

A new art building's angular, exposed framing supports, teaches, inspires and memorializes on a small Midwestern campus.

A New Angle ON ART

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JACKSON DINSDALE was passionate about art.

A studio art major at Hastings College in Hastings, Neb., he died unexpectedly in 2014 at the age of 21. But his artistic spirit now lives on in a state-of-the-art facility that honors his passion and generous nature.

Funded by his parents, college and community, the new \$6.8 million, 24,600-sq.-ft Jackson Dinsdale Art Center (JDAC) on the Hastings College campus includes classrooms, galleries and studios for glassblowing, metal sculpture, ceramics, drawing, painting, printmaking and photography. In addition, the building is supported by an office suite, permanent collection storage and a wood shop.

Steel, glass and brick formed the palette the design team used to bring the school's vision to life: a building designed functionally and materially to represent the three primary art instruction areas of metalworking (steel framing), ceramics (brick façade) and glassblowing (glass curtain wall). The interplay of these elements carries throughout the structure, and structural steel (110 tons in all), with its strength, lightness, durability, adaptability and variety made it the only material to fulfill the requirements for both the internal structural skeleton and external embellishments.



▲ The new 24,600-sq.-ft Jackson Dinsdale Art Center (JDAC) on the Hastings College campus.

Exposed to Art

JDAC's superstructure is comprised primarily of wide-flange steel supported by hollow structural sections (HSS) and wide-flange steel columns. Infill framing consists of a combination of wide-flange steel beams and steel joists and HSS frames large window openings and roof monitors as well as forms diagonal braces (HSS5×5) to resist wind and seismic loads. As the steel framing is exposed to view in all locations, order and cleanliness were imperative to the structural design.

Several additional steel elements envelop the exterior, including canopies at four locations and two large "scrim" structures. The canopies were designed as cantilevered elements, using pairs of steel channels to create the column and beam, and a custom bent-plate pan system forms the lid. This system is made of ¼-in. sheets bent to a shallow U-shaped panel with a 16-in.-wide base and 2½-in. verticals at each side. These elements are placed side by side to create the lid of each canopy, and the steel was hot-dip galvanized to resist corrosion. All these components connect in interesting ways and are left exposed to create a visually stimulating design that becomes a learning opportunity for the art students.

In the theater world, a scrim creates illusions of light and shadow, and this is the effect that JDAC's scrim accomplish as well. The strategically located scrim overhang the exteriors of the glassblowing and outdoor metal studios, screening them from the sun and creating changing shadows along the ground as the sun moves across the sky. The light diffused through the semitransparent metal panels placed over the steel frames creates a welcoming and open area. By night, they are lit from below for a striking effect.

The west scrim is multifaceted with four planes, the longest edge running more than 90 ft from the front gallery and wrapping the corner around the glassblowing studio. It anchors to the building via six unique HSS frames and into a concrete footing in the ground at the corner, overhang-

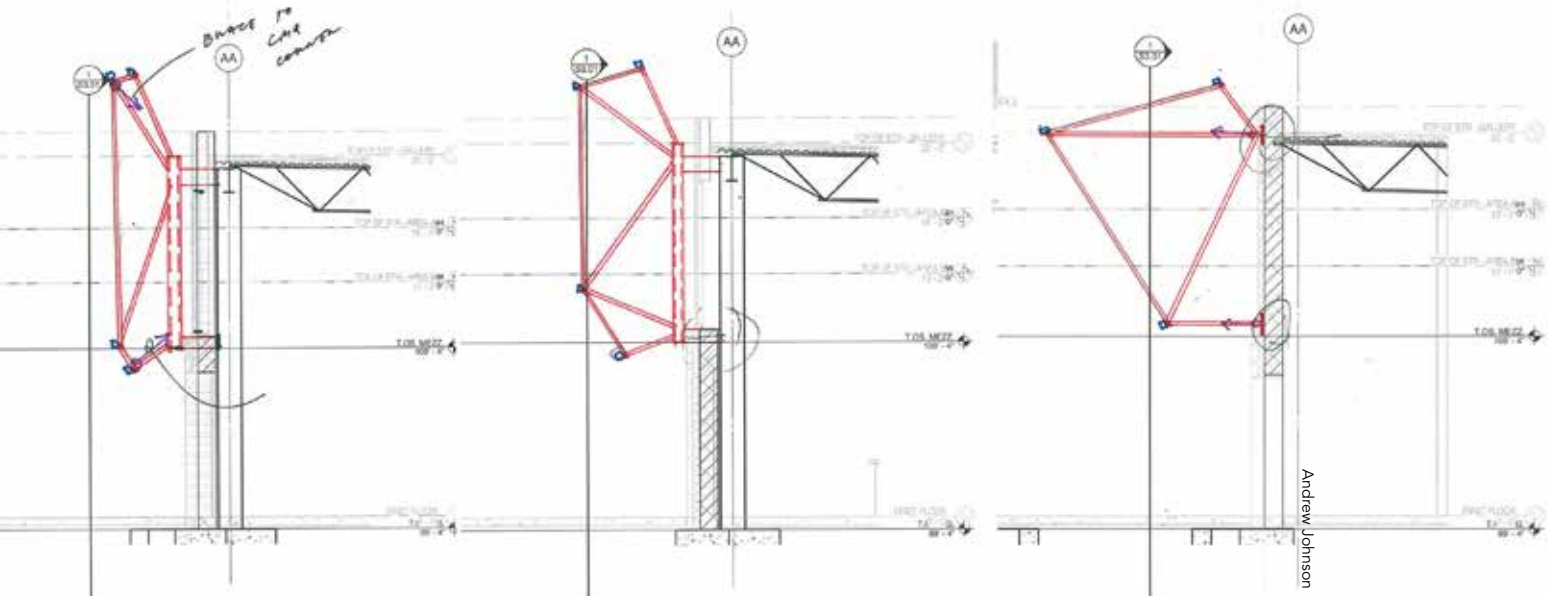
ing and shading the openings for three large garage doors at the glassblowing studio. The east scrim is faceted with three planes and wraps the building's south corner (the outdoor metal studio) and rests on the central student entrance canopy. It creates an inviting entry for students and helps provide solar diffusion for those working in the indoor and outdoor metalworking studios.

