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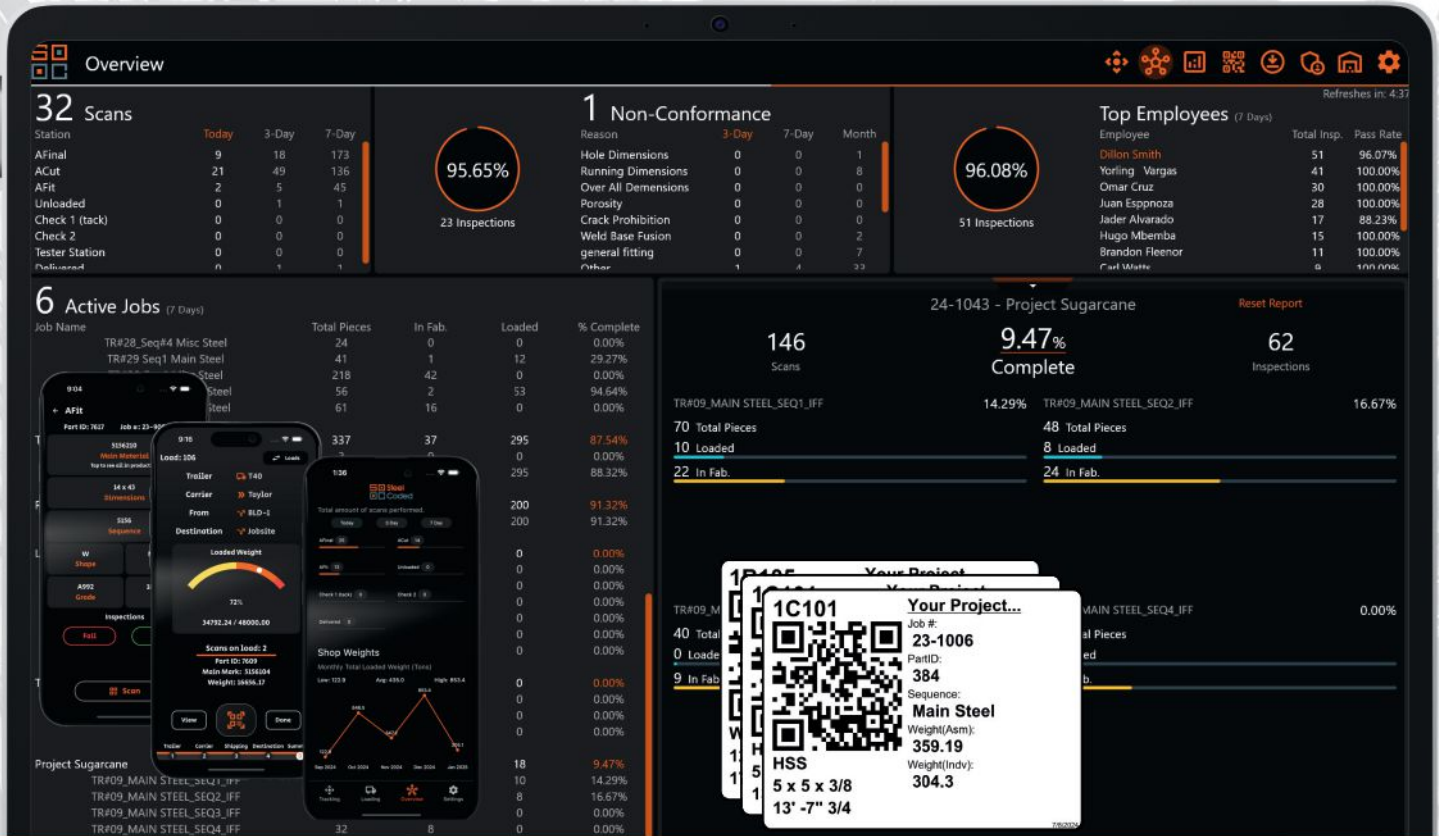
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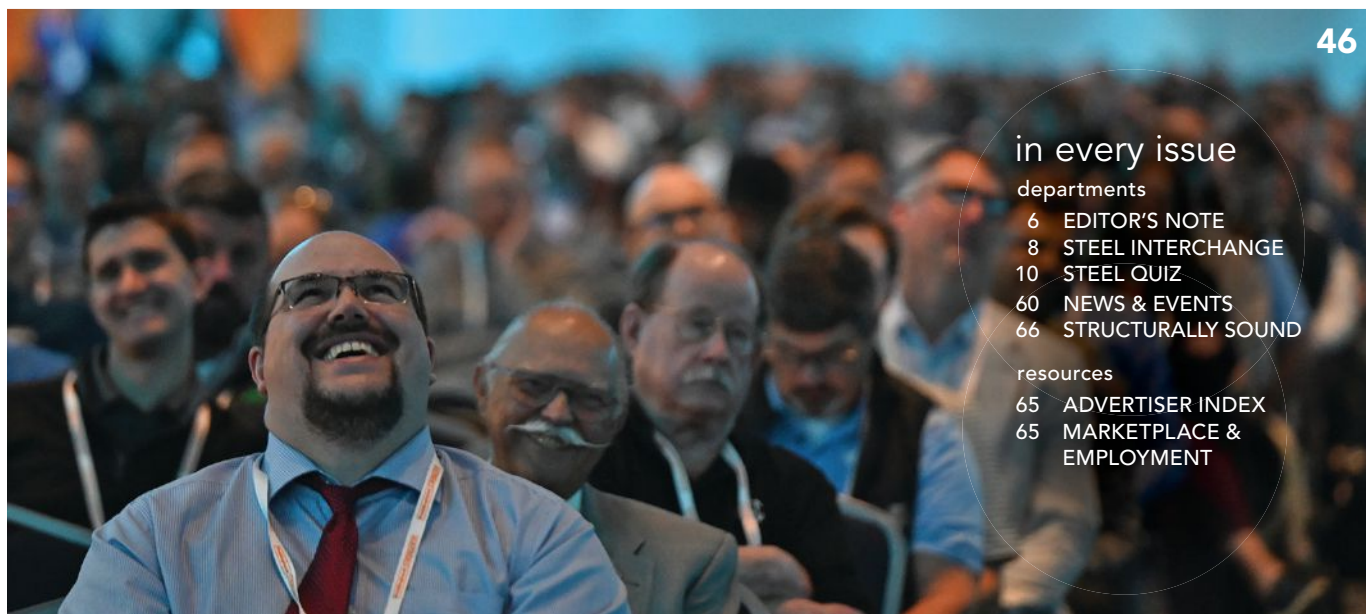
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If you weren't in Louisville April 2–4, I can tell you that it was a pretty stormy week. So stormy, in fact, that there were tornado warnings Wednesday night that prompted shelter-in-place orders in the downtown hotels—and also at a local karaoke establishment, where patrons were ushered into a basement storeroom for a half-hour or so during the worst of the bad weather (or, ahem, so I heard).

But the weather didn't deter the 6,551 attendees, speakers at the nearly 270 sessions, and representatives from the more than 300 exhibitors from showing up at what ended up being the second-largest Steel Conference in history in terms of in-person attendance. You can read all about it in our recap of the show "Racing to Louisville" on page 46. Not surprisingly, one of the show's hot topics, AI, was the focus of eight sessions and was no doubt referenced in several others. And it's not going away. Rather, like sustainability, it is already morphing from a buzzword into another component of the collective construction consciousness. You can view recordings of AI and sustainability—and, as a matter of fact, all this year's—sessions at aisc.org/learning, where they're scheduled to be posted by early to mid-June.

Speaking of hot stuff from the show, you can also get a look at the most popular offerings from the exhibit hall in the Hot Products section on page 52. This year, we took a different approach with Hot Products and had attendees vote on them via the conference app. The list ranges from to steel deck with a wood grain finish to wireless lifting hooks to a new online resource for all of your hollow structural section (HSS) needs.

And while the conference is AISC's largest and most well-known gathering, it's certainly not the only one. As a matter of fact, by the Saturday following the show, the cloudy, rainy skies were but a distant memory as I found

How was NASCC: The Steel Conference for you?

Wet?

myself in sunny Southern California, specifically, on the campus of Cal Poly Pomona for the ASCE Pacific Southwest Student Symposium, of which the regional AISC/ASCE Student Steel Bridge Competition (SSBC) was a significant part.

The competition, one of 20 regional events across the country in the spring (out of which about 50 total teams advance to the National Finals), hosted 13 university steel bridge teams from Central to Southern California and Hawaii. Every team was escorted by a significant—in some cases, huge—contingent of fans that traveled to cheer on their fellow Bruins, Trojans, Broncos, Rainbow Warriors, Anteaters, etc., as they built their bridges during the construction portion, and hold their collective breath during the loading portions.

The awards banquet, which announced the top three teams in each SSBC category and the relevant categories from adjacent wood and concrete industry competitions, felt like a huge, multi-team pep rally with constant, organized, and LOUD cheers. And by the time most of you receive this issue, the SSBC National Finals will have taken place. If you've never been to a regional or national SSBC event, you should give it a try. They're fun, they're intense, and they highlight the creativity and rigorous work of hundreds of intelligent, motivated college students who will become the next generation of workers at your shops or offices or on your jobsites. Check out aisc.org/ssbc to learn more about the competition. And head to the Project Extras section at www.modernsteel.com to see some photos of the SSBC regional event at Cal Poly Pomona.

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Tested Parameter Range for Extended End-Plate Moment Connections

Is there a limit to how wide the end plate can be in an extended end-plate moment connection?

While there is not a firm limit, Design Guide 39: *End-Plate Moment Connections* (which has replaced Design Guides 4 and 16) provides guidance on the recommended range of plate widths based on testing. Table 5-9 from the Design Guide (download or order at aisc.org/dg) provides tested parameter ranges for extended end-plate connections.

Table 5-9. Tested Parameter Range for Extended End-Plate Connections		
Parameter	Low (in.)	High (in.)
p_f	1	$2\frac{1}{2}$ ¹
p_{ext}	$2\frac{1}{2}$	$7\frac{1}{2}$
g	$2\frac{3}{4}$	7
g_o	$2\frac{1}{4}$	$3\frac{3}{4}$
d	$15\frac{3}{4}$	72
b_p	5	$10\frac{1}{4}$
t_f	$\frac{3}{8}$	1

¹ MRE $\frac{1}{2}$ [Figure 1-4(d)], upper limit is 5 in.

The table indicates a lower bound value of 5 in. for the plate width, b_p , and an upper bound value of $10\frac{1}{4}$ in. Section 5.3.1 states that the tested parameter ranges with a variation of plus or minus 10% apply to the design equations for the extended end plate configurations. This allowance results in an upper value slightly less than 12 in.

Section 4.1.2 provides additional guidance for when the parameters fall outside the tested limits. The section states:

“For gravity, wind, and low-seismic-ductility design, the range of end-plate parameters that have been previously tested are tabulated in Chapter 5 for flush and extended end-plate connections. The design procedures have been validated for this range of parameters, and thus it is recommended that end plates be designed within these bounds. It is stated in Chapter 5 that a variation of plus or minus 10% applies to the design equations. However, in the event that an end-plate configuration falls outside

the tested parameters, it is worth examining which parameters are more likely to significantly change connection behavior and invalidate the design procedures.

“Reducing the beam depth, d , below the tested range may alter the yield line pattern and invalidate the design equations. On the other hand, increasing the beam depth, d , above the tested range is less likely to alter the yield line pattern. Similarly, if the interior bolts are pushed too far away from the inside of the flange, the yield line pattern can change, and the end plate may not be sufficiently stiff for the interior bolts to contribute to flexural strength. Increasing bolt hole spacing on the interior side of the flange outside the tested range can therefore invalidate the design procedures. Pushing exterior bolt holes farther away from the outside of the beam flange is less likely to reduce design equation accuracy.

“In a subsequent section on detailing, it is stated that the bolt hole gage should not be so large that the outer bolt hole centerline is beyond the edge of the flange tip. The previous tests have used bolt gages that have ranged from the minimum bolt hole spacing up to this upper limit where bolt hole centerlines are just inside the edges of the flanges. The beam flange thickness is related to the maximum forces that can be transferred by the beam flanges. The design equations have not been validated for required moment that is significantly larger or smaller than the flexural strength of the tested connections. Also, it has not been verified that the detailing requirements (e.g., beam to end-plate welds) are sufficient for larger beam flange thickness.”

Heather Gathman

Plasma Cut Holes in Non-Structural Bridge Members

Are plasma-cut bolt holes permitted for non-structural members of a bridge? The non-structural members in question are WT fence posts that are bolted to a main bridge girder.

Yes, with restrictions. The AASHTO *LRFD Steel Bridge Fabrication Specifications* govern the fabrication of vehicular steel bridges, including the furnishing and fabrication of steel structures and the structural steel portions of other structures. Article 17.1.2 states the following about hole-making methods:

“Holes may be made full-size by punching, plasma-cutting, or water-jetting only under the following circumstances:

Steel Interchange is a forum to exchange useful and practical professional ideas and information on all phases of steel building and bridge construction. Contact Steel Interchange with questions or responses via AISC’s Steel Solutions Center: 866.ASK.AISC | solutions@aisc.org. The complete collection of Steel Interchange questions and answers is available online at www.modernsteel.com. The opinions expressed in Steel Interchange do not necessarily represent an official position of the American Institute of Steel Construction and have not been reviewed. It is recognized that the design of structures is within the scope and expertise of a competent licensed structural engineer, architect or other licensed professional for the application of principles to a particular structure.

The holes are located in fillers (including fillers for use with members requiring FC practice), cross frames, lateral bracing components, or the corresponding holes in connection plates between girders and cross frames; All geometric and finish requirements are met; and the material in any given ply is not thicker than the nominal diameter of the fastener.”

The associated commentary goes on to explain these requirements as follows:

“Brown et al. (2007) determined that full-size, punched holes reduce ductility and fatigue strength and therefore should not be used in flanges and webs without an associated design strength factor. However, such reduction is not considered significant for the performance of members such as bracing and cross-frames and their connection plates, including cross-frames in curved members.

“The same research determined that bolt holes produced by non-conventional means, such as plasma and laser, resulted in hole peripheries exhibiting a reduction in fatigue resistance equivalent to punched holes. Where the owner’s standards and specifications allow the use of full-size punched holes (without reaming), typically in secondary and miscellaneous components, permitting holes produced by alternative methods should also be considered.

There is no reason to believe that holes produced by the waterjet method would not perform similarly.”

Similar guidance can be found in AASHTO *Specifications* Article 11.4.8.1.1, and the 2020 *RCSC Specification for Structural Joints Using High-Strength Bolts* Section 3.3.

The sizes for the WT and bolts were not provided in the original question. Assuming that the AASHTO *Specifications* is the governing specification for this project, the engineer of record will need to verify that their design satisfies geometric and finish requirements and that “the material in any given ply is not thicker than the nominal diameter of the fastener.” If all relevant requirements are met, plasma-cutting should be allowed in this case. However, the engineer of record should always confirm the owner’s required standards and specifications for every project.

Travis Hopper, PE

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steel quiz :

Do you love welding abbreviations? This month's quiz will test your knowledge on WPS and PQR in accordance with AWS D1.1/D1.1M: 2020 *Structural Welding Code—Steel*. Learn more in Chapter 8 of AISC Design Guide 21: *Welded Connections – A Primer for Engineers* (get your copy today at aisc.org/dg).

- 1 WPS stands for which of the following:
 - a. Welding procedure specification
 - b. Weld production standard
 - c. Weld performance standard
 - d. Welding process specification
- 2 **True or False:** Per AWS D1.1, the use of a prequalified WPS eliminates the requirement that the WPS be written.
- 3 **True or False:** Most welding of steel buildings in the United States is performed in accordance with prequalified WPS.
- 4 **True or False:** Most welding of steel bridges in the United States is performed in accordance with prequalified WPS.
- 5 PQR stands for which of the following:
 - a. Personnel qualification record
 - b. Performance qualification report
 - c. Process quality report
 - d. Procedure qualification record
- 6 **True or False:** A WPS is automatically prequalified if a prequalified joint detail is used.
- 7 **True or False:** Arc voltage, current, and travel speed all affect welding heat input.
- 8 **True or False:** It is possible to write more than one WPS from a successful PQR.



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TURN TO PAGE 12 FOR ANSWERS

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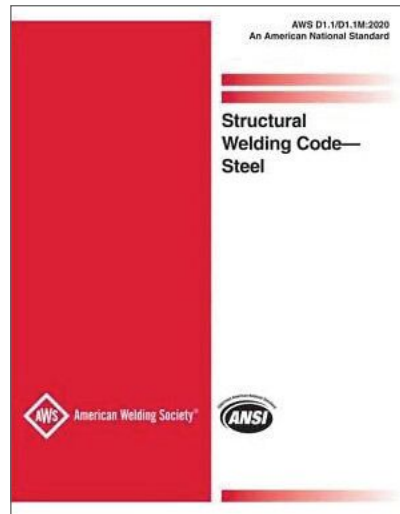
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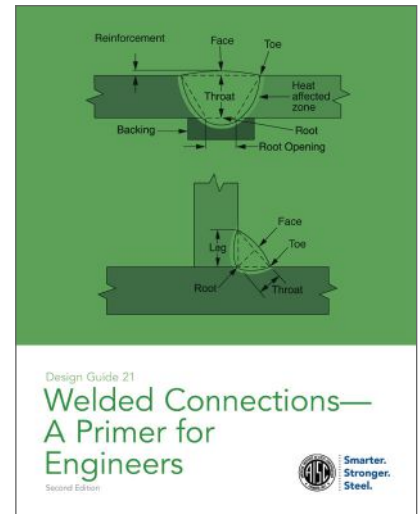
Answers reference AWS D1.1/D1.1M:2020 *Structural Welding Code—Steel* and Chapter 8 of AISC Design Guide 21: *Welded Connections – A Primer for Engineers*. Get your copy today at aisc.org/dg.

- 1 **a.** Welding Procedure Specification. According to AWS D1.1, a welding procedure specification is “a document providing the detailed methods and practices involved in the production of a weldment.” Fundamentally, a WPS is a communication tool that identifies all the parameters by which a particular weld is to be made (Section 8.1).
- 2 **False.** AWS D1.1 allows for two types of WPS: those that are prequalified and those that are qualified (or, qualified by test). Regardless of whether WPS are prequalified or qualified by test, they are required to be written. One prevalent misconception is that if the actual parameters under which welding will be performed meet all the conditions for prequalified status, written WPS are not required; this is, however, an incorrect understanding of AWS D1.1 requirements. AWS D1.1 clause 7.5 requires all WPS to be written (Section 8.1).
- 3 **True.** While most welding of steel buildings in the United States is performed in accordance with prequalified WPS, there are several situations wherein AWS D1.1 does not permit the use of prequalified WPS. Any deviation from prequalified conditions will necessitate WPS qualification.
- 4 **False.** Most bridge welding WPS are qualified by test. The justification for required WPS qualification stems in part from the fact that the welds on bridges are required to have minimum levels of fracture toughness. Due to the effect that various welding parameters may have on fracture toughness, WPS qualification testing



is generally required, including the measurement of notch toughness by means of CVN specimens. Several qualification methods are presented in AWS D1.5/D1.5M:2020 *Bridge Welding Code* (Section 8.6).

- 5 **d.** Procedure Qualification Record. To qualify a WPS, the contractor must first weld a test plate that will be subject to a variety of nondestructive and mechanical tests. The welding variables and parameters used during welding of the test plate, as well as the results from the required tests, are recorded on a procedure qualification record (PQR). If the testing demonstrates that all the AWS D1.1 requirements and job specifications have been met, then the contractor can develop a specific WPS based upon these results (Section 8.5).
- 6 **False.** AWS D1.1, Figures 5.1 and 5.2, contain the prequalified joint details for groove welds and Figure 5.3 contains the prequalified joint details for fillet welds; such details must be used for prequalified WPS. Even when such details are employed, the welding procedure must be qualified by test if other prequalified conditions are not met.



For example, if a prequalified detail is used with a steel that is not listed in AWS D1.1, Table 5.3, the welding procedure must be qualified by test because the steel is not prequalified (Section 8.4).

- 7 **True.** Heat input is a mathematical estimate of the amount of thermal energy that is introduced into the steel when the weld is made. Heat input in turn determines the solidification and cooling rates of the weld metal, and the cooling rates that will be experienced in the heat-affected zone. The equation typically used to compute heat input is given by Equation 8-1. While heat input is important for some applications, the welder does not necessarily need this information in the WPS. Instead, the welder must know and control the variables that determine heat input (arc voltage, current, and travel speed). See Section 8.8 and 8.10.
- 8 **True.** Welding procedures that are sufficiently similar to those tested can be supported by the same PQR. Significant deviations from the PQR conditions, however, necessitate additional qualification testing (Section 8.5).

Everyone is welcome to submit questions and answers for the Steel Quiz. If you are interested in submitting one question or an entire quiz, contact AISC's Steel Solutions Center at 866.ASK.AISC or solutions@aisc.org.



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A Playbook for Upkeep

BY CHRISTOPHER M. HEWITT, SE, PE, PENG, AND ALAN HUMPHREYS, PE, PhD

A new AISC publication provides detailed assessment and repair tips to keep steel buildings standing strong through their expected lifespan.

STRUCTURAL STEEL BUILDINGS

have proven their ability to stand the test of time. Their longevity, though, is not achieved by accident. Rather, maintaining a durable and thriving building requires proactive maintenance, thorough condition assessment, and effective mitigation or repair of damage—and AISC has a new publication to help.

The new AISC Design Guide 16: *Assessment and Repair of Structural Steel in Existing Buildings* is a primer for evaluating structural conditions and implementing reliable fixes in accordance with modern engineering standards. It outlines several approaches that engineers can apply to upkeep and maintenance of existing buildings. AISC members can download it for free at aisc.org/dg. Here's a quick preview.

Condition Assessment

Structural condition assessment is a process of reviewing an existing structure's state of health. When thoroughly applied, condition assessment is usually performed in phases by applying the scientific method, as follows:

- **Preliminary assessment:** An initial visual assessment and historical data review to establish baseline understanding.
- **Hypothesis formation:** Engineers pose key questions regarding the structure's performance and plan the methods of testing the hypotheses.
- **Sampling and testing:** Sampling, non-destructive testing, visual surveys, and lab testing characterize the structural condition and material composition.
- **Evaluation:** Structural analyses validate or refute hypotheses.
- **Engineering recommendations:** Verified findings inform decisions on necessary repairs or interventions.



