



Some landscapes connect destinations.
The best become destinations themselves.

INVITATIONS TO STAY

Reimagining Social
and Ecological Life
at Caltech





table of contents

Project Overview	3–7
Site Analysis	8–18
Research + Goals	19–24
Program + Design Development	25–29
Design Proposal	30–48
Project Outcomes	49–54
Personal Statement	55
Acknowledgements	56
Credits + Citations	57–59

IT ALL
STARTED
WITH A FEW
CHAIRS...



During a student welcome weekend, Adirondack chairs appeared across campus and immediately transformed areas once used primarily for passing through into places to sit, gather, and stay. Even when empty, they suggested occupation and the possibility of return.

It was a small intervention, but it changed how these spaces were understood and used. That observation became the starting point for a much larger question.



project statement:

This project explores how campus landscapes can **move beyond spaces designed primarily for circulation, institutional image, and maintenance** efficiency to become invitations to stay—**places that invite people to linger, connect, and discover, and native plants and wildlife to return and thrive.**

At Caltech's western gateway, underused open space is reimagined as a connected social and ecological landscape rooted in the character of Caltech and Southern California.

the space between the laboratory and the next great idea

Caltech brings extraordinary ambition to research and inquiry, tackling fundamental scientific questions and pressing societal challenges. Its culture encourages people and disciplines to cross paths, creating opportunities for collaboration, chance encounters, and unexpected discovery.

The landscape deserves that same ambition. It can support campus life, provide space for respite and inspiration, and engage people with the living systems of Southern California.

CALTECH'S MISSION:

“...to expand human knowledge and benefit society through research integrated with education.”



epicenter:
pasadena, ca



Campus Stats

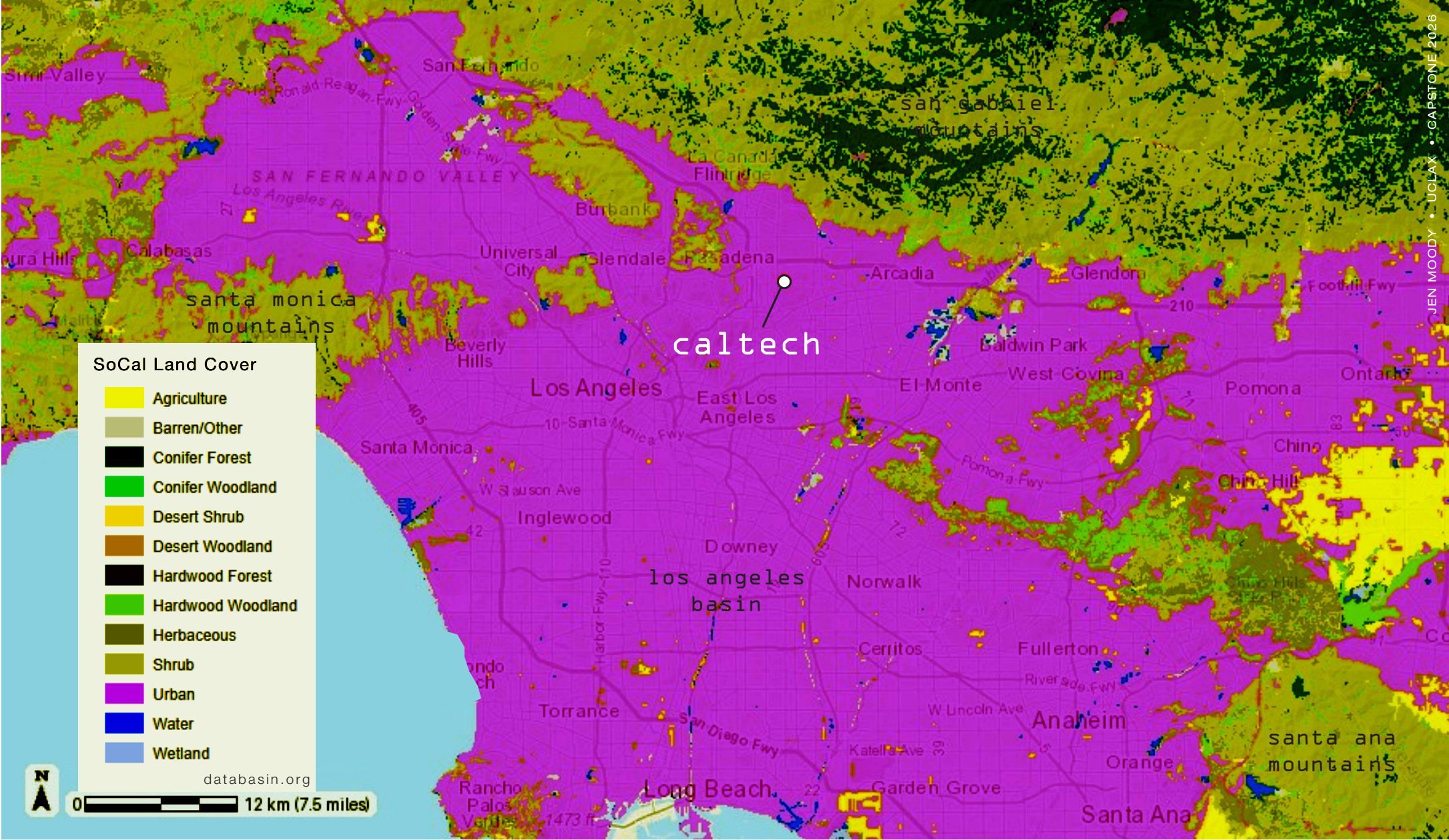
Founded: 1891
Campus Size: 124 acres
Students: ~2,400

Located in Pasadena at the base of the San Gabriel Mountains, Caltech’s compact campus is shaped as much by its Southern California setting as by the people, research, and discovery within it.

biodiversity hotspot

The Amazon rainforest and Great Barrier Reef are known for extraordinary biodiversity. **Southern California belongs in that conversation.** It is part of one of the world’s 36 biodiversity hotspots, with species found nowhere else on Earth.

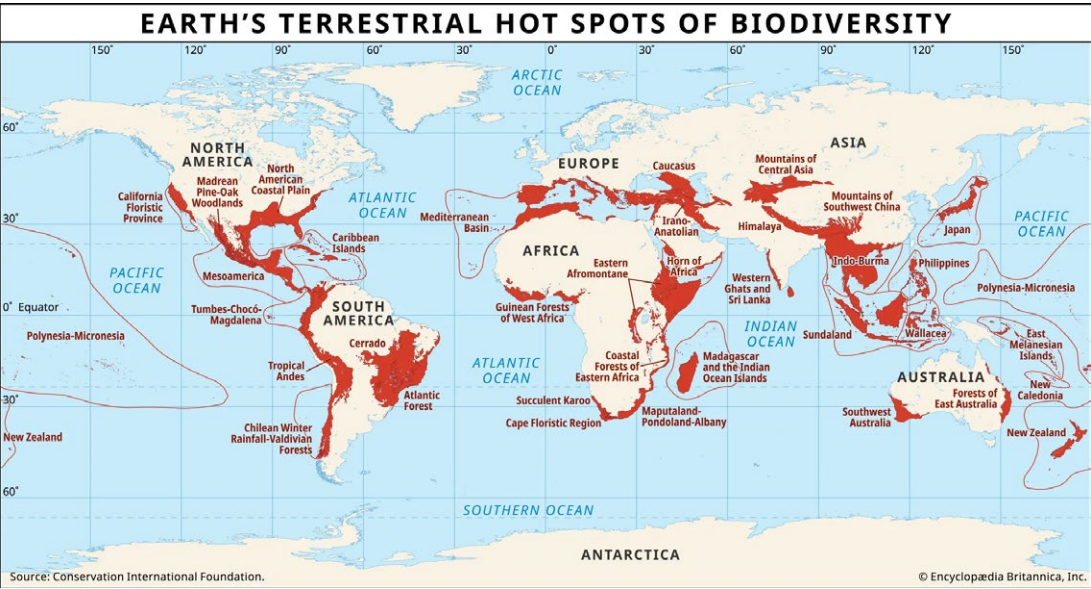
As habitat disappears, every landscape matters. **At Caltech, land stewarded for generations offers an opportunity to provide lasting habitat for native species while bringing the biodiversity studied through its research into the campus landscape itself.**



Acorn woodpeckers, already present at the Caltech campus, are closely tied to California oak ecosystems and mature urban canopy.



