Steel cladding creates camouflage effect on Wing Commander Hilly Brown Building

CANADIAN FORCES FLYING TRAINING SCHOOL

SOUTHPORT, MANITOBA

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DESIGN AND CONSTRUCTION TEAM

CLIENT: Allied Wings, Canadian Base Operators, Black & McDonald Limited Corporate Headquarters

CONSTRUCTION MANAGER: Akman Construction Ltd.

ARCHITECTURAL: Daniel Johnson Architect Inc., Garth Norbraten Architect Inc.

STRUCTURAL ENGINEERS: Halcrow Yolles

MECHANICAL AND ELECTRICAL ENGINEERS: SMS Engineering Ltd.

LANDSCAPE: Victor Ford and Associates Inc.

CIVIL ENGINEERING: AECOM

GEOTECHNICAL ENGINEERING: ENG-TECH Consulting Ltd.

STEEL CLADDING SUPPLIER: Roll Form Group

STEEL CLADDING INSTALLER: Tri Clad Designs

STEEL ROOF DECK INSTALLER: Flynn Canada

STEEL STUD SUPPLIER: Steelform Building Products

STEEL STUD INSTALLER: K. Sleva Contracting Ltd.

STRUCTURAL STEEL INSTALLER: Abesco

STRUCTURAL STEEL FABRICATOR: Shopost Iron Works

PROJECT TEAM: Garth Norbraten, Daniel Johnson, Magnus Johnson, Peter Mullin, Renny Cannon, Jonathan Friedman

PHOTOGRAPHY: Gerry Kopelow

With utmost speed and precision, a military endeavor dubbed "Operation Cool Steel" took shape at Southport Aerospace Centre, a former military base, near Portage la Prairie, Manitoba. The 8,600m^2 (92,570 sq. ft.) Wing Commander Hilly Brown Building is a shining architectural beacon in a community rich with aviation heritage. It's the crown jewel at the Canadian Forces Flying Training School (CFFTS), used to train Department of National Defence small plane and helicopter pilots.

The colour of the 19mm (.75") deep corrugated .76mm (.0299") thick prepainted Z275 (G90) galvanized wall cladding supplied by Roll Form Group, alternates between QC18317 White White and QC2624 Bright Silver and some Black QC18262. "The fact the colours change in the light, makes it look like a different building," explains installer Russ Hinds of Tri Clad Designs.

"The checkerboard pattern follows the internal divisions of the building. What you see on the outside of the building is the way the structure and the interior corridors on the inside of the building are organized," explains Garth Norbraten.

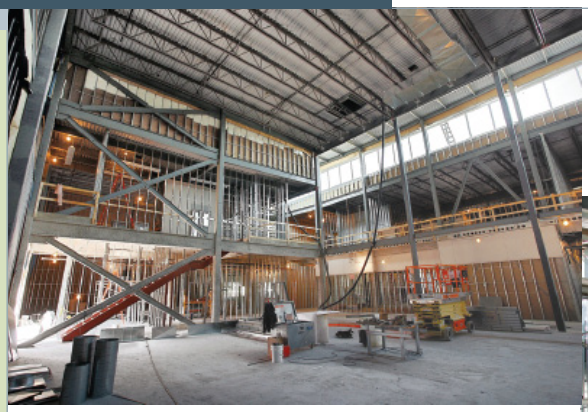
The Hilly Brown houses $75 million in computerized equipment, including full motion and fixed flight simulators. It includes lecture rooms, briefing rooms, a library, study rooms, lounges, offices, a weight room, a medical suite and a counseling room.

Exterior and interior walls are framed in non-load bearing galvanized steel studs, erected by K. Sleva Contracting Ltd. The roof structure, consists of steel deck and open-web steel joists. The ZF075 galvanneal steel deck has a 1.5" profile, in a variety of thicknesses - ,76mm, .91mm and 1.22mm (.0299", .036" and .048") supplied and installed by Flynn Canada.

Commandant Lt. Col. Paul Dittman says the facility has had a tremendous impact on air force pilot production, with students coming from as far as Norway to study at the Canadian Forces Flying Training School. The school produces 80 percent of Canada's air force pilots every year. "The quality of the students we're graduating now compared to 20 years ago is hugely improved, with a much broader range of skills and capabilities in a high tech aircraft environment," Dittman said. There's no doubt this design and construction team earned its wings.

Built in just a year and a half, The Hilly Brown Building meets rigorous program and technical specifications laid out by the DND. The building and site work were completed at a cost of $12.9 million or $1,500 per m^2 ($139 per sq. ft.), meeting a strict budget.

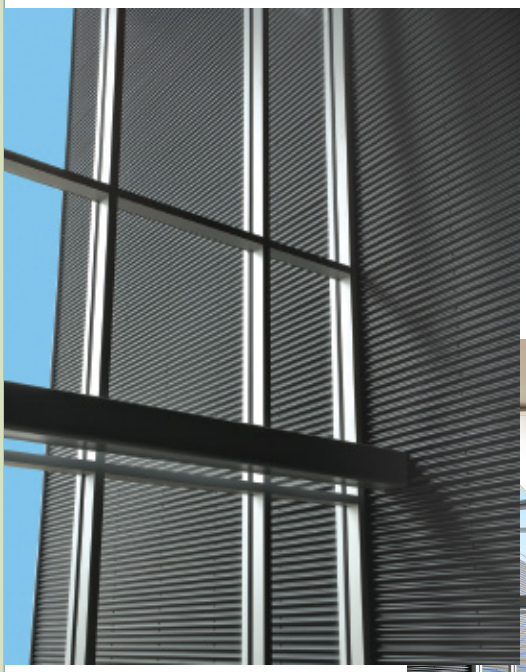
The building is an exercise in camouflage, thanks to the 2,694m^2 (29,000 sq. ft.) of wall cladding made from ArcelorMittal Dofasco's prepainted galvanized steel.



In addition to extensive use of steel roof and floor deck, light steel framing in a variety of thicknesses and sizes was used throughout the building, including wind bearing exterior walls.

Strong, accurate, dimensionally stable and durable - light steel framing eliminates problems such as cracks and warped joists and studs. Light steel framing provides the basis for the highest quality and lasting interior finishes.

Relieved by areas of black siding, as seen in this view, the outer perimeter of the building is finished in a silver and white checkerboard. The effect is a constant metamorphosis. Throughout the day, the pattern appears and disappears.



"The checkerboard pattern follows the internal divisions of the building. What you see on the outside of the building is also the way the structure and the interior corridors on the inside are organized."

- Garth Norbraten Architect Inc.

QC18262 Black cladding is used at the main entrance and the interior lobby. "We've brought the steel product inside," says Norbraten.

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