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steeldesign

FALL 2010 | VOLUME 42 | NO. 2

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.

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Canadian Publications Mail Agreement Number PM 412285518



COVER PHOTO: University of Arkansas Innovation Center Photography: Timothy Hursley, Kevin White



transforming tomorrow



3 University of Arkansas Innovation Center – LEED Certified, Fayetteville, Arkansas

Throughout the design process, Cromwell Architects' Engineers worked hand in hand with a user group made up of University of Arkansas administrators, faculty and facilities personnel. By initially agreeing to reduce building size by approximately 8%, the team was able to invest in a more environmentally responsive project, along with the knowledge that future life cycle costs would be significantly reduced.

6 Stageline Group, L'Assomption, Québec

Opened in early 2008, the Stageline Group's 3,670m² (39,503 sq. ft.) building in L'Assomption, Québec is a mixeduse mobile stage manufacturing plant. On its three floors it houses a maintenance shop, assembly and pre-production plant and administrative offices. LEED-certified, it is said to be the most energy-efficient industrial building in the province.

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"The pre-assembled steel wall system allowed us to have the building shell erected in about one week per floor, as opposed to about three weeks per floor with alternate methods – at about the same cost."





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The Box House, by architect Rob Pyatt, is a renovation and addition to an existing 84m² (900 sq. ft.) 1940s home. Pyatt's transformation and expansion of the modest home is living proof that modern high-performance build-ings, using sustainable materials, can be warm, inviting and engaging.



10 Chemawawin Cree Nation K-12 school, Easterville, Manitoba

Steel's affordability, durability, light weight characteristics, efficient load bearing capacity, ease of installation and good colour range for exterior cladding options made it the ideal choice for the construction of the two-storey 5,110m² (55,000 sq. ft.) Chemawawin Cree Nation School in Easterville, Manitoba.



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Throughout the design process, Cromwell Architects' Engineers worked hand in hand with a user group made up of University of Arkansas administrators, faculty and facilities personnel. In pursuit of their shared vision, quality was valued over quantity early in the process. By initially agreeing to reduce building size by approximately 8%, the team was able to invest in a more environmentally responsive project, along with the knowledge that future life cycle costs would be significantly reduced.

The Innovation Center is the first building in Arkansas to achieve LEED[™] Certification

The finished two-storey structure totals $3,252m^2$ (35,000 sq. ft.) with approximately $1,580m^2$ (17,000 sq. ft.) on the ground floor and $1,672m^2$ (18,000 sq. ft.) on the second floor.

The intention of the design was two-fold. The first goal was to devise an environmentally sensitive design solution in order to achieve both a healthy and productive workspace. The second was to reflect the sensibilities of the information revolution by creating a progressive visual identity. Careful articulation of materials, the deliberate use of day lighting, and thoughtful siting of the building all played a role in the creation of this innovative 'green' structure.

The Innovation Center anchors the Arkansas Research and Technology Park and provides office and laboratory space for technology-intensive companies, creating an interactive culture with the University of Arkansas.

The two-storey glass north facade allows complete visibility into the structure. Clad in steel panels, the second

floor hovers over the first floor with grand cantilevers in apparent defiance of gravity while controlling daylight. Its explicit structural articulation connotes the building's technological prowess, with the intent that the architecture communicates systems, purpose and use. The modular floor plan utilizes interior glazed office partitions, which were used to allow as much interior natural light as possible to provide occupants with visual connection to the exterior environment.

As Thad Kelly, Cromwell's Northwest Regional Office Director says, steel wall cladding was chosen for its recycled content (30%) and because it is 100% recyclable. As well, the material is extremely durable and relatively maintenance free. It also gives the design a very bold and distinctive look.

The Innovation Centre is the first building in Arkansas to achieve LEED™ Certification and was just two points from achieving Silver.

The prepainted Z275 (G90) galvanized steel cladding was chosen for its 30% recycled content and also because it is 100% recyclable.

