

SIDNEY LANIER HIGH SCHOOL RENOVATION

San Antonio ISD
San Antonio, TX

ABOUT

175K
EXISTING
BUILDING AREA

1,800
EXISTING
STAFF + USERS

0
EXISTING
WINDOWS

San Antonio Independent School District commissioned the design team to reinvigorate this important, but outdated major high school as a part of its 2016 Bond package. Located in the urban core of the westside of San Antonio, Sidney Lanier High School has been a gateway for learning and creativity since it first originated in 1915. Lanier is known for its generational student population - many of the current students are grandchildren of alumni. The renovation of the Lanier Academic Building is rooted in recognizing their past, while offering “next generation” learning environments. The main academic building opened in 1975 and was designed when windows were perceived as a distraction and energy loss, a primary source of frustration for the teachers and students.

BEFORE





SIDNEY LANIER
HIGH SCHOOL
BUILDING 2

EXECUTIVE SUMMARY

Project Goals

Diversify Lanier's Educational Curriculum Beyond its Vocational Legacy

The Lanier Mascot is the Vok (short for vocational) and its logo is a gear (for gears in society). The last major project on campus focused on auto mechanic training. This renovation sought to re-invigorate the facility with a focus on innovative programming above and beyond the district's educational specifications to support core educational curriculum. This "return to academia" is fundamental to Lanier's vision to "plant seeds that bloom in society."

Bring Lanier Out of the Dark

Untouched for 50 years, the previous facility was a labyrinth of internalized, windowless and disconnected learning opportunities. The users requested a daylit, prideful environment to improve learning outcomes, staff satisfaction and user health and wellness. Specifically, the design team set, and met, the goal of providing daylight and views to 100% of learning spaces.

Design a High Performance, Flexible Facility for the next three generations of Lanier Voks.

Educational paradigms change over time, and it was clear this facility was not immune to these shifts. Through the investment in the building envelope and mechanical systems and its extremely simple, clear circulation and layouts - this building is instantly ready for its next renovation and saves money on operational costs now.

Celebrate Lanier and Westside's Unique Culture

The users spoke loud and clear: Lanier is the Gateway to the Westside, the heart of Hispanic culture in San Antonio. Its culture is best represented by the murals and muralists that emerged from Lanier. The design team enabled this culture to be at the forefront through its user engagement and celebration of this culture. Similarly, the design team preserved and enhanced key architectural features to make it feel quintessentially "Vok".



“The redefined mall space, bathed in sunlight, celebrating the murals of its community, and tying together academics, administration redefines what it means to be a Vok. “

- Lanier Teacher

SCOPE OF WORK & BUDGET

Lanier High School

Project Location: San Antonio, TX

District: San Antonio School District

Project Type: Renovation

Occupancy Date: January 01, 2022

Current School Enrollment: 1520

School Capacity: 1600

Floor Area: 175,000sf

Gross Area (Per Occupant): 144 sf/occupant)

Site Area: 150,00sf | 3.44 acres (278v540sf)

Delivery method: Construction Manager at Risk

Project Budget: \$35,170,332

Project Final Cost: \$36,269,542

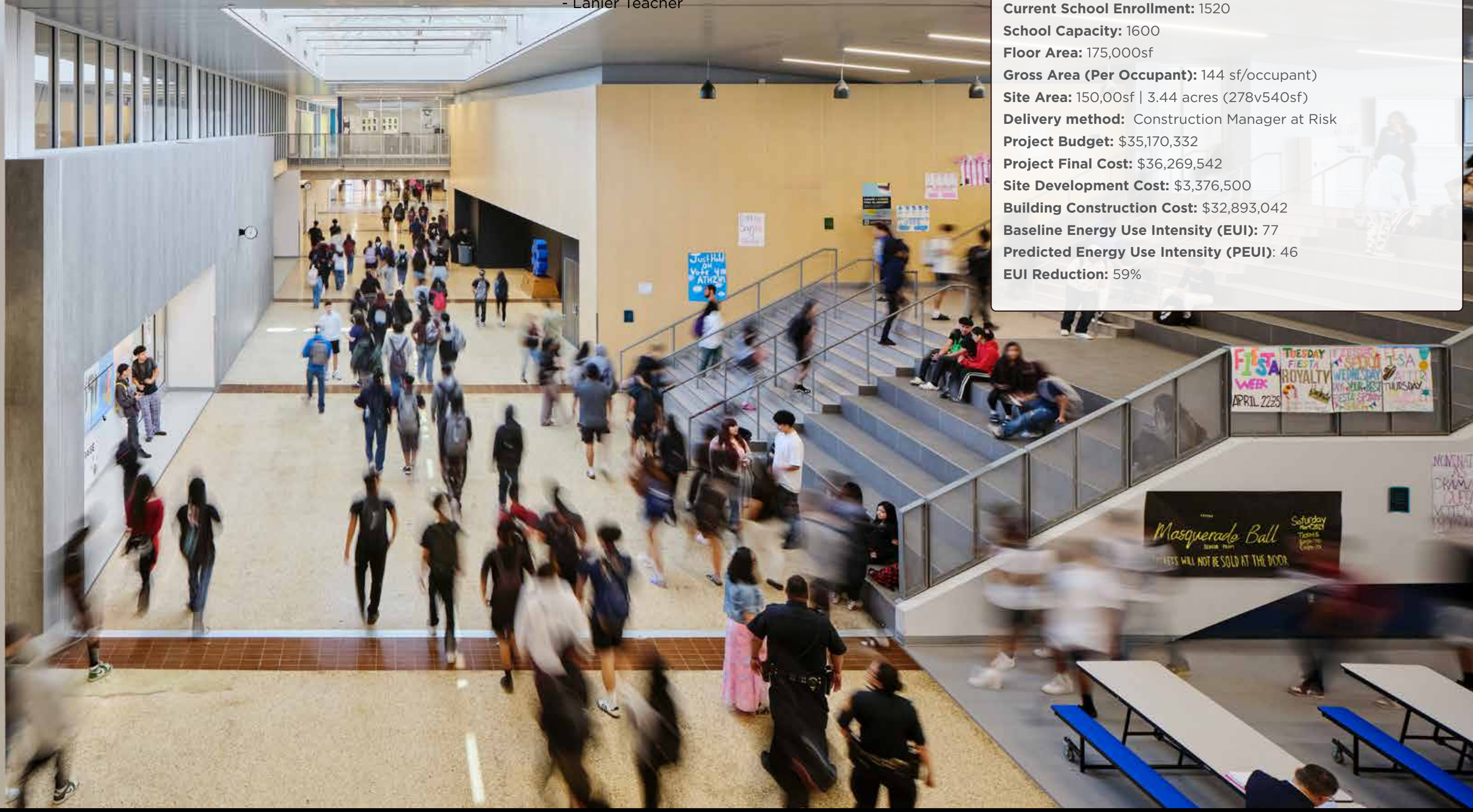
Site Development Cost: \$3,376,500

Building Construction Cost: \$32,893,042

Baseline Energy Use Intensity (EUI): 77

Predicted Energy Use Intensity (PEUI): 46

EUI Reduction: 59%



THE LANIER WESTSIDE COMMUNITY

Lanier High School is located on the Westside of San Antonio, a historically Hispanic neighborhood (99%) with a deep community of generational families. This community was particularly interested in sharing its culture, history and values with the design team. The presence of murals throughout the westside marks it as unique in the city. For example, despite its immediate proximity to downtown San Antonio, this neighborhood has suffered from a lack of infrastructure and technological investment as a neighborhood. There is a fear of gentrification, but also a frustration with feeling left behind. The neighborhood also is exceptionally urban - a regular grid of homes, narrow lots, continuous sidewalks mean that there is a strong pedestrian culture. In fact - that directly influences the school as their campus has very little space dedicated to parking. Most students walk, ride the bike or take the bus to school. This directly shaped the program for this project, as no additional parking is added to the campus.



1960'S WALKOUT AT LANIER HIGH SCHOOL IN PROTEST OF "BEING PUSHED TO MANUAL LABOR"