Design Guide 16 outlines typical guidance to help engineers apply this process in practice, reviewing common non-destructive investigation techniques, material evaluation methods, and assessment strategies for structural damage. The guide also discusses design considerations for planning and implementing repairs.

Material Assessment

Understanding a structure's intended behavior and material properties is fundamental to structural assessment. The design guide outlines acceptable lower-bound assumptions for historic materials, minimizing the need for extensive sampling and testing. It also discusses common limitations of early steel and iron structures, including engineering considerations for laminations and material inclusions common to early vintage steels. Additionally, the guide covers qualitative and quantitative risk assessments, equipping engineers with tools to determine an appropriate extent of sampling and apply risk management techniques to an investigation.

Corrosion: Identification, Assessment, and Mitigation

Although enclosed steel buildings are generally protected from environmental exposure and are not typically susceptible to corrosion during normal service, some building types or structural elements are exposed and may rely on coatings for corrosion protection during service exposure. Coatings will degrade with time, exposing the underlying steel to corrosion, and require periodic maintenance. Additionally, otherwise enclosed buildings may experience building envelope failures, allowing unintended moisture intrusion to cause deterioration. As a result, corrosion is among the most encountered types of structural damage.

The design guide discusses the causes of corrosion and identifies several common corrosion mechanisms. It provides three methods for evaluating corrosion effects: corrosion rate assessment, limit-states analysis, and fitness for service evaluation.

Corrosion rate assessment involves evaluating the demand posed by exposure conditions and the predicted corrosion effects from exposure over time. The design guide primarily discusses this method with respect to environmental corrosion, which is presented in more detail in ASTM STP1137: *Corrosion Forms and Control for Infrastructure*. Corrosion rate assessment can be useful for establishing a corrosion allowance to predict a structure's remaining service life or establishing the frequency of required maintenance.

Other methods of corrosion assessment involve evaluating the remaining capacity of a corroded member. The guide discusses two methods: a limit states approach, originally developed for bridges by the *National Highway Cooperative Research Program (NCHRP) Report 333*, and a "Fitness for

Service” approach, developed for planar structures such as pipes, tanks and flat surfaces in ASME Standard FFS-1/API 579: Fitness-For-Service Evaluation. These approaches involve assessing the remaining section strength of structural components and evaluating their reduced strength and stiffness by applying either a section-based or stress-based approach to the evaluation.

Structural Damage Evaluation

The design guide discusses several potential sources of structural damage in steel buildings, including overload- ing, fatigue, fire, and impact. Evaluation and repair strategies for these effects vary depending on the extent of damage that has occurred, and the design guide provides several methods for evaluating the effect of damage on structural performance. Damage assessment is discussed in context with the *International Existing Building Code*.

Repair Techniques

The design guide discusses several methods of approaching structural repairs. Because of the costs associated with field drilling bolt holes, welding is often a preferred method of repairing damaged structural steel components. However, evaluating the weldability of existing steel can be a challenge, particularly in older steel compositions that may not be covered by a prequalified welding procedure specification as described in AWS D1.1: *Structural Welding Code—Steel*. The design guide outlines detailed guidance on the assessment of weldability for existing steel, which is adapted from the AISC *Seismic Provisions for Evaluation and Retrofit of Existing Structural Steel Buildings* (ANSI/AISC 342-22, download for free at aisc.org/publications). The guidance provides a graded approach for evaluating the weldability of exist- ing steels based on the structure’s age,

knowledge of the material type, and the presence of sound structural welds from previous welding.

Additionally, welding structural com- ponents under load requires careful man- agement of heat effects and the associated strength and stiffness reductions that occur during welding. The design guide provides detailed guidance for evaluat- ing these effects, including a method for evaluating heat flow through members during welding to determine the expected temperature distribution through the steel during welding.

Learn More

By outlining key considerations and best practices, Design Guide 16 facilitates informed discussions with building own- ers regarding assessment findings, main- tenance strategies, and repair programs. Ultimately, it helps engineers leverage the durability of structural steel to extend the service life and ensure effective perfor- mance of existing buildings. Download or order Design Guide 16 at aisc.org/dg. ■



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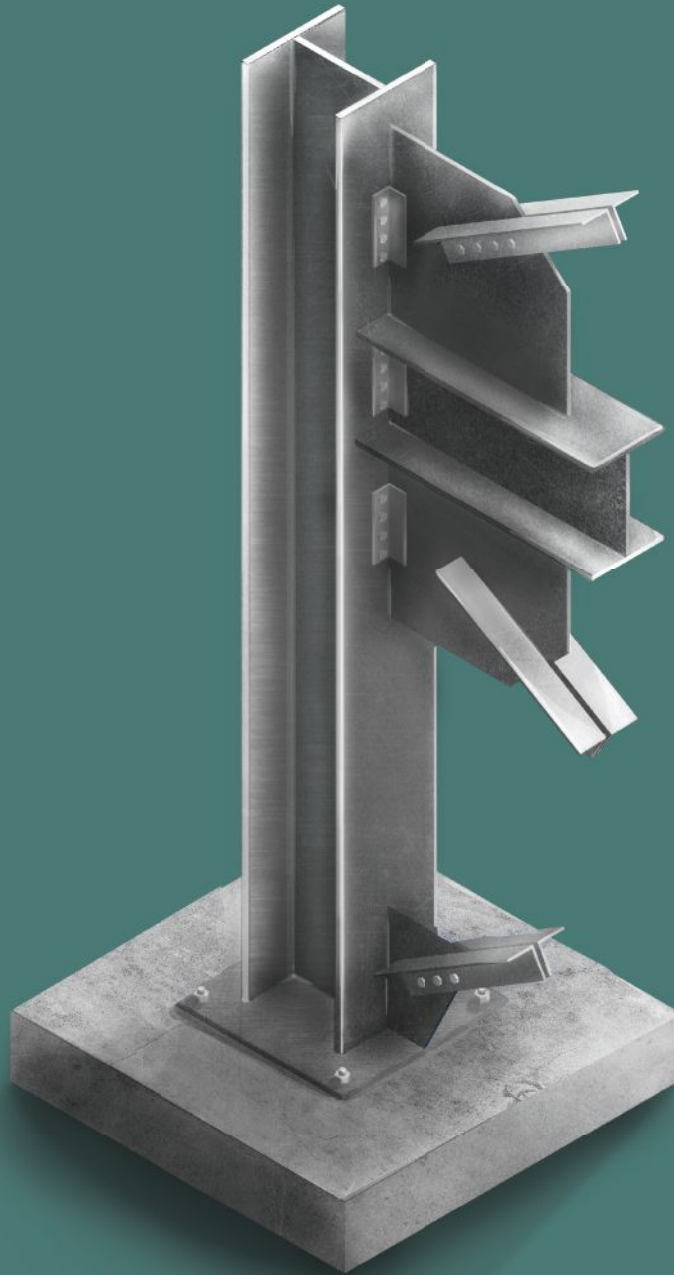
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Architectural Adventure

INTERVIEW BY GEOFF WEISENBERGER

An architecture career that has included stops in three countries brought Nima Balasubramanian to AISC, where she's helping create a crucial resource for educating architects about structural steel.

NIMA BALASUBRAMANIAN'S architecture career started in India, bloomed during a decade in the U.S., took another step in the Netherlands, and has now brought her a rewarding project at AISC. Balasubramanian is AISC's director of architecture, a position created in 2024, and one of her primary tasks is building a game-changing resource: the AISC Architecture Center. The center (found at aisc.org/architecture) fills a gap by providing architects with resources to save time and money, reduce risks, and achieve their project goals efficiently.

Balasubramanian spoke with *Modern Steel Construction* about her career, lessons learned since joining the steel industry, her time as a 2025 AISC IDEAS² Award judge, and more.



Where are you from and where did you grow up?

I'm originally from the southern part of India. I grew up there and when I was in school there—around eighth grade—I decided I wanted to go into architecture. I took architecture-focused programs in high school, did my bachelor's in architecture in India, became a licensed architect there, and practiced for about two years.

I've been all over the place since then. I moved to the U.S. because I got married—my husband is from India too, but at the time, he was working in Las Vegas and went to school there. I landed in Las

Vegas and quickly realized I'd like to end up somewhere else in the U.S., and after three months there, we moved to Boston. I love Boston; it's like my second home and I spent about 10 years there. I did my master's at Boston Architectural College and worked at a couple firms in the area.

My husband's job then took us to the Netherlands, south of Amsterdam in Eindhoven. I started my own firm and worked with clients from Boston designing luxury single-family homes and multi-family residences. That was during COVID-19's peak,

so nobody expected me to be onsite or be in-person for any meetings. That was a great experience. We were there for about two and a half years, and in 2022, we moved back to the U.S. and settled in Atlanta, where I am now. I started working as an operations lead and project manager for a large firm. I liked it, but AISC approached me in 2024 with a great opportunity and challenge to start something new—the AISC Architecture Center—and I took the offer.

In grade school, what made you interested in architecture?

I was attracted to aesthetically appealing buildings. I'd see them and tell my dad they looked cool, and I asked him what I should study if I wanted to create them? At that point, I had no idea about architecture or any exposure to it. My dad told me about architects, and I was hooked. I looked for programs to start on that track.

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Now, I like the programming part and putting the spaces together. In a house, you have a living room, dining room, bathrooms, and bedrooms. But if you're designing a school or student center, there might be something specific to each school and they might have different needs. Programming the spaces for those needs excites me the most.

You told me you didn't work with steel much before coming to AISC. What have you learned about designing with steel, and was there a revelation moment about architecture and steel?

I've learned so many things. In a way, my limited experience with structural steel before this job worked in my favor because it helped me create the right resources for architects who might not know much about designing with steel. When I started at AISC, I had the same perspective of not knowing what I didn't know about steel. I could encounter something that helped me and know it would be useful for someone who doesn't know anything about structural steel.

During my first week on the job, I visited Gerda's mill near Atlanta, and that was an eye-opener. In school, I had worked with wood and concrete, but never steel. It was never an accessible material or something I could have explored alone. Going to the mill showed me how it's manufactured, how little waste the process creates, and how clean it is. In my head, I had assumed it was dirty and sooty like what I'd seen in movies. But my car was parked on site and had no soot. You wouldn't know it's a steel mill if you were driving by.

That was an eye-opener. I think architects should visit a steel mill while in school to get that experience. They should experience every material equally so they can make the most informed decision on what material is good for their project depending on the client's and project's needs. I also didn't know steel is recycled so much and that it's infinitely recyclable. On average, 92% of the steel that comes to your project is made from recycled material. That was astonishing.

Overall, I didn't understand the supply chain as much as I do now, from fabricators to service centers to mills. Those were gaps in my knowledge that other architects might also have, and we have to educate them about it.

What's the mission for the AISC Architecture Center and how have you gone about creating it?

It's a key AISC initiative. It was created for architects but also by architects—mainly myself and Elizabeth Lapira, another architect in the architecture center. Our main purpose is to provide resources that save time and money, reduce risk, and help architects achieve their project goals more effectively. We want to eliminate hunting in a million places for this information, which I used to do.

We want to provide those resources in a fun way that's not boring. It's not just webinars. We want to engage and inspire architects to use steel. Architects like tangible things. They like to touch and feel things and do things with their own hands. That's why the steel mill tour was an amazing experience for me.

I've heard architects have enjoyed taking welding workshop tours and loved learning about the skills needed to weld properly. On shop drawings, we mark a field weld and assume it will be perfect. But it's important to understand what goes into it and the costs that come with it. It's a holistic experience for an architect to experience firsthand, whether that's mill tours, shop tours, or workshops.

How was your experience as an IDEAS² Award judge this year?

I came into the judges' meeting for final review—we were given the entries ahead of time and reviewed them on our own time—with a certain perception. I had my favorites and my down-the-list ones. But when I met with everyone, everything went upside down after hearing other people's opinions and perspectives from their expertise. It helped me understand projects differently and see them in a different light.

We had a fabricator, a structural engineer, another architect, and a general contractor. To hear their comments on why they thought a project deserved a certain award was interesting, and in the end, I don't think there was much disagreement. We were open to listening to other people's opinions and coming to a consensus on the most deserving projects. I felt it was a democratic and successful way of judging.

In your career or studies, did someone give you advice that stuck with you?

Nothing deliberate or specific, but there's a lesson in that. As I got older, I picked up little things or unintentional advice as people were casually talking, and that impacted me more than deliberate advice. What I've gathered over time is to be honest and sincere in anything I do in work or life. It goes a long way. I'd say that's my favorite advice.

What else should people know about the Architecture Center? How can people interact with it?

We have a monthly newsletter that goes to about 6,000 architects, and we hope to keep increasing that subscription list. It offers current trends, news on what's happening, and what's relevant to architects in the structural steel industry. Subscribers can stay updated, and there's also an option for them to submit questions to us if they have questions specific to a project.

They can say, "I'm working on a steel project and I don't know what to do with this condition" or "Is this appropriate for acoustics or vibration?" It can be anything. The questions go to the steel solution center, where our AISC experts answer them. We share those responses monthly in the newsletter FAQ section. I hear it has been useful for architects because sometimes they might have similar problems in their projects. They can then see where to look for resources or how someone addressed it in their project.

We also offer many more tips and Smart References guides on the website, and it's all free for architects. I encourage any architect to check it out. ■

This interview was excerpted from my conversation with Nima. To hear more, listen to the June Field Notes podcast at modernsteel.com/podcasts, Apple Podcasts, or Spotify.



Geoff Weisenberger ([weisenberger@aisc.org](https://www.weisenberger@aisc.org)) is the editor and publisher of *Modern Steel Construction*.

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Defining Traits

BY SUSAN QUINN

These nine principles often set high-performing companies apart, and it's never too late to make them a core part of your culture.

EACH DAY in today's business landscape can present challenges. Disruptions emerge overnight. Customer expectations evolve rapidly. Talent is harder to retain than ever. Still, some companies consistently outperform their peers when addressing these hurdles and other hurdles. They grow faster, attract and keep top talent, and build unshakable customer loyalty.

What sets these companies apart? Let's consider a recent study focused on identifying how top-performing companies are able to succeed. The findings reveal an important truth: high-performing companies aren't just lucky. They operate with a set of core traits that drive sustained success. They don't merely aim to be best in class, but rather they execute a repeatable, scalable, and measurable strategy that fuels their growth.

There are nine key traits of high-performing companies, and any business can incorporate them with a thorough and intentional approach.

1. A foundation built on purpose and values. High-performing companies don't drift. They operate with a clear purpose that drives their strategy, decisions, and culture. Their guiding principles—vision, mission, and core values—aren't corporate jargon. They're actively demonstrated at every level of the organization.

What makes them different? Leaders continuously reinforce these principles in communication, hiring, and decision-making. Employees understand how their roles contribute to the company's broader mission. This alignment creates a culture of accountability, engagement, and trust, which significantly impact performance.

2. The employee experience advantage. Talent is the fuel that drives a business forward, and high-performing companies treat their employees as their most valuable

asset. They don't just offer jobs; they create environments where employees thrive.

These companies invest in professional development, employee well-being, and company culture. They prioritize engagement, conduct regular satisfaction surveys, and actively act on feedback. As a result, their employees become brand ambassadors, delivering superior service, innovating, and staying loyal to the company.

3. Viewing customer centricity as a growth engine. For high-performing companies, customer satisfaction isn't enough. They aim to create customer advocates.

They analyze customer journeys, remove friction points, and proactively seek feedback. More importantly, they act on feedback, refining their offerings and personalizing experiences to create deep relationships.

Recent data from a global management consulting company shows that fluctuations in a company's Net Promoter Score (NPS) can explain 20% to 60% of its organic growth, highlighting why top companies prioritize customer experience. It directly impacts revenue.

4. Emphasizing quality as a cultural cornerstone. High performers don't just meet quality standards, they set them. They integrate quality into every process, ensuring it's not just a final checkpoint but a guiding principle from the start. This commitment to excellence builds trust and differentiates them from competitors.

Apple, for instance, isn't only known for technology. It is also built on meticulous attention to detail. High-performing companies operate with the same mindset in their service delivery, internal processes, or employee training.

5. The adaptability imperative. Disruption is inevitable. The question is: Will your company adapt fast enough to stay

ahead? High-performing companies don't resist change; they embrace it. They anticipate market shifts, monitor industry trends, and pivot when necessary. Research has shown that many companies failed during crises like the COVID-19 pandemic not because they lacked resources, but because they failed to adapt. Meanwhile, organizations that were agile in their strategy and execution thrived.

6. Data-driven decision making. Top companies leverage data to make strategic decisions and track real-time key performance indicators through visually engaging dashboard systems. Sometimes, they use AI and other software programs to aggregate information across the enterprise for a holistic view and understanding of how all elements fit together. This level of meticulous tracking and monitoring ensures leaders have access to clear information and actionable insights. More importantly, they align their data collection with business objectives, avoiding data for data's sake.

7. Ecosystem intelligence and collaboration. The best companies understand the full ecosystem in which they operate rather than merely monitoring their competitors. They recognize value creation often requires collaboration. Whether through strategic partnerships, industry alliances, or supplier relationships, they position themselves at the center of innovation and market shifts.

8. Achieving operational excellence through simplification. Complexity slows companies down. High performers know this and focus on making operations lean and efficient. Steve Jobs famously said, "Simple can be harder than complex. You have to work hard to get your thinking clean to make it simple." Top companies take that idea to heart. They continuously refine workflows, eliminate unnecessary



steps, and automate where possible. The result is usually a more agile, cost-effective, and scalable operation.

9. The learning organization mindset. Perhaps the most defining trait of high-performing companies is their relentless pursuit of improvement. They don't assume they have all the answers. Rather, they continuously learn, evolve, and refine their strategies. They invest in leadership development, create knowledge-sharing platforms, and encourage experimentation. These organizations view failure as a step to progress, not a setback—allowing them to stay ahead of industry changes and maintain a competitive edge.

Becoming a High-Performing Organization

If you want to build a company that stands out, start by assessing where your company currently stands on these nine traits. Ask yourself:

- Are our purpose and values deeply embedded in everything we do?
- Do we treat employees as our greatest asset?
- Are we truly customer-centric, or do we just say we are?
- Is quality a guiding principle in all areas of our business?
- How adaptable are we to change?
- Do we make decisions based on data or gut instinct?
- Do we understand our industry ecosystem and leverage partnerships?
- Have we eliminated unnecessary complexity in our operations?
- Do we foster a culture of learning and continuous improvement?

Achieving high performance isn't about making one major change. It's about consistently refining these areas over time. The question isn't whether these traits matter. The real question is how quickly an organization can embed them into its DNA. ■



Susan Quinn has worked for 30+ years with Fortune 500 to middle market firms across the country, developing strategies that spur growth. As CEO of circle S studio, she supports companies in their quest to “better their best” and brings a keen understanding of how to create a winning strategy. For more information, please visit www.circlesstudio.com/business-playbook.

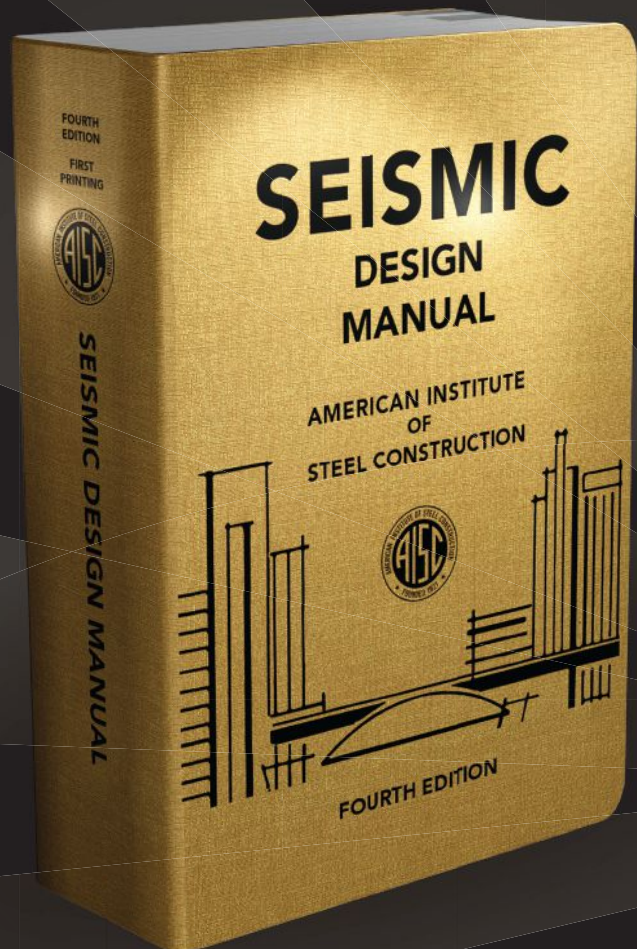
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Taking Flight

BY CAWSIE JIJINA, PE, RITCHIE BHASKARANAND, AND SHAWN BENNETT

A longtime engineer-architect partnership combined to craft a flight-inspired design that steel achieved in a cost-effective and speedy manner amid challenging site constraints.





A BOW PULLED TAUT to release an arrow into the air is a dramatic and suspenseful preview of a gravity-defying launch and a nod to the power of flight. Fittingly, that image inspired the design of an addition to a major United States airport—and steel made it happen as fast and as cost-effectively as possible.

