

# UC BERKELEY PHYSICAL DESIGN FRAMEWORK

2021



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# Introduction

## Purpose

The Physical Design Framework (PhDF) sets forth a vision for the physical development of the UC Berkeley campus in Berkeley and Oakland, supporting its academic and educational mission. With the Long Range Development Plan (LRDP) as a foundation, the Physical Design Framework provides an approach and design strategies to the planning and design of the campus at a more detailed, intermediate scale. Together, the LRDP, PhDF, and Campus Master Plan ensure that capital projects enhance the built environment.

The PhDF describes an approach to planning and design that will guide future projects and assist the UC Regents and UC Berkeley in reviewing capital projects pursuant to Regents Policy 8103 on Capital Project Matters. The PhDF is complemented by the Campus Master Plan's Design Guidance, which provides additional detail that builds on the PhDF's approach and strategies. The Office of Physical & Environmental Planning will draw on the LRDP, the Physical Design Framework, and the Campus Master Plan to develop project- and site-specific design guidelines for each capital project.

This document describes the campuswide principles derived from the 2021 LRDP that guide all planning and design (Introduction); describes the campus structure by zone, and how that structure informs future projects through design strategies for each zone (Chapter 1); describes the approach to the public realm, including high-level guidance for building design (Chapter 2); and describes project site selection (Chapter 3). Capital projects should be guided by the strategies and approaches included in the Physical Design Framework.

## Related Plans and Policies

### 2021 LRDP

The 2021 LRDP establishes broad principles, goals, and objectives for development for the UC Berkeley campus, and is UC Berkeley's primary document for guiding land use and development. The LRDP also outlines the capital project review and approval process. The LRDP's associated Environmental Impact Report (LRDP EIR) includes mitigation measures and continuing best practices to address potential environmental impacts from development projects.

Mitigation measures shall be implemented, where applicable, to prevent, reduce, or control capital projects' adverse environmental effects. Continuing best practices represent actions that UC Berkeley will continue to implement; they comprise regulations, applicable codes, best management practices, and UC Berkeley design standards. As applicable, mitigation measures and continuing best practices will be applied to future development projects through the life of the 2021 LRDP.

### Campus Master Plan

The Campus Master Plan provides a near- to a medium-term vision for the physical campus, based on the LRDP framework, principles, and objectives. The Campus Master Plan employs a comprehensive approach to identifying strategies and solutions that coordinate land use, landscape, mobility, and infrastructure systems, to guide investment in the built environment. The Campus Master Plan complements the Physical Design Framework, providing additional context through its "big ideas" and systems-level frameworks. It also

includes a volume comprising the Physical Design Framework and additional design guidance for projects. As projects are implemented, they will be informed by the Campus Master Plan frameworks, principles, and design guidance.

### Capital Financial Plan

The Capital Financial Plan (CFP) guides UC Berkeley's prioritization of capital investment in support of its mission, describing UC Berkeley's capital plan for the subsequent six years. Projects included in the CFP may be eligible for certain delegated approvals, pursuant to Regents Policy 8103 on Capital Project Matters. The Physical Design Framework also guides those projects.

### Other Policies and Standards

UC Berkeley and University of California (UC) system policies and standards, including UC Berkeley's Campus Design Standards and the UC Sustainable Practices Policy, provide additional guidance to capital projects. These standards include requirements and guidance on topics such as energy targets, water consumption targets, and bicycle commuter facilities. The following list includes policies and standards that should be consulted; it is subject to change and will be confirmed by the project planner.

- University of California Carbon Neutrality Initiative
- University of California Seismic Safety Policy
- University of California Sustainable Practices Policy
- UC Berkeley 2025 Carbon Neutrality Planning Framework
- UC Berkeley Strategic Plan

- UC Berkeley Campus Design Standards
- UC Berkeley Seismic Guidelines (Campus Design Standards, Appendix G)
- UC Berkeley Sustainability Plan
- UC Berkeley Campus Energy Policy
- CalGreen Building Standards Code
- California Building Code

### City of Berkeley Plans

The City of Berkeley has several adopted plans and policies that guide development in the City, including the General Plan, Downtown Area Plan, the Southside Plan, the Streets and Open Space Improvement Plan, the Bicycle Master Plan, and the Pedestrian Master Plan. While constitutionally exempt from conformance to local policies and regulations whenever using property under the university's control in furtherance of its educational purposes, UC Berkeley strives to be a positive partner in stewarding and enhancing the communities adjacent to its properties and, in its discretion, may consider aspects of local policies and regulations when appropriate and feasible.

## Physical Design Framework Goals

The following goals guide the Physical Design Framework and are derived from the LRDP.

- Steward university land in support of the educational and research mission, and create an enduring physical environment that expresses the UC Berkeley culture
- Create an active and dynamic public realm that supports the campus community and the general public, with a consistent campus image
- Build on and respect UC Berkeley's tradition of contextual planning and design, while building a cohesive campus that can adapt to new priorities over time
- Incorporate sustainability and resilience into the physical campus environment, to the greatest extent feasible

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# Campus Structure



# Campus Structure

Campus structure describes a framework within which buildings, landscape, circulation, and infrastructure can be organized effectively and efficiently. This chapter identifies important elements of campus structure for each campus zone, and provides design strategies for future development that enhance and improve the existing campus environment. The design strategies also identify opportunities to create a more cohesive campus across all campus zones through improved connectivity and wayfinding and a consistent campus image.

The design strategies described in this chapter are complemented by those included in Chapter 2, Public Realm and Chapter 3, Site Evaluation and Selection, and should be used in tandem.

## CAMPUS PARK

The Campus Park is the locus of most academic and instructional activities, and has been shaped by its natural context and successive campus master plans. The combination of context and campus master planning has produced a unique campus structure over time. Key elements of the campus structure are described below.

### Central Glade and Campanile Way Axes

The 1914 John Galen Howard plan envisioned and implemented two major axes generally running east-west across the campus: the Central Glade, and Campanile Way. These axes continue to be major elements of the physical campus's identity and overall structure. The Central Glade, a series of glades forming an east-west axis that unites Hearst Mining Circle, Memorial Glade, West Circle, and West Crescent within a single landscape area, was intended by John Galen Howard to provide views of San Francisco Bay and the Golden Gate.

The western end of the Central Glade axis, at the West Crescent, is also a key connection and gateway between the campus and Downtown Berkeley. The Campanile Way axis runs westward from Sather Tower towards downtown Berkeley. This axis is defined primarily by buildings rather than landscape, including Doe Memorial Library, South Hall, Dwinelle Hall, and Valley Life Sciences Building.

