

# AGUA CALIENTE ELEMENTARY SCHOOL

Palm Springs Unified School District

*A modernist reconstruction of a **Dream Homes** Community School.*



# SCOPE OF WORK & BUDGET

## ANALYSIS:

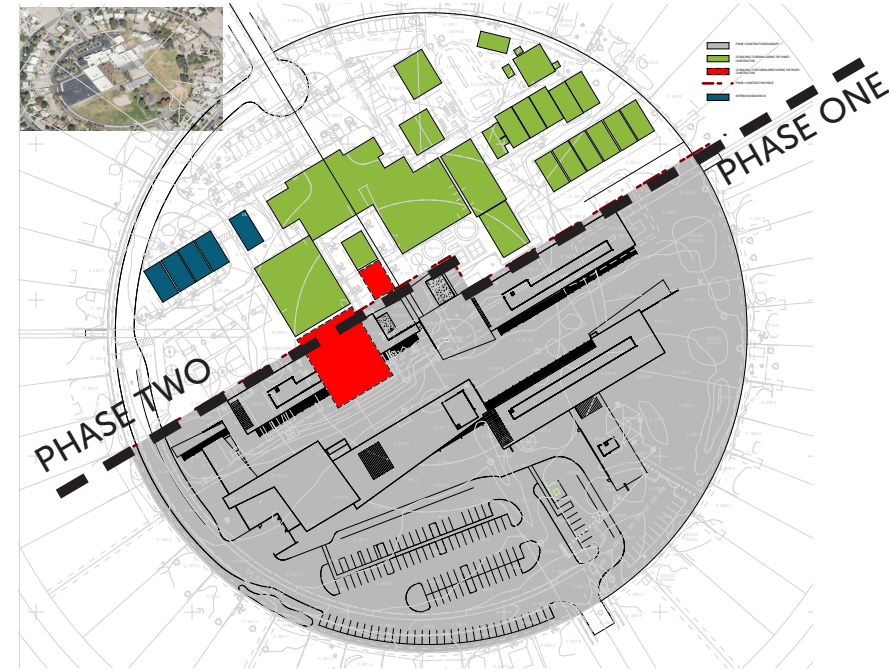
The planning process began with an analysis of the conditions of the existing school. The conclusion reached was that renovating the school to current code and standards was not economically nor structurally feasible.

## PURPOSE: SOCIAL RESPONSIBILITY

The reconstruction of the campus will be catalyst to a new era of hope in a neighborhood challenged by poverty and despair.

## EDUCATIONAL SPECIFICATIONS: PEDAGOGY

The existing campus' science focus became a central theme for the new design. The new campus is based on student-centered spaces that create opportunities for each student to engage, inquire and learn in a STEM based curriculum.



**STUDENTS SERVED** 750  
**CONSTRUCTION COST** \$ 39 MILLION  
**AREA** 67,500 SF



Construction adjacent existing occupied structures



Peep holes at construction barriers

## PHASED CONSTRUCTION

From the very start of design, the location of the new campus had to accommodate the presence of students on site during construction of the new school. The campus layout minimized demolition and the required interim housing.

Due the complexity of phasing and the impact on the existing school during construction, the District worked carefully with the community to provide communication and transparency. During construction, special construction barriers were provided with peep holes for children allowing them to watch construction of their new school. What started is antipathy soon evolved into curiosity ... and then excitement as the new campus began rising from the soil.



## VISIONING: DREAMING

**VISIONING: LISTENING.** A series of visioning sessions were conducted with school faculty, the District and community members. The community was adamant that the new facility reflects the Architectural style and history of the Dream Homes Neighborhood. The concept - A secure yet open environment, symbolic in Desert Modernist traditions, is fully compatible with a safe campus experience.

