LEED GOLD CERTIFIED

ALAMOSA K-2 AND 3-5 SCHOOLS
ALAMOSA, COLORADO

EXECUTIVE SUMMARY

Alamosa K-2 and 3-5 Schools

Need a way to improve academic performance due to being on probation with the state

Involve community members in the decision process

Provide a blend of history and the future, blend traditional culture with current technology

Student comfort and performance is paramount. The building is broken down into components reducing the scale for young students. Inside the school, textures and vivid colors of the surrounding environment aid in wayfinding for children. Nearly every space has daylighting and outdoor views, which is proven to increase student achievement.

With a large Hispanic community, the design charge was to create a building that showed the heritage of Alamosa and embodied the future opportunities of the community. The building is a mix of solid mass elements and open glass areas, rough textures, and new technology. The building is warm and inviting with spaces for the community to utilize.

A portion of this project was funded by a local bond initiative, the community was engaged through meetings, school open houses, and informational literature regarding the proposed school campus. Regular community jobsite tours were held as construction progressed.

PROJECT SCOPE

Alamosa School District is located in one of the most economically challenged areas of southern Colorado in the San Luis Valley. Due to economic disparity among locations within the town, some schools were providing more education opportunities than others. To provide equal education, the district decided to bring all students together, and converted three existing elementary schools into age level schools. This forced all kids to change school buildings between 1st and 2nd grades, and again between 3rd and 4th grades. Transitions then became the major cause of deficient student performance.

The new solution provides two similar 72,500-square-foot buildings, connected by playgrounds and landscaping, which serve kindergarten through 5th grade students. The focus of the building design is for the students and for the community.

Project Delivery Method:

- Design-build

Project data – grades housed and pupil capacity

- Grades K-5
- Capacity: 990

Occupancy date:

- November 2010

LEED Certification:

- Both buildings are LEED Gold Certified

Project size – site size, gross area, area per pupil, net or gross

- 145,000 square feet
- 146 square feet/student
- 6 acre site

Alamosa, Colorado

Elevation 7,500 ft

Population 8,937

BUDGET

Project cost and cost per square foot – exclusive of land, landscaping, furniture, and professional fees

- $36 million
- $249.21/square foot

COMMUNITY ENGAGEMENT PROCESS

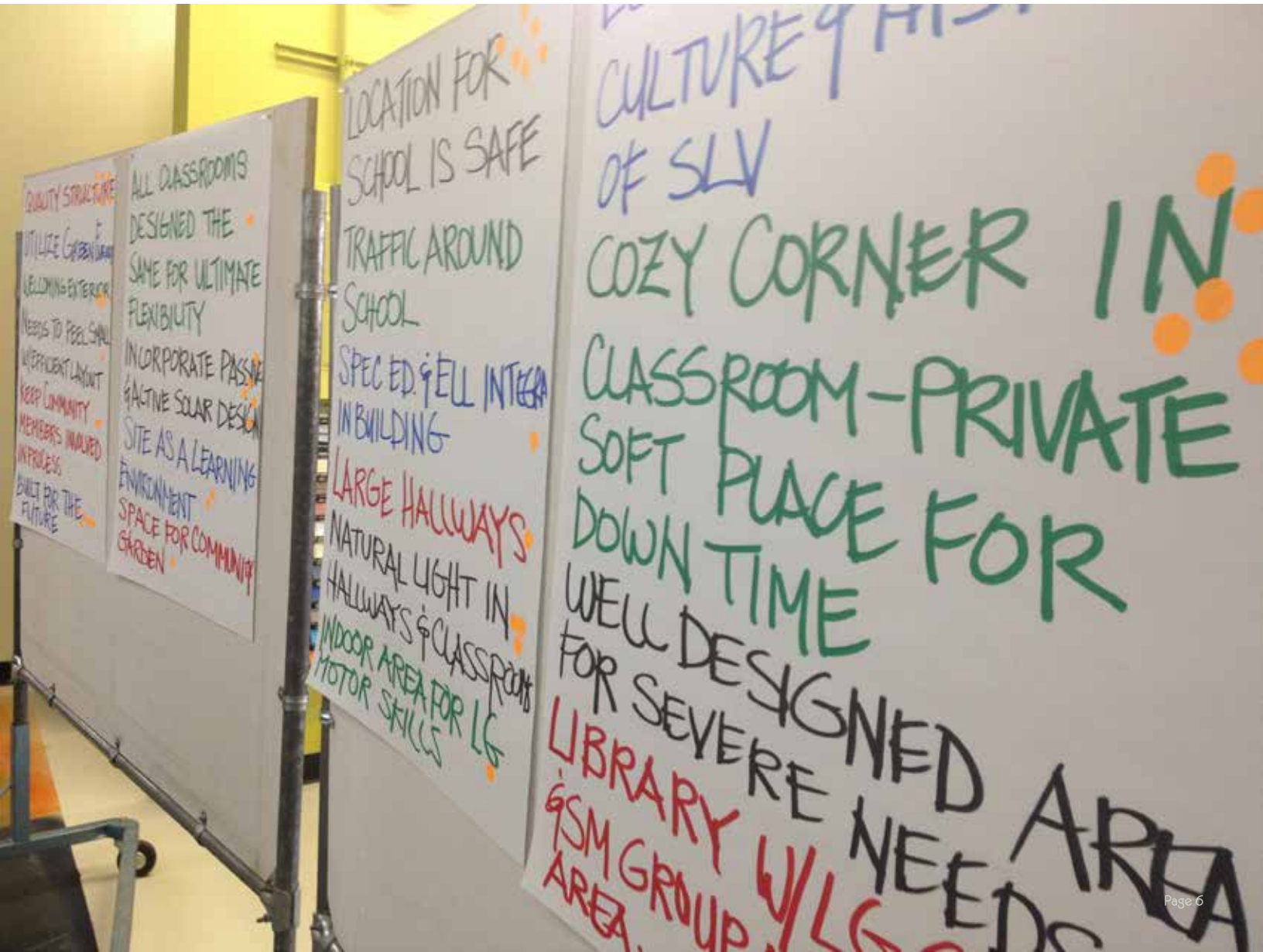
Context: Community was disappointed with previous new school project

Developed a Master Facility Planning Committee (MFPC) to get alignment among community

MFPC and design team met monthly throughout design process

COMMUNITY ENGAGEMENT PROCESS

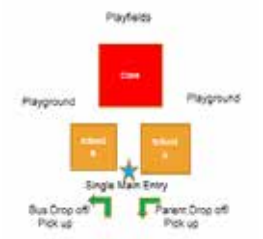
The Master Facility Planning Committee was comprised of principals, teachers, community members, parents, facility staff, superintendent, board members, and business leaders. The committee was 20-30 people involved in master planning, solution design, and securing grant and bond funding. Neenan worked closely with the large group to align all of their diverse ideas.



