ASSOCIATION OF CONSULTING ENGINEERING COMPANIES | CANADA
ASSOCIATION DES FIRMES D'INGÉNIEURS-CONSEILS | CANADA

CANADIAN CONSULTING engineer

**BACKGROUNDER: 2016 Canadian Consulting Engineering Awards**

***SPECIAL ACHIEVEMENT AWARDS***

*Note: Special Achievement Award-winning projects have also been presented with an Award of Excellence.*

**SCHREYER AWARD - presented to a project that best demonstrates technical excellence and innovation:**

**Fast + Epp**
Grandview Heights Aquatic Centre
Surrey, British Columbia

The Grandview Heights Aquatic Centre was constructed to meet the needs of a diverse population. It features an undulating roof structure with hanging timber 'cables', suspended between large concrete buttresses. While hanging systems have historically used steel cables, Fast + Epp's engineering team chose wood as a cost-effective, structurally-efficient and aesthetically-pleasing alternative. The structure's clever balance of form and function fulfills the client's desire for an iconic building that will be a catalyst for civic growth.

Project photo (click to download)
Project page on acec.ca (video and more information)

**TREE FOR LIFE AWARD - presented to a project that best demonstrates outstanding environmental stewardship:**

**BBA**
Enerkem Alberta Biofuels
Edmonton, Alberta

Enerkem Alberta Biofuels is the world's first commercial biorefinery that converts non-recyclable household garbage into clean, renewable energy. BBA was chosen by Enerkem for its industry expertise to provide detailed engineering for the successful development of its game-changing plant. Sound engineering and innovations were key to transition from research and development to full-scale application, all within budget. Through less landfilling, calculated greenhouse gas emissions are reduced by 110,000 tons of $CO_2$ per year.

Project photo (click to download)
Project page on acec.ca (video and more information)

**AMBASSADOR AWARD - presented to a project constructed or executed outside of Canada, which best showcases Canadian engineering expertise:**

**AECOM**
An improved method for planning protection infrastructures against natural disasters caused by climate change in Haiti
Northern/North-East/Artibonite/Center and South Regions, Haiti

AECOM was commissioned by the Ministry of Agriculture, Natural Resources and Rural Development to conduct preliminary studies for flood-protection infrastructure investments for five watersheds in Haiti. AECOM put forward an innovative technique combining engineering, hydrology, and social economy. It identifies, assesses, designs and prioritizes future infrastructures that will meet the needs of local communities while providing the best protection against natural disasters and limiting impacts on the environment, all in the context of climate change.

Project photo (click to download)
Project page on acec.ca (video and more information)


**ENGINEERING A BETTER CANADA AWARD - presented to a project that best showcases how engineering enhances the social, economic or cultural quality of life of Canadians:**

**Stantec**
Mistissini Wooden Bridge
Mistissini, Quebec

The Cree Nation of Mistissini needed a bridge across the Uupaachikus Pass to connect the communities within their territory. Stantec designed an innovative, 160 m long glue-laminated (glulam) wood beam semi-continuous arched bridge. Beyond being safe, the structure is also aesthetically appealing, ecological, and durable. Construction of this wooden bridge – one of Canada's longest – involved the active participation of the local community and strongly promoted the region's socio-economic development.

Project photo (click to download)
Project page on acec.ca (video and more information)


**OUTREACH AWARD - presented for a company's role in donating their time and/or services for the benefit of a community or group either in Canada or on the international stage:**

**COWI North America and Kiewit**
The Rio Abajo Footbridge
Rio Abajo, Esteli, Nicaragua

The isolated community of Rio Abajo in Nicaragua required an 81 m footbridge over a fast-moving river to provide year-round access to schools, clinics and markets in a nearby town. The COWI Bridge and Kiewit team reviewed the footbridge design, provided funding, and sent a team to construct the bridge with local volunteers. The team successfully completed the project on an accelerated construction schedule, despite challenges due to the rural environment and language barrier.
Project photo (click to download)
Project page on acec.ca (video and more information)


***AWARDS OF EXCELLENCE***

**Buildings:**

**Accutech Engineering Inc.**
Whale Cove Arena - Sustainable Ice Plant Design and Implementation
Whale Cove, Nunavut

The Hamlet of Whale Cove required a facility that could extend the hockey season by a minimum of four months, be used year-round by the Community, and have very low power consumption. Accutech Engineering Inc. provided a proprietary and environmentally sensitive design to meet and exceed the Hamlet's goals. The design used three common building blocks; they included a concrete slab, thermosyphons, and a ventilation system, all designed to work together.