STRUCTURAL HIGHLIGHTS

STRUCTURAL FRAMING:

The foundation is drilled piers with concrete grade beams, structural steel columns, beams and girders, with steel deck and concrete slabs.

BEAMS, GIRDERS AND COLUMNS:

ASTM 992 or ASTM A572 Grade 50 – 50k. All tube members are ASTM A500 Grade B – 46 ksi.

WALL CLADDING

929m² (10,000 sq. ft.) of .91mm (.036") prepainted Z275 (G90) galvanized in a PVDF paint system coloured Regal White.

ROOF CLADDING :

The roof is steel deck, insulation and .61mm (.0239") standing seam steel roofing.

INTERIOR:

Permanent walls are framed with light steel framing. The flexible office space is provided by powder coated steel wall panels. The raised floor is on pedestals with steel pan and concrete panels.

LEED HIGHLIGHTS

- Rainwater collection cisterns save water on-site irrigation.
- 40% water use reduction through the use of dry technologies.
- Concrete contains a mix 25% fly ash.
- 100% of recycled content steel shipped from nearby Hope, Arkansas.
- Steel metal panel cladding contains 30% recycled content/
- Geothermal heating and cooling.
- Raised floors with under floor air distribution system.
- Floor system steel panels consist of recycled material.
- Life cycle analysis of six different mechanical systems were compared for HVAC system selection.
- Construction Waste Management Plan, with 50% of the construction debris being diverted from landfill.
- Sophisticated lighting monitoring system measures daylight and adjusts indoor lighting accordingly.

DESIGN AND CONSTRUCTION TEAM

OWNER: University of Arkansas

ARCHITECTS AND ENGINEERS: Cromwell Architects and Engineers Inc. 479-582-2900

GENERAL CONTRACTOR: May Construction Inc. 501-912-2113

CLADDING INSTALLER: Ed Chitty & Associates 479-855-6422

CLADDING SUPPLIER: Centria Architectural Systems 800-759-7474

PHOTOGRAPHY: Exterior – Timothy Hursley

– Kevin White



Prepainted steel gives the design a very bold and distinctive look, additionally it is durable and relatively maintenance free. Calculated use of light is seen in a steel clad 'monocle' that dominates the southern facade and directs a shaft of bright light into the lobby.



Clad in durable prepainted Z275 (G90) galvanized steel, the second floor cantilevers above the first floor. Its mass shades the lower floor, providing extra square footage without additional columns.

This cantilevered section provides thermal protection for the first floor by assisting in control of glare and solar gain from the east, west and south.







Stageline Group L'Assomption, Québec



Opened in early 2008, the Stageline Group's 3,670m² (39,503 sq. ft.) building in L'Assomption, Québec is a mixed-use mobile stage manufacturing plant, maintenance shop, assembly and pre-production building and administrative offices on three floors. LEED-certified, it is said to be the most energy-efficient industrial building in the province. It consumes 69.2% less energy than a similar building built to the standard of the National Energy Code for Buildings.

Prefabricated steel wall sections speed building construction

The plant's construction includes 113 pre-fabricated and load-bearing Murox wall panels. Built by Groupe Canam Inc. in its St-Georges, Québec manufacturing plant, Canam then moved the finished panels to the construction

DESIGN AND CONSTRUCTION TEAM

STRUCTURAL ENGINEER: Groupe Canam Inc, St-Georges 418-228-8031

MECHANICAL ENGINEER AND ELECTRICAL ENGINEERING:

BBA, Mont-Saint-Hilaire 450-464-0901

BUILDING ENVELOPE SPECIALIST: Groupe Canam Inc., St-Georges 418-228-8031

OWNER: Groupe Stageline, L'Assomption 450-589-1711

GENERAL CONTRACTOR: Construction G., Montréal 514-885-6226

ROOFING SUPPLIER: Carlisle SynTec Incorporated, Montréal 800-361-3502

CLADDING SUPPLIER: Groupe Canam Inc., St-Georges 418-228-8031

INSTALLERS: LK Industrie, Boisbriand 450-437-4118

site to be installed on the building. According to Charles Alexander, director, business development, Canam Group, Boucherville, the project architecture firm, Consortium Allard Hamelin-Lalonde, chose this method of construction because Canam built the panels in a controlled environment and they enabled an accelerated project delivery schedule.

