CASE STUDY

Gordie Howe International Bridge Project

Cable innovation across borders

- Optimised design integration and cost-efficiency
- Streamlined schedule for on-time delivery
- Proactive risk mitigation
- Designed for longevity

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Creating safer, stronger and smarter structures

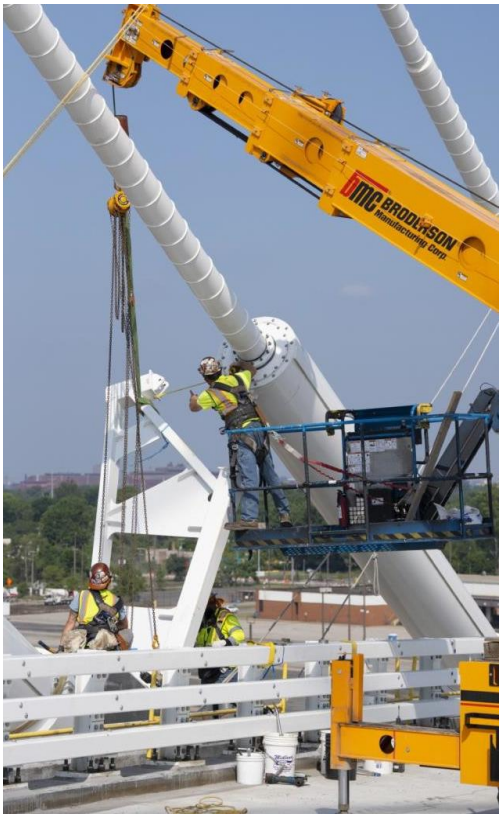
Gordie Howe International Bridge

Summary

The Gordie Howe International Bridge is the most ambitious bi-national infrastructure project along the Canada–United States border, designed to strengthen trade and connectivity. This iconic structure will provide a safe, secure crossing over the Detroit River, supporting both economies by adding a vital link at the busiest commercial land border crossing, ensuring smoother movement of people and goods for decades to come.

Project wins

- ✓ **Optimized Design Integration:** Cable system and bridge geometry were developed in parallel which avoided redesigns
- ✓ **Accelerated Schedule:** Early supplier involvement reduced design cycles and sped up approvals
- ✓ **Risk Mitigation:** Fatigue, corrosion, and installation risks were resolved before construction
- ✓ **Cost Efficiency:** Tight coordination cut resource overlaps and lowered overall costs



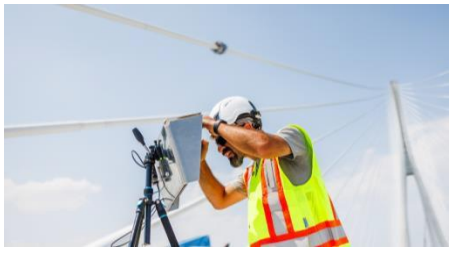
Location	Connecting Windsor, Ontario, Canada with Detroit, Michigan, USA
Owner	Windsor-Detroit Bridge Authority (WDBA)
Timeline	**Cable install:** Jan 2023 – June 2024 **Install of Weather Stations:** August 2025 **Visual inspection robot supply:** August 2025
Value	6.4 billion CAD
Partners	**Main contractor:** Bridging North America (BNA), Flatiron Dragados, Fluor and Aecon (joint venture) **Design:** AECOM/COWI as subcontractor for cable design, HNTB (independent checker for BNA), Parsons (owner's engineer)
Product/Service	• 216 stay cables (size DG-P43-127) and 48 tie-down cables (size DG-P19-55) • 7000 MT of sheathed and waxed 0.62" stay cable strand • Cable protection systems including passive de-icing (HDPE pipes with parallel rings) • Robotic visual inspection • Transversal and longitudinal flat 5-strand deck post-tensioning system • Bridge drainage and weather stations • Predictive environmental modelling

Challenge

The project involved designing and building the world's longest composite deck stay cable bridge, with an 853-meter main span.

The structure needed to withstand extreme temperature swings throughout the year, demanding durable materials and systems. Compliance with Canadian and U.S. engineering codes required tight coordination across design teams and regulators. The local climate posed a risk of ice-galloping, calling for a high-performance cable damping system to ensure long-term stability.