Project photo (click to download)
Project page on acec.ca (video and more information)

**CIMA+ s.e.n.c.**
Westmount Recreation Centre
Westmount, Quebec

CIMA+ played a leading role in constructing the Westmount Recreation Centre. Building a large underground arena complex with a park space on its roof was quite a challenge. To achieve this, the structural engineer borrowed from bridge-building methods, creating a green roof fitted with long-span steel girders to ensure the vast empty spaces required for the two rinks could withstand the significant earth pressure. The thermal stability found underground contributed to the LEED Gold certification of the structure.

Project photo (click to download)
Project page on acec.ca (video and more information)

**Morrison Hershfield**
Robinson Place Ontario Government Building LEED EB:O&M Platinum
Peterborough, Ontario

Infrastructure Ontario made a strategic decision to pursue LEED Canada EB:O&M Platinum certification for Robinson Place, a 21,368 $m^2$ government building in Peterborough, Ontario. Unlike other LEED certifications, LEED EB:O&M focuses on the operation and maintenance phase of an existing building's lifecycle. Morrison Hershfield, as prime consultant, engineered many sustainability initiatives aimed at increasing energy efficiency, conserving water and contributing to a healthier work environment. Efforts resulted in an ENERGY STAR score of 89, and the landmark achievement of becoming the first government building to achieve LEED EB:O&M Platinum in Canada.

Project photo (click to download)

Project page on acec.ca (video and more information)

**Stantec**
351 Water Street
St. John's, Newfoundland

East Port Properties wanted to provide a healthy environment for people working in downtown St. John's by creating a sustainable, innovative office building. Stantec designed a LEED registered, 15,607 $m^2$ office tower, standing above a 6-level parkade and prime retail and commercial space. Tenants benefit from natural daylight, stunning views, and reduced air and noise pollution. It is the first building in Newfoundland and Labrador to be heated and cooled using seawater, resulting in 35% less energy usage.

Project photo (click to download)
Project page on acec.ca (video and more information)

**Stantec**
Varennes Net-Zero Library
Varennes, Quebec

The City of Varennes wanted to give residents a new, modern, and welcoming library that promoted access to information and culture. Stantec designed this unique, energy-efficient building with high-performance electromechanical systems to achieve a net-zero library – meaning it produces the same amount of energy as it consumes. The Varennes library serves as a model for sustainable design and is the first net-zero institutional building in Canada. The library's attendance has doubled since opening in December 2014.

Project photo (click to download)
Project page on acec.ca (video and more information)

**Transportation:**

**AECOM**
Union Station and Front Street Revitalization
Toronto, Ontario

Union Station is Toronto's primary transportation hub for transit and rail passengers. Over 26 million people pass through it annually. Recognizing the challenges associated with the ageing infrastructure, the Toronto Transit Commission and the City of Toronto initiated the restoration and refurbishment of the station. Since an excavation of Front Street was needed for the Union Station project, the City seized the opportunity to reduce costs and minimize future disruption with the Front Street revitalization at the same time.

Project photo (click to download)
Project page on acec.ca (video and more information)

**Parsons**
West Toronto Diamond Rail-Rail Grade Separation
Toronto, Ontario

Metrolinx needed to accommodate projected growth, including the new UP Express airport train, in time for the Toronto 2015 Pan Am Games. Parsons provided detailed design and engineering services for a new kilometer-long rail underpass separating commuter rail from freight train tracks at one of Canada's busiest crossings. Using accelerated bridge construction, four railway bridges were built site-adjacent and slid laterally into place during four short-duration track closures, successfully completing the project with reduced railway disruption, eliminated diversions, and within the bounds of challenging constraints and site conditions.

