



#9
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*2024 Corporate Knights
Global 100.*

Innovative Solutions for Sustainable Mining

ENVIRONMENT & GEOSCIENCES FOR MINING

The Stantec Australian community unites 2,100 people working in 23 locations. With a team of approximately 280 environmental and geoscience specialists, our collaborative efforts span disciplines and industries, bringing environmental, mining, energy, water, building, and infrastructure projects to life.

Environmental and Geoscience Services for Responsible Mining

With over 30 years’ experience of providing environmental and geoscience services to the mining and oil and gas industries in Australia, we deliver a tailored approach that assesses the environmental values and objectives within local, state and federal regulatory frameworks.

Our multidisciplinary team of ecologists, geologists, material specialists, hydrologists, engineers, geochemists, regulatory experts, and risk assessors work alongside you at all stages—exploration, planning, operations, and closure—bringing together the right elements to protect and preserve.

Our broad Australian and global networks allows us to bring innovation, and specialist technical advice to local projects. Whether we’re collaborating on complex regulatory approvals, compliance monitoring at your site, designing landforms or completing terrestrial or aquatic surveys. We help you find the right solution for your project and the community it supports.

Our values

Our project execution approach is firmly rooted in our core values:

- **People First:** Prioritising the well-being of our team, clients and stakeholders.
- **Better Together:** Leveraging collective expertise for superior outcomes.
- **Doing What Is Right:** Upholding ethical standards.
- **Driven to Achieve:** Committed to project success.



Our experience

Stantec has been providing comprehensive environmental, engineering, and geotechnical services to the resource sector for over three decades. Our clients include some of Australia’s leading blue-chip and mid-tier mining companies, such as Rio Tinto, BHP, Fortescue, Roy Hill, Newmont, South32, Energy Resources Australia, Glencore, and Gold Fields Australia.

Sustainability is important to us. That’s why we take pride in delivering balanced and sustainable solutions while meeting regulatory requirements. Most importantly, we aim to do what we do best safely—while keeping a strong focus on quality.

As a highly experienced team, our environmental specialists are skilled in environmental planning, regulatory approvals and compliance, impact assessments, ecological surveys, environmental policy, and sustainability. Our engineers and geoscientists work with clients from siting studies through closure, to develop mine waste and mine water management approaches. We deliver a customised approach that considers environmental, cultural and community values.



Conducting annual rehabilitation monitoring programs across mine sites in Western Australia.

Ranked #7 Top 225 International Design Firms
- *Engineering News Record (ENR) 2024*

Services at every stage

Whether you need one service or many, we have specialists who can work with you and your team at every stage of your mine's life. From exploration to closure and everything in between—we've got you covered.

Return

- Mine closure planning and design
- Rehabilitation design, implementation, and management
- Ecological completion criteria
- Asset transformation
- Soils, waste, tailings physical and geochemical assessments
- Closure compliance approvals and monitoring
- Cover design and landform engineering
- Ecosystem restoration (terrestrial and aquatic)
- Contaminated land remediation
- Water management
- Community and stakeholder engagement