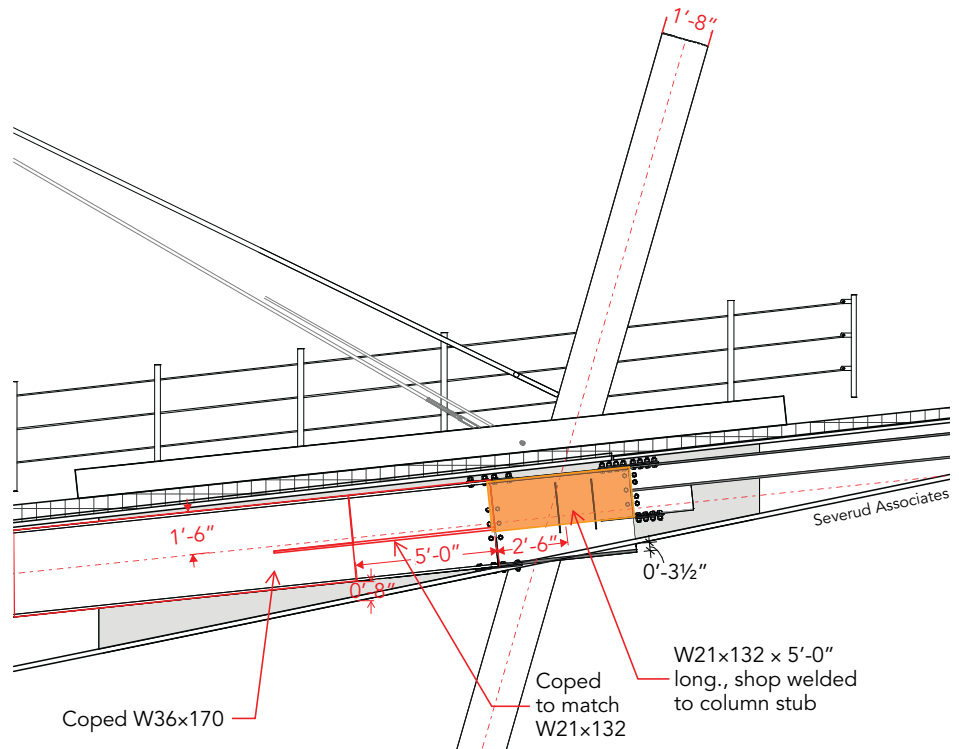
John F. Kennedy International Airport's Terminal 6 is a new 1.2 million-sq.-ft building that will occupy the site of the former Terminals 6 and 7. Its unique design presents sloping columns at the departures curb from the ground to the single-plane roof, reaching for the sky and supported by tightly pretensioned cables. It's also a testament to how early collaboration between architect and engineer and the resulting relationships can birth striking and functional designs.

Lead design architect Barry Yanku, AIA, of Corgan first sketched a freehand initial design concept, while Cawsie Jijina, PE, of Severud Associates added structural elements to the sketches almost immediately. The two have worked together for 30 years and frequently draw and sketch together. The lines between architecture and structural engineering for Jijina and Yanku blur after working together for that long—Jijina instinctively knows where Yanku is going with his design, and Yanku is long past wondering whether his design will stand or not. Before starting, they each understood the structure would be a combination of straight and slanted lines combined with razor-sharp edges.

The desired slenderness could not be achieved with anything other than steel. Jijina did not want the leading edge of the cantilever to be more than 2 in. thick. The initial design was one continuous tapered custom fabricated girder that began at a 36-in. depth and tapered to a 6-in. depth, but it was not cost-effective. The compromise was ASTM A572 and A992 Grade 50 W36 girders with W14s butt welded to the end, with the W14s attaching to W6s, creating the cantilever tip. Finally, a custom-fabricated V-shaped plate forms the leading edge of the cantilever.

JFK's new Terminal 6 will have 1.2 million sq. ft of space and 10 gates.

The resulting 17,000-ton design has a 50-ft cantilevered eyebrow roof frame made of W36×170 beams and 20-in.-diameter HSS supported by 90-ft-tall sloping round HSS20 architecturally exposed structural steel (AESS) columns and a stainless steel cable system. The sloping columns have regular structural steel tolerances but AESS Category 2 finishes within 20 ft of view and Category 3 beyond 20 ft. A 28-ton AESS Category 2 and 3 screen wall is near the main roadway entrance, and its primary members are round HSS20 with thicknesses between ½ in. and ¾ in. A girt system of HSS10×10 tubes supports the screen wall's punched metal panels. Most beams have spray-on fireproofing and, when required, intumescent paint. Two oculus skylights—one 40 in ft diameter, one 80 ft in diameter—add natural light to the terminal.



above: The eyebrow section details.
left: The eyebrow under construction.



The project was planned in two phases, with five of the ten gates opening in 2026 and the remaining five gates set to open in 2028. Nine of the gates will accommodate wide-body aircraft, and the terminal will include one of the longest departures curbs at JFK.

Once Banker Steel and NYC Constructors (NYCC), both DBM Global Companies, were selected as the steel fabricator and erector, they began collaborating with construction manager AECOM Hunt, Severud, and Corgan to make the design as constructable as possible. Design refinements focused on minor dimensional adjustments to simplify alignments, resulting in fewer unique members. The goal was to make as many beams and girders the same to optimize connections. Even though standardizing beams and columns added tonnage, repetition saved time on fabrication, delivery, and erection.

To expedite the steel fabrication, Severud provided a connected model to Banker Steel early in the process, which enabled the latter to procure all the steel for the project up front and move swiftly into fabrication. The steel design moved so rapidly that the steel fabrication was far ahead of other trades. Not only was all the Phase One steel fabricated ahead of schedule, Phase Two steel has already started fabrication and is nearly ready for installation.

Banker Steel and NYCC also spearheaded early coordination with other trades—including curtain wall, elevators, escalators, stairs, MEP, and



NYC Constructors

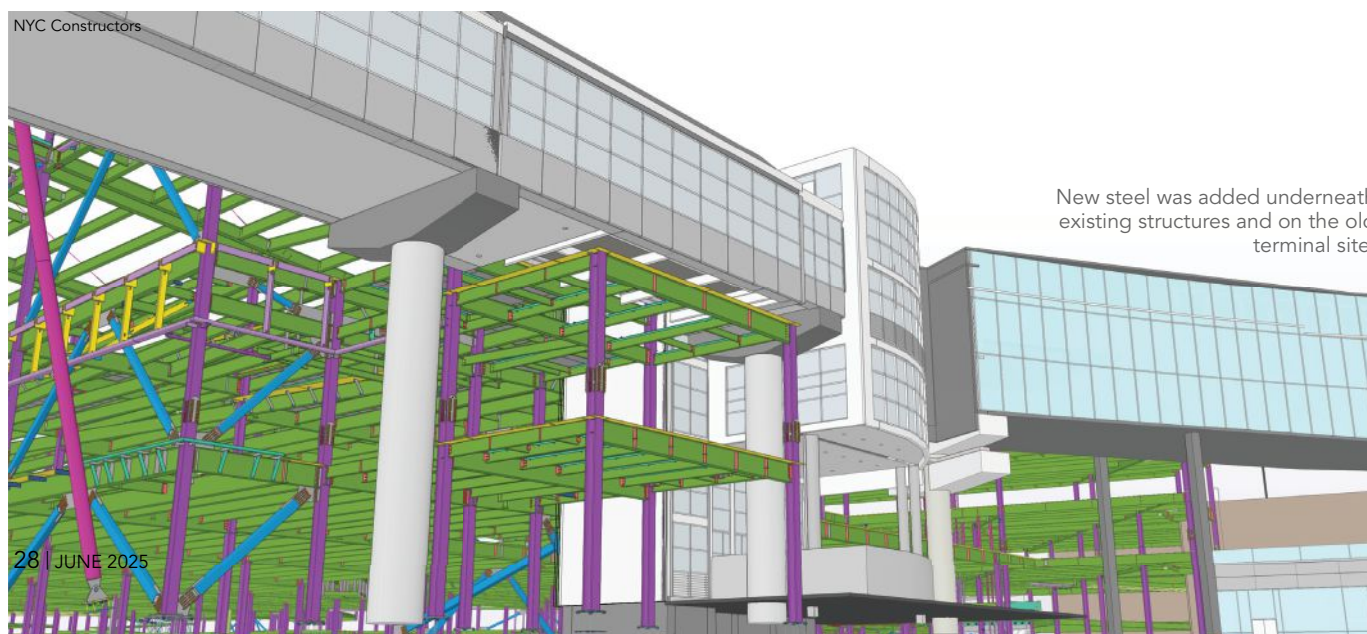
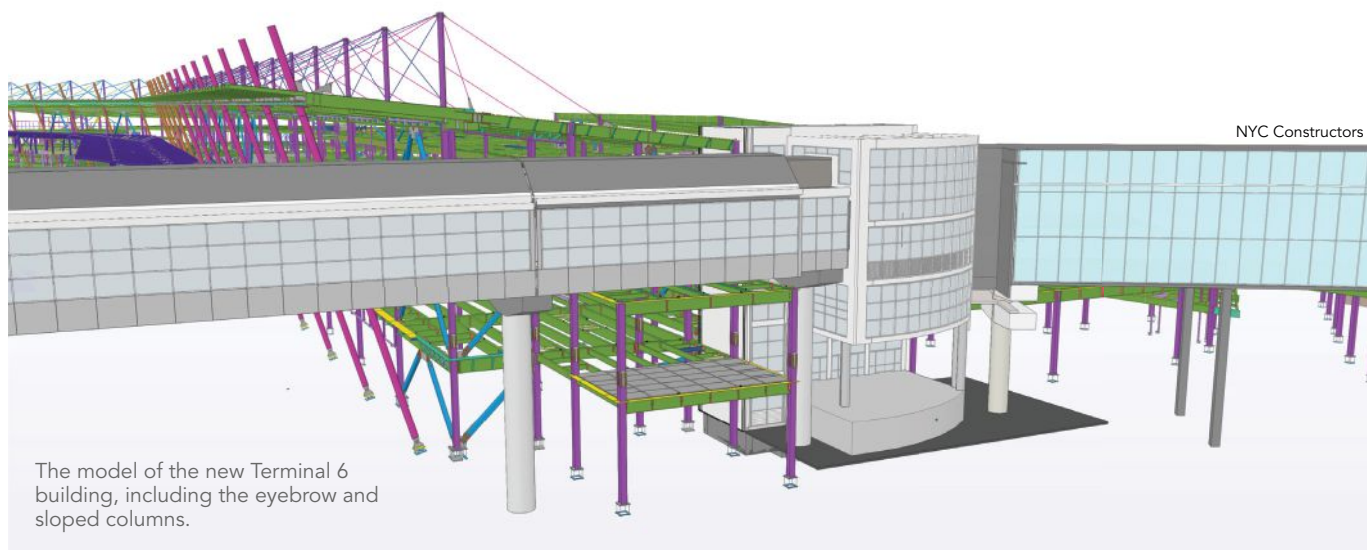
The new terminal has two oculus skylights, one with a 40-ft diameter and one with an 80-ft diameter.



Corgan



Corgan



the baggage handling system—to accelerate the core structure installation schedule to meet the 2026 opening date.

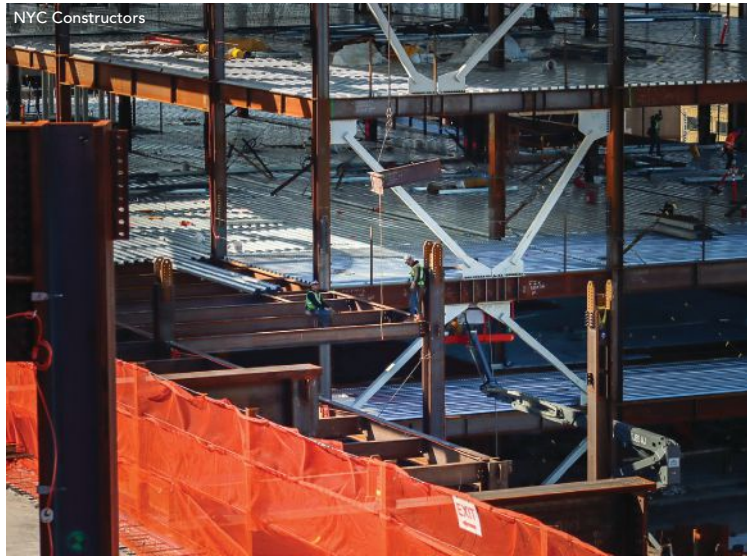
Business As Usual

Site constraints are a constant challenge on a major airport project. The erection sequence had to meet FAA regulations, keep roadways clear for traffic, and maintain the control tower's line of sight. The construction team had to ensure the site was as functional as possible for its primary use while not stopping the flow of work. Choosing the correct cranes and plotting each crane's positioning were two crucial decisions.

NYCC divided the erection sequence into two sections, starting from an expansion joint that runs straight down the middle of the main building. Two 300-ton crawler cranes were used to erect all the steel in tandem, with both cranes moving apart from each other, circling around the building to the air side and then converging back towards each other.

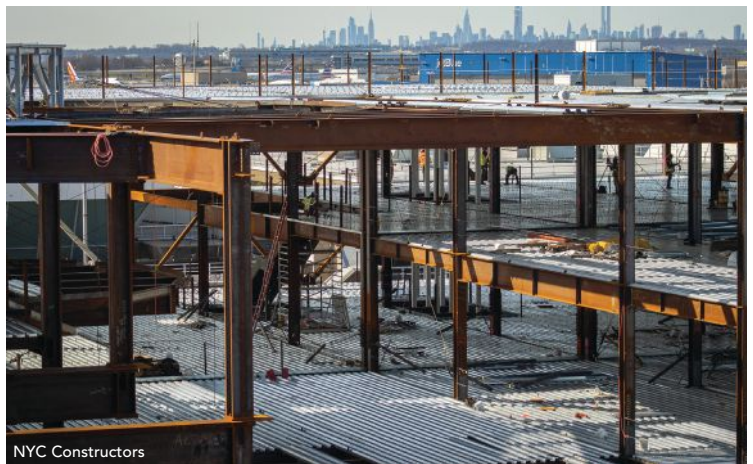
One of the unique jobsite considerations arose from the fact that the passenger bridge leading from the active Terminal 5 to the AirTrain—which services seven other stops and terminals—needed to stay functional while structural steel was being erected. Field surveys revealed 1-ft to 2-ft clearance between the existing pedestrian bridge and the new Terminal 6 framing, which became too small a space to fit a 300-ton crawler crane when factoring other site conditions. Banker Steel and NYCC determined that a Magni 8.25, with lifting heights up to 81 ft and an 8.75-ton capacity, would be the best fit.

The façade's sloping columns were among the first components to be fabricated and installed. They were initially excluded from Phase One, but incorporating the existing and new roadways into one model with the new structural framing showed enough room between existing roadways and the needed foundation to include them. The upper end



above: Phase One of the project topped out in 2024.

below: The project will use 17,000 tons of steel.



of the columns and the eyebrow extend above an existing roadway.

Including the sloping columns also allowed a change to a more efficient steel erection sequence. This change eliminated the field-welded splice at the upper end of the slanted HSS20x3/4 column originally planned between Phase One and Phase Two. Putting the sloping columns in place sped up the schedule and allowed Banker Steel to focus on fabricating later sequences.

Terminal 7 will continue to function until it is demolished in 2026 once the first five gates are open in Terminal 6. The Terminal 7 demolition begins Phase Two of JFK Millennium Partners' master development, which includes construction of an additional five wide-body gates. Banker Steel and NYCC topped out Phase One in October 2024 and plan to begin erection on Phase Two in early 2026. ■

Owner

JFK Millennium Partners, The Port Authority of New York & New Jersey

Architects

Corgan
Stantec (interiors)

Structural Engineers

Severud Associates
Thornton Tomasetti (oculus design)

Construction Manager

AECOM Hunt

Steel Team

Fabricator

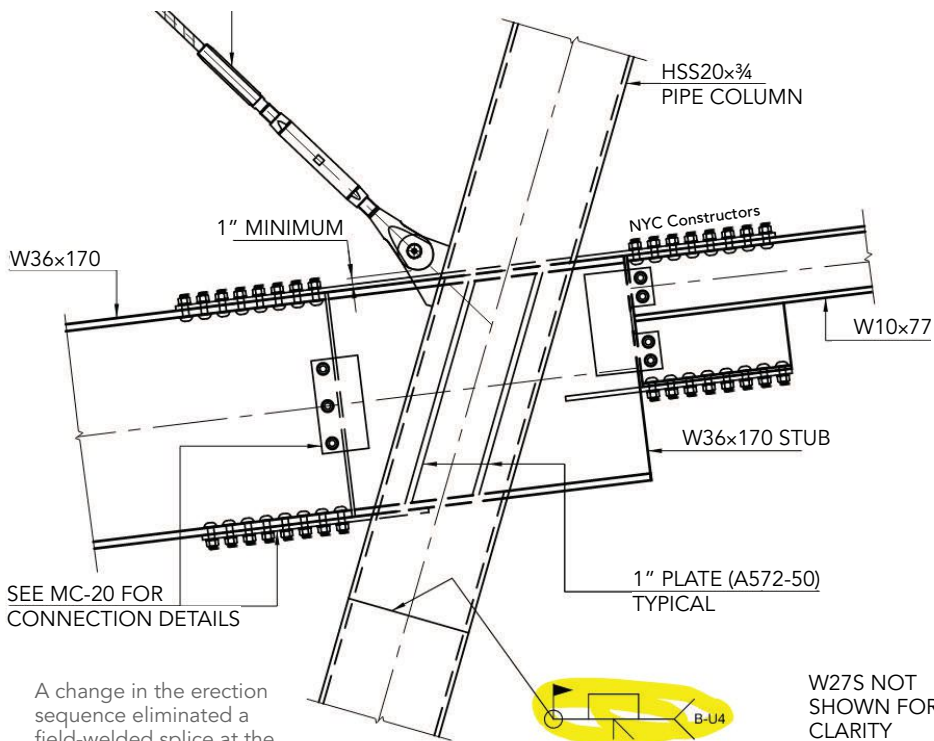
Banker Steel 

Erector

NYC Constructors 

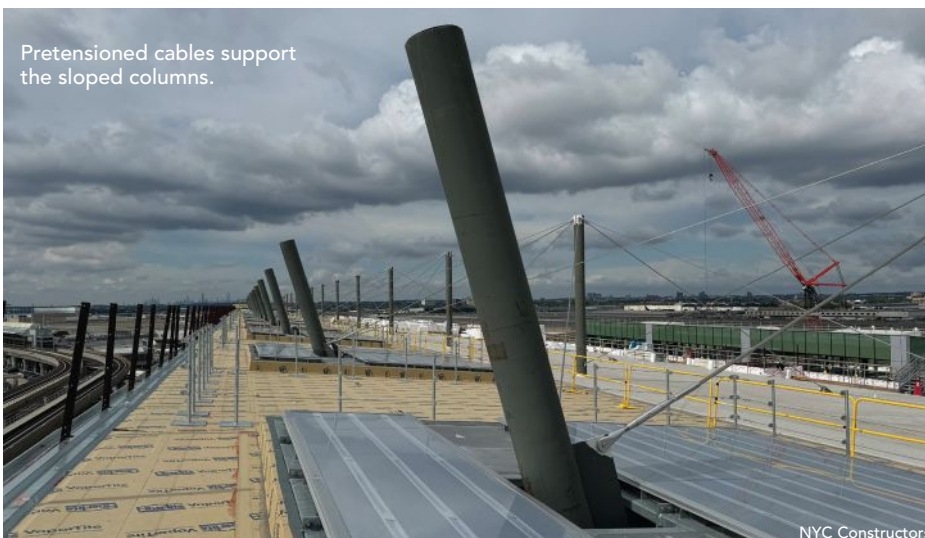
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Innovative Steel Detailing 
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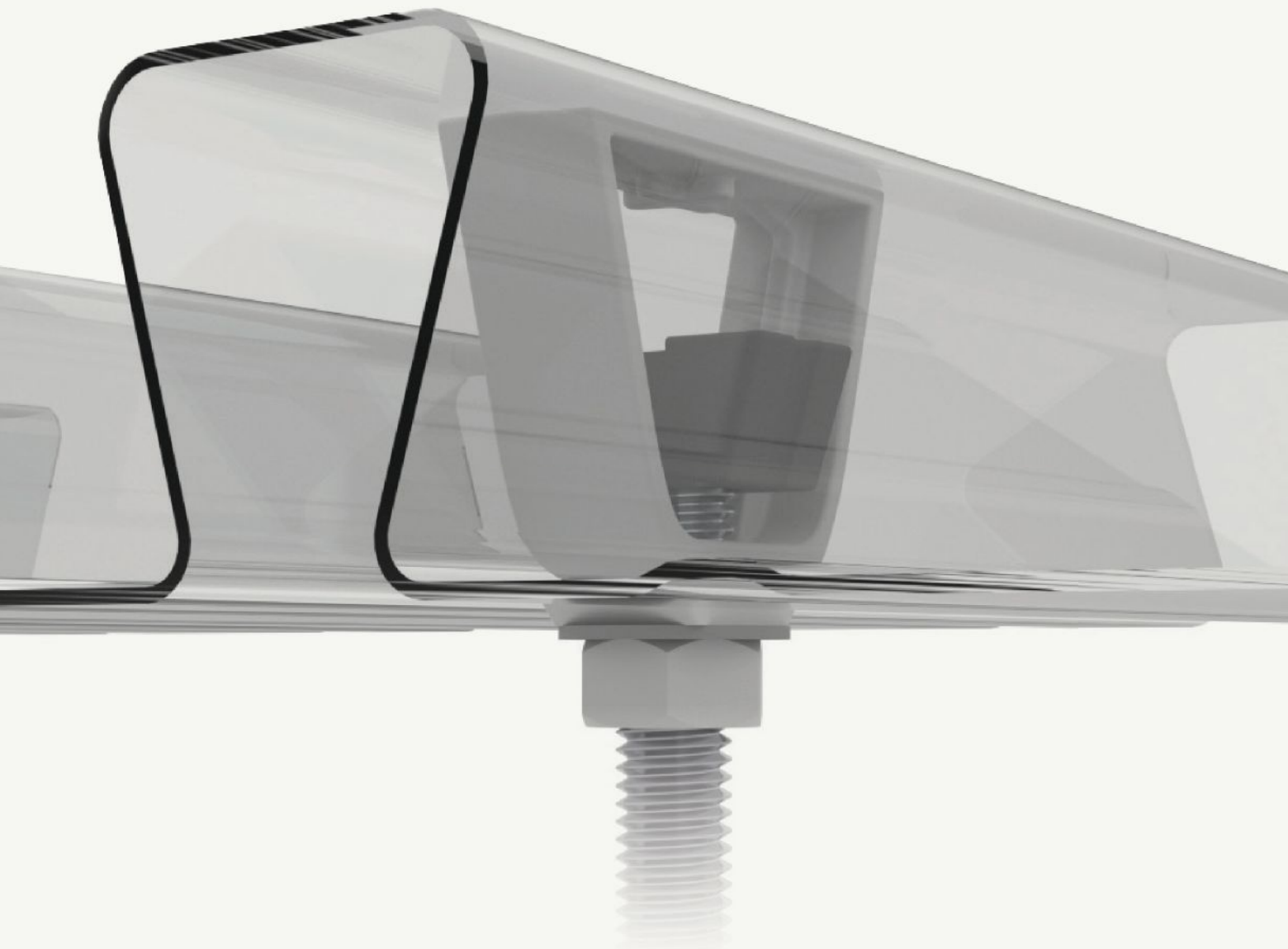
A change in the erection sequence eliminated a field-welded splice at the top of the slanted columns.

