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design

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PROJECT SUBMISSIONS

Do you have a project using sheet steel that you would like to see in Steel Design? The editor welcomes submissions of completed buildings-commercial, institutional, industrial, recreational and residential - using components made from steel, including cladding, steel decking, light steel framing, steel roofing, steel doors, steel ceiling systems and steel building systems. Please send a description of the project, including photographs, to:

The Editor, Steel Design 1039 South Bay Road Kilworthy, Ontario POE 1G0 E-mail: davidfollis@vianet.ca

CHANGE OF ADDRESS, NEW SUBSCRIPTIONS Please send details (including your old and

new addresses where applicable) to:

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COVER PHOTO: Elizabeth Park Elementary School, Paradise, Newfoundland. PHOTOGRAPHER: Stephen Sheppard





National Coil Coating Association







transforming tomorrow

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Built to withstand the area's famously aggressive weather, the exterior wall's first floor is face block and the rest of its height is pre-painted AZM150 Galvalume™ wall cladding. The Province prefers prepainted steel cladding for both the low maintenance and cost effectiveness pre-painted steel offers.

> **6** Seacliff Heights, Learnington Ontario Phase 1 of 3, a new condominium rental apartment block, the first new rental development built in Essex County in almost 30 years, was completed in November 2015. It comprises six storeys, 105 apartments ranging from single bedroom units of 70m² (750 sq. ft.) to two bedroom units of 111.5m² (1,200 sq. ft.), plus underground parking.



8 Atlas Tube Centre, Lakeshore, Ontario

The overall configuration of the first phase saw two pre-engineered steel building systems arranged as parallel modular 'program bars'. One 'cold', housing three long-span arenas for ice hockey or indoor soccer, and one 'warm' containing the gym and library.

11 Meridian Centre, St. Catharines, Ontario



The overall building, although large, has a distinctive design. The massing and articulation of the east façade on McGuire Street is reminiscent of the rhythm of the narrow buildings seen from the rear of the St. Paul Street properties. The Meridian Centre is grounded in the City's rich Downtown history and is a major catalyst in the City's downtown revitalization strategies and aspirations.

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Seattle, Washington, USA Design Solution Provides Privacy with a View. Thomas Schaer's clients wanted a home with a view - but they also wanted privacy. In Seattle's Leschi neighbourhood, such a refuge isn't easy to come by. The single-family dwelling, known as Main Street House, took its name from the pedestrian path that bound its site to the north.

18 Steel: Unparalleled Fire Safety

Life safety, and specifically fire protection, has been and will always be a primary concern of the building codes. Steel is a non-combustible material and consequently does not burn, provide an ignition source or add fuel load that would enable a fire to spread or grow into a catastrophic event.





A cheerful and maintenance free colour scheme

Around 20 kilometres southwest of St. John's, Newfoundland, flanked by the Atlantic Ocean to the east and Conception Bay to the west, is the town of Paradise. On the east side of town is the colourful Elizabeth Park Elementary School, daytime home to 567 Grades 1 to 6 pupils.



ArcelorMittal Dofasco STEEL DESIGN

The original school, with a footprint of 3,660m² (39,396 sq. ft.) was a design-build between PHB Group (now Stantec Architecture) and Olympic Construction, completed in 2010. In 2015, with general contractor Redwood Construction, and Stantec again as architect, a 190m² (2,045 sq. ft.) addition was completed.

Built to withstand the area's famously aggressive weather, the exterior wall's first floor is face block, and the rest of its height is pre-painted AZM150 Galvalume[™] wall cladding. "Steel cladding is mostly used on the schools in the province because of maintenance issues. It is also more cost-effective. Anything else is usually scrutinised closely by the government. Steel cladding with some face block is the standard for the province," says Mark Keel, Stantec's project manager for the extension.

The pre-painted AZM150 Galvalume[™] wall cladding is oriented both vertically and horizontally, for a pleasing effect that breaks up the acreage of the two-story structure. The

main building is vertically clad with 632m² (6,800 sq. ft.) of S-175-SB, 0.51mm (0.020") Royal Blue QC8790, 464m² (5,000 sq. ft.) of S-175-SB, 0.51mm (0.020") Sable QC8641 and 242m² (2600 sq. ft.) of S-175-SB, 0.51mm (0.020") Tile Red QC 8259.

