

AECOM

Building Innovation

2021 Sustainability Summary Report



About Aecon

As a Canadian leader in construction and infrastructure development with global expertise, Aecon Group Inc. (TSX: ARE) strives to be the number one Canadian infrastructure company.

Aecon safely, profitably and sustainably delivers integrated solutions to private and public sector clients through its Construction segment in the Civil, Urban Transportation Solutions, Nuclear, Utilities and Industrial sectors, and provides project development, financing, investment, and operations and maintenance services through its Concessions segment.

About This Report

This Report has been prepared under the direction of Aecon's Board of Directors and senior management. This Report is a summary of Aecon's 2021 Sustainability Report. The full report can be found at <https://www.aecon.com/sustainability>.

Scope

This Report is for Aecon Group Inc. and includes information regarding its subsidiaries and joint ventures. Unless otherwise noted: (i) all information in this Report is presented as at, and for, the year ended December 31, 2021; and (ii) the data and analysis relates to Aecon and not its suppliers or clients. All dollar amounts are expressed in Canadian currency (CAD). References to "we," "our," "us," "the Company" and "Aecon" mean Aecon Group Inc. and its subsidiaries.

Reporting standards

Aecon supports and aligns to the Financial Stability Board's Task Force on Climate-related Financial Disclosures (TCFD) Recommendations, the Sustainability Accounting Standards Board (SASB) Standards, Canada's Expert Panel on Sustainable Finance (Expert Panel) and the United Nations Sustainable Development Goals (SDGs). Our TCFD and SASB compliance summaries are set out in the Reporting Appendices.

Materiality

Materiality, in the context used for this Report, refers only to the relative significance of environmental, social and governance (ESG) priorities and their potential impacts (both positive and negative) on our business and our stakeholders. Issues deemed material from an ESG perspective may or may not be material to Aecon's business, operations, capital or market value. Aecon conducted a formal *materiality assessment* based on guidance provided by the Global Reporting Initiative (GRI). Further details relating to our approach and outcomes can be found in Engagement and Materiality on [pages 8–9](#) of the full Sustainability Report.

Further information

Additional information about our sustainability approach and the full Sustainability Report are available at: www.aecon.com/sustainability.

Please direct questions to:

Yonni Fushman, EVP, Chief Legal Officer and Chief Sustainability Officer at sustainability@aecon.com.

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Message from the CEO

Recognizing the importance of connecting what we do with why we do it, at Aecon we've articulated our purpose as *building what matters to enable future generations to thrive*. The infrastructure we build is vital not just to meeting today's needs but also to addressing tomorrow's complex challenges. And we build not so future generations can get by, but so they can thrive, assured that they will have the resilient infrastructure they need to create an even better future for their own children.

Ever mindful of our purpose, Aecon has taken a number of significant steps in our sustainability journey this year that I'm pleased to share with you in this, our third annual Sustainability Report – *Building Innovation*.

Sustainable infrastructure for the future

This year we continued to advance key sustainability projects, from building clean-powered mass transportation networks to delivering North America's first distribution system for natural gas blended with hydrogen (see [page 6](#)). We also expanded our work in Green Home Energy Services, delivering clean

energy solutions to a growing number of residences (see [page 7](#)). Many of our established strengths – technical, operational and organizational – are in demand as we seize the business opportunities associated with the transition to sustainable infrastructure and energy systems.

Innovation across Aecon

Our teams are galvanized by the opportunity to contribute to the net zero transition. In addition to embracing company-wide sustainability efforts described throughout the full report, Aecon team members continually generate their own ideas for new and better ways of working – often with a strong emphasis on sustainability. In 2021, a call for innovative ideas drew dozens of smart, actionable proposals from employees in a range of roles ([page 8](#)). Some of these ideas led to promising pilots, such as the replacement of diesel-powered equipment with solar-powered equipment ([page 10](#)).

Innovation is not limited to equipment, either. In 2021, we became the first Canadian construction company to adopt a sustainability-linked credit facility tied to our environmental, social and governance goals. Gaining access to that kind of facility was only possible because of the proactive steps we've taken in the last few years, and our success in securing it proves that sustainability is more than just good citizenship, it's good business.

