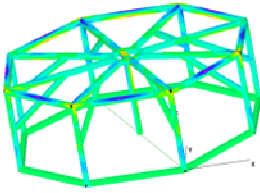
#### Washplant Optimisation

- Washplant Performance Evaluation
- Manage small or large Upgrade Projects



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## PROJECT MANAGEMENT

**Capital Consulting Engineers** have managed a number of large projects and installations for various clients in the Bowen Basin. These cover both surface and underground projects, greenfield installations and expansions.

### **Major Underground Projects**

A number of underground installations have included:

#### **Trunk Belt 1 Extension & Tripper Install**

This project included the design checks and installation of a tripper with two extra 630kW drives, component replacements and conveyor extension.

#### **7 North Maingate Conveyor Installation**

CCE was involved from the early stages to commissioning with the planning, layout design and construction of this conveyor installation, which included ventilation segregation for the main-gate conveyor.

#### **Trunk Belt 2 Design and Installation**

As a continuing extension of the main conveyor system for the mine the design, management of the procurement, installation and commissioning of the next 540m of underground mains belt.

#### **8 North Maingate Belt Conveyor Installation**

The layout design, installation and commissioning of the 8 North Maingate conveyor installation.

#### **Pit Dewatering**

CCE planned and designed the main sump and pump station underground at North Goonyella.

## Engineering Consultants Project Managers

### **Major Surface Projects**

A number of surface installations have included:

#### **H40 Vent Shaft Installation**

Management of installation of shaft liner for blind bored shaft.

#### **CV101 Gravity Take up Winch Installation**

Management of the installation of a winch on the Gravity Take Up to allow for de-tensioning the belt without using a crane.

#### **Main Vent Fan Project**

Management of Design and Construct of new Ventilation Fans including changeover and de-commissioning of the old Ventilation shaft and system.

#### **Northern Bleeder Fan**

Management of Design and Construct of a new bleeder Fan including changeover and de-commissioning of the old Bleeder fan setup.

#### **Mine Entry Portal Seals**

Design and management of installation for portals seals for the man and material, and the conveyor drifts.

#### **Compressor Shed Installation**

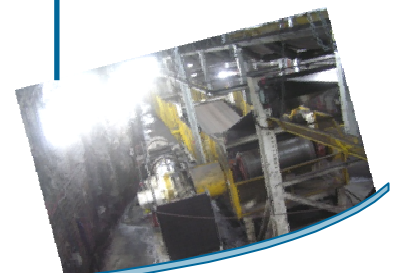
From shed layout, including designing of roof venting and pipework installation to route the compressed air underground. Installation also included a bulk stonedust silo with pneumatic conveying underground

#### **Installation of Mine Cooling**

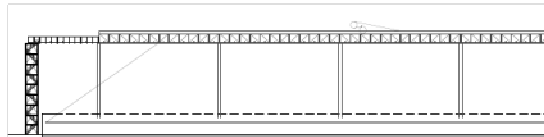
Management of the installation of bulk air cooling for the underground mine, including the design of a safety screen and plenum with air-flow regulation capacity.

#### **Winder Installation**

Management of the relocation of a shaft winder including design of new support steelwork, and integrating the installation into the plenum for the mine cooling. During the relocation upgrades were made to the system to allow for Automatic operation of the cage.







## *flexible solutions for your business needs*

*technology consulting provides a total end to end solution*

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### PROJECT MANAGEMENT

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Capital Projects

Plant Upgrades

#### CHPP Spirals Upgrade

Feasibility Study

Capital Expenditure Application

Scope of Works Package

Design & Construct Tender Evaluation

Management of:

- Process & Structure Design
- Procurement, Supply & Install
- Commissioning & Operations Handover

Safety Management – Zero LTI's

Budget & Variations Control

Schedule Control

- Critical tie-ins aligned to Planned Maintenance Days



#### CONVEYOR SOLUTIONS

Capital Consulting Engineers are experienced in the field of conveying, with technical knowledge in conveyor design and practical knowledge in installation.

Computer packages including 3D modeling tools, and conveyor design software are used to design and optimize the conveyor system. This experience includes the design and installation of Queensland's first fully segregated maingate conveyor at Peabody's North Goonyella Colliery.

#### Water Infrastructure Experience

##### SunWater Annandale / Riverside Pipeline Project

Site Management for installation, testing and commissioning for 2.5km of new water pipeline.

##### North South Carrier– Botswana

Design and Project Management of 365km of 1.4m diameter water main and pump stations.

##### No.2 Village Water Upgrade

Design and Project Management of 8km of 450mm Diameter pipe.

##### Phoenix Mine Water Supply

11km raw water line for mine water supply

##### Port Botany Fire Water System

Design of the Fire Water System including sewer and rising mains.

#### Associations & Certifications



ISO 9001 Certification



Project Management Institute



Australian Coal Preparation Society



Institute of Engineers Australia



Resource Industry Network

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