

Steel Availability & Project Delivery Systems

by Joe Jun

When a design team is aware of the availability of steel shapes, it can help ensure efficient, quick and successful project delivery.

Structural engineers constantly are under the gun to complete designs. Knowing what shapes are available and specifying them can prevent hold-ups and time-consuming changes that could occur throughout the design and construction process. Also, with product availability knowledge, engineers can specify short lead-time products that buy more time to develop an economical steel structure. With fewer changes in the structural design, architects can finalize their drawings and better coordinate MEP, floor and wall systems.

The fabricator also benefits when designers are familiar with shape availability, since the specification of readily available shapes makes it easier to coordinate incoming steel shipments and fabrication activities. Upfront knowledge about shape availability and project requirements also makes it easier for the fabricator to propose an efficient steel erection schedule that meets customer expectations and minimizes costs. Greater efficiency in the fabrication shop means a fabricator can increase overall business capacity with little capital investment.

The general contractor also wins when designers understand steel availability. Since steel delivery often is on

the critical path of a project, if lead times are minimized, the overall project duration can be shortened and the building completed sooner. This all results in a satisfied customer: The owner can put the building to use sooner and generate revenues earlier than planned. The payback for the project team is the likelihood that the satisfied customer will bring the same players back together for future projects.

The ability to capitalize on steel availability knowledge, however, can vary depending on the project delivery system. With design-bid-build project delivery, the engineer and fabricator often will not work closely together. The lack of communication between the two can result in a structural design that includes long lead-time products or products that are difficult to find. The project schedule could be further extended if the fabricator delays steel-order placement until the design is completed. To overcome this problem, it is key to bring the steel fabricator on board during the conceptual design or early design phases of the project. The fabricator is a steel expert and is in constant communication with steel service centers and mills. A fabricator's understanding of current and future steel

availability and pricing trends is invaluable to the designer, and the earlier the fabricator is involved on a project, the more the designer can benefit from this information.

An even better alternative is a design-build project delivery system. The structural engineer, fabricator, detailer, erector and even the steel supplier are a team committed to working together for successful project completion. Teamwork, trust, and open communications between all design-build team members are encouraged. With the fabricator on board, all parties are familiar with steel availability issues that affect the design and schedule. The team responsibility for the steel package and project results in efficient coordination of work on contract documents, steel shop drawings, steel orders and deliveries, and approvals. This further reduces the overall steel schedule by as much as 35 percent of what can be achieved in a design-bid-build project.

For more information on design-build, visit www.aisc.org/designbuild. ★

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