The local homes, called the Cathedral City Dream Homes at the times, were built circa 1960. Originally offered as affordable, legacy homes, they provided a dream of permanence to residents. In recent decades, the neighborhood has begun what many hope is a transition from a struggling and low socio-economic neighborhood into an emerging neighborhood. Recognizing this, the Palm Springs Unified School District envisioned a school that embodies the best that the Palm Springs region has to offer for the community. The district commissioned a campus rooted in "Palm Springs Modernism" that speaks to the origins of the neighborhood, inspiring the original vision of permanence and legacy in the heart of the community. The completed campus sparked great excitement within the community. Photos to the right show the celebration put on by the staff, students, and community the day they moved into their new school.



The School District was Inspired by its local Modernist Architectural roots



Parents, Staff, and Students celebrate "Moving in Day" with a Parade & Celebration.







# SCHOOL & COMMUNITY ENGAGEMENT

## LEVERAGING THE PAST TO SERVE THE PRESENT

After identifying modernism as a connection with the past, the design team began to explore how the tenants of modernism might positively impact the educational environment of the campus -allowing students to focus on their future. The design incorporates broad overhangs and expansive glazing with views to nearby mountains. It incorporates planes of glass in key areas to make a seamless connection between indoor and outdoor. The planar forms of masonry provide secure perimeters, while glazed openings provide invitations into the campus and views of the outdoor. The masonry provides thermal efficiency.



Expansive views through walls of glazing showcase dramatic views, like this of Mount San Jacinto.



Palm Springs temperate climate much of the year makes connecting to the outdoors desirable.



Case studies, like this local modernist project, demonstrate the power of outdoor environments in the desert.

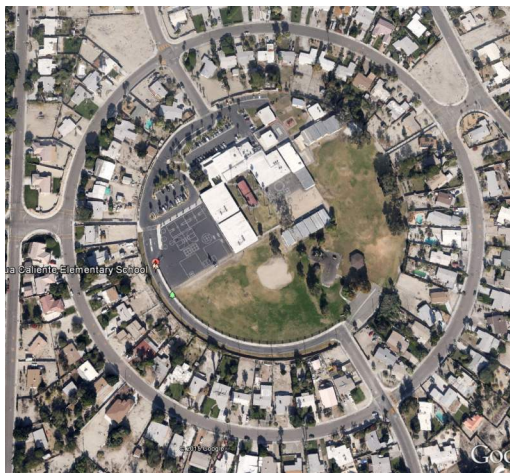


Modernists leveraged structure and planes to provide deep overhangs in the desert to create iconic architecture that also formed shaded outdoor environments.



