

Design-Build is Gaining Traction in the Public Sector

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March 9, 2011

Introduction

Design-build contracts combine professional design services and construction services into a single contract with the owner. This contracting approach provides a number of efficiencies over the traditional approach of awarding separate contracts for design services and construction, commonly known as the design-bid-build approach. The proliferation of design-build contracts in the private sector is not surprising considering that the process allows for a more collaborative and flexible approach to delivering higher quality projects more efficiently and with fewer claims.

Use Of Design-Build On The Rise In The Public Sector

While the efficiencies of design-build have made it a popular contracting approach for private sector construction projects for decades, design-build has only become available to public agencies in California over the last 10 years. Traditionally, public agencies have been constrained by competing statutory requirements to award construction projects to the “lowest bidder,” and contracts for professional design services on the basis of “demonstrated competence and professional qualifications.” Specific statutory authority is required to award contracts on a design-build basis because the two conventional standards for contract award cannot be reconciled.

The legislature first dipped its toe in to the design-build pool for public agencies in 2001 with the passage of AB 598, which authorized “transit operators” to award contracts for transit projects of at least \$10 million on a design-build basis. Since then, a variety of statutes have been enacted expanding design-build authority to other agencies, lowering the dollar threshold for specific design-build legislation, and extending the date of applicable sunset provisions. Currently, the following public agencies have some form of design-build authority: 1) transit operators; 2) cities; 3) Sonoma County Health Care District; 4) school districts; 5) community college districts; 6) counties; 7) Director of General Services for the State of California; 8) Los Angeles County Metropolitan Transportation Authority; 9) select public agencies pursuing wastewater or solid waste facilities; and most recently 10) local transportation agencies.

Working Within Procedural Requirements

While the expansion of design-build legislation is welcomed, it is important to note that the design-build statutes include a variety of non-trivial procedural requirements that do not exist in the private sector. The more significant of these requirements include: 1) pre-qualification of all design-build entities; 2) Labor Compliance Program requirements; 3) selection of the winning proposer pursuant to a Request for Proposals (“RFP”) process, that in most cases must consider price, technical design, construction expertise, life cycle costs over 15 years, skilled labor force availability, and acceptable safety record; and 4) selection of the winning proposer on either a “best value” or lowest bidder basis. These procedures frequently require public agency staff to learn a new way of doing things.

However, despite the detailed procedural requirements and any accompanying learning curve, design-build still provides significant efficiencies and benefits for public sector projects that are worth pursuing. One clear benefit is that the public agency owner has greater flexibility in selecting the design-build contractor. The RFP process (after prequalification) allows the public agency to establish additional criteria for consideration, and the weight criteria are given. For instance, while cost must be considered as one of the criteria, significant weight could also be allotted to qualitative factors such as experience with prior design-build projects, relevant technical expertise, experience with LEED construction or other green building measures, and experience with collaborative compensation approaches such as incentives for successful project outcomes. This flexibility is truly valuable because it allows a public agency owner to tailor the RFP process to the needs of a particular project.

Design-build Case Studies

The legislature is obviously becoming more comfortable with design-build as a contracting approach for public agencies, and with good reason. A report published by the California Legislative Analyst's Office ("LAO") in 2010, summarizing the success of 15 design-build projects awarded by counties, made several interesting observations:

- Of 5 completed projects, 2 were completed below estimated costs (5 and 16 percent), 2 projects were completed at the estimated cost, and 1 project was completed approximately 5 percent over the estimated cost.
- Of the 5 completed projects, all finished close to their targeted completion date. One project scheduled for 18 months was completed in 16 months, while the longest delay was 3 months on a scheduled 16-month project.
- Each of the 15 projects was awarded on a "best value" basis, not lowest bidder.
- Each county that submitted a report "expressed support for the design-build process and was pleased with the project outcomes."
- The LAO concluded that the information provided by the counties "did not provide any evidence that would discourage the Legislature from granting design-build authority on an ongoing basis to local agencies."
- Going forward, the LAO also recommended that a single, uniform statute be adopted for all public agencies to standardize the process, and that cost limitations be eliminated altogether.

The LAO's report mirrors anecdotal evidence of positive outcomes on other design-build projects in the public sector. For example, on one of the projects that we recently participated in, the public agency was able to realize approximately 35% in savings by optimizing the design. On that particular project, the design-build teams were prequalified and competed on a "best value" basis. The RFP required each of the proposers to submit a proposal based on the design included in the bridging documents, but also allowed proposers to submit alternative proposals based on their own conceptual design (subject to certain project requirements and design criteria set forth in the bridging documents). Proposers were encouraged to work with their team members to create alternative design solutions. In every case, the alternative conceptual design that the project teams came up with were more economical than the approach in the bridging documents. This resulted in an approximately 23% savings from the design-builder competitors' alternative design solutions. After the best value proposer was selected, the project team (which included the architect, structural engineer, the contractor and the mechanical, electrical and plumbing design-build subcontractors) continued to collaborate

with public agency staff to further hone the conceptual design, eventually realizing an additional 12% savings.

Early Involvement Of Contractors In The Design Process Is Vital

Early involvement of the contractor and key subcontractors is vital to having any significant impact on the project outcome (design, cost, and schedule). According to the Construction Management Association of America's 2005 owner's survey, 92% of project owners have said that an architect's drawings are typically not sufficient for construction. One explanation is that architects and engineers are not in the business of constructing projects and therefore do not provide the level of detail required to construct the project. More importantly, studies have shown that approximately 80% of potential design cost savings on a project are achieved during the first 20% of the design process. This is mainly due to the fact that the design outcome is much more flexible during the conceptual phase and becomes increasingly less flexible as the design progresses. Therefore, in order to capture the maximum possible savings on design costs, the contractor and key subcontractors should be involved as early as possible during the design process to provide practical feedback regarding constructability.

The early involvement of the contractor and key subcontractors during the design process also offers clear benefits with regard to the quality of a project, reduced costs during construction and shorter project schedules. The level of workmanship achieved on projects that are delivered through a collaborative process tends to be higher because trades working on a team feel vested in the outcome of the project and therefore take more pride in their workmanship. The practical feedback regarding constructability and the most efficient approaches to building the project frequently result in significant cost-savings because there is a reduction in the number of clarifications needed during construction and a limited amount of redesign required, if any. Early involvement of contractors also has a positive impact on the project schedule as it allows subcontractors to order materials to be fabricated earlier and, in most cases, allows construction to commence before the design is 100% completed. These efficiencies all have a direct impact on the overall project cost. And, of those entities that have utilized contractors during the design phase, virtually all agree that early involvement of the contractor and its key subcontractors consistently provides these tangible benefits.

Finally, public agencies should also consider utilizing technological tools in conjunction with design-build, such as Building Information Modeling and Virtual Design and Construction, in order to allow a project team to maximize collaboration during the design phase. LEAN Construction Methods are another tool that can help increase productivity during the construction process. While these tools can also be utilized under more traditional contracting approaches, their full capabilities are not realized without a contract structure that supports collaboration, such as design-build.

Conclusion

The use of design-build in the public sector is growing, due to the expansion of legislative authority making this contracting tool available to more agencies, and the efficiencies that design-build brings to a project. In light of these efficiencies, and the financial concerns currently experienced by virtually all public agencies, we anticipate that the use of design-build contracting will continue to grow.