#30by30

We know our stakeholders expect our operations to be just as innovative and future-ready as the projects we deliver. In 2021, we adopted one of the most

ambitious greenhouse gas (GHG) targets in our industry: 30% reduction by 2030 (compared to 2020 levels) and net zero by 2050. Those targets are more than just numbers on a page; in 2021, we reduced our emissions by 15% (GHG intensity by revenue) and have already started to trial and adopt the new technologies that will us get the rest of the way to our 2030 target ([pages 23–24](#) of the full Sustainability Report). By collaborating with cutting edge innovators on our world class projects, we will lead the way in making zero-emission construction sites a reality.

Today, the combination of our technical expertise, our commitment to sustainability and reducing emissions, and our culture of innovation and collaboration make us a preferred partner to those who share our purpose of *building what matters to enable future generations to thrive*. As we move forward on this journey, we will continue to share our progress in our Sustainability Report. This year, we're proud to share our latest progress on GHG reductions, next-generation infrastructure and a range of other sustainability dimensions in this excerpt of our full report.



Jean-Louis Servranckx
President and Chief Executive Officer



Performance Highlights



\$3.98_B

Revenue



\$295_M

Renewable energy projects



\$1.43_B

Non-energy projects associated with climate change mitigation



30%

Board level gender diversity: women



0.92

Total recordable injury frequency



\$121_M

Indigenous goods and services procured



174,159 tCO₂e

Greenhouse gas emissions – total Scope 1, 2 and 3



15%

Year-over-year reduction in Scope 1 and 2 emissions – revenue intensity



\$631,000

Total donations to charities and non-profits

Ready Partners in the Net Zero Energy Transition

Working with our clients, partners and leading-edge suppliers, Aecon's teams are playing a vital role in the global effort to transition energy systems away from fossil fuels.

As our clients develop infrastructure and other major projects for a net-zero carbon future, Aecon brings the advanced capabilities required to deliver them. Aecon has created a single point of entry for the sustainability services we provide, led by Eric MacDonald, Executive Vice President, Utilities.



☑ Solar tracker installed at Aecon's Training and Innovation Centre in Holland Landing, Ontario



☑ Aecon employees installing a GeoExchange system

Leading the Delivery of Sustainable Infrastructure

Creating infrastructure that reduces carbon emissions is a vital step in the transformation of our economies and societies. Working at the forefront of next-generation infrastructure construction projects, Aecon is helping governments, utilities, developers and other major clients realize dramatic reductions in emissions at the local, regional and national scales. We're on the ground – and often deep underground – working with innovative clients to lay the foundations for a lower-emissions future that will benefit everyone.



📍 North America's first hydrogen blending project

2021 Project Highlights:

North America's first hydrogen blending project

When Enbridge embarked on a groundbreaking energy pilot in Markham, Ontario, the company turned to Aecon to construct the pipeline that will deliver an advanced low-emission fuel: clean, renewable hydrogen gas. The fuel, produced at Enbridge's Power-to-Gas facility, is injected into the existing natural gas distribution network, a step that reduces the system's overall carbon footprint. In addition to providing lower-carbon fuel to 3,600 customers – and demonstrating the viability of this approach for millions of others – this project is a powerful reminder that technical skills such as pipeline construction and management, once applied to oil and gas distribution, can be adapted to support a green-energy future.

Underground energy reaches for the sky

Mississauga, Ontario will soon be home to the tallest geoexchange-powered tower in the province – and one of the tallest in North America. Diverso, a provider specializing in geothermal energy solutions, engaged Aecon GeoExchange Solutions to construct the large-scale system for developer Camrost Felcorp. To deliver geoexchange energy to the 66-storey EX3 tower and an adjacent 51-storey residential and hotel tower, we drilled a total of 186 boreholes and completed all lateral scope, which supports the construction of the advanced Variable Refrigerant Flow (VRF) system delivered by Mitsubishi Electric. In addition to a radically reduced carbon footprint, the system produces less noise and requires less maintenance than a conventional heating and cooling system. The developer also expects this energy system to provide residents with significant direct cost savings over a 30-year period.

