



Beverly Hills High School Comprehensive Renovation

EXECUTIVE SUMMARY

How do we renovate a school that is 92 years old, to meet the needs of today's students in an ever-changing world? This was the challenge we faced.

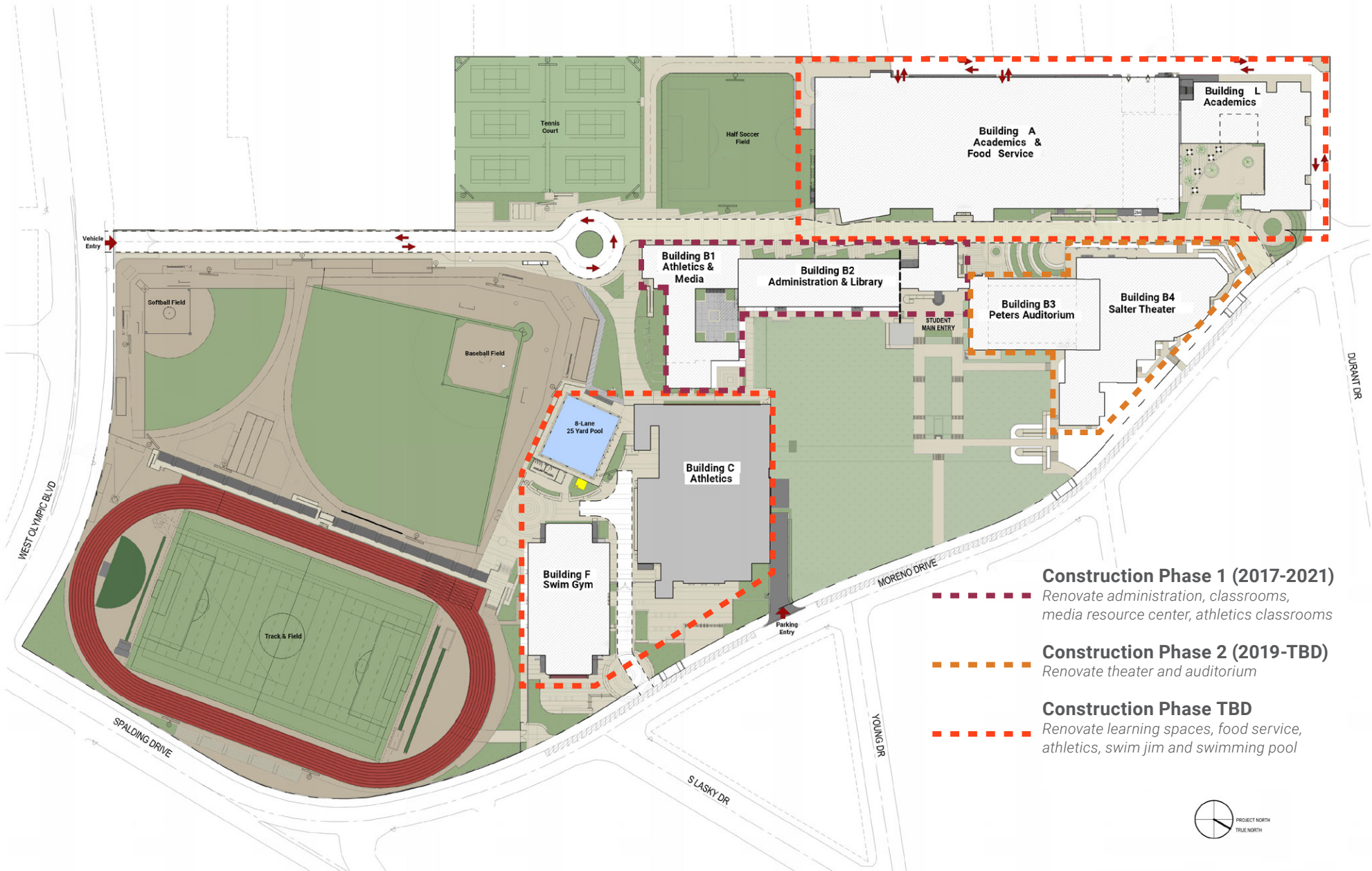
A beloved civic icon steeped in tradition, Beverly Hills High School (BHHS) was founded in 1927, opening its doors with 320 students. Today the school provides excellence in education to 1,500 students. In spite of various updates over the years, the evolution of pedagogy for 21st century learning, and a decrease in enrollment has led to a need for major changes to its 19.5-acre site.

