



Summer Issue: 2018

Our firm's annual charity Golf Tournament raised more than \$35,000 for a variety of good causes around southwestern Ontario. Thanks to all donors, attendees, and volunteers who supported us this year! Read more about our firm's volunteerism and community initiatives on the [newsletter's back page](#).

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NA ENGINEERING ASSOCIATES INC.

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NA Engineering Associates Inc. Pioneers the Use of Video Fire Detection Technology in Canada

ONTARIO, CANADA

Massive interior spaces like hangers and factories have historically posed challenges for fire detection. Smoke can dissipate in open space, becoming difficult to detect. These areas also often house large objects that create obstructions for traditional systems. Video Fire Detection is the newest way to contend with all these issues, and our firm is on the cutting-edge.

Video Fire Detection technology works by supporting cameras with data analytics software (either in-camera or server-based) that looks for changes that would signify either smoke or flame. For projects that involve server-based support for the cameras, almost all available security cameras are able to support the technology.

Video Fire Detection technology has direct applications in buildings like the following:

- Warehouses,
- Arenas and Stadiums,
- Factories,
- Large Atrium and Lobby Spaces,
- Power Generating Plants,
- Recycling Facilities,
- and Aircraft Hangers.

The team at NA Engineering Associates Inc. has learned to apply this technology by having our Fire Protection Staff complete factory-certification training for SigniFire video detection products. We maintain equipment in-house that is used to test and demonstrate this technology.

NA Engineering Associates Inc. have completed the design for multiple Video Fire Detection systems and are in the process of completing Video Fire Detection systems for several clients in the nuclear sector. These projects must meet a level of quality, compliance, and performance required within the industry.



Modular Offices to Support the MCR at Bruce Power

TIVERTON, ONTARIO

Construction has been completed for B33, a group of modular offices at Bruce Power LP that are intended to support the larger Major Component Replacement (MCR) initiative.

The offices are prefabricated structures, literally wheeled-in to create a new building on the Bruce Power site. The fact that the buildings are modular has created a series of advantages for Bruce Power in their approach to planning and execution. The design and construction for the trailers was able to meet Bruce Power's requirements. They were also able to be deployed very quickly in support of the schedule for the larger MCR project.

NA Engineering Associates Inc. acted as the project prime consultant throughout the course of the work. We reviewed

drawings for the modular offices, provided by Williams Scotsman (the designer / manufacturer for the modular workspaces).

NA Engineering Associates Inc. also designed B33's permanent connections with the surrounding site, including civil, electrical, and fire alarm. The building is connected to Bruce Power's site-wide centralized fire detection / monitoring system.

There were some design challenges related to the portable nature of the structures. The buildings are highway-shipped on integral multi-axle wheeled trailers which created a challenge for installation and anchorage on the concrete foundations, as well as coordination for the permanent building services. Working closely with the contractor Rankin Construction, all challenges were successfully resolved.



The Firm Attends the International Conference on Quality, Leadership and Management in the Nuclear Industry

OTTAWA, ONTARIO

For four days in mid-July, staff from NA Engineering Associates Inc. traveled to Ottawa and attended the International Conference on Quality, Leadership and Management in the Nuclear Industry. The event was an informative and participatory showcase for nuclear professionals from all over the world.



“This sort of event is very important as it allows us to learn-from and network-with other nuclear professionals in the quality and management areas,” said Larry Walton, Sr. Vice-President with NA Engineering Associates Inc.

“It’s a chance to get an overview of how the industry is evolving, inside and outside of Canada. Some countries are starting to use nuclear power for the first time, or maybe they’re in the planning phases. Others are refurbishing existing plants, or they’re in the process of decommissioning and managing waste. Either way, there are knowledgeable people here from all over the world, speaking on every facet of the life-cycle for nuclear facilities. . . Participation is very valuable.”

The conference was attended by more than 350 nuclear sector professionals, coming from all over the globe. The event was led in a collaborative effort by Bruce Power LP, the International Atomic Energy Agency, and the European Atomic Forum.

In total, the conferences hosted more than 100 speakers, from agencies like Canadian Nuclear Laboratories, the Canadian Nuclear Safety Commission, Ontario Power Generation, and many, many others.



Designing Structural Supports for a “Pipe on Reels” in Hamilton

HAMILTON, ONTARIO

NA Engineering Associates Inc. was engaged by a division of Aecon Construction Group Inc. to design unique structural supports for a massive “pipe on reels” used as part of a larger infrastructure project being completed for HCE Energy Inc. in downtown Hamilton. The project was the first in North America to utilize this innovative means of installation on such a scale.

The Brugg Flexwell pipe on reels was chosen in order to facilitate the installation of new insulated piping in congested urban spaces. The pipes provide sufficient insulation and flexibility to allow for services to be drilled into them, including for: heating, domestic hot water, electricity and cooling services.

Existing supports for the reels were found to be structurally insufficient. Our firm was approached by Aecon Utility Engineering to quickly design new supports for assembly and use during construction. Since this was a supporting element to facilitate a larger project, timing was of the essence.