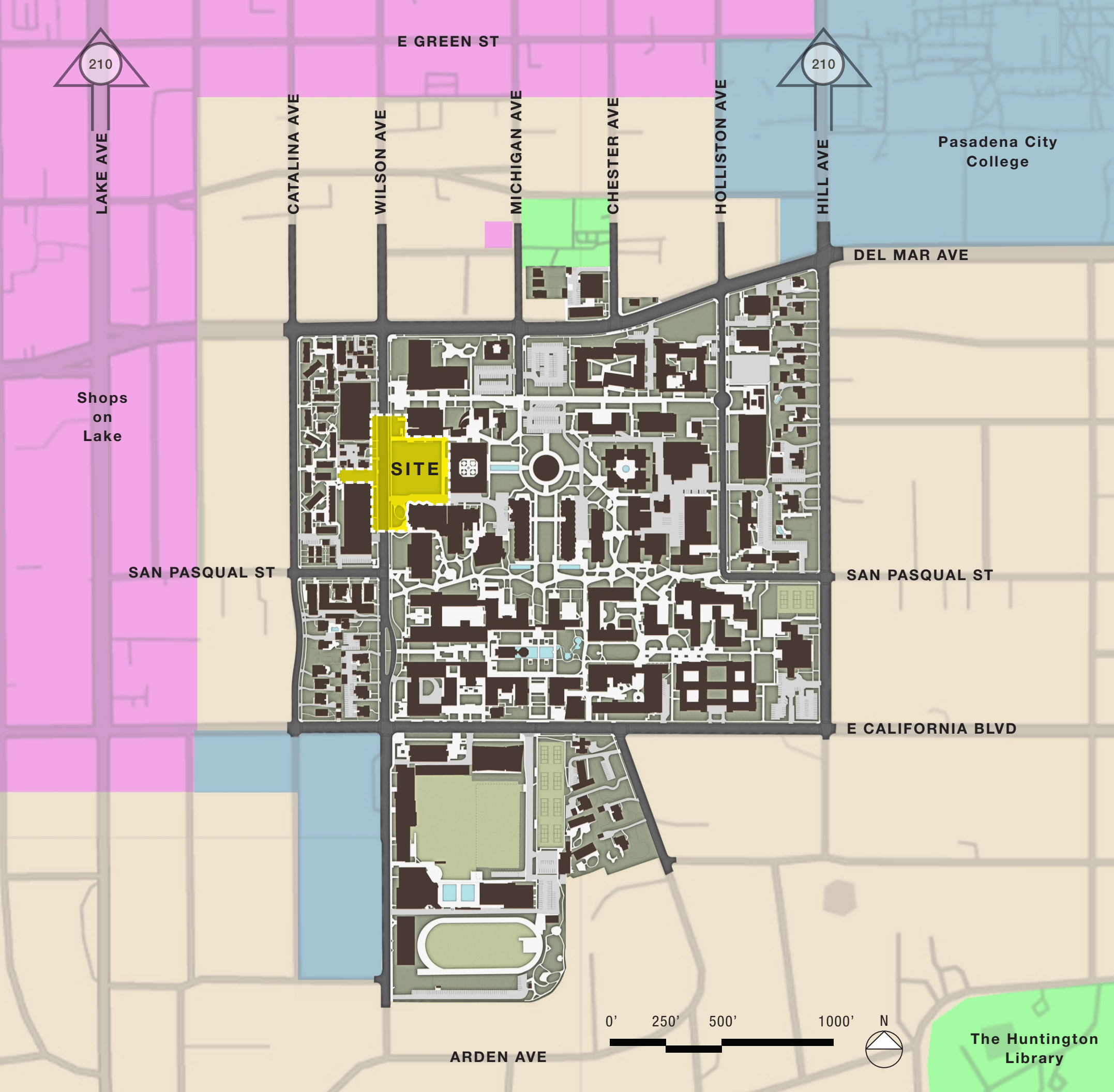
The San Gabriel Mountains rise above the Los Angeles Basin, where one of the world’s richest ecological regions now intersects with one of its largest urbanized landscapes.



Global biodiversity hotspots are shown in red. While occupying just 2.5 percent of Earth’s land surface, these regions support more than half of the world’s endemic plant species and nearly 43 percent of endemic terrestrial vertebrates.



Species such as the Bernardino blue butterfly depend on regionally adapted plant communities.



caltech in context

Caltech is woven into Pasadena's surrounding neighborhoods, between major north-south streets connecting to the 210 freeway. The project site lies along the campus's western edge, where Wilson Avenue passes through campus but does not connect to the freeway.

- Site
- Residential
- Commercial
- Institutional
- Park/Garden



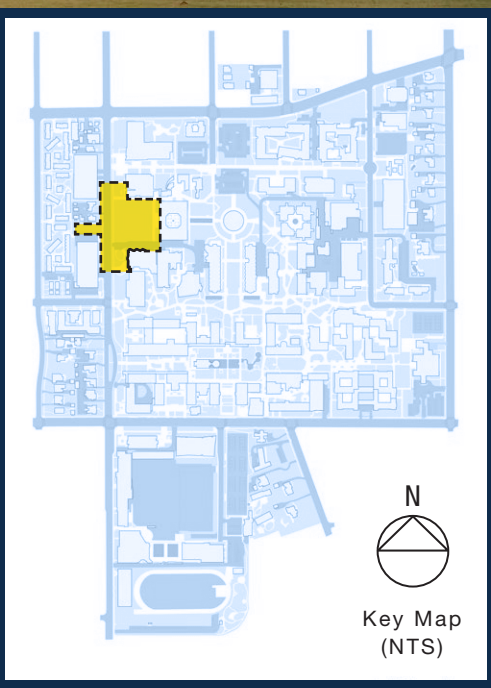
Wilson Ave
divides campus
from parking

hot, sunny,
underused lawn

Beckman
Institute

project site: beckman lawn + wilson ave

The **3.75-acre project site is dominated by the roughly two-acre Beckman Lawn**, which offers little shade, programming, or reason to enter and stay. Wilson Avenue separates the western parking structures from the campus landscape, while existing circulation directs pedestrians around Beckman Institute rather than through the open space and into campus.



project site: context map

Surrounded by research and teaching facilities, student housing, parking, and a primary event space, the project site occupies an important point of arrival and connection. Wilson Avenue separates parking and student housing to the west from academic destinations to the east, while an adjacent café provides an existing destination at the edge of the landscape.

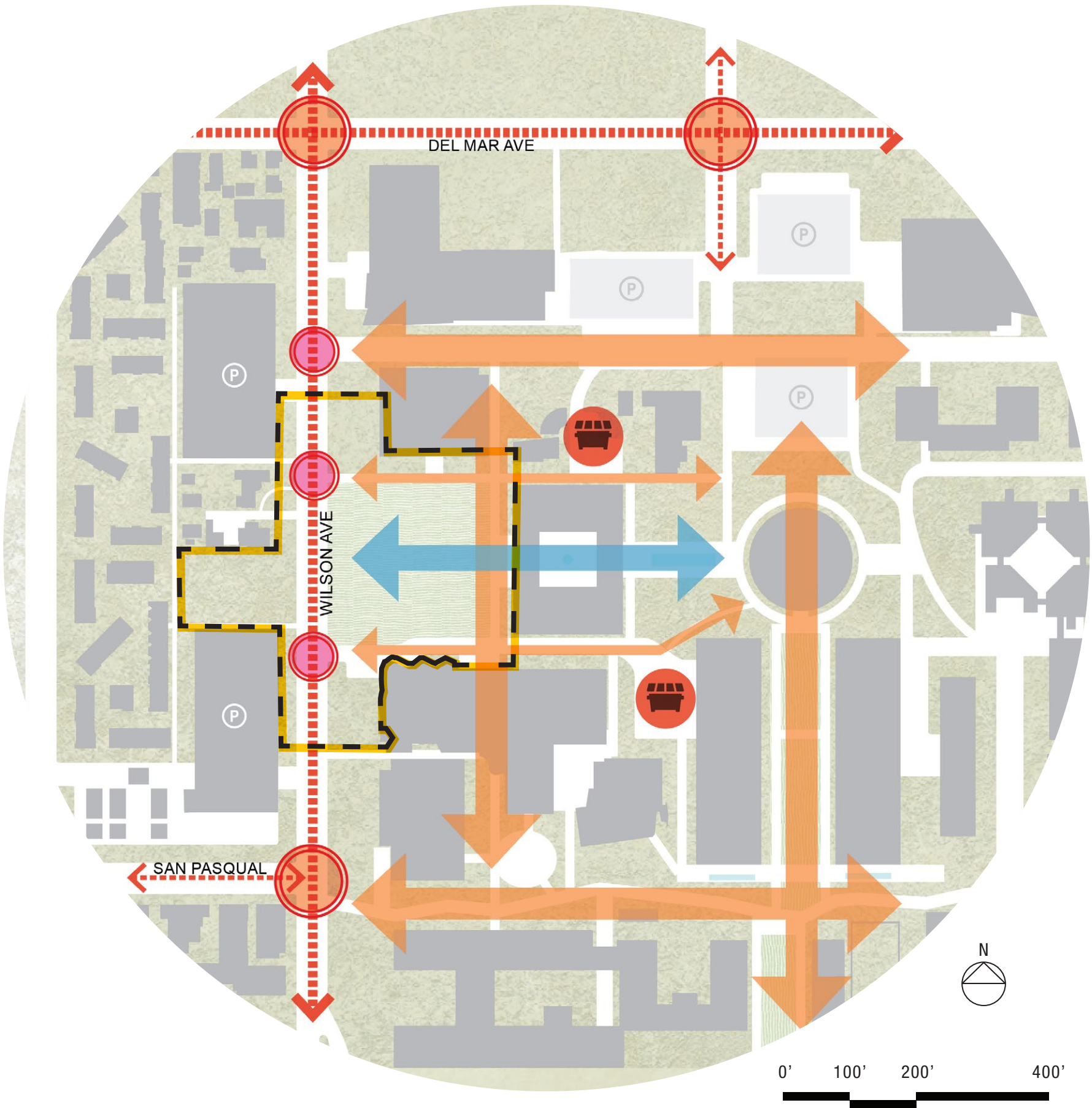
LEGEND

-  Research/Classes
-  Student Housing
-  Multi-Story Parking Structure
-  Surface Parking Lot
-  Events
-  Dining
-  Admin/Other
-  Water Feature



project site: circulation

Caltech's primary pedestrian corridors create a strong campus network, but nearby parking remains separated by Wilson Avenue. Informal crossings and secondary routes reveal a desire for more direct movement, creating safety concerns and less desirable paths into campus. **A potential east-west corridor through the Beckman landscape could bridge this gap with a safer, more direct connection to the campus core.**

