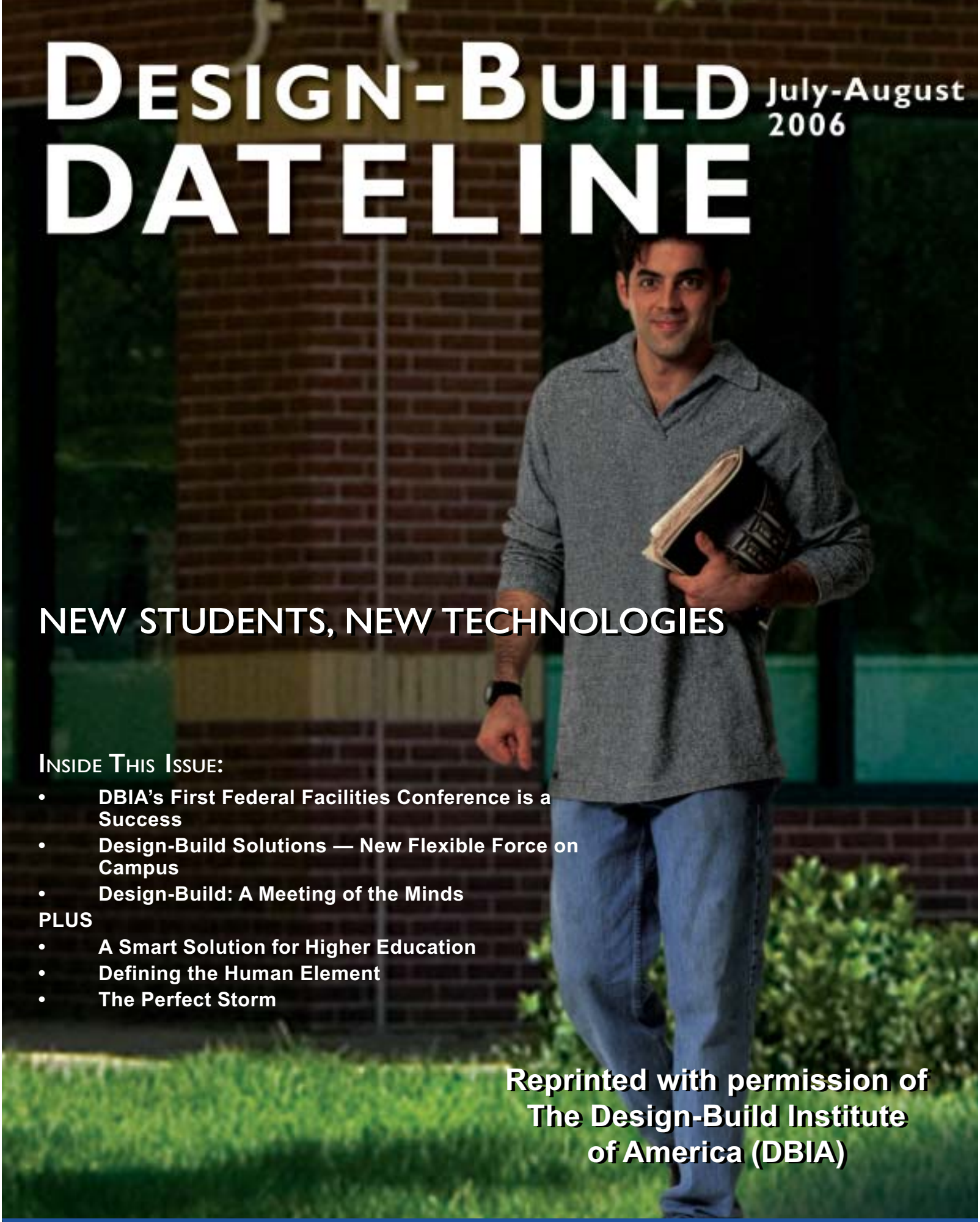


# DESIGN-BUILD DATELINE

July-August 2006

## NEW STUDENTS, NEW TECHNOLOGIES

INSIDE THIS ISSUE:





FLASH HIGHLIGHT: DBIA DATELINE JOURNAL WINS TWO APEX AWARDS!

