Our laboratory and field testing services are critical components for the design and construction of mines, roads and infrastructure projects.

Construction Materials Testing

As a principal provider of Construction Materials Testing (CMT) throughout Australia, we are a trusted source in delivering efficient and accurate results.

A site evaluation from our soil technicians can identify and resolve potential building hazards by improving the quality and performance of your existing ground materials.

For bespoke, large-scale developments, we have the flexibility to work around your location.

Our laboratory teams and NATA accredited facilities are capable of shifting to temporary settings, ensuring that we can always adapt to any type of project.

Our clients benefit from a streamlined experience, brought to life by our extensive range of equipment, custom built project management software and quality reporting and results.

Our Construction Materials Testing services include:

- Soils
- Concrete, grout and mortar
- Project site laboratories
- Compaction control
- Road pavement surfaces
- Aggregates

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We're committed to the highest standards of health, safety and environmental management across all of our services:

Construction Sciences ZERO HARM
EVERY JOB. EVERY DAY.

SOILS

- Classification
- Chemical
- Compaction
- Permeability
- Strength and penetration
- Reactivity
- Stabilisation

COMPACTION CONTROL

- Field density
- Level 1 supervision
- GITA services
- Pavements and earthworks
- Asphalts

ROAD PAVEMENT & SURFACES

- Surface characteristics
- Structural tests

CONCRETE GROUT & MORTAR

- Consistence and compressive strength
- Air content and MPUV
- Flexural and tensile strength
- Chloride and sulfate content
- Round Determinate Panel (RDP) and beams
- Concrete permeability
- Chloride diffusion - Nordtest 492 and 443
- Fibre content
- Resistivity and thermal expansion
- Sorptivity
- Drying shrinkage
- Modulus of elasticity

AGGREGATES

- Particle density and water absorption
- Particle size distribution
- Particle shape
- Aggregate strength
- Soundness
- Recycled aggregates
- Contaminants
- Adhesion of aggregates and binders

We work with you to provide comprehensive reporting on the design, analysis and construction of your site.

Geotechnical Engineering

Our Geotechnical Engineers are specialists at solving ground related problems with optimal construction solutions.

Based on our local knowledge, we can investigate and monitor ground conditions, respond rapidly to infrastructure defects and execute detailed designs that display a high commitment to buildability.

During the construction phase our team can give guidance on source materials, in-situ testing and temporary works design and certification.

From the outset of your project, we can offer advice that analyses risk, buildabilty, cost effectiveness and sustainability.

Our Geotechnical Engineering services include:

- Geotechnical instrumentation installation and monitoring
- Temporary works design
- Bored pile supervision
- Slope stability assessment and remediation design
- Geotechnical investigation and site classification
- Pavement design

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REPORTS

- Temporary works
- Material searches
- Geotechnical investigations
- Road pavement design
- Deep excavation assessments
- Slope stability assessments
- Ground improvement
- Geotechnical instrumentation and monitoring
- Specification advice
- Soft soil reclamation conditions
- Erosion and sediment control management

PROJECTS

- Land development
- Highway construction
- Mining infrastructure
- Multi-storey buildings/basements
- Deep excavations
- Bridges and wharves
- Railway infrastructure
- LNG infrastructure
- Bridge construction
- Dams

DESIGN WORK

- Temporary and permanent hard stands
- Pavements
- Roller compacted concrete (dams)
- Fill embankments
- Remediation work for dwellings
- Soft soil improvement
- Retaining wall
- Wastewater disposal

Through analysis and assessment, we can mitigate and manage all environmental impacts on your site.

Environmental Consulting

Our diverse Environmental Consulting teams include scientists, contamination specialists and geotechnical professionals to cover all aspects of your environmental site management requirements.

With our range of expertise, we can provide contamination monitoring, remediation works supervision, acid sulfate soils management and a range of other various services to help design and maintain a sustainable site infrastructure.

Our integrated knowledge of scientific and engineering disciplines, ensures that we can deliver the most economical and sustainable solution for every project.

Our Environmental Consulting services include:

- Environmental management
- Environmental monitoring
- Environmental approvals and compliance
- Contamination remediation

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ENVIRONMENTAL MANAGEMENT

- Technical reports, investigations and strategic advice to support design and planning approvals
- Construction and demolition management
- Client and stakeholder liaison
- Expert witness and strategic advice

ENVIRONMENTAL MONITORING

- Construction noise and vibration management plans and monitoring
- Groundwater and surface water monitoring
- Air quality assessments- asbestos, RCS, PM10, TSP and Gravimetric Dust
- Thermologging

ENVIRONMENTAL APPROVALS & COMPLIANCE

- Contamination register and land title searches
- Project environmental risk management
- Construction and operation environmental management plans
- Regulatory compliance and project permits

CONTAMINATION REMEDIATION

- Acid sulfate soils investigation and management
- Erosion and sediment control
- Hazardous building material assessments
- Asbestos management
- Preliminary site investigations (PSI)
- Detailed site investigations (DSI)
- Contaminated land evaluation
- Groundwater evaluation
- Remediation design, supervision, validation
- Pre-acquisition and divestment due diligence
- Waste disposal categorisation and soil disposal permits

Our multidisciplinary data is used to assist in the design and construction of projects, to minimise incident risks or delays.

Subsurface Utility Engineering

Our Subsurface Utility Engineering (SUE) team can combine civil engineering, geophysics, surveyance and computer aided design and drafting, to provide detailed information on the location and condition of subsurface utilities.

During an investigation, data is collated and assessed by our engineers to reduce any interference or conflict from occurring with existing infrastructure.

Adopting a SUE process during the life cycle of your project can alleviate unexpected utility conflicts, project delays, utility damage, community issues and contractor claims.

With an experienced team of surveyors, engineers, data depiction analysts and utility coordinators, we have the resources to provide a completely integrated SUE service for your next project.

Our Subsurface Utility Engineering services include:

- Utility detection and mapping
- Vacuum excavation
- Structural scanning
- Asset management
- Survey, GIS and CAD

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UTILITY DETECTION & MAPPING

- Ground Penetration Radar (GPR) technology
- Subsurface utilities
- Pavement profiles
- Concrete structures
- Underground storage tanks
- Bedrock and voids
- Archaeological and geological features

VACUUM EXCAVATION

- Minimal surface disruption
- Reduced reinstatement costs
- Reduced manual handling
- Safe containment and disposal of soil in vacuum tank
- Minimised environmental impacts compared to conventional mechanical excavation

STRUCTURAL SCANNING

- Concrete slab thickness
- Electrical cables within slabs
- Safe areas for cutting, drilling or coring in concrete slabs and walls
- Inconsistencies such as voids, cracks and honeycombing
- Corrosion and moisture management

ASSET MANAGEMENT

- Strategic and operational asset management
- Asset registers, data capture and condition assessment
- Economic regulation and efficiency studies
- Infrastructure valuation
- Business planning and financial analysis

SURVEY, GIS & CAD

- Digital plan production facilities
- Record of assets and infrastructure
- Spatial and non-spatial data overlay
- Effective planning of construction works