A district energy landmark – cooled by lake water, connected by Aecon

In 2021, Aecon continued our long-standing work with energy innovator Enwave, delivering the distribution piping to expand one of the world's largest district energy systems. Aecon was extensively involved in the creation of the existing Enwave system in downtown Toronto, which already displaces 55 megawatts of energy per year from the grid by distributing naturally and consistently cool water from Lake Ontario to about 80 buildings, including commercial and residential towers, hospitals and other facilities. The latest project to join the network is The Well, a mixed-use, multi-tower development that includes millions of square feet of commercial, residential and retail space. At the centre of the development is, in a sense, an actual well: a hole cut deep into bedrock, with the capacity to hold 7.6 million litres of fluid. This enormous thermal battery will support extreme efficiency in Toronto's latest landmark in low-carbon heating and cooling – an innovative and successful project we were proud to support.

Green Home Energy Services

Technologies used in residential settings can make major contributions to the energy transition. Aecon expanded our commitment to innovative residential energy solutions in 2021 with the creation of a new Green Home Energy Services group. Drawing on extensive internal capabilities and expertise, this new business unit will help to improve energy efficiency and facilitate the adoption of clean energy technologies where change is most personal: in Canadian homes. We're already at work with homeowners, homebuilders, utilities and technology providers to bring the energy transition home.

Building on our strengths

The new Green Home Energy Services business unit extends our record of success working at the intersection of infrastructure, technical services and new technology. Aecon has more than 20 years of experience in both energy and in-home services for residences, including rooftop solar arrays for existing buildings, geoeexchange systems for new developments and close collaborations with home telecommunications providers. From technology enablement, procurement and installation to deployment of solutions at scale, our operational strengths make us exceptionally well equipped to help meet the growing demand for green home energy.

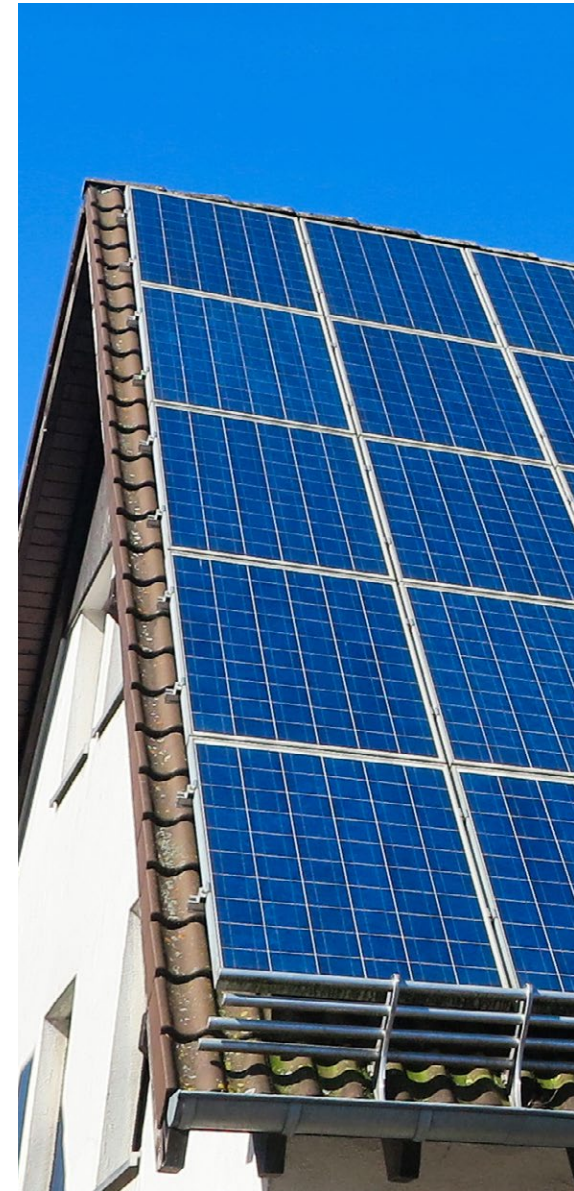
Ready to grow

Tapping into the ability of homes to generate, store, share and better manage their energy can make a substantial contribution to the decarbonization of the energy grid. We're ready to support the growing number of households and institutional clients seeking to make cleaner choices in the residential sector. Our product and service portfolio includes:

- Home energy consultation
- Retrofits and upgrades for efficiency
- Solar and geoeexchange renewable energy solutions
- Electrification support (e.g., electric vehicle charging, heat pumps)
- Energy management: battery storage, home automation and load management.