The panel construction includes a total of 2,861m² (30,796 sq. ft.) of unpainted Murox M156-R, .46mm (.0179") Galvalume Plus™ over steel girts, I-beams and an interior liner. The panels are filled with rigid insulation to yield a thermally efficient building envelope of R20 – R30.

The Galvalume Plus[™] sheets overlap and are attached to the structural girts at one-foot intervals with No. 12 – 14 one-inch self-drilling screws with neoprene washers. The Galvalume Plus, with its recycled content, contributed 5% to the LEED certification.

In 2009, the building won two awards from l'Ordre des architectes du Québec, including the first prize for Sustainable Development in the industrial building category.







Panel construction includes a total of 2,861m² (30,796 sq. ft.) of unpainted Murox M156-R, .46mm (.0179″) manufactured from ArcelorMittal Dofasco's Galvalume Plus™.





Stageline Group's new LEED certified mobile stage manufacturing plant in L'Assomption, Québec, consumes 69.2% less energy than a similar building built to the standard of the National Energy Code for Buildings.

Raiffeisen Co-Op Housing Sudbury, Ontario



Recognizing that steel is both economical and versatile, Project Manager SalDan General Contractors Inc., of Sault Ste. Marie, decided to use light gauge steel as a complete panelized building system for the framing and walls for the Raiffeisen Co-Op Housing project. SalDan contracted Magest Building Systems Limited of Stratford, Ontario, a manufacturer of load bearing cold formed steel framing systems, to design, engineer and fabricate the 7,019.7 m² (75,560 sq. ft.) facility.

Steel the economical choice for Co-Op Housing project

The challenge was to design a building that could be built in a short period of time to keep financing costs to a minimum and meet the owner's requirements for the number of units and accessibility. The use of MBSL's lightweight, structural, steel-framing system met the criteria on all accounts. As it turned out, construction started in May, 2009 and the 47 one-bedroom and 33 two-bedroom units were ready for occupancy in November.

Finelli Engineering Inc. of Burlington, Ontario was the Structural Engineer on the project. "The structure consists of pre-assembled cold formed sections (CFS) load bearing wall panels with pre-cast concrete floors and roof," explains Dan Finelli, reiterating that speed of construction and cost implications were the benefits for using steel for the project. Gary Martin, President, Magest Building Systems, agrees. "Initially, this project was to be constructed in winter conditions. CFS were chosen as an alternate to masonry materials because panelized steel is an all weather product, ideal for winter construction. It is fast to erect so construction schedules can effectively be met."

Steve Wicklander, Architect and Engineer, points out, "The pre-assembled steel wall system allowed us to have the building shell erected in about one week per floor, as opposed to about three weeks per floor with alternate methods – at about the same cost."

According to Gary Martin, "That meant the drywall



was ready sooner, allowing the mechanical and electrical trades access as we continued to build upwards. The Magest building system offers major advantages of complete adaptability and a high strength-to-weight ratio – all at cost-effective prices. A 'Green' building product, it is 100 percent recyclable."

The floor system – pre-cast concrete by Coreslab – was also chosen for its speed of installation, fire ratings and minimal sound transfer between floors. "The fact that we were able to successfully marry the pre-cast system with our cold formed steel wall system is a result of the excellent coordination and cooperation between Magest and Coreslab," emphasized Gary Martin.

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All three levels of government provided funding for the six-storey apartment complex overlooking the downtown centre of the City of Greater Sudbury and everyone associated with the project were cognizant of keeping costs in line.