The only high school in the district, BHHS is currently operating at only 60-70% of its capacity of 2500 students as enrollment declined due to competing private schools. Beverly Hills High School is able to offer a unique variety of courses due to their strong connection with the entertainment industry, and focus on Career Technical Education (CTE) programs such as robotic arts and culinary arts. A high percentage BHHS graduates advance into the performing arts-related industries, and the District intends to re-energize these relationships as part of Beverly High School's future.

The sheer magnitude of the project has always posed a design challenge for the team. With so many buildings and exterior areas impacted, the need to keep the high school operational and phase the work into construction and ultimately into use, has been of paramount focus. In this regard, flexibility is the key for the design team. The campus was broken down into a battery of smaller packages for DSA review and approval and doing so provided sequencing options for the district and the construction manager.



SITE PLAN



Construction Phase 1 (2017-2021)

Renovate administration, classrooms, media resource center, athletics classrooms

Construction Phase 2 (2019-TBD)

Renovate theater and auditorium

Construction Phase TBD

Renovate learning spaces, food service, athletics, swim jim and swimming pool



SCALE: 1" = 50'-0"
0 25 50 100 200

MASTER PLAN



SCOPE OF WORK AND BUDGET

We were asked to develop a new master plan to renovate the facility in phases over a 10-year period. Emphasis would be placed on retaining the design integrity of the existing campus in order to preserve and honor the legacy of Beverly Hills High School. The educational facilities are re-envisioned to support and showcase 21st century learning in order to increase enrollment by winning back the support of students and the community.

The first of two major goals included the renovation of the 92-year-old school facility to extend its life for an additional 50-100 years. To do so, a substantial seismic upgrade would be required and would consume 35-45% of the budget for direct seismic work, impacting additional ancillary trade costs by another 30-40% (75%-80% of the total budget impacted by seismic work!). All of these concealed seismic enhancements would be occurring in the ground, walls, roofs, ceilings, and floors, while simultaneously maintaining the outward historical aesthetic of the campus as seemingly unaffected original buildings.

Secondly, the classrooms would be re-imagined with the features needed to support 21st century learning while maintaining inherent attributes of the historic structure.

To make the buildings seismically sound, 148 micropiles of 50-55' depth and in pile cap clusters of 6-8 were sunk under building B2, since the campus was built on an old oil field with unstable soil and inadequate footings. Twelve concrete shear walls extending two stories in height were also added into B2 with dragging steel members extending laterally to building perimeters. All wood floor, ceiling and roof framing systems were enhanced and converted into a plywood diaphragm with anchored steel perimeters ledgers. In the Media Center, existing wood trusses were enhanced with new steel members on new steel pilasters.