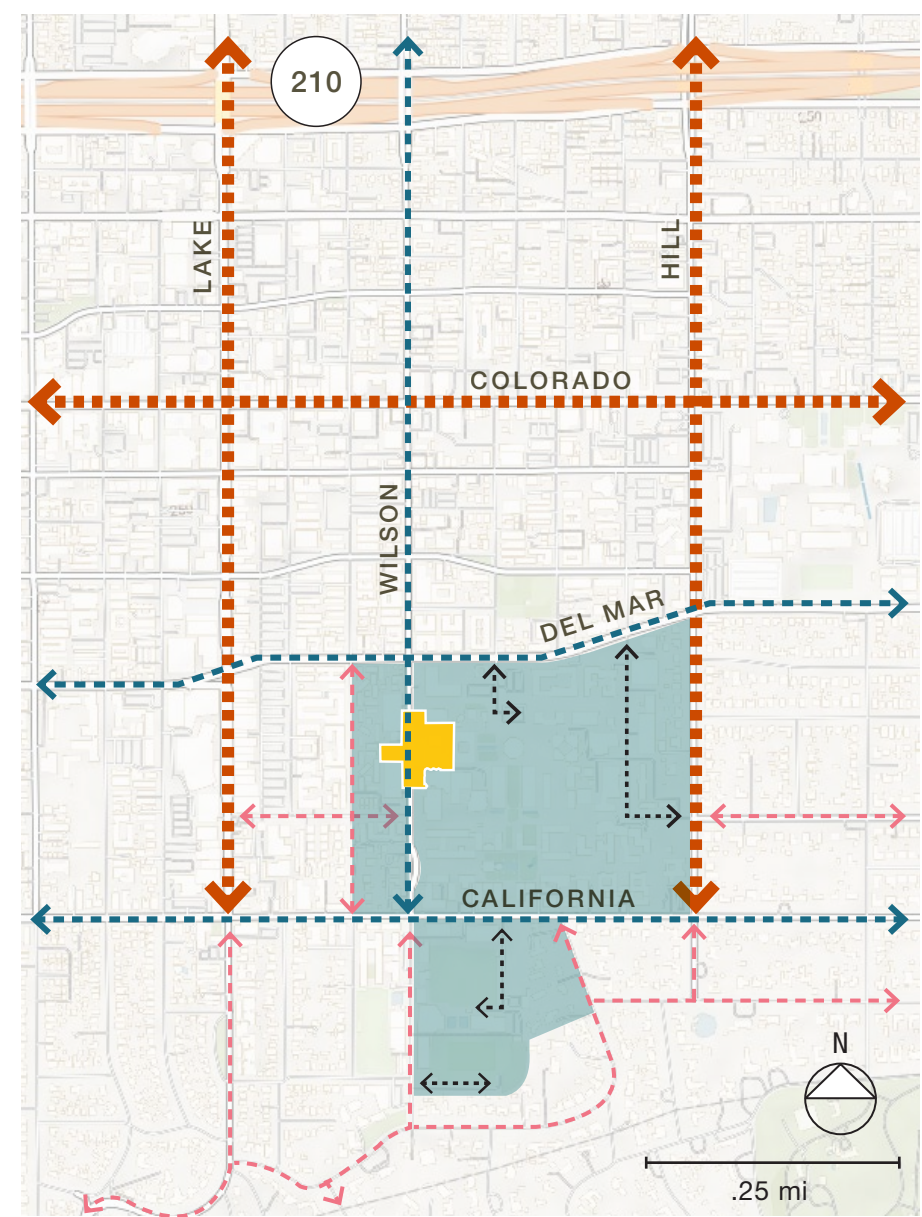


LEGEND

- Primary Vehicular
- Secondary Vehicular
- Primary Pedestrian
- Secondary Pedestrian
- Potential Pedestrian
- Crosswalk
- Observed Jaywalking
- Service + Utility Views

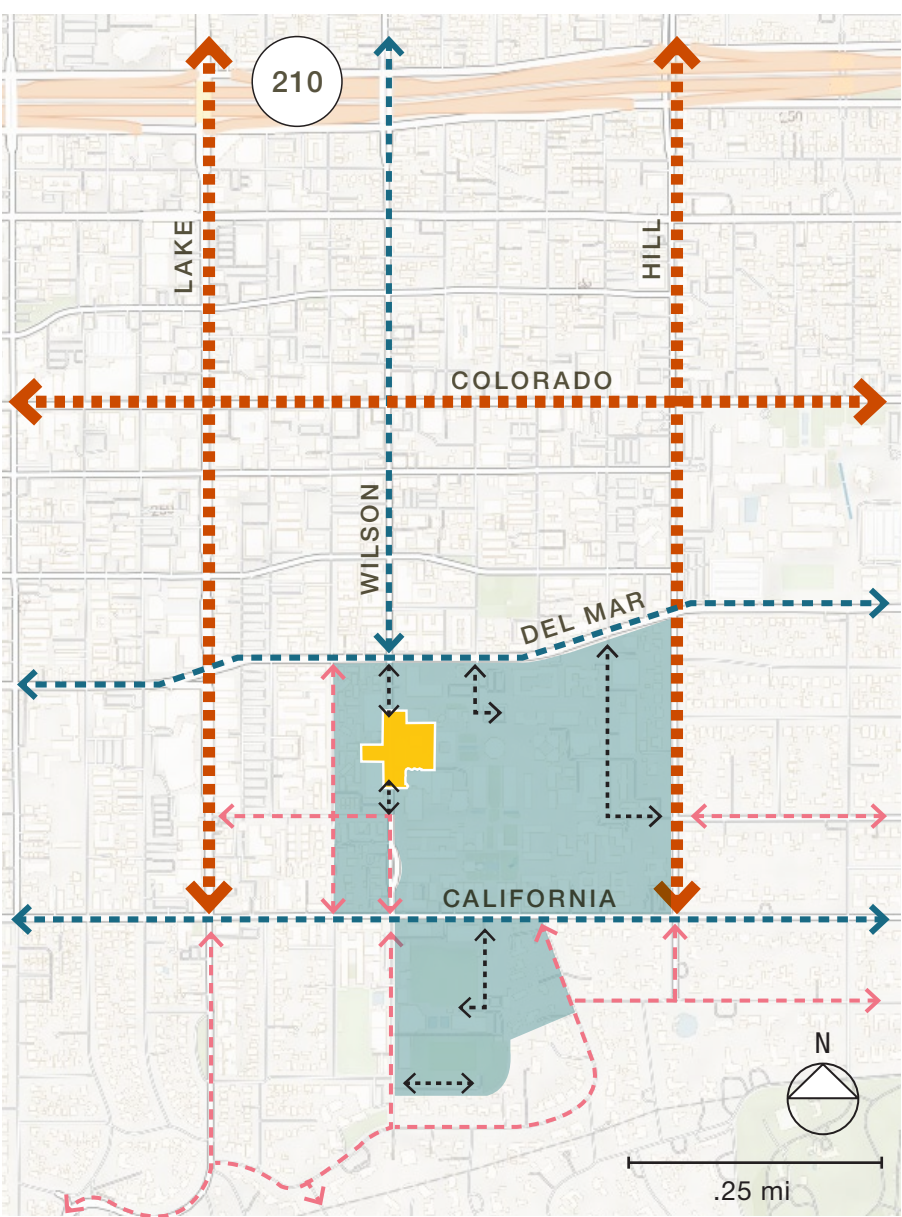
what would it look like to close wilson?

Closing a quarter mile of Wilson Avenue would be a significant change, requiring coordination with the City of Pasadena and careful consideration of local circulation. With larger north–south routes nearby, **Wilson could retain its local connections north of Del Mar and south of California** while the campus segment takes on **a new role: a pedestrian-first walk** with parking, service, and emergency access that **brings the western edge of campus together**.



