

smart SOLUTIONS

Fall 2012



Westwood High School 2.0

Transforming a 1980s land-locked campus into a 21st century learning environment that supports academy-based education.

Integrate the district's new academy-based education model, expand spaces for academic and extracurricular programs, increase on-site parking, work within the existing 43 acres across three non-contiguous pieces of land and maintain school operations throughout the three-year construction project. That was the challenge in designing the renovation and expansion of Westwood High School in Round Rock ISD.

The transformation of the 30-year-old, 283,000 SF building began with a master plan to define how the design team could achieve the district's goals.

O'Connell Robertson led planning workshops involving the design team, district personnel, campus leadership, teachers and staff, students, and local neighborhood groups.

All stakeholder input was incorporated into a detailed outline of design concepts and construction phasing, resulting in a plan that will define the campus for the next 50 to 75 years. O'Connell Robertson then designed

Phases 1 and 2 of the four-phased plan, which involved more than 125,000 SF of renovations and over 68,500 SF of new construction. The design integrates respect for the school's traditions with the vision of a modern educational environment.

"The existing campus was truly transformed, which is all the more remarkable because the work occurred while school was going on. The colors, the open spaces and the sustainable features create a wonderful environment for teaching and learning."

**Rebecca Donald,
Asst. Superintendent
for Secondary
Education,
Round Rock ISD**

A new main entry was created through an infill expansion, providing a dramatic and intuitive front door, a secure entry vestibule, and a two-story lobby with flexible space for activities.

The library remains the heart of the campus, but was reconfigured and nearly doubled in size to create

a learning commons with flexible spaces for a variety of group sizes and technology rich accommodations for students and staff.

"People who weren't familiar with Westwood High School before the renovations don't realize just how different the space is now — they just see a modern and usable school," said Rebecca Donald, Round Rock ISD assistant superintendent for secondary education and former Westwood High School principal.

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Recovering Your Resources

From bricks to metal, glass to concrete, adaptive reuse of materials is not only good for the environment, but can be good for your pocketbook, too.



Construction projects requiring major demolition typically result in expensive trips to the landfill. But there are ways to keep existing materials out of the trash, benefitting the environment, your community, and the bottom line.

Maintain connections to the past.

Even buildings not on the Historical Registry may hold cultural or historic significance for a school community. There may be architectural elements that can be salvaged to provide a connection to the old building or space.

For example, column capitals, exterior stonework and wooden doors can find new life and purpose in a front entry, library or corridors.

In addition to providing visually interesting interior design accents, repurposed pieces can serve as a teaching tool with the addition of plaques, verbal historical tours, or construction science lessons.

Creating a dynamic learning environment that reflects community values and traditions was the mission for the

replacement campus for Ira Ogden Elementary School in San Antonio ISD. O'Connell Robertson was asked to design a new state-of-the-art facility to replace much of the school, which was originally built in 1930.

Some key elements being re-used to maintain the connection to the past include exterior glazed tiles and brick on the interior of the new building, the original entrance façade as the new entry to the Media Center and a large mural of the school mascot on one of the exterior building walls.

"The design of our new school must honor its rich history and reflect its vision of academic excellence for the foreseeable future. The current facilities are rich with architectural elements and details that can be incorporated into the new school."

Kamal ElHabr
Assoc. Superintendent
of Facilities Services
and Construction,
San Antonio ISD

Save the environment and budget.

Many manufacturers have reclamation programs in place for taking back their own and competitors' post-consumer waste. The key is to involve all parties early on. Materials that can be reclaimed vary, but typically include ceiling tiles, carpet and vinyl composition tile. The existing products must be compatible with current products on the market.

When a manufacturer can reclaim and reuse materials, they reduce the money they are spending on new items. If the quantity is large enough, the manufacturer may pass those savings on to the school district. Additionally, dumpster and landfill fees are charged by volume so reducing waste saves money as well as the environment.

For more ideas on reusing existing materials in a renovation project, please contact Jennifer Hoskins, IIDA, LEED AP, at 512.478.7286 or jhoskins@oconnellrobertson.com, or contact Chris Narendorf, LEED AP, at 210.224.6032 or cnarendorf@oconnellrobertson.com. 📧

Considerations for Construction Delivery Methods

Falling material prices and labor rates, combined with new state procurement requirements, make this a good time to reconsider your district's standard construction procurement method. The following should be considered in determining the delivery method that will provide the best value for your district:

Scope – For construction on a green-field site or a straightforward building addition, a competitive bid or competitive sealed proposal may provide the best price. However, for more complex

projects, including "messy" renovations, using the Construction Manager at Risk method enables the contractor to provide valuable constructability and pricing input early in the design phase.