Existing Photo: Plaza near Building B2



Existing Photo: Bridge between Building A and B2



Existing Photo: Bridge between Building A and B1



Existing Photo: View from Moreno Drive



Historical Photo: Main Lawn



Historical Photo: Graduation Concert

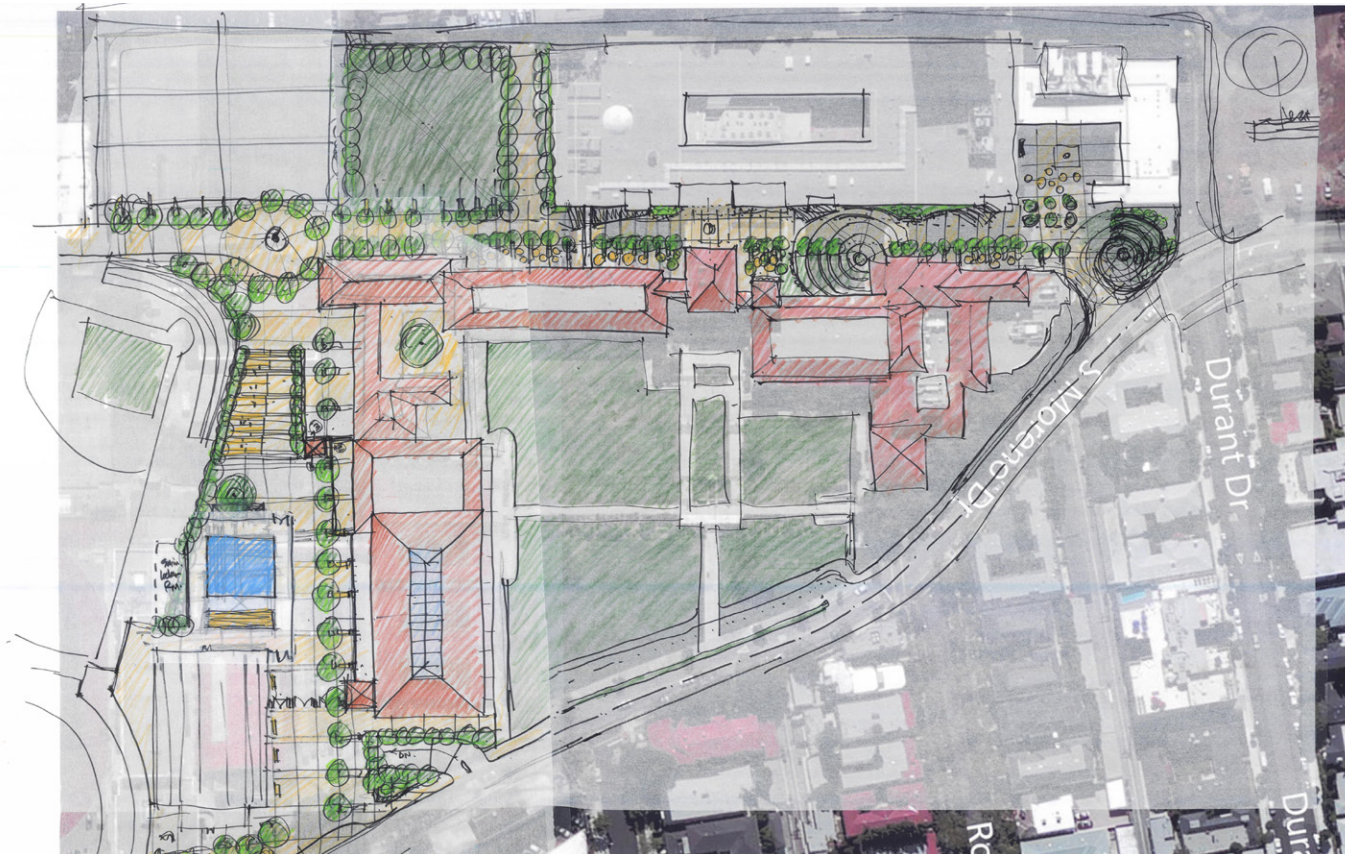


Historical Photo: View from Moreno Drive

SCHOOL & COMMUNITY ENGAGEMENT

Three-day Design Charette with School

Alumni and community involvement within this district is unusually high and has become a cornerstone of all decisions made by the district. As such the design team understood that community outreach was going to be a big part of the design process. One outward impact on the community evolved after the first round of master planning. The district and the design team organized a three-day design charette involving students, teachers, and parents from the school to strategize on the vision of a new Beverly Hills High School.



