

Juno Building at CFB Halifax wins Canadian Design-Build Institute Award

Last September, during its annual national conference, the Canadian Design-Build Institute presented its 2006 Award of Excellence to the Juno Building (Chiefs and Petty Officers' Facility Project) at CFB Halifax. With the jury noting that the project had excelled in all aspects of project delivery, the award provided well-deserved industry recognition for DND as the building's owner, PCL Constructors Canada Inc. as the principal contractor and WHW Architects as the design consultant team.

Completed in May 2005, this multi-function building comprises three major elements: the construction of a new 12-storey accommodation tower for visiting DND members on training or short-term assignments; the conservation and upgrade of the original Officers' Wardroom, which was built in the mid-1950s; and the

new construction of a Chiefs and Petty Officers' Mess.

DCC Site Operations Manager Marc Brophy recalls that the \$32.5-million project's greatest challenge was to meet the varying needs of the stakeholders. "It was a two-year process with an outside consultant to identify all the needs and to come back with a statement of requirements and performance specification that satisfied all the users," he said.

Brophy – who served as the onsite project engineer for DCC, helping to coordinate construction on the busy Naval base, ensuring that the design met the performance specification, and administering the contract to ensure a quality project – received a CFB Halifax Base Commander's commendation in October 2005 for service excellence.

DCC's understanding of the client's requirements and its contracting experience put the organization in an excellent position to help deliver the client's top priorities, Brophy explained. These included a strong Naval theme throughout, reduced operating and maintenance costs, and preservation of the site's historic elements.

The officers, for example, chose to renovate their existing building, a registered historic property. "We kept the structure and the masonry, but all the finishes and all the mechanical and electrical systems were replaced," Brophy said.

In fact, the jury noted that the historic wardroom was skilfully integrated into the project's new

construction, including the Chiefs and Petty Officers' Mess, a common kitchen between the wardroom and the mess, and the attached tower that features 160 rooms, plus conference facilities and a multi-purpose top-floor lounge area.



The \$32.5-million Juno Building at CFB Halifax was completed in May 2005. The project received the Canadian Design-Build Institute's 2006 Award of Excellence in September. The award provided well-deserved industry recognition for DND as the building's owner, PCL Constructors Canada Inc. as the principal contractor and WHW Architects as the design consultant team.

It was also noted that the project was delivered within two per cent of the original budget and on time, despite the disruption caused by Hurricane Juan in Halifax during the construction phase.

The design-build team has also applied for certification by the Leadership in Energy and

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Building the future with in-house UXO expertise

DCC staff who are working with their DND counterparts to coordinate the clearance of unexploded explosive ordnance (UXO) recently built both knowledge and practical skills on one of North America's most respected UXO training courses.

The five-week Unexploded Ordnance Technician Level 1 course – based at Texas A&M University's facility in Bryan, Texas – qualifies participants to work on UXO remediation job sites, with graduates able to detect, identify, recover and destroy unexploded ordnance.

Ottawa-based Environmental Project Coordinator Nicolas Forget completed the course in November 2006. He explained that the highly technical training will prove invaluable in assisting the client to manage projects that involve clearing sites of unexploded munitions, helping to ensure both public safety and environmental preservation.

"The course gives you a better understanding of UXO projects in general, putting you in a better position to manage the projects and lowering DCC's risks in doing this kind of business," he explained.

Covering such munitions as bombs, guided missiles, rockets, grenades and landmines, the specialized course progresses from classroom work to practical range work. It also offers a high ratio of instructors, many of whom have strong military backgrounds.

"It gives you a lot of credibility with both the client and the contractors – you're part of a pretty exclusive group," Forget noted. "As a qualified UXO technician, you'll be able to walk the range when the contractor is at work there, and you'll be able to better answer questions from that contractor."

He explained that along with the UXO Program Management Office in Ottawa that manages Legacy Sites – a DND initiative to which DCC provides

project management support, including specialized experts such as geophysicists – DCC supports the client in managing UXO projects located on DND active sites across Canada.

"At the National Operations Group (NOG), we establish the processes for managing a UXO project, and we give the resulting template to the regions so they can follow that through the project," he said. "Eventually, all the DCC representatives within the regions will be trained as well. This will give them a strong and practical base from which to even better assist the client with UXO questions, develop UXO action plans, and provide good recommendations in regards to the project."

The UXO technician training highlights DCC's commitment to building the future through continuous learning to better serve the client. DCC expects to send up to four more personnel to the next course, scheduled for February-March 2007.

Moving on up at 22 Wing North Bay

After more than forty years underground, personnel working at 22 Wing North Bay's air defence complex can finally see the light.

On Oct. 12, 2006, Minister of National Defence Gordon O'Connor opened the new \$22.5-million Sergeant David L. Pitcher complex, honouring the only Canadian air defence technician to die in the line of duty. The official opening also heralded a new beginning for those charged with monitoring and defending North American airspace through the North American Aerospace Defence (NORAD) agreement.