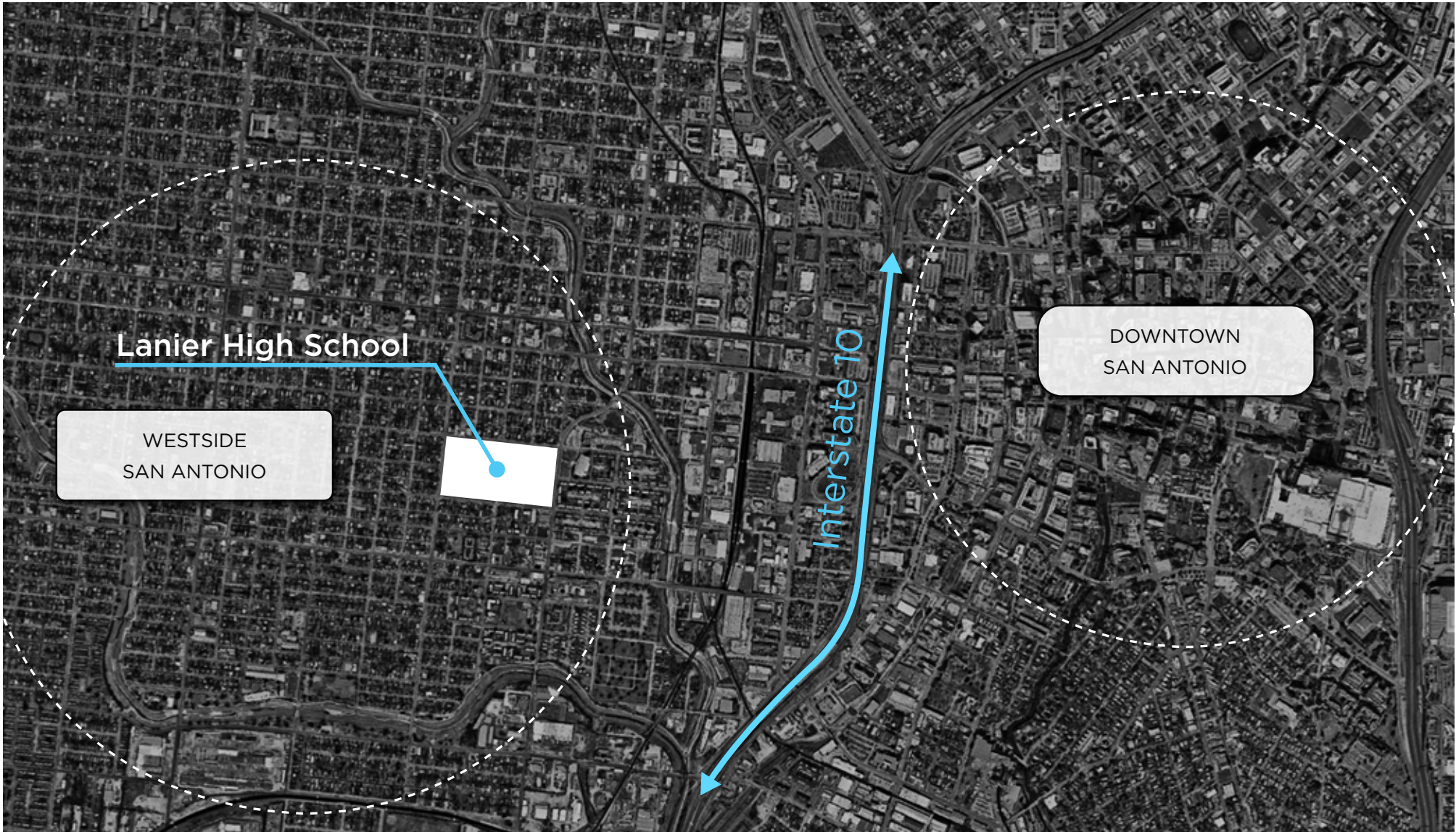
MURAL:
EDUCACIÓN



MASCOT: VOK FOR "VOCATIONAL"
LOGO: GEARS OF SOCIETY



MURAL: BIENVENIDOS AL
WESTSIDE



BUILDING TRUST THROUGH AUTHENTIC RELATIONSHIPS

The design team understood from the onset the importance of relationships within this community. The community looked to their own for guidance: their muralists and alumni. Over three meetings with the muralists, we developed a relationship that allowed them to take ownership of the project, strategy and decision making of murals. Marcelino Villanueva, the original teacher who oversaw the first round of murals, shepherded this process and was eventually selected to paint a new mural in honor of the building’s rebirth. The photo on the right illustrates when the painting was revealed to the design team at their office. This now sits proudly in the administrative conference room.

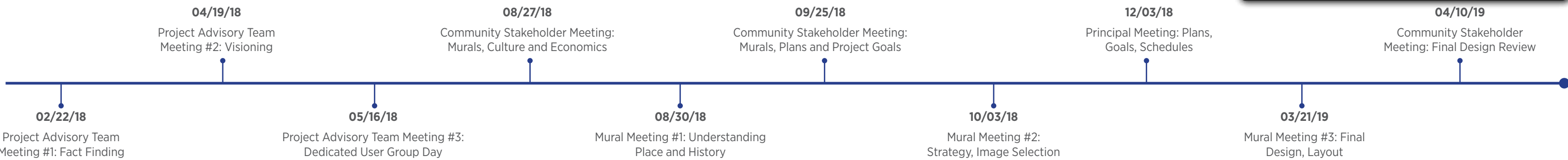
A Building Funeral - A concerned community member summoned a meeting with the design team to help communicate the emotional connection to the old facility and its spaces. Together, this member and the design developed the idea of having a “building funeral”. On one Saturday in the summer of 2019, a memorial was held for the existing facility to allow the community to grieve the previous building and allow them to say good bye properly. This was a sensitive event for the community, one in which the architect and district representatives were not present. It was the highest attended event of the entire bond program for the district.

Meeting with Purpose, with Everyone - The early design engagement schedule is illustrated below The design team met with every kind of community member in strategically organized agendas. This engagement plan was the first of its kind in the district and became the model for the other 16 projects in the bond, and the model for their 2020 bond. Some highlights are the three meetings with the muralists, various community stakeholder meetings and the involvement of a dedicated project advisory team composed of parents, alumni and staff.







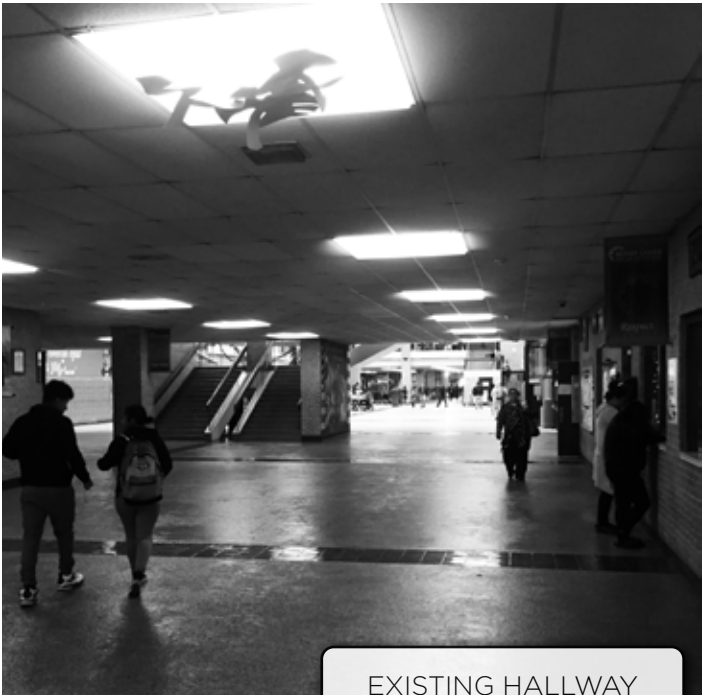


USING PRE-OCCUPANCY RESEARCH TO DIVERSIFY LANIER’S CURRICULUM

A digital survey based on the Center for Built Environment’s Facilities survey was distributed to the teachers and staff to hear their concerns and opportunities directly and anonymously. The survey looked at feedback along four categories:

- 1) Layout and Furnishings
- 2) Acoustic and Thermal Comfort
- 3) Technology and Tools
- 4) Design

We learned about their frustrations with the inability to collaborate across disciplines, the acoustical challenges, antiquated technology and inflexible furniture. We also heard about the psychological impact of the lack of windows. We also heard about how meaningful the murals painted on the building’s interior were to the community.



EXISTING HALLWAY



EXISTING ARCH ARCADE FACING COMMUNITY

survey monkey snip
showing the interface every teacher used

Thank you in advance for your participation and valuable input!

1. How many years have you been teaching...

	0-5 years	>5-10 years	>10-15 years	>15-20 years	20+ years
in total?	☐	☐	☐	☐	☐
at your current school?	☐	☐	☐	☐	☐

Please include the name of the school(s) where you currently teach and the grade(s)/course(s) you currently teach:

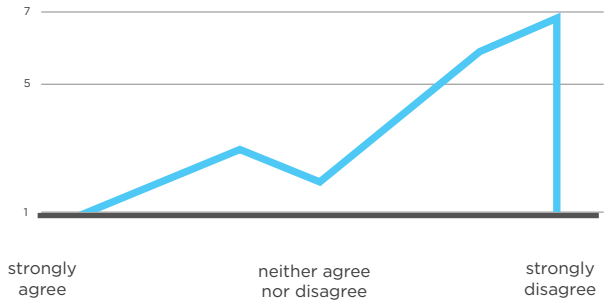
For each of the following statements, please indicate the degree to which the particular feature currently exists in your classroom on a scale of 1 to 3, where:

1= Currently exists (as stated/exists to a high degree)
2= Exists to some extent (exists to some degree)
3= Does not exist (does not exist as stated or at all)

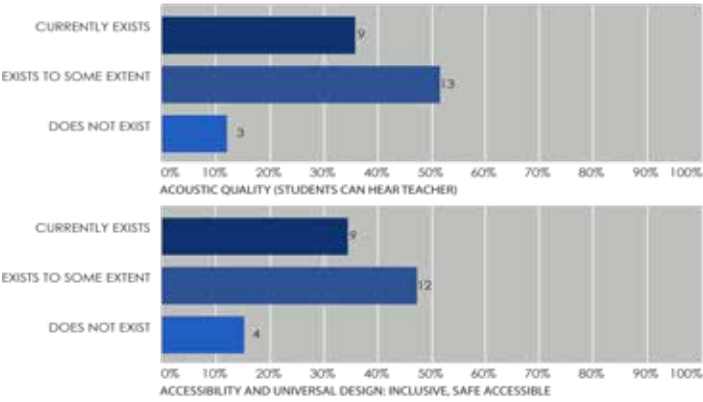
After reading each statement, remember to consider:
If the statement accurately describes what exists in your classroom, indicate your response by selecting 1. If the statement presents a feature or characteristic that is somewhat evident in your classroom, select 2. And, if the statement does not accurately describe what exists in your classroom, select 3.

