

**Advice for Managers ...**

Recently, I was asked to write a magazine article providing advice for the managers of structural engineering firms. Here are some excerpts that might interest you.

**Swim Upstream:** More than one hundred years ago, master builders like Eiffel and Roebling dominated the structural engineering profession. Since then, structural engineers have gradually moved down the “food chain.” Whether self-imposed in an effort to reduce liability exposure, or simply shoved aside by more ambitious professionals, many structural engineers now find themselves in unfortunate circumstances. Architects and civil engineers are almost always the prime professionals on building and bridge projects, respectively. They frequently select structural engineers based solely on price, often neglect to include them in the critical conceptual phases of their projects, and pass along as much of the liability exposure as possible.

The most effective remedy for this situation is to proactively steer your firm upstream. Structural engineers are not prohibited from acting as the prime professional on any project, and some firms are seizing that opportunity. Strive to work directly for project owners whenever possible, and to earn a seat at the “big table” where the earliest and most important project decisions are made. Always remember: other parties can only maintain your inferiority with your consent.

**Stay in Your Lane:** Most jurisdictions offer only generic P.E. licensure, which allows an engineer to practice in any area where they feel they are competent. This has resulted in structures being designed by civil, mechanical, and electrical engineers. Some structural engineers also stray out-of-bounds. When an engineer practices outside their area of competence, the results are often disastrous. I witnessed a particularly egregious example involving a mid-rise luxury condominium tower overlooking a prestigious golf course. The structural engineer on this project, the leader of a small structural design firm, decided to also act as the civil, mechanical, electrical, and plumbing engineer. He engaged a sole-practitioner architect, provided office space for him, and overruled much of the architectural design. Then he started a construction company specifically to build the project, and a testing

laboratory to inspect it. In addition to all of this, he served as the managing partner of the developer. As you might imagine, the project encountered multiple problems. The litigation that followed has been ongoing for six years; and the engineer, the contractor, and the developer have all declared bankruptcy.

I encourage you to be entrepreneurial, but only if you stay within your areas of competence or add new competencies through education and experience, or by acquisition.

**Embrace Construction:** Only accept those assignments that include full construction administration services. It is during construction that your risk is highest, and more disputes arise then than after project completion. If the construction is deficient, you will be a party to any subsequent litigation whether or not you or your staff visited the job site. Insist on being paid for site visits and regularly visit every job site to ensure that your design intent is being achieved.

Structural engineers are often asked to certify the construction of their projects, and they often get themselves into trouble by doing so. You should never certify any construction unless a member of your firm provided observation of that construction. My advice is to certify only what you or your staff have personally observed and know to be fact.

**Cherish Your People:** Few firms enjoy truly unique technology, facilities, and other resources. The only long-term competitive edge that any firm has is its people. So hire only the best and the brightest. Place them in a professional environment with clear office policies, effective collaboration, first-rate technology, meaningful mentoring, real opportunities for training, and exposure to the profession beyond the workplace. Then challenge them with diverse projects and a bit more responsibility than you think they can handle. Correct their errors and shortcomings, but also reward their accomplishments with timely bonuses and recognition. Promote based on merit alone, and let the cream rise to the top regardless of seniority. Most important of all, listen intently to the thoughts and concerns of every person and act on what you hear. With the right people in the right environment, your firm is sure to prosper.