W27S NOT SHOWN FOR CLARITY



Cawsie Jijina (cjijina@severud.com)

is a principal at Severud. **Ritchie Bhaskaranand** (rbhaskaranand@nyconstructors.com) is vice president of construction and projects and **Shawn Bennett** (sbennett@nyconstructors.com) is a project manager, both at NYC Constructors.



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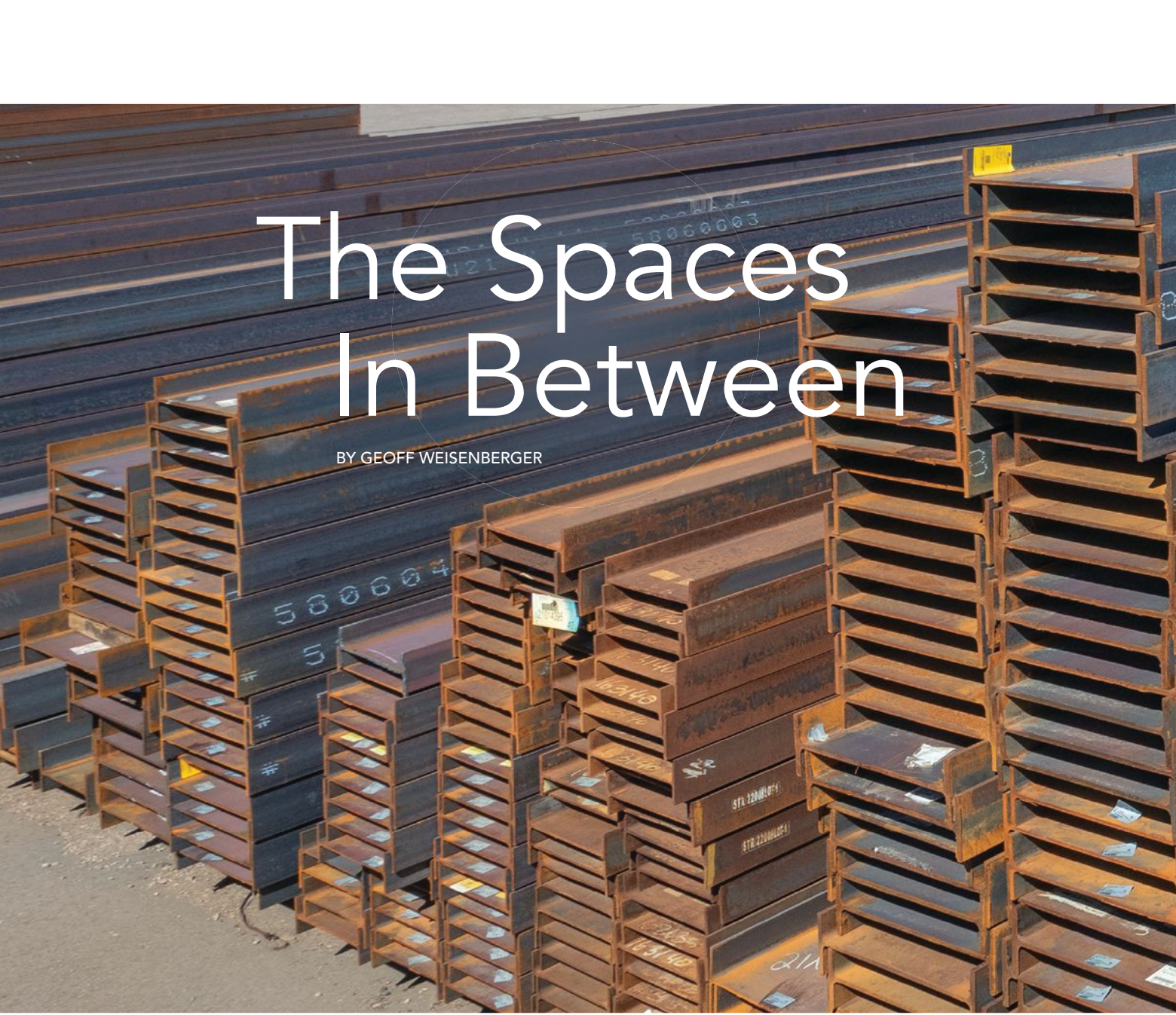
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The Spaces In Between

BY GEOFF WEISENBERGER

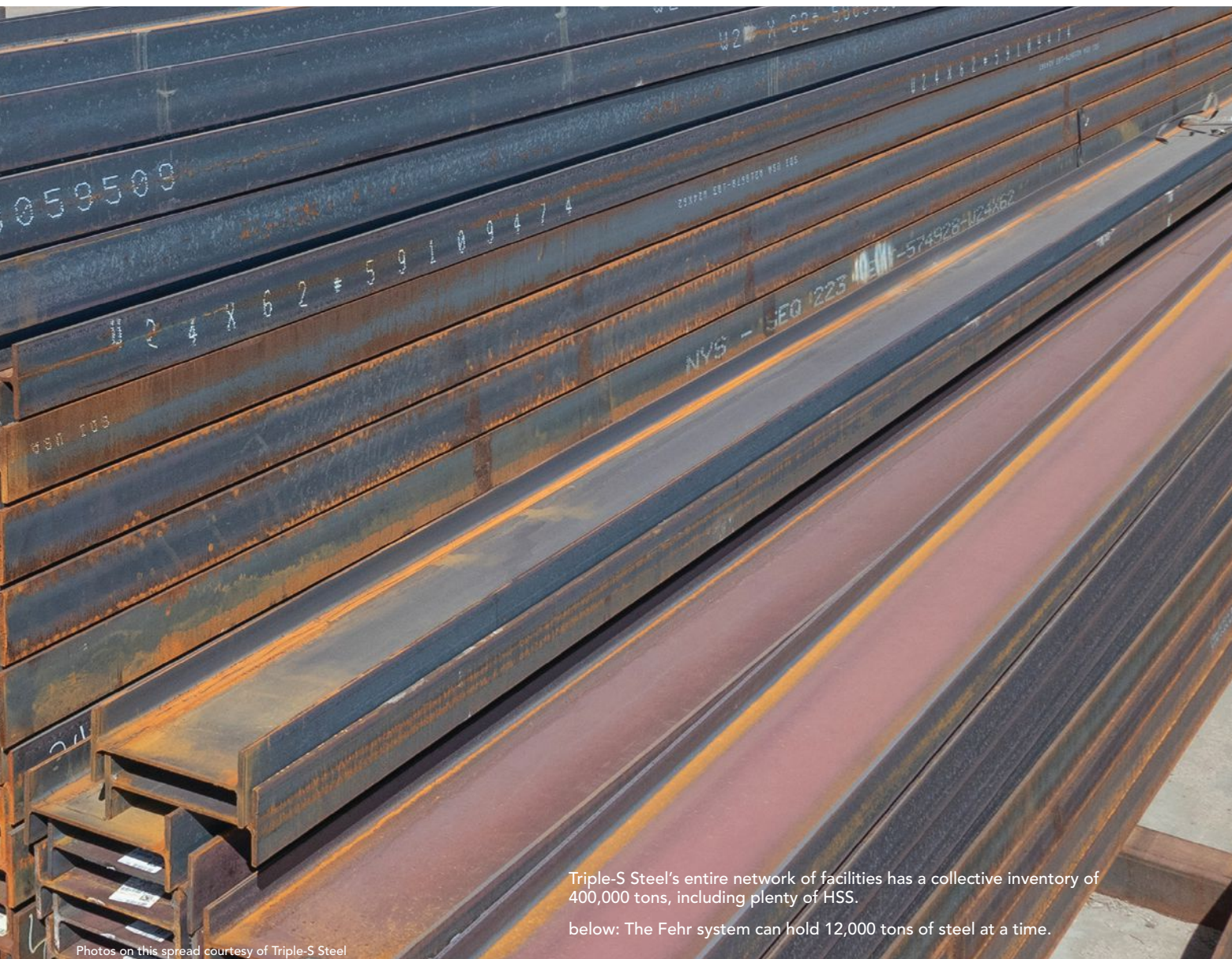
Service centers are a crucial link in the fabricated structural steel supply chain, and the Denver outpost of one of the country's largest service center networks is leading the way in efficiency.

WHAT'S IN A NAME? When talking about Triple-S Steel, the answer is quite a lot. Specifically, the three S's are Sarah, Shirley, and Sharlene, the mother, wife, and younger sister, respectively, of Bruce Stein, who founded the company in Houston in 1960.

Bruce and his sons, Gary (CEO) and David (vice president), along with their sons Sam (Gary's son, director of international business development) and Jonathan (David's son, business development manager) have grown Triple-S from a small yard into a national service center network of more than 75 locations. One is Intsel Steel West near Denver, a 250,000-sq.-ft indoor space that's a shining example of how far the service center industry has come.

Time and Space

Before getting into this location, let's back up and address a common question: What, exactly, is a steel service center? To put it simply, service centers purchase steel from producers or mills, store it, and sell it to buyers—typically steel fabricators but also smaller customers. While steel producers run on strict rolling schedules focusing on one shape at a time, service centers stock steel members in multiple shapes and grades, providing a variety of alternatives and reducing lead times for customers. They also offer the same thing to producers and fabricators alike: space.



Triple-S Steel's entire network of facilities has a collective inventory of 400,000 tons, including plenty of HSS.

below: The Fehr system can hold 12,000 tons of steel at a time.

Photos on this spread courtesy of Triple-S Steel

While some steel goes directly from producers to fabricators for specific jobs, many mill orders aren't bespoke. Given the sheer volume of steel mills produce, they don't have the space to store it. It's a similar situation for fabricators, who have limited space to store steel beyond what they're prepared to process for a job. Service centers, on the other hand, are all about space, bridging the gap between producers and fabricators. And by providing simple processing services such as cutting members to length, they can also prep steel to varying degrees for fabricators.

"The idea is to offer basic processing services without taking away from what fabricators do," explained Gary Stein, while we walked through the facility with its general manager, Eric Daniel.

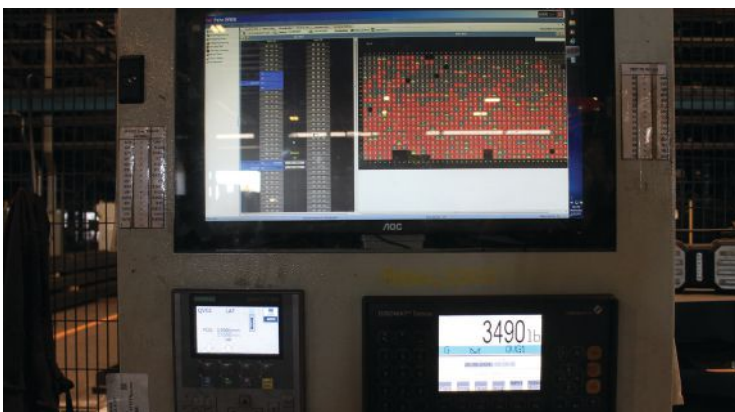
"There's a fine line between providing valuable service and stepping on fabricators' toes," Daniel said. "We want to be sure we don't cross that line."





Photo courtesy of Triple-S Steel

above and below: The Fehr system delivers impeccable accuracy via automated picking, in-line scales that weigh and measure each piece, and automated piece counts—all overseen by an operator.



On the Grid

We started the tour with the cassette system, the sorting operation that opened in 2018 as the first of its kind in the U.S. Known as a Fehr system, it includes 6,000 cells for various types of sizes of steel members. Each cell is 40 ft long and holds about two tons. The system works with a seven-ton capacity automated picking crane, which, for safety purposes, can't operate when the door to the area is open. The crane is straddled on both sides by towering walls comprising what look like cubby holes full of steel.

The Fehr system can hold a whopping 12,000 tons of inventory; larger members that don't fit into the cassette area are inventoried separately. The system boasts 100% accuracy and same-day turnaround on orders. It delivers that impeccable accuracy using automated picking, in-line scales that weigh and measure each piece, and automated piece counts—all overseen by an operator. If a customer places an order by 5:00 p.m., the facility can ship that material out by the next morning, with a 98% annual fulfillment rate.

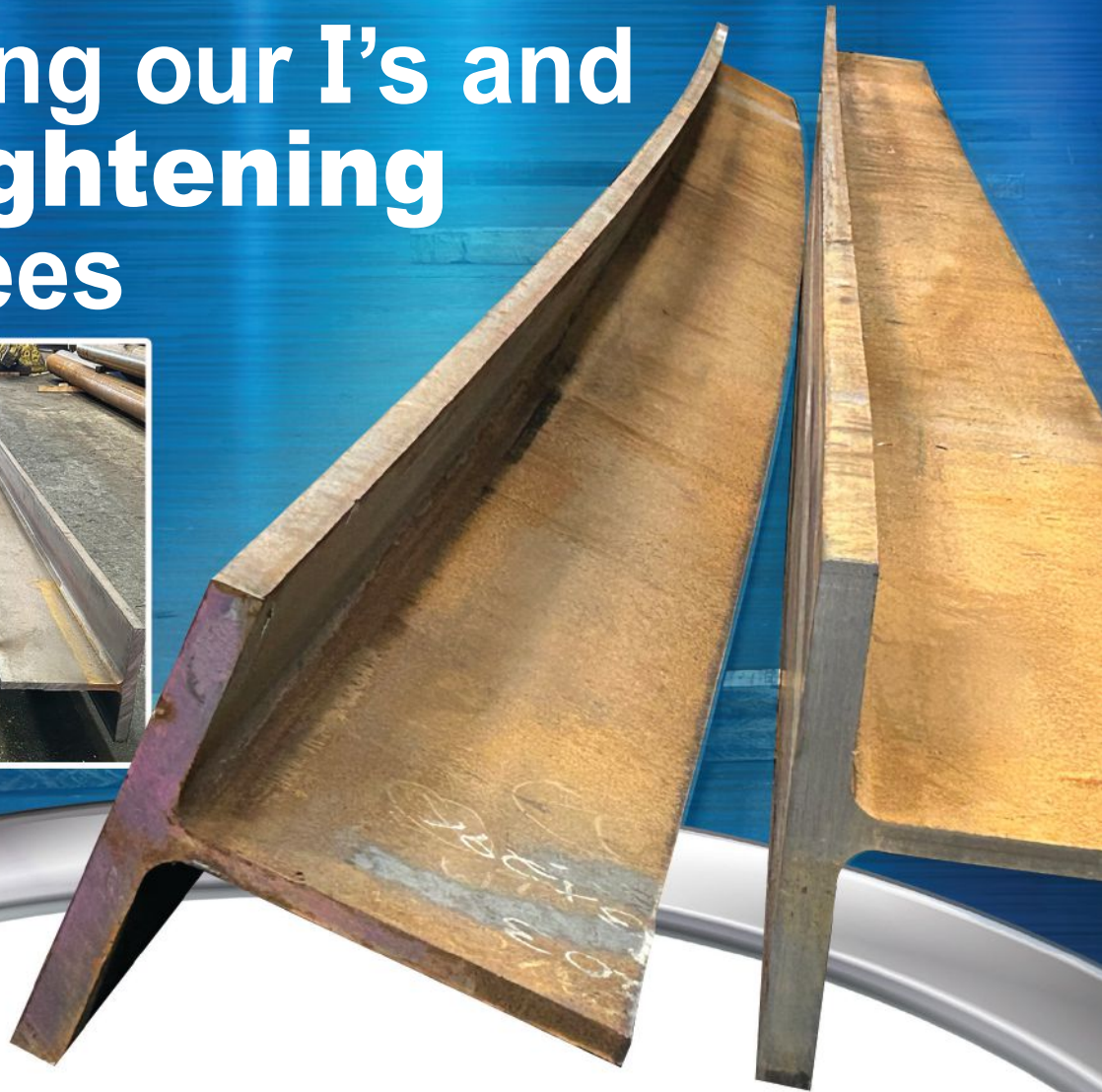
"We have over 10,000 tons of beams and other shapes in Denver and access to 400,000 tons throughout all Triple-S facilities," Daniel said. "We take care of our customers, regardless of location, by working as a family."

We experienced the system from the inside, riding the automated picking crane from one end to the other to see how the picking mechanism works up close and personal, slowly gliding by the orderly grid of cells on either side.

.....

The Fehr system is managed from a computer station safely outside the crane cell.

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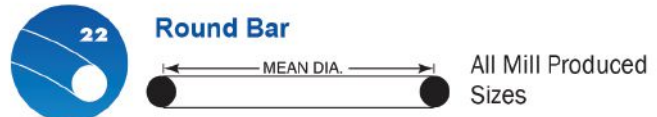
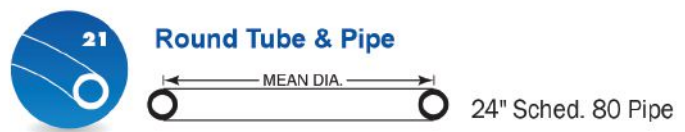
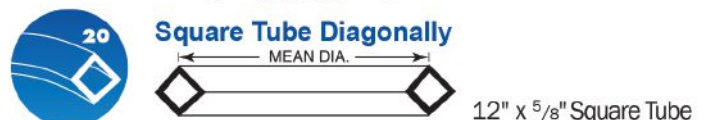
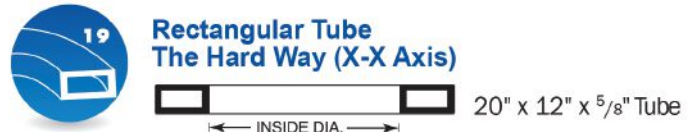
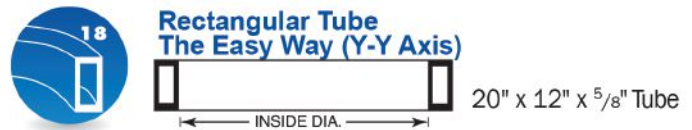
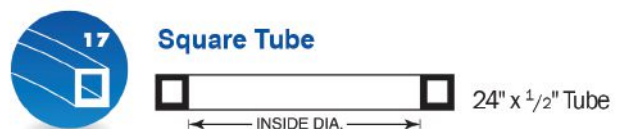
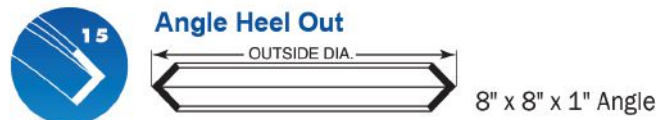
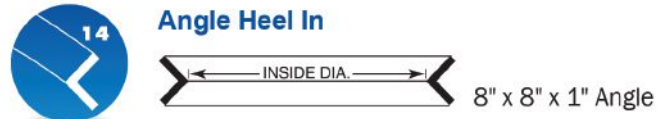
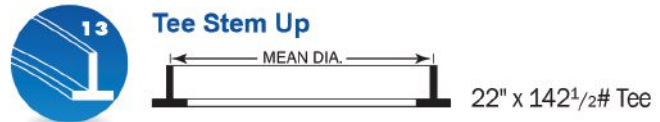
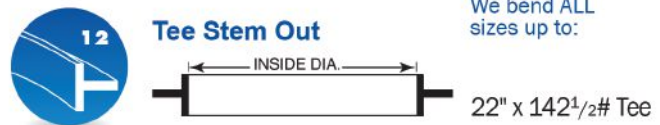
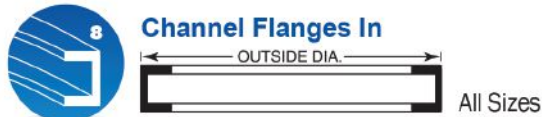
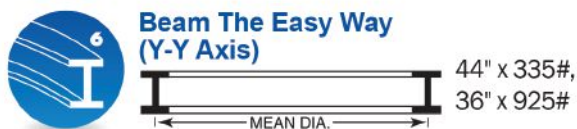
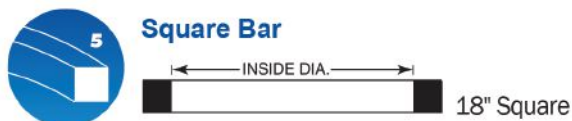
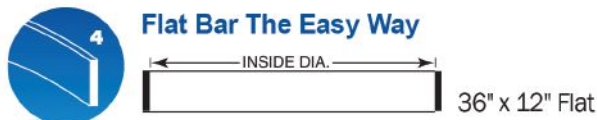
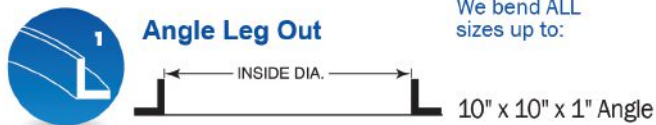


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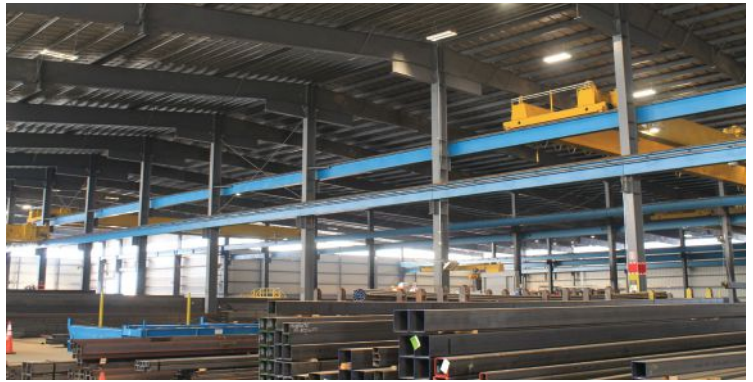


Daniel joined me on the ride. Completing nearly 2,300 skydiving jumps has more than prepared him to be able to handle the crane's maximum height of about 48 ft. Ironically, he is afraid of heights, even though he is now a skydiving instructor. He started the skydiving habit slowly, with a tandem jump, and now jumps several times per weekend. In fact, he was the 2022 United States Skydiving Champion and will be representing the United States in The Netherlands this August 2025 at the Skydiving World Championships.