DCC has a long history at this location, having assisted with the construction of the original complex, which opened in the early 1960s. In the ensuing years, DCC supported DND in coordinating construction work such as upgrades and renovations.

Alan Dunn, DCC's Area Manager for the Ontario Region, explained that having the

new complex above ground offers the client major benefits.

"The costs of running a system that's 600 feet underground and has a mile of driveway are significant – maintaining that airspace alone is very expensive," he said. "By moving the facility above ground, the construction cost payback based on maintenance savings alone is less than eight years."

Not to mention the increased comfort of building occupants, who now have natural light available and no more bus rides into the old underground complex, which was built at a time when protection from Cold War nuclear threats was paramount. The new design-build project – a well-insulated steel structure that measures 100,000 square metres over two floors – was able to take advantage of the change in global circumstances to move on up, out of the ground.



In attendance at the official opening of the Sergeant David L. Pitcher Building at 22 Wing North Bay are (back row, left to right) Shawn Stirling (Bird Construction), Kevin Farrow (Bird Construction), Ed Rea (DCC Contract Coordinator), Alan Dunn (DCC Area Manager), Ryan Lawson (DCC Contract Coordinator), (front row, left to right) Sharon Binz (DCC Administrative Assistant), Guylaine Sullivan (DCC Administrative Assistant), Randy McGee (Ontario Regional Manager), Ross Nicholls (President and CEO), Mark McLaren (Bird Construction) and Terry Brownlee (Manager, Site Operations, North Bay).

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Speedy groundwork earns DCC Cold Lake a Wing Commander's Commendation

When 4 Wing Cold Lake needed a 300-person tent camp to support eight CH146 aircraft during the world-renowned Exercise MAPLE FLAG last spring, the DCC site office hit the ground running – helping to coordinate thousands of tonnes of gravel that were needed on very short notice, and sharing a Wing Commander's Commendation with the client in the process.

needed the materials contract amended – in a matter of days.

DCC's Contract Coordinator at 4 Wing Cold Lake, Skye Kaus, explained that part of the solution for the low-lying area included placement of an additional 15,000 tonnes of gravel for the camp's base and perimeter access road. "We made a change to the contract that was negotiated and put into

action within a week, so the following week DND could use it for their exercise," he said.

The contractor agreed to divert the gravel from a different location than the one that had been specified in the original contract, moving its equipment between stockpiles within a day in order to make it happen.

"It wasn't a small change to do this," Kaus noted. "But we fast-tracked it and

worked with our client to figure out requirements, complete estimate, obtain necessary internal approvals to proceed with the change, get the actual quote, and then get additional funding so that DND could get the material in place that they needed."

The result: DND and the contractor had their equipment on the tent camp's site, with the materials laid and compacted, in time for the exercise's launch.

"When you went back to the site the following week and there were 20 tents set up and 300 personnel working there, you knew you had a part in it," Kaus said. "But the fact that we accomplished this in such a short time was thanks to the excellent

working relationship that DCC has here with the 4 Wing Construction Engineering Squadron. We work together all the time, and it shows."

The teamwork is echoed in the June 22, 2006 Wing Commander's Commendation that was awarded jointly to 4 Wing Construction Engineering Squadron and Defence Construction Canada – including Skye Kaus – for their efforts to support the exercise in a very short time frame, with know-how, flexibility and determination.

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Environmental Design (LEED) Green Building rating system. This distinguishes projects that have demonstrated a commitment to sustainability by meeting higher performance standards in environmental responsibility and energy efficiency.

In the case of the Juno Building, this includes low-emission materials such as paints, sealants and carpets; daylighting strategies that maximize natural light while reducing glare and unwanted heat; automatic lighting control that ensures peak system performance; natural ventilation; planting that requires no permanent irrigation system; energy efficient insulation and windows; and a remarkable figure of more than 99 percent of demolition and construction waste either re-used or recycled.

"It's great to be a part of it," Brophy said of the complex, which is named in honour of the Juno Beach landing on D-Day, June 6, 1944. "We feel that we've satisfied the users, and I think we've raised the bar in terms of the quality of accommodations for the client, which we hope will contribute to quality of life and morale for the building's users."



In June, DCC's 4 Wing Cold Lake Site Office, jointly with the 4 Wing Construction Engineering Squadron (WCE), was awarded the Wing Commander's Commendation for their work in supporting the world-renowned Exercise MAPLE FLAG. Personnel who worked on the project are (left to right) Randy Blackwell (WCE PMO), William Hokiro (WCE Contracts), Meredith Suttie (WCE PMO), Col. Greg Matte (Wing Commander), Chief Warrant Officer Ed Ingelby (Primrose Lake Evaluation Range), and DCC Contract Coordinator Skye Kaus.