## Classical Core

While the campus does not have a single architectural vocabulary, it has many distinctive buildings, including the beaux-arts buildings set in a picturesque landscape, known as the Classical Core. The classical symmetry of these buildings, and their common palette of granite facades, tile roofs, and copper trim, unite buildings within this area of the campus. UC Berkeley has introduced contemporary buildings into the Classical Core, including the C.V. Starr East Asian Library, Campbell Hall, and Evans Hall. Context-sensitive buildings such as the East Asian Library and Campbell Hall reflect more successful additions to the Classical Core. *Reference the Landscape Heritage Plan for more information about the Classical Core.*

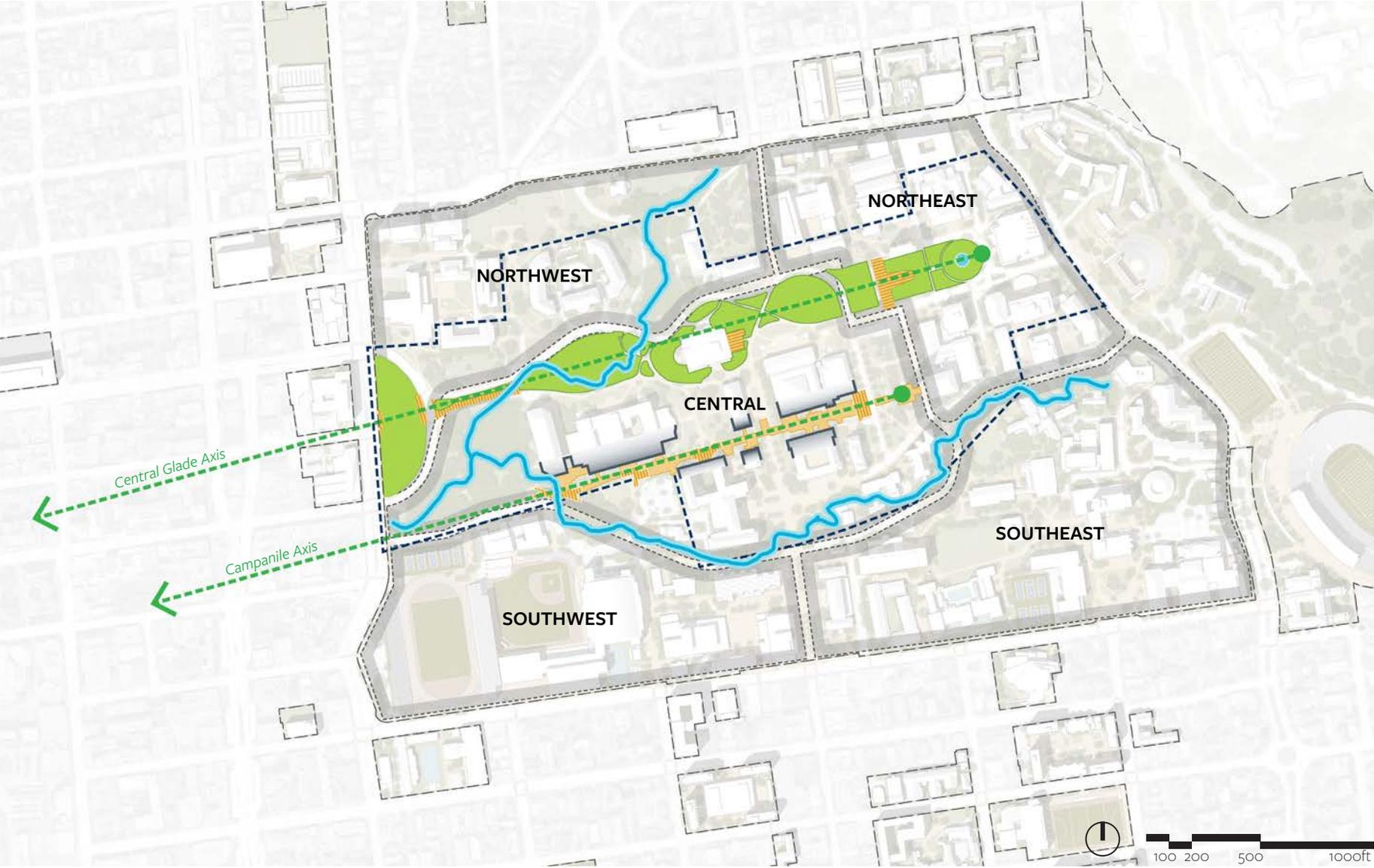
## Strawberry Creek

Strawberry Creek is an organizing element for the campus, and is a natural resource to the campus community and visitors. It provides a naturalistic counterpoint to the urban grids and axes defined by the John Galen Howard Plan and the City context. The majority of Strawberry Creek is daylight on campus, traveling through culverts only in the vicinity of the West Circle and as the creek crosses from the Hill Campus West to the Campus Park.

The physical campus's image is also shaped by picturesque buildings located along Strawberry Creek, such as the Faculty Club, Senior Hall, Women's Faculty

**FIGURE 1.1: Campus Park Structure**

- ←--- Campus axis
- Central Glade
- Campanile Way
- Plaza or courtyard
- Strawberry Creek
- Classical Core boundary
- Campus Park programmatic neighborhood
- Existing campus building



Club, Anthony Hall, and Moses Hall, which provide a more intimately-scaled experience in keeping with the creek's character. In contrast to the formality of the classical core, these buildings respond to the creek's winding alignment, establishing an experience of discovery and immersion in the natural environment.

### **Programmatic Neighborhoods**

The Campus Park has a number of distinct programmatic neighborhoods that have developed over time -- academic neighborhoods such as the northeast area of the campus, where most College of Engineering and College of Chemistry facilities are located, and student life neighborhoods such as the area around Sproul Plaza, MLK Student Union, and Eshleman Hall. These neighborhoods represent successive decades of investment and physical planning.

## **Campus Park Design Strategies**

The following strategies describe the desired approach to campus structure in the Campus Park.