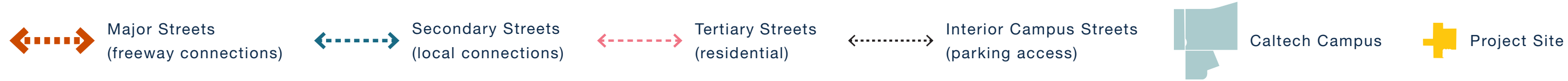
EXISTING VEHICULAR CIRCULATION

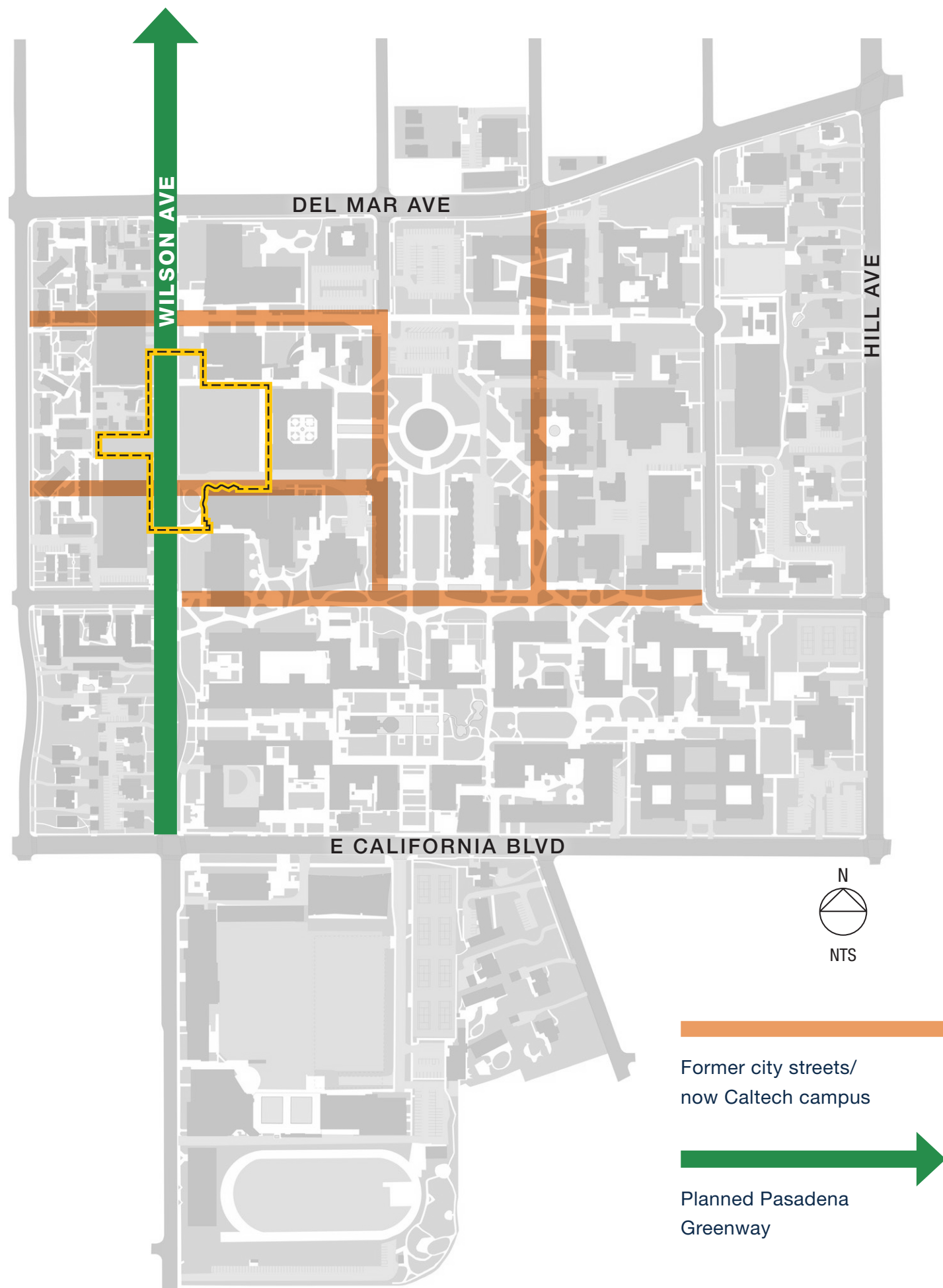
Wilson Avenue divides the western edge of campus, carrying through traffic along residential streets and through the project site, where vehicles and pedestrians share the corridor.



PROPOSED VEHICULAR CIRCULATION

Wilson Avenue's through connection ends at Del Mar Avenue, transforming the campus segment into a pedestrian-first walk. Parking, service, and emergency access are retained. Through traffic shifts to the surrounding street network.





past precedent, future direction

Over time, Caltech has transformed former city streets into part of the campus. Wilson Avenue remains one of the few streets that still divides the campus.

The City of Pasadena has also identified Wilson as a low-volume Greenway, creating an opportunity to transform the campus segment in alignment with the City's goals for safer, calmer, and more connected streets.



welcome to campus:
the western threshold

North of Beckman Institute

looking east, sidewalk through
service-oriented areas



Center of Beckman Institute

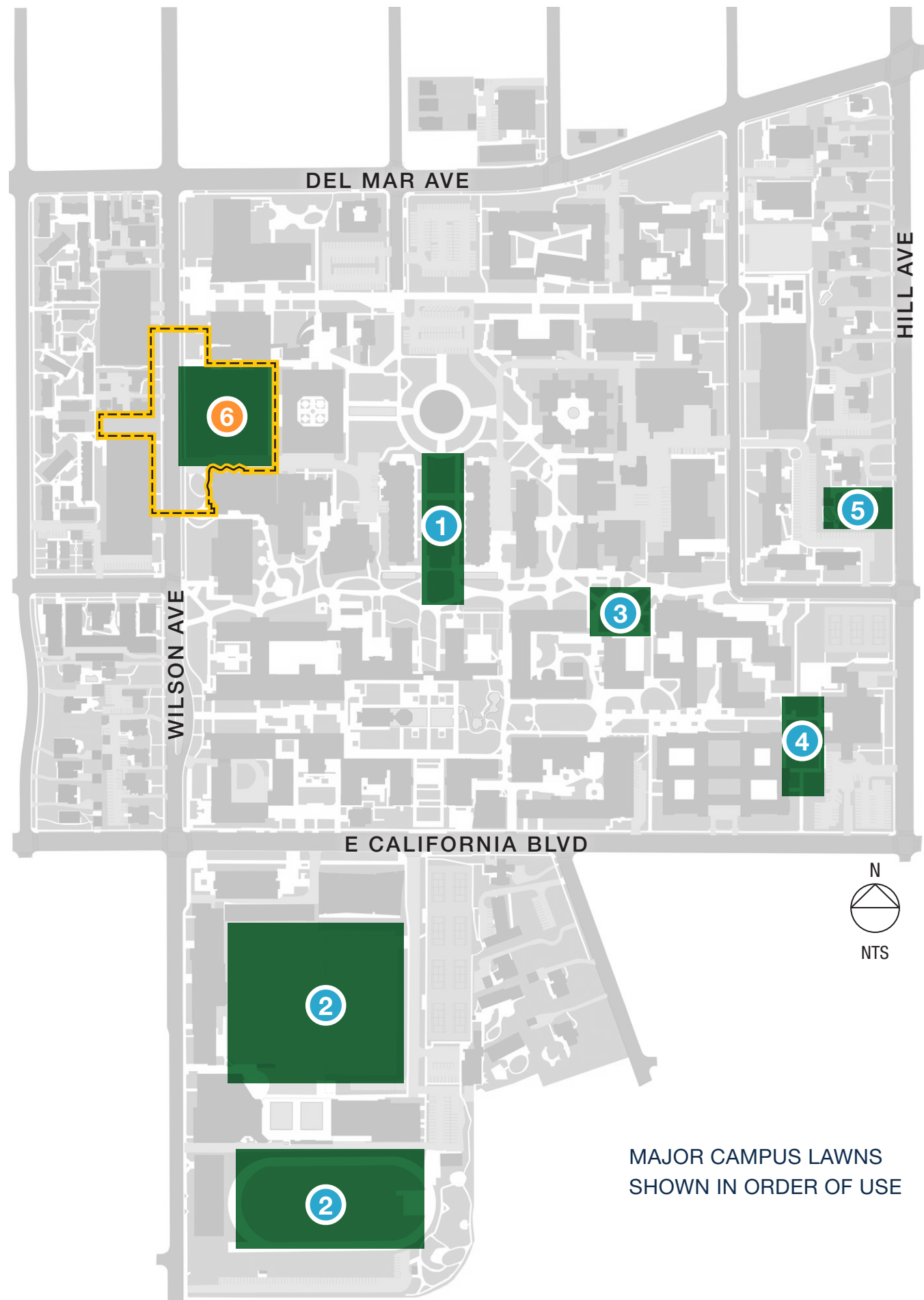
looking east, a direct route toward the campus core, past two formal,
science-inspired water features, but no clear path inviting people in.



South of Beckman Institute

looking east, sidewalk and access
road through service-oriented areas





a lawn without a purpose?