Community Presentation
Education Spaces and Layouts
November 2007

Two Entries
L Plan

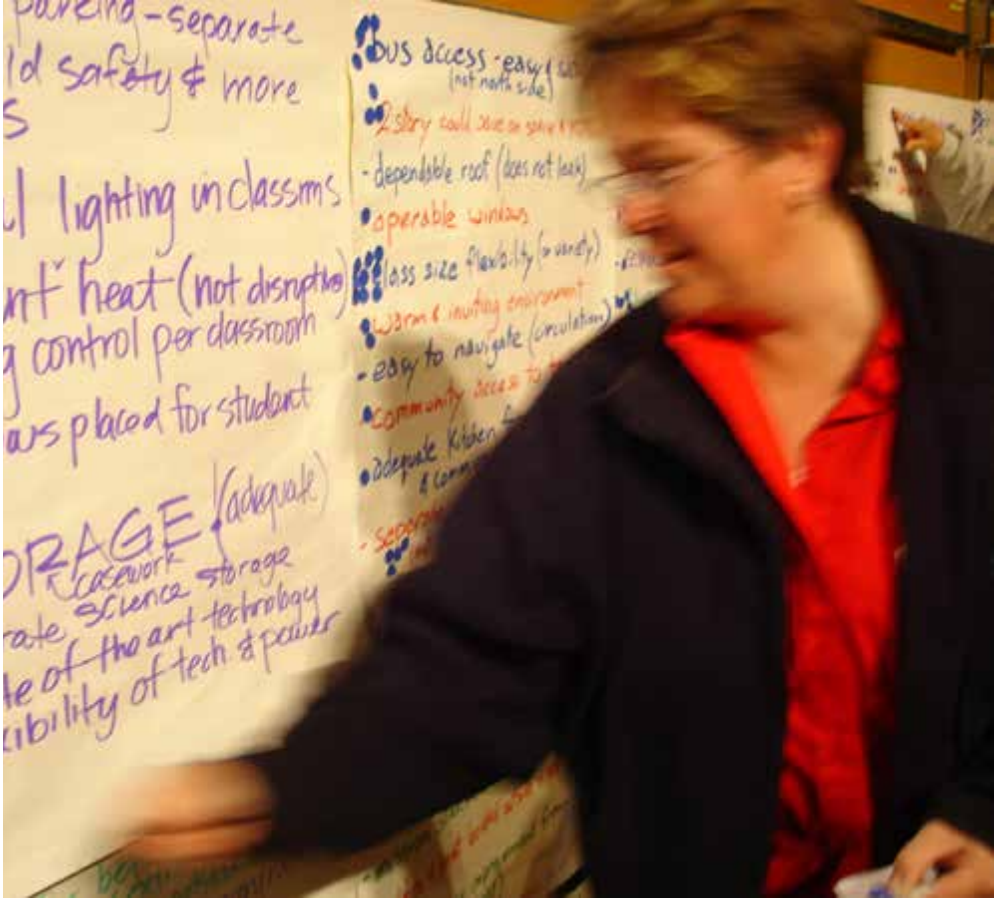
Shared Entry
Linear Plan



Shared Entry
L Plan

Two Entries
Linear Plan

Shared Entry
Stacked Plan



Lessons learned

It was very important to involve the community because of their lessons learned from a previous high school project that "looked and felt like a jail"and was grossly over budget. As a result, the community was very involved during the design of the new elementary buildings.

For the Elementary schools, the community wanted to MAKE SURE they were involved with the goals, ideas, and decisions so the solution would embody the community's needs and meet the budget.

The school district and community wanted to use a design-build process to get input and a pricing guarantee from the contractor during design.

Planning Committee Meetings:
The 20-30 person committee met 24 times during design.

2006
School District formed Master Facility Planning Committee (MFPC).

Summer to Fall 2007
MFPC finds a suitable site.

Winter to Spring 2007
School District enrolled Neenan to evaluate existing buildings, get community COS, and develop a master plan (number of schools, remodel or build new). The team held three worksessions.

Winter 2008
CDP to develop designs on site during a full day worksession.

Winter 2009
Applied for and received a state grant.

April 2009
Project kick-off, began biweekly meetings with MFPC through October (start of construction).

October 2009 to March 2010
MFPC meets for six monthly meetings.

March to December 2010
Two community members of MFPC attend biweekly construction meetings.

Community Worksessions: Community members were invited to two worksessions in different areas of the city to share ideas and needs for the new facilities, this input was used to create the Conditions of Satisfaction (COS). The COS served as the basis for the design.

COMMUNITY ENGAGEMENT PROCESS

The planning process began by establishing and documenting the Alamosa School District's Conditions of Satisfaction (COS), which serve as the guiding principles for the remainder of the project. COS are based on the Six Sigma principle that the client, not the architect or project manager, defines value. With clearly defined value, it is much easier to make grounded decisions and evaluate the actual success of a facility improvement or new facility.

COS is a tool developed by The Neenan Company to help our designers, preconstruction, and construction experts to see the world through our client's eyes. We work to understand their business, their staff, their students, and their future. Once we are empowered with their issues, successes, and dreams, we can truly be their partner and create facility solutions to serve them beyond their expectations.

"We have a Master Facility Planning Committee. They were involved every step of the way. We had 30 people involved in our decisions. Everyone feels heard in this process and that's a lot of people to keep happy. The program is tailored to fit our district, our curriculum, and our community. Its been a really good process."

Charlie Jackson
Director of Facilities, Alamosa School District

The school should be safe and welcoming for students and the community

Upon entering the building during the day, visitors are guided into the office. They must check-in with staff for building access. The entry created is larger than normal, creating a comfortable space for people to wait before and after school. And literally there is a large sign in English and Spanish welcoming people into the building.

Flexibility to use building in different ways: K-2 and 3-5 or K-5; build for the future with expansion and technology in mind

Two buildings were created to house the required amount of students. One building is dedicated to kindergarten through second grade and the other is dedicated to third through fifth grade. All of the classrooms have the same design and size so that in the future, any class type can be accommodated in any classroom. Future expansions will be accommodated at the end of the classroom wings.

Elements that honors history and culture of area. Combination of Hispanic Heritage and 21st century opportunities.

On the exterior of the building, the designers capitalized on traditional southwest materials in a modern way. Using masonry and stucco as the main materials, and highlighting them with bright colors; the design of the components has a modern influence in layout and use. The colors selected were inspired from the surrounding landscapes. Solar panels installed on the roof welcome modern technology while also embracing the abundant sunlight in the area. On the interior, the colors were punched up to appeal and inspire the younger population of the school. Signs of multiple languages were used throughout; including a nearly lost Mayan language that still exists in their community. With ample display space, the school is able incorporate their own interpretations of culture.

Art display area—corridor walls, other areas in school, bulletin boards, museum area, display case area, exhibit area

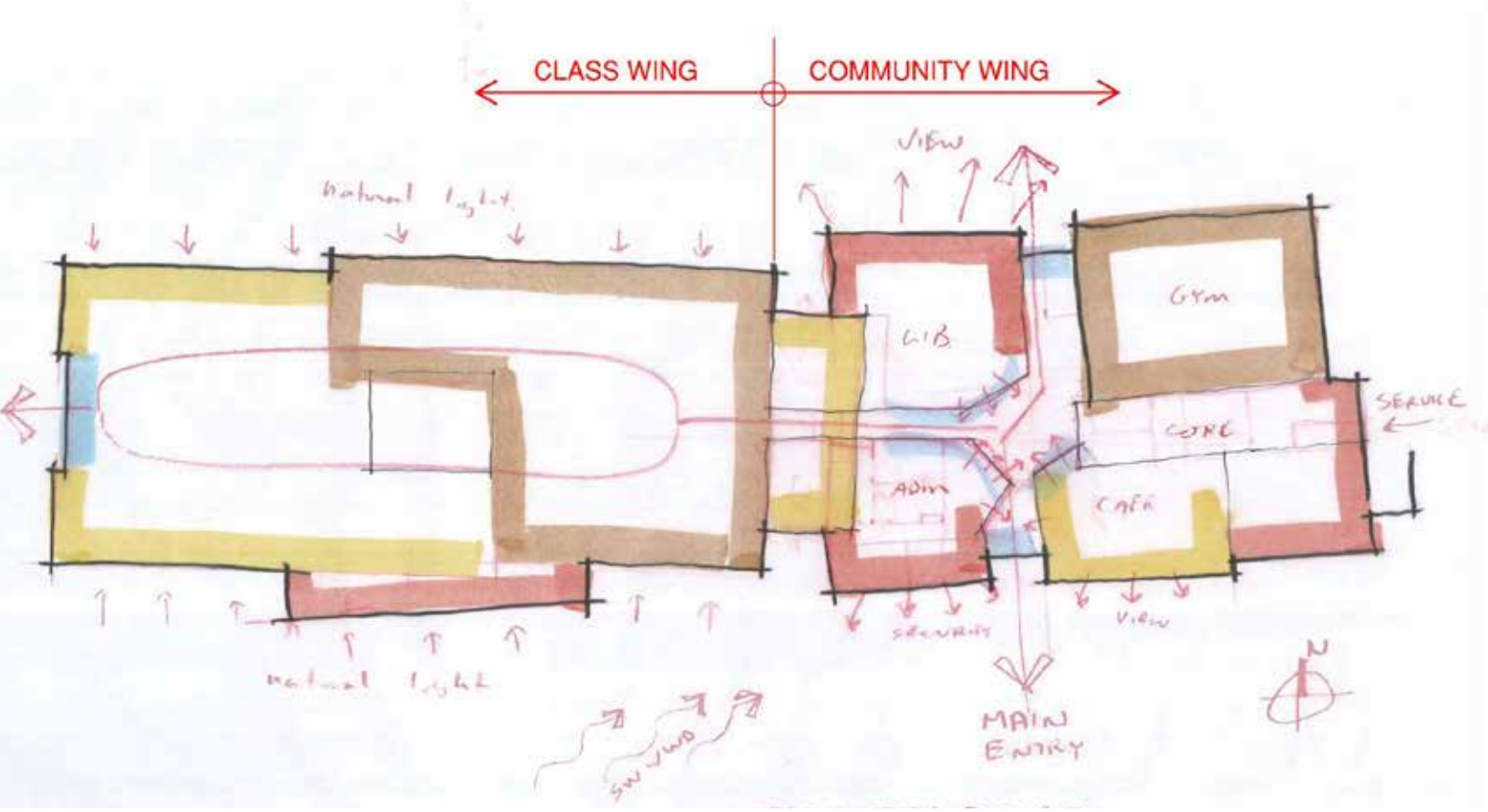
Wherever there was an opportunity to add a display case, it was incorporated into the space. Tack surfaces were included in the classroom and hallway wings between every other classroom.