### **Strategy CP-1: Reinforce and enhance the Campus Park's unique structure**

- Maintain the overall structure of the Campus Park by concentrating development at the outer areas of the Campus Park, with strategic redevelopment and renovation in the Classical Core and along Strawberry Creek
- Invest in existing programmatic neighborhoods, and establish interdisciplinary facilities and circulation infrastructure to connect them across the campus
- Maintain an appropriate balance between buildings and open space, particularly in areas of significant density, and strive to reduce impervious surface area
- At the edges of the Campus Park, respond to the adjacent urban fabric and context through consideration of site planning, massing, and mobility
- Maintain important viewsheds that contribute to campus structure and wayfinding

### **Strategy CP-2: Renew the Central Glade and the Classical Core**

- Employ strategic redevelopment in the Classical Core; new buildings should enhance and contribute to framing the Central Glade and other key elements of the context
- Renew the Central Glade as the primary open space, as a series of glades and gathering spaces with distinct identities that are united by pedestrian connections and important view corridors

### **Strategy CP-3: Cultivate Strawberry Creek as a counterpoint to the Classical Core**

- Maintain the Strawberry Creek riparian area as a natural resource and open space, and enhance its connection to adjacent campus open spaces and buildings and walkways
- Maintain the human-scaled character, craftsmanship, and discovery experience of buildings located in proximity to Strawberry Creek
- For new development, maintain an appropriate setback from Strawberry Creek to preserve the riparian habitat and potential subsurface cultural resources



*Image Credit: Nick Crain and Rachel Balmy*

## HILL CAMPUS WEST

The Hill Campus West comprises 50 acres, and extends east of the Campus Park from Gayley Road and Piedmont Avenue. It is home to student housing, the Greek Theatre, and sports and recreation facilities including the Maxwell Family Field, California Memorial Stadium, and the Strawberry Canyon Recreation Area. The Hill Campus West is defined by steep topography and by the Gayley Road streetscape. The southern segment of Gayley Road, also known as Piedmont Avenue, was designed by Frederick Law Olmsted and is a City of Berkeley landmark and state historic resource.

### Hill Campus West Design Strategies

The following strategies describe the desired approach to campus structure in the Hill Campus West.

#### Strategy HCW-1: Create a welcoming public realm that prioritizes the pedestrian experience and campus connectivity

- Enhance the Gayley Road/Piedmont Avenue corridor as a multi-modal street that prioritizes pedestrian and bicycle safety and active ground-floor uses
- Improve accessibility throughout the zone to the greatest extent feasible, through site improvements and buildings
- Improve pedestrian and bicycle accommodation along Centennial Drive, particularly adjacent to active public-facing uses such as spectator venues
- Foster and strengthen connectivity to other campus zones, particularly to the Campus Park

#### Strategy HCW-2: Integrate sustainability and resilience throughout the zone

- Site new facilities to minimize wildfire hazard and seismic risk
- Implement energy resilience and stormwater management improvements that would benefit both the Hill Campus West and the campus as a whole

#### Strategy HCW-3: Steward the character of important sites

- Maintain an appropriate landscape buffer around the Greek Theatre structures and lawn to preserve the character of the site
- Transition gracefully between the Hill Campus West and Hill Campus East, from a mostly developed context on the western side of the Hill Campus West to a mostly natural environment on the eastern side of the Hill Campus West
- Enhance the character of the Gayley Road/Piedmont Avenue corridor, particularly when redeveloping university sites within the corridor

## HILL CAMPUS EAST

The 750-acre Hill Campus East extends east from the eastern boundary of the Hill Campus West to the eastern boundary of the university's property, generally defined as Grizzly Peak Boulevard. The Hill Campus East comprises mostly natural open space, including Strawberry Creek's headwaters, and undeveloped areas characterized by steep, rugged, and forested terrain. The Hill Campus East provides wildlife habitat value, and existing fire roads extend through the area to provide emergency access. Development in the Hill

Campus East is located primarily along Centennial Drive, and includes the Botanical Garden, Lawrence Hall of Science, and research facilities.

### Hill Campus East Design Strategies

The following strategies describe the desired approach to campus structure in the Hill Campus East.

#### Strategy HCE-1: Accommodate program needs in existing developed areas

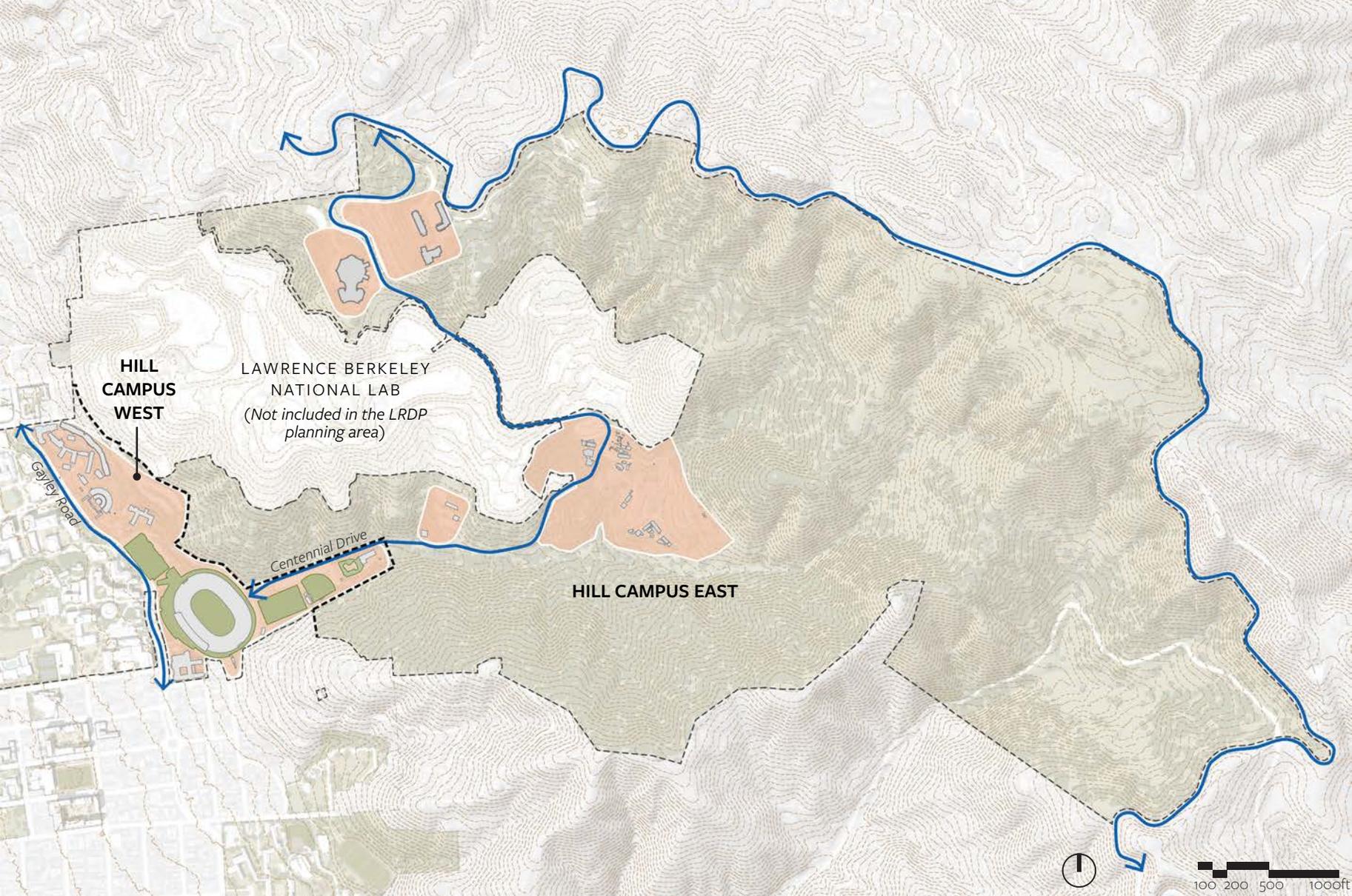
- Maintain the majority of the Hill Campus East as a managed open space, and accommodate program needs in locations that complement clusters of existing facilities, to the extent feasible
- Site new facilities to minimize wildfire hazard and maintain existing evacuation routes