Promising pilot

In July of 2021, we launched a pilot program offering a suite of clean energy solutions to homeowners in three British Columbia cities: Victoria, Nanaimo and Kelowna. The offering included rooftop solar panels, electric vehicle charging stations, and home battery energy storage. Extending the existing operational and technical expertise of our teams, we provided dedicated training to 44 technicians selected to support the pilot, ensuring our teams were ready to deliver comprehensive service, from customer enrollment through installation and ongoing support. The insights we've gained through the pilot, including a deeper understanding of barriers to the adoption of green home energy (notably financing), are already helping us shape our approach to commercially scalable models for distributed home energy.



One of the services offered by Aecon's Green Home Energy Services group is solar PV panel installation

Innovation through Collaboration

For Aecon, innovation is about more than leading-edge technology. Innovation is also about collaborating with partners and suppliers – sharing ideas, resources and opportunities in order to accelerate the adoption of sustainable practices and achieve positive impacts together.

A Métis-led joint venture in geoechange

This year, Aecon and Ground Source Energy (GSE), a Métis-owned and operated business, formed a partnership to pursue geoechange energy projects across Canada. The new venture combines GSE's 40 years of success in geoechange and geothermal drilling projects with Aecon's capabilities in turnkey geoechange solutions, design assistance and ground source heat pumps. Aecon's growing slate of joint ventures with Indigenous communities (see [page 13](#)) reflects not only a culture of collaborative business innovation, but a commitment to finding better ways to work together in every sense. We're committed to building shared prosperity as part of the journey toward lasting reconciliation with Indigenous peoples.

Bringing industry insights to a research partnership

Researchers at Queen's University are exploring engineering adaptations to reduce the quantity of carbon-intensive cement used in construction. To promote awareness and adoption of more efficient building practices, the researchers engaged construction industry partners, including Aecon, to participate in the design, construction and testing of a demonstration structure. If the team succeeds in our shared goal of using 50% less cement compared to conventional building approaches, the implications could be significant: applying a similar approach to projects worldwide would result in an emissions reduction equivalent to eliminating the entire airline industry – twice.

Supporting Canadian leadership on lower-carbon building materials

Cement production is one of the largest sources of industrial greenhouse gas (GHG) emissions worldwide. In 2021, Aecon was proud to support a working group that included the Government of Canada and key players in Canada's cement industry, with technical activity led by the National Research Council. The goal of the group was to create a roadmap to establish Canada as a global leader in low-carbon cement and net zero carbon concrete. The group's founders see the potential for a cumulative GHG reduction of more than 15 megatonnes by 2030, and ongoing reductions of over 4 megatonnes annually thereafter.



📍 Aecon employees at the Enwave District Energy project

Sustainable energy for employees and their families

Every day, Aecon team members bring ideas, energy and deep personal commitment to sustainability initiatives across the Company. To share some of the tangible benefits of our sustainable energy work, we've launched a pilot program that encourages our team members to make use of Aecon's solar rooftop array installation services. This program is designed to be a win-win-win: helping our new Green Home Energy Services team build their installation portfolio and refine their processes, delivering energy cost savings to our employees and their families, and making the communities where we live and work more sustainable.

Collaborating to cut vehicle emissions

To date, we've brought 95% of Aecon vehicles into our fleet telematics program, a monitoring initiative designed to optimize the use of vehicles and equipment (for example, by reducing idling). In 2021, we began extending fleet monitoring to partners and suppliers – collaborating to reduce total vehicle emissions wherever we work. Also this year, the fleet telematics initiative won Aecon's highest award for a groundbreaking new practice or approach within the Company: the Paul P. Koenderman Innovation Award.

Working Towards Net Zero Construction

Today the construction industry is responsible for about 10% of greenhouse gas emissions worldwide¹, and faces many opportunities for increased efficiency and lower emissions. Aecon is among the industry leaders working to make construction activity more sustainable through innovative equipment, data-driven work processes and enhanced management of materials and waste. This is a summary of key initiatives we're using to reduce emissions and work towards net zero construction:

- **Current Practice**
- **Aspirational Practice**



¹ The 2020 Global Status Report for Buildings and Construction.

Advanced Equipment: High Performance, Lower Impact

To stay at the forefront of sustainable construction, Aecon seeks out technology and equipment that help us deliver ambitious construction projects while reducing our emissions and energy requirements. This year, we tested improvements large and small – from lower-impact road salt to a first-in-Canada innovation in excavation.