Public lawns provide valuable space for play, campus events, and everyday gathering. **The goal isn't to eliminate lawns, but to use them intentionally.** Caltech's 2024 *Landscape Design Principles* echo this approach, calling for retaining lawn where it serves an important purpose while transitioning non-functional turf. Unlike other campus lawns, **Beckman Lawn lacks a clear campus role, leaving a significant piece of campus open space underused.**

HIGH CAMPUS USE (7+ events / year and everyday use)

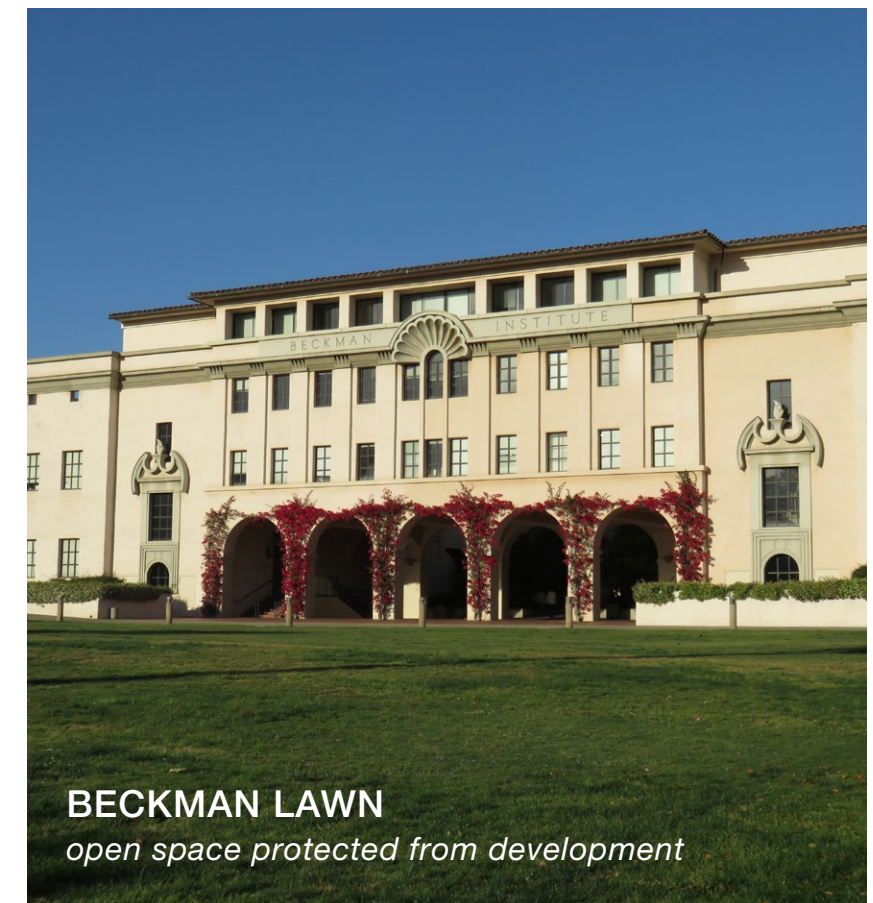
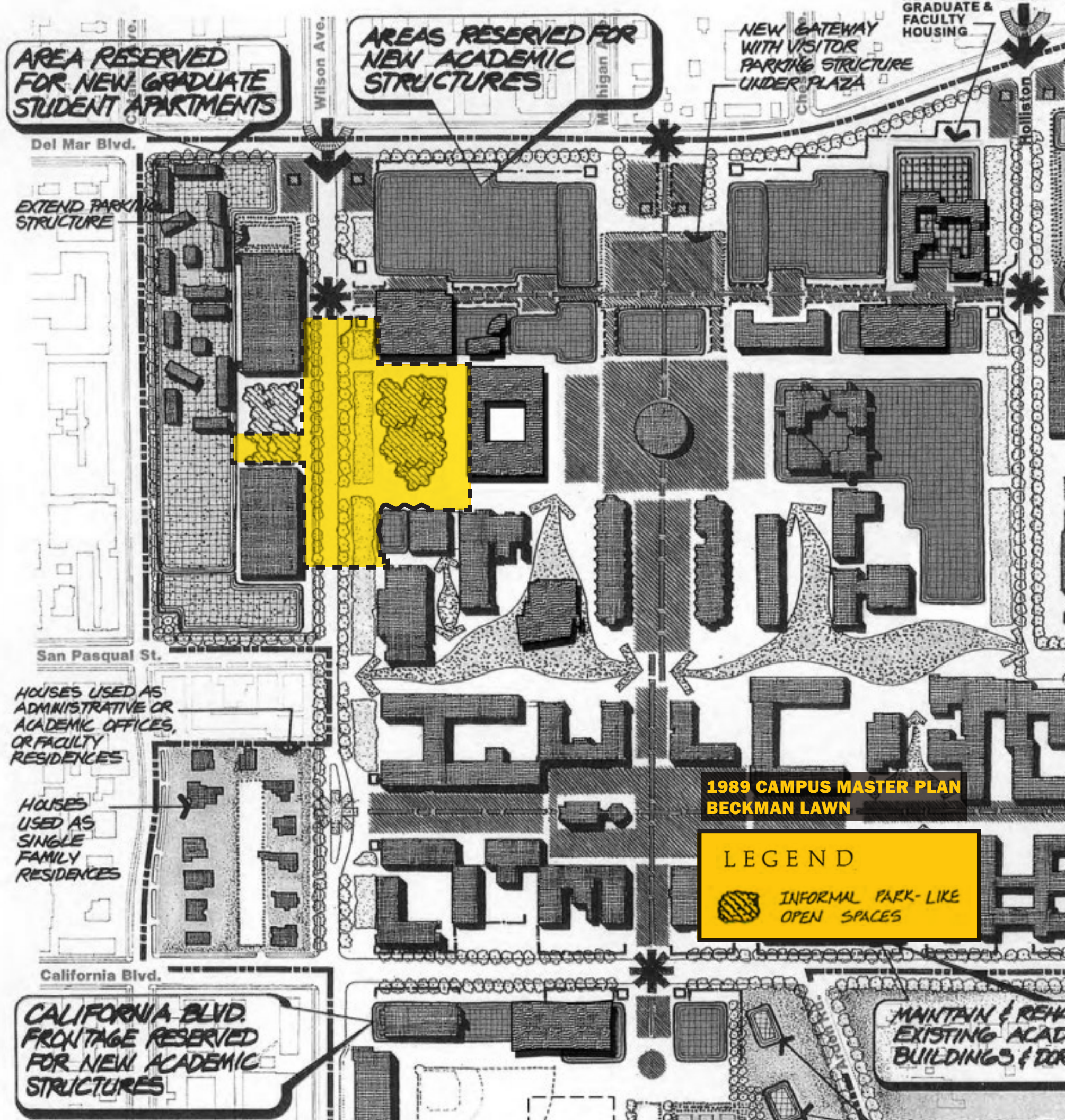
- ① **BECKMAN MALL: Ceremonial & Community Events**
 - Adjacent to Beckman Auditorium
 - Primary campus event lawn
- ② **SOUTH ATHLETICS FIELDS: Athletics & Recreation**
 - Adjacent to gym and tennis courts
 - Primarily athletic use, with occasional campus events
- ③ **STUDENT CENTER: Everyday Gathering & Recreation**
 - Adjacent to Red Door Café and Browne Dining Hall
 - Shade and flexible outdoor seating
- ④ **ATHENAEUM: Dining & Social Events**
 - Adjacent to the Athenaeum (campus social club)
 - Regular donor and campus gatherings

OCCASIONAL CAMPUS USE (2-6 events / year)

- ⑤ **HILL AVE HOUSE: Leadership & Donor Events**
 - Adjacent to the Events House
 - Special hosted gatherings for donors, faculty, students

LIMITED CAMPUS USE (< 1 event / year)

- ⑥ **BECKMAN LAWN: Open Lawn**
 - Not directly adjacent to a major event venue
 - No defined campus role



BECKMAN LAWN
open space protected from development

protected open space,
 not protected lawn

For years, Beckman Lawn has been understood as protected turf. But the gift agreement requires landscaped open space, not lawn. The 1989 Campus Master Plan reinforces this distinction, identifying the area as “informal park-like open space.” By preserving this land as open space for the life of Beckman Institute, the Beckmans gave the Caltech community something increasingly rare: a significant piece of campus protected from development for generations. At Caltech, where buildings are designed to endure for a century or more, that is a remarkable gift of open space.



OLD GARDEN

2-acre California native garden
replaced by Church Laboratory, 1955

UCLA DEPARTMENT OF GEOGRAPHY
THOMAS AIR PHOTO ARCHIVES
FAIRCHILD AERIAL SURVEYS COLLECTION

PASADENA
CALIFORNIA INSTITUTE OF TECHNOLOGY

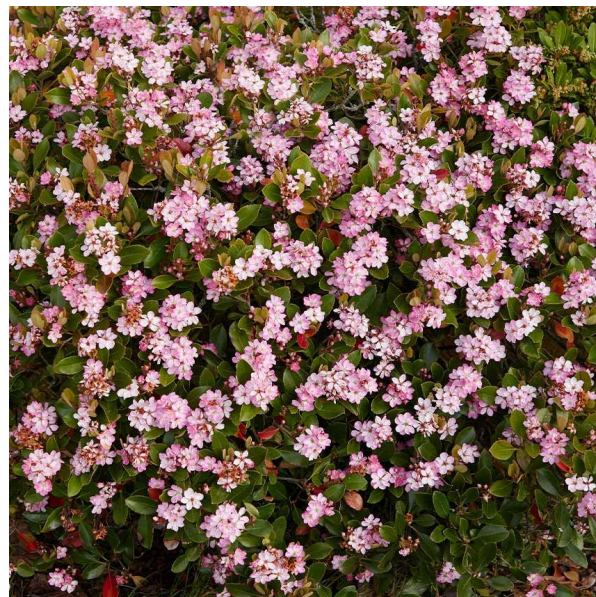
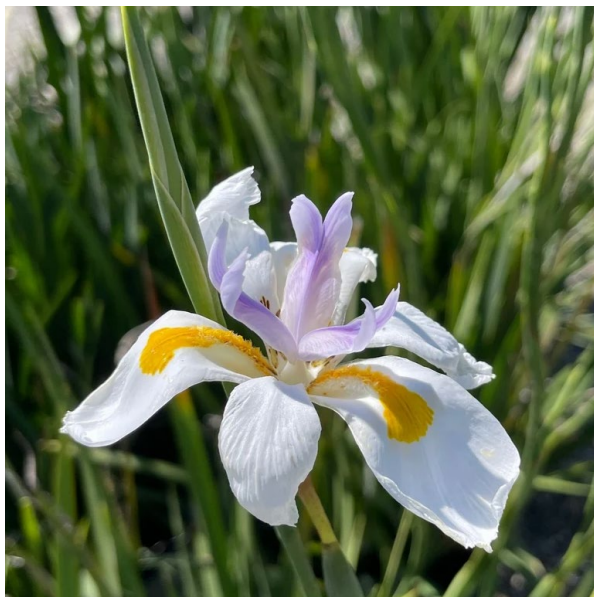
OCTOBER 2, 1951



a lost ecological legacy

In 1939, Caltech partnered with native-plant pioneer **Theodore Payne** to establish the two-acre **Old Garden**, where 176 California native species supported research and learning. But the site had been reserved for future development, and in 1955 the garden was replaced by Church Laboratory.