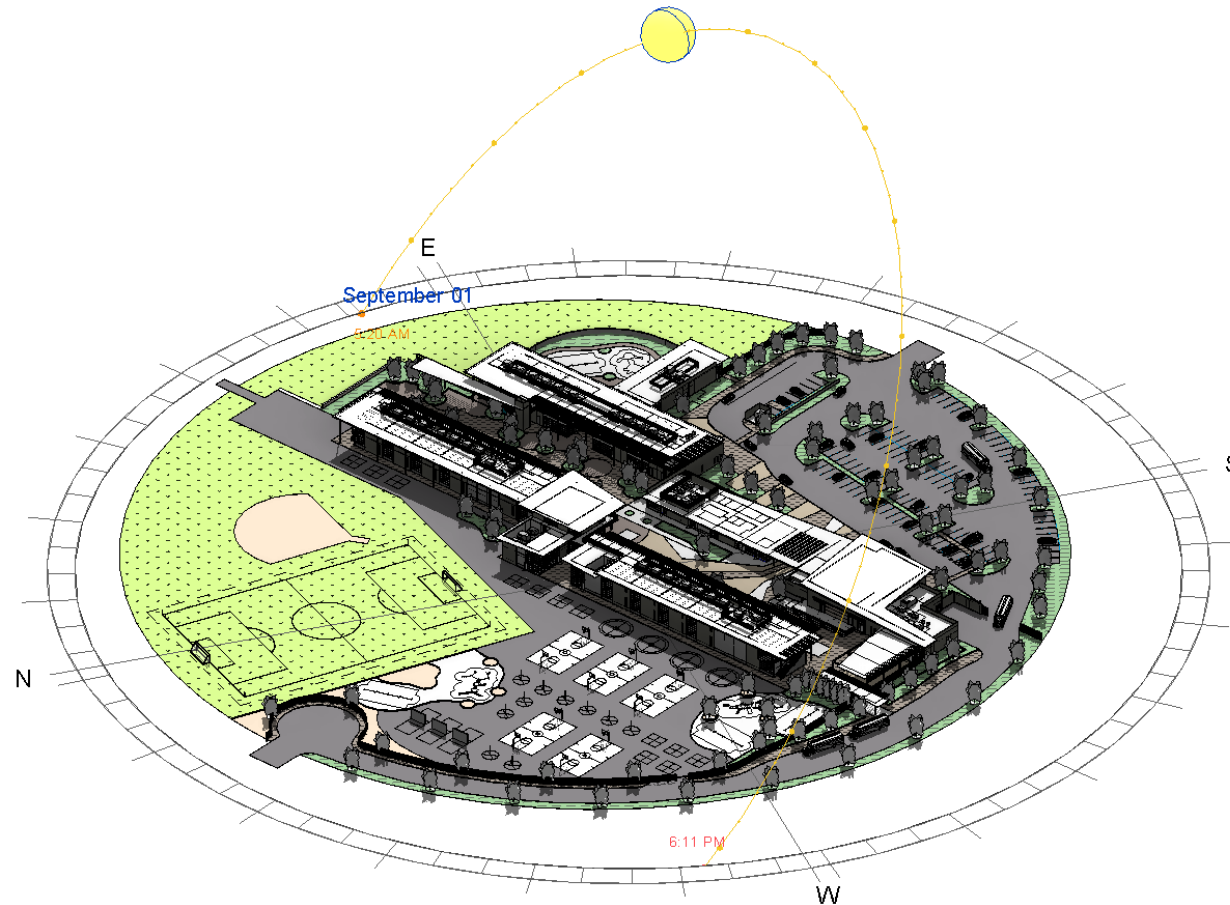
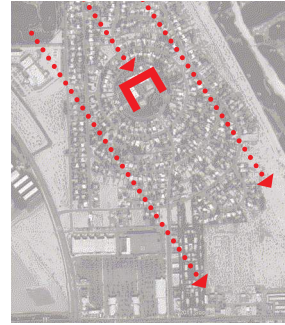
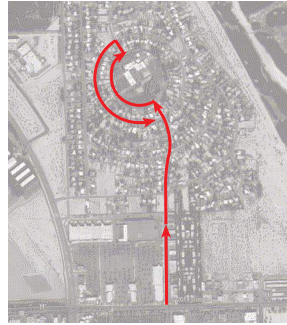
The architecture amplifies the shade and canopies to create spaces





The existing school has one way in and out. This was not favorable with California Department of Education for emergency, nor police for safety.

## TRAFFIC INGRESS/EGRESS WIND / AIRBORNE SAND



# PHYSICAL ENVIRONMENT

The desert climate is harsh. But features of modernism, effective at connecting the interior spaces to the physical environment, are made sustainable through careful material selection and building orientation. The new campus design harnesses aspects of the desert climate to increase energy efficiency and occupant comfort. The design incorporates:

- Abundant natural light with windows that have views to the mountains. Passive heating and cooling through thermal massing is provided in the concrete floors and masonry walls storing energy during the desert's diurnal swings.
- Masonry walls have been outfitted with dark colors to increase visual comfort by limiting solar glare common in desert environments. Reflective insulation, insulated/coated glazing, and solar reflective surfaces provide increased insulation values in the building envelope. Buildings are oriented on site to mitigate the impacts of the prevailing winds and airborne sand.
- Large overhangs provide abundant shade to the windows, entries, and outdoor collaboration areas.