The horizontal cladding consists of 437m² (4,700 sq. ft.) of S-30-SH, 0.64mm (0.025") Royal Blue QC8790 and 502m² (5,400 sq. ft.) of S-30-SH, 0.64mm (0.025") Sable QC8641. There is 409m² (4,400 sq. ft.) of Valu-Clad, 0.51mm (0.020") Z275 (G90) galvanized interior mechanical liner panel, and 427m² (4,596 sq. ft.) of AZM150 Galvalume[™].

The installer used a total of 464m² (4,994 sq. ft.) of 0.64mm (0.025") pre-painted AZM150 Galvalume™ coloured Tile Red QC8259 on the extension walls. The entire building has 3,850m² (41,441 sq. ft.) of steel deck, with 2-ply modified bitumen.

While Keel can only confirm that the extension was constructed with a steel stud system, he notes that, "I've rarely, if at all, used wood studs. Steel framing is the standard. The province is concerned where moisture could be an issue."





was a design-build between PHB Group (now Stantec Architecture) and Olympic Construction, completed in 2010.

The original school, with a footprint of 3,660m² (39,396 sq. ft.) In 2015, with general contractor Redwood Construction and Stantec again as architect, a 190m² (2,045 sq.ft.) addition was completed.

DESIGN AND CONSTRUCTION TEAM

MAIN SCHOOL ARCHITECT:

PHB Group, now Stantec Architecture 709-576-8612

MAIN SCHOOL GENERAL CONTRACTOR: Design-build between PHB Group and Olympic Construction 709-576-4335

SCHOOL EXTENSION ARCHITECT: Stantec Architecture 709-576-8612

SCHOOL EXTENSION GENERAL CONTRACTOR: Redwood Construction, Design-build construction 709-745-7888

STEEL CLADDING & ROOFING SUPPLIER: Roll Form Group (Now Vicwest 506-758-8181

METAL ROOF/CLADDING/LINER INSTALLER Hampton Building Systems Inc. 709-747-4490

PHOTOGRAPHER: Stephen Sheppard 709-747-4490

VERTICAL CLADDING:

Pre-painted AZM150 Galvalume[™] Steel – ASTM 792

- S-175-SB, .61mm (.0239") Royal Blue QC8790: 6,800 sq. ft.
- S-175-SB, .61mm (.0239") Sable QC8641: 5,000 sq. ft.
- S-175-SB, .61mm (.0239") Tile Red QC8259: 2,600 sq. ft.

HORIZONTAL CLADDING:

Pre-painted AZM150 Galvalume[™] Steel – ASTM 792

- S-30-SH, .76 mm (.0299") Royal Blue QC8790: 4,700 sq. ft.
- S-30-SH, .76 mm (.0299") Sable QC8641: 5,400 sq. ft.

INTERIOR MECHANICAL LINER PANEL:

- VALU-CLAD, .51mm (.020") Z275 (G90) galvanized -418m² (4,400 sq. ft.
- VALU-CLAD, .51mm (.020") AZ150 Galvalume™ -427m² (4,596 sq. ft.)

ROOF CLADDING:

Pre-painted AZM150 Galvalume™ Steel – ASTM 792 427m² (4,600 sq. ft.) BATTEN CLAD, .76mm (.0299")

AZ150 Galvalume steel coloured Tile Red QC8259.

Built to withstand the area's famously aggressive weather, the exterior wall's first floor is face block and the rest of its height is pre-painted AZM150 Galvalume™ wall



much more cost-effective.



ArcelorMittal Dofasco STEEL DESIGN

Steel framing brings quality and speed to new heights

Seacliff Heights, Learnington Ontario. Phase 1 of 3, a new, condominium rental apartment block, the first new rental development built in Essex County in close to 30 years, was completed in January 2017. It comprises six storeys, 105 apartments ranging from single bedroom units of 70m² (750 sq. ft.) to two bedroom units of 111.5m² (1,200 sq. ft.), plus underground parking.

Project owner, developer and general contractor Piroli Group Developments, active in Southwestern Ontario since 1992, have grown from Piroli Construction – a small residential builder – to their current multifaceted status. They see the combined \$80-million project of twin 6-storey apartment towers and a 4-storey retirement complex as ideal for empty nesters from urban centres such as Toronto, London and Kitchener.