Operate

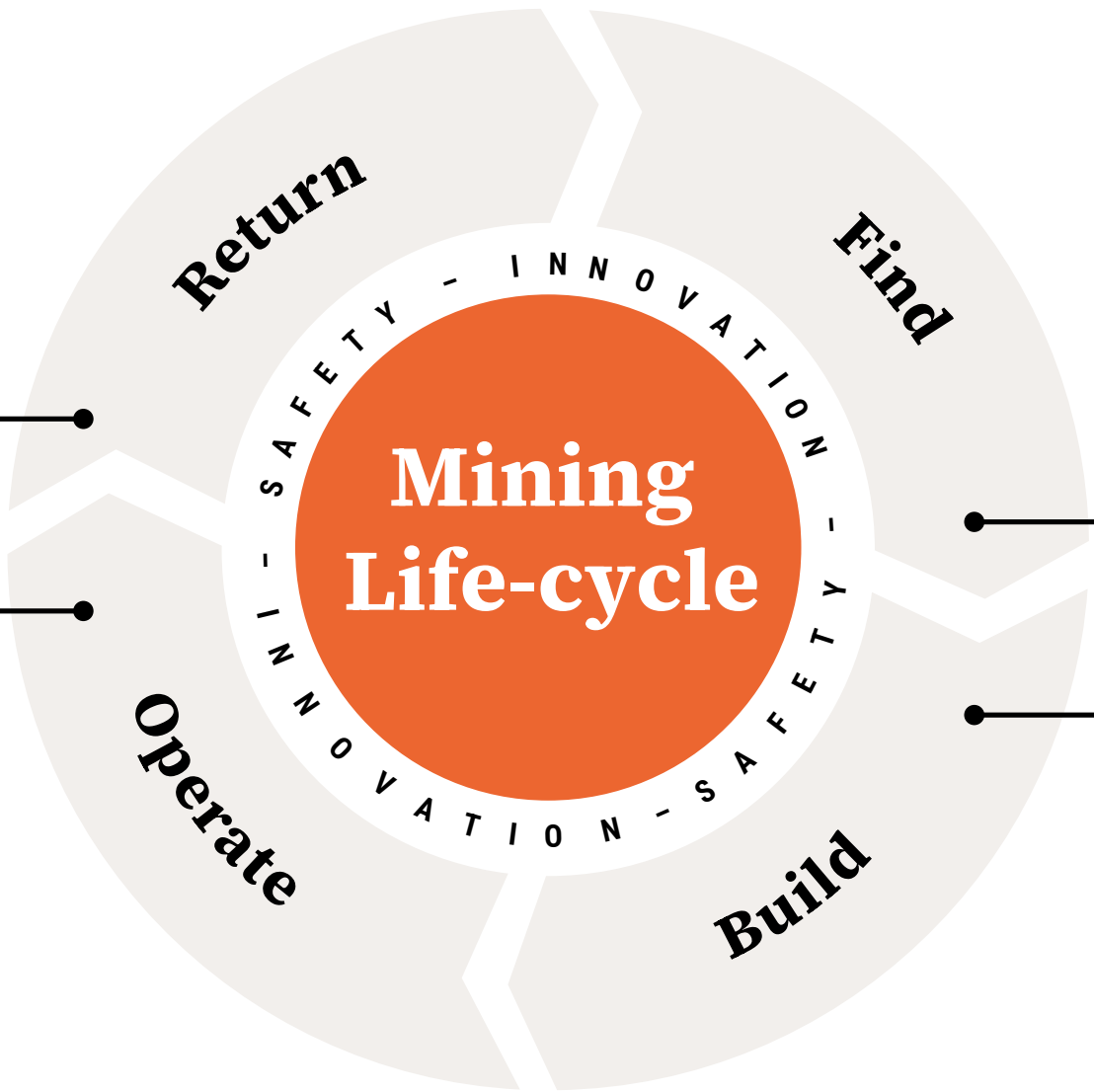
- Compliance monitoring
- Compliance reporting and auditing
- GIS and remote sensing
- Adaptive monitoring and management
- Mine tailings and waste management
- Adaptive monitoring
- Data management solutions
- Mine Closure planning
- Progressive rehabilitation
- Water management
- Community and stakeholder engagement
- Geotechnical stability monitoring
- Independent technical and governance review

Find

- Baseline flora, fauna, subterranean, aquatic and marine ecological surveys
- Environmental impact assessment
- Environmental risk assessment
- Targeted/significant species and habitat assessments
- Identifying species using Environmental DNA (eDNA)
- Regulatory support and strategy
- Environmental permitting
- Due diligence reviews
- Sustainability planning and reporting
- Siting studies
- Community and stakeholder engagement
- GIS and remote sensing
- Coastal and Erosion Modelling
- Waterway diversion design