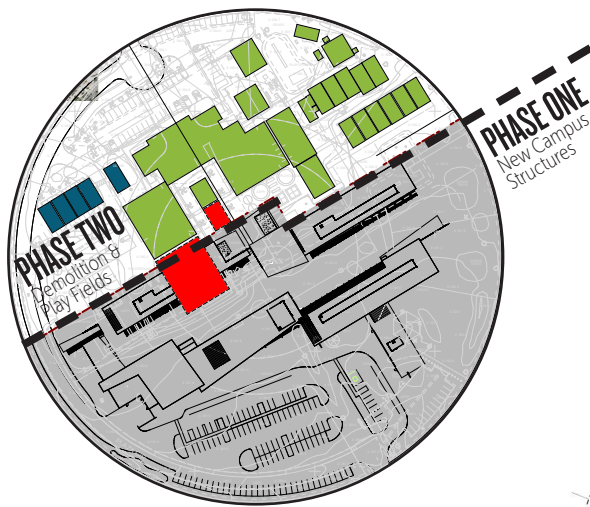
## ENVIRONMENTAL DESIGN

The original design and the new buildings both:

- Control solar exposure to minimize direct sun on all glazing
- Buildings oriented to buffet wind and block aeolian (airborne) sand



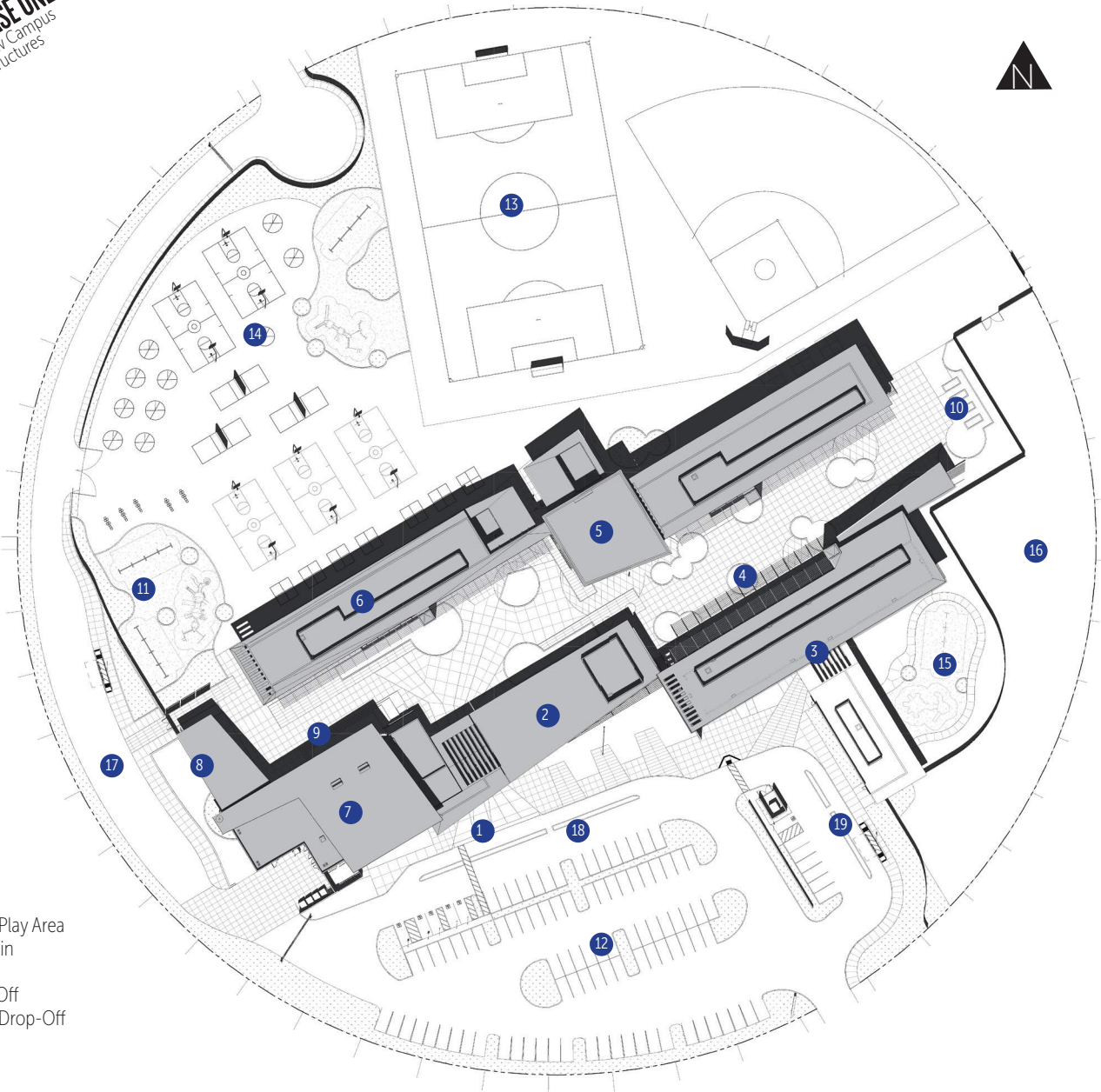
# PHYSICAL ENVIRONMENT



## PLANNING PROCESS

The project began with an assessment of the 60 year old campus. A feasibility study was commissioned and determined that it was not feasible or desirable to try to 'fix' the existing campus of its material and planning defects. Once determined that new construction was required, the campus logistics became a primary driver of the design. Building a new facility on an occupied campus presented multiple challenges for planning, construction and student safety. The phased construction plan allowed students to safely remain on campus while they were afforded the opportunity to observe the construction of an entirely new campus for them. The Architect worked with local law enforcement