Piroli selected Magest Building Systems Limited (MBSL) to supply and install the cold formed steel load-bearing and non-load-bearing wall panels with exterior sheathing, structural steel columns and beams throughout, as well as the flat cold formed steel roof trusses and metal decking. Magest specializes in the design and assembly of cold formed steel framing in complete panelized building systems whose structural integrity facilitates single or multi-storey buildings for markets worldwide.

Brock Martin, President of MBSL, tells us, "Our construction work was completed in 12 weeks, based on a planned and maintained 10 working-day-per-floor schedule which contributed significantly to the overall project schedule. This was made possible by the close coordination with PSI, who supplied the 203mm (8") hollow core floors we installed and of course Piroli."

All the cold formed light steel framing was rolled in-house by sister company Magest Metal Products, all being 55ksi hot dipped galvanized zinc coated steel to Z180 (G60). Sizes varied from 600S300-97 – 600S162-33 and 800S300-97 – 800S162-33. The panelized wall system was shipped from the factory with 15.8mm (5/8") Securock sheathing installed. Magest did not supply any of the exterior finishes. With floor span direction from exterior to corridor, most of the

DESIGN AND CONSTRUCTION TEAM

ARCHITECT: Baird AE Architecture + Engineering 519-326-6161 DEVELOPER/GENERAL CONTRACTOR:

Piroli Group Developments 519-967-8669

STRUCTURAL ENGINEER: Nassar Engineering 905-865-3314 STEEL FRAMING SUPPLIER & INSTALLER:

Magest Building Systems Limited 519-272-1001

ROOF AND FLOOR STEEL FRAMING SUPPLIER: PSI 226-346-9408

PHOTOGRAPHERS:

Construction images: Shawn Thacker 519-272-1001 Bottom right photo: Sheila McBrayne 519-398-9098

exterior and corridor walls were load-bearing.

Brock Martin believes the pluses Magest brings to a project include innovative solutions to construction challenges, thanks to the company's steel design and fabrication capabilities; reduced on-site time due to swift installation and panelized systems, 2% waste disposal costs (compared to 20% with lumber), no weather restrictions with year-round construction possible, superior fire resistance and lower builder's risk and property insurance rates.

"We've been in business for over 25 years and consider ourselves now to be a leader in the industry, offering the highest quality products and services. We enjoyed a smooth workflow throughout the entire Seacliff project, helped by working with a GC like Piroli whom we appreciate for their cooperation and ability to get the most out of the trades involved."

The exterior wall cl Type X Sub sheath Brand Glass-Mat s and mould-resista claddings. Finishee masonry and EIFS.



The dimensions for the floor joist manufactured by Magest and used on Seacliff Heights utilize 1.52mm (.060") Z275 (G90) galvanized steel, are 508mm (20") deep with varying spans span up to 8.53m (28').



The cold formed sections are Z180 (G60) galvanized steel to ASTM A653/A653/M.

 Exterior wall studs are 152mm (6") with the thickness of the galvanized steel varying from 600S162-97 to 600S162-33. Thickness of stud material reduces on each level upwards.



 Interior wall studs 152mm (8") with the thickness of the galvanized Z180 (G60) steel varying from 800S162-97 to 800S162-33. Thickness of stud material reduces on each level upwards.

Finished in January 2017, the six-storey Seacliff Heights condominium rental apartment block is the first new rental development built in Essex County in close to 30 years.

Thacker 519-272-1001 Thacker 519-272-1001 CGC Secu Thacker 519-272-1001 CBrayne 519-398-9098 re load-bearing. Uses Magest brings to a project construction challenges, thanks and fabrication capabilities; wift installation and panelized



LIGHT STEEL FRAMING: Z180 (G60) galvanized ASTM A563/A653M

EXTERIOR WALL STUDS (LSF): 600S162-97 – 152mm x 41.2mm x 2.74mm (6" x1-5/8" x .108") to 600S162-33 – 152mm x 41.2mm x.91mm (6" x 1-5/8" x .036")

INTERIOR WALL STUDS (LSF): 800S162-97 – 203mm x 41.2mm x 2.74mm (8" x 1-5/8" x .108") to 800S162-33 – 203mm x 41.2mm x 91mm (8" x 1-5/8" x .036" CGC Securock® Type X Sub sheathing is 15.875mm (5/8")

The exterior wall cladding on this project is CGC Securock® Type X Sub sheathing shown in green. CGC Securock® Brand Glass-Mat sheathing is a noncombustible, moisture and mould-resistant panel designed for use under exterior claddings. Finished wall cladding is a combination of masonry and EIFS.