Sketch: Landscape Plan



Site Visit with Design Team and Students



Team of Students, Teachers, and Designers



Finalize Design with 3D Modeling

SCHOOL & COMMUNITY ENGAGEMENT

With the collaborative efforts of the design team and future user groups, new landscape schemes and campus social spaces came into focus, such as the "Norman Walk" concept. The concept of the "Norman Walk, named after the school mascot, became the newly proposed pedestrian way between the Academics and Food Service building and the long linear building containing Athletics, Academics, Library, Admin, and Performing Arts programs. The new landscape design along the walk provides nodes for social emotional learning by breaking down the scale of the campus. It also functions as a unifying mechanism, providing exterior social space to the students while returning the historic elevations to their original forms.



EDUCATIONAL ENVIRONMENT

Educational Vision and Goals of the School

The motto of Beverly Hills High School, "Today Well Lived," represents an ideal that finds expression in BHUSD's mission statement. The motto is derived from a Sanskrit Proverb: "Yesterday is a dream, tomorrow but a vision. But today well lived makes every yesterday a dream of happiness, and every tomorrow a vision of hope. Look well, therefore to this day."

The mission of BHUSD is to ensure that students are humane, thinking, productive citizens through an educational system characterized by state-of-the-art technology; a dynamic interdisciplinary curriculum; student centered active learning; respect for diversity, strong parent and community involvement, and a nurturing environment where all share a common purpose and a joy of learning.

Beverly Hills High School was recently named a National Blue Ribbon School of Educational Excellence. It was cited for their record of excellent achievement and for providing a rich curriculum that addresses the needs of all the students in the school. BHHS was especially commended for their exemplary relationship with the community and for their commitment to preparing all students to meet the challenges of the 21st century.

How the Environment Supports the Curriculum

The new Norman Walk removes the bridges and lets the sun in, creating areas of various sizes for impromptu student-to-student connections and teacher-to-student connections as well as larger gatherings. It re-envisioned entry nodes such as the



Overlook Plaza concept at the new Norman Walk

Amphitheater, Library Garden, and Overlook Plaza, all with articulated elements and incorporation into the architectural design to soften transitions. It refreshes the pattern and palette from typical street elements (asphalt, curb/gutter, sidewalk) to include a more robust patterning without vehicles/curbs/gutter to enable meandering pedestrian pathways.

How the Environment Supports a Variety of Learning & Teaching Styles

The challenge was to find the right balance between preserving the historical attributes of the existing facility and providing leading-edge flexible spaces for the students to thrive.

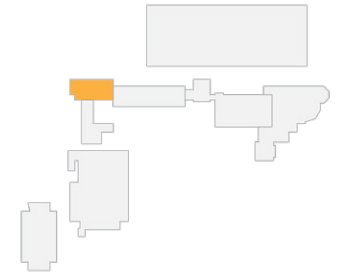
The library re-imagined as a Media Resource Center is one important element. Its location allows it to serve as a Commons in which students can choose to work independently, in small or large groups, and are allowed to eat as they would in a collegiate commons. This model helps students take ownership of their learning by having this type of space to work in.

The classrooms are re-imagined as flexible and technology rich learning spaces that will empower teachers to support multiple learning styles simultaneously. The flexibility allows user groups to re-configure the rooms today and also allows for the future evolution of pedagogy.

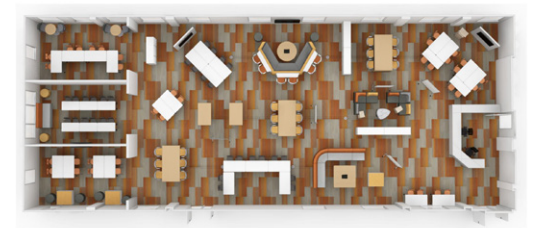
How the Environment Supports a Variety of Learning & Teaching Styles

Media Resource Center in Building B1

The new Media Resource Center will have three open study rooms and soft seating areas for students to take ownership of their learning. The location at the end of the wing of classrooms makes it easy for the new Media Resource Center to be used in an inquiry based learning cycle. Instead of stacks defining space, the seating elements and low book shelves define the zones. Enhanced acoustics also serve to support multiple learning styles simultaneously so students can collaborate in groups in open areas.