Build

- EPA, EPBC and Mining Act approvals
- Dewatering discharge assessments
- Environmental management plans
- Development of monitoring plans and trigger values
- Ecotoxicity studies
- Hydrology and flood risk assessment
- Environmental offsets
- Noise and vibration assessments
- Community and stakeholder engagement
- Mine closure planning
- Water and waste management
- Tailings-storage facilities and waste rock landform design
- Hydrogeologic and geochemical characterisation



Our services

We'll collaborate to help you achieve your project goals, safely and efficiently, because we all care about the outcome.

	Find	Build	Operate	Return
Terrestrial ecology				
Habitat assessments & mapping	●	●	●	
Flora & fauna assessments & management	●	●	●	
Ecological impact assessment, mitigation & management	●	●	●	●
Baseline inventories & ecological monitoring	●		●	●
Biodiversity offsets	●	●		
Fauna breeding places surveys & species management programs		●	●	
Protected plants floral surveys		●	●	
Peer review & strategic advice for project planning	●	●	●	●
Aquatic ecology				
Receiving environment monitoring programs	●		●	●
Baseline aquatic flora & fauna surveys	●	●		
Waterway barrier works approvals, including fish, passage design & monitoring	●	●	●	●
Watercourse diversion services, including rehabilitation plans & monitoring	●	●	●	●
Advanced underwater habitat mapping & modelling	●	●	●	●
Freshwater ecology, environmental flows, discharge licence monitoring & AUSRIVAS threatened species	●	●	●	●
Environmental planning & approvals				
Environmentally relevant activity applications & licensing	●	●		
Environmental & planning approvals (local, state & federal)	●	●	●	
Environmental impact studies	●	●		
EPBC referrals	●	●	●	
Assessment of offsets & offset delivery plans	●	●	●	
Constraints identification & desktop studies	●	●		
Mine closure				
Closure planning	●	●	●	●
Ecological Assessment			●	●
Rehabilitation monitoring			●	●
Assessment of pit walls, water, soil, waste dumps & tailings			●	●
Cover design & landform engineering		●	●	●
Progressive rehabilitation		●	●	●
Marine science & coastal modelling				
Mapping marine benthic habitats	●	●	●	●
Turtle monitoring	●	●	●	●
Marine fauna surveys	●	●	●	●
Hydrodynamic modelling	●	●	●	●
Coastal & erosion modelling	●	●	●	●

	Find	Build	Operate	Return
Environmental monitoring				
Acoustic impact assessments		●	●	●
Noise & water management		●	●	●
Environmental management				
Construction & operational environmental management plans			●	●
Erosion & sediment control plans		●	●	
Vegetation & rehabilitation management plans		●	●	
Fauna management plans		●	●	
Environmental management systems & integrated management systems		●	●	
Environmental policy				
Strategic environmental planning	●			
Environmental policy & advice	●			
Sustainable management planning & strategy				
Sustainable management planning & strategies	●	●	●	
Climate change adaptation & mitigation strategies	●	●		
Risk identification				
Environmental risk & hazard assessment & mitigation	●	●	●	●
Legislative compliance evaluation	●	●	●	●
Technology for assessment & monitoring				
eDNA	●	●	●	●
Mapping & geospatial analysis	●	●	●	●
Remote sensing & image analysis	●	●	●	●
Tailings & waste				
Siting & feasibility studies	●	●		
Tailings storage facility & waste rock facility design		●	●	●
Independent review	●	●	●	●
Governance & stewardship	●	●	●	●
Instrumentation & monitoring		●	●	●
Hydrogeology & geochemistry				
Baseline studies	●	●		
Geochemical characterisation	●	●	●	●
Groundwater & geochemical modelling	●		●	●
Monitoring programs	●	●	●	●

Our project experience



Gudai-Darri Wildlife Monitoring Pilbara, Western Australia

When our client was granted environmental approval to develop the Gudai-Darri Iron Ore Mine, they needed an experienced team to help ensure they met their environmental commitments. Our team conduct annual monitoring surveys of vulnerable species at the site. Specifically, we were monitoring the threatened northern quoll and Pilbara leaf-nosed bat and determining if there were any impacts associated with the development of the project.

