

First Nations Engineer Paves the Way for Future Generations

John Jonassen has centred his engineering career on Indigenous community capacity-building and infrastructure development.

By Natalya Anderson



John Jonassen, P.Eng., is passionate about supporting Indigenous communities through his engineering work.

John Jonassen, P.Eng., has asked questions and sought practical solutions since he was a child. Today, Jonassen is putting this practice into helping First Nations communities develop projects sustainably. While the manager of engineering services at Indigenous-owned engineering consulting firm Warrior Engineering, he and his team specialized in infrastructure development in northwestern Ontario with a focus on Indigenous community capacity-building.

A love for math and science first propelled Jonassen toward engineering when he was a young boy, and his parents were deeply involved in encouraging their children to expand their learning capacities beyond limitations. “Favourite subjects of mine in school were always math and science, and having a family heavily involved in the trades I was exposed to home renovation and automotive repair at a young age,” says Jonassen, who is a member of Wabigoon Lake Ojibway Nation.

When the time came to decide what to do after high school, Jonassen says he knew the right career path involved the practical application of math and science—and for him, that meant engineering. “There was a lot of pressure to attend university and graduate, so I actually decided to go to college first and made sure I was mature enough as a student before I attended university to ensure my success,” Jonassen says. “The bridge program between

Confederation College’s civil engineering technology program and Lakehead University’s civil engineering degree program made this a very attractive path to becoming an engineer.”

MAKING AN IMPACT

After becoming a P.Eng., Jonassen was drawn back to PEO’s Lakehead Chapter, where he discovered the value of developing a professional community. He also developed a belief in creating success through stronger connections. “As I got more experience in the industry, I realized how important networking is,” says Jonassen. “Having had most of my experience outside of the Lakehead Chapter, I wanted to get involved in the local chapter and bring that perspective to the region.”

At the 61st Annual Engineering and Technology Conference last fall, Jonassen was a highlighted speaker for the Lakehead Chapter, where he shared his presentation on the Seventh Generation Principle. Based on the traditional teachings of many Indigenous groups, this principle states that the decisions we make today should result in a sustainable world seven generations into the future and that we should reflect on the decisions of the past in a similar manner. Jonassen discussed how it is important for engineers and other decision-makers to consider the impact of their projects on both the environment and future generations of people.

Jonassen furthered his efforts to support and promote Indigenous culture and communities through his work at Warrior Engineering. “Warrior Engineering builds technical skills capacity in Indigenous communities through partnerships with Indigenous communities, government and industry to provide technical employment opportunities for Indigenous students supported by successful work contracts and grants,” says Jonassen. “I originally got involved with Warrior Engineering during the pandemic after working on the Wataynikaneyap Power Project.”

When he first heard about the Wataynikaneyap Power Transmission Project (WPTP) in the news, Jonassen said he immediately knew this was a project he wanted to be a part of. One of the largest First Nations–led electricity projects in Ontario’s history, the WPTP is connecting 17 remote First Nations communities to the provincial power grid, removing their reliance on diesel-generated electricity. Having worked previously with Hydro One Remote Communities, Jonassen felt familiar with the challenges northern communities faced and realized the WPTP was a project that would have a positive impact on future generations. As a project engineer, Jonassen and his team ensured towers could be built safely in the face of unpredictable terrain such as muskeg and bedrock.

CONSIDERING INDIGENOUS NEEDS

Beyond his work, Jonassen continues to foster his passion for improving technical skills capacity among Indigenous people. “Technical skills capacity-building is important to Indigenous communities in Ontario because in many Indigenous communities there aren’t always day-to-day role models like engineers or biologists or surveyors, and this is something that should change as community infrastructure expands,” explains Jonassen.

For engineers who might never reflect on this, Jonassen would like professionals to understand how the engineering industry plays a role in truth and reconciliation. He feels that, due to engineering’s early involvement in the

lifecycle of projects and the development of contracts, at the very least, projects will be at risk if they don't consider Indigenous communities. "At a very basic level, this means respecting the communications protocols of Indigenous communities and engaging in meaningful consultation, especially during the very early stages of a project," says Jonassen. "The engineering industry has the power and responsibility to enable Indigenous employment and business involvement in projects at both the RFP and contract level. I think you will

find many clients these days are requesting this sort of arrangement, and I hope all engineers can understand the positive socio-economic benefits to providing indigenous procurement and employment opportunities, especially when it is a top priority to your clients." **e**

PEO FOCUSES ON INDIGENOUS ENGAGEMENT

As part of its commitment to enable and promote a culture of inclusion, PEO has been working with consulting firm Indigenous and Community Engagement (ICE) to identify challenges and opportunities related to the representation of Indigenous engineers as well as co-create policy approaches to answer the Truth and Reconciliation Commission (TRC) Calls to Action as they relate to PEO's Code of Ethics and Anti-Racism and Equity Code.

PEO sees the TRC's Calls to Action as crucial to the engineering profession's evolution. As recently as March 2024, Statistics Canada and Engineers Canada both report that, although Indigenous people make up over 4.9 per cent of the country's population, they are notably under-represented in the industry. The reports further indicate that Indigenous people make up only 0.6 per cent of undergraduate enrolment in engineering programs and a mere 0.73 per cent of the profession at large. The data suggests that this underrepresentation is a direct result of barriers within the system of education and employment. "These barriers are multifaceted, encompassing social, political and economic challenges that have been perpetuated by ongoing colonization and intergenerational trauma from the residential school system," the Engineers Canada report indicates.

IMPLEMENTING RECOMMENDATIONS

On April 8, 2022, PEO Council passed a motion that tasked PEO's Anti-Racism and Anti-Discrimination Exploratory Working Group with evaluating PEO's role in truth and reconciliation. The motion asked that they further

answer Calls to Action through meaningful engagement with Indigenous people, members and communities in Ontario; work towards developing policy approaches led by Indigenous people; and provide updates to Council throughout the year and to licence holders at every annual general meeting. ICE was then hired in April 2023 to consult with Indigenous engineers and share their findings and recommendations.

As this work is very new, the team, led by PEO Equity, Diversity and Inclusion Manager Kay Mehrizi, are in the midst of finalizing some of the ways to implement ICE's recommendations. Mehrizi and her team will be working toward several end points, including preparing a vision statement for PEO's Indigenous initiatives and sharing findings with licence holders and groups such as the Ontario Society of Professional Engineers and PEO chapters. Further projects will include preparing practice guidelines for licence and certificate of authorization holders, collecting baseline data for Indigenous people in engineering in Ontario, reviewing the licensure process and requirements and creating an official statement on reconciliation. Further review will be required in the areas of land acknowledgements at PEO events and supporting funding initiatives to raise Indigenous participation in the engineering profession. Final points include a suggested review of the *Professional Engineers Act*, the Code of Ethics and PEAK topics and the provision of mandatory training for PEO staff and Council around truth and reconciliation.

Small steps forward and discussion with industry leaders will ensure PEO implements these suggestions for greater inclusion in the profession at large. "The very first step to actualizing the recommendations above will be collecting additional data from licence holders," Mehrizi says.