Project photo (click to download)
Project page on acec.ca (video and more information)

**Stantec**
Low Level Road Project
North Vancouver, British Columbia

The Port of Vancouver and the City of North Vancouver's Low Level Road Project is a road/rail re-alignment and overpass project designed by Stantec to address growing neighbourhood safety, traffic, and railway concerns. The project supports economic growth through expanded port terminals, and improves life quality through enhanced mobility, active transportation connections, and noise mitigation. As a sustainable solution for the community, it is the first transportation project in North America to achieve ISI Envision Platinum certification.

Project photo (click to download)
Project page on acec.ca (video and more information)

**Environmental Remediation:**

**AECOM**
Giant Mine Roaster Complex Decontamination and Deconstruction
Next to Ingraham Trail outside Yellowknife, Northwest Territories

Public Works and Government Services Canada and Aboriginal Affairs and Northern Development needed to deconstruct the Giant Mine Roaster Complex buildings which were at risk of collapsing, potentially releasing asbestos, arsenic trioxide, cyanide and other hazardous materials into the environment. AECOM and sub-consultant Golder completed the assessment, project design and contractor supervision. Multi-faceted work control standards were developed in order to: minimize exposure to asbestos, arsenic, cyanide, and arsine gas by on-site workers; protect the public and the environment; and confirm when decontamination was complete.

Project photo (click to download)
Project page on acec.ca (video and more information)

**Natural Resources, Mining, Industry & Energy:**

**Allnorth-KGS Group-CAP Engineering**
Whitehorse Diesel to Liquefied Natural Gas Conversion Project
Whitehorse, Yukon

The Yukon's hydro-based electrical system is isolated from the North American grid. Delivering a continuous source of electricity is challenged by spikes in demand due to weather, transmission, and hydro generation failures. Yukon Energy Corporation's ageing diesel backup generators are an increasing reliability risk. Yukon Energy Corporation - Engineering Group constructed an innovative 8.8 MW liquefied natural gas (LNG) fueled power generating station, improving reliability, and reducing power costs and environmental impacts. This was accomplished with First Nations support as well as a $21 million investment from the Kwanlin Dun Band.

Project photo (click to download)
Project page on acec.ca (video and more information)

**Knight Piésold Ltd.**
Capilano Break Head Tank and Energy Recovery Facility
North Vancouver, British Columbia

Metro Vancouver's Seymour-Capilano Filtration Project in North Vancouver is one of the largest water transfer and treatment and energy recovery projects in North America. Raw water from the Capilano Reservoir is pumped up to the Seymour Filtration Plant through a seven-kilometer tunnel to join water from the Seymour Reservoir for treatment. The Capilano volume is then returned under gravity through a second tunnel to the underground Capilano Break Head Tank and Energy Recovery Facility (BHT & ERF) where the excess head is reduced through either pressure reducing valves or an energy recovery turbine before discharge into the Capilano distribution system. The ERF partially offsets energy that is consumed by the pumps. Knight Piésold's team designed and commissioned the BHT & ERF facility.

Project photo (click to download)
Project page on acec.ca (video and more information)

**Stantec**
Boundary Dam Integrated Carbon Capture Storage Project
Estevan, Saskatchewan

SaskPower's ambitious plan was to build the world's first and largest integrated carbon capture and storage project on a 30-year life extended coal-fired power plant. Stantec's work included the study of existing and emerging post-combustion carbon capture technologies, projected environmental standards, anticipated benchmarks, regulatory variables, as well as support of project delivery. The system was designed to capture up to one million metric tonnes of carbon dioxide annually, equal to emissions from 250,000 cars.

Project photo (click to download)
Project page on acec.ca (video and more information)

**Project Management:**

**Hatch**
Lower Mattagami River Project
Kapuskasing, Ontario

Ontario Power Generation's Lower Mattagami River project, its largest in 40 years, added almost 500 MW of power by updating three generating stations and completely replacing a fourth. Hatch acted as owner's engineer for the front-end study and design phases and as owner's representative during implementation. This $2.6 billion project was delivered on budget and ahead of schedule. It employed 1,200 people, 70% of whom were drawn from local communities.

Project photo (click to download)
Project page on acec.ca (video and more information)

**SNC-Lavalin Inc.**
Goldcorp – Éléonore
Rouyn-Noranda, Quebec

Goldcorp's Éléonore Project is a major mining facility in Northern Quebec comprised of an underground gold mine, ore processing, and infrastructure. At $2.3 billion, it represents a significant economic injection into this remote region's economy and a boost to Quebec's GDP. SNC-Lavalin successfully provided Engineering, Procurement, Construction & Management services for the surface facilities of the project, which presented significant schedule, location, climate, environmental, and labour challenges. The project exemplifies successful collaboration with the First Nations and local communities.