Cost savings relative to operating costs

In addition to the daylighting and solar elements. The school has passive ventilation combined with radiant floor heat. The mechanical systems capitalizes on the swings of temperatures in the valley, by harvesting the cold air in the morning and circulating it through the building during the heat of the day. During the winter, the mechanical system captures heat from exhaust air and keeps it in the building. Materials with long life cycles were selected such as stainless steel toilet partitions, tile floors at high circulation areas and stainless steel under mount sinks with a solid surface counter.

Provide break out space for 6-8 kids shared between classrooms to serve as small group teaching and testing area

In-between each classroom a small program room is provided for two classrooms to share. It is equipped with tack surface, marker surface, and storage. Windows allow the teacher to maintain visibility into the space. These spaces are largely desired for breakout lessons with other staff and volunteers to assist English Language Learners and other integrated special needs students.



Need to reduce transition and feel small with an efficient layout

The school district created a concept where all students attended all elementary school buildings. Academic success was sacrificed at the grade transitions. The district needed to accommodate nine rounds of students per grade, one large building seemed daunting for a young population. The solution was two buildings on one campus, this allowed for the scale to be more compatible to its main inhabitants. Within the buildings, the scale is reduced to smaller parts, to keep comfortable for young children. The plan is composed of a series of shapes. At the point that the shapes overlap, something interesting and important happens: an impromptu performance area, a quiet nook, or a large art display.

Create an outdoor learning environment incorporating educational elements in the playground

The design of the playground itself was a learning experience for the students. The teachers created a class project around the playground design and the students helped to design it. The path around the playground became educational as well, utilizing science and history, teaching staff and designers developed instructional signage (in both English and Spanish) throughout the landscape to support the curriculum. Also incorporated into the landscape was a community garden. The students had an opportunity to learn about growing fruits and vegetables just a few feet away from their playground.

Indoor area for large motor activities, when weather is poor

There are many days in Alamosa where the winds are strong in combination with temperatures that are below freezing, therefore playing indoors is a requirement from time to time. Each school has its own gymnasium, in addition, the cafeterias are designed with higher ceilings to accommodate physical activity with balls or a parachute. In the center of the classroom wings, a monumental stair creates a large open atrium or commons space for kids to be more active.

Building elements and green features to integrate into education curriculum

Creating educational opportunities was an important theme with the MFPC, as well as utilizing green features. These two ideas were combined, energy efficient features of the building utilized in the school curriculum: water savings measurement, day lighting and electrical savings, exhaust heat recapture and energy savings. In place of garbage disposers, food waste collectors were installed in the kitchens. The compost pucks created from the kitchen waste are used in the community garden. Composting benefits and processes are discussed with the students during their gardening activities.

Well designed area for severe needs; special education and English Language Leaners built into building, integrated curriculum

Alamosa has become the home for most of the severe needs students in the San Luis Valley. Their needs for this space was important. Each building has a self-contained severe needs classroom. Each one has a living skills kitchen, its own restroom, a shower and laundry facility, and space for different break-out groups. The room is flooded with natural light in order to limit the use of fluorescent light fixtures. The spaces also have their own direct entrance from the parking lot, in order to better accommodate parents and different schedules of these students. These spaces were designed closely with the director of the program to meet their special needs.

Keep community members and staff involved in the process

The school district created a Master Facility Planning Committee (MFPC) consisting of staff, teachers, board members, community member and other volunteers. The design team met with this group almost two times a week for over a year during design. Once the building went into construction, a smaller group from the MFPC attended the bi-weekly meetings in the construction trailer. The community was present through the entire process from initial master planning through to the end of construction.

COMMUNITY ENGAGEMENT PROCESS

Alamosa School District needed an education model and solution to increase performance

- Academic probation looming
- Financial probation
- English Language Learners – closing the educational gaps
- Low parent involvement
- Low student attendance
- High staff absences
- Shared specialists had to spend time commuting between three schools

CHALLENGES

Depending on a state grant program for 2/3 of facility funding

Passing a bond in a low income community during the recession, with history of failing bonds

Integrating an economically divided community

Applying for a "yet to be approved" state grant program due to a maxed out debt limit

Searching for a site that is supported by the community in order to help pass the required bond

Communicating with a community with multiple primary languages so that they will understand the bond

AVAILABLE ASSETS

Best solar intensity in USA for solar collection

Rich Hispanic history, some of the oldest communities in US

High mountain valley and its' temperature range (7,500' elevation)

