

# Editorial | Driver's Education and Quality Assurance?

By Andrew Rauch, P.E., S.E., LEED AP, CASE Chair



It is the last weekend of summer and there is a thunderstorm brewing while I am writing this article. (No, this is not another article about how climate change might affect engineers.) My youngest daughter completed her driver's education classroom work this summer and earned her learning permit. For those of you who have not been through this, you don't know terror like the first time your teen gets behind the wheel of your car. Her instructor also provided a DVD for parents and teens with 12 steps for teaching them how to drive. It was quite helpful and I wish I had it available when my first two were learning. (It is available for purchase online, and I am happy to share that information with you if you email me.)

It is always helpful to have a how-to guide to assist you when doing something with which you are not familiar. Just as that DVD provides a guide for teaching a teen to drive, CASE's *Ten Foundations of Risk Management* provide a guide for setting up a risk management program for your firm. In a previous article, I talked about the first foundation, *Firm Culture*, with ideas to think about for developing a culture of risk management within your firm. I would like to talk about another foundation in this article: *Producing Quality Construction Documents*, specifically the Quality Assurance Plan.

If your firm has not developed a quality assurance plan, I urge you to strongly consider doing so. The quality assurance plan, along with ideas such as project "ownership" by all members of the design team, continual staff education, and firm standards forms a good platform for providing quality services to our clients.

CASE Tool 9-2 provides a helpful outline for setting up your firm's quality assurance plan. That document presents three parts to the plan: quality reviews, firm standards, and construction quality assurance. The quality reviews should include design reviews, engineering reviews, and construction document reviews and should occur at all project stages. Schematic and concept phase reviews are good for keeping the project from going down the wrong path. Design reviews verify that the chosen system makes sense, engineering reviews target critical portions of the analysis, and construction document reviews verify that the design is properly presented.

Firm-wide standards greatly help with project consistency. They include such things as standard details, design standards, standard notes and construction administration standards. These standards provide the added benefit of reducing engineering and drafting efforts, adding directly to the bottom line.

Construction quality assurance means developing standard methods for dealing with the normal parts of the process such as pre-construction meetings,



submittal reviews, information requests, etc. Having standard procedures in place for construction observations helps to keep track of those items that require observation and minimizes the chance of expanding our scope simply by looking at things that were not originally part of our scope of services. Finally, it provides an opportunity for implementation of an early warning system to allow you to get out in front of issues before the spiral out of control.

Since we are a multi-discipline firm, our plan was set up using an early ACEC document on quality assurance as a template. Since it is intended for use on a multi-discipline project, it sometimes feels unwieldy when using for only a single discipline. We also sometimes struggle with the appropriate project size for which it should be implemented. All projects need some sort of quality assurance, but does a simple site investigation report require the same level as a multi-story building. That is an obvious choice, but how about a residential garage, or maybe the small warehouse building. There has to be a line somewhere, but where should it be drawn?

I have also heard a negative aspect of a quality assurance plan. If it is written down, it can be used as fodder in any lawsuits against you, especially if you did not follow it to the letter. Some firms skirt that issue by always having the plan as a draft, thinking if it is not completed it gives you some protection. In my opinion, not having a plan represents significantly greater risk than having your plan used against you. If the plan is set up as a set of guidelines rather than rigid rules, it can be flexible enough to work with projects of various sizes and still be a useful tool.

So, if you have not already done so, take advantage of the resources available to you and set up a quality assurance plan for your firm. It will take some time. Implementing it and following through will always be a challenge, but in the end, you and your bottom line will be glad that you did. ■



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