and community to solve critical community safety issues by 1) Creating a single point of entrance to the campus, 2) Creating a Secure campus and perimeter, and 3) Limiting vehicular access for non-school activities.

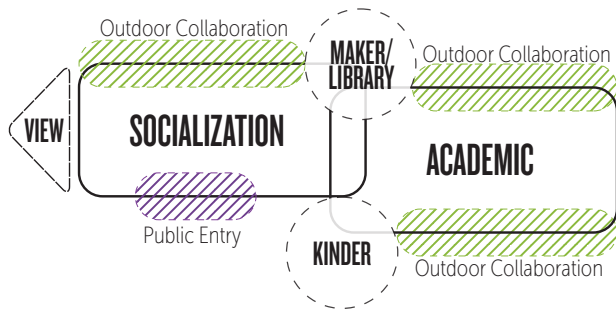
- |                                |                            |
|--------------------------------|----------------------------|
| 1. Main Entry                  | 11. Play Area              |
| 2. Bldg A - Admin              | 12. Parking                |
| 3. Bldg B - K / Classrooms     | 13. Fields                 |
| 4. Bldg C - Classrooms         | 14. Hardcourts             |
| 5. Library/ Info Center        | 15. Kindergarten Play Area |
| 6. Bldg D - Classrooms         | 16. Retention Basin        |
| 7. Bldg E - Mpr / Food Service | 17. Bus Drop-Off           |
| 8. Lunch Shelter               | 18. Parent Drop-Off        |
| 9. Student Forum/Performance   | 19. Kindergarten Drop-Off  |
| 10. Student Gardens            |                            |