Floor Plan



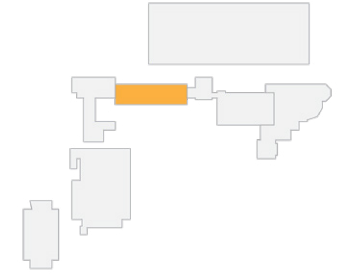
Existing Photos



How the Environment is Adaptable and Flexible

Building B2 Academy

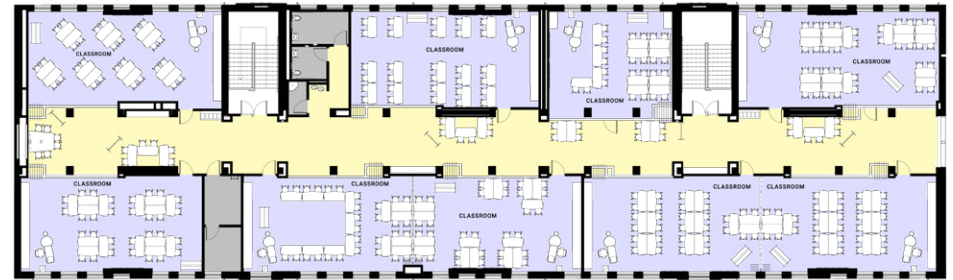
Folding partitions of the classrooms in Building B2 makes group teaching and flexible learning possible in this historic building. Classrooms can support team teaching by providing the ability to expand and contract by using folding walls with whiteboard finish between them. To encourage more independent learning, many classrooms have sliding glass doors and storefront glazing to extend the footprint to the commons. When more space is needed for hosting special events such as presentations and debates, the partitions between classrooms can be folded to provide a whole open floor area within the historical structure. The flexible and modern interior space design reflects the students' and teachers' vision in the charrette process.



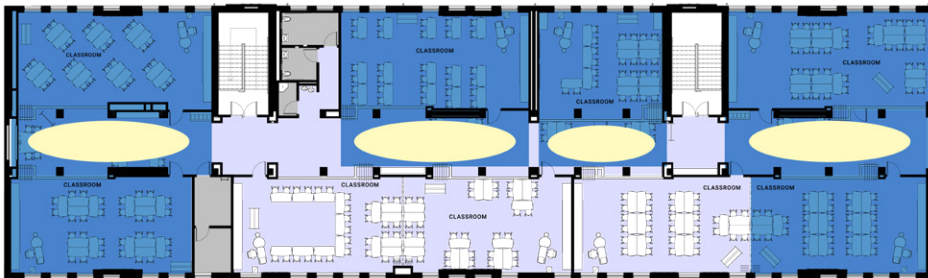
Team Teaching



Traditional Classrooms with Flexibility



Encouraging Independent Learning



- Traditional Classrooms with Double Loaded Corridor
- Flexible Learning Space
- Shared Space
- Support

Advisory Model of Events



Proposed Typical Classroom in Building B2

The 92-year-old building keeps its historical shell now seismically reinforced, with new state-of-the-art interiors to support the needs of teachers empowering 21st century learners by providing flexible space to support multiple leaning styles simultaneously.



PHYSICAL ENVIRONMENT

Physical Attributes of the Environment

Norman Walk to Unify the Campus

By removing the existing three bridges between Building A and B buildings and replacing a portion of the existing service route, Norman Walk will provide a sequence of exterior landscape nodes that will support social emotional learning and breaks down the feeling of a large campus with more intimate spaces that tie the various programs together.