Multi-use sports facility design relies on pre-engineered steel with pre-painted GalvalumeTM steel cladding and roofing

In 1999 five South-Western Ontario municipalities amalgamated to form the new town of Lakeshore, on the southern shore of Lake St. Clair. In 2012 MacLennan Jaunkalns Miller Architects (MJMA) of Toronto began designing a state-of-the-art recreation facility for the town.

Phase 1 of the multi-use facility comprised three ice pads, lobby, library, and gymnasium, as well as incorporating a dance studio and an indoor track. Phase 2 provides an aquatic complex including amenities for fitness, therapy, and recreation. Steel was used extensively in the 15,978m² (172,000 ft.²) Phase 1.

The overall configuration of the first phase saw two pre-engineered steel building systems arranged as parallel modular 'program bars'. One 'cold', housing three long-span arenas for ice hockey or indoor soccer, and one 'warm' containing the gym and library. Their steel building systems allow for expansion or contraction without compromising public access and circulation, or ongoing facility operations

The sloping roof sections face south and provide 5,574m²

(60,000 sq. ft.) of photovoltaic arrays. The roof cladding and liner steel are pre-painted AZM150 Galvalume[™] steel,

as are the exterior and interior walls, mostly painted

and they are connected by a conventional steel 'link' building. The arena building's three long span steel roofs are configured in a sawtooth pattern to provide glare-free natural light to the ice surfaces. This is achieved via north-facing vertical windows of clerestory polycarbonate glazing panels. The adjoining sloping roof sections thus face south and provide 5574m² (60,000 ft.²) of photovoltaic arrays. The roof cladding and liner steel are pre-painted Galvalume[™], as are the exterior and interior walls, mostly painted bright white.

In contrast, the library/gym building is dark and warmlooking, with pre-painted AZM150 Galvalume™ steel exterior walls, coloured Dark Bronze Galvalume™. Windows almost



In contrast to the arena building, the library/gym building is dark and warm-looking, with steel exterior walls of Dark Bronze Galvalume[™] steel.

three-quarters the height of the walls are designed to, among other things, provide the gym and library with extensive views of the adjoining sports fields. The interior walls, flat roof and liner are pre-painted Galvalume[™] steel coloured Bright White QC8783.

Design work began in January 2012, construction in March 2013, with the Arena opening in September 2013 and 'soff' openings for lobby, gym and library between then and the grand opening in December. As MJMA Associate Dan Kronby points out, "The project budget and construction time frame were challenging. Plus what we designed had to fit a masterplanned sports park, including allowing for future additions to buildings and sports fields." Although the Town decided ultimately not to pursue LEED certification, the facility was basically designed and built to LEED Silver specifications. Construction accounts for ~40% of the world's resource use and part of that is the environmental impact of the extraction and manufacturing of building materials. This facility was designed to use less energy and emit fewer greenhouse gases. Plus the use of pre-engineered steel, with its significant portion of recycled material, contributed to 'environment-friendly' construction and no waste. Plus, as Dan Kronby adds, "Steel for the primary structure, cladding and roofing, allowed for reduced costs as well as swift erection and enclosure time."

DESIGN AND CONSTRUCTION TEAM

ARCHITECT: MacLennan Jaunkalns Miller Architects 416-593-6796	STEEL CLADDIN BB Gunn Contro
TRUCTURAL ENGINEERS:	STEEL DECK SUF
Blackwell Structural Engineers 416-593-5300	STRUCTURAL ST Steelway Buildin STRUCTURAL ST BB Gunn Contro
RAL CONTRACTOR:	
Aquicon Construction 905-458-1313	
TEEL CLADDING SUPPLIER: teelway Building Systems 519-765-2244	
	PHOTOGRAPHE

Steel was used extensively in the 15,978m² (172,000 sq. ft.) Phase 1. The overall configuration of the first phase saw two pre-engineered steel building systems arranged as parallel modular 'program bars' – one 'cold', housing three long-span arenas for ice hockey or indoor soccer – and one 'warm', containing the gym and library. The two buildings are connected by a conventional steel 'link' building.





bright white.