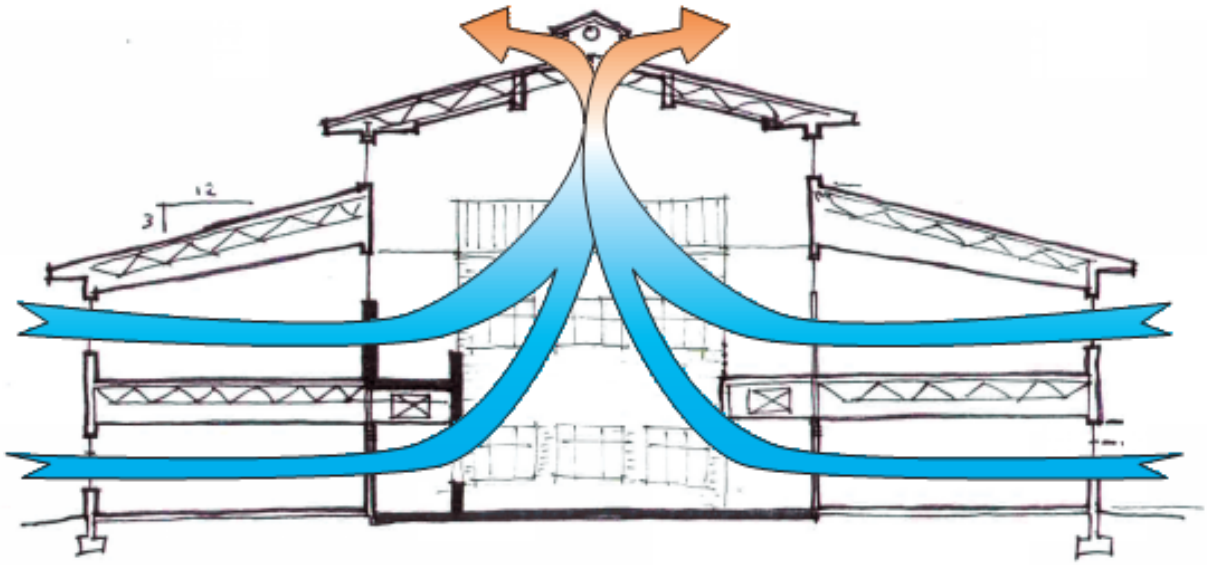
Views of the Sangre de Cristo Mountains

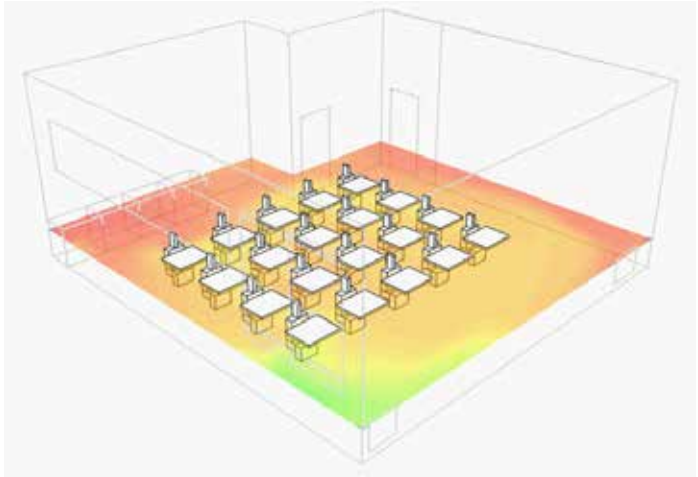
EDUCATIONAL ENVIRONMENT

CURRICULUM: Teachers needed classrooms, but wanted immediate access to small group/individual learning areas. Break-out or project rooms are shared between two classrooms, providing an adjacent and supervisable individual learning space.

EDUCATIONAL ENVIRONMENT

CURRICULUM: Natural light, thermal comfort, and acoustic performance – focus of design to improve student achievement.





ENERGY MODELING

Extensive energy modeling was completed to ensure student comfort while reducing energy costs. The Colorado Governor's Energy Office worked with Neenan's energy modeler and the mechanical engineer to use 37% less energy than a conventional building while keeping classrooms of students comfortable.

CURRICULUM:

Science and History in Landscape:

Teaching staff and designers developed instructional signage throughout landscape the to support the science and history curriculum.

EDUCATIONAL ENVIRONMENT

CURRICULUM: Community gardens are integrated into Healthy Choices curriculum.

CURRICULUM: Flexibility to use buildings in different ways:

K-2 and 3-5 or K-5.

All classrooms are the same size and have the same amenities.

EDUCATIONAL ENVIRONMENT

CURRICULUM: Energy efficient features of the building utilized in school curriculum: water savings measurement, daylighting and electrical savings, exhaust heat recapture and energy savings.

LEARNING STYLES: Variety of spaces for educational needs:

individual learning, classroom, large group areas, and specialty rooms

- Break-out rooms in between each classroom for individual study
- Common area, small scale productions
- Specialty classrooms (music, art, technology) arecentrally located and easy to access

EDUCATIONAL ENVIRONMENT

LEARNING STYLES:
Quiet reading room in the library

LEARNING STYLES:
Flexible classroom allows for multiple configurations, the ability to teach in different areas of the room, and accommodate small groups

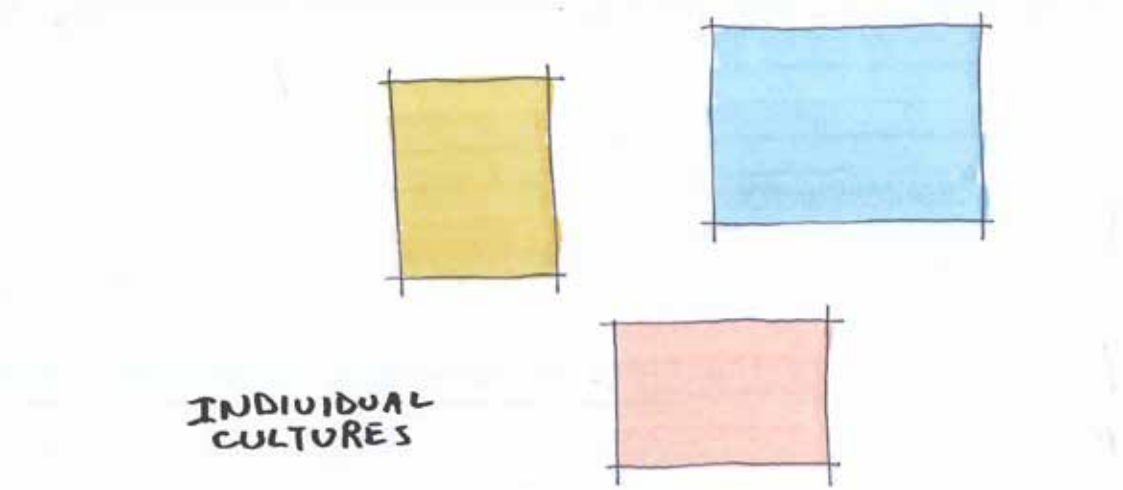
LEARNING STYLES:
Outdoor learning areas: educational path and a community garden

LEARNING STYLES: Nooks under the stairs for kids, a place to call their own.

EDUCATIONAL ENVIRONMENT

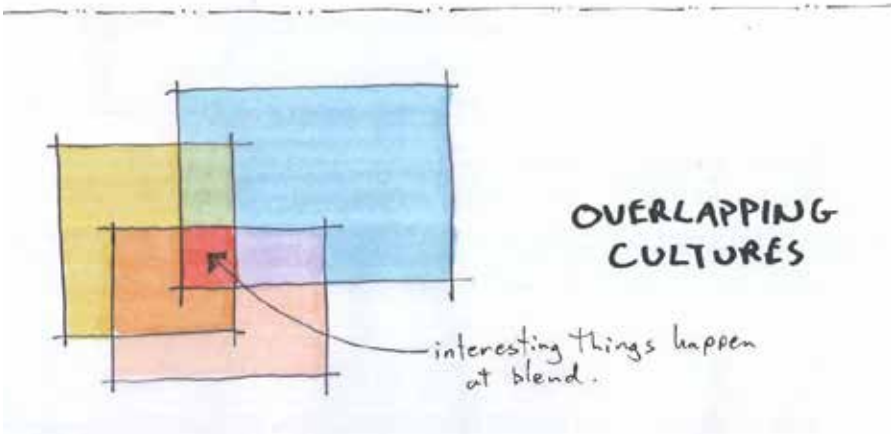
Signs throughout the school and the playground educate students and community members about the schools' sustainability features, history, natural wonders of the region, and different languages. The library has signs in languages from around the world. Curriculum was developed by staff and the design team to teach students about sustainability and the features of the schools.