Scale – For a construction program that addresses many small projects over several campuses, the Job Order Contract method can provide quick and fair pricing without the need for an extended bid period.

Schedule – Whether it's the first day of school or opening kick-off, when it's

critical that a facility open on time the design/build method can help deliver a project in 30 to 40 percent less time under one contract.

For more information, contact Jarrod Sterzinger, AIA, LEED AP, at 512.478.7286 or jsterzinger@oconnellrobertson.com. 📧



Westwood High School 2.0 *continued*

“The existing campus was truly transformed, which is all the more remarkable because the work occurred while school was going on. The colors, the open spaces and the sustainable features create a wonderful environment for teaching and learning,” Donald said.

The first floor of the classroom addition provided expanded fine arts and performing arts spaces to support RRISD’s flagship Visual and Performing Arts Academy. The second floor created modern flexible science facilities to augment the STEM Academy.

An existing classroom wing was completely renovated to provide a 9th Grade Center that is isolated enough to allow the newest high school students to have a place of their own but is inside the main building so they still feel part of the campus and can share amenities. An athletic addition provided a new practice gym, athletic support spaces and another secure entrance to the school.

A new entry to the site improved vehicular traffic flow, and a queuing drive that utilizes the length of the site helped get cars off of the public streets. Reconfiguration of the site components allowed for a 50% increase in the number of on-site parking spaces without losing any programmatic elements.

The project was designed to meet CHPS with sustainability solutions including solar power, solar hot water, daylighting, low VOC materials, a new central plant for more efficient heating and cooling, and reduced water use.

A software system and touch-screen flat panel monitor allows students to study real-time information on the building systems and the impact of their use of the facility. 📱



New Energy Reduction Trends Emerging in Schools

With school districts seeking ways to reduce their operating expenses, trends in mechanical, electrical and plumbing (MEP) design are focused on energy reduction. Incorporating some or all of these items into your school will help control energy costs and can also reduce maintenance costs.

- **Electronically Communicated Motors** – Generally available on motors 1 hp and less, these motors are used with direct drive motors and utilize about half the power of conventional motors. Another benefit: They don’t have belts to maintain.

- **Variable Volume Kitchen Exhaust** – With this control, the make-up air volume required to serve kitchen exhaust hoods varies based on temperature or smoke. Allowing the make-up air to be reduced based on need yields sizeable reductions in energy consumption.

- **Evacuated Tube Solar Collectors** – These solar collection devices can provide free heat to deliver hot water to kitchens and showers or add heat to your hydronic heating system. Additionally, these types of collectors are capable of providing some heating on a cloudy day.

- **Single Zone VAV DX** – These controls conserve energy by modulating the evaporator fan, which saves a considerable amount of energy.

- **LED Outdoor Lighting** – New fixtures specifically designed for LED lamps allow the lighting to be dimmed based on need, significantly reducing energy costs.

For more information on ways to reduce energy, please contact Nick Patterson, PE, LEED AP BD+C, principal, at 512.478.7286 or npatterson@oconnellrobertson.com. 📧

Turf Fields: Pros & Cons

The financial impact of recent droughts has many Texas school districts considering the installation of artificial turf to replace grass athletic fields. Artificial turf can provide relief to limited M&O budgets, since water is only needed for cleaning, reducing the hot feel, and requires no mowing or fertilization. Districts can also schedule more activities, including potential revenue-producing events.

While the maintenance costs are lower, the initial cost to install an artificial turf field is significantly higher: an average of \$750,000 compared to the average \$380,000 for a grass field. Over



10 years, however, the maintenance costs for an artificial turf field average about \$100,000 while a natural grass field averages \$500,000 over 10 years.

For more information and a cost/benefit analysis for your district, please contact Jason Andrus, AIA at jandrus@oconnellrobertson.com. 📧

Pros

- Limited watering
- Lower maintenance costs and labor
- Less microbial activity
- Higher usage (fewer facilities, possible rental revenue, greater shared use)
- Average 8-10 year replacement timeframe (natural grass averages 1-2 years)
- Warranty against damage

Cons

- Higher installation costs
- Hotter feel
- Use of petroleum/heavy metal materials
- Difficult to modify
- Color fading over time



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