Excavation goes electric

When Aecon crews used Volvo's ECR25 Electric Excavator to dig a trench for a new telecommunications conduit in downtown Toronto this year, we became the first construction company to operate a zero-emissions electric excavator on a Canadian project site.



📍 Aecon employees with the Volvo ECR25 Electric Excavator. Aecon was the first construction company to operate a zero-emissions excavator on a Canadian project site.

We were proud to partner with Volvo CE to pilot-test this innovative machine, whose power and performance relative to traditional diesel-powered excavation equipment impressed our crews. "With this environmentally friendly excavator, we're able to get the job done just as well," noted Dereck Oikawa, VP Telecommunications, at the project site. Adopting this kind of equipment is an important part of Aecon's program to cut our direct greenhouse gas emissions by 30% by 2030.

"Construction equipment is one of the most substantial contributors to greenhouse gas emissions from construction projects, and over time we plan to convert a significant proportion of our fleet to zero-emission equipment like the ECR25," says Yonni Fushman, Aecon's EVP, Chief Legal Officer and Chief Sustainability Officer.

Fuel emissions aren't the only ones the ECR25 avoids: its noise emissions are dramatically lower, too. Operating almost silently, the electric excavator helped us complete our work with minimal disruption to the surrounding neighbourhood.

Biodiesel for tools, generators and vehicles

In a partnership with 4Refuel, a mobile on-site refuelling company, we piloted the use of biodiesel in vehicles and equipment at five project sites. The trial's goal was to determine whether the lower-emission fuel could let equipment perform as well as conventional diesel. The results were promising and work proceeded as usual – with a smaller carbon footprint.

Solar-powered equipment for project sites

Since our work happens everywhere from remote project sites to Canada's largest cities, mobile equipment powered by the sun is invaluable. This year we piloted three innovative technologies:

- In a partnership with Finning Canada, we tested an SLT-6 Solar Light Tower at the Kicking Horse Canyon, Phase 4 project in British Columbia. The tower, which illuminated our project site at night, ran on solar energy instead of traditional diesel fuel.
- We continued to test the use of solar panels on top of our fitter vans to charge batteries that in turn power our crews' tools; this lets teams work without relying on idling vehicles for power.
- We promoted safe conditions for work crews on highway projects by testing a solar-powered digital radar scan device. Mounted on a custom trailer that allows it to move with workers, the device shows drivers their speed as they approach the construction area. After it was installed, average vehicle speeds in the area fell noticeably.

Gaining traction with a road salt replacement

Rock salt used for deicing roads, parking areas and pedestrian routes can harm waterways and wildlife. With repeated use, it can also damage concrete. This year, Aecon began pilot-testing a salt-free alternative: a volcanic mineral that's non-toxic, free of chlorides and dyes, and safe on concrete. Results to date from this environmentally friendly product have been positive.

Safety: Mitigating Critical Risks

Our top priority is ensuring that our employees remain safe through every operation on every project. An especially vital part of this work is mitigating the risk of major injury. This year, we've advanced two important initiatives in this area: a new safety program focused on the "Fatal 8" and an intensified focus on the measurement and study of incidents that present the maximum reasonable potential for harm.

Evidence-informed safety program: The Fatal 8

In 2021, we introduced a new safety program focused on specific operations workers perform that present elevated risks. We initiated the program by studying the data on all serious incidents that have occurred over the past 10 years on Aecon project sites, and focusing our efforts on the eight operations that presented the greatest risk of serious harm. For each of these "Fatal 8" operations, we've developed targeted protocols that include training and awareness activities for crews (including a work authorization program that ensures team members are properly prepared to manage the risks associated with Fatal 8 activities), enhanced leadership oversight and controls, and intensified monitoring and analytics. This critical risk program complements and reinforces our general safety program, which covers every activity across our organization.

Rigorous monitoring and reporting for safer job sites

Aecon's practice is for all employees to immediately report any work-related accident, illness or incident to their supervisor. Employees are also encouraged to call out anywhere they see the potential for serious injury or property damage. If an incident occurs, we promote timely submission to workers' compensation authorities by having supervisors make prompt reports to the Environment, Health and Safety Department (EH&S). We use a standardized incident reporting method, which helps leaders gather the information they need to determine causes and contributing factors.

