

M&D Update

Volume 2, Issue 2, Spring 2003



Ramon Tafoya Elementary School - Woodland, CA

Photo by Cathy Kelly

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Improving Project Delivery for Public Projects

Part 2: Design-Build for Public Schools

David P. Irons, Principal

For many years public schools have been required by law to be constructed via

the Design-Bid-Build (DBB) project delivery method: The owner selects an architect based on the architect's qualifications, the architect designs the project, then the contractor is selected based upon the lowest qualified bidder. The Design-Build project delivery method is widely used in the private sector, wherein the owner selects a design-build entity (architect and contractor) that is responsible for the design and construction

of the project. An important difference between these two delivery methods is the number of relationships involved. In a DBB project, there are three relationships that are important to the success of a project: the owner-architect relationship, the owner-contractor relationship, and the architect-contractor relationship. If any of these relationships go sour, the project can suffer. In a typical Design-

"This simplification may be one reason why Design-Build is getting more popular."

Build project, there is just one relationship to maintain. This simplification may be one reason why Design-Build is getting more popular. It also suggests that the owner must be sophisticated enough to "hold his/her own" in this relationship.

In response to dissatisfaction with the traditional Design-Bid-Build delivery method, the California Legislature is allowing more use of Design-Build for public projects. The passage of AB1402 created a design-build process for public school projects with contract amounts over \$10,000,000. There are many detailed provisions in the law, which we will not address in this article. Germane to this article is the required selection process. The school district must hire a separate, "bridging architect", responsible for preparing a request for proposal (RFP). The design-build entities submit their team's qualifications in response to the requirements listed in the RFP. The design-build entity is then selected based on a qualitative or numerical scoring of the submitted proposals, evaluating factors such as track-record on previous projects, firm reputations, and overall proposed costs.

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Staff Spot A View From the Saddle

Denis Stroup, Assoc. AIA

Sometimes during a busy and hectic work day I can begin to feel stressed out and run down. Instead of reaching for that fourth cup of coffee, I choose to get out for a bike ride whenever possible.

Aside from the great staff and the challenge of the work I do as a Healthcare Project Coordinator, one of the perks of working here at Murray & Downs for me is the chance I have to get out at lunch to ride. I have to pinch myself sometimes as I roll past the vineyards and orchards. The vines and

trees are heavy with fruit. I can see views of the not too distant snow-capped Sierras. I'll be back in a shirt and tie, in a meeting, in less than an hour! And the camaraderie among the group of riders here at the office reinforces positive working relationships. Over the last three years, many of us have trained together for bike tours such as The Death Ride and RAMROD (Ride Around Mount Rainier in One Day). What can you say if the boss asks you if you're training today?

Have you had a rough morning? There are no fewer than a hundred miles of lightly car-traveled scenic roads right outside my door. So, cycling is not your thing? How about a run up the jogging

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Tidbit

(Internal Office Communications)

Vinyl Wall Covering

Be careful calling for 2 colors of vinyl wall covering in one room. If the change occurs at an outside corner, there is no way to do the corner properly. A typical installation wraps the VWC a minimum of 6" around an outside corner. If a change in color or pattern is necessary, consider integrating the transition with the placement of casework or a change in floor covering.

To Say it Again...

It may cost a little more initially, but as has been said many times before, the quality of a job lingers well after the price has been forgotten...

Project Delivery

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In Part 1 of this series, we stated that for a delivery method to replace DBB it should produce more predictable results (in terms of cost, quality, and schedule) and it should foster better relationships between the owner, architect, and contractor. Below, we compare Design-Build (AB1402 style) to DBB on these two criteria. We will then discuss cost containment relative to each delivery method.

Predictability: During construction, a design-build project will be more predictable than a DBB project because design errors and omissions (which otherwise could cause costly change orders and delays) are the responsibility of the design-build entity. There is still the potential for owner-initiated changes, which could occur if the quality of work as designed and constructed does not meet the owner's expectations.