FAR LEFT: JUNE – The lateral forces are resisted by cross-braced CFS wall panel assemblies. The 1st floor exterior wall assemblies consist of double 154.4mm (6") light steel framing members, while the interior walls are double 203.2mm (8") LSF members.

LEFT: AUGUST – On the first and second floor levels, a combination of 154.4mm (6") and 203.2mm (8") LSF sections were used in the wall assemblies for the exterior and interior walls. The third to sixth level utilized 154.4mm (6") single sections for the exterior walls and 203.2mm (8") sections on the interior walls.

HIGHLIGHTS:

Light steel framing (LSF) was used on the project, either as single members or doubled. The LSF sizes are 152.4mm and 203.2mm @ 406.4 o.c. (6" and 8" @ 16" o.c.).

Pre-assembled wall assembly linear sizes by floor:

1st floor - 340m (1,113') 2nd floor - 337m (1,107') 3rd floor - 332m (1,089') 4th floor - 311m (1,019') 5th floor - 305m (1,001') 6th floor - 300m (981')

Fire rating for floors: 1 hour Fire rating for walls: 1 hour Acoustic rating for floors: STC 50 Acoustic rating for walls: STC 55 Snow Load: 50 pounds per square foot Wind Load: q 1/50 pounds per square foot Seismic Zone: N/A Floor Span: 8.2m (27') Total Floor Depth: 203mm (8")

"The pre-assembled steel wall system allowed us to have the building shell erected in about one week per floor, as opposed to about three weeks per floor with alternate methods – at about the same cost."

Steve Wicklander, Architect and Engineer

DESIGN AND CONSTRUCTION TEAM

ARCHITECT: Wicklander Architects Inc. 705-524-3886

PREASSEMBLED WALL SYSTEM SUPPLIER: Magest Building Systems Limited 519-272-1001

PROJECT MANAGER: SalDan General Contractors Inc. 705-942-5540

STRUCTURAL ENGINEER: Finelli Engineering Inc. 905-639-5555

LIGHT STEEL FRAMING SUPPLIER: Steelform Building Products 780-440-4499

FINISHED PHOTOGRAPHY: Greg Taylor Photography 705-674-4896

CHEMAWAWIN CREE NATION K-12 SCHOOL Easterville, Manitoba



Steel's affordability, durability, light weight characteristics, efficient load bearing capacity, ease of installation and good colour range for exterior cladding options made it the ideal choice for construction of the two-storey 5,110m² (55,000 sq. ft.) Chemawawin Cree Nation School in Easterville, Manitoba. The vision for the school was to symbolize the journey of learning.

Prepainted steel cladding is representative of the land, the water and the sky

Prepainted steel wall cladding provided the best quality finish that did not require any site preparation or application. The factory finish gives a long lasting, warranted colour rendition.

Greg Hasiuk, Number TEN Architectural Group



The high protruding roof line, as seen at the east end of the school, tilts up over the main entry in order to define the space and bring in additional natural light. It reinforces the protecting nature of the design.

Interior and exterior colours were chosen that reminded their people of the bounty around them and paid homage to the rich history of the "old post" – the earth, the land, the water and the sky.

Greg Hasiuk, Number TEN Architectural Group, comments on the design objectives of the school. "The Chemawawin Cree Nation school was designed to accommodate the education program for kindergarten and grades 1 to 12. The evolution of the mind and body is like a flowing river that moves through one's life. The transitions from kindergarten to grade 1, from grades 4 to 5, and from grades 8 to 9 each represent a rite of passage and a change in attitudes and abilities. Each of these levels is represented with unique patterns and colour palettes, located within different zones of the school, to symbolize the journey from one to the next and the growth of the student."

When they were relocated to their current location in Easterville, due to the construction of a major hydro dam, they not only left behind their history, but also an area of rich soil and lush forest. Their former settlement, or "old post" as it came to be known, has become a small patch of precious land that is often visited by their people for special occasions, spiritual journeys or simple camping experiences.