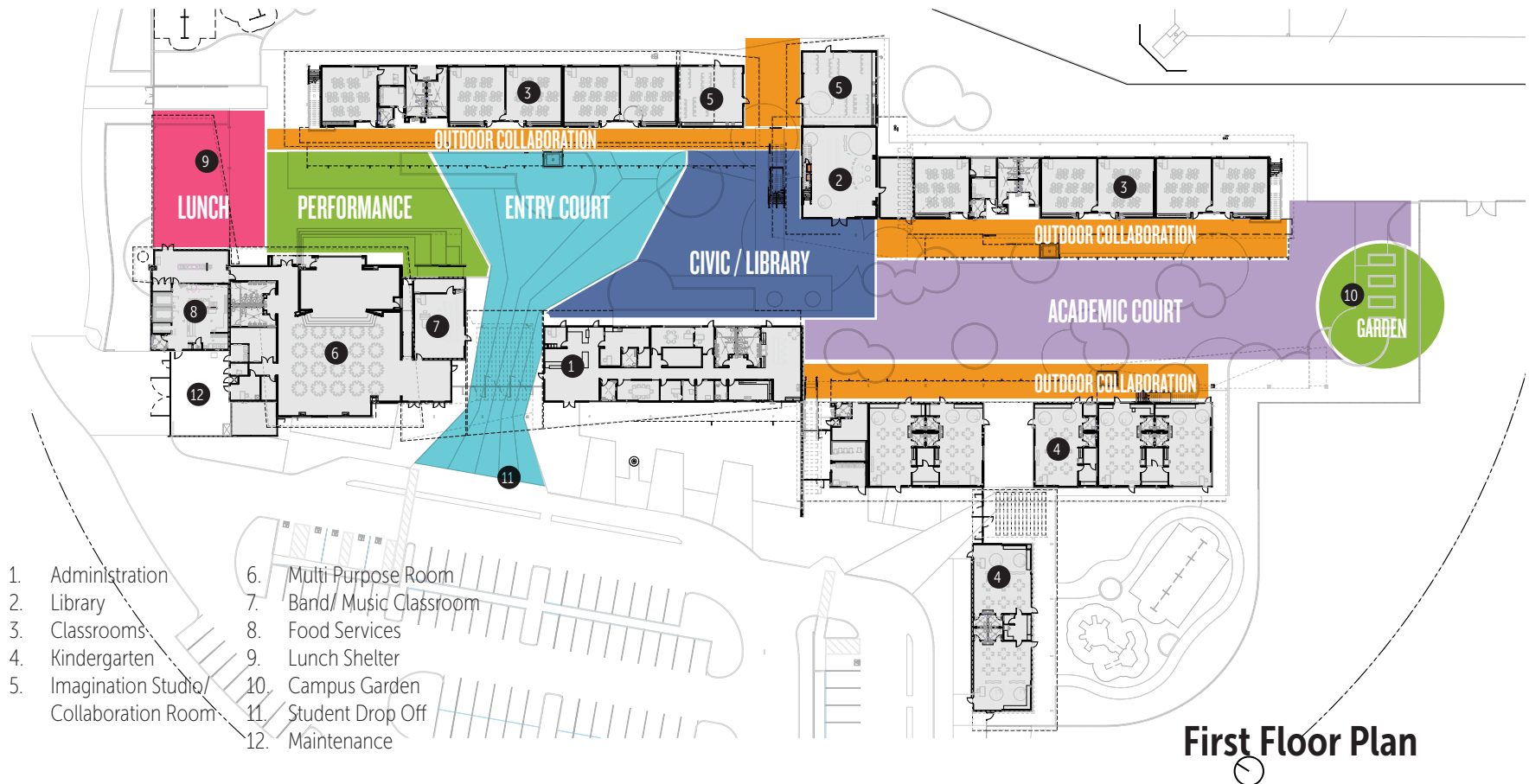


# RESULTS OF THE PROCESS & PROJECT

The existing campus, though located at the center of the community, 'turned its back' to the neighborhood by orienting its entry to the north and by being bounded on its perimeter with the rear fences and walls of adjacent single-family residences. The result was a site that lacked presence within the community it served and was difficult to supervise. To solve these issues, the new campus relocates the campus entry to face the community and provides facility more capable of supervision.



## Courtyards Concept







First Floor Plan



# ORGANIZATIONAL STRATEGIES

## LEGEND

- EDGE 
- PATH 
- NODE 
- DISTRICT 



# RESULTS OF THE PROCESS & PROJECT

The design process resulted in a carefully crafted educational plan. The campus was zoned with features much like a city plan is, with careful edges defining safety and perimeter security. Circulation paths and nodes were identified to help students with student wayfinding and orientation. Pathways and districts were coordinated to be visible and easily supervised by teachers and staff. Careful zoning of the courtyards emphasizes the intended use, either for louder more social gatherings or quiet academic activities. The result is a campus that is a tool that augments rather than hinders the goals of learning and socialization.

