

Cosumnes River College's Winn Center for Construction and Architecture

First design-build project on Sacramento campus displays benefits of collaborative, inclusive approach

As the first design-build classroom project on the Cosumnes River College campus, the Winn Center for Construction and Architecture project demonstrates how a highly collaborative team can effectively balance the involvement and input of multiple stakeholders with the goal of delivering the most efficient, value-conscious project possible.

The state-of-the-art new building also represents far more than just a place for learning in the classroom. Designed as a “building that teaches,” it also functions as a living laboratory that allows students to study the systems that went into the building’s own design and construction.

The Los Rios Community College District, which includes Cosumnes River College, selected the team of DPR Construction and architect Lionakis for the 41,500-sq.-ft., \$13.5 million Winn Center facility, which houses the college’s construction, architecture, pharmacy technology, and photography programs. In addition to classroom space, the facility houses design studios and laboratories.

Design-Build Strategy

The college district’s decision to use design-build on this project illustrates a growing trend among institutional owners who are increasingly seeking project delivery strategies that maximize value, minimize waste and promote collaboration among project team members.

“There were a lot of people involved in the design-build process, from our students, faculty and staff to administrators to both teams for DPR and Lionakis,” said Cosumnes Communications and Public Information Officer Kristie West. “Everybody had input on this project, and I think each brought their own wealth of information and knowledge to the process. When you are able to sit down in a room and talk about what everybody needs and what the expectations are, and then the design-build team has the ability to make that happen—that’s really where this process was most successful.”



West added, “We looked to the design-build team to bring their solutions to the table and to make recommendations as we went along. DPR absolutely showed that ability in working with us.”

Ultimately, the strong collaboration among multiple user groups proved to be a key success factor on this project.

Designed to Teach

The district and college are highly satisfied with the end result—a showpiece facility that is educational both in form and function.

“This building is iconic in so many ways,” West said. “It was really important to be able to show what went into the building itself, so even if you’re not sitting in a classroom, students can learn from this facility.”

Some of the building systems and components that are designed to teach include the following:

- exposed structural framing for the ceilings;
- visible mechanical ductwork and transparent rainwater leaders;
- exposed plumbing valves and a heat exchanger that can be viewed through a glass floor and glass wall;
- a showcase of the heating and cooling strategies including chilled beams, radiant heating on the floor, and passive solar heating in the stairwell;

- numerous sustainable components, from photovoltaic panels to building systems, which allow users to monitor and measure building energy usage in real time; and
- visual strategies that contribute to the educational experience of building users.

Inclusive Approach: Shared Governance in Action

Integrating those educational components was a process that engaged everyone from students to the design and construction team members to the end user groups. The project team’s highly collaborative, inclusive approach began in the earliest design stage, when students participated in an owner-sponsored LEED® design competition. Many of the ideas that came out of that competition ultimately were incorporated into the final design.

Collaboration and input from multiple stakeholders continued throughout design and construction of the project. The design-build team viewed “shared governance” as an opportunity, rather than an obstacle.

There were a number of strategies employed to encourage input. Among them:

- Weekly design meetings were held with a design committee comprised of instructors, students, administration and facility personnel.
- Architecture and construction technology instructors’ ideas were included in “building as teaching tools.”



- Graduates of the architecture program were employed as interns on the project.
- Architectural students assisted in working toward LEED certification during construction.
- Construction technology students provided assistance to the design-build contractor during construction.
- Photography students documented the construction process for use in a “construction history mural” that is featured in the building.

DPR Project Executive Erik Winje said that managing the wide range of user input and expectations while still maintaining budget and scope sometimes proved challenging—but it also allowed many of the best ideas to rise to the surface.

“Making sure we were listening to all the user groups during design and that those views were in alignment with the program was a challenge at times,” Winje said. “There was a lot of give and take.”

That give and take extended to working with the state governing agency, the Division of the State Architect (DSA), which regulates all K-14 public school construction projects in the state of California.

