



## You've Just Issued Your Drawings, Now What???

By Glenn Bishop, P.E., F. ACEC and Andrew Rauch, P.E., S.E.

The structural engineer's work on a project does not end when the drawings are finished and given to the client. The structural engineer has continuing opportunities to provide client service and manage risk during the bidding and construction phases of a project. To that end, the Coalition of American Structural Engineers (CASE) will soon release a new document titled *A Guideline Addressing the Bidding and Construction Phases for the Structural Engineer*.

In 2003, CASE issued *A Guideline Addressing Coordination and Completeness of Structural Construction Documents* (CASE document 962-D). This document was presented across the country in conjunction with the American

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Institute of Steel Construction and was widely recognized as an important discussion of the structural engineer's roles and responsibilities during the preparation of construction documents. Once the drawings are complete and given to the client, another extremely important part of the work begins: bidding and construction. What are the fundamental roles of the structural engineer during the bidding and construction administration phases of the project?

This new guideline describes those fundamental roles. It provides guidance on activities starting after the construction documents have been issued, to pre-bid and pre-construction activities through the completion of the project. The appendices contain tools and forms to assist the SER in applying this guide to their practice. While its primary emphasis is to assist the Structural Engineer, it can help all parties associated with the bidding and construction phases of a project.

construction documents. The second is to document, through observation, that the project construction corresponds with the design intent.

For the first task the SER's objective should be to assist the contractor in developing a thorough understanding of the construction documents. This thorough understanding provides the best opportunity for the project to

*"Communication is a common theme..."*

receive complete, competitive pricing during the bidding phase and, during the construction phase, to have a properly constructed project and to reduce the possibility of change orders, misunderstandings, and potential claims. Pre-bid meetings, pre-construction meetings, pre-detailing meetings, and submittal review are all tools that are used to assist in developing this understanding.

For the second task, the SER's objective is to observe the general nature of the work and provide a level of confidence for the client that the work is being performed in general compliance with the construction documents. This requires a sufficient number of visits to the construction site at appropriate times. This level of confidence can be enhanced if the engineer is appropriately qualified and is engaged to perform special inspections. For some structures, it is also enhanced when the structural engineer performs code-mandated structural observations.

Communication is a common theme in both CASE document 962-D and CASE document 962-F. Document 962-D encouraged open and proactive communication between the SER and the rest of the design team in order to enhance the coordination and completeness of construction documents. Open and proactive communication with the contractor and subcontractors, both before the work begins and during the construction pro-

cess, will reduce issues during construction and improve the quality of a construction project. CASE document 962-F encourages the SER, in concert with the other members of the project team, to engage in proactive communication throughout the bidding and construction process.

The project construction delivery system (e.g., design/build, design/bid/build) and for whom the SER works (e.g., owner, architect, general contractor) are both factors that will influence the approach and the process during the bidding and construction administration phases. No single method can be defined to accommodate and address every construction situation and construction team makeup. Therefore, this guideline includes suggested approaches to the various components that can make up the bidding and construction administration phases. The members of CASE's National Guidelines Committee hope that you will take these approaches, adjust them to fit your projects, and use them to enhance the business and risk management practices in your firm. ■

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