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Rehabilitation Monitoring Programs Western Australia

For over a decade, our Rehabilitation team has been engaged in completing annual rehabilitation monitoring for the mining industry. Our oversight provides both qualitative and quantitative assessments of rehabilitation establishment and development covering multiple sites in Australia. The monitoring involves vegetation and erosion assessments on a range of rehabilitated landforms and reference landscapes.

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Wingellina Nickel Project Section 46 Change of Condition Western Australia

Our client, Hinckley Range, received approval to mine nickeliferous limonite ore from the Wingellina deposit near the Western Australia and South Australia borders. When they saw a need to request an extension of the authorised timeframe for substantial commencement of the proposal by a further five years, we assisted in preparing a Section 46 Change of Condition submission under the Environmental Protection Act (1986).

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Pembroke Olive Downs Complex Queensland

When our client, Pembroke Resources, decided to develop the Olive Downs Complex into a large-scale producer of steelmaking coal, our team helped to carry out geotechnical and civil work for all the proposed dams, levees, and drains required to bring the plant to life. Our Geotechnical team thoroughly assessed soil conditions and stability, guiding crucial decisions, while our Civil team developed designs to create robust solutions that withstand environmental challenges and a harsh climate.

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Lake Mackay Sulphate of Potash Project Western Australia/ Northern Territory

By tapping into one of Australia’s richest sources of sulphate of potash reserve, Agrimin can produce a high-quality fertiliser, helping farmers increase their crop yields. We completed a range of environmental surveys including flora and vegetation, fauna and local invertebrate species, subterranean fauna, aquatic ecology, and hydrological assessments, with additional targeted searches for conservation significant species and migratory waterbirds.

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Argyle Diamond Mine Closure

Western Australia

Rio Tinto’s Argyle Diamond Mine was one of the largest diamond producers in the world and the world’s largest supplier of natural colored diamonds. The mine ceased operations in November 2020 and is now undergoing a comprehensive closure project to restore the natural ecosystem and return the land to the Traditional Owners: *the Miriwoong, Gija, Malignin, and Woolah people*. We’re delighted to be part of the process.

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St. Ives Gold Mine Closure

Western Australia

The St. Ives Gold Mine (SIGM) is owned by Gold Fields Limited and located approximately 50 kilometers south of Kalgoorlie, Australia. In 2015, Gold Fields was preparing to shutdown SIGM, and they engaged our Australian office to serve as their closure planning partner. Our role? To deliver a comprehensive revision of the entire closure plan and undertake all associated technical studies.

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BHP Yarrie Lake

Western Australia

Former pit mines that become lakes can be anything from a public safety hazard to useful sites for recreation. We helped BHP understand the environmental values of their Yarrie 10 Pit Lake, a historic iron ore pit. Working with legacy mine pits and landform design is challenging due to remote locations, difficult terrain, and limited baseline information. Our team successfully navigated these issues by completing a desktop review, integrated with hydrological and biological investigations.

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Mt Rawdon Pumped Hydro Energy Storage

Queensland

Mt Rawdon, an operating open pit gold mine in Queensland is expecting its end of mine life around 2027. Our client and the mine owner collaborated to investigate the site’s potential for a pumped hydro energy storage (PHES) facility. One of the benefits? The opportunity to restore the areas of the mine to a safe, stable, and self-sustaining condition—reducing the environmental impacts of mining and changing the legacy of the site.