PHYSICAL ENVIRONMENT

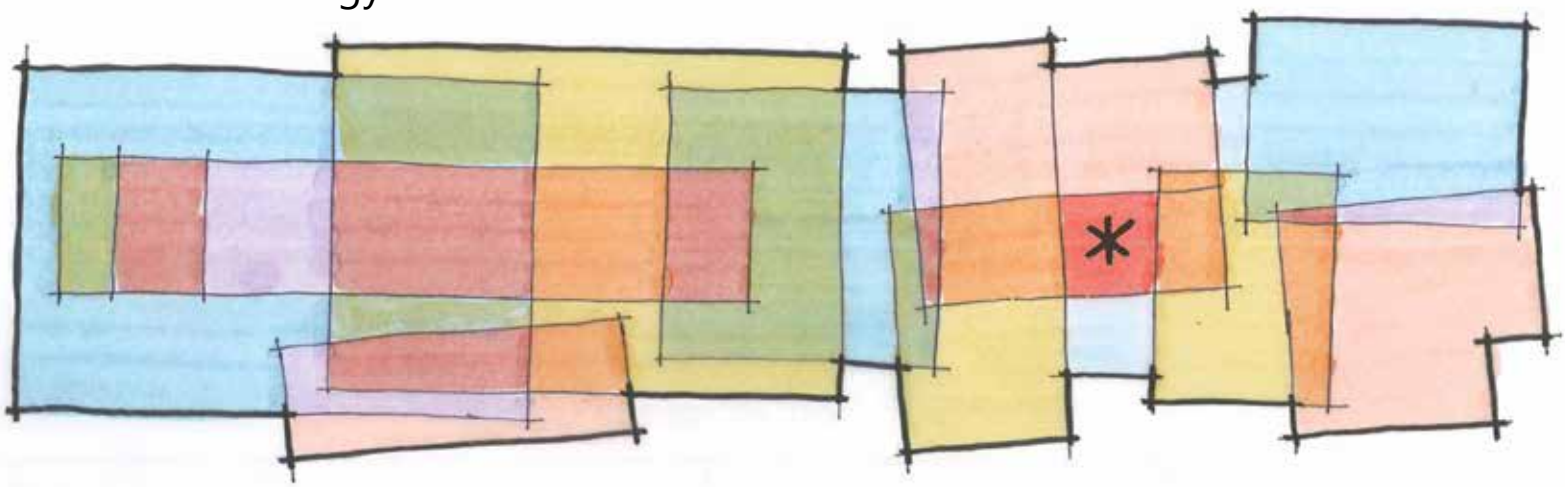


Combination of Hispanic Heritage and 21st century opportunities. Described in the design process as

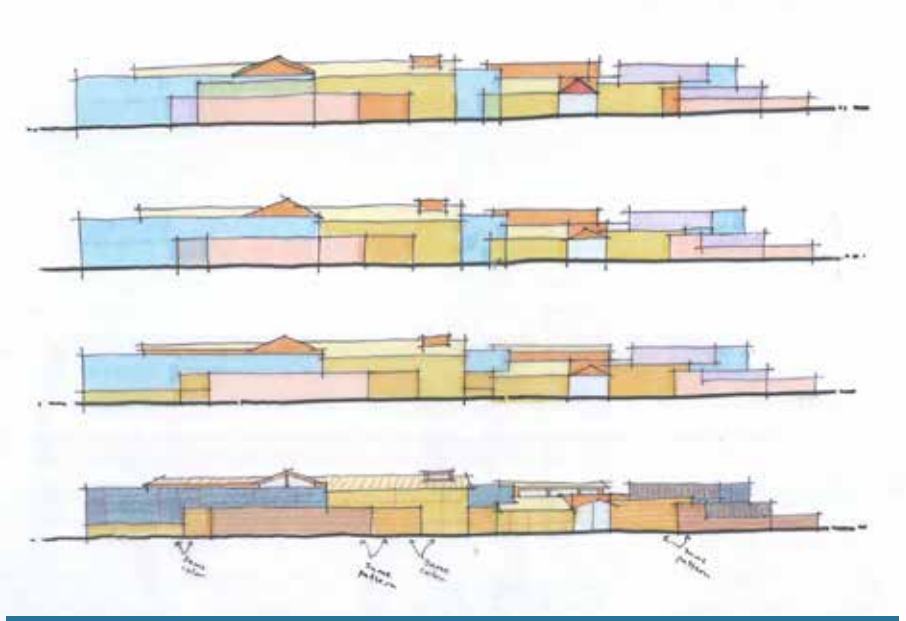
"interesting things happen when cultures overlap."



The building is characterized by these overlaps of history and future. Bold color and rustic textures fit into historic themes. Openness and transparencies among interior spaces for current community connection. Solar technology on roof, and daylighting detail show modern technology.

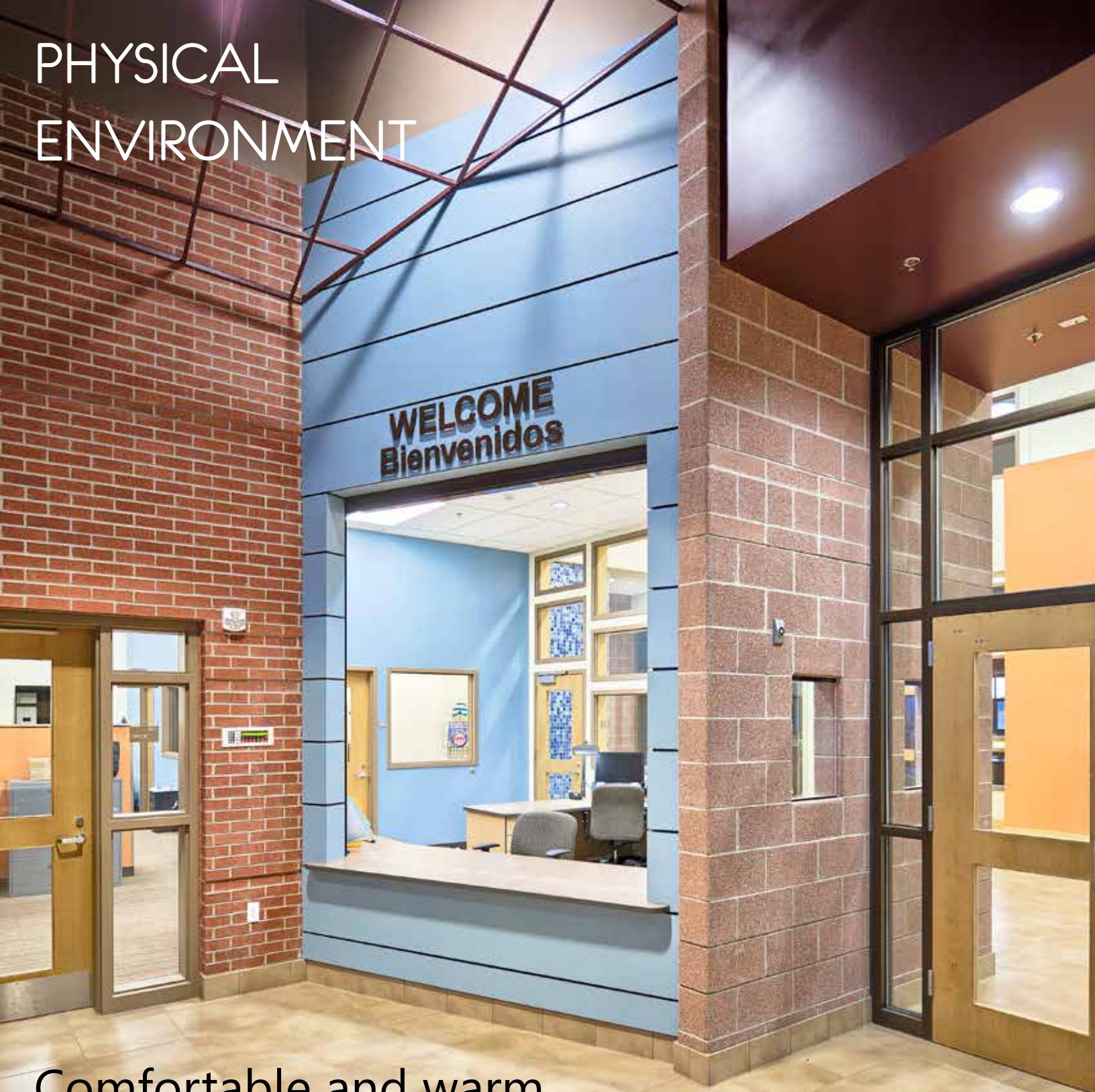


ALAMOSA



To be comfortable for young children, the scale of the building is reduced to smaller parts. The plan is composed of a series of shapes. The overlapping of shapes is where something interesting and important happens for the school: an impromptu performance area, a large art display, or a gateway to a new space.