Unlike the Old Garden, Beckman Lawn is protected from future development for the life of the building. Its future as open space is secure, but its social and ecological potential remains largely unrealized.



beyond the bulletproof beauty

Caltech's plant palette emphasizes year-round appeal, durability, and ease of care, with many species also drought tolerant once established. But while many provide resources for generalist pollinators, these introduced plants do not serve as host plants for Southern California's specialist insects.

Native host plants such as buckwheats, sages, and coyote brush support the specialized relationships these insects depend on, strengthening the larger food web of birds and other wildlife. They allow the landscape to do more.

Building on Caltech's ecological history and the growing use of natives in recent projects, **there is an opportunity to rethink the campus landscape's defaults—creating places that are beautiful, resilient, and ecologically rich.**

who is
this landscape for?

CALTECH COMMUNITY

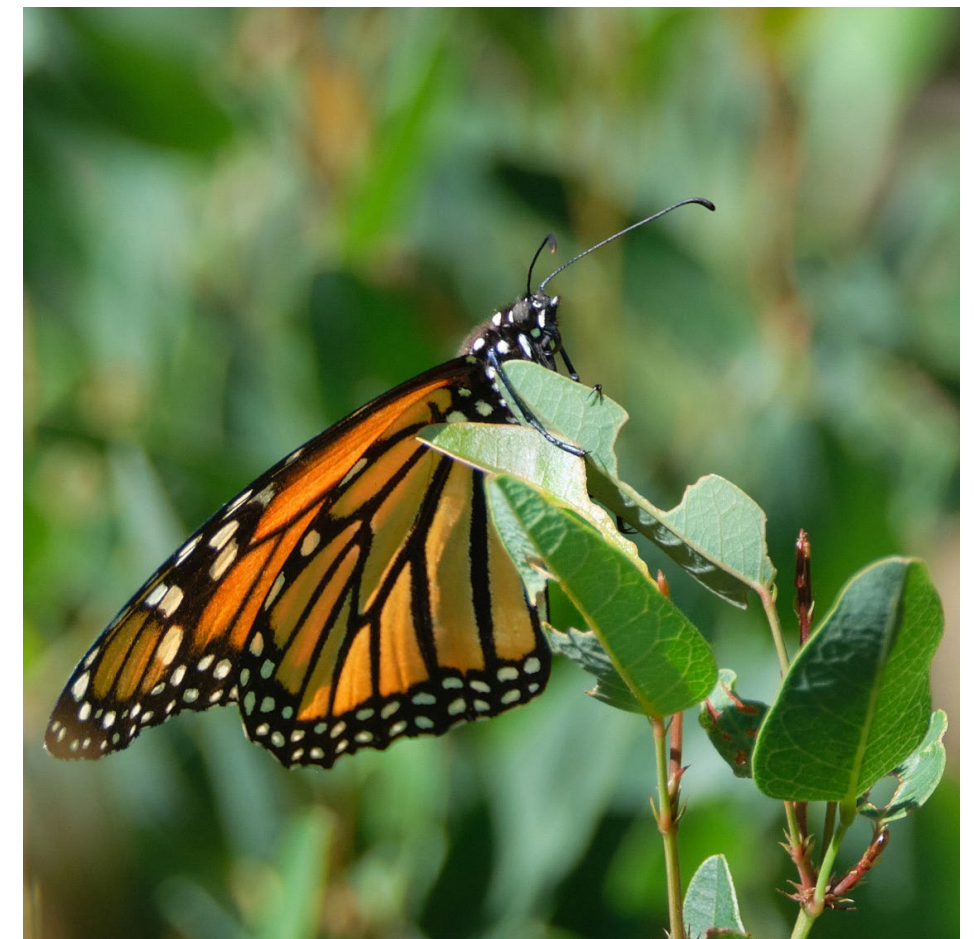
- 1,000 undergraduate students
- 1,400 graduate students
- 850 faculty + researchers
- 2,000 staff

BEYOND CALTECH

- Surrounding community
- Public event attendees
- Campus visitors
- Future scientists + engineers
- Curious minds

LIFE BEYOND PEOPLE

- Pollinators
- Birds
- Urban wildlife





what makes a landscape inviting?

Research from Jan Gehl and William H. Whyte on public life, Doug Tallamy on native plants and biodiversity, and others studying human relationships with the environment points to several conditions that help landscapes support both people and other forms of life.



PEOPLE NEED REASONS TO STAY^{1 2}

Comfort, seating, shade, and opportunities for interaction encourage people to linger rather than simply pass through.

CLEAR ROUTES ENCOURAGE PARTICIPATION^{3 4}

Clear routes, accessible spaces, and welcoming thresholds encourage people to enter, explore, and participate.

HABITAT NEEDS COMPLEXITY^{5 6}

Native host plants and layered vegetation provide the food, water, shelter, and resources wildlife need to thrive.

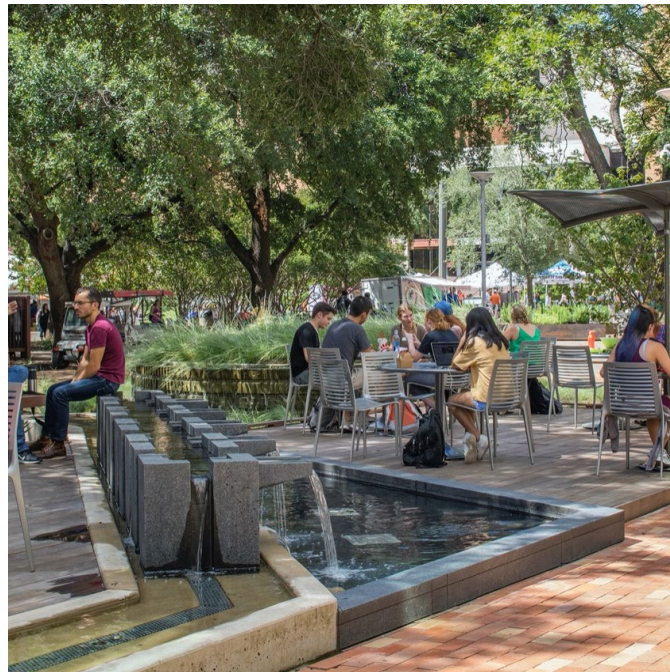
EXPERIENCE ENCOURAGES CURIOSITY^{3 7}

Art, visible systems, water, wildlife, and opportunities to explore can encourage observation, informal learning, and discovery.

goals + objectives

These findings, together with site analysis and Caltech's campus and landscape plans, informed four goals for the project that **expand the role of the landscape beyond circulation, maintenance, and institutional image to support gathering, connection, biodiversity, and discovery.**

invite **PEOPLE TO STAY**



- *Pedestrian-first arrival*
- *Comfortable seating*
- *Places to gather*
- *Shade and microclimates*

invite **CONNECTION TO PLACE**



- *Southern California character*
- *Regional materials*
- *Caltech identity*
- *Welcoming routes and thresholds*

invite **BIODIVERSITY**



- *Replace chemical-dependent monoculture*
- *Focus on native and host plants*
- *Wildlife-supporting features*