This year, as part of our ongoing quest for zero workplace injuries, we intensified our focus on the measurement and study of incidents that present a maximum reasonable potential for harm (MRPH). This heightened attention to MRPHs is part of a broader risk-based approach to the analysis of workplace incidents: devoting disproportionate attention to incidents that present greater risk of harm helps us focus our efforts where they have the greatest protective impact. We continue to carefully document and report any injuries that happen on our projects, even as we take new steps to prevent more injuries before they happen.



**Protecting
the Public**



**Hoisting, Rigging
& Lifting**



**Working Around
Mobile Equipment**



**Working
Near Traffic**



**Working on or
Near Energized
Systems**



**Working
at Heights**



**Ground
Disturbance
& Excavation**



**Confined
Space Entry**

Diversity and Inclusion

Aecon's success is powered by the talent of our teams. We're constantly working to connect with strong collaborators and problem-solvers of all backgrounds and experiences, building a workforce as dynamic and diverse as the communities where we live and work. We're also taking concrete steps within our organization to ensure that Aecon is equitable, inclusive, welcoming and supportive – and that everyone who works with us has opportunities to build their careers and reach their full potential.

Aecon's diversity and inclusion strategy

Our strategy focuses on three key outcomes:

- improved diversity in all areas and at all levels of the organization
- increased opportunities for promotion for members of diverse groups
- a more inclusive workplace and environment.

We focus on equity and inclusion for five populations: people of colour, Indigenous people, women, people who identify as LGBTQ+ and people with disabilities.



📍 Aecon Utilities – Environmental, Health and Safety (EHS) Advisor

Key Policies

- Aecon formalized our commitment to diversity and inclusion (D&I) in 2016, adopting a Corporate Diversity Policy and launching a D&I Council. In 2021, we reviewed this policy, made updates and enhancements, and adopted the revised version in 2022.
- Any report of racism, discrimination or harassment – at any Aecon site, anywhere – is automatically escalated to our Senior Vice President, Human Resources, who manages the concern under the oversight of our CEO.
- In 2022, we updated our Code of Conduct to clarify our commitment to inclusive leadership and zero tolerance for racism and other forms of discrimination.

Indigenous Relationships

Joint ventures

In addition to sharing economic opportunity through procurement, Aecon is engaged in formal joint ventures with four Indigenous communities. The newest of these ventures, Métis-led Aecon GeoExchange Solutions (AGS), based in Cochrane, Alberta, was created in 2021. This latest joint venture joins three other such enterprises, each majority-owned by Aecon's Indigenous partners:

- Aecon-Six Nations (A6N), Ontario
- Enoch Aecon, Edmonton, Alberta
- Chipewyan Prairie Aecon, Wood Buffalo, Alberta

Local engagement

Most of our projects include an Indigenous Engagement Plan that lays out how we plan to maximize opportunities for Indigenous communities and Indigenous-owned businesses through our work. Our efforts to cooperate and collaborate with Indigenous communities wherever we work – engaging individuals as workers, and businesses as contractors and suppliers – have led to mutually beneficial relationships across scores of projects and locations.

Awareness across our team

To support effective engagement with Indigenous communities, Aecon promotes cultural awareness within our own teams. To date, 2,200 employees (including all senior managers) have completed the Indigenous Awareness Learning Module in our online learning management system. Many team members have also participated in programming created by the Indigenous at Aecon employee resource group (see [page 30](#) of the full Sustainability Report).

Community investments

Guided by our Indigenous partners, we work to create employment, education, training and apprenticeship opportunities for Indigenous peoples. For example, our partnerships with Working Warriors, Miziwe Biik Employment and Training, and Grand River Employment and Training help to connect Indigenous workers with opportunities in the construction industry. We also currently fund a scholarship through Indspire, a registered national charity focused on Indigenous education, to support Indigenous students pursuing an engineering, technical or business program at a Canadian post-secondary institution. In 2021, we were proud to hire some of the talented graduates who had benefited from these scholarships.



📌 Aecon-Six Nations (A6N) currently employs over 80 Indigenous employees at the peak of construction season

Aecon.com/sustainability

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📍 Aecon employee at the Comox Valley water treatment plant