Project photo (click to download)
Project page on acec.ca (video and more information)

**International:**

**Norda Stelo**
Coastal Protection in Cotonou
Cotonou, Benin

In Cotonou, Benin, approximately 13 metres of shoreline used to disappear each year due to erosion caused by the sea. This had serious consequences for the densely populated surrounding area. Under the auspices of international funding to combat and adapt to climate change, Norda Stelo and its partners carried out work to stop the advancing sea and rehabilitate banks. The project took place over a six-year period and cost nearly $100 million US to complete.

Project photo (click to download)
Project page on acec.ca (video and more information)

**The award-winning projects are described in full in the October-November 2016 issue of *Canadian Consulting Engineer* at www.canadianconsultingengineer.com/digital-edition/.**

**BEAUBIEN AWARD - for exceptional service to ACEC and the consulting engineering industry:**

**Réjean Breton, Eng.,** is the recipient of the 2016 Beaubien Award. The Beaubien Award recognizes individuals for their lifetime contributions to ACEC and to the advancement of the consulting engineering profession and industry.

Réjean Breton has always been – and continues to be – an exceptional ambassador of the consulting engineering profession. Gifted with a capacity for wonder and an ability to convey it to others, Réjean has always encouraged the recruitment of young engineers and promoted women in engineering. A passionate and visionary man, he is known for his straightforward manner and for ardently defending what are often very original ideas.

Réjean believes that true success is found off the beaten path. This philosophy is what drove him in 1980 to cofound the firm that would later become Breton, Banville et Associés, or BBA. By 1986, with over 35 employees and growing exponentially, the firm relocated from Beloeil to the small town of Mont-Saint-Hilaire. Moving to a suburban area instead of Montreal was a risk; however, Réjean was forward-thinking. He foresaw that IT advances would eliminate the issue of distance for clients and recognized that suburban quality of life would help attract young top talent. By 1998, the BBA building was constructed, complete with a host of innovate characteristics that earned the new head office several accolades. Almost 20 years later, the building is still at the cutting-edge of technology.

Under his leadership, the firm continued to grow, expanding into the international market to deliver projects in France, Haiti, Peru and several African countries. The refurbishment project the firm undertook in Rwanda immediately after the civil war, really a humanitarian endeavour, was an incredibly intense experience that remains a vivid memory for Réjean. He remained president of BBA until his retirement in 2006. To this day, his legacy of strong, deep-rooted business culture continues to drive the organization which now has over 600 employees.

From the time BBA was founded, Réjean strongly encouraged the firm's partners to support social causes and recognized the company's social responsibility. The list of initiatives he led is long and some are highly original, such as the BBA Arts Day. Since 2007, Réjean has chaired the Fonds de la relève Théodore-Wildi, a scholarship for engineering students at Laval University. In retirement, he remains as passionate as ever and continues to give back by sitting on several boards in the areas of arts and culture, science and education, and business.

In the same spirit, Réjean has been passionate in supporting the profession. In 2002, he joined ACEC's Board of Directors, holding various positions including Board Chair in 2006-2007. During his tenure, Réjean initiated the ACEC Tree for Life Award, presented to a firm whose project best demonstrates outstanding environmental stewardship. Although his official duties with ACEC ended in 2008, Réjean continues to support the world of engineering by regularly attending national conferences and award galas, and by representing ACEC on the Engineering Change Lab sponsored by Engineers Canada.

Réjean Breton photo (click to download)
Réjean Breton, Beaubien Award Recipient, page on acec.ca

**2017 ALLEN D. WILLIAMS SCHOLARSHIP - presented annually to a young professional, employed by an ACEC member firm, who demonstrates a commitment to the consulting engineering industry in their province or territory.**

**Tijana Smiljanic, P.Eng.,** is a transportation engineer at McElhanney Consulting Services Ltd. As a fast-rising star within the firm, she has demonstrated a great aptitude for the business of consulting engineering, a desire to learn, and an eagerness to take responsibility. Her passion, drive, technical knowledge, client understanding and leadership skills make her a successful project leader. From the beginning of her career at McElhanney, Tijana has worked on larger assignments, specializing in major transportation/design and P3 projects, such as the Port Mann/Highway 1 upgrading and the Power Street overpass in Vancouver. She is currently the design coordinator for the firm's portion of the $200M design-build interchanges project in Winnipeg.