Until a track record is established on design-build school projects, the overall predictability of the design-build delivery method is in question, as the owner has less control over the design than in DBB. The scope, quality, cost, and schedule of a project are related in such a way that a change in one of these factors will result in a change in at least one of the other factors. It would be difficult, if not impossible, to fix all four factors during the Design-Build RFP process. Architects have a difficult time fixing all these factors in a full set of construction documents; imagine how open to interpretation an RFP would be. The Design-Build process assumes a level of faith that the Design-Build entity is motivated to optimize these four factors in the owner's interest while limiting their own profit to a reasonable level. We believe a predictable design-build process is dependent on the owner selecting a design-build entity with high ethical standards, an orientation toward long-term relationships and repeat business, and the desire to maintain a reputation for high quality work.

There *are* practical benefits to design-build that enhance predictability. Having designers and

builders working together from the beginning should produce more practical, cost effective designs. Design-build should provide more detailed cost estimating during design than DBB. This allows owners to make more informed decisions on where to spend their money when faced with design alternatives.

Teamwork: Probably the single most important ingredient for a successful project, regardless of delivery method, is the level of trust and confidence that can be maintained between the parties

“...adjustments to scope and quality play a significant role in controlling cost.”

involved. The main advantage of Design-Build over DBB is that the owner gets to pick the people responsible for construction at the same time, and based on the same criteria (“qualifications” as opposed to “lowest-bid”) as the team responsible for design. This should result in much higher levels of trust, confidence and teamwork than is typically seen on Design-Bid-Build projects. However, the prescribed selection process and the requirement for a separate bridging architect make this outcome less certain. The introduction of a third party (and the associated increase in the number of relationships involved in the project) could foster some of the adversarial relationships so common in DBB.

Cost Containment: There are three basic components to cost containment that are common to both design-build and DBB. They are (1) design efficiencies or simplification, (2) limiting scope or quality, and (3) competitive bidding. Design-build tends to rely more on (1) and (2), while DBB tends to rely more on (3). In design-build, competitive bidding is often used to select the design-build entity, but since the design hasn't been completed at that point, adjustments to scope and quality play a significant role in controlling costs. Competitive bidding can be used to select some subcontractors in design-build. In DBB, the contractor is not available for design input regarding design efficiencies and

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Did you know ...?

- 1) Due to a population of over 20+ million people resulting in horrendous traffic jams, Mexico City has begun construction of two and three story city streets to alleviate the congestion! Imagine having a city street just outside your second story bedroom window!
- 2) Herbert Hoover was the first U.S. President to have a telephone on his desk. Prior to 1929, the president used a telephone booth outside his office.
- 3) The height of the 984-foot-tall Eiffel Tower varies, depending on the temperature, by as much as 6 inches. □

Staff News

Introducing Our New Staff Members:

Brian James – Brian joined our firm in October of 2002 as a Production Coordinator and was somehow left off the list of new staff in our Winter edition. We want to correct that oversight right now! Formerly from Plano, Texas, Brian received his degree in Architecture from the University of Houston. His experience includes many educational projects making him a perfect fit for M&D. We are very happy to have Brian on our team.

Dan Salee – Dan is one of our student interns that has just completed his senior year at Union Mine High School. Dan plans to continue working at M&D while attending college with an eye to a degree in architecture. Since joining us in November, he continues to be a great help in support of our production staff.



Jennifer Waddell – Jennifer is our second student intern. She has just completed her final year at Union Mine High School. She will work with us throughout the summer and then begin classes at Cal Poly, SLO this fall. Prior to joining our firm, Jennifer designed and drew a residence that has been successfully built!

Alex Cunningham – Alex is a 2003 graduate of Union Mine High School. He joins our firm as a Junior Drafter. He has a strong background in computers and has already shown his abilities in the area of drafting support.

Scott Mercer – A recent graduate from the architectural Masters program at the University of Illinois, Scott joins our firm as a Designer. He also holds a bachelor's degree in civil engineering. Scott is eager to begin the process of licensure here in California. Scott is currently providing support to our medical team.