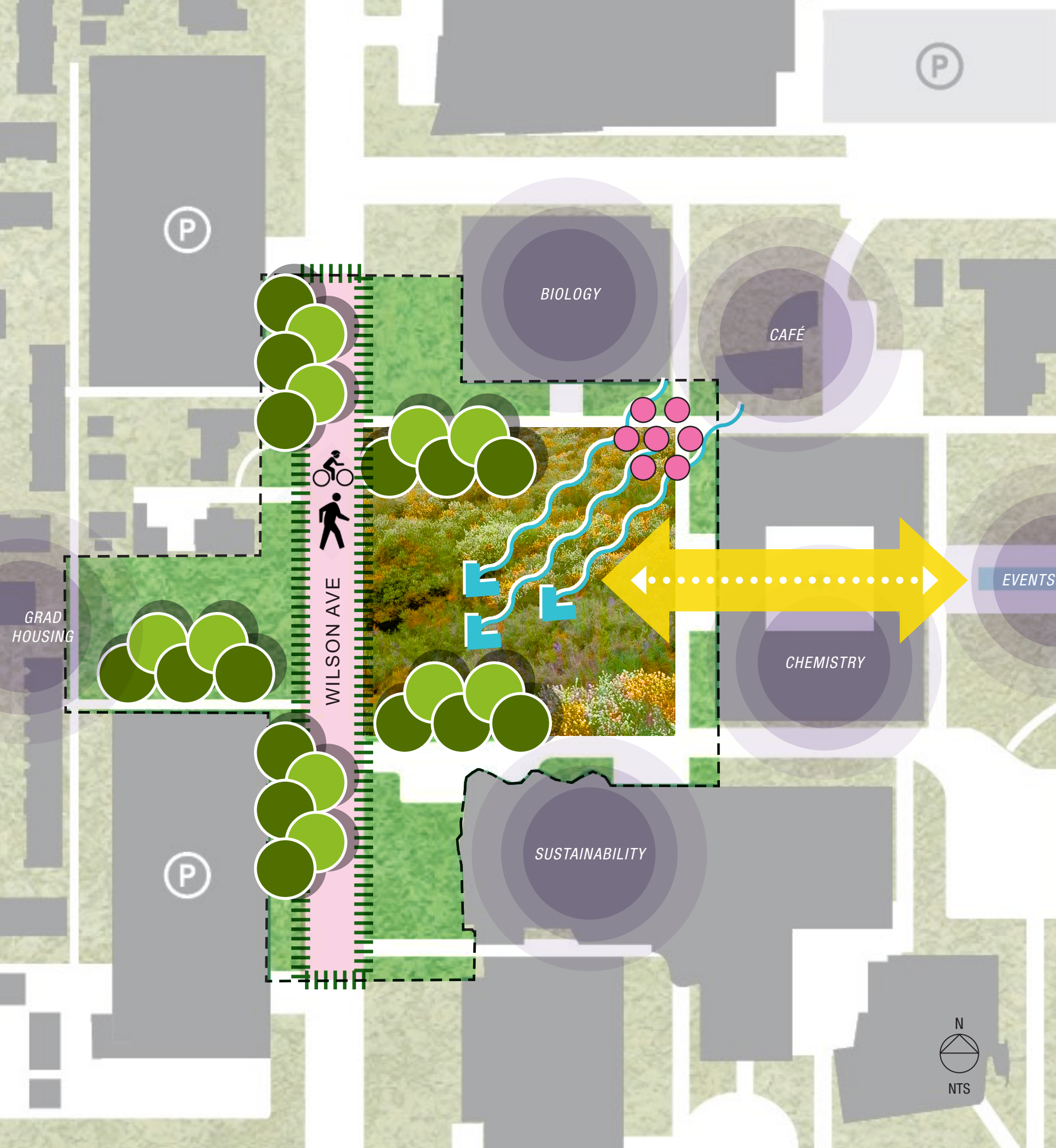
invite **CURIOSITY**



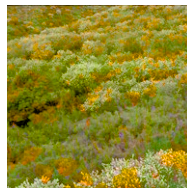
- *Visible natural systems*
- *Public art*
- *Outdoor learning*
- *Unexpected discoveries*

goals and objectives informed by:

- Jan Gehl, *Life Between Buildings*
- William H. Whyte, *The Social Life of Small Urban Spaces*
- Doug Tallamy, *Nature's Best Hope*
- Christine Rosen, *The Extinction of Experience*
- The Sustainable SITES Initiative (SITES)
- Caltech Campus Master Plan
- Caltech Campus Landscape Plan
- Pasadena Greenways Program
- Theodore Payne Foundation maintenance planning
- Regional Landscape Character: San Gabriel Mountains, Arroyo Seco, Chaparral, and Oak Woodlands



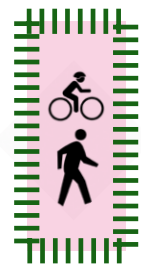
site opportunities



UNDERUSED OPEN SPACE



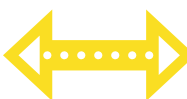
- Replace chemical-dependent monoculture
- Create paths that invite people in
- Add places to sit and gather
- Introduce pollinator and host plants



CLOSE PORTION OF WILSON AVE



- Improve pedestrian safety
- Connect to the proposed Pasadena Greenway
- Reclaim roadway for people and landscape
- Unify the campus landscape
- Create a calmer, more inviting environment



NEW BECKMAN CORRIDOR



- Establish an inviting route into the campus core



SHADE + MICROCLIMATE



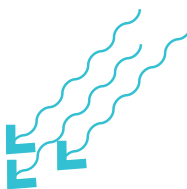
- Build on existing shade
- Expand shade across the site



EXTEND EXISTING CAMPUS HUB



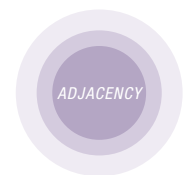
- Provide comfortable area to sit and gather near café



CAPTURE + REUSE WATER



- Capture stormwater runoff
- Reuse HVAC condensate
- Make water systems visible



BUILD ON CAMPUS ADJACENCIES



- Draw from surrounding campus uses
- Respond to nearby activity

RELATED PROJECT GOAL



INVITE
PEOPLE TO STAY



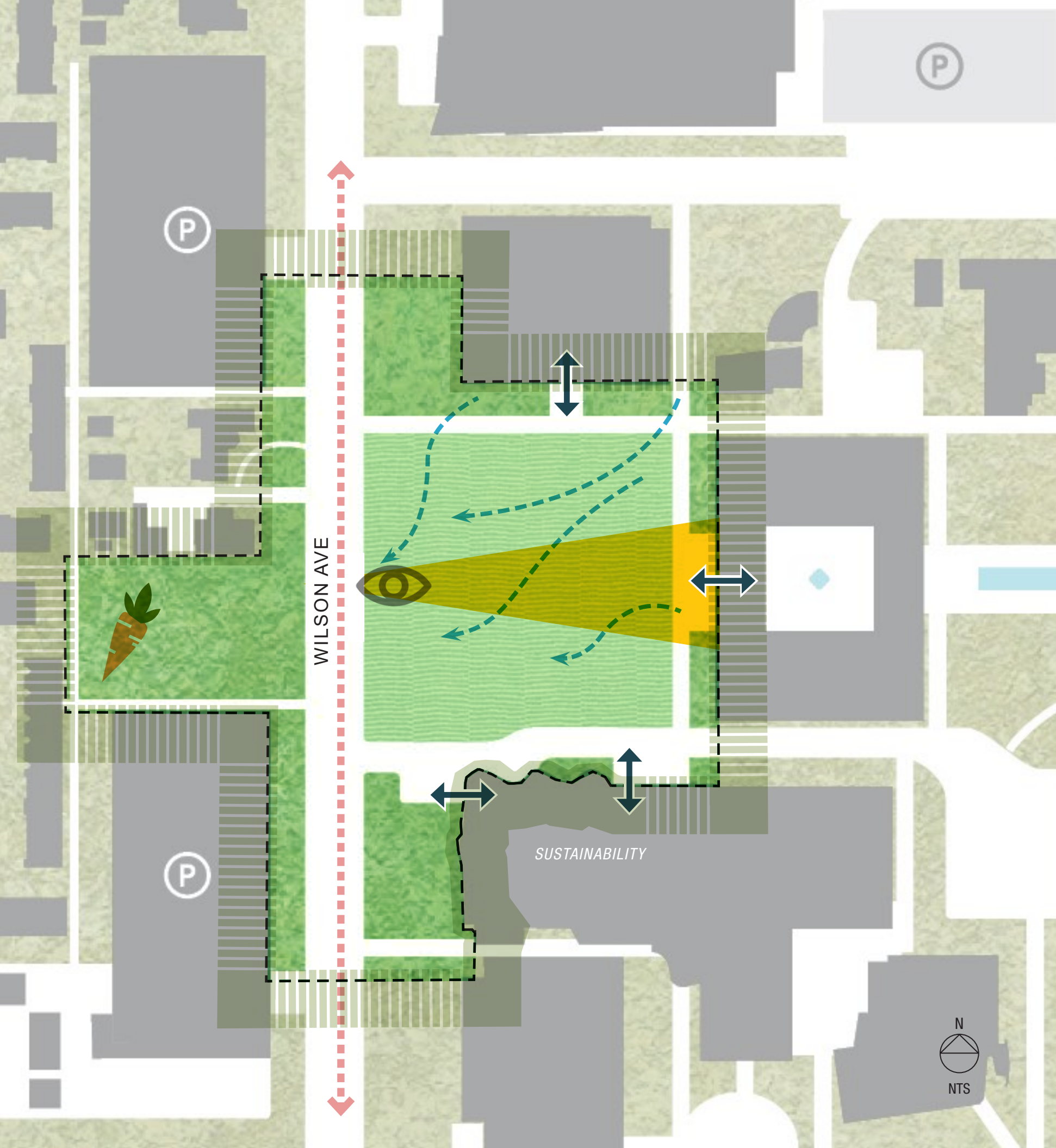
INVITE
CONNECTION
TO PLACE



INVITE
BIODIVERSITY



INVITE
CURIOSITY



site constraints



- BECKMAN GIFT INTENT**
- Preserve open views to Beckman
 - Maintain the landscape as open space



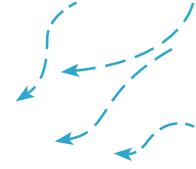
- VEHICLE + EMERGENCY ACCESS**
- Ensure access to parking structures
 - Accommodate emergency and service vehicles



- FIT WITH CAMPUS CHARACTER**
- Reflect Caltech's landscape character
 - Draw from existing campus patterns and materials



- BUILDING ACCESS**
- Accommodate existing access and circulation



- DRAINAGE + GRADES**
- Tie into surrounding sidewalks and building elevations
 - Ensure proper drainage



- GRADUATE GARDEN INTENT**
- Retain use as a donor-supported community garden

RELATED PROJECT GOAL

- | | | | |
|--|---|---|--|
| ■ INVITE PEOPLE TO STAY | ■ INVITE CONNECTION TO PLACE | ■ INVITE BIODIVERSITY | ■ INVITE CURIOSITY |
|--|---|---|--|

case studies

Campus landscapes are asked to do many things at once: connect buildings, support daily life, represent an institution, and increasingly, contribute to ecological health.