#### Strategy HCE-2: Prioritize sustainability and resilience throughout the zone

- Support the implementation of the Hill Campus Wildland Vegetative Fuel Management Plan to reduce wildfire risk
- Maintain appropriate defensible space around new and existing structures and infrastructure, and enhance evacuation routes and emergency vehicle access, including along Jordan Fire Trail, Centennial Drive, and Claremont Avenue
- Consider opportunities to enhance energy resilience in the Hill Campus East, that benefit the campus as a whole
- Support the use of the Hill Campus East as a living laboratory for research, coordinated through the Vice Chancellor for Research

**FIGURE 1.2: Hill Campus West and Hill Campus East Structure**

- ← Major vehicular route
- - - Topography line (5')
- - - UC Berkeley boundary
- Existing programmatic zone
- Existing campus building
- Existing outdoor facility



## CITY ENVIRONS

UC Berkeley also has properties located within the City Environs zone, which comprise approximately 70 acres of land situated within City of Berkeley neighborhoods. Most of these properties are within walking distance to the Campus Park. Where university properties in the City Environs are immediately adjacent to the Campus Park, they typically function as extensions of the Campus Park.

University properties in the Northside and Downtown Berkeley areas include multiple critical academic and research facilities directly adjacent to the Campus Park, including the Goldman School of Public Policy and College of Engineering buildings in the Northside and the School of Public Health and Graduate School of Education in Downtown Berkeley. UC Berkeley has, over time, located administrative functions in the City Environs to allow academic uses to be clustered on the Campus Park.

University properties in the Southside area, including student residential facilities, student service functions, and other support facilities, comprise the majority of UC Berkeley properties in the City Environs, and are mostly located within a few blocks from the Campus Park. University properties in the Southside neighborhood have traditionally been focused on the undergraduate experience, and are supported by the Telegraph Avenue Business District, which bisects the neighborhood with an important commercial corridor.

University properties in the City Environs contribute to the urban fabric and character of the neighborhoods surrounding the Campus Park. Facilities in these areas – particularly Downtown Berkeley – benefit from proximity to public transit.

## City Environs Design Strategies

The following strategies describe the desired approach to campus structure in the City Environs.

### Strategy CE-1: Maintain a consistent campus image across all campus sites

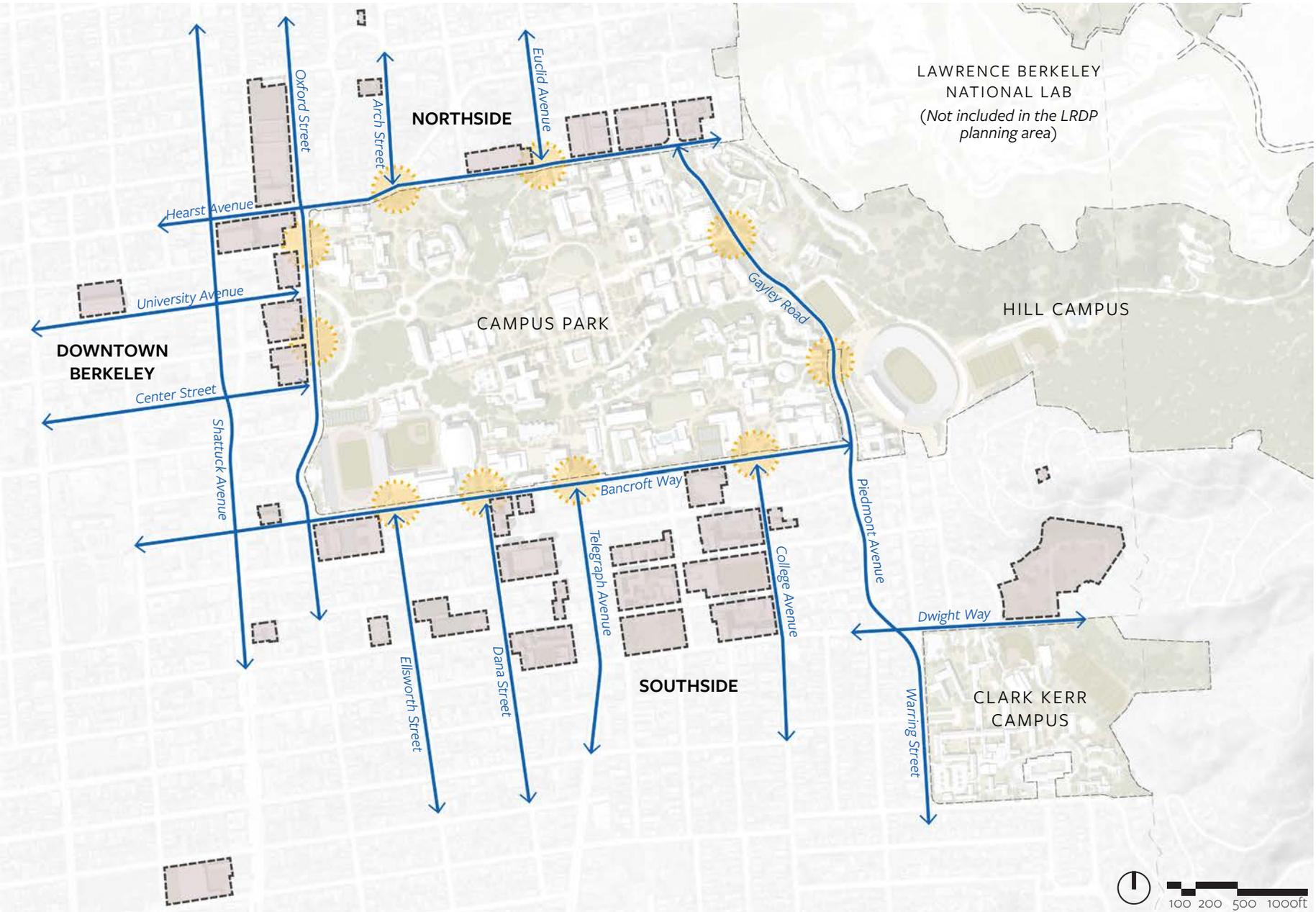
- Develop a consistent campus image and character through capital projects' public realm elements, such as building aesthetics, landscape and open space, and other site improvements

