California Institute of Technology Master Plan

Pasadena, California, U.S.A.

For over a century, California Institute of Technology has been a worldwide leader in scientific research and technological advancement. Since its founding in 1891, the urban Pasadena campus has grown significantly over the years, expanding outside the limits of its original plan. Much of the development occurred in stages, without an appreciation for how individual projects can impact the image and functioning of the campus as a whole. The architecture and landscape fail to reflect the university's leadership in science and technology. With six major construction projects on the horizon, the university invested in the development of a sustainable master plan to guide the coordination of all future development.

To begin the planning process, the landscape architect analyzed the historical landscapes on campus. A 19th century orange grove, on the east side of campus, is a remnant from the rural agriculture landscape that once existed in Pasadena. Restoring this and other "lost landscapes" are critical to preserving and celebrating the character and authenticity of this historic place. Other identified historical landscapes include Throop Hall (1910), the Italian Cypress Allee (1917), the Rose Bowl site (1923), the Native Plant Garden (1939), and the Victory Garden (1940s).

The second layer of analysis focused on the existing natural and built features of the campus. An in-depth look at topography, plant species, and soil hydrology led the landscape architect to divide the campus into four distinct east-west microclimate zones, each characterized by a different native or historic plant palette. Identifying the boundaries of each zone will help coordinate the plant species used in future projects. By extending the same native habitat over a large area, a more robust ecosystem will encompass the campus.

Like many university campuses, CalTech dedicates a large part of its land to lawn space. This land-use is unsustainable in southern California's hot, arid climate. Grass requires constant mowing, irrigation, fertilizer, and pesticide to remain green and healthy. While some lawn space serves functional social purposes, most open lawn is unused and unnecessary. The landscape architect identified high-use or ceremonial lawn spaces that should be preserved, and proposes that all other lawns be converted to native planting areas and rain gardens. This change would enhance the ecology of campus, reduce water consumption, and significantly reduce maintenance costs.

The third layer of analysis focuses on the identification and enhancement of outdoor social spaces and pedestrian corridors. The master plan proposes that new social and recreation spaces be located close to existing high-traffic areas, making them visible and accessible to students. By encouraging recreation and informal gathering, the campus will become a place where people live, eat, work, exercise, and socialize. This socially sustainable vision of fulfilling all of a person's needs in a single place would benefit local businesses, decrease traveling time, relieve traffic congestion, and facilitate the exchange of ideas..

As the campus continues to grow and expand, new development projects will inevitably occur. The goal of the master plan is to inform and coordinate these projects to build a cohesive, sustainable campus community. In the short time since this document was published, the Annenburg IST building has been built. The project's landscape architect designed the site in accordance with the master plan, incorporating native plants, minimizing high-maintenance lawn, and creating outdoor seating areas. In time, this landscape will merge with that of surrounding buildings.

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Project Resources

LANDSCAPE ARCHITECT (MASTER PLAN)

Nelson Byrd Woltz Landscape Architects

Warren T. Byrd, Jr., FASLA, Principal in Charge
Sara Coates Myhre, Senior Project Manager
Jeffrey Aten, Staff Designer
Jocelyn Kelley, Staff Landscape Architect
Other staff contributors: Shanti Levy, Theresa Steward

LANDSCAPE ARCHITECT (REVISED MASTER PLAN AND IST BUILDING)

Office of James Burnett

LOCAL LANDSCAPE ARCHITECT

Katherine Spitz and Associates, Inc.

ARCHITECT

Cooper, Robertson & Partners