PHYSICAL ENVIRONMENT



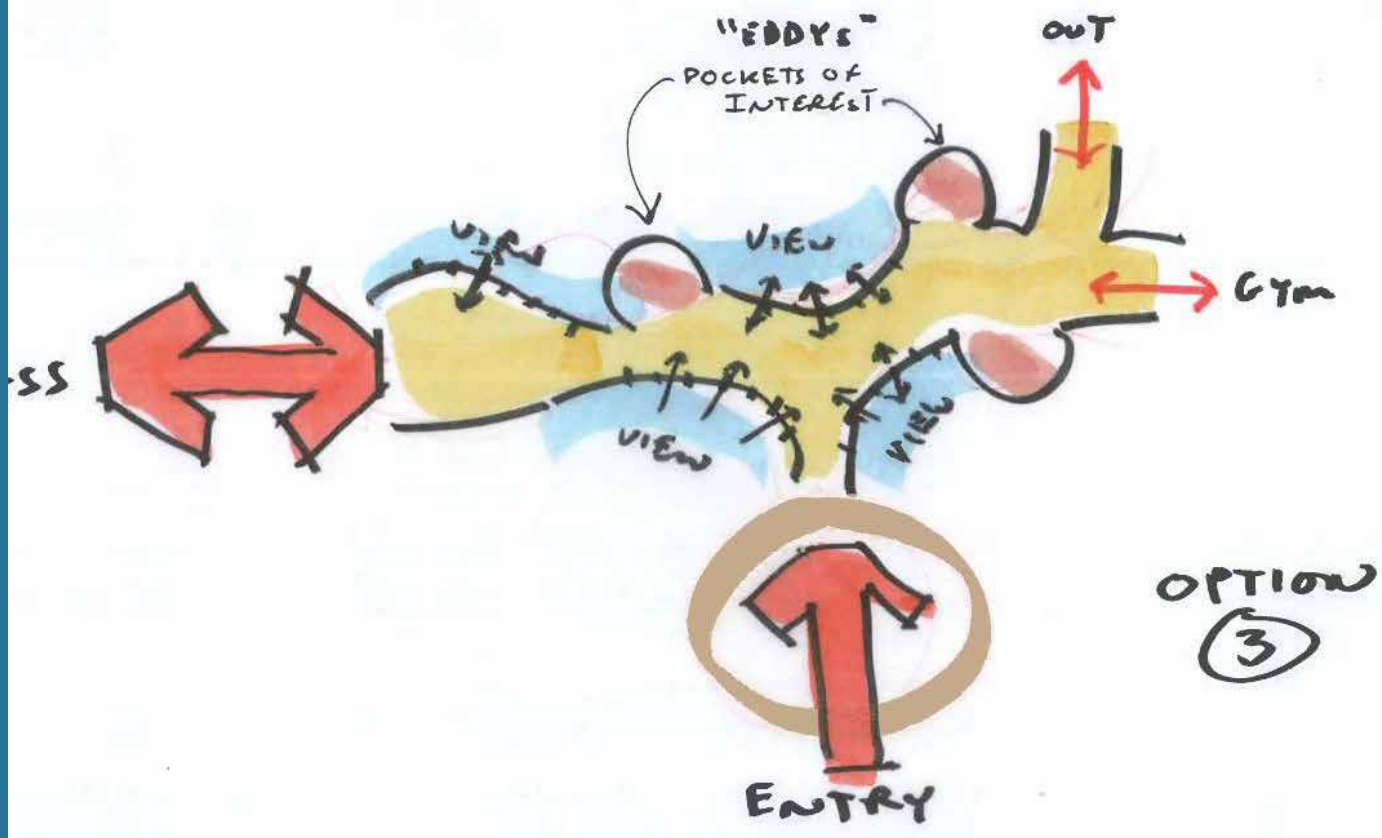
Comfortable and warm.

The people are what is important: Make sure people can see each other and activity.

- The large open administration desk welcomes you upon entering the building, without realizing it is a secure entry.
- Visibility through the activity centers of the building, library, cafeteria and main hall, from the administration office is made possible with windows at every angle.
- View to people is good for safety and security, but more important for human interaction.

Main hall was called "Meandering Path"

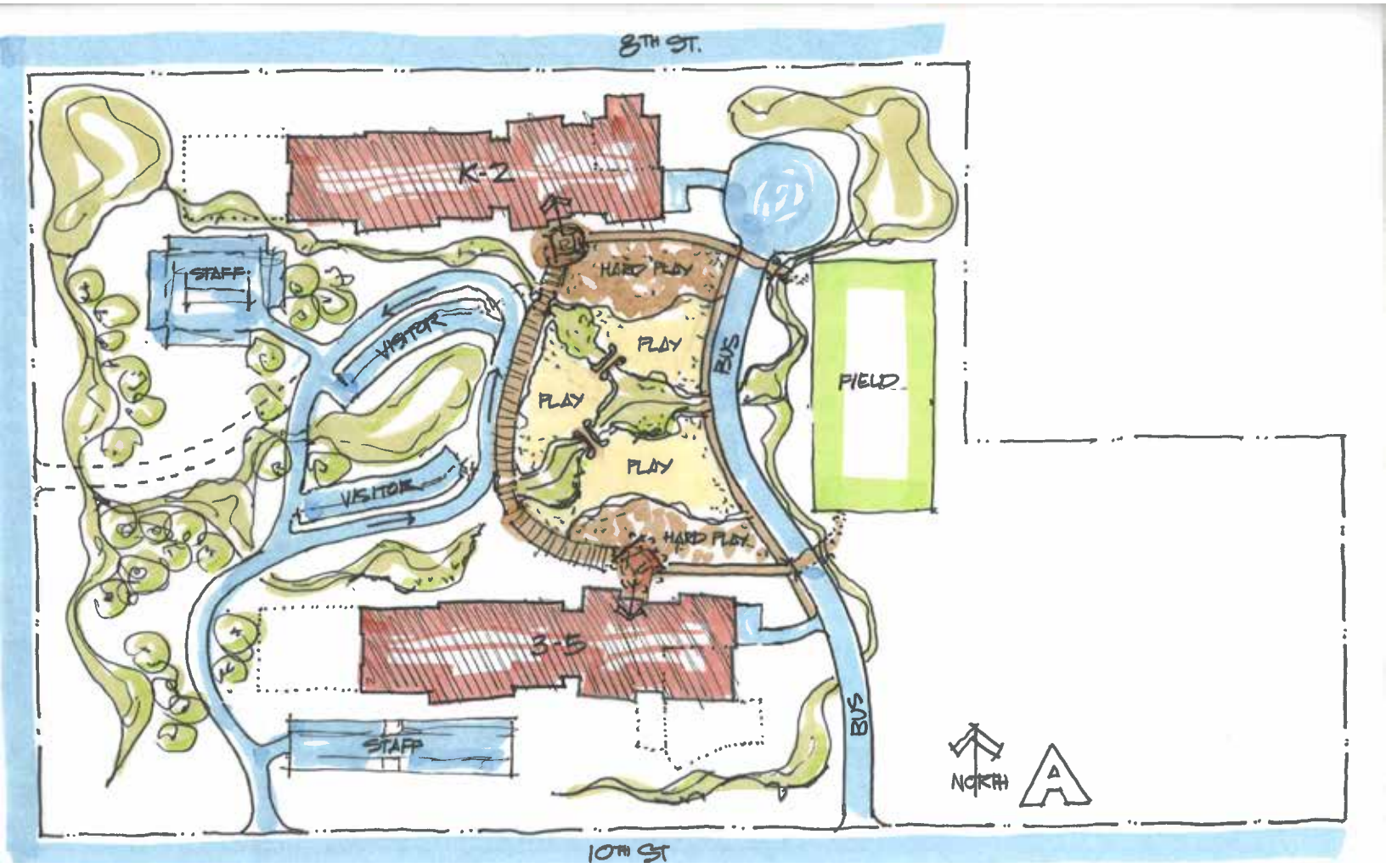
because it allows students to wind through and experience various activities, from library, to technology, to cafeteria, to gymnasium.



PHYSICAL ENVIRONMENT

Student artwork or educational vignettes are displayed in the main hall.

Separate buildings allows each school to be of reasonable size for the young students, and the single campus allows for shared resources.



Elements of traditional southwest architecture: (stucco, color, mass walls) combined with elements of performance: Solar orientation, sunshades, sloped roof, clerestory windows, solar hot water. The school is an example of a high performance building and an educational model for the community.

Maintain tradition and heritage while embracing new technology and opportunity.