2. To what degree do each of the following design features currently exist in the teaching/learning spaces you use?

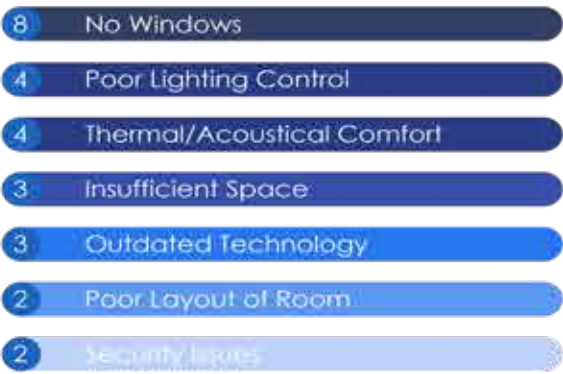
pre-occupancy survey results:
does the facility support cross collaboration?



sample results for 2 of 80+ questions



high level issues from staff



“Students feel like they are in prison because they have **no sunlight** in the main building or windows”

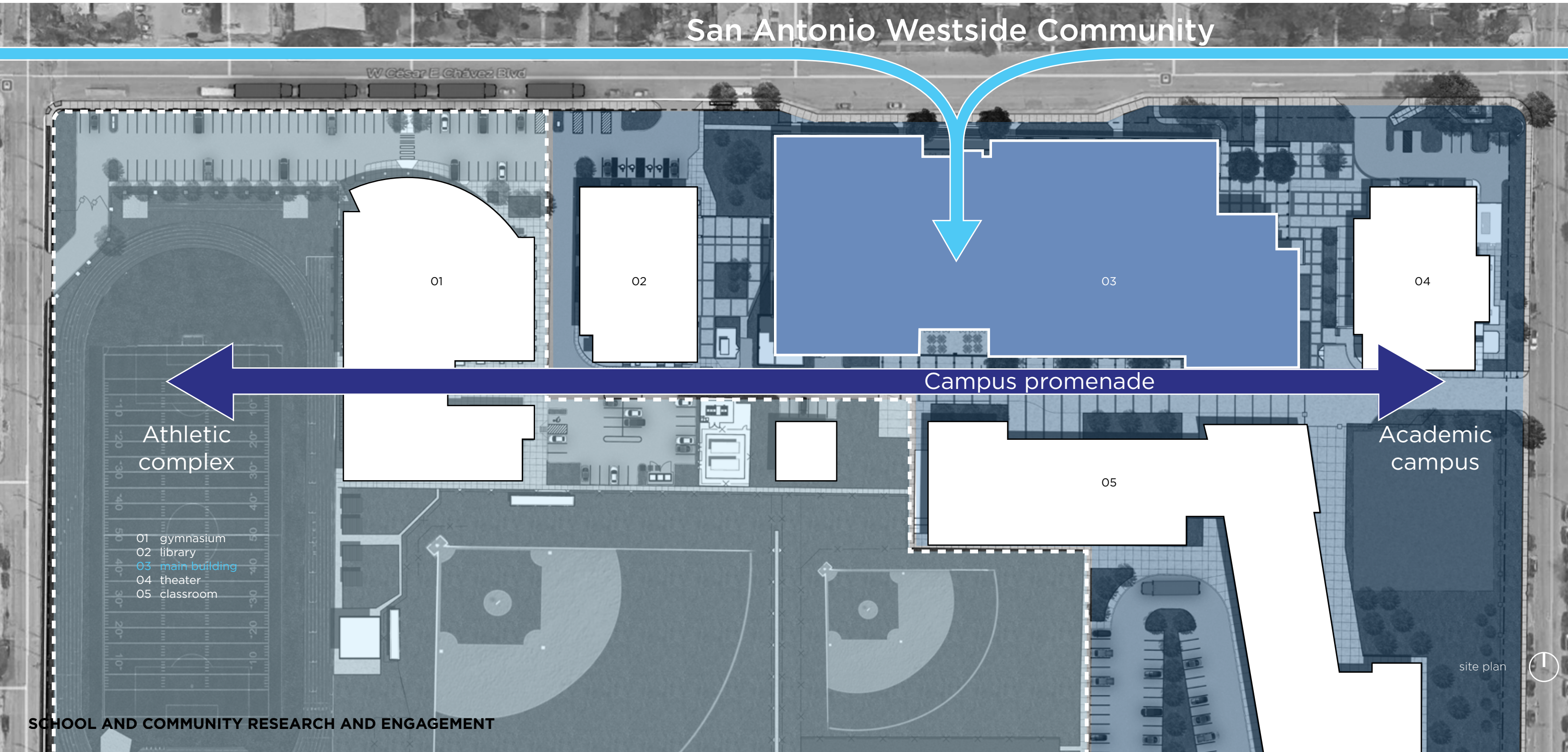
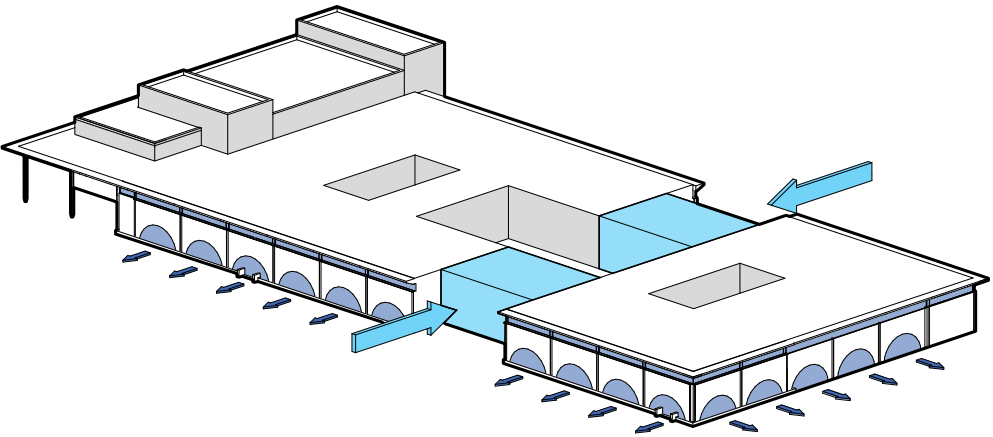
“**Collaboration** between all fields of study **is impossible**”

“Lanier is literally a **crumbling prison**”

“Students **don’t** feel like the school’s physical environment is **welcoming**”

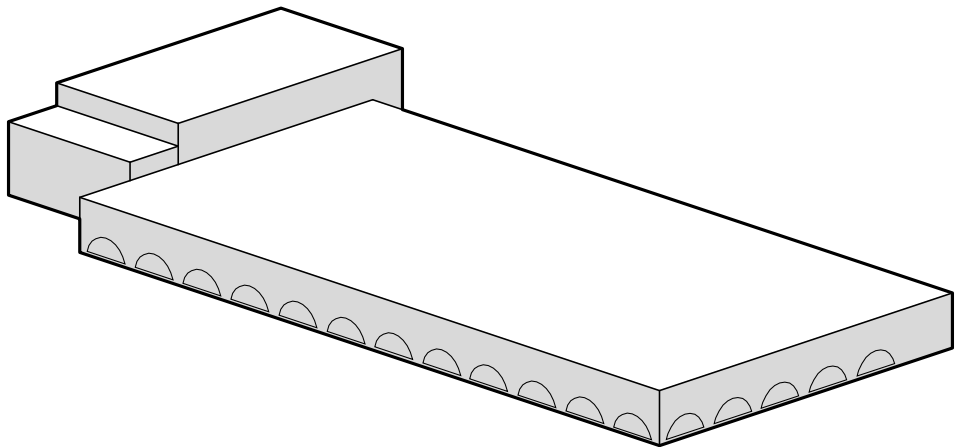
USING DESIGN TO INTEGRATE THE COMMUNITY

The previous design for the building had 17 points of unsecured entry. The north facade, while symbolically important, served as a barrier and dam for the community. In introducing a new “slice” into the building, a single point of celebrated entry was created. A single, secure entry plaza welcomes the westside community into the heart of the campus through a secure vestibule. The solid brick, interior wall of the arcade was removed, and the interior space was extended to the existing brick arches, which were infilled with glazing to allow for visual connections to the surrounding community. There is a north/south connection from the entrance to the campus promenade, which connects the academic building to outdoor learning spaces, the athletic complex, fields, library, music building, and CTE Building. The removal of the brick facade also celebrates and exposes the original cast in place concrete structure for the building.