G INSTALLER: acting Ltd. 519-698-2000 PPLIER: Aquicon Construction 905-458-1313 TEEL SUPPLIER: ing Systems 519-765-2244 TEEL INSTALLER: acting Ltd. 519-698-2000 ER: Shai Gil 416-916-1840





The arena building's three long span steel roofs are configured in a sawtooth pattern to provide glare-free natural light to the ice surfaces. This is achieved via north facing vertical windows of clearstory polycarbonate glazing panels.

ARENAS:

STEEL SUBSTRATE: Pre-painted Galvalume^{\rm TM} AZM150 to ASTM A792/792M

ROOFING: RTL-24 .61mm (.0239") QC8783 Bright White 9,401m² (101,200 sq.ft.)

ROOF LINER: StormSeal NRO .45mm (.0179") AZM150 Galvalume 9,538m² (102,673 sq.ft.)

EXTERIOR WALLS: StrucSeal NRO .61mm (.0239") coloured QC8783 Bright White 3,293m² (35,441 sq.ft.)

INTERIOR WALLS: StormSeal NRO .45mm (.0179") coloured QC8783 Bright White 3,293m² (35,441 sq.ft.)

LIBRARY/GYM:

STEEL SUBSTRATE: Pre-painted Galvalume™ AZM150 to ASTM A792/792M and Unpainted AZM165 Galvalume™

ROOFING: RTL-24 .61mm (.0239") coloured QC8783 Bright White 2,464m² (26,236 sq.ft.)

ROOF LINER GYM: StormSeal NRO .455mm (.0179") coloured QC8783 Bright White 1,515m² (16,310 sg.ft.)

ROOF LINER LIBRARY: StormSeal NRO .455mm (.0179") AZM150 Galvalume™ 1,001m² (10,776 sq.ft.)

EXTERIOR WALLS: TechLoc .61mm (.0239") coloured QC6695 Dark Bronze 1,749m² (18,827 sq.ff.)

INTERIOR WALLS: StormSeal NRO .45mm (.0179") coloured QC8783 Bright White 1,749m² (18,827 sq.ft.)

Steel building approach contributes significantly to city's revitalization aspirations

St. Catharines is the largest city in Canada's Niagara Region and the sixth largest urban area in Ontario. The Meridian Centre has been referred to as 'a major catalyst in the City's downtown revitalization strategies and aspirations.' It is a 13,614m² (146,535 sq. ft.) facility, home to the Ontario Hockey League's Niagara lce Dogs, as well as hosting a range of entertainment and cultural events. The key construction ingredient – a steel building.

The project was a design-build collaboration between Ball Construction and Rankin Construction, with Rankin responsible for all the civil work, including building two concrete bridge walkways connecting the Centre to a nearby elevated street level. The architect was Architecture49 Inc. with over 50 years experience and one of its specialties – multi-use community and spectator facilities.

The massing and articulation of the east façade on McGuire Street is reminiscent of the rhythm of the narrow buildings seen from the rear of the St. Paul Street properties. The Meridian Centre is grounded in St Catharines' rich Downtown history and is a major catalyst in the City's downtown revitalization strategies and aspirations.





Architecture49 began the design work in January 2013 and construction began in August of that year. It was completed in September 2014. Val Rogojine, PMP®, M. Arch., Senior Project Manager with A49, says, "We were challenged to provide a cost-effective and innovative design for long-term use and sustainability, with a very aggressive deadline. And to provide amenities and features typical of a much larger arena. We looked for speedy delivery and assembly. Add to that the need for flexibility and constructability, and an SBS was the obvious choice."

The result? A state-of-the-art three-level spectator facility comprising event, concours, and suite levels. It offers a

ArcelorMittal Dofasco STEEL DESIGN

Spring 2017]

5,000-plus seat arena for recreational events and 6000-plus seats for entertainment events. Amenities include team dressing rooms, concessions, retail space, as well as a hall of fame and administrative space.