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South Middleback Ranges Pumped Hydro Prefeasibility Study

South Australia

As a key stakeholder in the Whyalla region, SIMEC Mining wanted to provide energy security and price relief for their mining and steel manufacturing operations. Approaching the end of its economic life, their Iron Duchess North mine in the South Middleback Ranges had an interesting opportunity. Transform the site into a pumped hydro energy storage facility.

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Detecting Stygofauna in Groundwater Using eDNA
Western Australia

Stygofauna—aquatic invertebrates found all over the world in suitable aquifers—are typically regionally unique. In Western Australia (WA), they can be an important consideration in the regulatory process for environmental approvals of mining and energy projects. We collaborated with an energy client, operating in a sensitive environment in northern WA, to enhance sampling methods for stygofauna as part of the client’s overall environmental management program.

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Greater Brockman Syncline Project
Western Australia

When our client, Rio Tinto, wanted to construct an iron ore mine in Western Australia’s Pilbara bioregion, we provided the environmental assessment expertise. Our team surveyed the site and surroundings, conducting field assessments, including detailed flora and vegetation surveys, vertebrate and invertebrate fauna surveys, and targeted searches for significant species over a 12,500-hectare area.

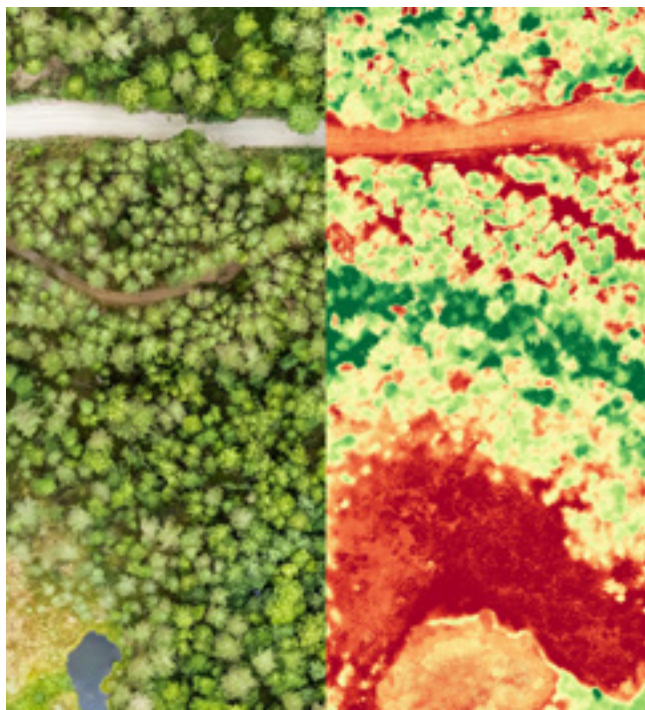
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Lake Roe Gold Project
Western Australia

When Breaker Resources, identified a greenfields gold mining opportunity east of Kalgoorlie, they called on our team to help investigate the possible environmental impact. Our team looked at the ecological makeup of the area, investigating the flora, vertebrate fauna, aquatic ecology, subterranean fauna, and conducting soil assessments. We also focused on the hydrogeological aspects of the mine and how mining operations would interact with surface or groundwater.

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Resource Development Rehabilitation Monitoring Program
Western Australia

Mineral exploration in Australia can extend across vast areas of land, often in remote locations and can cause disturbances. In collaboration with our client, our team developed a resource development rehabilitation monitoring program—using satellite imagery to provide an innovative and cost-effective solution for assessing disturbance and rehabilitation of extensive, spatially distributed, remote exploration areas.

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Cyclone Mineral Sands Project
Western Australia

The Eucla Basin in Western Australia is rich in mineral sands. When Lost Sands identified the site’s potential, they proposed a zircon mine. Our team provided a range of services to support the proposal and gain the approvals required to begin construction. We created the environmental management plan, the conceptual mine closure plan, a carbon emission offset strategy, an environmental risk assessment, and the environmental scoping study that contributed to the project’s approval.