"I don't see the need to jump out of a perfectly good airplane," said Stein, who remained on the ground. He finds the cassette area's balcony terrifying, as it has no toe guard, though he's fine with a crane that does, adding, "There's something psychological about having your feet be able to stick out."

One conveyor on the crane is used to retrieve material from a cell, and another is used to place it in a cell. In addition, the system can detect when a member is sticking out of a cell and correct the situation. Running the system takes only one worker (Instel Steel West employs 75), who manages the operation from a computer station safely outside.

Walking through the facility, Gary pointed out an interesting transition at the roof level between two sections of the building, explaining that a portion that was supported by a pre-engineered roofing system collapsed in 2022 due to a heavy snow load. They rebuilt that section of the building—and decided to use structural steel for the roof framing.



above: A structural steel roof supports a section of the facility that collapsed due to a heavy snowfall a few years ago.

below: The facility recently installed a rail spur.



Triple-S' service centers offer basic processing services while being careful not to step on fabricator's toes.



Photo courtesy of Triple-S Steel



Photo courtesy of Triple-S Steel

above and left: Some of the 10,000 tons of beams stored at the 250,000-sq. ft facility.

below: The company's annual managers meeting brings as many shop managers as possible to a different shop every year.



Passing Through

When it comes to shipping and receiving, material comes in by train and goes out by truck. The Denver facility recently brought a rail spur inside and employs its own drivers for transporting steel to customers. Of course, not every customer is a fabrication shop purchasing several tons of steel. During the tour, we saw a customer with a pickup truck purchasing a small load.

"We handle purchases of all sizes, like maybe someone buying a few smaller pieces of metal to use as a border for a rose garden," Gary said.

Material is routed through the building on an intricate series of conveyors between storage receiving, storage, cutting operations, and shipping. Staff scans every item, allowing for full mill test report traceability and tracking back to the mills.

Outside the facility, additional steel is neatly stacked and organized on eight acres of surrounding space.

"There's nowhere I'd rather be right now than the steel warehouse," Gary said as we wandered through the area. "We're helping people build things. I'd rather do that than be on an island."

And he spends a *lot* of time in warehouses, traveling more than 100 days a year to visit his own facilities and those of the company's extensive network of customers.

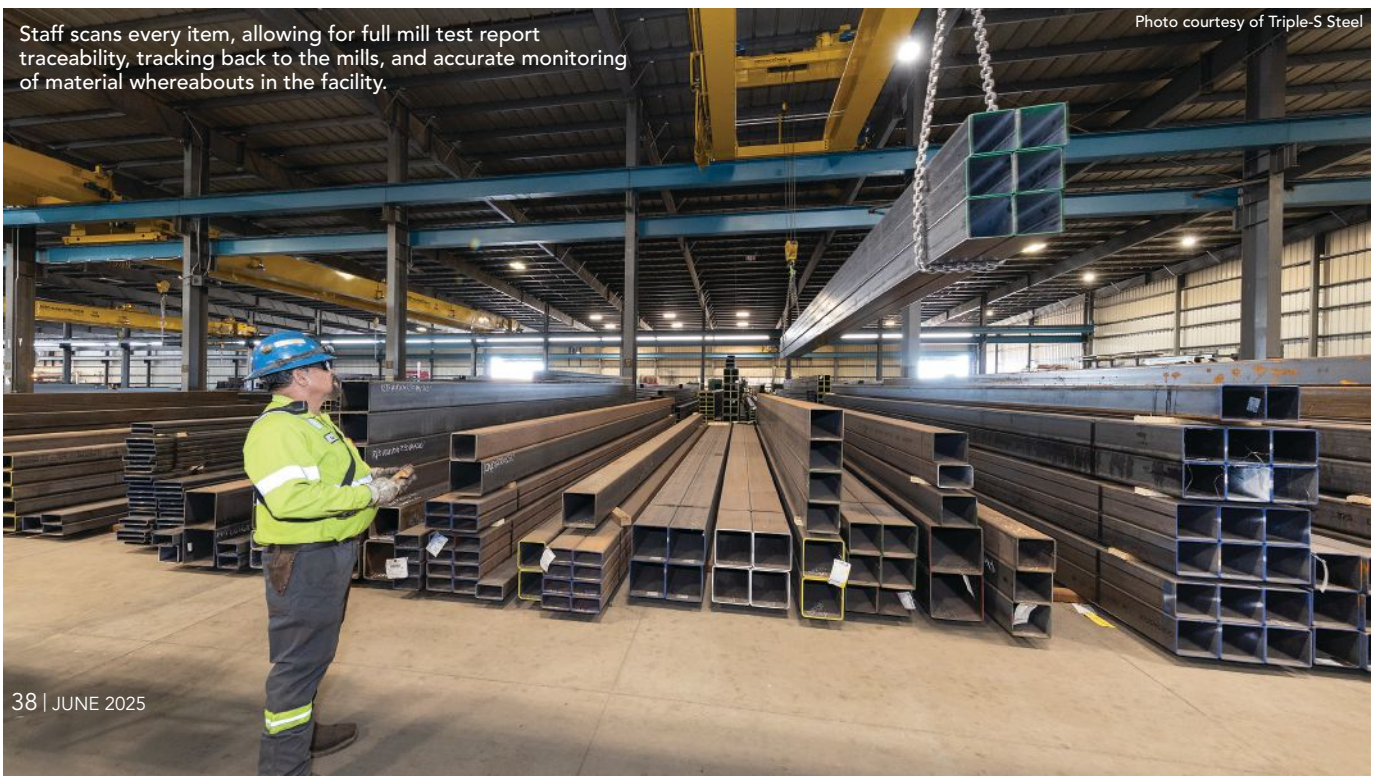
Speaking of visitors, during my tour of the shop, another tour group—much larger, to the tune of around 65 people—was making its way through the shop. Triple-S holds an annual managers meeting where it brings as many shop managers as possible to a different shop every year to develop a camaraderie, exchange ideas, and see how other shops in the network operate.



Steel deck is a recent addition to the types of inventory the facility can process.



Plate can't fit within the Fehr system, so it's stored on the floor in the warehouse.



Staff scans every item, allowing for full mill test report traceability, tracking back to the mills, and accurate monitoring of material whereabouts in the facility.

Photo courtesy of Triple-S Steel



above: The facility is of installing a tube laser capable of producing highly precise cuts on hollow structural sections (HSS) up to 16 in. in diameter and 40 ft long.

below: The laser won't be limited to HSS; it will also be capable of cutting beams, channels, angles, and plate.



Looking to the Future and the Past

To stay on the cutting edge, the Denver facility is in the process of installing a tube laser capable of producing highly precise cuts on hollow structural sections (HSS) up to 16 in. in diameter and 40 ft long. It will cut almost all types of materials: structural steel, aluminum, and stainless steel. It also won't be limited to HSS. It will also be capable of cutting beams, channels, angles, and plate. The laser is expected to be fully operational this summer and will be a first for Triple-S. It will allow customers to assemble their production jobs faster and more efficiently, in large part because its cutting time is faster than its material loading time. Daniel, who has prior tube laser experience, advocated for one at Intsel Steel West.

"We will be able to help our customers increase their quality and output," Daniel said. "It will be a game-changer."

While the company as a whole moves massive amounts of steel, one component of the Denver facility harkens back to the company's modest beginnings: a retail area. It mirrors the retail operation of Triple-S's Houston location, where Bruce Stein regularly works to this day, handing out candy and toys to kids and even coming to work in costume at Halloween.

"It's nice to be able to offer small quantities," Gary said. "No amount is too small, and we never want to gouge people on prices. As my dad has always said, 'Don't take someone's last \$5. You're trying to build relationships.'"

After 65 years in business thus far, it's safe to say they've built quite a few. ■

If you'd like to learn more about Gary Stein, Triple-S Steel's CEO, check out the Field Notes podcast "Steins Sell Steel" at modernsteel.com/podcasts or read the excerpt in the January 2025 issue in the Archives section at www.modernsteel.com.



Geoff Weisenberger ([weisenberger@aisc.org](https://www.weisenberger@aisc.org)) is the editor and publisher of Modern Steel Construction.

Share and Share a "Like"

BY PATRICK ENGEL

Steel and construction industry companies share their approach to using social media as a workforce development tool.



A PRIMARY GOAL of skilled trade workforce development programs is reshaping public perception. For many construction and steel fabrication companies, social media has become a powerful vehicle to shift opinions and, by extension, help grow the next generation of workers.

“We need to tell an authentic story of a 21st-century construction jobsite and send that message to students and school administrators, families, and adults in the home,” said Eric Fisher, Indiana Constructors’ director of talent development. “The jobsite today is much more sophisticated than anyone could have imagined.”

Most people in the trade industry agree with Fisher that construction jobs are the opposite of undesirable. They don’t have to be a backup plan for those who can’t attend college, nor should they be viewed as a lesser career. Several trade industry companies, including steel fabricators, have succeeded in branding their work as rewarding, stable, and profitable by leaning into social media. Today, it’s the most effective platform for telling a story.

No Substitute for Effort

Ask any company that has successfully leveraged social media, and you’ll learn it was not one person’s side job. It takes effort—whether that’s more staff hours, hiring third-party help with content production, or, in Indiana Constructors’ case, hiring a full-time social media person. You get out what you put in, and followers can easily spot investment (or a lack thereof).

“Our initial focus was projects and company news,” said Lisa Masters, marketing specialist at AISC member High Steel Structures. “But we’ve found that people really engage with posts showcasing our workplace and employee stories.”

Similarly, AISC member Thompson Metal Fab (TMF) initially viewed social media as a vehicle to help clients understand its scale, capabilities, and complex work. TMF vice president of business development Michael Moore posted content that aimed to make customers feel more connected to a single source of contact before doing business. Last year, though, TMF human resources director Peter Hatfield began helping and TMF hired a professional content creator who comes to the shop at least once per month. Posts now focus on people and processes, which has helped deliver increased engagement and reach.

Indiana Constructors, a member organization comprised of about 200 Indiana road construction companies, went even further. It hired a full-time social media manager for Work IN Roads, a collaboration between high school civil construction programs and industry partners (Indiana Constructors among them). That’s 26-year-old Charlie McCullough, who fills a role Fisher previously shoehorned into his schedule.



Greg Folkins Photography

“(Indiana Constructors president) Richard Hedgecock looked around and realized our story wasn’t being told,” Fisher said.

Hedgecock also wanted it to be told well to the right people. McCullough held multiple social media-oriented jobs and was close in age to an important target group for workforce development efforts: 18- to 25-year-olds. He isn’t just a young person who could reach a younger audience—he also understands how to learn what audiences want and where to find them. Most importantly, it’s not his side job.

“It’s a serious piece of the puzzle,” Fisher said, “in attracting the next generation of workers.”

Know the Medium

Effort and time spent creating content are the baseline. Knowing how, when, and where to publish it also influences a post’s impact and reach, because not all social media platforms have the same purpose and user demographics. People use LinkedIn—a professional, networking-oriented platform—for different reasons than Facebook, Instagram, or TikTok. User habits for each also differ. LinkedIn users scroll their feeds thoroughly and patiently, while Instagram and TikTok content is consumed more quickly and passively. Content that resonates on one platform often needs a different presentation to work on another.

“We find a broader audience on Facebook,” Masters said. “It’s not just professionals. It’s families of coworkers and retired coworkers. We see a lot of people still interested in the company interacting with Facebook posts, especially if it’s a throwback post to a past project. When those people see a job posting on Facebook, they’re likely to refer it to people they know or pass it along.”

A content schedule is nearly as important as the message and medium. High Steel posts two to three times per week on LinkedIn and Facebook. TMF posts about eight times per month on its main social media channels, LinkedIn, Facebook, and Instagram. McCullough keeps the same post count on all Work IN Roads platforms except on TikTok, which requires a high volume. LinkedIn and Facebook, meanwhile, are better for a less-is-more approach.

“On Facebook and LinkedIn, the biggest thing is high-quality photos and videos capturing the event,” McCullough said. “Don’t just take them on your phone and post from there. On platforms like those where you’re trying to reach parents of students or company decision-makers, it’s a quality thing. It takes a lot of time to curate the pictures and write the copy.”

The mission statement and storytelling objectives don’t change from platform to platform, though. All platforms lend themselves to connection, which is at the heart of successful workforce development initiatives. Connection develops through seeing the work and the people performing it brought to life, regardless of the target audience or how intentionally a post targets a specific audience.

“Steel alone doesn’t tell the whole story,” Hatfield said. “Without the people, it’d be raw steel sitting in the yard.”

The intentional focus on highlighting the welders, fitters, painters, inspectors, and project managers is a common thread.

“We try to sell the company,” said Sue Weniger, High Steel Structures’ human resources director. “We post projects, coworkers who earned an award, and new hires who earned a certification.”

That can make a strong impression on all job applicants, even those who found a posting without social media. It can be proof of concept for a job description that boasts about company culture or a website that lists a company’s awards.

“If you have a prospective employee, one of the first things they’ll do is go to your website,” Moore said. “They also might see if you’re on social media. If you don’t have a presence there, they may have a negative reaction to that.”

“But if a prospective employee sees you have a nice website and are active on social media, they see imagery of the work they could do. They see video of people doing the work and hearing their accounts. They’re more likely to buy into a culture before even applying. Then they show up to the shop and see fresh signs and new paint, meet people, and realize their experience on social media is their experience in person. It goes from a job opportunity to somewhere they want to be.”



Targeting with TikTok

It's hard to ponder workforce development without thinking about how to reach high school students, high school graduates who aren't college-bound, or young workers unsure of their career path. One platform is ideal for reaching them on social media: TikTok.

McCullough estimated he posted more than 1,200 TikTok videos in 2024. He reached 15 million impressions and 125,000 likes in 2024, which pushed Work IN Roads' TikTok account (@workinroads) past 8,000 followers. All posts target people ages 18 to 25 and 25 to 40. He doesn't just sit behind his computer. He visits high schools across Indiana, especially the 17 that have Work IN Roads posters in classrooms. He goes to events at schools, interacts with students, and learns what they want in their careers. Most of the time, that's a livable salary and a clear path forward.

"Young people want to make money, do it quickly, and not have a terrible time doing it," McCullough said. "All three of those can be accomplished in civil construction, and I want to show them how simple the path can be."

Short TikTok videos—some as brief as a few seconds—are effective on a platform users browse with short attention spans. When posting TikToks, McCullough gets right to the point. If the salary is the most important takeaway he wants to present, he puts it in the accompanying text from the start.

"There's no waiting five seconds," McCullough said. "When I made 45- to 50-second TikToks and waited 10 to 15 seconds to put the salary, I could see the drop-off and lower retention rate in the video analytics."

When a TikTok performs well, he will adjust its music, words, or imagery and re-post it several times over the next week. Strong TikTok engagement involves constant trial-and-error and evolution. McCullough takes what works and incorporates it into a future video. It's also at the mercy of TikTok's algorithm. Keep the volume high, and enough of them will hit.

"I build off the first video and curate it," McCullough said. "That's what gets the views. I've uploaded a video that got half a million views, but a nearly identical video the week before got 600. It's about putting in time and consistency."



An example of a Work IN Roads TikTok video.

Boosting the Entire Industry

Social media impact is quantifiable, but only to an extent. Post analytics reports reveal views, link clicks, and new followers, but not the number of people who applied for a job because they saw a captivating

video on a company's social media page. They can't show how many employees' loyalty grew because their work was displayed on social media. The correlation can be measured only by talking with the people the posts aim to impact.

The lack of directly quantifiable impact on a sole company, though, does not mean the endeavor is useless. Using social media as a workforce development tool is mainly about creating excitement and less about hiring and keeping workers at one company.

"There may not be a direct metric we can track, but you're investing in that feeling—whether you're hiring or not," Moore said.

Excitement comes from showcasing employee accomplishments, employee service anniversaries, current and past projects, a snapshot of an enjoyable company and industry culture, the path from entry-level to upper-level, and intriguing financial opportunities. The photo and video possibilities for telling those stories are endless.

"All my posts highlight an aspect of the job, how well it pays, different ways you can get involved," McCullough said. "It's not sending them to a specific link or company. It's for the whole country. I don't know who will see these videos, so I make them general and positive for the industry and let them go into the ether to generate thoughts of careers in construction."

Sometimes, those thoughts are visible.

"I've been in the comments of a video I posted that got 500,000 views and seen people commenting on how much they make in their positions," McCullough said. "I've seen people comment with their business or union that's hiring. It's almost like I see careers start in the comments section."

Added Hatfield: "More teenagers and young adults are viewing blue-collar jobs in the trades as a meaningful way to earn a living and support their families. I believe our social media presence brings that to light in our community and beyond it."

People in the AEC industry are proud of their work. Steel fabricators and erectors create buildings that become community icons or bridges essential to daily life. Walk into most fabrication shops or steel jobsites, and you'll find people who love their craft and the careers the steel industry provides. Displaying the work and the people behind it sends a positive message and strengthens pride.

"We're taking care of you from the ground up, and if you do a great job, we'll show the work you're doing," Moore said. "You can share that in a video and take pride in it."

If they're authentic stories, they're likely to resonate in a non-quantifiable but crucial way that creates a stronger industry perception and sense of accomplishment.

"If someone wants to take pride in what they do and earn a good living, this is a deeply rewarding path," Moore said. "Thompson Metal Fab may not see direct benefit from every post, but who's to say we aren't educating future workers?" ■



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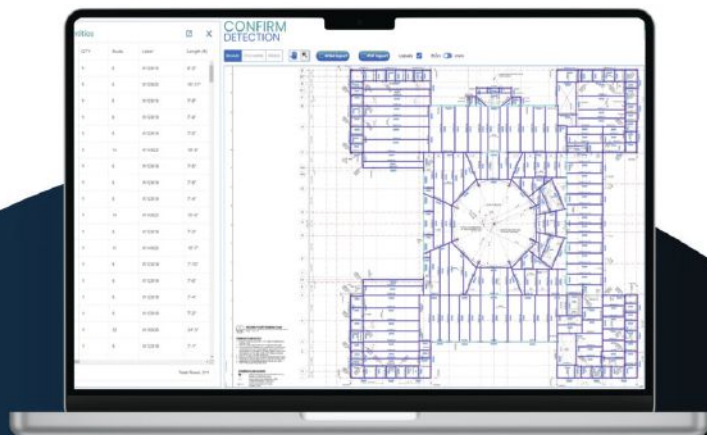


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Racing to Louisville

BY PATRICK ENGEL

NASCC: The Steel Conference descended on Derby City and brought all areas of the steel industry together.



MARK HOLLAND offered the sales pitch without prompt.

"If you're in the steel industry," said Holland, the chief engineer at Paxton & Vierling Steel, "you have to come to NASCC."

His message had multiple meanings. The 6,551 attendees at the 2025 NASCC: The Steel Conference in Louisville, Ky., in April should ensure that this year won't be their last conference. And those who didn't attend the 2025 conference should trek to Atlanta next spring and see what he's talking about.

There's something for everyone at The Steel Conference, no matter their place in the industry or time spent in working it. For those looking to learn, this year's conference had more than 270 sessions and the opportunity to earn up to 16

PDHs. For those interested in the industry's latest product offerings, 300-plus exhibit hall booths showcased innovative and often new tools that target at least one part of the steel supply chain (read about some of them in the "Hot Products" article on page 52).

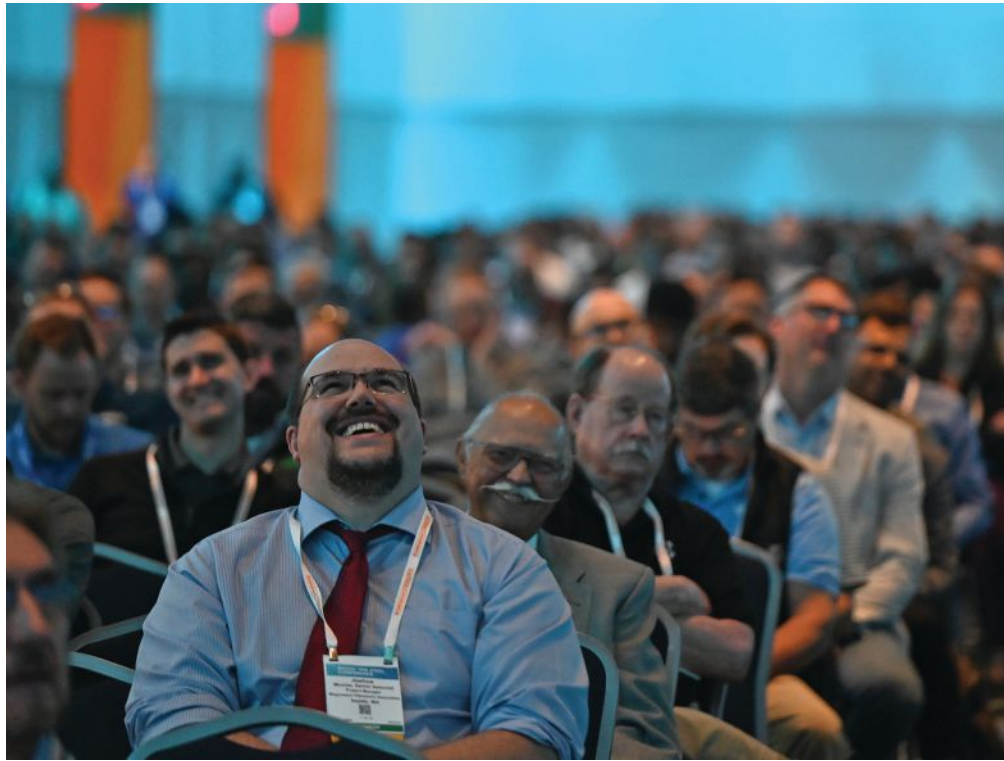
For those wanting to network, opportunity awaited in every session, every booth, and every after-hours conference event. And overall, the conference is a chance to see how the various facets of the entire industry work together.