Building A Main Entry



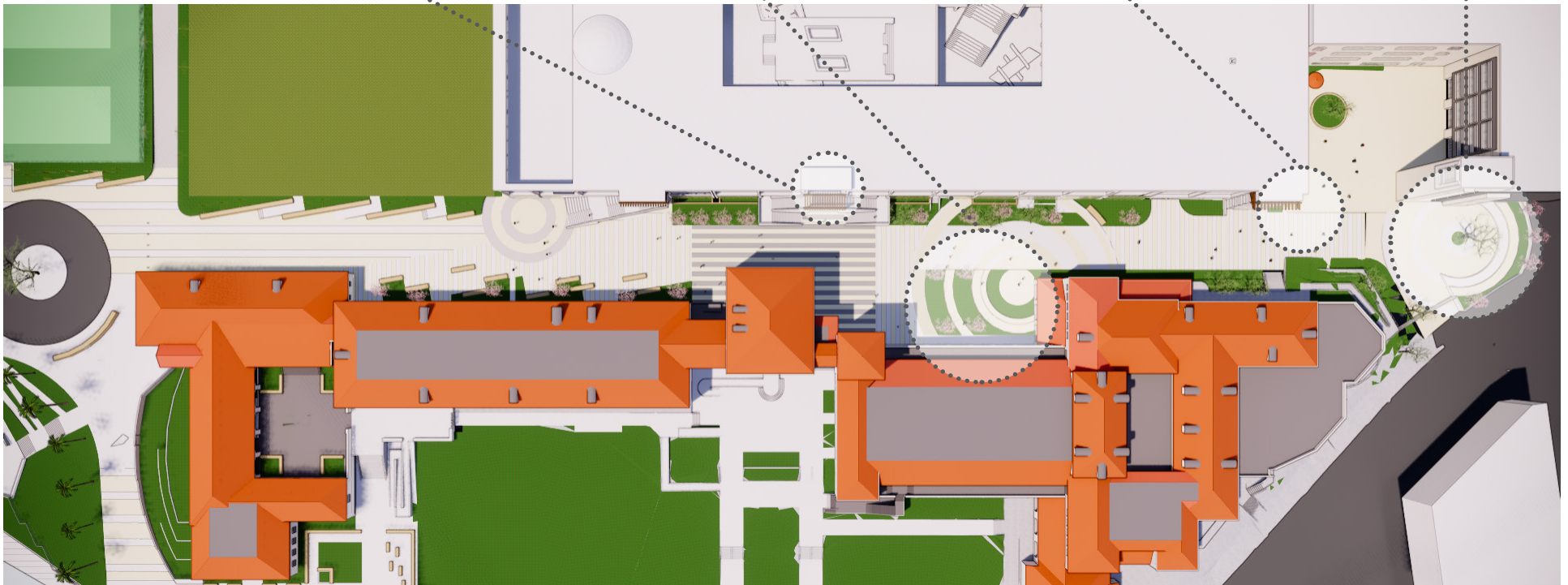
Amphitheater



Building A



Entry Plaza



Student Union

One wish the stakeholders at the workshops was to re-imagine the Food Services area of Building A as a collegiate Student Union. This phase is currently on hold. The rendering shows their vision for central gathering stairs that could be used for events and lunch time.



Classrooms

Classrooms will be flexible to empower students to re-arrange the space as they wish to support multiple learning styles. New element such as seismic bracing become part of the new modern environment inserted in the historical building acting as a 3D textbook.



Arts Classrooms

Arts Classrooms will have ample natural daylight and affordances to support digital art.



How the Facility Fits within the Larger Context of the Community

Another impact of strong community engagement was the collective pivot in the vision for the 1,200 seat, B3 Auditorium Building. This building was initially seen as a means to satisfy the programmatic needs of the student body and the campus, but the long history of alumni involved in the performing arts, and the campuses working legacy in the TV and movie industries changed this position. The B3 Auditorium (under the heavy influence of the alumni and community) is now envisioned as a beacon for the community to be available for public functions during off hours by third party venues. Doing so, however, comes with a significant cost impact to the project to make it desirable for third-party use, which may be offset through alumni interest and donations.



How the Project Inspires and Motivates

A 21st century learning environment is certainly not a new concept, but in combination with the constraints of an existing building/campus and strict desires to maintain historic attributes, the scale of this exercise is rarely seen within the state. Our hope is that this project will inspire other schools in similar situations to see the great potential of creating a hybrid architecture blending historical and modern to support teachers and students needs for the future.