### Strategy CE-2: Respond to surrounding context and consider new facilities within the context of the campus as a whole

- Complement and contribute to the character of the existing context and public realm to the greatest extent feasible, while accommodating university program needs
- Acknowledge and consider the City of Berkeley's adopted plans, design guidelines, and other regulatory context for development in the City Environs, to the greatest extent feasible
- Strengthen overall campus cohesiveness by improving physical and programmatic connectivity between individual sites in the City Environs and the Campus Park

FIGURE 1.3: City Environs Structure

- Major vehicular route
- Campus gateway
- UC Berkeley boundary



## CLARK KERR CAMPUS

The university acquired the 45-acre Clark Kerr Campus in 1982. Originally the site of the California School for the Deaf and the Blind, it is a City of Berkeley landmark and is listed on the National Register of Historic Places. The district's significance is based on its setting within the context of the development of the Bay Area; its history as a state educational institution; and its unified architectural style reflecting California architecture of the 1920s.

The Clark Kerr Campus is located approximately one-half mile southeast of the Campus Park, and is bounded by Warring Street to the west, Dwight Way to the north, Derby Street to the south, and the Claremont Canyon Regional Preserve to the east. It comprises student and faculty housing, a conference center, childcare facilities, and indoor and outdoor intercollegiate athletics and recreation facilities. Residential neighborhoods surround the Clark Kerr Campus to the north, south, and west.

The Clark Kerr Campus is distinguished by buildings that frame a series of forecourts and courtyards, as a formal composition. Many of the campus's 26 Mission Revival buildings, dating from the 1920s through the 1950s, are organized around formal landscaped courtyards. Campus buildings also frame walkways and view corridors. Most buildings have loggias that emphasize these elements of the campus structure and create a human-scaled environment.

The campus is enclosed by a stone wall along its northern, western, and southern boundaries, which contributes to the visual appearance of the campus from the surrounding neighborhood. The campus generally progresses from a more formal appearance at the campus edges, to informal areas of activities in the interior open spaces. Pedestrians typically approach the Clark Kerr Campus from Piedmont Avenue or Dwight Way, entering the campus along Warring Street at Parker Street, or Dwight Way at Sports Lane.

## Clark Kerr Campus Design Strategies

The following strategies describe the approach to development at the Clark Kerr Campus:

### Strategy CKC-1: Respect and respond to existing development patterns and enhance the campus's visual appearance

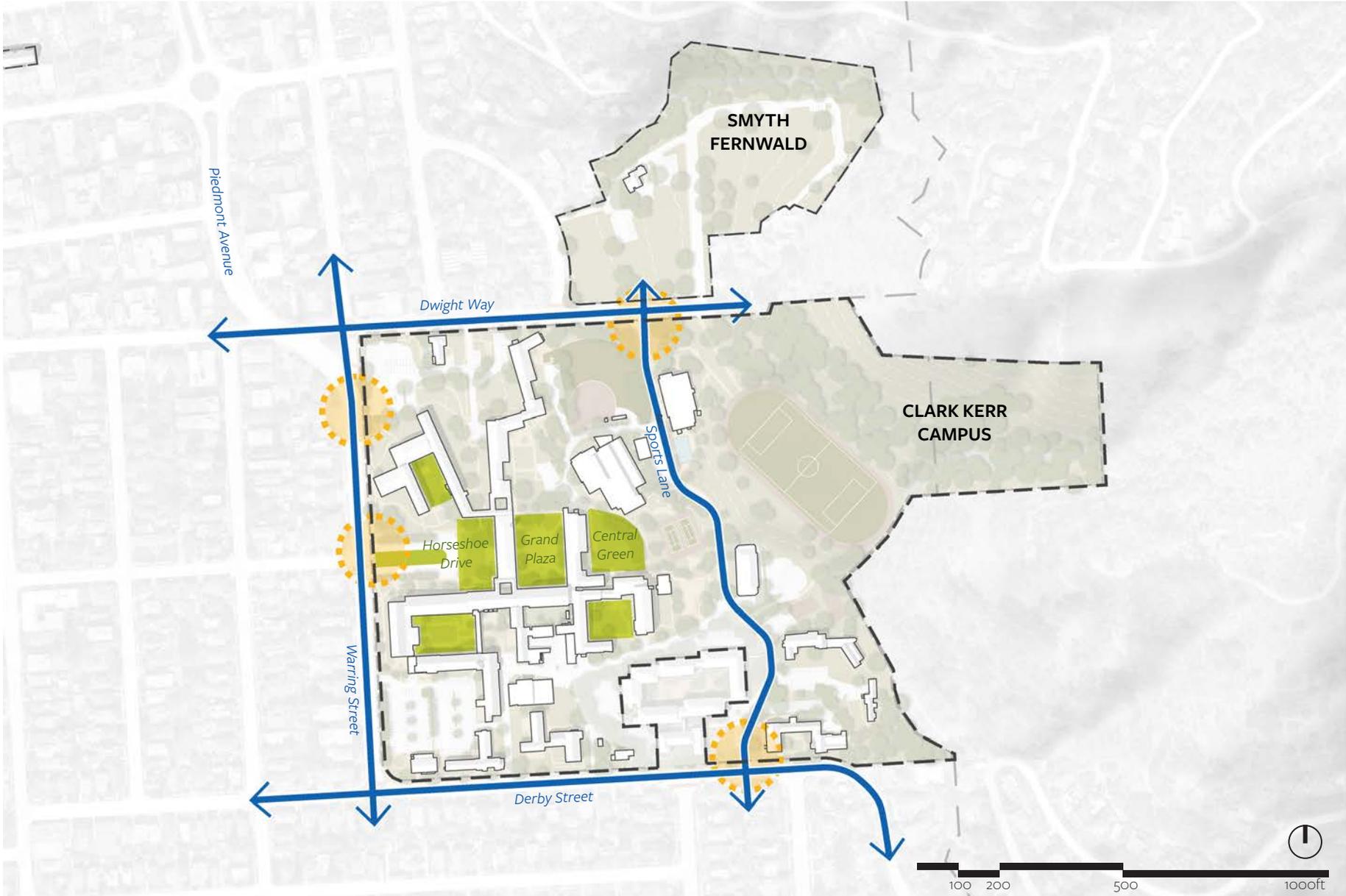
- Complement how the Clark Kerr Campus's buildings frame and enclose landscape spaces, and the emphasis on human-scaled environments
- Strive to reduce impervious surface area and incorporate stormwater management strategies in new and existing open spaces