# A Meeting of the Minds

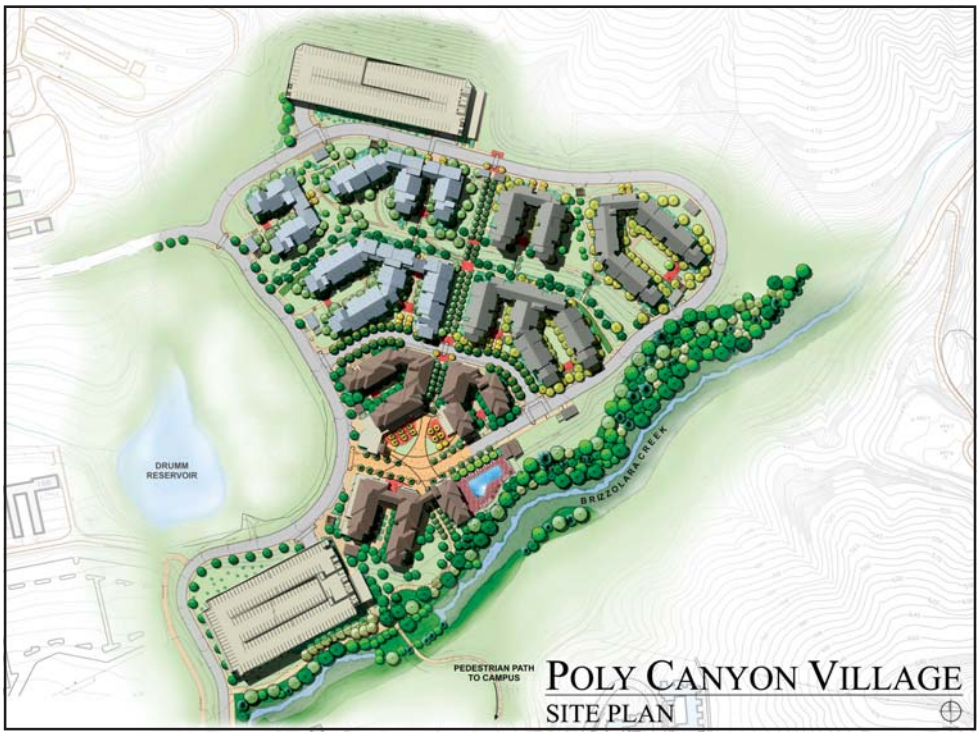
*By Lou Palandrani, P.E., LEED AP*

***"The educational institution . . . is not just contracting with a team . . . it needs to be an integral part of that team . . ."***

From coast to coast, our educational institutions are utilizing design-build as the preferred delivery method for their new and upgraded facilities. With many areas of the country experiencing a growth in student enrollment, along with a need to improve existing facilities, there has been a "boom" in educational-related construction. Facility directors at primary and secondary institutions are realizing that design-build delivery contracts are affording them opportunities to collaborate with the design and construction team in the early stages of a project. They develop strategies assuring that high quality facilities will be built within budgetary constraints and completed in a shorter period of time than with a traditional design-bid-build delivery.

Design-build delivery forges a collaborative business partnership between an educational institution and the contracting entity. The "offense/defense" mindset that at times comes into play in design-bid-build delivery must be avoided if a design-build project is to succeed. The educational institution needs to realize that it is not just contracting with a team to complete its project, it needs to be an integral part of that team. Common goals need to be developed early in the project and all stakeholders need to buy in early. Building a trusting relationship among the stakeholders on the team will be the foundation of a successful design-build delivery project

As in any business partnership, working within funding constraints is a goal on an educational facility project. The institution must consider the funding available through tax dollars, developer fees, tuition, or private contributors. Funding for an educational facility is not always easy to secure and once in hand is closely controlled. The design-build delivery allows an educational institution to bring in experienced teams in the early stages of a project so cost-effective solutions can be incorporated in the final design. The experience of the design-builder and their close connections to the overall construction market and its trends provides owners with a very topical pricing resource. This pricing information allows a project team to develop "win/win" solutions to resolve cost related issues which will in turn support the success of the project.




*Site Plan, Student Housing Project, Cal Poly, San Luis Obispo, CA*

One example of a solution that some educational institutions have put in place through design-build delivery is to help defer escalation-related costs by paying for the early procurement of materials. There is obviously a business model that needs to be evaluated regarding "the cost of money" when paying for stored materials, but this cost is based on actual interest to be incurred and not subject to the vicissitudes of the global construction material market.

Another reason that schools are choosing design-build delivery is the proven ability to improve the completion schedule as compared to the traditional design-bid-build delivery. Whether it is a new school, an upgrade to an existing facility, or adding student housing on a college campus, the sooner a facility can come online, the sooner the institution can improve the educational experience for its students.

Design-build also promotes early buy-in by all stakeholders, resulting

## A Meeting of the Minds

***"Although design-build may seem to be a 'cure-all' . . . it involves a significant investment of expertise and time . . ."***

*Student Housing Project, Cal Poly, San Luis Obispo, CA — "The best way to have a good idea is to have lots of ideas . . . ."*

in a higher quality facility. Ownership in the overall design and construction process, promotes a sense of pride on the project. The team's discussions will focus on "our success" or resolving "our problems." The quality of the project benefits from this team concept.

Although design-build delivery may seem to be a "cure-all" for problems that may have plagued educational facility construction, it involves a significant investment of expertise and time in the design development stage to assure that the project meets all stakeholders expectations in support of project goals. This is especially true in a design-build-bridging project where there truly needs to be a "meeting of the minds" prior to the start of construction.