The arena building enclosure walls comprised an insulated steel panel system (to R24), selected for ease and speed of enclosure for the winter months. The system included light steel framing (LSF) providing both wind-bearing and loadbearing studs, and ceiling framing members. Structural stud/masonry cavity walls mostly clad with brick veneer and architectural CMU veneer enclosed the support facility areas. The extensive use of glass for public entry towers, lobbies

DESIGN AND CONSTRUCTION TEAM

OWNER: City of St. Catharines

ARCHITECTS: Architecture49 Inc. 416-368-6987 and WSP Canada Inc. 416-484-4200

STRUCTURAL ENGINEERS: WSP Canada Inc. 416-484-4200

CIVIL ENGINEERS: Upper Canada Consultants 905-688-9400

DESIGN-BUILDER: Ball-Rankin Construction Inc. Ball Construction Ltd. 519-742-5851 Rankin Construction Inc. 905-684-1111

LANDSCAPE: O'Connor Mokrycke Consultants 905-681-7604

INSULATED STEEL WALL PANEL SUPPLIER:

Kingspan Insulated Metal Panels, Canada 1-866-442-3594

STEEL PANEL INSTALLER: TDI Thermo Design Insulation Ltd. 780-468-2077

STEEL DECK SUPPLIER: Commercial Sheet Metal Inc. 905-206-1668

STRUCTURAL STEEL SUPPLIER & INSTALLER: Walters Inc. 905-388-7111

and lounges, provides a transparency welcoming to the public, whether approaching from the upper town or the lower level streets. Thermoplastic Polyolefin (TPO) reflective roofing membrane topped a steel roof deck.

While LEED certification was not sought, sustainable strategies within the context of cost-effectiveness was a focus of the design-build team. Plus the building exceeds the requirements of the National Energy Code.

The \$45-million project won Architecture49 and Ball Construction the 2014 Award of Excellence by the Grand Valley Construction Association in the Commercial category >\$20 million in construction fees. As well, it is an object of civic pride and a landmark in the community, exemplifying the City's vision for a new cultural and entertainment precinct.



The overall building, although large, has a distinctive form that is visible from the upper vantage point of St. Paul Street, as well as from the approach roads to the East of the site.

INTERIOR FACE EXTERIOR FACE



levels.





ArcelorMittal Dofasco STEEL DESIGN

INTERIOR SURFACE: .4547mm (.0179") Z275 (G90) galvanized steel sheet Finish: Standard modified polyester, 0.0254 mm DFT

> including primer FLASHING AND TRIM:

Fluoropolymer textured finish.

INSULATED-CORE STEEL WALL PANELS:

ASTM A755/A 755M. EXTERIOR SURFACE:

Prepainted Z275 (G90) Zinc-Coated (galvanized) steel sheet:

ASTM A 653/A 653M designation; structural quality and

.6071mm (.0239") Z275 (G90) galvanized steel sheet Finish: Two-Coat Fluoropolymer: to AAMA 621.

Brake formed 0.76mm (.0299") steel sheet. finish to match panel. Concealed: Z275 (G90) galvanized steel sheet.

Exposed: AZM150 Galvalume™ steel sheet.

LIGHTWEIGHT STEEL FRAMING INCLUDED: Wind Load-Bearing Studs, Axial Load-Bearing Studs and Ceiling Framing Members.

WIND LOAD-BEARING STUDS INCLUDED: Wall studs subjected to lateral loads (no axial load other than self-weight and the weight of applied finishes)

In addition to the main entrance, the design also features two significant entry points via two pedestrian bridges that connect the building to St. Paul Street.

The Centre includes a U-shaped bowl with 5,036 fixed seats and a three-level scheme with event, concourse and suites





Design solution provides privacy with a view

Thomas Schaer's clients wanted a home with a view – but they also wanted privacy. In Seattle's Leschi neighbourhood, such a refuge isn't easy to come by. The single-family dwelling, known as Main Street House, took its name from the pedestrian path that bound its site to the north.





This sustainable home incorporates corrugated AZ50 zinc coated steel (AZM150 Galvalume™ steel in Canada) and Douglas fir wall cladding. The innovative design not only provides privacy, but incorporates the natural surroundings into the overall design.

DESIGN AND CONSTRUCTION TEAM

ARCHITECT: SHED Architecture & Design 206-320-8700 ENGINEER: Harriott Valentine Engineers 206-624-4760

GENERAL CONTRACTOR: David Gray Construction 206-325-9213

STEEL CLADDING AND ROOFING INSTALLER: Orangutan Roofing 253-447-4760

STEEL CLADDING & ROOFING SUPPLIER: AEP Span 800-733-4955

PHOTOGRAPHER: Mark Woods 206-363-3499

The home is situated on a sloping site, which extends from the Main Street pedestrian path to an alley below. While the site boasts partial views of Lake Washington, Leschi Park and the surrounding terrain, homes to the east and south reduce privacy due to the topography. "The home's outdoor spaces are all, to varying degrees, extensions of interior space," Schaer says.