### Strategy CKC-2: Plan new facilities to foster a dynamic and active community that is connected to the campus as a whole

- Enhance connectivity between the Campus Park and the Clark Kerr Campus through the addition of new pedestrian pathways and gateways, and other site and mobility improvements
- Strengthen pedestrian and programmatic connectivity within the Clark Kerr Campus, and prioritize pedestrian and bicycle circulation
- Renew and complement housing and athletics and recreation facilities, in support of the campus community, the residential community, and the public

FIGURE 1.4: Clark Kerr Campus Structure

- Major vehicular route
- Campus gateway
- UC Berkeley boundary
- Existing campus building
- Campus open space



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# Public Realm



# Public Realm

The public realm includes all spaces and physical elements generally accessible to everyone, such as streets and sidewalks, open spaces, active ground floor uses, and campus buildings' appearance. These elements define the image of the campus, and how people experience the campus as students, faculty, staff, and visitors. This chapter describes the approach and strategies that should be used to design the public realm for campus properties, in concert with the guidance provided in Chapter 1, Campus Structure.

## BUILDINGS

Buildings shape the public realm in the way that they are sited, how they support and create views of the campus, how they are related to adjacent landscapes and open spaces, and how they accommodate campus functions.

The UC Berkeley campus has evolved since its establishment in 1868 to accommodate a wide range of buildings that reflect both the UC Berkeley image, and local, state and national architectural styles and movements. As such, the campus does not have a single architectural vocabulary, as some college campuses do. The existing context of both the campus and the surrounding neighborhoods, including many notable buildings, provides a rich basis upon which future development can build. Buildings that are less notable are, in some cases, identified in the LRDP as opportunities for redevelopment that could improve and reinforce the campus structure and public realm.

According to the LRDP, the campus would also accommodate growth primarily through redevelopment of existing sites, necessitating greater density than currently exists. The human scale at the pedestrian level is an important consideration, even as program needs necessitate taller campus buildings.

Buildings also represent a significant opportunity to improve the campus's sustainability and resilience. Building projects are already required to follow requirements set out in the UC Sustainable Practices Policy. However, with the acceleration of climate change impacts, additional opportunities to incorporate sustainability and resilience into campus buildings should be considered.

## Building Design Strategies

The following strategies describe the desired approach to the design of campus buildings, as they relate to their context and the campus as a whole.

### Strategy B-1: Embrace contextual design that complements and expands the campus's heritage character, structure, and urban fabric

- Respond to adjacent historic context, and balance historic stewardship with new palettes of architectural and landscape expression that enhance and complement the campus's character and heritage
- Respect the surrounding context through the transition of building height and massing; and through consideration of the styles, color, and materials of adjacent buildings and/or urban fabric
- Design buildings to incorporate site conditions such as topography, adjacent active uses, and adjacent public realm amenities or needs
- Site buildings within their context to minimize shade and wind impacts on adjacent open spaces and buildings, and to optimize solar orientation
- Consider how buildings will shape and contribute positively to important view corridors, through building massing, materials, and other elements

### Strategy B-2: Create healthy, human-scaled environments

- Design healthy buildings that embrace passive design and sustainability to the greatest extent feasible, including but not limited to strategies



Image Credit: Keegan Houser

such as maximizing access to natural light, operable windows, minimizing solar heat gain, and minimizing reflective glass that can contribute to bird strikes and other adverse environmental conditions

- Modulate massing, material, and color to create a human-scaled public realm that minimizes the appearance of building bulk and mass and avoids visual clutter

### **Strategy B-3: Optimize long-term building efficiency and durability**

- Maximize the building efficiency ratio, while accommodating programmatic needs and providing appropriate space for community and collaboration
- Use durable building materials and systems that minimize long-term maintenance operations and costs, while contributing positively to campus character and sustainability goals
- Incorporate strategies to reduce wildfire risk in building design, in addition to code-required materials and design details

## **ACTIVE EDGES**

Campus edges, comprising buildings and landscape located at the campus's boundaries within a parcel or a campus zone, define the interface and integration between the campus and its surroundings. Campus edges mediate the transition between UC Berkeley and non-UC Berkeley properties, and help unify UC Berkeley properties with a consistent image and appearance. Active uses, when located at campus edges, can support adjacent uses and activate the public realm. Active

uses include uses that promote activity and movement throughout the majority of the day, such as classrooms, study space, student support functions, lounges, labs, cafes, and other retail uses.

Existing campus edges are most continuous in the Campus Park, the Hill Campus West, and the Clark Kerr Campus, while university properties in the City Environs are generally more integrated into the surrounding urban fabric. Active edges are most desirable where non-UC Berkeley uses are complementary, such as the western edge of the Campus Park, which is adjacent to Downtown Berkeley, or City Environs properties in the Southside that are located along major corridors such as Telegraph Avenue.

## **Active Edge Design Strategies**

The following strategies describe the desired approach to the design of active edges.