"As someone on the design side, it's great to see the other disciplines and bring some of that (perspective) back to my work," said Dan Sloat, an associate at Degenkolb Engineers.



above: Architects took a tour of Rabbit Hole Distillery, which prominently features steel in its design.

opposite page: Keynote speaker William Arruda gave Steel Conference attendees a lesson in personal branding.



above: William Arruda's keynote speech drew about 1,000 attendees.

left: Elevate reception attendees had a blast at the photo booth.

below: Orange County Ironworks' Matthew Haaksma was one of about 50 fabricators to attend the fabricator roundtable, which brought together peers to discuss various industry topics.



Sessions in all Shapes and Sizes

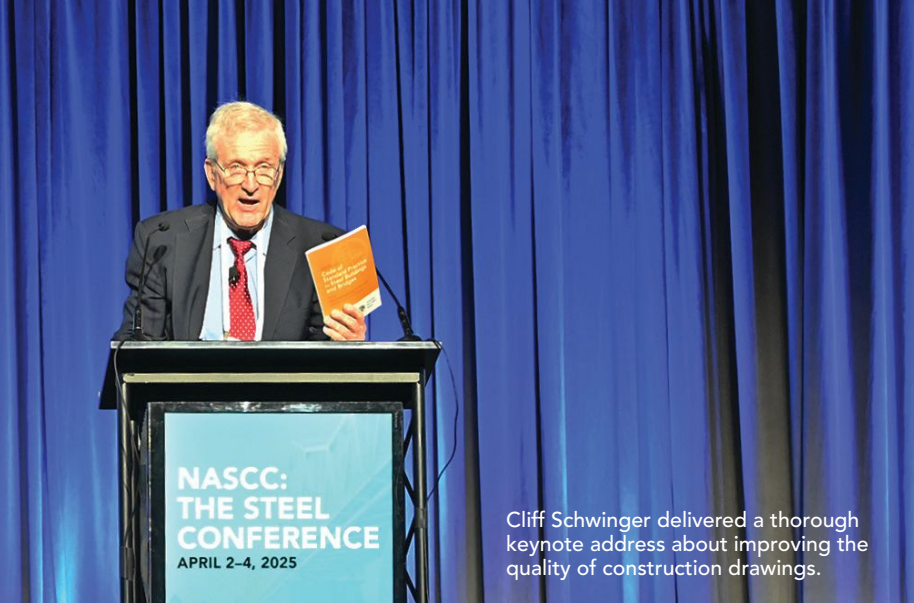
The conference's opening event was among its most popular. Many of the attendees filled the Kentucky International Convention Center's main ballroom for a Wednesday morning keynote session from William Arruda, a best-selling author and expert on building personal branding whose tips and wisdom translate across all industries.

Arruda dived into his three-step brand-building process: know, show, grow. That first step is the most important, he said, and it can't happen without self-awareness.

"Brands aren't created," Arruda said. "They're unearthed and uncovered because they're based in authenticity."

Before Arruda spoke, though, AISC presented this year's class of individual award recipients with their plaques (the full 13-person recipient list is on pages 62–63 in the February issue at modernsteel.com/archives). Wednesday session attendees also learned about the innovations and creativity behind the five 2025 AISC IDEAS² award-winning projects (to read more about them, find the "Fab Five" article in the May issue).

About 270 sessions followed over the course of the two-plus days. Shortly after Arruda's session, about 50 fabricators gathered for a two-hour roundtable to connect with peers in a non-competitive setting and discuss their industry, from workforce development strategies to training processes to their experience with AI.



Cliff Schwinger delivered a thorough keynote address about improving the quality of construction drawings.



The Steel Conference featured more than 270 sessions.



A 3D-printed steel bridge was the main feature in AISC's booth.



Angella Wilson of Kentuckiana Works dished out creative workforce development ideas.



The steel detailing Jeopardy! session drew an enthusiastic audience.

There might not have been a hotter session topic than AI, which was the focus of eight sessions—many packed to the brim.

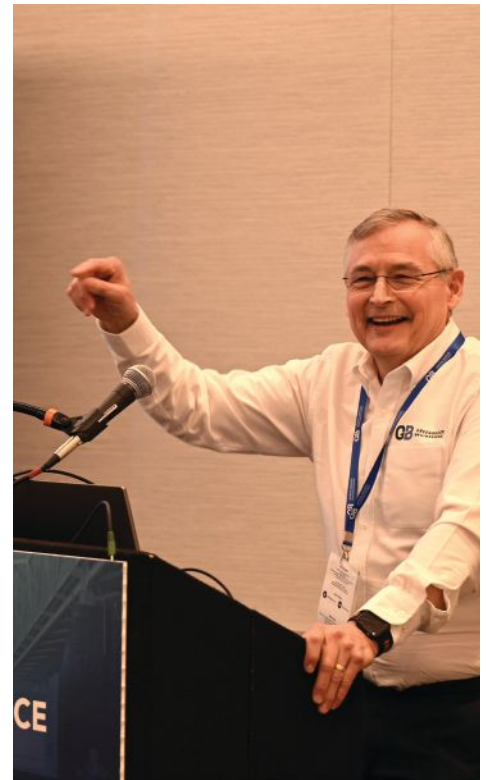
Speakers explained how AI has helped and impacted fabricators and engineers, discussed AISC's AI initiatives, and learned about AI can positively impact and supplement the workforce.

The next two mornings also featured well-attended keynotes. First, IMEG senior structural engineering specialist Cliff Schwinger shared his thoughts on how engineers can improve the quality of construction drawings (read more about his ideas in the "Commitment to Quality" article in the March issue). And to wrap up the conference, High Steel Structures vice president of technical services Ronnie Medlock presented his 2025 T.R. Higgins Lecture, in which he explained why engineers should have a firm understanding of fabrication practices and how that knowledge can achieve excellence in their steel projects.

If you can think about a relevant topic in the steel industry, it was likely discussed in a session. Two sessions focused on the purpose, design, and fabrication of a buzzworthy exhibit hall feature: the 3D-printed bridge in the AISC booth. Another featured a landmark steel reuse project in Boulder, Colo., that's believed to be the first U.S. instance of taking steel from a deconstructed building and using it in a new commercial building (read the "Ambitious Reuse" article in the August 2024 issue to learn more).

Not all sessions are like classrooms, though. AISC member detailer Greenbrook Engineering held a game of detailing-focused Jeopardy! that gave engineers and fabricators a deeper understanding of the common phrases and occurrences they encounter when interacting with detailers. Attendees answered the clues in mere seconds—a reminder that detailing is still a crucial part of a successful project (and that picking the right detailer can sometimes determine project success).

If you couldn't make a session you hoped to attend in person or online, or didn't make the conference at all, you can view session recordings at aisc.org/learning. Recordings of all NASCC Online sessions and many in-person sessions will be posted by early to mid-June.



Greenbrook Engineering's David Bailey hosted a Jeopardy! session focused on steel detailing.

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above and below: With its basketball hoop and caricature artist, Steel Plate's booth was a popular place for a break on the exhibit hall floor.



Hall Finds and Fun

Like every year, the exhibit hall floor attracts people in the market for the latest and best steel industry products—some of which were released right before or even during the conference.

But the exhibit hall is not only a steel industry shopping mall. Pioneer Machine Sales booth visitors could try out a welding torch themselves. Conference attendees wanting a break could head to Steel Plate's booth, which had an oft-busy basketball hoop and a caricature artist. Controlled Automation leaned into the Louisville theme to show off its machine's capability. The machine cut steel plate to make a flat bourbon barrel and three monkeys—yes, inspired by the popular toy.

Maybe the most popular gathering place in the exhibit hall was at the AISC booth, due in no small part to the 3D-printed bridge. Attendees could walk across the 36-ft, nine-ton bridge, examine its 3D-printed arch up close, and even sit on its spans to eat lunch.

The bridge was a group effort. The 17-ft-high, 10-ft-wide arch was printed at Lincoln Electric's additive manufacturing facility in Cleveland and designed by CAST CONNEX. AISC member SteelFab fabricated the rest, with Atlas Tube providing HSS sections and Chicago Metal Rolled Products providing bending and rolling services. Magnusson Klemencic Associates was also involved in the design. And it wouldn't have gone from concept to complete without Georgia Tech professor Ryan Sherman, PE, PhD, an additive manufacturing expert who earned the 2023 AISC Milek Fellowship to research the topic.



left: Controlled Automation demonstrated its machines' power by cutting a steel barrel of monkeys.

above: The AISC booth was a prime spot for networking and checking out the 3D-printed steel bridge.

right and below: Everywhere on the shop floor, exhibitors were eager to discuss their products and network with attendees.



Also present in the exhibit hall and throughout the conference? Students! About 20 students from Louisville-area high school career and technical education (CTE) programs spent Friday morning learning how to read construction drawings from professionals and scouring the exhibit hall on a scavenger hunt. College engineering students were even more prevalent, traveling from labs and lecture halls across the country. Among them were 142 attendees at Students Connecting with Industry Sessions, which provides networking opportunities with leading designers.

Students accounted for many first-time conference attendees, but not all of them. First-timers came from all corners of the industry and all levels of experience—and plan to return.

“I met so many industry people from all over the country,” said Sudhakar Vatti, PE, a bridge engineer at the California Department of Transportation since 1991. “I had never had this opportunity before. I’ll be back, and I’ll bring my junior engineers to the next one.”

Next year, the Steel Conference heads to Atlanta from April 22–24. We hope to see you there! ■



above: Students Connecting with Industry Sessions attracted college students from across the country.

below: Louisville-area CTE program students learned how to read drawings before embarking on a scavenger hunt in the exhibit hall.



Patrick Engel (engel@aisc.org)
is the associate editor of
Modern Steel Construction.

The exhibit hall at the 2025
NASCC: The Steel Conference was loaded with tools
for designing and building successful steel structures.

2025 Hot Products

More than 6,500 steel industry professionals convened in Louisville, Ky., in early April for the 2025 edition of NASCC: The Steel Conference. Every one of them had the chance to visit 310 exhibitor booths featuring products, services, equipment and machines that target at least one corner of the steel industry and supply chain. This year, conference attendees voted for their favorite exhibit hall offerings from a list of candidates. Here are the top vote-getters. (Congratulations to Bartek Bugala, who won an iPad in the drawing all voters were entered into)!

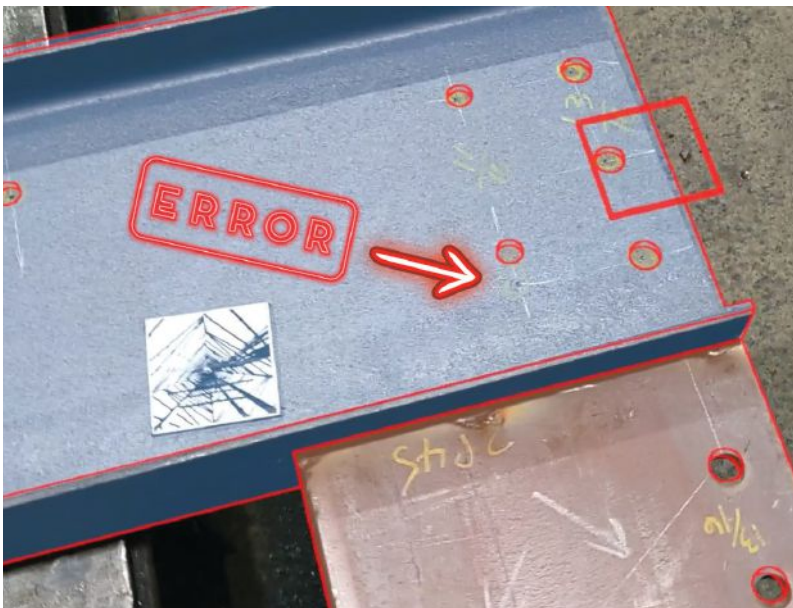
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All product, software, and service information was submitted by the manufacturers, developers, and providers. This list does not constitute endorsement by *Modern Steel Construction* or AISC.

Atlas Tube HSS Connections Hub

HSS Connections Hub from Atlas Tube, a division of Zekelman Industries, has an innovative suite of engineering resources designed to simplify HSS connection design for structural engineers and fabricators. Connections Hub is built to save time designing HSS connections, optimize HSS connection designs for fabrication, improve team collaboration and project sharing, and eliminate outdated and highly customized spreadsheets.

Connections Hub includes a variety of downloadable typical connection details and advanced HSS design calculators, allowing engineers to design a variety of connections while reducing costs and complexity. Connections Hub calculators will be used to generate optimized designs for specific loads, minimizing inefficiencies that can create late changes on a project. Additionally, the platform provides professional-grade reports that can be submitted for project stakeholder approvals, streamlining communication between engineers, fabricators, and connection detailers. Visit www.atlastube.com for more information.



FabStation Augmented Reality Software

FabStation is bringing constructible 3D data to the shop floor. With our augmented reality (AR) inspection and production reporting tools, you can modernize your production and perform visual inspections in half the time.

The FabStation tablet app gives fabricators access to 2D drawings, 3D models, and AR projection directly on the shop floor. By visualizing the model in their work environment, fabricators reduce RFIs by 80%, increase apprentice productivity by 40%, and catch basic errors early, cutting rework by up to 85%.

Inspectors can use the Microsoft HoloLens to overlay the 3D model with 1/16-in. accuracy, cutting inspection time by 50% without the need for a tape measure. Visually compare each element's placement and orientation to streamline quality checks. Visit www.fabstation.com for more information.



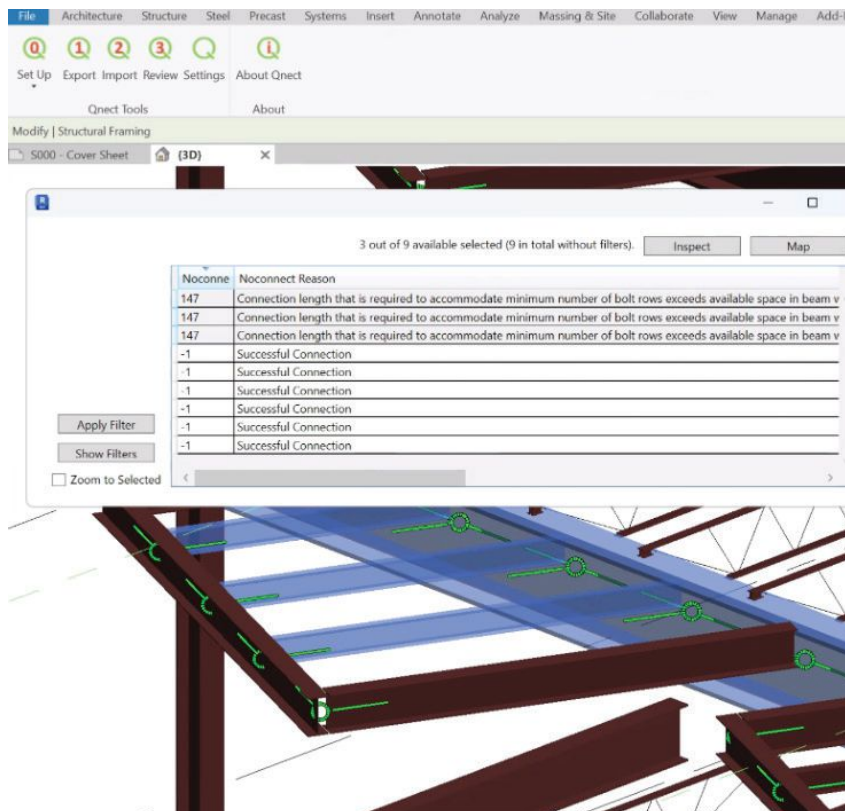
ENERCALC for Revit/Enercalc SEL

ENERCALC redefines efficiency for structural engineers by bridging the gap between powerful calculation tools and seamless BIM integration. Our flagship solution, ENERCALC for Revit, transforms the design workflow by embedding intuitive structural calculations directly within Autodesk Revit, eliminating the need for external software and redundant data entry. This unique integration enhances collaboration between engineers and architects, reduces errors, and accelerates project timelines.

For engineers who need a comprehensive standalone solution, the ENERCALC Structural Engineering Library (SEL)

delivers an extensive suite of design modules covering steel, concrete, wood, and masonry structures. Its intuitive interface and robust analytical capabilities empower engineers to quickly perform code-compliant calculations without the complexity of full FEA software.

What sets ENERCALC apart is its focus on practical, engineer-centric design—offering speed, flexibility, and a streamlined workflow that saves valuable time on every project. Whether working within Revit or as a standalone platform, ENERCALC provides the essential tools engineers need to design with confidence and efficiency. Visit enercalc.com/why-enercalc for more information.



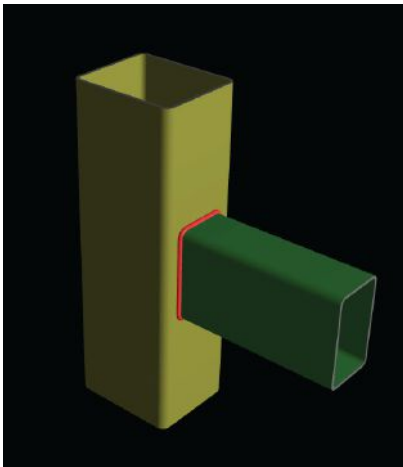
Qnect for Autodesk Revit

Qnect for Autodesk Revit automates the identification of steel framing issues within Revit, allowing users to visualize, coordinate, and resolve them early in the design process. Visualizing steel joints that require reinforcements like doublers and stiffeners can be much faster to document when integrated within a common BIM environment. This proactive approach ensures more constructible designs, reducing RFIs and boosting profitability during construction administration.

Qnect for Autodesk Revit's key benefits include:

- Time savings: Documenting complex reinforcements of framing and resolving RFIs early result in significant time savings.
- Increase profitability: Spending less time in the construction phase resolving issues makes projects much more profitable.
- Enhanced learning: Young engineers gain insights into building accurate models, understanding constructability, and designing efficient structures.

Visit www.qnect.com/qnect-autodesk-revit for more information.



RISAConnection, RISA

RISAConnection is the premier solution for structural steel connection design, offering engineers an intuitive and powerful platform to streamline their workflow. With full 3D visualization, expandable reports, and comprehensive analysis, RISAConnection ensures confidence in every design.

What sets RISAConnection apart is its seamless integration with RISA-3D, RISAFloor, and industry-leading software like Tekla Structures and Hilti PROFIS. This connectivity allows for efficient data exchange, reducing manual input and minimizing errors. Additionally, RISAConnection now includes full anchorage design, making it a one-stop solution for both steel and foundation connections.

With the recent release of RISAConnection v16, engineers have access to the highly anticipated HSS beam-to-column moment connection, further expanding design possibilities. Whether tackling complex moment frames or standard shear connections, RISAConnection delivers precision, speed, and reliability—ensuring engineers can design with confidence and efficiency. Visit www.go.risa.com for more information.

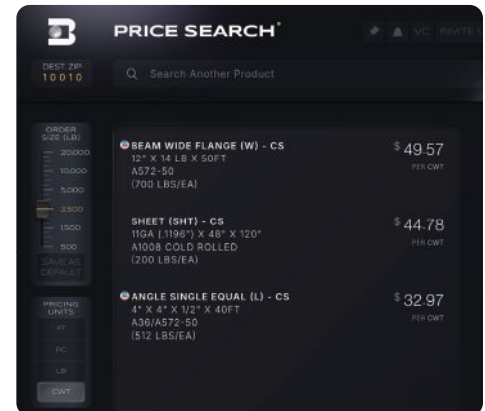
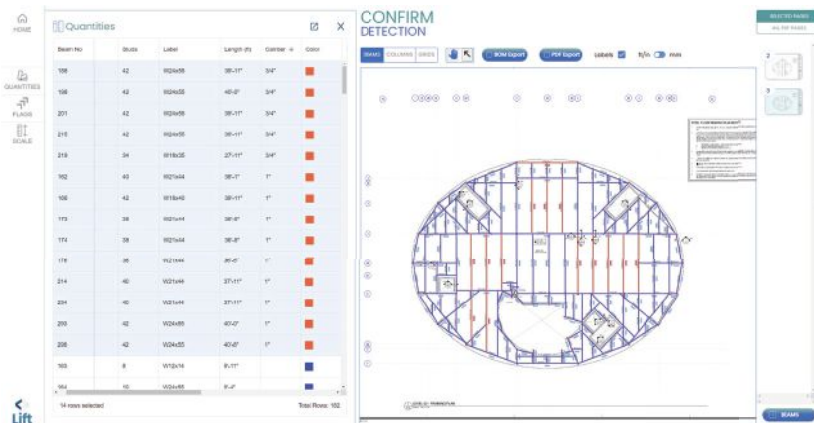
SketchDeck.ai LIFT

Every steel fabricator knows the math of success: more bids = more wins = more profit. The bottleneck? Manual takeoffs. LIFT by SketchDeck.ai is the AI-powered material counting software reshaping the structural steel industry. While traditional estimators spend hours tediously counting elements, LIFT users are submitting bids and winning contracts.

These numbers sound too good to be true, but this is the reality of a tool that delivers on the promise of AI. Our customers have reported some astounding figures, including:

- Reducing takeoff time by up to 80%
- Single estimators going from completing three to 15 bids in a month
- Increasing their monthly bidding output by 200%
- Increasing their bottom line from more bids won

For most steel fabricators, time isn't just money; it's opportunity. Every hour spent manually counting is an hour not spent on high-value analysis or additional bids. LIFT doesn't just count steel faster. It transforms how your estimating team operates, turning your experts from manual counters into strategic bidders who can focus on the nuances that win contracts. Visit www.sketchdeck.ai for more information.