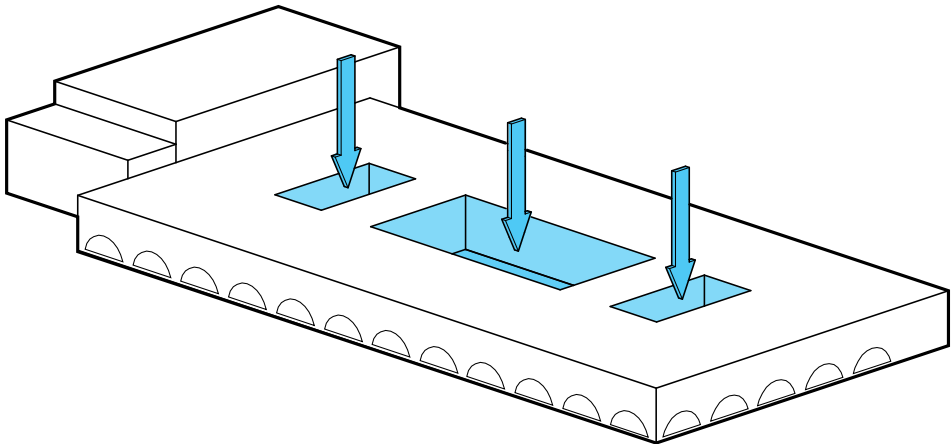


BRINGING LANIER OUT OF THE DARK

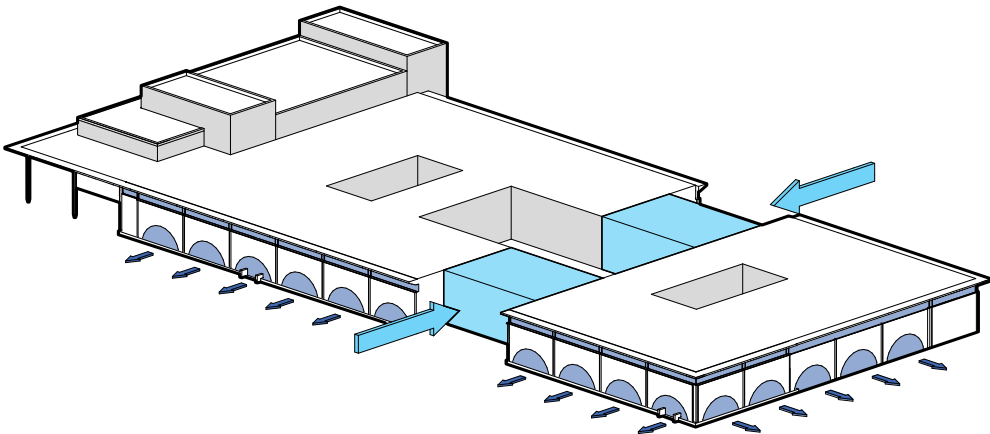
The building is 450'-0" deep and 2-stories high, so getting daylight deep into the core of the building was a challenge. The existing arches on the first floor were infilled with windows and the existing upper '0" of brick was removed to provide clerestories around the entire exterior of the building. Punched openings in the roof and second floor slab area allow for light to infiltrate to the first-floor core of the building, providing natural light and views to 100% of learning spaces.



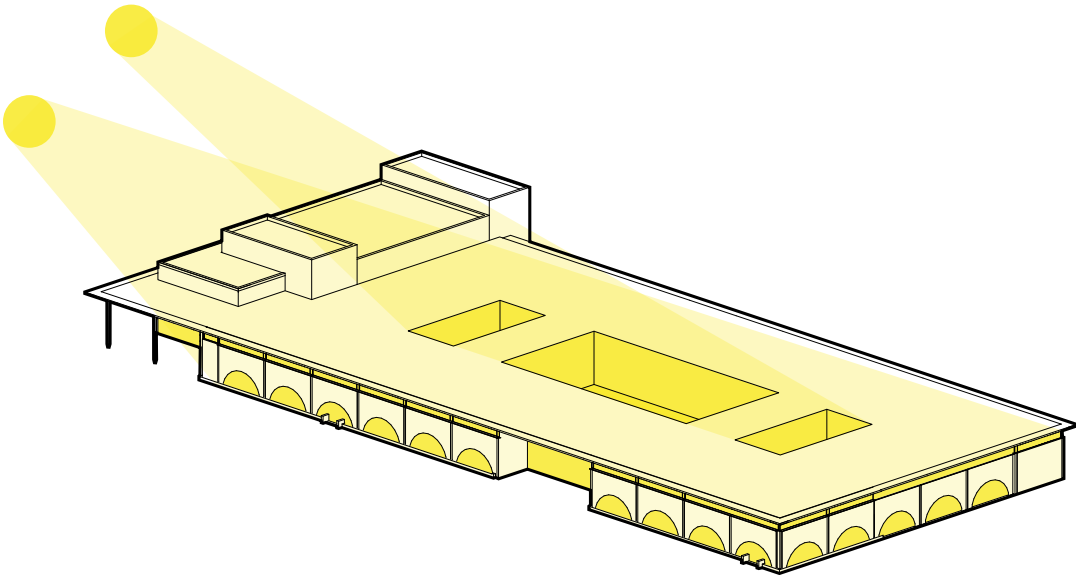
A. Existing Building Massing
existing building massing has minimal access to daylight



B. Cut Openings in Roof and Second Floor
cutting out openings at roof level to introduce skylights



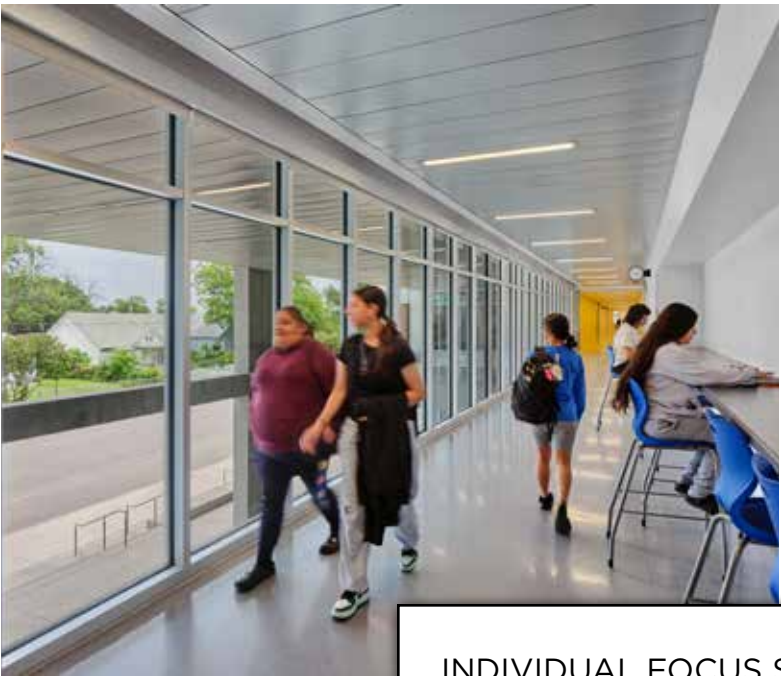
C. Notch Facade for Entry
carving out entrances to connect community and campus infilling arch windows to extend programs area, this also brings natural light to all interior classrooms



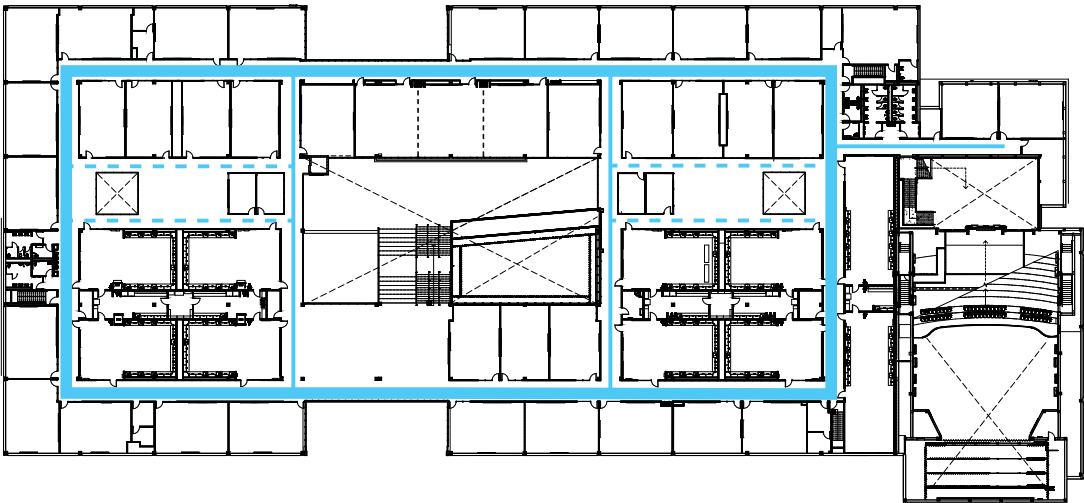
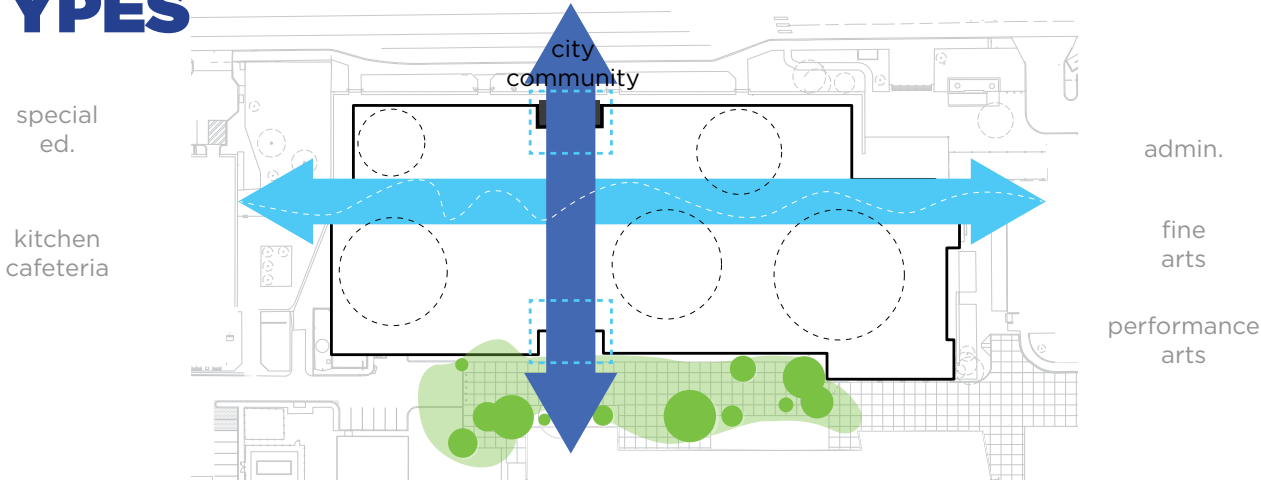
D. Remove Top 8 ft of Brick for Continuous Clerestory
with new skylights, exterior & interior clerestories, and arch windows the building form maximizes daylight exposure while provides quality lighting to all interior spaces