Playgrounds designed for community and after-hours use (not locked). They are public and safe.

Designated public zones for after-hours use, easily secured from the rest of the facility

Community garden

PHYSICAL ENVIRONMENT

INSPIRES AND MOTIVATES

"Interesting things happen when cultures overlap."

In the building, interesting things happen when the building's forms intersect. This is where the interaction happens, this is where the library happens, this is where the art display happens.

Inspires and Motivates

Bright colors

Daylighting

Equal school experiences for all children

Healthier environment

More peer-to-peer collaboration for staff with a single campus

PHYSICAL ENVIRONMENT

Openness: Kids see activity. Full glass wall to library. Performance area in middle of classroom group. Many opportunities to display student work in main hall. Every classroom has dedicated display space.

Kid areas, not for adults.

A mousehole draws them into the library.

Small nooks under the open stairwells provides a kid only zone.

PHYSICAL ENVIRONMENT

Teachers

Variety of choices: Flexible classrooms, break-out spaces, large group presentations.

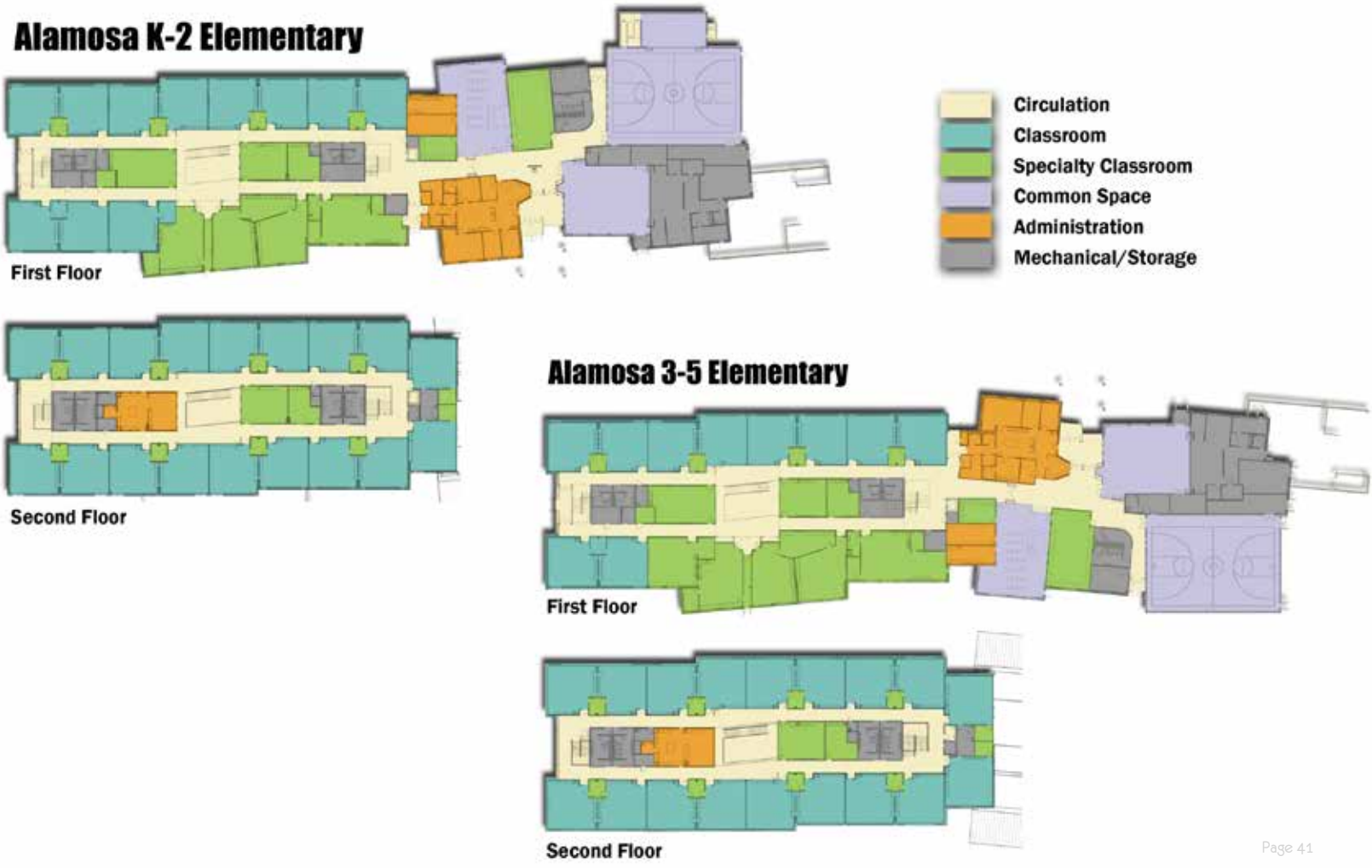
Teachers

Classrooms are comfortable and professional. Technology, daylight, and thermal comfort provide a space to work as a professional.

PHYSICAL ENVIRONMENT

Targeting LEED Gold helped ensure that the buildings' operating costs were kept in check, and Insulated Concrete Forms (ICF) were part of the chosen solution. Through energy modeling, Neenan found that the building could be designed without air conditioning—and still be comfortable.

Innovative use of cutting edge construction technologies, such as ICF, earned the project a tie for first runner up in the commercial, heavy division 2010 ICF Awards at the World of Concrete. Extensive energy modeling of natural ventilation helped owners and designers make bold steps to save energy (and money) by eliminating air conditioning.



RESULTS OF THE PROCESS AND PROJECT

ACHIEVES EDUCATIONAL GOALS

A building cannot teach, but the environment will influence the learning that happens. By focusing on the children as the client, we created a space where students want to learn.

The leadership team at Alamosa noted the following celebrations from their first year:

- Outscored the state in reading and math in 3rd grade assessments
- Growth increase in 6/10 academic areas
- Closed the gaps in our English Language learners faster than the state average
- Student attendance rates are above 95%
- Influx of parents who participated or were involved in parent engagement activities that included concerts, academic nights (reading/math), and physical education activities
- Staff attendance was at an 95% yearly average as well for our first year as a K-5
- Gave 100% of our students "proud moments" and an academic award for individualized citizenship and academic achievements

RESULTS OF THE PROCESS AND PROJECT

ACHIEVES EDUCATIONAL GOALS

Daylighting improves student achievement and attendance. The team achieved **daylighting in 100% of classrooms**, 90% of learning spaces, and over 75% of other occupied spaces.

With a single elementary campus, Alamosa School District was able to allocate more funding to education by **reducing 12 redundant positions.** Principals now collaborate regularly and the opportunities for career development have increased. In addition, the BOCES staff are able to spend more time with students rather than traveling.

Homage was paid, in both exterior and interior design, to the **rich Hispanic heritage of the region.** Earthy textures and bright colors create a clean, modern feeling, while practical commons areas encourage presentations, and large and small gatherings for the community.

Achieves Community Goals

An artificial turf playfield meets the water conservation values of this community.

Bringing jobs to the region, using local materials and aligning with the American Recovery and Re-Investment Act (ARRA) timelines were key concerns.

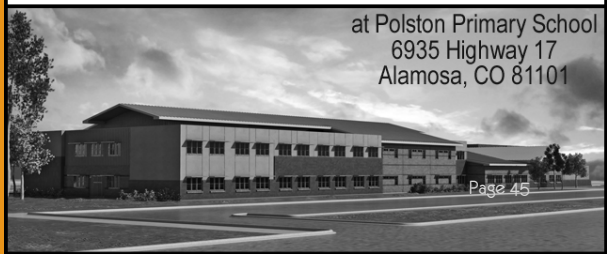
54 local contracts were awarded

Opportunity for Work!
Alamosa Commercial Subcontractors!

The Neenan Company and the Bond Campaign Committee will be conducting an informal meeting to provide information for commercial subcontractors to pre-qualify for the proposed new school construction projects in Alamosa.

