IVC OUTDOOR LEARNING CLASSROOMS

Irvine, CA New Construction





We worked with the South Orange County Community College District to design two new outdoor classrooms at Irvine Valley College. These spaces are intended to serve as a template for future outdoor learning spaces on the campus. After narrowing in on the site, the team studied the regional context, historical imagery, adjacencies, circulation, outdoor spaces, and shade patterns of the site and the greater Irvine Valley College Campus. Once the site was selected, the team worked with a large group of stakeholders representing students, faculty, and staff to develop project goals and opportunities and address lighting, acoustics, security, and student capacity. Based on their research and meetings with stakeholders, the team developed multiple schemes for two classrooms. The site is developed with two classrooms on either side of a central walkway that supports different styles of learning. The east classroom, called the Auditorium, supports larger lecture-style classes while the west classroom, called the Grove, supports smaller groups in an intimate setting shaded by a grove of oak and sycamore trees.



THESE DIAGRAMS DEFINE ORGANIZATION AND DESIGN PRINCIPLES FOR THE CLASSROOMS

SCOPE OF WORK AND BUDGET



CIRCULATION



ORGANIZATION OF CLASSROOMS



ORGANIC PERIMETER



UTILIZE GRADING



TREE SITING FOR SHADE

PROJECT DATE: 2021-2023 SIZE: 2,750 SF BUDGET: \$2,1630,000 SCOPE OF WORK: New construction of two outdoor classrooms.



SCHOOL & COMMUNITY RESEARCH AND/OR ENGAGEMENT

Irvine Valley College has been working on its sustainability goals for many years, by setting campus energy use goals, looking at the reuse of aging facilities, engaging with its students, and getting feedback from the community on what needs they had. For the last 10 years, IVC had been trying to fund the creation of these outdoor classrooms, however, COVID showed the urgency of this and the need to create healthy outdoor spaces that were safe for students to learn in.

IVC wanted to promote social justice, equity, diversity, and inclusion as an integral part of the project. A Land Acknowledgement Sign was created forming a permanent beautiful focal point in the project and recognizing its Land Acknowledgement Agreement between IVC and the native tribes of OC.



Numerous meetings were conducted with a wide range of project stakeholders. Due to the pandemic, these meetings were held virtually and the team utilized online tools like Miro boards to conduct programming charrettes with university staff, faculty, and students.

The team studied the regional context, historical imagery, adjacencies, circulation, existing outdoor spaces, shade and wind patterns, and natural lighting of the 15,000-square-foot site and the greater IVC campus. The centrally located site was a flat piece of land without major obstructions. Based on the research and meetings with stakeholders, the team developed a design that features a central walkway accessing two classrooms: the Auditorium Classroom seating 64 for lecture-style classes and the Grove Classroom for 36 with a large table for demonstrations. This space is accessible to the community and has significantly expanded the amount of native habitat on the campus.



SCHOOL AND COMMUNITY RESEARCH AND/OR ENGAGEMENT



AFTER

These new Outdoor Classroom spaces enable the college to test out outdoor learning in higher education and engage with the community by scheduling new events. The classrooms are close to a community trail that brings community members onto the campus, strengthening IVC's relationship with the surrounding community and the native landscape.

EDUCATIONAL ENVIRONMENT DESIGN

The spaces are flexible and can be used in multiple ways, allowing the college to possibly rent out the spaces for events. We used cost-effective local materials including gabion walls filled with local stone, to control sound, wind, and views of the classrooms. These are very cost-effective and brought the total project cost down. We also looked very closely at the existing underground utilities and designed the classrooms to avoid having to relocate any of the existing utilities.





EDUCATIONAL ENVIRONMENT DESIGN

The Auditorium Classroom provides full audio-visual equipment to accommodate lectures and performances. The acoustic properties of the shade canopies provide an ideal space for music and spoken word.

RESULTS OF THE PROCESS AND PROJECT

These classrooms opened in March 2023 and since then, multiple classes have been held. We have heard wonderful things about the space, such as the amazing acoustic qualities, the biophilic joy from walking along the pathways and engaging with nature, and many comments about how dynamic the design of the Auditorium and the Grove is. A post-occupancy survey was sent to IVC and we are in the process of collecting more feedback on the outdoor classrooms.







The Grove Classroom provides an intimate space for groups of up to thirty six. The space includes full Audio Visual facilities, ample seating with benches and tables and a display table for demonstrations. Sunlight is filtered through the tree canopy creating soft, dappled, glare-free light.



PHYSICAL ENVIRONMENT DESIGN

PHYSICAL ENVIRONMENT DESIGN

Many studies have been published supporting the positive effects of vegetation on physical and mental well-being. These classrooms provide contact with nature in a learning environment. They incorporate natural shading from evergreen shade trees that reduce air temperatures significantly compared to open areas of paving or lawns.



AUDITORIUM CLASSROOM



GROVE CLASSROOM

WEST ELEVATION



These outdoor classrooms are future forward spaces that allow for IVC to adapt and prepare for future changes to teaching and learning models. Outdoor learning is becoming more recognized as an important pillar of wellness.

AUDITORIUM CLASSROOM

EAST ELEVATION

SUSTAINABILITY AND WELLNESS

This project demonstrates how locally native species can be part of a suburban campus landscape that supports greater biodiversity and habitat. We expect that the gardens will be the subject of Naturalist observations, increasing knowledge of native species in the community.

The species diversity on this project includes 17 California natives that provide habitat for native and endemic bird and insect species. As the landscape of the campus transitions to a higher percentage of native plants it will serve as a stepping stone or ecological patch connecting the ecosystems of the Santa Ana Mountains and the Coast. All irrigation water for this project is recycled. The source is the Irvine Ranch Water District. No potable water is available for use in this space. Rainwater is not collected on site but space has been provided for groundwater recharge to the extent feasible

Low carbon strategy include using gabions in place of CIP concrete walls. Balance of cut and fill on site reduced GHG emissions from transporting soil to or from the site. We designed the smaller classroom to have all the shade come from mature trees, this eliminated the need for a steel shade canopy and resulted in lower embodied carbon for the project.



Storm water management through infiltration and planted retention basins.

Provide extensive shading to minimize heat island effect and keep spaces and usable year round.



By its very nature, an outdoor classroom is a high-performance, sustainable use of campus resources. An outdoor classroom that does not rely on mechanical ventilation, minimizes the need for electric lighting, and does not require a building with a large carbon footprint, is the definition of sustainability. Our job was to design a space that can truly function similarly to a classroom in a building. We believe that the detail and focus on functionality will create such a space. These learning environments will be a part of the natural environment benefiting from the Biophilic response of being close and at one with nature.