SIMPLE, DAYLIT CIRCULATION TO VARIED SPACE TYPES

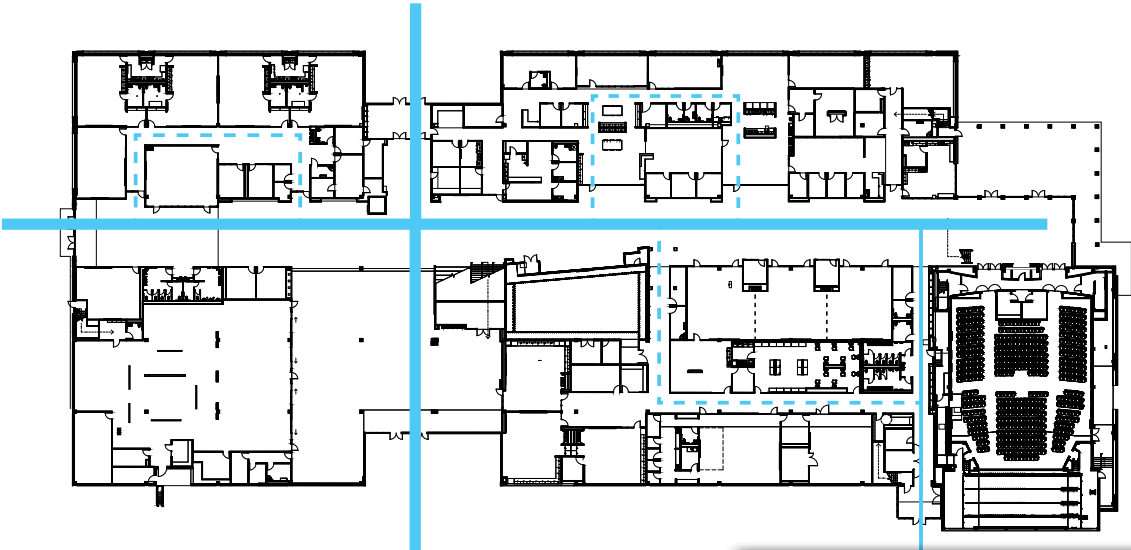
The existing plan was challenged by poor orientation and disorienting long hallways due to the lack of windows and views to the outdoors. In providing large windows, gathering spaces and color coded zones of the building along simply defined loops with intuitive wayfinding to gathering spaces.



PHYSICAL ENVIRONMENT

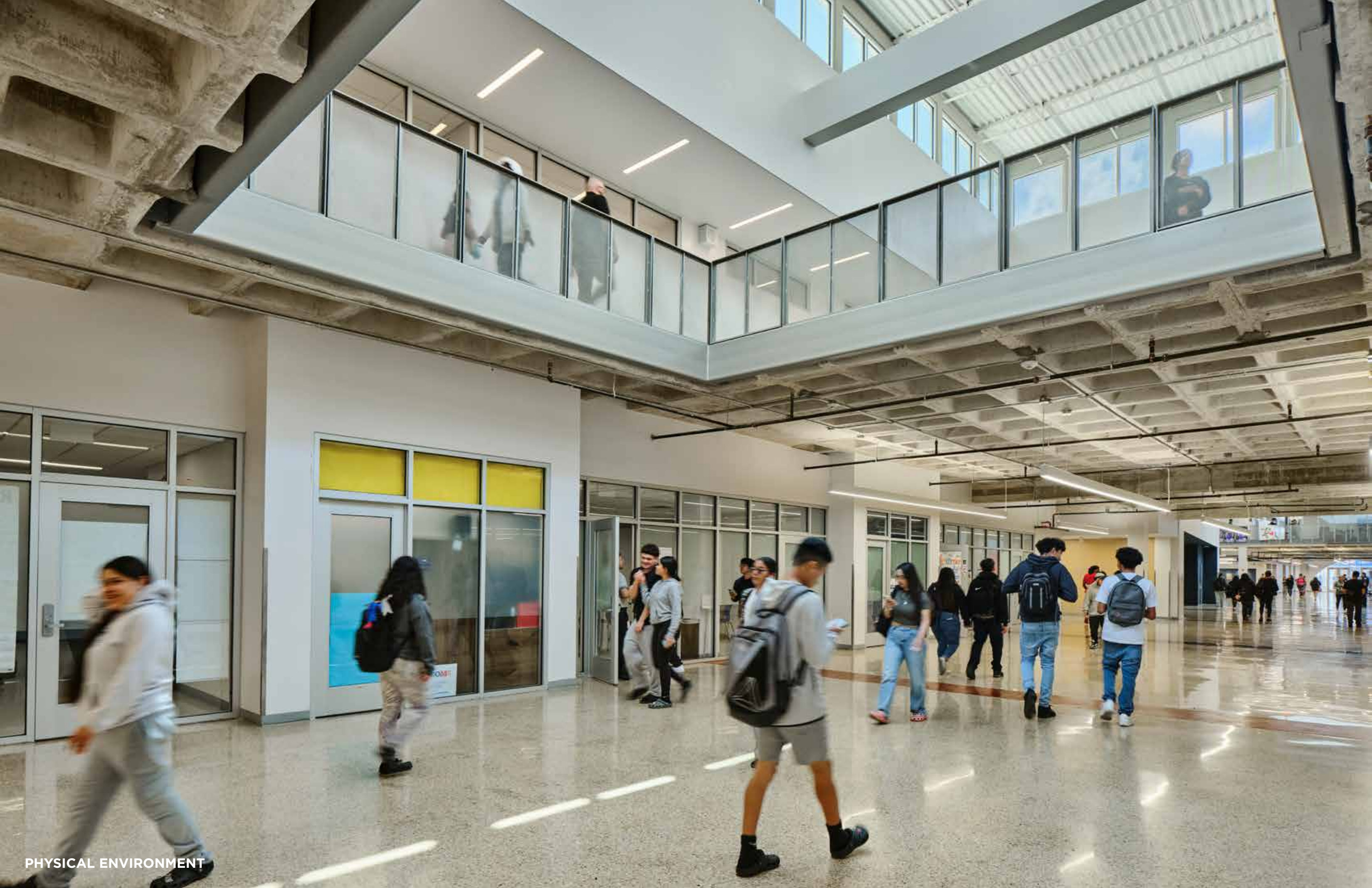


LEVEL 2 CIRCULATION
floor plan after renovation



LEVEL 1 CIRCULATION
floor plan after renovation





PROPER DAYLIGHTING REDUCES LIGHTING DEMAND

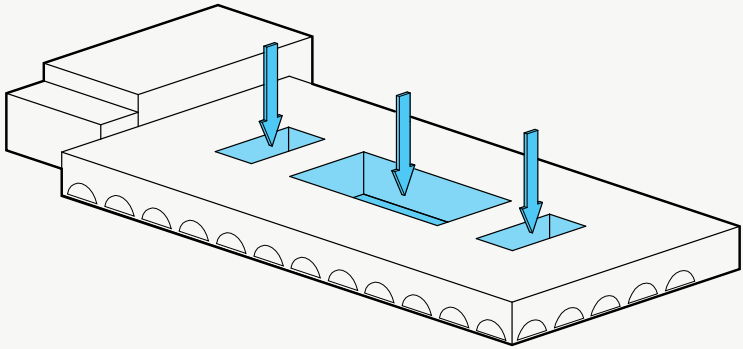


WINDOW TO WALL RATIO



EUI REDUCTION

During the existing building assessment, it was determined the entirety of the 2 acre roof was failing and needed replacement. This created opportunity to introduce light monitors in 3 locations and to incorporate clerestories that would bring light into the core of the building. These clerestory locations were guided by the location of open collaboration and public spaces, where portions of the second-floor plate could be removed to allow for a visual and natural light connection between the first and second floor.



LEGEND

- 01 metal panel overhang
 - 02 celestory window
 - 03 existing brick facade
 - 04 infill arch window
 - 05 view to campus
 - 06 heat reflecting roof
 - 07 lightweight truss
 - 08 skylight system
 - 09 interior celestory
 - 10 existing waffle concrete floor
 - 11 floor plate cut
 - 12 community murals
- B roof cut-out diagram