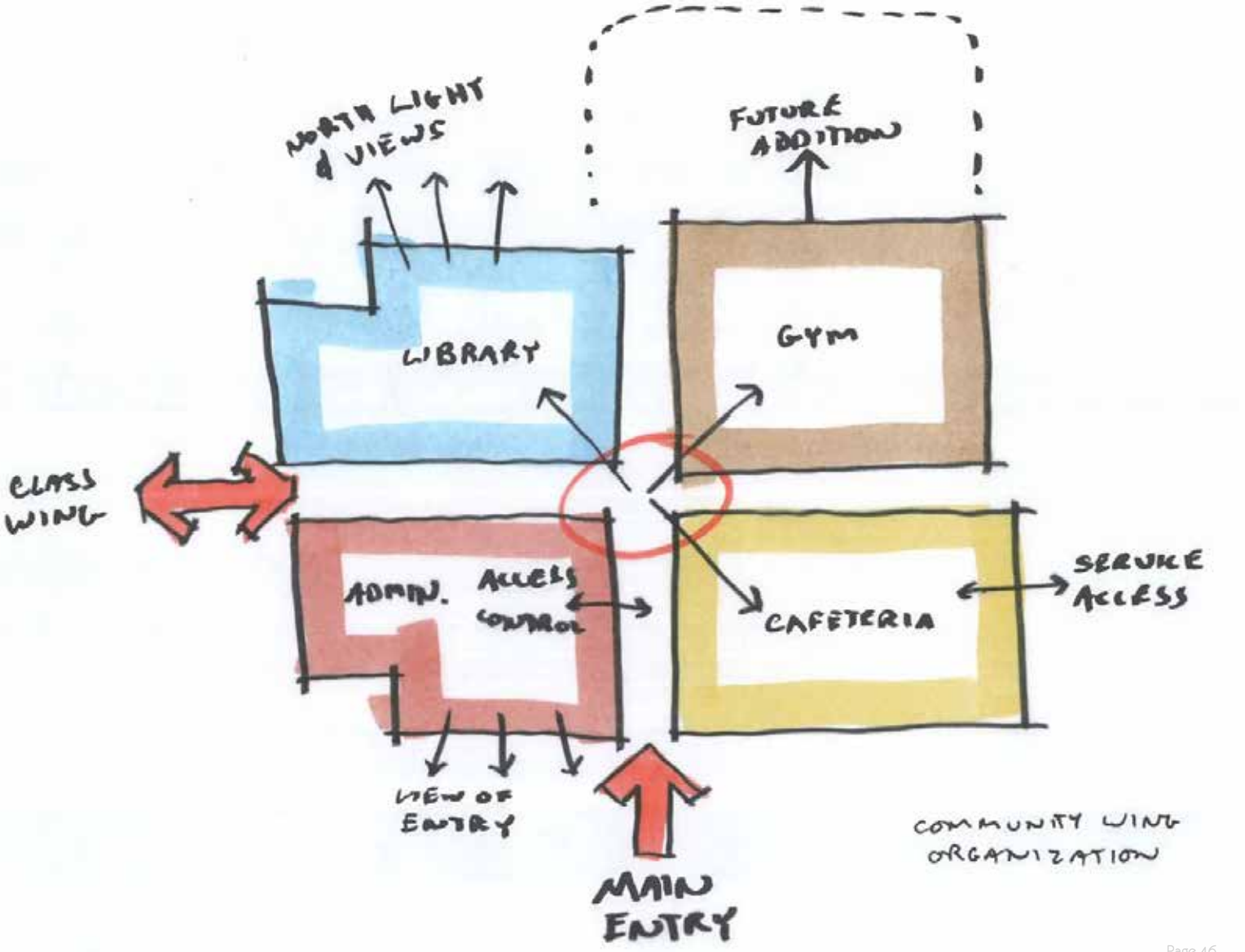
Wednesday 9/17/08 at 7:00 PM

at Polston Primary School
6935 Highway 17
Alamosa, CO 81101



RESULTS OF THE PROCESS AND PROJECT

The buildings were designed to serve as a community center that is safe and welcoming to both community and students. In addition, the location provides good traffic flow in the neighborhood. The high quality structure employs innovative energy saving techniques, such as reflective roofs and hardscapes, daylit classroom spaces, high efficiency water fixtures, recycled materials and FSC certified woods and gypsum. Construction waste was recycled into the landscape to provide necessary soil amendments.



Alamosa School District RE-11J

Problems

Built in the 1930s and 1950s, our elementary schools do not meet current health and safety standards:

- No fresh air provided in ventilation systems
- No fire sprinkler system
- Fire alarm systems need to be replaced
- Electrical wiring is cloth with no ground wire
- Plumbing systems are failing
- Security concerns with the use of trailer-like modular classrooms and limited school parking
- Sanitary sewer has backed-up into school which is in flood plain
- Inefficient single pane windows and poor attic insulation
- Inefficient lighting and heating system means the district pays too much for utilities

Excessive spending to maintain/repair old schools reduces operating money left over for improving teacher and employee salaries.

The 'Alamosa plan' requires that children and families transition too often to a different elementary school (every two years)

20 classrooms/instructional spaces in modulars due to overcrowding

Proposal

Two new elementary schools will be built with some of the latest energy efficient and green building techniques to save taxpayers utility costs fordecades to come.

The new schools will improve the students' ability to learn:

- Provide more instructional space
- Provide naturally daylit educational spaces
- Increase fresh air intake

By replacing three separate elementary schools with two adjoining schools *at a guaranteed cost* on one campus, the School District can manage resources more efficiently.

Unique financial opportunity!

- **Our community has the opportunity to take advantage of State facility funding provided by the new *BEST* Program (Building Excellent Schools Today).**
- **The State could pay up to 2/3 of the total cost of our new elementary schools if we can demonstrate our commitment by providing locally 1/3 of the cost with a bond initiative.**

Educational Benefits:

- Add new instructional spaces to remedy overflow of instruction currently held in modulars and hallways.
- Make elementary staff and resources equally available to all students.
- Improve teaching outcomes by eliminating stressful grade transitions between schools.
- Prepare students for future technologies usage through updated infrastructure.

Cost Savings Benefits:

- Significantly reduce gas and electric utility costs.
- Utilize passive solar heating systems including solar wall, solar hot water and thermal mass.
- Reduce maintenance and repair costs.

Safety Benefits:

- Provide excellent air quality through green materials and ventilation systems.
- Upgrade to current fire safety and health standards.
- Improve student safety though improved traffic circulation.
- Design administrative areas to provide visual control of entries and hallways.
- Improve supervision of students through consolidation to one campus.

Alamosa School District RE-11J

Community Bond Election

A portion of this project was funded by a local bond initiative, the community was engaged through meetings, school open houses, and informational literature regarding the proposed school campus. Regular community jobsite tours were held as construction progressed. A citizen's landscape committee also worked with the school district and the design-build team to create a public area on the school campus.

RESULTS OF THE PROCESS AND PROJECT

VALUE OF PROCESS AND PROJECT TO THE COMMUNITY:
School buildings have a community side and a classroom side. After hours, the classrooms can easily be secured and the community has access to library, gymnasium, stage, computer room, and cafeteria.

VALUE OF PROCESS AND PROJECT TO THE COMMUNITY:
Design worksessions and monthly meetings brought staff, administration, decision makers, parents, community members, architects, engineers, and contractors together to develop and align on ideas, and develop solutions that met everyone's needs.

VALUE OF PROCESS AND PROJECT TO THE COMMUNITY:
Improve the community vitality- used local contractors through construction.

"As Mayor of Alamosa, I believe one of the best things that has happened in our community in a very long time is the building of our new elementary schools. I have the honor to spend time in those schools reading and serving lunch to the children on occasion. To see them flourish in an environment that is open, efficient, welcoming makes me incredibly happy. These schools have created a sense of pride for our whole community. This new, modern space adds such credibility when we are highlighting our city to potential businesses or recruits who have children. It has made such a difference in Alamosa!"

Kathy Rogers
Mayor, City of Alamosa

"The new schools are definitely advertised and used as being community buildings."

Robert Alejo
Superintendent, Alamosa School District