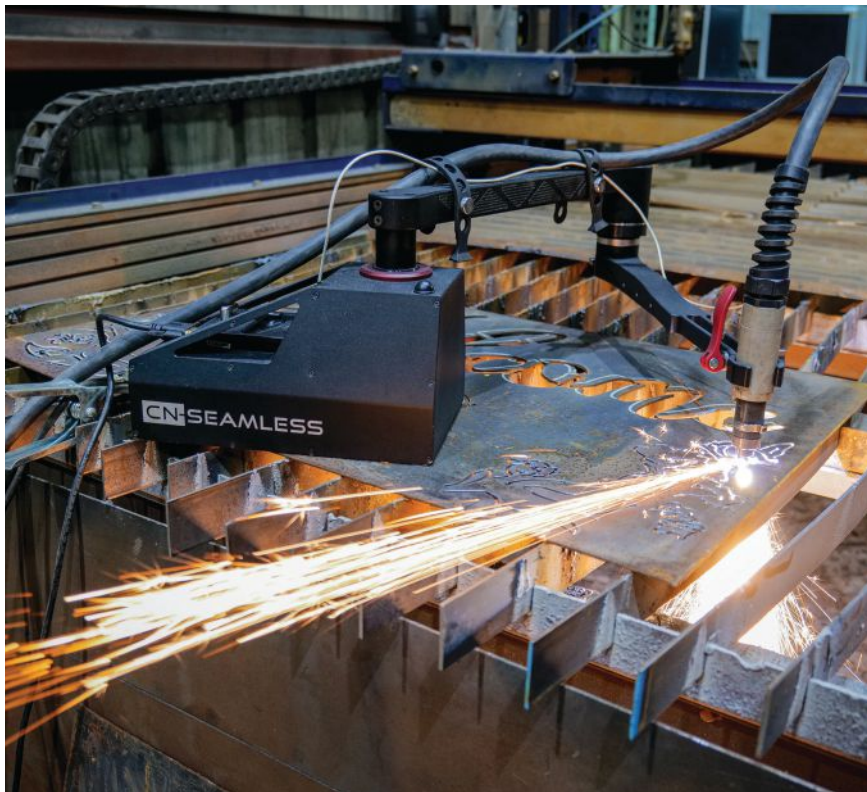
Bryzos Gone in Sixty Seconds

Bryzos, a go-to metals marketplace for professional buyers and sellers, built the first instant pricing and procurement application for the metals industry: Gone In Sixty Seconds, the fastest metal trading experience in the market.

Users can search commodity metal products to instantly access real-time market pricing for those products. Type any product nomenclature you typically use to find the products you're looking for in the fastest search engine that exists.

Buyers place orders by typing in their products they require, the shipping destination, and click "Place Order." Sellers claim orders by actively monitoring new and available purchase orders waiting to be fulfilled within the app. The sellers in the Bryzos network are comprised of the top service centers in the U.S. and familiar local suppliers.

Bryzos is available for all Mac and PC desktops, plus iOS and Android mobile devices. Visit www.bryzos.com for more information.



CN-Seamless Mach 1 Combo Kit

The Mach 1 Combo Kit is a game changer for fabricators who find themselves in the limbo of high-mix, low-volume fabrication. It's designed to mount directly to material being cut via electromagnet and it can be programmed by even the least tech-savvy fabricators in minutes.

Equipped with a lightweight CAD software, complex .DXF files importing, and point-to-point tracing features, the Mach 1 can cut any profile in a 68-in. diameter range while only weighing 20 lb. It supports interchangeable attachments for oxy-fuel and plasma cutting, with attachments for new processes like overlay welding and beveling scheduled for release later in 2025.

The Mach 1 is the ultimate tool for fabricating on the fly, its versatility is unmatched and the ease of use means even inexperienced fabricators can produce expert-level cuts in the field and all corners of the shop. Its capabilities open the door to all kinds of savings on logistics, material transportation, in-house production, skilled labor requirements, layout time, and cleanup time. Visit www.cn-seamless.com for more information.

Precision Steel Systems R4X

The new R4X from Precision Steel Systems is the next generation of railing layout technology and designed for shops with the need for additional capacity. Its ability to lay out designs on both left and right sides gives fabricators the ability to maintain assembly progress while layout continues on another table.

The R4X uses industrial-strength markers, creating a mess-free, economical solution with little-to-no maintenance or clean-up. It makes clear, crisp lines regardless of design complexity. Its extreme flexibility allows it to draw on one table or stair stringer while allowing your fabricators to assemble, weld, and prep another table at the same time—ensuring a layout is always ready for assembly, eliminating unnecessary and costly downtime.

The R4X's layout capacity is only limited by the needs and imagination of the fabricator, and it can handle a single-layout table or multiple tables on each side shuttling in and out. The R4X can adapt as your business and your shop change and grow. Combining its flexibility with PSS's unmatched line clarity makes it a clear choice for any fabrication shop looking to increase their precision and their productivity. Visit www.precisionsteelsystems.com for more information.





HGG APEX Robotic Plasma Coper

Plasma coping has transformed from an innovation to a commodity in structural steel fabrication, and the APEX Robotic Plasma Coper is engineered to outperform every existing solution on the market, setting a new benchmark in thermal coping technology. Built with a never-seen-before design, APEX eliminates inefficiencies, maximizes automation to reduce operator dependency, and incorporates advanced cutting routines that minimize secondary processing. By integrating cutting-edge, proven technology, it delivers unmatched precision, versatility, speed, and reliability.

With APEX, fabricators no longer must choose between performance and quality. They get both. The fabricator gets everything they ever needed for an affordable price. Visit www.hgg-group.com/machines for more information.



Automated Layout Technology Lightning Rail

The Lightning Rail is the industry's first fully automated CNC marking machine engineered specifically for commercial handrail and guardrail layout. Whether you're working with picket railings, stair stringers, or ladders, The Lightning Rail simplifies even the most complex configurations. By converting your digital designs into precise, full-scale layouts printed directly onto our rugged, steel-framed fabrication table, it eliminates manual measuring and boosts shop efficiency—saving you time, reducing errors, and increasing profitability.

In just minutes, your handrail layout is transferred directly onto the fabrication table—accurate, ready and waiting for materials. Say goodbye to hours spent with tape measures, squares, and soapstone. The Lightning Rail slashes layout time by over 50%, freeing up your team to focus on fabrication, not

guesswork or deciphering drawings. Load a drawing file into the controller or download it from your server, press print, and start prepping materials while the layout completes itself. With accuracy you can trust and production speeds over twice as fast, your shop produces better results in less time. Multiply that across hundreds of handrails and guardrails, and the boost to your bottom line is undeniable.

The Lightning Rail's intuitive interface is simple to operate and compatible with any DXF file. Its compact design fits seamlessly into your existing fabrication space, while its versatile functionality makes it ideal even for complex layouts beyond railings. Layouts wash off easily with a biodegradable, odorless solution. Choose from 4-ft or 8-ft table widths, with a total table length just under 30 ft designed for efficiency without compromising floor space. Visit www.automatedlayout.com for more information.

HOT products

Simpson Strong-Tie Strong-Link Moment Connection

Strong-Link Moment Connection (SLMC) is engineered for wind-governed structures, the high-strength SLMC streamlines the design process for specifiers and steel contractors. This fully bolted solution eliminates the need for field welding, drastically cutting labor and inspection costs while speeding up frame installation. Oversized holes in the link flange ensure optimal alignment at the connection interface between the beam and column. As with all solutions from Simpson Strong-Tie, the SLMC is backed by our expert engineering support, software and nationwide distribution network.

The notched section in the SLMC enables the connection to function without interfering with the shear tabs. This notch allows the link to be used with standard depth shear tabs, simplifying the connection design, preserving the integrity of the connection and enabling efficient load transfer, while maintaining the overall strength and reliability of the structural system. Visit www.strongtie.com for more information.



OTH Pioneer Rigging Wireless Quick-Release Lifting Hook

On a typical steel erection site, ironworkers spend 30 seconds to several minutes per lift climbing up to release the rigging from their beams, columns, joists, or any other kind of steel piece. Over a year, 10,000+ minutes and hundreds of hours are spent unhooking loads.

The Wireless Quick-Release Lifting Hook helps crews remotely disengage loads within seconds. They also offer the flexibility to sync multiple hooks on a single remote, enabling crews to coordinate and control multiple leg lifts simultaneously. Not only can you release multiple hooks at once, or individually by color code, each hook is built to perform up to 500 lifts on a single charge.

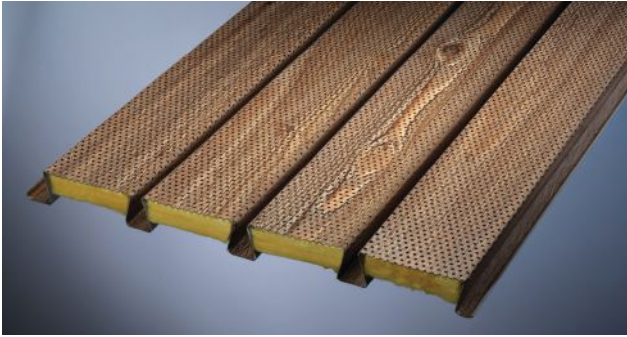
These hooks are designed with a fail-safe mechanism that ensures they remain securely locked under load, even if the hook battery is fully discharged. There is also a two-button hook-release sequence on the remote that prevents accidental releases of any kind. The highly durable design is derived from a rugged choker system used in the forest industry. OTH Pioneer Rigging is fully committed to implementing this vital solution in the steel industry. Visit www.othrigging.com for more information.

New Millennium IMPRESSIONS Steel Deck

IMPRESSIONS steel deck blends the beauty of wood and the strength of steel. Part of the Versa-Dek steel deck series, this pioneering profile features six aesthetically appealing wood-grain finishes enabling architects and interior designers to achieve a desired look and feel, once unattainable using steel alone. You won't believe it's not wood.

Brought to life through an innovative coil-coated digital printing process, IMPRESSIONS is embedded on the dovetail profile of Versa-Dek to present a clean, lineal plank appearance with exceptional long-spanning capabilities. Its impressive span and overhang capacities allow for open space design with fewer supports and, by concealing side-lap and fastener penetrations, IMPRESSIONS is ideal for interior and exterior applications, such as canopies, lobbies, and conference rooms in office buildings, hotels, and resorts.

This warm, wood-grain profile is now available in an acoustic deck able to achieve a noise reduction coefficient (NRC) rating of up to 1.15. With six finish options, it's all about unlocking new design possibilities and making the right impression. Visit www.newmill.com for more information.



HOT products



Applied Bolting Squirter DTIs

Applied Bolting Technology manufactures Squirter Direct Tension Indicators (DTIs) that expel durable orange indication media, providing visual verification of bolt tension. DTIs are mechanical load cells, combined with standard bolt assemblies, that ensure compliance with all modern applicable structural bolting standards and specifications.

Torque, turn-of-nut, and twist-off bolts can all produce false-positive tension and regularly do: Torque scatter is $\pm 40\%$ for new bolts and worse for bolts exposed to the elements for any length of time. DTIs read load; if a bolt is tight, a DTI will show it, independent of weather, torque, angle, tool, or skill. If a bolt is not tight, a DTI will illustrate that as well, allowing the field to make corrections before a structure enters service. Visit www.appliedbolting.com for more information.



Portland Bolt Plasma-Cut Bolts

Portland Bolt now offers domestically manufactured high-strength heavy hex coupling nuts produced on its new five-axis CNC lathe. Hex couplers are used to connect two externally threaded fasteners, with both ends of hex and heavy hex couplers threaded right-hand.

Portland Bolt keeps a full line of domestic and imported couplers in stock, including its most popular sizes ranging from $\frac{3}{4}$ -in. to 1 $\frac{1}{2}$ -in. diameters. The company can also manufacture a full range of diameters from $\frac{1}{2}$ in. to 6 in.

Manufacturing coupling nuts in-house means more control of the finished product, better accommodation of lead times, and more flexibility in meeting customers' needs. Visit www.portlandbolt.com for more information about Portland Bolt's range of capabilities, products, and list of stocked hex coupling nuts. ■

IN MEMORIAM

AISC Remembers Iconic Detailer John Linn



John Linn, the former president of the National Institute of Steel Detailing (NISD) and a practicing professional for nearly five decades, died

March 6 at the age of 83.

“The NISD lost an industry icon,” said Kerri Olsen, NISD’s current president. “John had been involved with the NISD for so long and had done so much for the steel detailing community. We remain shocked by the news that he is no longer with us.”

In the mid-1960s, he started his eponymous firm, John Linn Associates, in Livermore, Calif., and grew it into one of the most respected domestic detailing companies.

Linn was one of the leaders in the development of the AISC/NISD Steel Detailing Educational CDs, which still lives as an intro to steel detailing on the AISC website (aisc.org/detailertraining). Linn was a strong proponent for training and developing new detailers and often cited studies showing a shortage of detailers in the U.S. He also was instrumental in developing the detailing track at NASCC: The Steel Conference.

“John was a tireless proponent for the need to provide training to help grow the domestic steel detailing industry,” said Scott Melnick, senior vice president at AISC. “He worked hard to explain the benefits that using a domestic detailer provides. Early in my career, he was one of my go-to sources for anything related to steel detailing. The entire steel industry will miss him.”

IN MEMORIAM

AISC Remembers HSS Expert Donald Sherman

Donald R. Sherman, a former professor at the University of Wisconsin-Milwaukee and a leading expert on hollow structural steel (HSS) connections, died March 26 at age 89.

Born in Cleveland, he received his bachelor’s and master’s degrees from Case Institute of Technology (now Case Western Reserve University) and his PhD in structural engineering from the University of Illinois. He worked for ESSO Research before joining the faculty at UWM, where he retired as a professor emeritus in 1997.

Sherman was a long-time member of the AISC Committee on Specifications and the Structural Stability Research Council. He was widely regarded as an expert on the design and behavior of HSS, for which he was honored in 2002 with an AISC Lifetime Achievement Award.

“I met Don and his wife, Joyce, in 1964 when I went to the University of Illinois, and we’ve been close friends ever since,” recalled James M. Fisher, PE, PhD, former chair of the AISC Committee on Specifications. “Don had a great dry sense of humor. Two items he instructed me about were that when doing experimental research, ‘you should only perform two tests, so that you can draw a straight line between the data points—a third test may mess that up!’ He also told me that while working as ESSO,

he wrote his first computer program and it still works to this day: ‘You feed the results of your hand calculations into a computer program and then print the answers out so that they’re believable!’”

Sherman was the author of hundreds of papers and publications, notably the first edition of AISC Design Guide 24: *Hollow Structural Section Connections*, AISC’s 2002 report on the Design of Extended Shear Tabs, and the 1996 *Engineering Journal* paper “Designing with Structural Tubing.” You can also find some of his lectures in AISC’s education portal at aisc.org/learning.

“Don was such an unassuming person,” said AISC President Charles J. Carter, SE, PE, PhD. “He listened more than he spoke, but when he did what he said always helped the group he was working with get closer to the solution.”



People & Companies

Larson Engineering, Inc. has completed its acquisition of **Fagen Engineering, LLC**, the engineering arm of construction company **Fagen, Inc.**

The acquisition strengthens Larson’s position in industrial engineering and represents a key component of the company’s ten-year strategic plan aimed at achieving 25% revenue growth.

Larson Engineering is retaining all of Fagen Engineering’s employees and maintaining existing office leases in Granite Falls, Minn., and Greenville, S.C. The acquisition stemmed from Larson’s more than 20-year working relationship with Fagen Engineering and Fagen, Inc.

Messer Cutting Systems appointed **Annette Doyle** as its CEO and the president of **Messer Cutting Systems America**. With a distinguished career in manufacturing and a passion for innovation and operational excellence, Doyle is poised to lead the company into a new era of growth and technological advancement.

Doyle’s experience spans manufacturing, customer enablement, technical service, and general management. She led large-scale business transformations in multiple international locations—always with a focus on operational excellence, employee engagement, and sustainable growth. She holds degrees in mechanical engineering and business administration, along with a master’s in technology management from institutions in the U.S. and Germany.

Messer has also named **Norbert Klapper, PhD** as its new global CEO, succeeding **Bill Heller**, who will step down. Klapper has extensive global leadership experience in industrial manufacturing and most recently served as CEO of Rieter, a world-leading supplier of systems for short-staple fiber spinning.

IN MEMORIAM

AISC Remembers Longtime Board Member and Industry Icon David Hirschfeld

David L. Hirschfeld, the former president of Hirschfeld Industries, died February 28 at the age of 88. Under Hirschfeld's leadership, the eponymous fabrication firm, which was acquired by W&W | AFCO



Steel in 2018, grew to 16 facilities with 1,300 employees and more than 3 million sq. ft. under roof in 2002, when he retired.

"David was bigger than life—you knew when he was in the room," said Karl Frank, PE, PhD, a professor emeritus at the University of Texas at Austin and the former chief engineer at Hirschfeld Industries. "Upon returning from Texas Tech to the family business, he grew it from a small welding shop to one of the largest steel bridge fabricators in the country. When I asked how he did it, he said he bid each job bigger than the last one."

Hirschfeld leaves a legacy of projects like the U.S. Embassy in Moscow, the National Constitution Center, CitiPlace, JP Morgan Chase Dallas, Infomart, the Leonard Zakim Bridge, the Tappan Zee Bridge in New York, and more than 10 active professional and major college sports venues.

Hirschfeld was a longtime member of the AISC Board of Directors. He graduated

from Texas Tech University with a degree in civil engineering in 1963 and, in 1998, was named a distinguished engineer at Texas Tech. He and his wife, Judith, were heavily involved in local philanthropy. In 2016, Angelo State University named the David L. Hirschfeld Department of Engineering in his honor.

"The fabrication industry lost one of its last remaining titans with the passing of David Hirschfeld," said John O'Quinn, an AISC board member who is the current president of High Steel Structures and the former president of Hirschfeld Industries. "David's larger-than-life persona propelled the visionary leader who transformed a small family-owned business in West Texas into one of our nation's most significant and influential structural and bridge fabricators. His contributions to countless iconic projects, dedication to family, and community service leave a lasting legacy."

AWARDS

Georgia Tech PhD Student Receives AISC Young Professional Award

Hannah Kessler, a PhD student at Georgia Tech, is the 2025 recipient of the AISC Education Foundation's Reidar Bjorhovde Outstanding Young Professional Award. She intends to become a structural engineering faculty member after completing her PhD this spring. Kessler holds a bachelor's and master of science in civil engineering from Clemson University.

"In addition to Hannah's impressive record of academics, leadership, teaching, and research, Hannah has already taken on an active and impactful role as a mentor to others," AISC director of foundation programs Maria Mnookin said. "Through this award, we are excited to connect Hannah to opportunities, resources, and mentors to further propel her forward in her career as an academic in the steel industry."

"Hannah possesses the qualities, skills, and determination to advance the structural steel industry," said Ryan J. Sherman, PE, PhD, her advisor at Georgia Tech. "Ultimately, I am confident that Hannah will significantly contribute to the field of civil engineering and inspire future generations of engineers."

First, Kessler attended NASCC: The Steel Conference in April, where she learned about the latest innovations in designing and building with structural steel. Later this year, she will get a first-hand look at what goes on between the drawing table and the jobsite through visits to a structural steel mill and a fabrication shop. She will also attend the November meetings of the AISC task committees responsible for the standards that govern structural steel design and construction.



"[This award] is a transformative milestone in my career, offering invaluable opportunities for professional growth and development," Kessler said. "The connections I will make through this award will be instrumental in shaping my future research and teaching endeavors."

About the Award

Reidar Bjorhovde was a consummate professional, researcher, leader, and enormous contributor to the world's knowledge of steel structures. He had a life-long passion for mentoring bright young professionals, whether in graduate school or just starting in an engineering career. This award continues that legacy by introducing award recipients to steel industry leaders who will act as mentors and "connectors," as Reidar did for so many.

The AISC Education Foundation sincerely thanks Nucor, Pat Bjorhovde (Reidar's widow), and many generous donors who helped establish this award in 2023. Learn more about it and other Foundation awards at aisc.org/giving.

CERTIFICATION CORNER

AISC certification sets the quality standard for the structural steel industry and is the most recognized national quality certification program. It aims to confirm to owners, the design community, the construction industry, and public

officials that certified participants, who adhere to program criteria, have the personnel, organization, experience, documented procedures, knowledge, equipment, and commitment to quality to perform fabrication, manufacturing,

and/or erection. Find a certified company at [aisc.org/certification](https://www.aisc.org/certification).

The following U.S.-based companies were newly certified or renewed certification in at least one category from March 1–31, 2025.

Newly Certified Companies (March 2025)

Allen Steel Erection, Inc., Cocoa, Fla.
BASW, LLC, Prince Frederick, Md.
BD Erectors, Skillman, N.J.
Beltran Bros Steel Fabrication, Inc., Houston
Cedar Valley Steel, Cedar Rapids, Iowa
Cumberland Steel Co., LLC, Corbin, Ky.
IG Steel, LLC, Kapolei, Hawaii
Loenbro LLC, Bloomfield, N.M.
Process Service Specialists, LLC,
Lake Charles, La.
Ram Steel LLC, Bakersfield, Calif.
SME Steel Contractors, Pocatello, Idaho
SteelGen, LLC, Longmont, Colo.
West Coast Structural Steel, San Jose, Calif.
Westco Iron Works, Newman, Calif.
Willfab, Inc., Marietta, Ga.

Certification Renewals (March 2025)

Ace Fabricators Inc, Houston
Acero Construction Services, Kyle, Texas
ACME Erectors, Inc., Fenton, Mo.
Adena Corp Florida, Lakeland, Fla.
AF Steel Fabricators, Chandler, Ariz.
Alfab, Inc., Enterprise, Calif.
Allied Steel Co., Inc., Riverside, Calif.
Anvil Steel Corporation, Gardena, Calif.
Apache Fabricators, LLC, Houston
ARCOSA Meyer Utility Structures Inc.,
Fort Worth, Texas
Atlanta Steel Erectors, Inc., Smyrna, Ga.
Barker Steel Construction, Inc., Tucson, Ariz.
Basden Industrial Group, LLC,
Brookshire, Texas
Basden Steel Corporation, Burleson, Texas
Basden Steel Corporation, Claremore, Okla.
Big Boy's Steel Erection, Inc., Hazelwood, Mo.
Black Lion Products, Austintown, Ohio
Bowman Steel LLC, Sebring, Fla.
Capitol Steel Structures, Miami
Cherokee Steel Fabricators, White Oak, Texas
Coastal Steel Group, Inc.,
Lake Buena Vista, Fla.
Contractors Steel Supply, Inc.,
Montgomery, Ala.