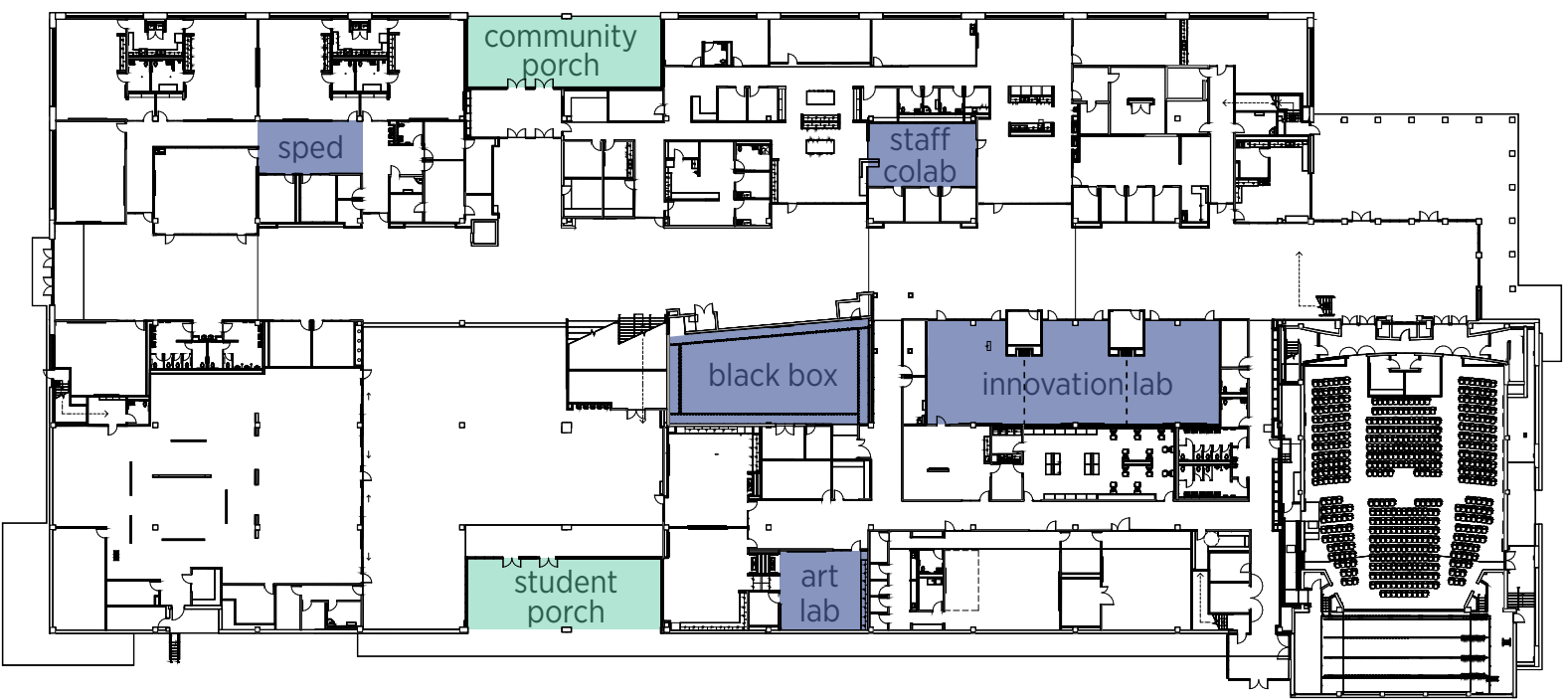
INNOVATIVE PROGRAMMING DRIVEN BY THE USERS

Future Proofing an outdated Ed-Spec

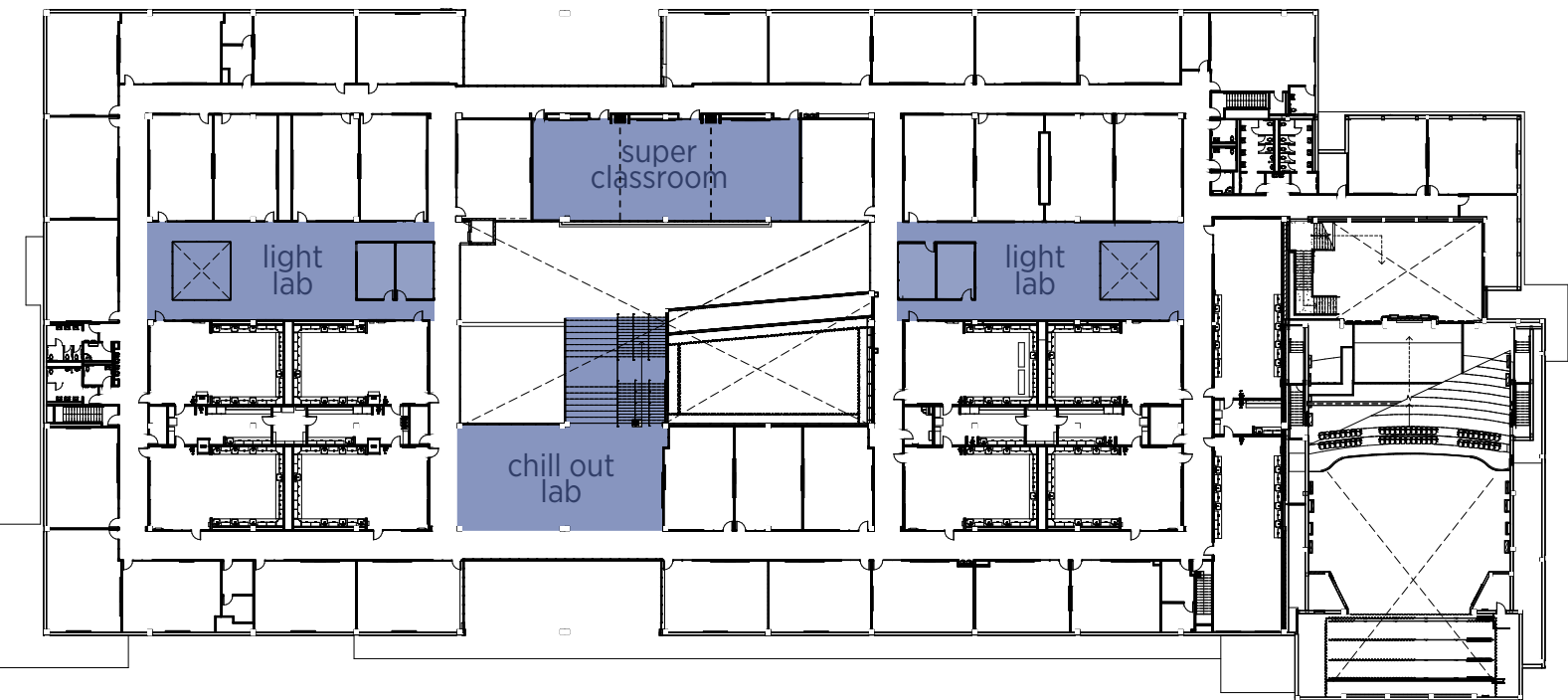
The colored spaces in the diagram below were added to the program by the users and design team after an extensive process of user engagement including focus groups, community meetings and a digital survey. These spaces represent:

- (3) 1000 sf Large “super” classrooms w/operable partitions
- (3) 1200 sf Innovation Labs
- (4) 150 sf small group rooms
- (1) 2000 sf black box + support
- (1) 500 sf Art Lab Gallery
- (2) 600 sf Light Labs
- (1) 450 sf Staff Colab space
- (1) 1200 sf “Chill Out Lab”
- (2) Outdoor Porches

11%
*of the building program was
“innovation space” outside of
SAISD Education Specifications*



FIRST FLOOR



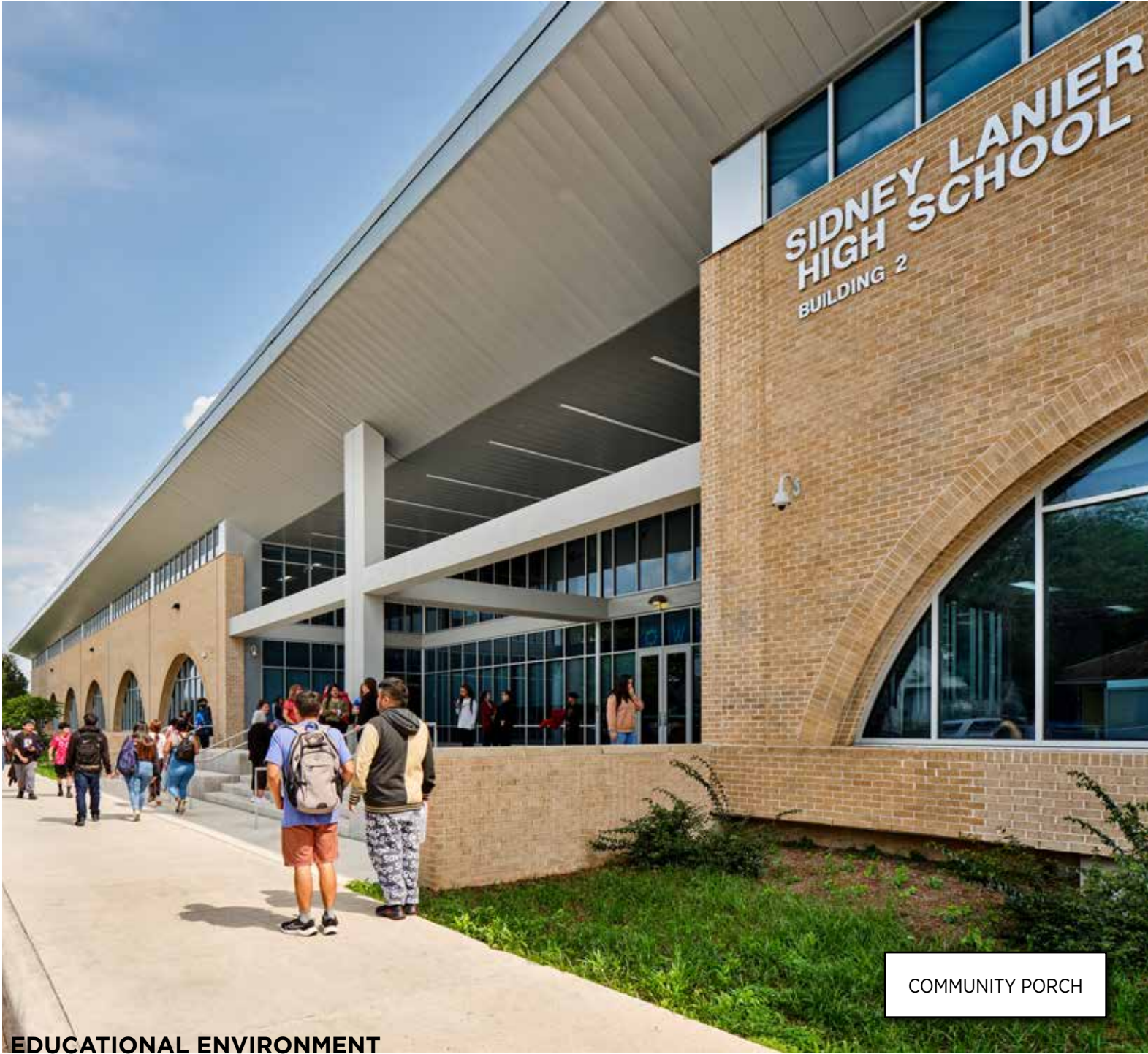
SECOND FLOOR

Programmed Spaces Added by Users



FINDING OUTDOOR SPACE TO DIVERSIFY SOCIAL OPPORTUNITIES

The previous facility, an impenetrable brick wall, did not have any shaded outdoor gathering areas or clear sense of entry. The design team integrated two “notches” into the building - a central community porch and a student porch on the campus side. These spaces have been used for community gatherings, outdoor dining and a shaded waiting space for pickup and dropoff in the hot South Texas sun.