## SHELTERED + SECURE





## CONNECTIONS



**1)** Administration **2)** Lunch Shelter **3)** Library **4)** View of the Mt San Jacinto Mountains **5)** Academic Court **6)** Covered Outdoor Collaboration



# RESULTS OF THE PROCESS & PROJECT

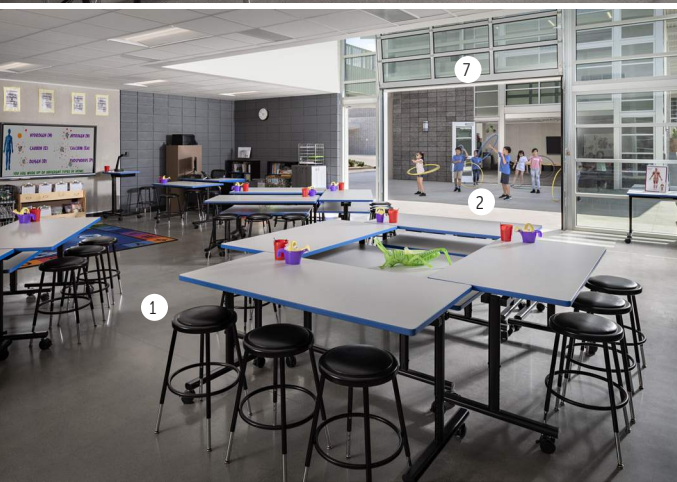


1) Stacks 2) Reading Loft 3) Reading Nooks 4) Courtyard 5) Second Floor Access 6) Large Overhangs

## LEARNING COMMONS

The learning commons is located centrally within the campus at the crossroads of both the academic and socialization courts. It has access from both the first and second floors to provide easy entry by students of all grade levels. It functions as a flexible learning and collaboration environment and includes reading nooks, a reading loft for the upper grade levels, projectors and white screen technology for instruction, and flexible movable furniture to facilitate collaborative learning.





# RESULTS OF THE PROCESS & PROJECT

**1) Maker Space / Science Classroom 2) Protected Outdoor Collaboration 4) Learning Commons 5) Main Courtyard 6) Overhangs & Trellis 7) Roll-Up Doors 8) Outdoor Stage 9) Fold-Up Door @ Stage**

## SOCIALIZATION & COLLABORATION

In order to maximize the project scope, the District elected to use protected outdoor environments for collaboration and socialization. The design uses deep overhangs, common to Modernist Architecture that provides protected spaces that can harness the temperate desert climate common to the Palm Springs region in the winter and spring. These active outdoor collaboration spaces are carefully located along the edges and at the ends of each courtyard, providing a natural transition place between the privacy of the classroom environment and the richly social courtyard spaces. Even the MPR's stage opens onto the courtyard allowing for larger performances and whole-school assemblies outside.



# RESULTS OF THE PROCESS & PROJECT



**1)** Darkly Colored Masonry Thermal Walls **2)** Solar Reflective Surfaces **3)** Tall, Thermally Efficient Windows **4)** Deep Overhangs & Trellises **5)** Drought Tolerant Landscaping

## DESERT SUSTAINABILITY

As a school located in the desert, the design uses masonry for both temperature control and longevity. The masonry walls' thermal mass provides energy storage for the local environments diurnal swings (from hi to low temperatures) releasing heat or cooling when needed. Large overhangs and trellises shield glazing and outdoor spaces from the sun, creating outdoor collaboration spaces. The building envelope includes special reflective insulation and the materials employ high solar reflectance to minimize heat gained from the strong sun. Dark exterior masonry colors were selected for vertical walls to minimize glare and eye strain common to the desert. Tall windows were carefully located to provide abundant natural light and views to the outdoors, especially to provide visual connect to the towering Mount San Jacinto in the distance.





# RESULTS OF THE PROCESS & PROJECT



## WELCOMING: RECEPTION

1) Secure Fencing / Campus Entry 2) Lobby 3) Attendance and Reception 4) Main Courtyard 5) Multipurpose Room



# RESULTS OF THE PROCESS & PROJECT



1) Mt. San Jacinto 2) Administration 3) Classroom Buildings 4) Academic Courtyard 5) Drought Tolerant Landscaping