Given the project's scale and complexity, seamless integration among internationall contractors, engineers, and suppliers was critical to success.



Delivery

To meet the project's objectives, DYWIDAG was engaged early as the stay cable supplier, allowing for a fully integrated and collaborative approach to design and execution.

This early involvement enabled DYWIDAG to work closely with Bridging North America (BNA), AECOM, and other key stakeholders to align the cable system with the overall bridge design from the outset, ensuring structural compatibility and constructability.

DYWIDAG's scope included design coordination with the project team and contractor to ensure seamless integration across disciplines. A custom damping system was developed to meet the uniquely high-performance demands posed by the local climate and structural requirements. In addition, DYWIDAG conducted project-specific temperature load testing to validate the drainage system's resilience against draining hot mediums.

Throughout the construction phase, DYWIDAG provided technical support for the installation and stressing of stay cables and post-tensioning systems, along with equipment rental to facilitate safe and efficient execution. This approach ensured that technical risks were addressed early, installation methods were optimized, and all systems were tailored to meet the demanding environmental and structural requirements of the bridge.

Result

Construction of the Gordie Howe International Bridge was achieved through a collaborative approach that brought together contractor, designer, and supplier from the earliest stages.

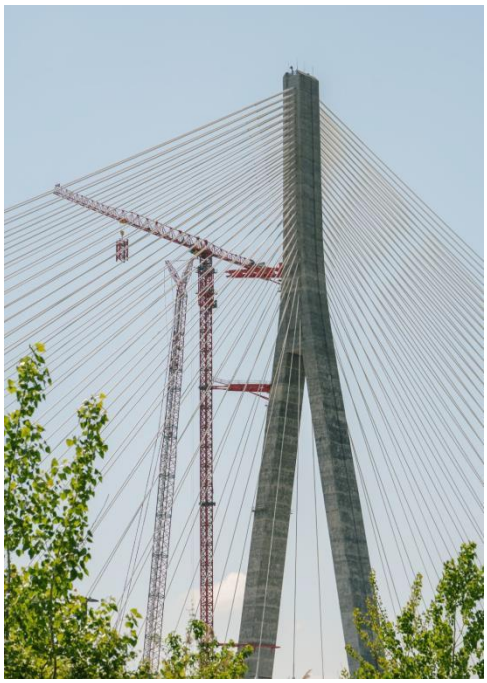
Early in the process, DYWIDAG was selected as the stay cable supplier. This early engagement ensured that the final bridge design and the cable system could be developed in parallel by DYWIDAG, Bridging North America (BNA) as the contractor, and AECOM as the designer. This partnership delivered several key benefits.

> By coordinating cable system details with the overall bridge geometry from the start, costly redesigns were avoided and the final solution reflected both structural efficiency and constructability, resulting in optimized design integration.

Early supplier involvement reduced design iterations and streamlined approvals, contributing to an accelerated schedule. Technical risks such as fatigue resistance, corrosion protection, and installation methodology were addressed collaboratively before construction began, ensuring robust risk mitigation.

Leveraging DYWIDAG's advanced stay cable technology, the project benefited from state-of-the-art damping design, long-term durability measures, and safe, efficient installation methods that exceeded standard requirements, driving innovation and performance. Close integration among contractor, designer, and supplier reduced overlaps and improved resource planning, leading to significant cost efficiency.

The collaborative model also fostered knowledge sharing across all parties, setting a new benchmark for how major stay cable bridge projects can be successfully delivered. The result was not only a landmark crossing but also a demonstration of how early supplier involvement, technical collaboration, and joint problem-solving can deliver a complex mega project to the highest standards of quality, safety, and engineering excellence.



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Since 1865, DYWIDAG has been developing and delivering superior engineered solutions that make structures reliable, resilient, and built to stand the test of time.

From post-tensioning and geotechnical systems to stay cables and advanced monitoring, we partner with customers globally to ensure structural performance and longevity at every stage of asset life.

CONTACT US

Want to know more?

Discover how our products, services and technical expertise can help deliver your structural projects with confidence.

Contact your local expert at dywidag.com

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