Crowder Industrial Construction LLC,
Spartanburg, S.C.
D.S. Brown, Athens, Texas
Daniel Iron, Birmingham, Ala.
Deem Structural Services, Longview, Texas
Delta Fabrication & Machine, Inc.,
Daingerfield, Texas
Dennis Steel, Inc., Leander, Texas
Distinctive Metals, Angels Camp, Calif.
Division Five, Inc., Hollywood, S.C.
Eagle Manufacturing Co., Inc.,
Colchester, Conn.
East Coast Metal Structures Corp.,
Lantana, Fla.
East Coast Steel Fabrication, Hertford, N.C.
Empire Acero, LLC, Humble, Texas
Empire Steel Erectors, LP, Humble, Texas
EZ Metals, Inc. dba Suncoast Industries,
Fort Myers, Fla.
FabArc Steel Supply, Oxford, Ala.
Fabricated Steel Products, Inc.,
Baton Rouge, La.
Fabritex, Inc., Hartwell, Ga.
Fab-Weld Steel, LLC, Randolph, Ala.
Flintco Industrial, Houston
Ford Steel, LLC, Porter, Texas
Francis Steel Inc., Aberdeen, N.C.
G.A. West & Co., Inc., Chunchula, Ala.
Garrison Steel Erectors, Inc., Pell City, Ala.
Garrison Steel Fabricators, Inc., Pell City, Ala.
George's Welding Services, Inc., Miami
Gipson Steel, Inc., Meridian, Miss.
GLENCO, Inc., Clovis, N.M.
Global Steel Erectors, Inc., Spring Valley, Calif.
Golden State Steel, Fowler, Calif.
GST Manufacturing, LTD, Haltom City, Texas
Hambric Steel & Fabrication Inc., Albany, N.Y.
Harrell's Metal Works, Grenada, Miss.
Haskell, Jacksonville, Fla.
Heavy Equipment Movers & Installation, LLC,
Maysville, Ga.
Henderson Fab, LLC, Loganville, Ga.
Hodges Erectors LLC, Miami
Hub Steel, Groveland, Fla.
Industrial Steel LLC, Titusville, Fla.
Ivey's Construction, Inc., Merritt Island, Fla.
Jarco Steel, Inc., Houston

JC Machine Works, Corp., Miami
Jones Falley Fabrication, LLC, Oneonta, Ala.
Junior Steel Co., Gardena, Calif.
Kesler Erection & Welding, Inc., Lexington, N.C.
Keystone Steel Services, LLC, Rhome, Texas
Lee's Imperial Welding, Inc., Fremont, Calif.
Lesley Erectors, Inc., Piedmont, S.C.
M&J Steel LLC, Trussville, Ala.
Master Steel, LLC, Hardeeville, S.C.
Maya Steel Fabrications Inc., Gardena, Calif.
Metal Works Direct, LLC, Lexington, S.C.
Metal-Weld Specialties, Inc., Peoria, Ariz.
MICA Steelworks, Inc, Haltom City, Texas
MICA Steelworks, Inc., Kaufman, Texas
Midstate Steel Inc., Macon, Ga.
Miscellaneous Steel Industries, Inc.,
Kyle, Texas
MSD Building Corp, Houston
Myrex Industries, Houston
NCF/CIM Fabricators, Mulberry, Fla.
Nexus Steel LLC & Inc., Gilbert, Ariz.
Nucor Skyline Armored, Armored, Ark.
O'Brien Steel Erectors, Inc., Stockton, Calif.
OGI Bridge & Transportation Ltd.,
Canton, Ohio
Omega Industrial Services, LLC,
Hammond, La.
Pacific Coast Iron, Spring Valley, Calif.
Paradise Architectural Panels & Steel, Miami
Patriot Steel Fabrication, Inc.,
Church Creek, Md.
Perry & Perry Builders, Inc., Rockdale, Texas
Piedmont Metals of Burlington, Inc.,
Burlington, N.C.
Porter Steel, Athens, Ga.
Porter Steel, Lilburn, Ga.
Precision Welding & Fabrication, Houston
Premier Constructors, Inc., Gonzales, La.
Pro Steel Erectors, San Bernardino, Calif.
Professional Piping Systems, Phoenix
Prosteel Erectors II Inc., Glendale, Ariz.
RBD Holdings, LLC, Alexander, Ark.
Reinicke Athens Inc., Athens, Ga.
Rens Welding & Fabricating, Inc.,
Taunton, Mass.
Rentech Boiler Systems, Inc., Abilene, Texas
Resolute Performance Contracting, Phoenix

Richardson Steel, Inc., Spring Valley, Calif.
 Rigid Global Buildings: Structural Steel Division, Houston
 ROC Steel, LLC, Suffolk, Va.
 Saguaro Steel Industries, LLC, Phoenix
 Sauer Structural, LLC, Oak Hill, Fla.
 Schuff Steel Company, Eloy, Ariz.
 Schuff Steel Company, Phoenix
 Seacoast, Inc, Oldsmar, Fla.
 Sefton Steel, LP, Houston
 Simpson Strong-Tie Company Inc.,
 Riverside, Calif.
 Skyline Steel Inc., Fort Lauderdale, Fla.
 Southeast Fabricators, Inc., Cottondale, Ala.
 Southeast Texas Industries, Inc., Vidor, Texas
 Southern Bleacher Co. Inc., Graham, Texas
 Southern Services & Equipment, Inc.,
 St. Bernard, La.
 Southland Grid Structures LLC, Amite, La.
 Southland Steel Fabricators, Greensburg, La.
 Specialty Fabrication, LLC, Lakeland, Fla.
 Steel Fabricators, LLC, Fort Lauderdale, Fla.
 Steel Fabricators, LLC, Fountain Inn, S.C.
 Steel, LLC, Scottdale, Ga.
 Steelcon US LLC, Columbus, Ga.
 SteelFab of Dublin, Dublin, Ga.
 SteelFab of SC, Florence, S.C.
 SteelFab Texas, Inc., Oakwood, Texas
 Steel-Plus LLC, Ider, Ala.
 SteelWorks of the Carolinas, Inc.,
 Piedmont, S.C.
 Steward Machine Co., Inc., Birmingham, Ala.
 Steward Machine Co., Inc., Bainbridge, Ga.
 Structural Steel Services, Inc., Meridian, Miss.
 Systems Fab & Machine, El Dorado, Ark.
 TAS Energy Inc., Houston
 Technology Construction Inc., Prescott, Ariz.
 Trussworks International, Inc., Pomona, Calif.
 Unlimited Welding, Inc., Winter Springs, Ariz.
 US Stair Corporation, Phoenix
 USA Structural Steel and Foundations,
 Sarasota, Fla.
 V&S Schuler Engineering, Inc., Canton, Ohio
 Valmont Industries, Inc., Birmingham, Ala.
 Valmont Industries, Inc., Jasper, Tenn.
 VM Iron Works and Structural Steel Corp.,
 Palm City, Fla.
 W&W | AFCO Steel, San Angelo, Texas
 Warren Fabricating & Machining Corp.,
 Hubbard, Ohio
 Washington Ornamental Iron Works, Inc.,
 Gardena, Calif.
 West Coast Iron, Spring Valley, Calif.
 Western Steel Erectors, Escalon, Calif.
 Williams Erection Company, Smyrna, Calif.

WELDING

AWS Releases 2025 AWS D1.1/D1.1M

The American Welding Society (AWS) has released D1.1/D1.1M:2025, *Structural Welding Code – Steel*, the latest edition of its flagship structural welding code. Originally developed in 1928 as the “Code for Fusion Welding and Gas Cutting in Structural Steel” to standardize welding in building construction applications, D1.1/D1.1M has since become the globally recognized benchmark for structural welding requirements. Almost a century later, it remains the welding industry’s definitive resource for engineers, fabricators, and inspectors.

The D1.1/D1.1M code outlines requirements for welded structures made from carbon and low-alloy constructional steels, providing essential

guidelines that influence the design, fabrication, qualification, and inspection of steel structures worldwide. The 2025 edition includes key updates that reflect advancements in materials, techniques, and industry best practices.

D1.1/D1.1M:2025 has comprehensive updates to material classifications and welding procedures; enhanced guidelines for weld quality, inspection, and fabrication; clarifications and modifications to existing provisions to improve usability; and updates based on industry feedback and evolving best practices.

To order your hard copy or digital download of D1.1/D1.1M:2025, visit the AWS Bookstore at weld.ng/d11.

EDUCATION FOUNDATION

Architecture Students Get Hands-On Design-Build Experience

Architecture students spend plenty of time in the studio, but they rarely see their designs spring into life.

Thanks to grants from the AISC Education Foundation, four classes of university students will get a chance to bring their designs into the real world. They are all part of a design-build studio where they will design and help fabricate steel by collaborating with fabricators, engineers, and community and campus leaders.

“Design-build studios are taught in many architecture schools, but they focus on wood construction and the logistics are difficult,” said AISC architecture education manager Jeanne Homer, a former architecture professor at Oklahoma State University. “We are providing them with the rare opportunity to work with steel and interact directly with fabricators. Going through the whole process gives students a unique insight into how materials behave in the real world—an advantage when designing.”

The four projects receiving 2025 AISC Steel Design-Build Grants represent several scales in prominent locations. All will involve architecture students’ hands-on experience with structural steel.

The Huckabee College of Architecture at Texas Tech University will receive \$20,000 for the Downtown Arts Gateway

in Lubbock, Texas. The gateway, led by Professor Peter Raab and Assistant Professor Erin Hunt, will be a symbol of the integration of art, design, and technology and provide needed shading and seating. The design will focus on sustainable design reflecting the community’s identity, accomplished through features such as evaporative cooling and ecological vegetation integration.

Brian Lee of Kansas State University will receive two \$10,000 grants for two builds to be completed in 2026 and 2027. These will be small structural steel pavilions on campus in Manhattan, Kan. The students will be exploring a no-waste process of designing and cutting steel sheets.

Armando Araiza’s students at University of Texas at San Antonio will also be building a small alcove pavilion at the entrance to the School of Architecture and Planning at the downtown campus. They will receive \$15,000 to build one pavilion, experimenting with prototypes as part of their design process that will bridge the gap between digital design and construction.

This year’s Design-Build Grant Program jury had three members: University of Kansas/Studio 804’s Dan Rockhill, California Polytechnic State University’s Dale Clifford, and AISC member Hillsdale Fabricators’ Tony Diebold.

GRANTS

FastFloor Awarded Grant For Next Phase

An AISC-sponsored research project focused on speed has secured a grant to support its next steps.

The Charles Pankow Foundation awarded a \$400,000 grant to the FastFloor research project, a modular floor framing and diaphragm system for commercial building structures. FastFloor is a primary steel panelized system that



is fabricated mostly offsite and can be erected 30% to 50% faster than a traditional concrete-on-metal-deck floor system. It was launched as part of AISC's 2019 Need for Speed initiative, which aimed to design and construct steel buildings 50% faster by 2025 (a goal the industry achieved ahead of schedule).

Phase 1 of the FastFloor project investigated the design's viability using computational simulation and experimental testing. Phase 2 conducted a wide range of prototype structural analyses, including gravity loading, vibration, and acoustics tests, and assessment of the new flooring's interaction with the rest of a building's structural systems. Those phases were completed in late 2024, supported by an earlier Pankow Foundation grant.

Phase 3 will continue FastFloor's

development to include archetype structural design, archetype structure analysis, vibration and acoustic tests, gravity strength assessment, and in-plane diaphragm strength assessment.

AISC is supporting and sponsoring the project, along with the Magnusson Klemencic Associates Foundation, Herick Steel, and AISC full members Nucor, Schuff Steel, Cives Steel, Atlas Tube, and Metals Fab.

The project's principal investigators are Jerome F. Hajjar, PE, PhD (Northeastern University); Benjamin W. Schafer, PE, PhD (Johns Hopkins University); Matthew Eatherton, SE, PE, PhD (Virginia Tech); Onur Avci, PE, PhD (West Virginia University); and W. Samuel Easterling, PE, PhD (Iowa State University).

STANDARDS

AISC Releases New Version of Nuclear Specification

The latest version of the *Specification for Safety-Related Steel Structures for Nuclear Facilities* (ANSI/AISC N690-24) is now available at aisc.org/standards.

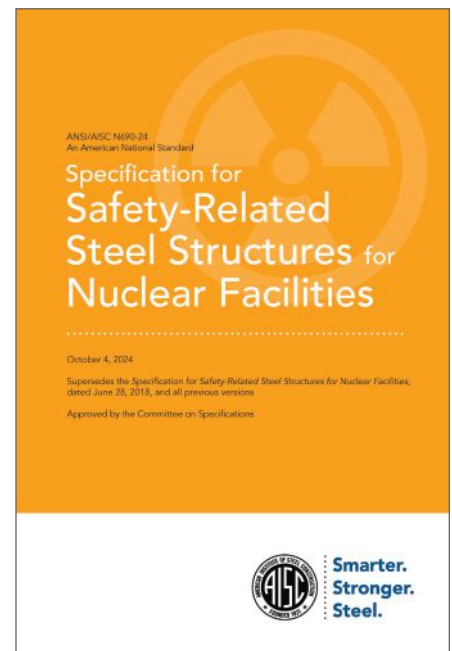
This version supersedes the 2018 edition and is derived from the 2022 *Specification for Structural Steel Buildings*. Like all past versions, it addresses the design, fabrication, and erection of safety-related steel structures for nuclear facilities.

"This edition marks 40 years from the standard's first publication," said James Malley, chair of the AISC Committee on Specifications. "Decades of constant evolution have made this the go-to standard for safety-related steel structures in nuclear facilities. I am grateful to the work of the committee as well as

Task Committee 11—Nuclear Facilities and the leadership of TC 11 Chair Ron Janowiak."

The latest revision includes significant updates to the requirements for steel-plate composite structural elements incorporating the latest research, a new appendix containing special design provisions for impactive and impulsive loading, and modifications to the nondestructive testing provisions for ultrasonic and radiographic testing.

The 2024 edition can be downloaded at aisc.org/standards. This specification, and all current AISC specifications and codes, are free downloads at the same link. AISC members have access to our complete library of past specifications and codes at aisc.org/historicstandards.



Fabricate steel in Big Sky Country!

Looking for a business opportunity in beautiful western Montana? The owner of R.T.I. Fabrication, Inc., in Plains, Mont., is considering retirement and planning to sell.

A few highlights of this well-established AISC full-member, Certified structural steel fabrication plant:

- Certified Advanced Bridge and Fracture-Critical endorsements
- 33,000-sq.-ft building on 10 acres
- Equipped to specialize in fabrication of welded plate bridge girders
- Equipment includes, among other machines, advanced Ogden welding systems, Kinetic plate processor, CNC beam drill, CNC press brake
- Substantial material handling in place to handle heavy girders
- Several large beam rotators

The shop currently has a one-year backlog and a skilled crew in place and is continuing to bid on projects.

Interested? Contact Marvin Rehbein at 406.396.8928 for more information or to arrange an inspection.



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PEDDINGHAUS FDB 1500/B PLATE PROCESSOR, PLASMA, DRILL & OXY, 2016 #44063
PEDDINGHAUS OCEAN CLIPPER 2, ANGLE, FLAT BAR, PUNCH & SHEAR LINE, 2020 #44064
FICEP TIPO G 25 LG, PLATE PROCESSOR, PLASMA, DRILL & OXY, 2017 #43866
ALT LIGHTNING RAIL 8' X 29' LAYOUT MARKING FOR STAIR STRINGERS, 2023 #44061
PEDDINGHAUS 623M 6" X 6" X 1/2" ANGLEMASTER (2010) PC BASED CNC, 2002 #43558
PEDDINGHAUS PEDDIWRITER PW-1250, AUTOMATIC LAYOUT MARKING, 2015 #32576
CONTROLLED AUTOMATION DRL-348TC, 3-SPINDLE BEAM DRILL, ATC, 2009 #32361
PEDDINGHAUS ABCM-1250/3B BEAM COPER, 50" X 24" PROFILE, R.FIT 2010 #31655
VOORTMAN V630M 3-SPINDLE BEAM DRILL & VB1050 SAW, 2007 #44043
HEM WF140HM-DC HORIZONTAL BANDSAW, 20" X 44" CAP., 2001 #43486

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Structural Steel and Miscellaneous Iron Fabrication and Erecting Company in Northern New Jersey FOR SALE.

AISC Certified

Average Revenue over four years: \$4.1M

Asking Price: \$3.9M

Well Established Structural Steel and Miscellaneous Iron Fabrication and Erection Company serves commercial, industrial, and residential builders mainly in New Jersey. Established in 2006, this company is prime to be acquired by a larger out-of-state steel company wanting to get a foothold in the New York, New Jersey marketplace.

This company threads the seem between large and small projects and specializes in difficult, ugly assignments. They specialize in retrofitting existing structures with specialty processes and equipment.

The company has spent 19 years forming strong relationships with repeat customers, General Contractors, Construction Managers, and Developers. The forecast for the next few years in this geographic area is strong.

Inquiries, please email fsawyer6595@yahoo.com

AGT	16	Nucor-Vulcraft	31
Automated Layout Technology	37	Peddinghaus	2
Birmingham Fastener	20	RISA	17
Chicago Metal Rolled Products	insert	SDS2 by ALLPLAN	7
Controlled Automation	13	Simpson Strong-Tie	11
Enercalc	49	SketchDeck.ai	45
Infra Group	5	St. Louis Screw and Bolt	10
JLG	14	SteelCoded	3
Machitech	10	Triple-S Steel	9



Building Big for the Bills

THE STEEL FRAME of what will be soon the NFL's newest stadium is complete.

New Highmark Stadium in Orchard Park, N.Y., the future home of the Buffalo Bills, topped out on April 4 and held a ceremony before the final steel member was placed. County officials, New York State officials—including Governor Kathy Hochul—Bills staff, project team members, and other project stakeholders signed the beam before a crane lifted it into its final position.

The final beam was placed about 14

months after the first one—meeting the expected steel erection timeline. All told, the project involved more than 25,000 tons of steel and more than 223,000 bolts to connect the steel members. The primary fabricator is AISC full member Cives Steel, which completed the fabrication work at three of its in-state shops. AISC member Stonebridge, Inc., was the steel erector, Walter P Moore was the structural engineer, and Populous was the architect.

New York State officials said about 60% of the steel was produced in New

York and nearly all of it is domestically produced. John LaRow, the principal-in-charge for construction manager Gilbane/Turner, said the project's trade partners combined to work more than 1.7 million hours before and up to the topping out. The 63,000-seat stadium is the largest ever construction project in Western New York and is tracking toward an on-schedule opening in July 2026. It's directly across from the Bills' current home venue, also called Highmark Stadium. ■



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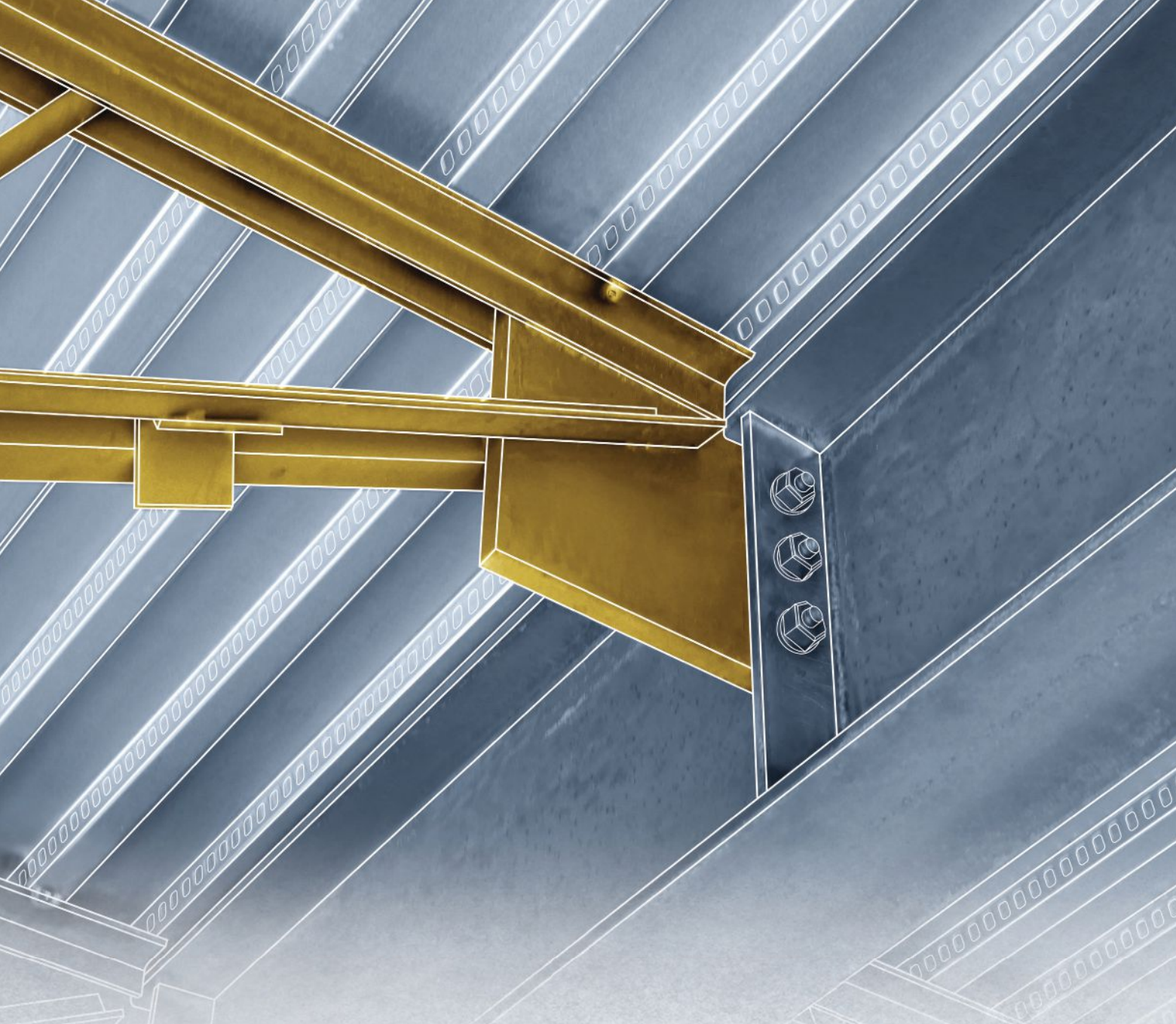
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Contract auditors must have
knowledge of quality management
systems, audit principles and
techniques. Knowledge of the
structural steel construction industry
quality management systems is
preferred but not required as is
certifications for CWI, CQA, or
NDT. Prior or current auditing
experience or auditing certifications
are preferred but not required.

Interested contractors
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