An example of design-build delivery in action is on the new student housing project at the Cal Poly San Luis Obispo campus. The trustees of the California State University System are utilizing a design-build-bridging delivery for this $239 million student housing project. The project includes over 800,000 s.f. of resident buildings, including 618 student units housing approximately 2,700 students, along with 600,000 s.f. of structured parking on a 30-acre site. This is a significant undertaking and

## A Meeting of the Minds

*Design for Student Housing Project, Cal Poly San Luis Obispo Building 1 Neighborhood 1*

investment for the University and they have selected Clark Design/Build of California, Inc., of Oakland/Costa Mesa, CA, a subsidiary of Clark Construction Group LLC based in Bethesda, MD. Clark has brought the architectural firm of Niles Bolton Associates of Atlanta, GA, to the team as the architect of record. The University had engaged the services of MVE Institutional from Irvine, CA, to develop its bridging design for the project. There is obviously a significant group of stakeholders on the project and close collaboration among this group is critical to the success of the project. This is particularly true during the design completion stage of the project. The University and Clark have put in place a program that has supported the completion of the design in a collaborative manner while promoting consensus on design. Although the key initiatives promoting agreement on design development that will be further detailed in this article were used on the Cal Poly projects, they are essential to the success of any educational facility project.

The first key in promoting overall agreement in the design development involves the institution agreeing to allow the design-builder's proposal to become part of the contract. The school is securing a service from the design-builder based on performance criteria established early in the development of a project. If allowed by the owner, the design-builder can clarify in a proposal, suggested materials, means, and methods that may be counter to those in the original owner Request for Proposal, but may in fact still support the project. The design-builder, by clarifying issues in a proposal which will become part of the contract, will help avoid disputes later regarding clarified differences from Request for Proposal requirements.

**the key initiatives . . . are essential to the success of any educational facility project . . .**

Once under contract, the design-build team must engage the client and its consultants to develop a system confirmation validation process for the project design. This system confirmation would involve a comprehensive overview of the design intent for key components on the project, including but not limited to foundations, structure, building enclosure, finishes, vertical transportation, mechanical plumbing, electrical, and low voltage systems at a minimum. The design-builder should facilitate the presentation, document discussion, and follow through on the closure of issues. The system confirmation process involves the support of the design-builder, architect of record, its consultants, and key subcontractors, along with the school and its consultants, to make the process work. Disputed issues must be brought to the forefront early in the design process. This early recognition of possible differences will minimize work by the design team which may be counter to a client's expectations and ultimately rejected.

Once the team has completed its systems confirmation process, it will start to develop the construction documents for the project. The construction documents developed through traditional design-build or design-build-bridging must be the trusted basis for construction. For this to happen, the school representatives and the design-build team

*Design for Student Housing Project, Cal Poly San Luis Obispo Building 6 Neighborhood 2*

## A Meeting of the Minds

***". . . an understanding and buy in . . . takes a concerted effort but reaps benefits . . ."***

must work closely through the development of these plans and specifications. Design presentations may be helpful in articulating a particular element to the owner. Although we are all challenged by aggressive schedules on most projects, a goal is to resolve issues "on paper" as compared to "in the field." Early design collaboration allows the team to achieve this goal.

While developing the construction documents and assuring owner approval, it is also essential to secure proper approval from the agencies responsible for the final inspection and commissioning our educational facilities. Early reviews and approval from code and access compliance officials, along with the responsible fire marshal, will once again help resolve issues early and promote an overall understanding of the project by all stakeholders and minimize disruptive rework late in a project.

The last key component in assuring a "meeting of the minds" in the design stage of the project is to secure agreements in writing. This requirement is not an indication of a lack of faith or trust in team members, but more importantly, it is proper contract management. Some items may have changed since the original contract and, in turn, should be incorporated by change orders. In addition, many times project participants may change throughout the duration of a project. At that point memories fade and anxiety may escalate regarding the understanding of a particular issue. Documenting the development and acceptance of the design is a basic tenet, to support the success of the overall project.

The above concepts provide a road map of suggested presentations, reviews, approvals, and documentation which should be instituted in the design stages to secure the overall success of the project.

*Design for Student Housing Project, Cal Poly San Luis Obispo Building 5 Neighborhood 3*

An understanding and buy-in on the completed design between the school representative and the design-builder takes a concerted effort but reaps benefits as the project progresses. Jeff Smith, a principal/project manager with the architectural firm of Niles Bolton Associates, believes "the design-build delivery process is favorable in assuring the best possible educational facility project in consideration of their significant budget and schedule restraints." Mr. Smith goes on to say "that in design-build delivery, it is critical for the representative of the educational institution to be engaged in the decision making process in the early stages so that key building system decisions are agreed to by all stakeholders." Scott Bloom, project manager for facilities at Cal Poly San Luis Obispo, agrees with Mr. Smith and adds, "Team members from the school and design-builder with a willingness to collaborate and develop the most appropriate design concepts while supporting the intent of the contract are essential to a successful design-build educational facility project."

In closing, the design-build delivery of educational facilities is not just a trend. It is the backbone for assuring that our educational infrastructure will continue to support the student population throughout the country. As stated by the Professor Linus Pauling, who was awarded a Nobel Prize:

> "The best way to have a good idea is to have lots of ideas."

The stakeholders' ideas that are brought forth through the collaboration promoted by the design-build delivery process will support a high quality educational facility being completed in support of budgetary and schedule constraints. ◆

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