### **Strategy AE-1: Create active and welcoming campus edges**

- Maximize active uses at campus edges where appropriate, to create a dynamic public realm that brings people together, supports campus and public-facing uses, and improves public safety
- Welcome the campus community and visitors at campus gateways that are clearly defined and reinforced through program uses, open space, mobility systems, and signage

### **Strategy AE-2: Develop a consistent campus image, integrated with wayfinding elements**

- Convey the UC Berkeley campus experience and image through open space, land use, signage, and other site elements as appropriate
- Prioritize pedestrian and bicycle circulation and access to and within campus
- Create a consistent campus edge through building massing, appearance, setbacks, and other strategies as appropriate

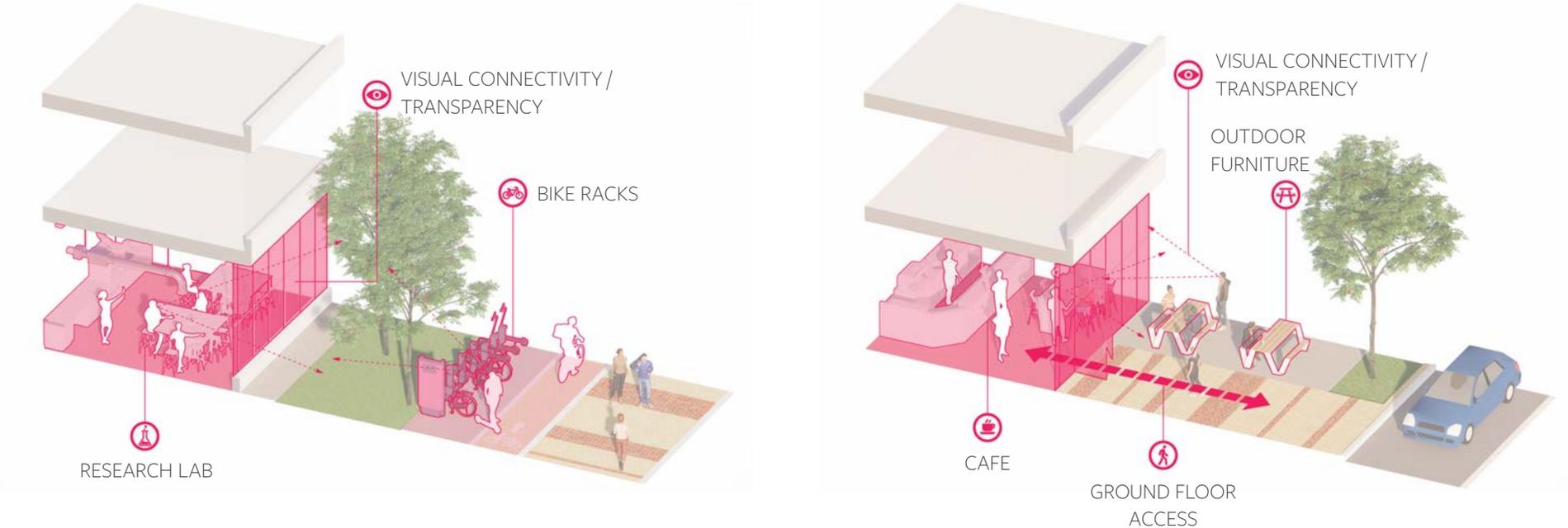
### **Strategy AE-3: Respect and respond to the adjacent context**

- Respond to adjacent context for development at campus edges, with particular consideration of the threshold between City of Berkeley and university properties

## **LANDSCAPE AND OPEN SPACE**

The campus landscape is a signature element of the UC Berkeley campus, and imparts much of its character and image. As such, it is an essential element of the public realm. The campus's heritage landscape reflects cumulative decades of past plans and improvement; open spaces such as the Central Glade act as an organizing element of the campus, and provide environments for gathering, contemplation, and relaxation. Landscapes and open spaces are diverse in quality and character, providing a wide variety of experiences for the campus community and visitors,

**FIGURE 2.1: Examples of Active Edge Conditions**



from more secluded natural settings, to lawn areas popular for gathering. As sites are redeveloped with a higher intensity of use, open space relief will become increasingly important, and the campus should maintain current proportions of open space to built space. Campus landscapes and open spaces must adapt to the changing climate. Droughts may be extended, and storm and flooding intensity are expected to increase; campus landscapes must be resilient in responding to these conditions. Campus water conservation targets continue to necessitate consideration of the campus planting palette relative to irrigation demands, and water reuse strategies may offer opportunities to further reduce water consumption.

## Landscape and Open Space Design Strategies

The following strategies describe the desired approach to the design of campus landscapes and open spaces.

### Strategy L-1: Maintain and enhance the campus's iconic image and structure

- Preserve important views, natural areas, and open spaces within the Campus Park and at the Clark Kerr Campus
- Communicate a consistent campus image that contributes to the public realm through the use of consistent signage, artwork, street furniture, paving, landscape, and other site improvements.
- Design open spaces to serve their immediate surroundings, and the campus as a whole
- Minimize visual clutter within campus landscapes and open spaces

### Strategy L-2: Design open spaces that promote gathering and interaction

- Create open spaces that enhance physical and visual indoor-outdoor connections between buildings and landscapes
- Consider design strategies that reflect the diversity of the campus community, through programmatic functions, character, and site improvements
- Design campus landscapes and open spaces to activate the public realm, and to respect and complement the character of the surrounding urban fabric
- Scale open spaces in proportion to surrounding buildings, and to a given open space's planned uses and level of activity
- Design campus landscapes to accommodate multiple uses, to maximize interaction and activity, and to create safe public spaces

### Strategy L-3: Create landscapes and open spaces that reflect UC Berkeley's sustainability, ecology, and resilience goals

- Prioritize the use of drought-resistant and native plantings in campus landscapes and open spaces, balanced by consideration of maintenance operations and defensible space requirements
- Design landscapes that minimize irrigation demands and embrace water reuse and stormwater management strategies, to the greatest extent feasible, balanced by consideration of maintenance operations
- Preserve mature trees to the greatest extent feasible, and when removal of mature trees is

necessary, utilize the UC Berkeley Specimen Tree Policy for guidance on tree replacement

## MOBILITY SYSTEMS

The UC Berkeley campus relies on a robust mobility system serving pedestrians, bicycles, campus shuttles, public transit, fleet services, and parking facilities, to support an engaged and active on-campus academic experience. The campus experience can be defined by the ease or difficulty of using these mobility systems; how campus mobility systems are integrated with land use, open spaces, and infrastructure; and how they coordinate with regional transportation systems. Campus mobility systems depend on connectivity and coordination with the City of Berkeley and regional transportation systems (e.g., AC Transit, BART) and other transportation services (e.g., bike share, TNCs). Transportation emissions account for a significant portion of the State's carbon footprint, and the campus has committed to reducing its Scope 3 emissions by 2050.

The UC Berkeley campus is primarily a pedestrian and bicycle environment, and these modes of travel should be prioritized throughout the campus. Reducing conflicts between modes and improving pedestrian and bicycle safety is also a priority, although service, emergency, and accessible vehicle access are still necessary in certain locations. Many existing pathways have limited widths to accommodate pedestrian and bicycle flows at peak times, and campus topography can be challenging for bicycles and people with disabilities.