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Our Australian Business Leaders



Justin Peterson

Acting Regional Director, and Business Centre Operations Leader, Environment & Geosciences, Australia

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Justin is an engineering geologist by training who enjoys building teams as part of managing our environment and geoscience business across Australia. He refers to himself as an expert generalist—tying all the parts of the business together and tapping into his diverse knowledge base, while harnessing our deep technical subject-matter experts to drive better results for our clients.

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Kevin Roberts

Technical Delivery Leader, Environment & Geosciences, Australia

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A leader in the field of environmental management for major projects in Australia, Kevin has over 35 years of experience in the assessment and management of environmental issues across project areas and disciplines.

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Dr. Fiona Taukulis

Business Leader, Environment - WA/NT

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Fiona has a strong background in ecology, biostatistics, and environmental risk assessment, providing technical advice and review of survey design, analysis, and deliverables for clients and regulatory departments. In addition, she helps clients meet compliance or legal issues that require specialist advice.

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Leigh McDonald

Business Leader, Geosciences, NSW/ACT/VIC/WA

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Leigh is the geosciences business leader in Victoria. Wearing many hats, his responsibilities cover a broad range of commercial objectives from financial performance to managing his team. Overseeing the project delivery workflow, Leigh provides technical expertise on complex issues and sensitive risk management profiles.

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Alex Larance

Business Leader, Environment - South East

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In a more than 25 year career covering a range of disciplines, Alex has formed close working relationships with numerous clients through early and extensive consultation with key stakeholders. Alex helps his team and clients realise the broader impact and opportunities of their work.

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Our Australian Business Leaders



Andy Williams

Business Leader, Geosciences, QLD
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A chartered geologist with 34 years’ experience in geotechnical, mining, and environmental projects, in some of the harshest environments, it might take an epic movie to adequately convey Andy’s career. His work has taken him to projects in Queensland, the Northern Territory, the Middle East, Africa, and Asia—ranging in size from small private developments, to multi-billion-dollar projects for mining, and large-scale defence and infrastructure.

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Amit Kelovkar

Business Leader, Environment -QLD
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As a business leader for our Environmental Services group, Amit provides leadership to people and projects and is responsible for business performance, growth, and management of client portfolios. He has provided environmental specialist and technical input for key stakeholders including Seqwater, Tina Hydro, Urban Utilities, Townsville Regional Council, and the Gladstone Area Water Board.

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Ideas

Our environmental specialists are transforming their ideas into action. They explore the trends, innovations, and challenges impacting how we manage the environment.

[Developing sustainable mine-closure plans for legacy tailings-storage facility management](#)

[How drones are transforming mine closure and rehabilitation](#)

[Rethinking the life of a mine](#)

[Is your mine using remote sensing?](#)

[Reinventing mine closure: Creating assets for the future](#)

[Stream restoration is critical for mine rehabilitation](#)

[A sustainable approach to readying critical minerals for decarbonisation](#)

[100% renewable energy: Making that commitment count](#)

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Where we are

With 23 offices across Australia,
we're ready to work with you.

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#8	Top 10 International Design Firms by Region - Australia/Oceania	Climate Leader
2024 Engineering News Record		Recognised by the Carbon Disclosure Program for climate-related progress (sixth year with a A- score)
#3	Top 10 International Design Firms in Mining	#1 Ranked most sustainable corporation among industry peers
2023 Engineering News Record		2023 Corporate Knights Global 100
#8	Top 20 Design Firms in Environment - Chemical and Soil Remediation	1% Ranked among top 1% in the world on sustainable performance
2024 Engineering News Record		2023 Corporate Knights Global 100



Stantec is a global leader in sustainable engineering, architecture, and environmental consulting. The diverse perspectives of our partners and interested parties drive us to think beyond what's previously been done on critical issues like climate change, digital transformation, and future-proofing our cities and infrastructure. We innovate at the intersection of community, creativity, and client relationships to advance communities everywhere, so that together we can redefine what's possible.

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