Steel was used extensively throughout the building: for the prefinished exterior wall cladding, prefinished steel standing seam roof and fascias, steel floor and roof deck, structural framing (columns and beams), exterior wind bearing walls, interior walls, floor and roof open web steel joists and interior steel pan stairs. The Roll Form Group supplied the .76mm (.0299") prepainted Z275 (G90) galvanized steel coloured Royal Blue QC8790 and Green QC8329 for the roof and the S12R wall cladding, which was installed by Flynn Canada.

The facility was designed along a north/south axis with an undulating corridor linking all of the school's facilities. The linear corridor is expressed on the exterior of the building as a high, steel clad wall with a projecting eyebrow roof line. This bending wall faces the main entry side of the school and acts as a protecting element for the playgrounds on the southeast side of the building. The high protruding roof line reinforces its protecting nature. The high roof tilts up over the main entry in order



DESIGN AND CONSTRUCTION TEAM

OWNER: Chemawawin Cree Nation 204-329-2161
ARCHITECT: Number TEN Architectural Group 204-942-0981
GENERAL CONTRACTOR: NDL Construction 204-255-7300
STEEL SUPPLIER – ROOF AND WALL CLADDING: Roll Form Group 905-270-5300
ROOF AND WALL CLADDING INSTALLER: Flynn Canada 204-786-6951
STEEL ROOF AND FLOOR DECK SUPPLIER: Roll Form Group (905) 270-5300
ROOF AND FLOOR DECK INSTALLER: Imperial Metal 204-326-6683
STRUCTURAL STEEL FRAME: Imperial Metal 204-326-6683
LIGHT STEEL FRAMING SUPPLIER: Kingsway Interiors 204-326-4965
OWSJ SUPPLIER: Omega 800-661-3240

CHEMAWAWIN CREE NATION K-12 SCHOOL Easterville, Manitoba



to define the space and bring in additional natural light. The lower classroom volumes have simple shed roofs with masonry cladding.

Prepainted steel's ample colour range and durability made it the ideal choice for exterior cladding options on the Chemawawin School. A rich, deep brown clay brick was chosen for the base of the school. Prefinished Green steel panels were chosen for the lower roofs and fascias and prefinished Royal Blue steel panels adorn the upper walls, roofs and fascias. The combination of colours forms a palette that gives life and vibrancy to the school which is the centre of the community. The school is used by the community during non-school hours,

including evenings, weekends and summer months for continuing education programs, recreation and social events. In particular, the gymnasium, change rooms, library, computer/business education room, home economics and industrial arts rooms are used extensively. The Chemawawin Cree Nation School was designed along a north/south axis with an undulating corridor linking all of the school's facilities. The linear corridor is expressed on the exterior of the building as a high, steel clad wall with a projecting eyebrow roof line.



ROOF AND WALL CLADDING

Roof Cladding: .76mm (.0299") prepainted Z275 (G90) galvanized,

coloured Royal Blue QC 8790 and Green QC 8329 Profile: Flynn's Accu-Steel standing Seam – 5,156m²

(58,500 sq. ft)

Perforated Soffit:

.76mm (.0299") prepainted Z275 (G90) galvanized, coloured Royal Blue QC 8790 & Green QC 8329.

S12R – 362m² (3,900 sq. ft.)

Wall Cladding

.76mm (.0299") Z275 (G90) galvanized, coloured Royal Blue QC9790 & Green QC 8329.

Roll Form Group's S12R 1,161m² (12,500 sq. ft.).

STEEL ROOF AND FLOOR DECK

.76mm (.0299") ZF075 Galvanneal Grade A – 4,552m² (49,000 sq. ft.) roof deck. 418m² (5,400 sq. ft.) acoustic deck. 5,900m² (63,500 sq. ft.) floor deck.

The Box House Boulder Colorado

The Box House, by architect Rob Pyatt, is a renovation and addition to an existing 84m² (900 sq.ft.) 1940s home. Rob's transformation and expansion of the modest home is living proof that modern high-performance buildings, using sustainable materials, can be warm, inviting and engaging.