EDUCATIONAL ENVIRONMENT



STUDENT PORCH

LONG LIFE, LOOSE FIT: LEARNING SPACES WITH PURPOSE

The design of the core learning spaces was meant to balance daylight, privacy and wall space for changing educational curriculum. The design team leveraged best practices of classroom design including windows kept above 7' to maximize wall space, naturally daylit classrooms, flexible furniture accommodations and “spaces to be messy”. These flexible rooms allow for furniture to be organized in groups, lecture style or as a workshop in the case of maker and art spaces.



EDUCATIONAL PROGRAMMING THAT MEETS THE COMMUNITY

Lanier’s legacy for the performing arts was celebrated with the inclusion of a new blackbox within the footprint of the existing atrium - a feat considered unachievable during the programming phase due to the 14’ floor to floor heights. During construction documentation, a vocal cosmetology department successfully petitioned for the district to deviate from its educational specifications to provide a best-in-class cosmetology suite for this incredible popular training.



COMMUNITY GOAL: CELEBRATE MURAL CULTURE

Lanier was the birthplace of ‘mural culture’ in the westside and there was concern among the community of what would happen to the existing murals. A team of teachers, original mural artists, and designers went through a process of documenting over 60 murals and determining which murals were the most meaningful and important to the community. The murals selected were professionally photographed, reprinted on durable material, and installed throughout the renovated building. The other murals were photographed and compiled into a Digital Mural Library to be preserved as an important part of Lanier’s history. There are also opportunities for new murals for the current students to extend the legacy of murals in the community.



MURAL 01
Mural Name: Virgin de Guadalupe
Artist: George Ybarra Jr. & Manuel Cardenas
Year: 1976



MURAL 02
Mural Name: Farm Workers
Artist: Marcelino Villanueva
Year: Recreated in 2022

LEGEND

A

Digital Murals

B

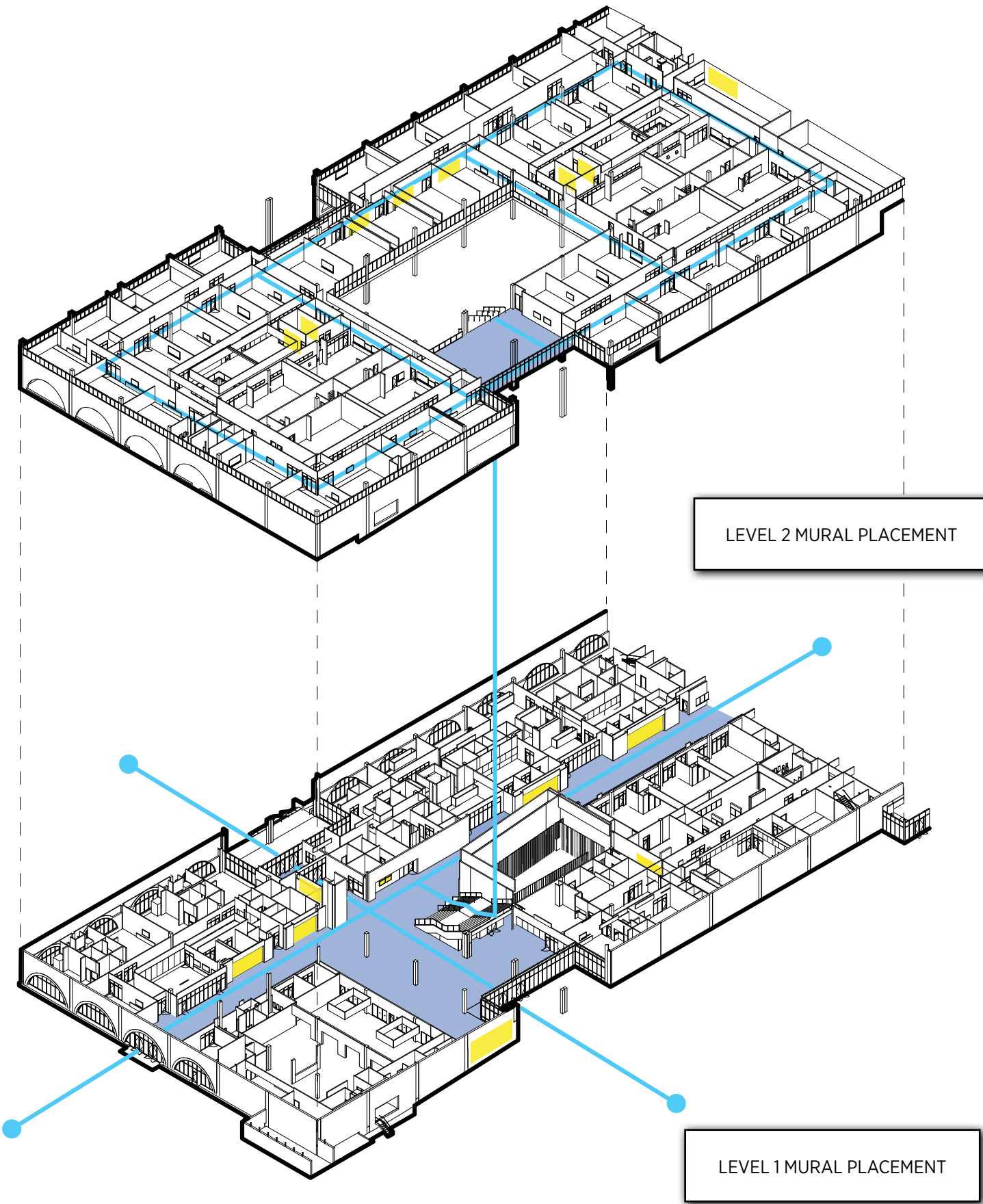
Recreated Murals

C

New murals

D

Mural Museum Path





SCHOOL DISTRICT GOAL: BUILD FOR A SECOND (AND THIRD) LIFE

This project’s budget was very small - \$200/sf. Despite this- the entire masonry façade was salvaged and reinforced with new renovation anchors and the entire roof deck was replaced. The result is a resilient shell capable of many more renovations beyond this one. The approach was to get the big performing systems right first – the wall, roof and MEP systems. The design is very deliberate and humble about a reduced interior palette – drywall, vinyl tile and acoustical ceiling tile being the predominant material choices. Re-use was very important – the exposed waffle slab serving as the ceiling and floor, the existing aggregate floor was polished in the main corridor and 75% of the exterior wall remained in place, although brought up to code with modern insulation and waterproofing.



