

NAIT PRODUCTIVITY & INNOVATION CENTRE

Edmonton, AB | Completed 2018

Role of the firm: Structural Engineer of Record

Area: 170,000 sq.ft. (15,800 sq.m.)

Budget: CAD \$71.9 million

Architect: GEC Architecture

Client: Northern Alberta Institute of Technology

The Productivity and Innovation Centre (PIC) at the Northern Alberta Institute of Technology (NAIT) is a state-of-the-art applied research centre and teaching facility. The centre features advanced manufacturing and testing laboratory spaces, classrooms, collaboration spaces, and a 250-person multi-purpose lecture theater.

The building was conceived as two distinctive wings with their own unique structural system, tailored to specific research functions. The single-storey high head laboratory wing utilizes a steel frame system. While this appears conventional, a unique and innovative steel truss and girder solution was developed to simplify the installation and to provide future flexibility. A 6m clear working height was provided throughout the laboratory spaces with all mechanical and electrical infrastructure located within the large steel trusses.

A large 9m column spacing was developed to allow for open laboratory spaces with a central circulation spine to access each bay, while the 1.9m tall steel trusses allow for consistent large open spaces for the ducts and services to run. Structural, mechanical and electrical infrastructure was modeled three dimensionally early in the design phase, which minimized costly site conflicts and ensures flexibility within the systems.