Our team visited the site, reviewed the existing reels, and discussed other requirements for the structural supports. We then generated a new design and created drawings that were sent to a steel shop for fabrication.

We worked with the steel shop until installation, ultimately resolving the issue of structural supports with only a minor delay in the schedule for the overall project.





Re-Roofing Projects for Multiple Health Care Sites in Hamilton

HAMILTON, ONTARIO

NA Engineering Associates Inc. was retained by the St. Joseph's Healthcare Redevelopment Department to provide roof consulting services for the replacement of roof areas on several buildings at the Charlton Site Campus for St. Joseph's Healthcare in Hamilton.

The Charlton Site is the largest of three St. Joseph's Healthcare Campuses in the Hamilton area. It is a 600-bed acute care facility in the city's downtown. The buildings covered as part of the project include the Martha / Marion Buildings, the Sister Mary Grace building, as well as the 'N' Link and 'M' Link buildings

At the request of the Redevelopment Department (and due to the sensitive environments within healthcare facilities),

a cold-process built-up roof system was selected to eliminate asphalt fumes typically associated with hot applied bitumen. As a roof, it still provides the long-term performance of a new built-up roof system.

Our services included the provision of drawings, specifications, support during the tendering process, regular inspections throughout the roof replacement, and contract administration.

NA Engineering Associates Inc. attended the site throughout the roof replacement process. We provided observation reports after each inspection, ensuring all work was done in accordance with the provided drawings and specifications.



Supporting Design for the Retube Waste Processing Building's PA System

DARLINGTON, ONTARIO

In spring of this year, the Fire Protection & Life Safety team at NA Engineering Associates Inc. completed unique design work at the Retube Waste Processing Building at the Darlington Nuclear Generating Station.



NA Engineering Associates Inc. was retained by SNC Lavalin Nuclear Inc. to provide consulting services for the larger Retube Waste Processing Building (RWPB) project. Our scope was to design the unique Public Address system in the RWPB.

Our team completed design calculations, detailed bills of materials, drawings, and specifications. The design of the Public Address system included:

- A control cabinet,
- Loudspeakers,
- Paging projectors,
- Sound projectors,
- Remote Booster Power Supplies
- Visual indicating strobes in various areas in the facility.

The system was also designed to interface with existing equipment.

We worked closely with the manufacturer to ensure that the design of the Public Address system will provide levels of audibility (and intelligibility) which satisfy the performance criteria for this type of system. To achieve this, audio modelling software was employed to determine the predicted performance of the Public Address system.

The system met all of the performance requirements for audibility and intelligibility as an emergency one-way voice communication system based on CSA N293-07, Fire protection for CANDU nuclear power plants.



The Sarnia Justice Complex Completes a Series of Building Upgrades

SARNIA, ONTARIO

Earlier this year, NA Engineering Associates Inc. completed a project for the Justice Complex in Sarnia, Ontario. The complex's jail building required a series of upgrades and repairs to renew its facade. Our team was engaged to complete the project by Colliers Project Leaders.

Our team created technical specifications, drawings, and tender documents for repairs to the building's brick exterior, renewal of the building's windows, and upgrades for a stair landing.

We also supported the project during construction, first leading the job showing for contractors, and then assisting with contract administration throughout.

At the completion of work on site, the team at NA Engineering Associates Inc. generated as-built drawings to reflect the new condition of the building.

The project is one of several we have completed for the Sarnia Justice Complex working for Colliers Project Leaders. The site contains several important civic amenities, a courthouse, a jail, and a land registry office (pictured here).





In the Office and Around the Community...

Our annual Charity Golf Tournament



Cheryl Young donates Bake Sale Funds

ONTARIO, CANADA

Our annual charity **Golf Tournament** raised more than \$35,000 this year for a variety of good causes around southwestern Ontario. Thanks to all donors, attendees, and volunteers who supported us this year!

In spring, our firm completed our annual tradition of building **Easter Baskets** for families in Stratford. The team at NA Engineering Associates Inc. assembled 270 "baskets" this year. In the process, we worked with the Salvation Army, the House of Blessing, and Stratford's local Walmart. The baskets themselves were packed full with a delicious turkey dinner and distributed to people in Stratford who needed them. Building Easter Baskets has become one of the firm's favorite non-for-profit initiatives. We are hoping to do even more next year.

The Staff Bake Sale: every year our staff takes turns bringing in wonderful baked goods in support of the Humane Society in Stratford. The treats are sold back to the staff and the proceeds are donated. This year, the team raised just over \$750, and we ate a bunch of "zero-calorie" treats in the process.

In April, members of the firm participated in **the Run For Retina Research**, an event designed to raise money for the Ivey Eye Institute in London, Ontario. Our team raised more than \$600 dollars, with a generous donation coming from the firm itself.

The firm donated exactly \$507 to **Kincardine District Secondary School** to purchase a four-person tent and a groundsheet for their Outdoor Education Program, a wonderful educational initiative by the school. We are pleased to support this program!