Renovation and expansion includes extensive use of Galvalume Plus™ cladding

Re-use of the existing structure saved material resources, embodied energy and cost. Issues of sustainability were addressed through the recycling of the existing



This SIP-based residence includes standing seam AZM180 Galvalume Plus™ roofing and siding integrated with marine grade plywood planks and Galvalume Plus flashings. The exterior sheathing methods developed by Rob for his home included a relatively lightweight, extremely durable and attractive system. The corrugated Galvalume Plus stands out against the wood-plank facade.

house and by combining prefabricated compressed straw wall panels, (Structural Insulated Panels – SIPs), with low cost and locally available materials. Corrugated .91mm (.036") AZM180 Galvalume Plus™ wall cladding, marine plywood and Corten steel were chosen for their durability, natural appearance and weathering characteristics. The roof of the house is .91mm (.036") standing seam AZM180 Galvalume Plus™.

Daylighting is extensive and executed with intention. Passive heating and cooling are integral to the design. The structure and finishes thoughtfully make use of reclaimed, non-toxic and sustainable materials. Multi-functional skins, such as Galvalume Plus™, deliver climate control, daylighting, visual interest and warmth through material, geometry, texture and tone.

Nearly doubled in area, the 158m² (1,700 sq. ft.) home uses space efficiently and conservatively, easily accommodating Pyatt's office and Kahn's studio, in addition to three bedrooms and two bathrooms.

A generous south-facing roof-monitor clerestory design and judicious placement of windows offer desirable views and flood the house with exceptionally useable, high-angle indirect daylight while effectively controlling solar gain.





Innovative cladding marries sound building principles with an inviting aesthetic. While the system of offset rain-screen cladding panels and exposed fasteners is perhaps more closely related to the curtain-wall spandrels of a commercial building, the overall effect here is aesthetically pleasing.

DESIGN AND CONSTRUCTION TEAM

DESIGNER AND BUILDER: Rob Pyatt 303-803-6810

STRUCTURAL ENGINEER: Nicol & Associates, Inc. 303-665-0090

THERMAL DAYLIGHTING/ENERGY CONSULTANT: Whole Systems Design www.whole-system-design.com

UNIVERSITY OF COLORADO SCHOOL OF ARCHITECTURE AND PLANNING: Faculty Advisor, Rick Sommerfeld 303-556-6160

STRUCTURAL INSULATED PANELS: Ryan Development Company, L.C. 316-630-9223

MATERIALS & FINISHES: Planetary Solutions 303-442-6228

PHOTOGRAPHY: Michael DeLeon michaeld@michaeldeleonphoto.com

Helping to meet the Sustainable Construction Challenge

Issues and Responsibilities in Respect of Sustainable Development – ArcelorMittal Dofasco Steel Solution Benefits

As society makes determined moves towards sustainability, construction has a very important role to play within this new agenda – not only because of its economic and social contribution, but also because of its impact on the quality of our lives, our comfort and safety. The future global challenge



for the construction industry is clearly to meet the world's growing needs while at the same time limiting the impact of its burdens by drastic improvement of its activities.

In construction, steel has developed as a material of choice and offers a wide range of solutions that can make buildings more energy efficient, less costly to operate and more comfortable.

We in ArcelorMittal Dofasco strongly believe in steel's values for green building and are committed to helping deliver the benefits that our solutions bring to our customers, buildings and the buildings' owners.

The building sector plays a key social role, providing housing for 6 billion people worldwide! As a large economic sector it accounts for about 10 to 15% of direct employment. It also has a strong impact on the environment, with

- 40% of energy consumption

- 40% of CO₂ emissions
- 30% of consumption of natural resources
- 30% of waste generation
- 20% of water consumption

and on living conditions: the population, at least in the case of industrialised countries, spends 90% of its life inside buildings. Steel construction can help meet these concerns.

