

# For the Client

## The Role of the Engineer During Construction

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There seems to be little doubt that even the simplest construction project today can be a complicated undertaking. The virtual battery of consultants, advisors, and contractors that the typical project worker must look to for advice and counsel is sometimes difficult to assemble--and even more difficult to use.

While the typical owner will need the hands-on assistance of his or her accountants, lawyers, insurers, and other consultants, the key to a successful project is the owner's working relationship with the project engineer.

For even the most sophisticated owner, the roles and responsibilities of the most important construction advisor, the engineer, are often misunderstood. That's not surprising since the role and responsibilities will vary, sometimes drastically, from project to project, depending on the type of engineering expertise that the project needs.

For the typical construction project, the customary duties and role of the engineer are well understood. One of the most important roles of the engineer is his or her role during the construction process.

Engineers and contractors understand the construction process, and their duties as set forth in their respective contracts, applicable laws, and regula-

tions. During the construction process it is critical that the owner get competent, trustworthy engineering advice and guidance. Without that advice, the owner will be limited in his or her ability to determine what he or she is entitled to receive from the contractor, and to accurately measure whether it has been received.

The engineer's role during the typical construction project is to administer the construction contract:

- Representing, advising, and consulting with the owner during the construction;
- Selection/procurement and award of a contract to a competent contractor at a fair price (subject to the vagaries of the competitive bidding process);
- Receipt and review of the contractor's submittals (usually referred to as shop drawings);
- Review and approval of the contractor's requests or applications for payment;
- Providing interpretations and clarifications of the requirements of the construction contract;
- Managing the changes to the requirements of the construction contract and to the design;
- Assisting the owner and contractor with resolution of disputes;
- Providing observations of the work of the contractor as it progresses; and
- Upon completion of the work, evaluating whether the contractor has met the requirements of the construction contract and whether the owner has received value for the payments made to, or to be made to, the contractor.

Of course, the engineer has more roles than just these rather broad-based descriptions. They are defined in detail in the standard engineering agreements such as those available from the Engineers' Joint Contract Documents Committee (contact NSPE Member Services at 703/684-4811).

It is as important to define the role of the engineer during construction, as it is to understand what it is not. The engineer should not assume the role or responsibilities of the contractor. Success of the typical project depends not only on the assignments of roles and responsibilities to the contractor and engineer, but also the avoidance of a dual assignment of responsibilities. For example, the most widely accepted aspects for the contractor's role include the sole responsibility for "means, methods, techniques, and sequences of construction," safety programs, and supervision and coordination of the construction work. The engineer should have no role in those duties--they belong to the contractor. To do so only creates opportunities for misunderstanding and disputes, with no benefit to the owner.

The owner, in most instances, wants a project that meets his or her needs, is "on time and on budget," has the required quality, and includes the work defined by the construction documents. During the construction project, the engineer has the opportunity and ability to assist the owner in the working relationship with the contractor to achieve those goals.



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