



ART GALLERY OF HAMILTON, HAMILTON, ONTARIO

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Dofasco Steel Design, 2005)

Design and Construction Team

Owner: Art Gallery of Hamilton

Architect: Kuwabara Payne
McKenna Blumberg Architects.

Structural engineer: Yolles
Partnership Inc.

Mechanical engineer: Smith and
Andersen Consulting Engineers.

Electrical engineer:
Carinci Burt Rogers Engineering Inc.

Construction project manager:
Stantec Consulting Ltd.

General contractor: PCL
Constructors Canada Inc.

**Structural steel fabrication and
erection:** Walters Inc.

Cladding and deck: VICWEST
Corporation. Phone: 1-800-387-7135

LSF installer: P.J. Daly Contracting
Limited.

LSF supplier: Bailey Metal
Products. T: 1-800-668-2154

Thermal panels: Through VICWEST
Corporation. T: 1-800-387-7135

Paint system: Through Baycoat.
PPG Industries. T: (905) 855-5654

A Jewel of Steel – a Building Around a Building



By the late 1990s the Art Gallery of Hamilton (AGH) was suffering from an unstable interior environment. The concrete walls were structurally sound, but absorbing humidity and causing leaks into the building. This threatened the Gallery's more than 8,000 objets d'art and limited the types of exhibitions it could host. The Board of Directors sought a cost-effective solution, yet one that would provide aesthetic appeal commensurate with a cultural icon.

The Board wanted steel to play a prominent role. President and CEO Louise Dompierre made the renovation project her priority after coming on board in 1998. "We selected Hamiltonborn Bruce Kuwabara (KPMB Architects of Toronto) as the architect due to his proposed system and his

familiarity with art galleries, both as a patron and having designed a similar project for the Art Gallery of Ontario." The resulting concept suggests a "building around a building" with the exterior facade wrapped around the concrete structure, presenting a gold and silver motif of steel with aluminum trim.

Carmen Cirillo, Computer-Aided Designer for VICWEST of Oakville, Ontario, which provided the exterior cladding and framing, describes the project as "unique and complex." For instance, the exterior wall system— custom-designed by the architect and the signature feature of the project, supported by a light-gauge steel girt system— is thought to be unique, especially for an art gallery. It is uncommon to clad a major public institution in painted metal. As well, the combination of trims developed to address joint conditions, vapour barrier and insulation, with membrane wrapping around where foam would not bend—all combine to create a wall cavity both water- and airtight.

LSF framing and cladding were chosen for speed of erection, strength and durability, and the fact that they avoid wet processes that might pose a risk to the Gallery's art collection. The \$18.2-million project also has soffits and fascia flashing of





Steel Products Used – Exterior and Interior

Exterior Cladding: PPG Duranar XLE finish on prepainted AZM150 Galvalume™: .76 mm (.0299") QC7212 Gold and QC7111 Gray Velvet

C-Channel and Subgirts: 1.9 mm (.075") and .91 mm (.036") Z275 galvanized

Flashings: .76 mm (.0299") prepainted AZM150 Galvalume™ to match adjacent panels

Extrusions: Extruded aluminum: painted with PPG Duranar UC51131XL coloured Silver

Roof Deck: 1.22 mm–.76 mm (.048"–.0299") ZF075 galvalume 38 mm (1-1/2") deep profile

Standing Seam Roof: .61 mm (.0239") prepainted AZM150 Galvalume™ coloured QC2624 Bright Silver

Floor Deck: 1.22 mm (.048") ZF075 galvalume with 38 mm and 76.2 mm (1-1/2" and 3") deep profiles

Exhaust Shaft: .61 mm (.0239") Z275 (G90) galvanized ribbed siding coated with Barrier Series 8/4 paint system (Charcoal QC1504 / Bone White QC1503)

Light Steel Framing: 1.22 mm and .91 mm (.048" and .036") galvanized and Galvalume Plus™

Canadian Sheet Steel Building Institute

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Cambridge, ON N3H 4V6
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www.cssbi.ca



Galvalume™ prepainted Bright Silver QC2624. Roof decking employs ZF075 galvalume in a range of thicknesses and a 38 mm (1-1/2") deep profile, with an AZ150 Galvalume™ steel standing seam roof over the Sculpture Atrium painted Bright Silver QC2624. The Atrium also boasts 12.2 m (40 ft) high windows looking out onto City Hall with Hamilton Mountain in the background. The glazing system is framed in aluminum, but because the spans are so great, steel sections are used to support it. VICWEST also provided the ZF075 galvalume floor deck with 38 mm and 76.2 mm (1-1/2" and 3") deep profiles over which concrete flooring was poured.

For Cirillo and VICWEST, one of the most challenging applications was the construction of a new garage exhaust shaft—an aggressive environment of automotive exhaust fumes venting from a municipal parking garage underneath the Gallery. The new shaft is 18.3 m (60 ft) long and only .9 m (3 ft) wide, making it very difficult to install the interior liner of Barrier Series—coated Z275 (G90) galvanized steel ribbed siding.

LSF was also used in the Gallery's interior, studs for interior partitions and drywall bulkheads being 1.22 mm and .91 mm (.048" and .036") galvanized and Galvalume Plus™ installed by P.J. Daly Contracting Ltd., of Hamilton. In total, 30,480 m (100,000 linear feet) of framing was erected in two months. Not only is steel employed in functional, construction applications, but also for aesthetic highlighting throughout the Gallery.

Reynder Van der Meulen, Project Manager for the general contractor, PCL Constructors of Toronto, says, "This project will transform the Art Gallery. Besides renovations to the existing building there's the addition of a new multiuse Pavilion, the Sculpture Atrium, and a new glass-enclosed front entrance. The result is a more visible and user-friendly front lobby."

Construction began in October 2003; the Gallery celebrated its Grand Opening in May of this year. President and CEO Louise Dompierre is confident regarding the impact of the project. "It's a key part of our strategic plan to help the Gallery realize its potential and double attendance. It means we can offer services we couldn't before. The new steel-framed glass Pavilion will at times be accessible to the general public, and at others used for a range of art-related or commercial programming activities. It will be available for rental.

"As an overall comment, the Gallery will be more welcoming to the public and the City of Hamilton will benefit due to increased tourism. The interior design opens it up in a number of areas with natural light and views that include a green area by the Pavilion, and also facilitates a better flow through the Gallery, drawing you from one area to the next. The new facility combined with an improved level of programming and collections will make the AGH a jewel of an organization."