In addition to her demanding role, Tijana is an active young leader at McElhanney, co-leading the development of the YP rotational program which promotes challenging, rewarding and long-standing careers with the firm.

In 2014, Tijana was elected Chair of the ACEC-BC Young Professionals Group. During her term, she worked to have the ACEC-BC Board approve a budget increase that permitted the YPG to host outreach activities, sponsor university events, and fundraise for various school programs. Tijana also initiated the development of a 3-year plan which provides a long-term, clear vision for the network and ensures initiatives spanning multiple committee terms are executed. In her role as Chair of the YPG, she also held a seat on the ACEC-BC Board of Directors and represented her province on the ACEC Young Professional Network. Her contributions in the first ten years of her engineering career were recognized in the spring of 2016 when she was awarded the ACEC-BC Young Professional Award.

Her involvement as a volunteer goes beyond her professional association. Tijana is active in her community at large, acting as a mentor volunteer with KidStart, in which she spends three hours a week mentoring a nine-year old girl.

The Board of the Allen D. Williams Scholarship Foundation selected Tijana for her proficiency in understanding the role of consultants in the engineering industry, her ability to establish strong client relationships and her involvement in large complex projects while expanding her leadership skills. Her commitment and dedication to her profession and her community through her volunteer work were attributes that also stood out to the Board.

The scholarship commemorates Allen D. Williams, past ACEC Chair and Founder of Williams Engineering Inc. It provides the winner with funding to cover registration, airfare and accommodations to attend the annual conference of the International Federation of Consulting Engineers (FIDIC).

Tijana Smiljanic photo (click to download)
Tijana Smiljanic, Allen D. Williams Scholarship 2017 page on acec.ca

**ACEC CHAIR'S AWARD - recognizes exceptional contributions to the consulting engineering community and was presented at the Canadian Consulting Engineering Awards gala closing the 2016 ACEC national leadership conference in Ottawa.**

The Chair's Award for exceptional contributions to the industry, was bestowed to **Philip "Skit" Ferguson**, Executive Director of Consulting Engineers of Nova Scotia.

## Philip S. (Skit) Ferguson a towering figure in consulting engineering in Nova Scotia and Atlantic Canada

Skit spent his entire career at Imperial Oil after graduating from St. Francis Xavier (B.Sc.) and the Technical University of Nova Scotia (B.Eng – Mechanical). He joined Consulting Engineers of Nova Scotia (CENS) after retiring from Imperial Oil as Manager, Distribution and Marine Operations, Atlantic Canada, in 1990. He was given an honorary Life Award from Engineers Nova Scotia in 2003, and is a Fellow of Engineers Canada. In September, Skit received the F.H Sexton Gold Medal Award from Engineers Nova Scotia. It is awarded to an engineer who has been recognized for exceptional achievements in their chosen field of engineering practice and who has had an outstanding career in engineering, contributing to economic and social benefits of society.

Skit was never one to sit around. Born in Reserve Mines, the heart of Cape Breton Coal mining, Skit escaped the mines on the baseball diamond. Skit paid for his engineering education playing summer ball with other athletes, like Rocket Richard. He was being scouted by the Red Sox when he decided to pursue Engineering instead, figuring he would only play ball until he was 35, but an engineering job could last him the rest of his life. Skit was inducted to the Nova Scotia Sport Hall of Fame in 1980, the Maritime Sport Hall of Fame in 2014, and the St. Francis Xavier Sports Hall of Fame (for Hockey).

Skit is a tireless advocate for consulting engineers. He never misses a chance to highlight to all levels of government the contributions the consulting engineers make to Society, in creating wealth and good jobs.

**For his lasting influence on consulting engineers, tireless work ethic, enthusiasm and infectious positive energy, Skit is a deserving recipient of the 2016 ACEC Chair's Award.**