Selecting Qualified Engineers & Designers Saves Time & Money, Reduces Risk

By Steve Pangori & Ron Brenke

Everyone who has worked in municipal government has a horror story about receiving proposals from engineers. Here’s one: a recent Request for Proposals for a bridge project in a small town yielded submissions from professional service firms with fees ranging from $6,000 to $60,000.

How can fees on design solutions to fix a problem vary by such magnitude? While there can be many reasons for the discrepancies, there’s only one solution to the problem. Municipal leaders can avoid the pitfalls associated with varying fees by simply hiring the most qualified design professionals. Through the Qualifications-Based Selection (QBS) process, community leaders can select and negotiate scope and fees and ease their workload, creating better projects and stretching taxpayer’s dollars.

QBS is a competitive procurement process in which firms submit qualifications to an owner, who evaluates and selects the most qualified firm based on the specified needs of a project, and not according to the lowest bid submitted.

"The City of Livonia has used the QBS process for years with great success," said Jacob A. Rushlow, PE, Livonia’s superintendent of public service. "By selecting the most qualified firm and working with them to prepare a refined scope of services, we’ve been able to cultivate a team environment that results in more proactive problem solving focused on delivering the best project with the lowest life-cycle cost."

Think Above Value Over Cost

Best value is most often achieved when the focus is placed on finding the most innovative and effective long-term solution to a design problem during the design phase. Decisions made by architects and engineers impact the entire life of a project. Studies have shown that a small variance in consulting fees for architects, engineers, and their design teams can easily make a hundredfold difference in the value and public benefit of the project that gets delivered. Design typically represents less than one percent of a project’s life-cycle cost. Yet some communities think they will save money on their project by bidding professional fees.

Last year, Golden Township officials learned firsthand the impact of QBS when they selected an engineering firm to assist them on a USDA Rural
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Consulting giant McKinsey recently conducted a study of 48 engineering megaprojects and diagnosed “poor execution” including insufficient scopes as the cause of cost and time overruns in 73 percent of the cases. “Project execution, from design and planning through construction, is riddled with problems such as incomplete design, lack of clear scope, ill-advised shortcuts, and even mathematical errors in scheduling and risk assessment,” the study concluded.

The McKinsey study also noted that a focus on low price is a contributing factor to cost and time overruns. “Having delivered an unrealistically low project budget, the temptation is to cut corners to maintain cost assumptions and protect the (typically slim) profit margins for the engineering and construction firms that have been contracted to deliver the project. Sometimes costs and timelines are systematically underestimated."

It’s important to craft your project vision by describing the end result of your project. Is it an upgrade to your community’s existing water treatment system to improve energy efficiency and make it compliant with regulatory requirements? Rather than prescribing exactly what tasks are to be accomplished within a project, share the outcome, the constraints, challenges and information. Then, select the most qualified respondent and develop the scope together.

The study showed that selecting the most qualified professional service provider can potentially save as much as 25 percent of the total
project costs, through a combination of shorter development and construction schedules, scope control, and improved engineering. Skimping on design fees is not only pennywise and pound foolish, it rewards firms that provide the minimum effort, commit fewer resources and hours, and often use less experienced staff. This can put the project at risk.

Local leaders retain consultants to turn concepts into a set of plans and specifications. Because each project has unique characteristics, communities have an opportunity to encourage innovations on materials, site options, construction techniques, scheduling, or delivery.

Selecting consultants based on qualifications facilitates optimal design and value within a defined budget—resulting in the owner getting the best bang for the buck. "Designing to budget" also allows the team to evaluate design alternatives and stakeholders' wish list while keeping the budget on track.

"By utilizing QBS we are able to balance transparency in the procurement process with selecting the most qualified team for our projects, many of which are complex," said Nicolette Bateson, CPA and chief financial officer/treasurer for the Great Lakes Water Authority.

Another study of consultant procurement conducted by the University of Colorado and Georgia Institute of Technology also supports QBS. It reads: "Public agencies that use Qualifications-Based Selection to procure architectural and engineering services are better able to control construction costs and achieve a consistently high degree of project satisfaction than those using other methods." That study also found that projects using a QBS process had 70 percent fewer cost overruns, shorter schedules, and improved construction quality.

Qualifications-Based Selection of design professionals is a proven method of obtaining the best, long-term project result. Many communities in Michigan are already hiring design professionals through the QBS process. The time may be right for your community.

"Qualifications-Based Selection is very important on such a big project," Cargill noted. "You can't afford to go low bidder and then find out he can't do it for that much or doesn't complete the project because he didn't know how to bid it." ☰

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