Exercise MAPLE FLAG – a technologically advanced, live-fire Air Force exercise that serves as a key training event for Canadian and allied forces – attracted 5,000 participants over a six-week period from May through June. In 2006, for the first time, the exercise included a "proof of concept" in which the support camp was to be created and then used for the exercise's first two weeks.

Planning and preparation between DCC and the 4 Wing Construction Engineering Squadron began in January, with the site cleared and 24,000 tonnes of gravel already laid in the weeks approaching the exercise. With a lack of drainage combining with adverse weather to create potential problems, however, DND

Commissioning Corner

In the construction industry, commissioning is a process used to ensure that a building and its systems work as designed. It is also one of the many services that DCC provides to its client.

“Commissioning has been an existing component of the building process for some time, but has recently been brought into the forefront of the construction industry,” said Ed Sapacz, a Commissioning Coordinator at DCC’s Winnipeg site office.

“It’s the final operational checklist,” he said. “It’s also becoming more of a standardized service for both the public and private industries.” Commissioning is a systematic quality assurance process, where a team of experts will ensure that a building functions without flaw, prior to turning

it over to the owner. This is done through testing and witnessing of the building’s systems.

“On the DCC side, we are becoming more involved on behalf of the client,” he explained. For instance, while the contractor usually carries out the functional testing upon completion of a building, DCC witnesses and verifies that the testing has been completed, and to ensure the facility meets standards and design specifications.

DCC has commissioned a number of large-scale projects for DND. Some recent examples include the \$5.7-million Canadian Maneuver Training Centre (EXCON) at CFB Wainwright; the \$22-million NORAD Regional/Sector Air Operations Centre at 22 Wing North Bay; the \$33-million Logistics Facility at 17 Wing Winnipeg, the Indoor Training Arena (ITA) at CFB Suffield, and the Ablution Building at CFB Whitehorse, among others.

Sapacz explained the ITA as one of the most challenging – and one of the most unique projects for which DCC has provided commissioning services. Completed in 2005, the \$3.8-million, 1,300 square-metre facility is part of DND’s Counter Terrorist Training Centre, where military personnel are trained to respond to chemical, biological, radioactive and nuclear terror threats.

The state-of-the-art ITA contains a number of scenario areas, including a subway scenario, a large vehicle detection scenario, and a multi-

purpose area, which is adaptable to different types of scenario training. The design also included an energy management system, several air handling units, and other specialized technologies such as an interior exhaust air purge system with glycol heat recovery. “Special attention was needed to ensure the building temperature would remain stable during an air purge in winter conditions, and also that static air pressure was at an optimal level,” said Sapacz.

Through testing and witnessing, the commissioning team (which consisted of both the mechanical and electrical contractors, the controls/TAB technician and the DCC commissioning agent) confirmed that these systems and others were working properly, and that the intended design results had been achieved.

Commissioning is an ongoing process. “It provides savings in operational maintenance costs, and also guarantees optimal building performance,” Sapacz said. “We want to ensure that building systems meet the requirements of the contract documents, the design intent, and the client’s operational needs.”

Mary Ann Byrd, a Facilities System Engineer at Defence Research and Development Canada, was DCC’s ITA client in Suffield. “I am whole heartedly in support of the DCC commissioning process – I would like to see more construction and renovation projects put through this process,” she said.



The \$3.8-million Indoor Training Arena at CFB Suffield was commissioned by DCC in 2005. Commissioning is a process used to ensure that a building and its systems work as designed.

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At the building’s opening, 22 Wing North Bay Commander Col. Rick Pitre explained its benefits: “To give you an example of the kind of capability we now have in this new facility – we can now track more than 10,000 flight plans using the new battle control system, whereas the old system allowed us to track only about 200. The capacity that we have to monitor and defend North American air space is now significantly more profound than it was in the past.”

Much of that highly specialized equipment required special handling in both the contract and the construction process, noted Dunn.

“DCC provided the client with contract management and commissioning services for the building,” he explained, adding that tight timelines during the 18-month construction and the requirement to incorporate the needs of the

U.S. Department of Defense created a unique situation in which the building was turned over to the client in sections, rather than as a whole. This allowed technicians to take delivery of and install the equipment as it arrived on site. Heavy delay penalties were built into the contract, but as Dunn explained, none were incurred – the building was up and running exactly as the contract laid out.

The new complex is named after Sgt. David L. Pitcher, who gave his life serving Canada and the NORAD mission while on exchange with the U.S. Air Force in Elmendorf, Alaska as a crew member aboard an E-3B Airborne Warning and Control System aircraft. He perished tragically, along with the rest of his 24-person crew, when their aircraft crashed on Sep. 22, 1995.

DEFENCE CONSTRUCTION CANADA

**Constitution Square
350 Albert Street, 19th Floor
Ottawa, Ontario K1A 0K3
Phone: (613) 949-7719
Fax: (613) 998-1218
www.dcc-cdc.gc.ca**

Defence Construction Canada (DCC) is a Crown corporation with a mandate to provide contracting, construction contract management and related services to the Department of National Defence (DND).