From Constructalia, June 2010

Viewed from the front the Kew House nestles into the site and appears to be a single-level residence, the actual scale however, is only apparent when viewed





Elevation showing the three shells.

of circular two-tone columns. Beneath this platform level is a glazed area with an additional bedroom, bathroom, storage and living area.

The house uses passive thermal heating and cooling techniques, with a northern orientation, overhangs and minimal openings to the west, as well as operable windows in all rooms and a main hallway acting as a breezeway corridor. ARCHITECTS: Jackson, Clements, Burrows, Melbourne



Plan

To meet their clients' requirements for better access to light, fresh air and views, plus incorporate the steeply sloping lot, Jackson Clements Burrows Architects created a three-part, two-toned, steel-and-copper-titanium-alloy-clad form for

entry shell with study and garage, a middle shell with bedrooms, bathroom and laundry, and an end shell with kitchen, dining, and living areas. The three forms are suspended in the tree canopy with a supporting structure

Melbourne, Australia Kew House

obliquely from up or down the street.







Santa Rosa; California Residence for a Sculptor 3

The 418m² (4,500 sq. ft.) high-end residence designed and built in Santa Rosa, California, presents itself frontally on a hillside site and projects itself consciously as a series of polemics. A smooth, taut facade is lifted above the hillside and reflects the linear displacement of spaces. Supporting this is a steel frame which is exposed on the rear, uphill side. The dialogue here is between refined and unrefined, between an outward effortless presentation and the physical efforts that are required to present this.

The first impression of the house emphasizes its horizontal arrangement and suggests a long view to the east. One enters from behind on the uphill side, away from the suggested view. If expectations promise a horizontal and outward experience, the first reality is an inward-focused, strongly vertical entry space where the owner's pottery is on display. This space has a 6.7m (22') curving, torqued steel wall on one side and a curved staircase and wall on the other. Only after venturing through this space, up the stairs and across a bridge does the long exterior view of the Valley of the Moon reveal itself.

ARCHITECT: Sander Architects, Telephone 310.822.0300



Ojai, California Arts Building and Commons Thacher School

The barn-like Arts Building and Commons are at home on a campus where the curriculum includes horsemanship and daily ranch labour. The steep, sloping roofs mimic the mountainous region where the school is situated. The surrounding topography is incorporated in the facade of the building, which is clad with metal siding and fieldstone excavated from the site.

Orientation, day lighting, roof design and sun screens, grading and foundation design, natural ventilation/HVAC systems and materials selections all reflect a balance between limiting construction cost and maximizing life-cycle performance.

Two programs are united in the 2,229.67m² (24,000 sq. ft.) building. The commons portion houses a café, multi-purpose room and restrooms. An arts courtyard links the commons area to the arts building, which includes a 400-seat auditorium



and rehearsal spaces. Architectural Record ARCHITECT: Harley Ellis Devereaux Tel: 213-542-4500 with Barton Phelps & Associates Tel: 323-934-8615



Pathumthanee, Thailand **Dr. Teera House**

The primary objective for this project was to design a three-story house with a simple geometry and modern vocabulary that could be built in the limited time frame of 10 months with a tight budget. As well, a home suited to the tropical climate and city life style.

Having a limited construction period and to minimize the building load, aluminum/zinc sheet steel (Galvalume in Canada), with a coating weight of AZ180, was chosen for the building skin thanks to its light weight and durability.

The same material was used for the roof. ARCHITECT: ARJ Studio., Co. Ltd.

www.arjstudio.com Tel: 66-2-992-3430, 2-536-4456-8

EDITORIAL INQUIRIES

We would like to hear from you!

If you have comments about this issue or a project you would like to see in an upcoming issue of *Steel Design*, please send a description of the project, include photographs, to:

The Editor, Steel Design 1039 South Bay Road Kilworthy, ON POE 1G0 Or email: davidfollis@vianet.ca



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