Shannon Bolick – A graduate of Montana State University with her Masters of Architecture and her Bachelor of Arts degree in environmental design, Shannon is a welcome addition to our firm. Her versatility will allow us to utilize her talents in many areas. □

Projects in Design

Acute Care Facility for Marshall Medical

A major addition to Marshall Hospital in Placerville, this project includes 58,000 sf of space on three levels.

A pedestrian walk bridge connects the top floor to existing hospital facilities. The top floor will accommodate perinatal services including labor, delivery and post-partum rooms, nurse's stations, and support functions. The remainder of the facility will provide future patient services.



El Dorado Center New Instructional & Library Facilities

This two-story expansion project will add over 20,000 sf to Los Rios CCD's El Dorado Center

campus located in Placerville. Features include lecture, lab, and library facilities, as well as distance-learning labs, meeting rooms, and support spaces. The building was designed to complement the existing architecture of the campus. Construction is expected to begin in Spring 2004.



Cresleigh Ranch ES

A relatively large elementary school with over 55,000 sf of area, Elk Grove USD anticipates this school to accommodate 900 K-5 students as their district-wide enrollment continues to soar.

The campus includes a multi-purpose room, kindergarten building, library, administration building, classrooms, and surrounding hardcourt and turf areas. □



Tidbit

(Internal Office Communications)

Smooth Walls

When providing construction criteria for science labs and support rooms, review the drywall specifications and use a smooth finish such as Orange Peel (smooth or regular). If budget allows, a smooth wall finish is best, but quality construction practices are essential. Paint should be semi-gloss, never a flat finish. A word of caution: with smooth wall finishes, paint selection and lighting type selection are critical because there is no room for error without a texture on the wall surface to hide it. Review use with gyp board and paint reps. for proper specification language. Metal stud construction is recommended but not required.

Improving Project Delivery

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cost trade-offs, but the competitive bidding process, by its very nature, can result in very low initial construction costs.

On a well-executed project, the construction costs of a design-build project will be more costly than the same quality project delivered by the DBB method. One often hears that the opposite is true. When we have investigated this claim, we find references to DBB projects with significant cost overruns. In other words, the claim is based on comparing a well-executed design-build project to a poorly executed DBB project. After all, design-build projects can have cost overruns too, if not managed properly. The most likely scenario for significant cost overruns on design-build projects would be that the proposed design *technically* meets all the stated criteria (as interpreted by the design-build entity) but falls far short of the desired project as envisioned by the owner.

Conclusion: For school districts used to the DBB delivery method, design-build is a new delivery method with its own pitfalls and subtleties. The AB1402 design-build process is not predictable enough to replace the DBB process. We would not recommend a school district attempt the design-build process unless their staff has had previous experience in implementing it in another arena, such as in the private sector. We believe what school districts are looking for is a way to choose an architect, contractor, or design-build entity with whom they have an on-going relationship and whom they can trust to lead them through a design-build process. As we will see in future articles, lease-lease-back, and project management-at-risk may be even more desirable alternative delivery methods. □

Staff Spot

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path instead. Just want to get out for a walk? Historic Main Street can't be beat! I should also mention that Murray & Downs has made room indoors for bike parking and a shower facility. Getting out and recharging the batteries at lunch is good for me and good for my work; it's a win-win situation!



Countless studies have shown that taking periodic short breaks away from the computer to stretch, take a walk, or perform deep breathing exercises can help keep stress and burn-out at bay. In fact, people who

walk, run, bike, or engage in other physical activities during their day are more alert and more creative problem solvers than those who don't. Getting out for even as little as 20 minutes a day for physical or aerobic activity will help you reduce stress, improve attitude & productivity, and provide more restful sleep. Murray & Downs is aware of the benefits of employee fitness and is amenable to flex-time for doing that occasional, extra-long ride.

So Spring has sprung! The sun is shining and the birds are singing! I'm going to do something positive for my good physical and mental health and get out there!

Bon cyclisme! □



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