Navigating the DSA’s six-month approval process for the project was a significant hurdle. The design-build team faced a delicate balancing act to achieve a project goal to showcase innovation and the latest sustainable technology, such as the rooftop

photovoltaic system, while at the same time accommodating the DSA’s affinity for more traditional processes and approaches. By successfully overcoming that challenge, the team ultimately kept the project on track and avoided unnecessary delays.

Lean and IPD Practices Shine

To boost efficiency and eliminate waste, the team also incorporated many lean and integrated project delivery (IPD) processes such as target value design and the Last Planner® system, among others.

The design-build team developed a milestone alignment plan with stakeholders at the beginning of the project that mapped out design and construction milestones, and developed specific tasks to meet those goals. They held weekly meetings to report on program, and identify and remove constraints in order to keep the project progressing steadily forward.

“The focus really was always on creating more value by reducing waste and just continually improving the process,” said Winje.

Elevating Sustainability

One of the primary ways in which the DPR/Lionakis design-build approach added value to the owner was by increasing the LEED certification level of the facility. The project team collectively brainstormed ways to boost the LEED rating target from Gold to Platinum—with no additional cost impacts.



The Winn Center's focus on sustainability incorporated many of the student ideas that were generated from the LEED competition. That was in keeping with the goal to create a building that not only teaches students about green design and construction, but also integrates many of those sustainable strategies to improve the building's long-term operating efficiency.

A few of the major green features include: maximized natural light in classrooms; photovoltaic panels; renewable and local materials for interior finishes; equipment for real-time energy-use monitoring; an energy-saving enthalpy wheel that facilitates the exchange of heat energy and moisture energy; and an "off-grid" stairwell that is heated and cooled via solar energy outside of the building's heating, ventilation and air conditioning (HVAC) system.

A Project Worth Repeating

Now the cornerstone of the Cosumnes campus, the Winn Center showcases the benefits of design-build delivery, lean processes and a highly collaborative approach. It is a model that the college and district hope to replicate in future projects.

West ultimately credits a consistently high level of communication and collaboration for the project's successful completion in June of 2013, following a nearly two-and-a-half year long design, DSA approval and construction process.

"Everybody felt this was an absolutely successful venture," said West. "We look forward to doing another design-build project in the future."

CUSTOMER: Serving the greater Sacramento region, **Los Rios Community College District** is a public college district, which includes Cosumnes River College. The district has nearly 80,000 enrolled students.

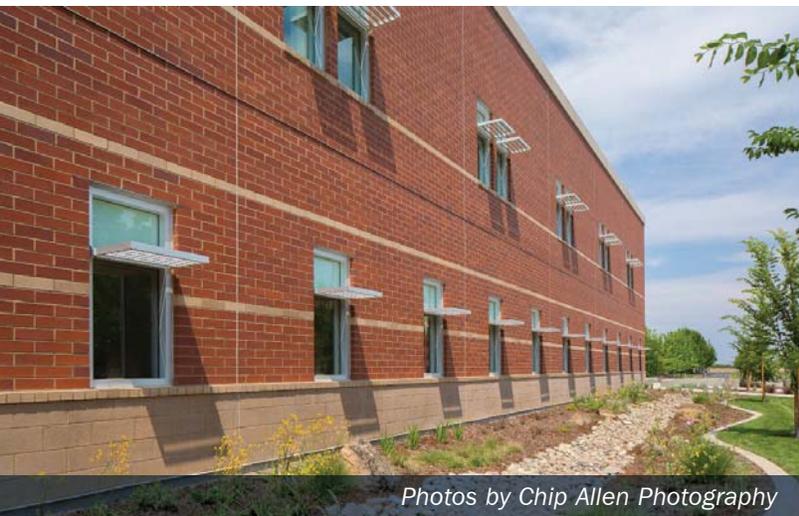
ARCHITECT: Lionakis

PROJECT HIGHLIGHTS:

- Completed in June, the Winn Center is a 41,500-sq.-ft., \$13.5 million signature teaching facility.
- The Winn Center houses the college's construction, architecture, pharmacy technology and photography programs.
- This is the first design-build project on the campus and the second for the district.

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Photos by Chip Allen Photography



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