FAILURE OF (E) MASONRY



HELICAL MASONRY ANCHORS



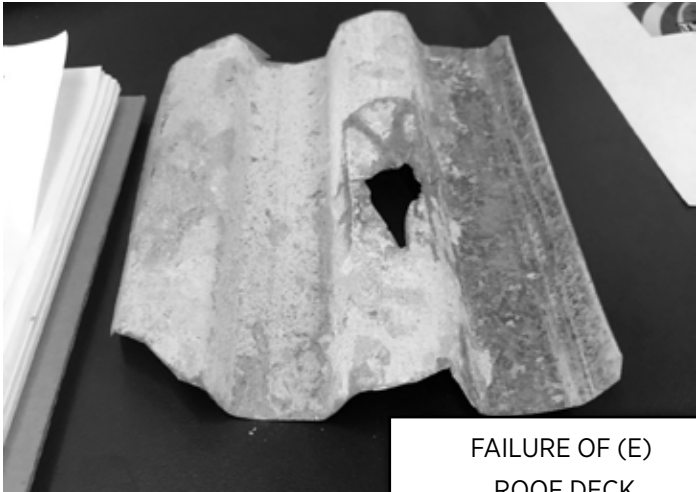
INSTALLING ANCHORS



NEW STEEL BACKUP



FAILURE OF (E) MASONRY TIE



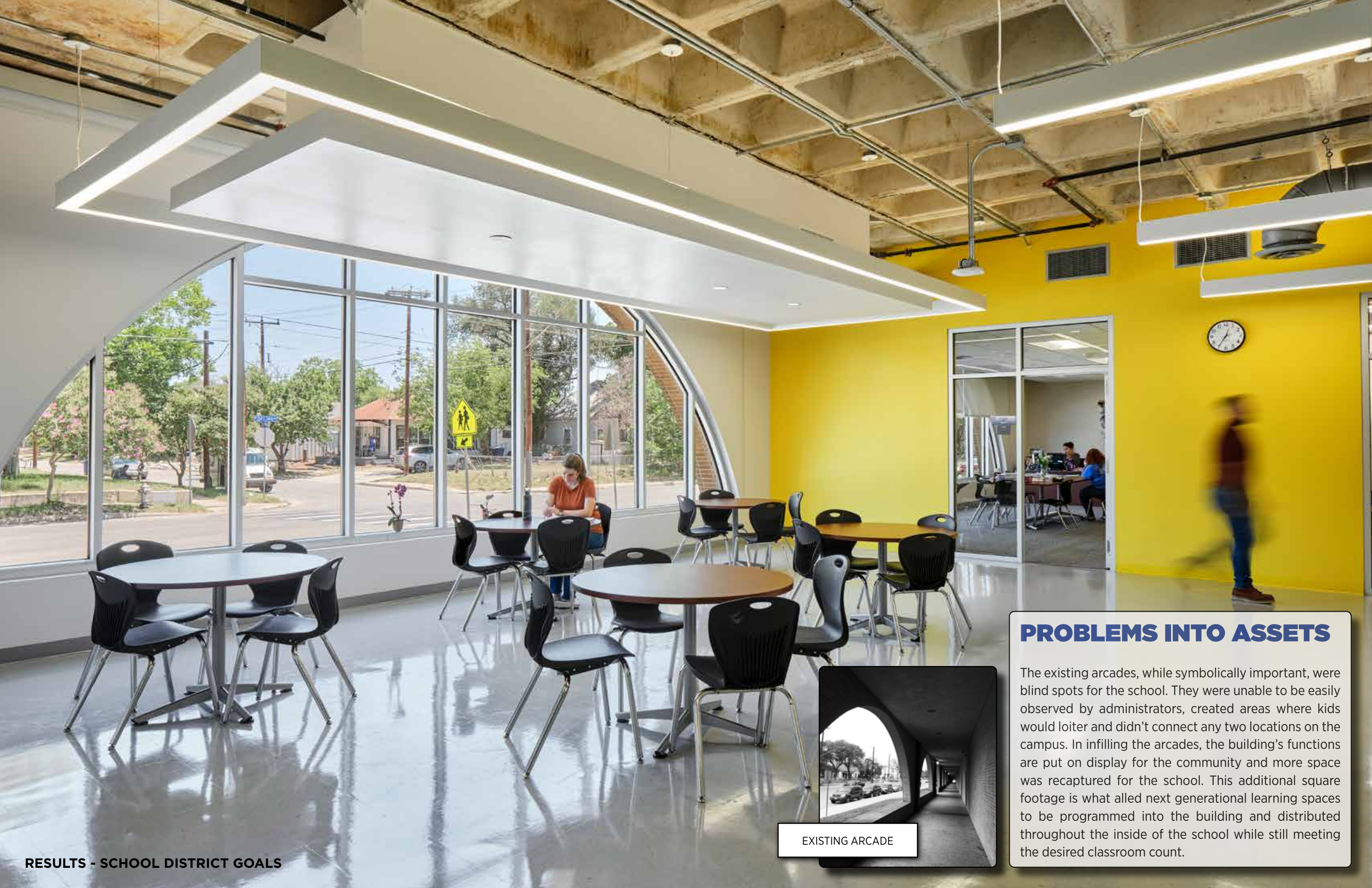
FAILURE OF (E) ROOF DECK



PROTECTIVE OVERHANG, BRICK "CUTS"



NORTH FACADE ALONG CESAR CHAVEZ BLVD.



EXISTING ARCADE



PROBLEMS INTO ASSETS

The existing arcades, while symbolically important, were blind spots for the school. They were unable to be easily observed by administrators, created areas where kids would loiter and didn't connect any two locations on the campus. In infilling the arcades, the building's functions are put on display for the community and more space was recaptured for the school. This additional square footage is what allowed next generational learning spaces to be programmed into the building and distributed throughout the inside of the school while still meeting the desired classroom count.

DECARBONIZATION THROUGH MATERIAL REUSE AND DESIGN STEWARDSHIP

Reality Of Reuse

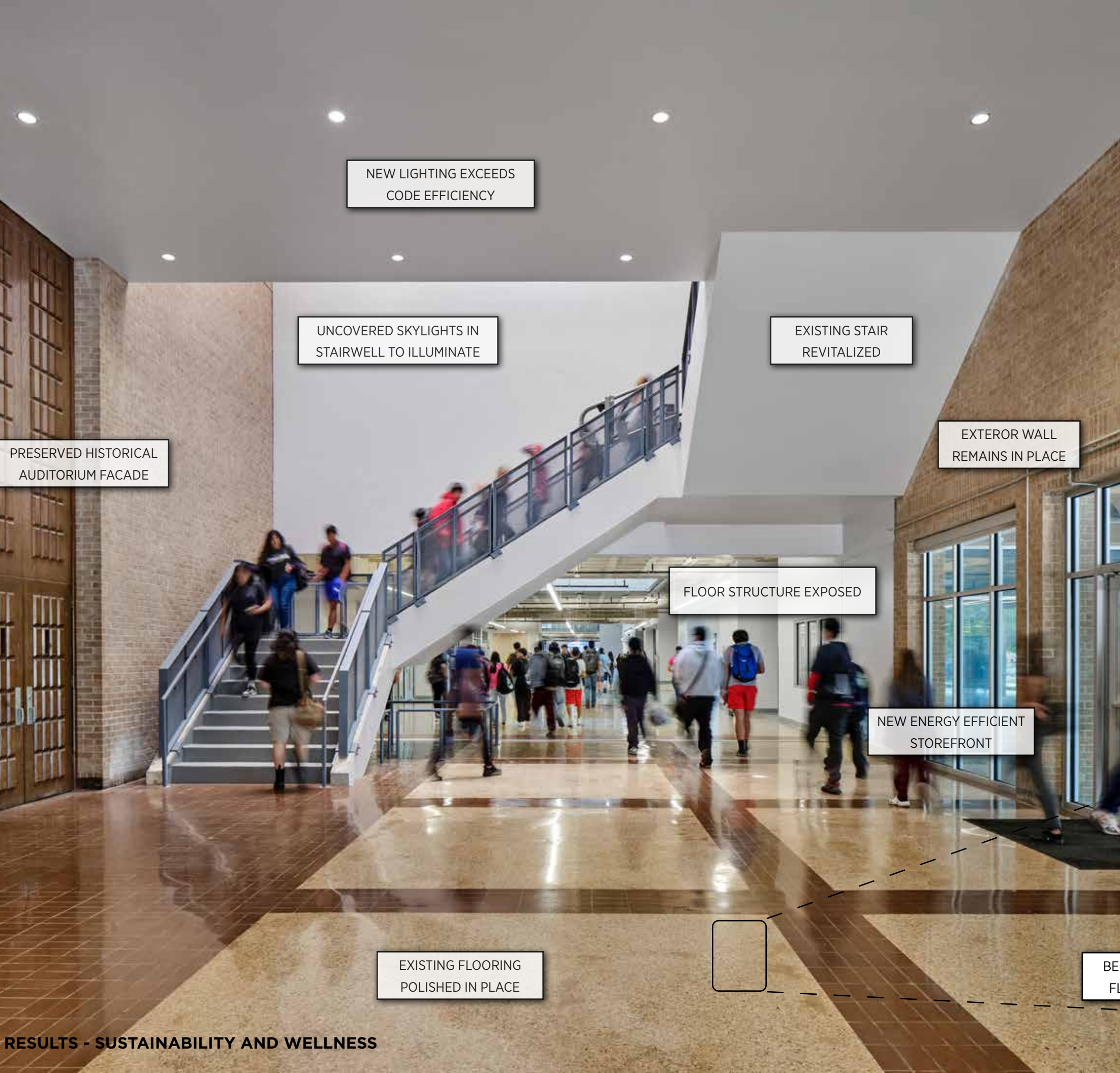
The design celebrates reuse as fundamental to offsetting the carbon footprint of this project. Reusing the exterior walls and concrete waffle slab offset approximately 4,000 tons of carbon. To reduce waste, the slab remains exposed, and single-layer finishes were used throughout. The existing flooring was polished in place - eliminating an entire layer of unnecessary material.

Designing for Energy

The project achieved a 60% EUI reduction through a high-performance envelope and even daylighting, which lowered lighting loads to below .5 watts/sf. By removing dedicated computer labs, plug loads were further slashed. The mechanical system is “plug and play” for a forthcoming water-cooled central plant; once online, energy performance is projected to reach a 72% reduction from baseline.

Minimizing Water & Maximizing Health

Water efficiency is maximized via a closed-loop chilled water system, low-flow fixtures, and irrigation-free xeriscaping. Combined, these strategies cut the facility’s potable water draw in half. Despite suffering from “sick building syndrome” due to poor ventilation and asbestos, the structure was fully remediated. A fluid-applied interior membrane and code-exceeding HVAC systems now ensure air quality.



NEW LIGHTING EXCEEDS
CODE EFFICIENCY

UNCOVERED SKYLIGHTS IN
STAIRWELL TO ILLUMINATE

EXISTING STAIR
REVITALIZED

EXTERIOR WALL
REMAINS IN PLACE

PRESERVED HISTORICAL
AUDITORIUM FACADE

FLOOR STRUCTURE EXPOSED

NEW ENERGY EFFICIENT
STOREFRONT

EXISTING FLOORING
POLISHED IN PLACE



BEFORE AND AFTER
FLOOR POLISHING



BEFORE AND AFTER
FLOOR POLISHING



SIDNEY LANIER
HIGH SCHOOL
BUILDING 2