The home is situated on a sloping site, 6.1m (20') from top to toe, which extends from the Main Street pedestrian path and Leschi Park beyond to an alley below. While the site boasts partial views of Lake Washington, Leschi Park and the surrounding terrain, multi-family developments to the east and south conspire with the topography to create a fishbowl effect.

"The land offered very particular views and many other homes on the surrounding hills. Any buildable lot in the area was either very steep or a leftover of some kind," explains Thomas Schaer, principal of SHED Architecture & Design. "The clients wanted to live in a way that wouldn't rely on curtains and fences to wall themselves off. We attempted to do this with the layout of the house."

Schaer's team worked closely with John Moore of Orangutan Roofing, an expert metal sider and roofer, to refine the details. Corner Solutions Inc., a local siding fabrication shop, provided the mitered pieces that allowed the steel siding to flow around the house in a unique way.

"They have precision saws that allow the siding to be precisely mitered and a process that strengthens and seals the corners. It had significant impact on the appearance of this house," Schaer says. "The 22.2mm (7/8") corrugated AZ50 coated (AZM150 Galvalume™ in Canada) steel panels have an elegant profile and the light plays beautifully against them. We believe that thoughtful detailing of custom flashings and corners, can elevate this material beyond its industrial associations."

"The durability, versatility and maintenance-free qualities of the AZM150 Galvalume™ steel cladding made it an easy choice for the project," Schaer adds.

"We use steel in many of our projects because of its durability. A lot of people do not want to worry about repainting or siding failure. It looks just the same five years, ten years later – as when we built it."

The Main Street House was completed in 2012.



It is arranged over four floors, with a garage on the bottom level, two bedrooms on the floor above, a kitchen, dining room and living space on the next level, plus an office for each of the occupants on the top floor, as well as a small terrace.

WALL CLADDING

DIMENSIONS:

22.2mm (7/8") corrugated zinc coated steel wall panels with pre-mitered corners. (http://cornersolutionsinc.com/) and .61mm (0239") custom flashings.

CLADDING MATERIAL:

Zincalume® AZ50 (Galvalume™ AZM150 in Canada) ASTMA792/792M 55% aluminium, 43.4% zinc and 1.6% silicon alloy coated steel.

CLADDING PAINT INFO:

Dura Tech™ 5000/mx coatings are factory applied, oven cured formulas applied by approved coil coaters, utilize Kynar 500® or Hylar 5000® PVDF resins and inorganic, IR reflective pigments for superior long-term performance.

THE COLOUR IS:

Cool ZACtique[®] II [DURA TECH™ mx-Premium Fluoropolymer (PVDF) Pearlescent Coating.



Steel: unparalleled fire safety

Life safety, and specifically fire protection, has been and will always be a primary concern of the building codes. Steel is a non-combustible material and consequently does not burn, provide an ignition source or add fuel load that would enable a fire to spread or grow into a catastrophic event.

Steel does not melt at temperatures typically encountered in a building fire. Its non-combustibility and assembly fire ratings do not degrade over the lifecycle of a building. This provides a reduced fire risk, to workers and occupants, minimizes the impact on municipal fire services, decreases the reliance on sprinklers, and results in less property damage and collateral damage to adjacent buildings if a fire should ever occur.

- Steel has a melting point of approximately 1,500°C (2,700°F). In a typical fire, such as in an office, residential or retail occupancy, the maximum temperature of a fully developed fire will not likely exceed a range of 800°C to 900°C (1,500°F to 1,650°F), though it could reach a peak of 1,100°C (2,000°F) for a short duration.
- Building codes recognize the fact that buildings, designed with non-combustible materials like steel, pose less of a fire risk to the public than combustible systems, which are limited to six storeys in height in Canada and 25.9m (85 ft.) in the US.

STEEL IS A NON-COMBUSTIBLE MATERIAL AND CONSEQUENTLY DOES NOT BURN, nor does it provide an ignition source or add fuel load that would enable a fire to spread or grow into a catastrophic event.

"Changes in the building codes that allow combustible framing in taller and larger buildings have gone too far and it's created a perfect storm that can quickly overwhelm the ability of the fire service to respond."

CHIEF STEVE LOHR, HAGERSTOWN (MD) FIRE DEPARTMENT











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