The future of mobility is still emerging, and current and future mobility improvements will have to consider

accommodation of future modes, to the extent that they can be predicted. Increased use of electric vehicles is expected, and UC and UC Berkeley sustainability and carbon neutrality goals may impact transportation choices in the future, for commuters and fleet vehicles.

## Mobility System Design Strategies

The following strategies describe the desired approach to the design of mobility systems, and how they should be coordinated with other physical systems in the public realm.

### Strategy MS-1: Create active, human-scaled, and inclusive pathways and streetscapes

- Design mobility systems to create active, human-scaled, and safe streetscapes that connect seamlessly with buildings and landscape, and that prioritize pedestrians and bicycles
- Enhance campus wayfinding through the improvement of campus signage and gateways
- Contribute to exterior access and circulation improvements that would be affected by the project and that support access to the project site, to the greatest extent feasible
- Improve accessibility through pedestrian circulation improvements, employing strategies such as universal design to address steep terrain
- Design sidewalks and pathways for anticipated levels of pedestrian activity, taking into account adjacent buildings and open spaces and campuswide circulation systems
- Coordinate pathways and streetscapes with clearly defined building entrances, maintaining clear visual

connections between destinations and pedestrian routes

- Screen parking, service and other back of house infrastructure appropriately, and make it integral to the overall design of the building and/or open space

### Strategy MS-2: Support sustainable transportation modes

- Provide appropriate support facilities for commuters to the project site, including bicycle storage facilities and locker room facilities for bicycle commuters
- Co-locate transportation facilities to efficiently provide services, improve campus connectivity, and encourage campus affiliates and visitors to walk, bicycle, or use BearTransit or LOOP shuttles to get around campus
- Minimize and relocate surface parking and on-street parking to improve pedestrian and bicycle safety, reduce potential stormwater runoff, and support land use goals
- Locate service and accessible parking to avoid conflicts with priority modes of transportation

### Strategy MS-3: Optimize the campus's physical resources and plan for future adaptability

- Integrate mobility systems with infrastructure where possible, such as underground infrastructure distribution systems (e.g. electrical distribution lines, conduit, steam tunnels) and stormwater management functions
- Manage curb space to prioritize use by key campus mobility functions (service and emergency access,

accommodations for people with disabilities) and by sustainable modes of transportation

- Design mobility improvements to support future adaptation of mobility systems and facilities to the extent feasible, balanced with consideration of current and future program needs and costs

### Strategy MS-4: Support regional transportation needs

- Plan on-campus mobility networks to connect seamlessly with City of Berkeley mobility networks
- Where UC Berkeley properties and a given project connect to City of Berkeley mobility systems, consider the City of Berkeley's adopted plans, design guidelines, and regulatory context for mobility improvements when planning new streetscapes, to the greatest extent feasible
- Design parking facilities to meet programmatic functions and need, and to respond to the character of the surrounding area

## INFRASTRUCTURE, RESILIENCE, AND EMERGENCY SYSTEMS

UC Berkeley's academic and research activities are supported by campus infrastructure systems, including energy, water, stormwater, sanitary sewer, and telecom systems. These systems are critical for maintaining campus operations, and regular investment is needed to maintain and improve them. They must also support the campus during potential environmental stresses, including wildfire, drought, earthquakes, and other hazards.

Most infrastructure systems are invisible elements of the public realm, such as underground utilities or rooftop equipment. However, some infrastructure systems are visible throughout the campus, such as the cogeneration plant, bioswales that manage stormwater runoff, and electrical substations.

As investment occurs, infrastructure systems should be designed to support UC Berkeley's academic and educational mission and respond to climate change and the need for sustainable and resilient infrastructure.

## **Infrastructure, Resilience, and Emergency System Design Strategies**

The following strategies describe the desired approach to the design of infrastructure systems related to placemaking and the design of the public realm. The UC Sustainable Practices Policy, UC Berkeley Campus Design Standards, UC Berkeley Sustainability Plan, UC Berkeley Campus Energy Policy, and relevant codes guide infrastructure systems' engineering and technical design.

### **Strategy IRES-1: Coordinate infrastructure systems with other physical systems within the public realm**

- For significant above-ground infrastructure facilities, showcase renewable and sustainable infrastructure systems by making key elements visible, while screening other elements as appropriate
- Integrate infrastructure systems with open space and mobility systems as appropriate, to efficiently provide necessary functionality and to facilitate maintenance operations

### **Strategy IRES-2: Design for sustainability and resilience**

- Provide infrastructure systems that incorporate redundancy and resilience, to the extent feasible
- Design resilient campuswide and building-level infrastructure systems that can adapt to emergencies and hazards
- Prioritize the use of sustainable infrastructure to the greatest extent feasible, such as renewable energy systems and stormwater management features
- Provide opportunities to utilize the physical campus as a living laboratory for sustainability and resilience initiatives to the extent feasible, to advance UC Berkeley's research and education mission and inform the public



Image Credit: Keegan Houser

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# Site Evaluation and Selection



# Site Evaluation and Selection

Physical & Environmental Planning and the Campus Architect support the site evaluation and selection process. The evaluation of sites is conducted during the project concept phase and identifies potential development sites and programmatic solutions for a proposed capital project within the context of the Campus Master Plan and LRDP.

Proposed land uses should be consistent with the LRDP's land uses and objectives for the appropriate campus zone. Special consideration should be given to aligning program goals with site development capacities – ensuring the highest and best use of the campus's limited development sites, in accordance with the LRDP – and to making efficient use of limited capital resources.

Other key considerations that should inform recommended site options include landscape, mobility, and infrastructure issues and opportunities identified in the LRDP and Campus Master Plan, and technical assessments such as massing studies, surge space planning, enabling projects, utilities context, and cost. The site evaluation process should include project proponents and other campus stakeholders as well as

the Campus Architect and Physical & Environmental Planning, to ensure that campuswide needs are considered within the context of any particular project.

As part of the site evaluation process, the campus planner would develop preliminary site development guidelines to identify potential sites, based on the requirements of the proposed program, existing conditions at the potential site(s), considerations from the LRDP and Campus Master Plan, and other ongoing planning initiatives including but not limited to transportation, landscape, water, and sustainability improvements. The guidelines should also identify necessary enabling projects to ensure that project costs account for all required project actions prior to proceeding through the project design and final approval processes.



Image Credit: Elena Zhukova



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