Role of High Performance / Sustainability

The design employs four main strategies to create a more sustainable campus:

1. Building Reuse,
2. Optimize Energy Performance,
3. Daylight and Views, and
4. Lighting Efficiency.

Beginning with the mantra “Reuse, Reduce, and Recycle”, the design will reuse much of the existing 95-year-old structure, which will conserve resources, retain cultural assets, reduce waste, and reduce the environmental impact of new construction as it relates to materials manufacturing and transport.

The design will optimize energy performance by maintaining high levels of energy efficiency to reduce environmental and economic impacts associated with excessive energy use. Variable Refrigerant Flow (VRF) units will heat and cool spaces in lieu of existing ducted roof top package units using piping that maneuvers easily through



the maze of existing structural framing instead of the traditional, bulky ducted system. This energy efficiency will translate to big savings in operational costs.

Access to daylight and views not only provide building occupants with a connection to the outdoors but improves student test scores and teacher retention. The shallow mechanical systems will allow the second-floor classrooms to maintain their high ceilings and tall window openings to exploit maximum visual connection to the outside. The removal of the three bridges between Buildings A and B will facilitate more daylight on both levels.

Maintaining exterior fenestration coupled with the introduction of interior, operable glass partitions in lieu of the traditional double loaded corridor will allow ample natural lighting to penetrate all learning areas. Our Daylight Analysis illustrates how operable glass partitions between classrooms gives the entire learning suite on the second-floor access to natural light. Additionally, daylight sensors will monitor light levels and control the output of the light fixtures leading to more energy cost savings.

Through building reuse, energy optimizations, and exploiting natural daylight, our design will create a sustainably designed campus worthy of Beverly Hills Unified School District.

RESULTS OF THE PROCESS & PROJECT

How the Project Achieves Educational Goals and Objectives

To fit a 21st century learning environment into an existing 92-year-old building shell required some creativity and compromise. Keeping in mind that the historic structure is essentially a masonry building with wood spanning floors and interior concrete columns, you might guess that floor spans are relatively short and column spacing is relatively narrow, and you would be absolutely right!

In a 21st century learning environment such a condition might be seen as an impediment to concepts such as flexible space planning and student-centered learning, but at BHHS these features are part of the very aesthetic that the district desired to preserve.

Solutions required opening the interior spaces as much as possible and at every opportunity to provide transparency to make the learning explicit and to provide the lines of sight for supervision. A second strategy was to provide more natural daylight by removing the bridges. Lastly an interior palette of colors and materials will create a modern collegiate environment the students and teachers wished for.

How the Project Achieves School District Goals

The project provides flexible spaces with fluid technology that was lacking in the original spaces such as flexible classrooms and a re-imagined Media Resource Center to support student centered learning in modern spaces where the joy of learning will be shared. Norman Walk will



support the goal of developing humane citizens by offering space for social emotional learning in a nurturing environment. The vision for the theater to be a beacon for the community provides space to engage mentors and the school community at large.

How the Project Achieves Community Goals

The extent of community/alumni engagement (and by extension the influence of the performing arts industry) in the design process and the weight of their collective voice is unprecedented within the public-school environment. Through workshops, site tours and presentations, the renovation process tied the established alumni/community and the current student body together to weave a tapestry of collective memory. The utilization of the B3 Auditorium Building as a beacon and

gathering point within the community is a complex burden for the District to carry and highly unusual in the current environment of school budgetary constraints, security concerns, and increasing bureaucracy.

Unintended Results and Achievements

An (operational) problem typical of public-school districts, was the siloed mentality of the various stakeholders involved in the process (educational services, facilities, business services, and maintenance and operations). In an effort to bridge this divide, the District sought the assistance of a formerly retired construction and bond manager to lead the effort. Once established, the lines of communications became more fluid/cooperative and this working environment has expanded today to include the general contractor and entire design team.

Auditorium in Building B3

The school has a strong alumni community focus on entertainment industry. The renovated auditorium with 1200 seats will be able to be leased out to the community, and work as community hub of performing art.



Existing Photos