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The design team reviewed different options but ultimately decided on a scrim structure consisting of HSS framing (HSS6×6×¼ and HSS5×5×¼) arranged in a triangular pattern that specifically coordinates with the scrim skin. The skin is

3/16-in.-thick perforated steel cut from 4-ft × by 8-ft sheets. At the beginning of the design stage, each triangular perforated panel was to be set inside a frame made of steel angle. Those frames were to be bolted together and then attached to the



- ▲ Diagram sketches of the scrims.
- ▲ The steel-supported entrance.
- ▼ Framing for the west scrim.

▼ Infill framing consists of a combination of wide-flange steel beams and steel joists.



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main structure. To reduce the high cost associated with this route, it was decided to field weld diagonal HSS3x3x1/4 between the main structural supports and have the perforated panels mechanically screwed to the tops of the tubes—thus reducing

costs while resulting in a comparable design to the original idea.

The exposed nature of the steel system for the JDAC made coordination between the structural engineer and the architectural team critical, and this cooperation began at a very



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▲ The scrims are framed with HSS.



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- ▲ The building is named for Jackson Dinsdale, a studio art major at Hastings College who died unexpectedly at 21.
- ▼ In the painting studio.



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Andrew Johnson





Andrew Johnson



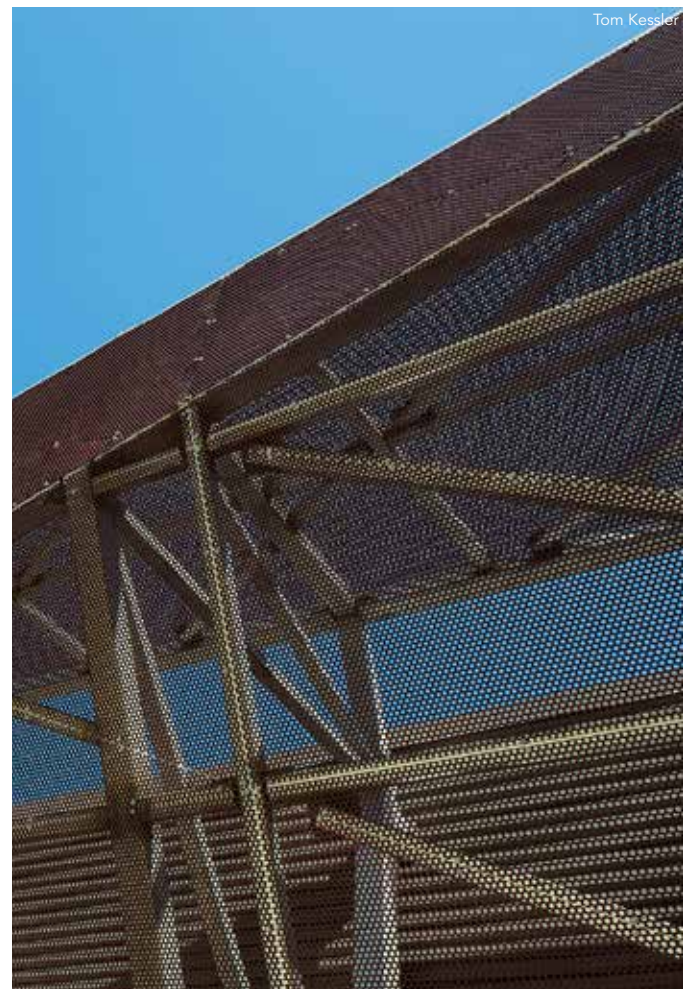
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▲ ▼ Exposed steel in various spaces in the building.



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▲ ▼ The scrim framing is covered by semitransparent metal panels that diffuse sunlight.



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- ▲ One corner of the building glows like a lantern at night.
- ▼ The scrim framing was hot-dip galvanized to resist corrosion.



early stage of design. A 3D model, as well as Rhino and Sketchup models, was continually shared to understand the complex geometry of the structure. The 3D models were also shared with the steel fabricator to assist with its SDS/2 model and to help create detailed shop drawings.

Buildings communicate, and JDAC speaks boldly through its design and steel construction, yet subtly through the influence of light and shadow. The hope is that this artistic building will stand as a memorial to its namesake and inspire students, staff and community for generations. ■

Owner

Hastings College, Hastings, Neb.

General Contractor

Hawkins Construction Company, Omaha

Architect

TACKarchitects, Omaha

Structural Engineer

Thompson, Dreessen and Dörner, Inc.,
Omaha

Steel Fabricator and Detailer

Kully Pipe and Steel Supply, Inc.,
Hastings