These precedents examine how other institutions are expanding what their landscapes can do.



Science + Engineering Quad | Stanford

Relevant for its integration of **flexible courtyards**, **planted gathering spaces**, **shaded seating**, and **pedestrian circulation** to support different scales of gathering, collaboration, and everyday use.



Aldrich Park | UC Irvine

Relevant for its transformation of a major open space through **climate-responsive planting**, **ecology**, **art**, and **gathering**, creating a distinctive landscape that supports biodiversity and everyday use.



Botany Pond | University of Chicago

Relevant for its use of a large **natural feature** as **both a research site and gathering destination**, **bringing water**, **habitat**, **observation**, and **everyday use** together in an immersive landscape.

UCLA | Campus-Wide Landscape

As part of a coordinated campus sustainability effort, UCLA has increasingly integrated California native plants and ecological practices into its landscape. By 2022, UCLA had documented 166 plant species across campus. **More than 70% were California native species**, with 121 natives documented. In 2025, **UCLA became the first California campus to earn Green Grounds Certification**, with more than 90% of campus grounds managed sustainably without pesticides.



from goals to program

The program translates site opportunities, constraints, and project goals into measurable landscape interventions, with an **emphasis on supporting both campus life and biodiversity.**



ARRIVAL + CONNECTION

Welcoming + pedestrian-priority arrival

- ±1 AC of roadway reclaimed
- Pasadena Greenway connection



GATHERING + COMFORT

Seating + gathering

- 4–30 seats per location
- Flexible spaces for individuals + groups
- Café extension

Graduate community garden

- ±11,000 SF
- Garden + informal recreation

Tree canopy + shade

- 20–30 new shade trees



LIVING LANDSCAPE + HABITAT

Wildlife + pollinator habitat

- ±65,000 SF / ±1.5 AC minimum
- Layered habitat + host plants



CURIOSITY + LEARNING

Water capture + reuse

- ±2.5 AC contributing drainage area
- Stormwater + HVAC condensate

Water features + systems

- 2–3 locations

Art + discovery elements

- 3-6 installations
- Science-inspired + interactive

program priorities

Program priorities are shown by relative emphasis, with precedents illustrating the character of each intervention.



concept comparison



concept one

GRAND ENTRY
Invitation Through Identity

Strengths

- Strong campus identity
- Clear, intuitive arrival

Tradeoffs

- More formal organization
- Fewer moments of exploration



concept two

CENTER OF GRAVITY
Invitation Through Gathering

Strengths

- Strong central gathering
- Balanced social and ecological experiences

Tradeoffs

- Weaker arrival identity
- Blocks view to Beckman Institute



concept three

DISCOVERY WALK
Invitation Through Curiosity

Strengths

- Rich ecological experience
- Strong curiosity and learning

Tradeoffs

- Less direct circulation
- Less defined central gathering space



final concept

NATURAL PULL

Invitation through Attraction

The final concept combines the **clear arrival and campus identity** of Grand Entry, the **gathering focus** of Center of Gravity, and the **ecological experience and discovery** of Discovery Walk.

Drawing from Southern California landscapes, groves of trees frame an **open meadow** and preserve a **clear view to Beckman**. The sunken meadow captures and slows stormwater without creating a permanent pond, making water and seasonal change visible over time.

Paths, gathering spaces, and **opportunities for discovery** are drawn around its edges, transforming the corridor into a destination that invites people to explore and stay.



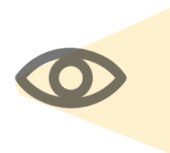
design framework

The framework responds to the site's strongest opportunities: reclaiming Wilson as a pedestrian connection, preserving the clear view to Beckman, and giving the open landscape greater social and ecological purpose.

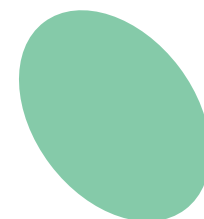
A central meadow maintains that visual connection while creating habitat and opportunities for learning and discovery. **Surrounding tree groves provide shade** and enclosure, while **winding paths create more ways to explore and stay.**



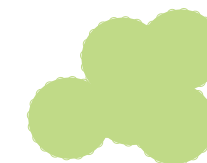
Pedestrian
Connections



View to Beckman



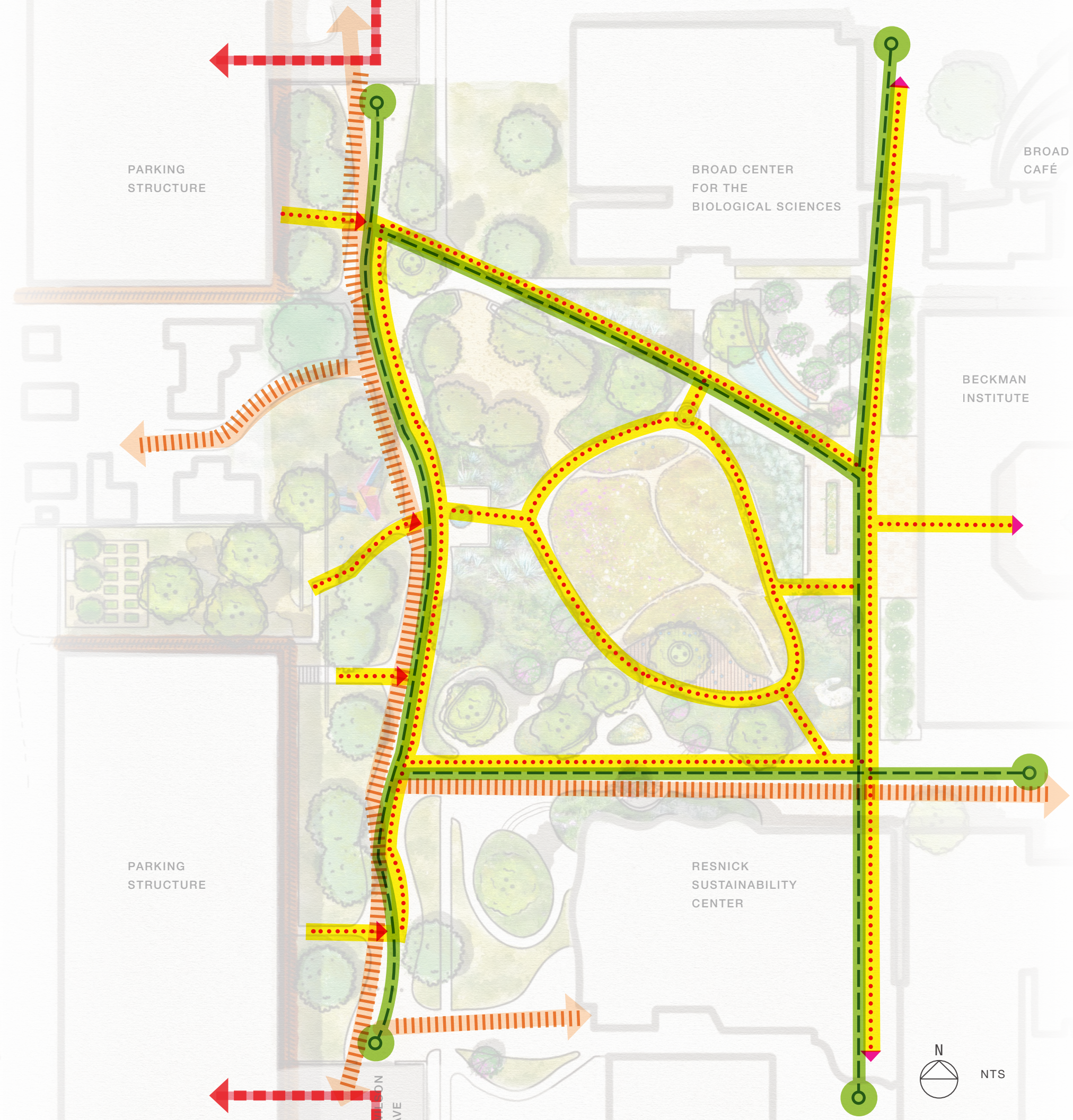
Open Meadow



Tree Groves

illustrative
plan





circulation pedestrian forward

Wilson Avenue becomes Wilson Walk, transforming a campus street into a pedestrian-first landscape that also accommodates bicycles. **New paths through the former Beckman Lawn create a welcoming corridor into campus**, drawing people through the landscape while creating opportunities to explore, gather, and stay. The new walk also marks the beginning of a future greenway, while maintaining required fire lane and service access.

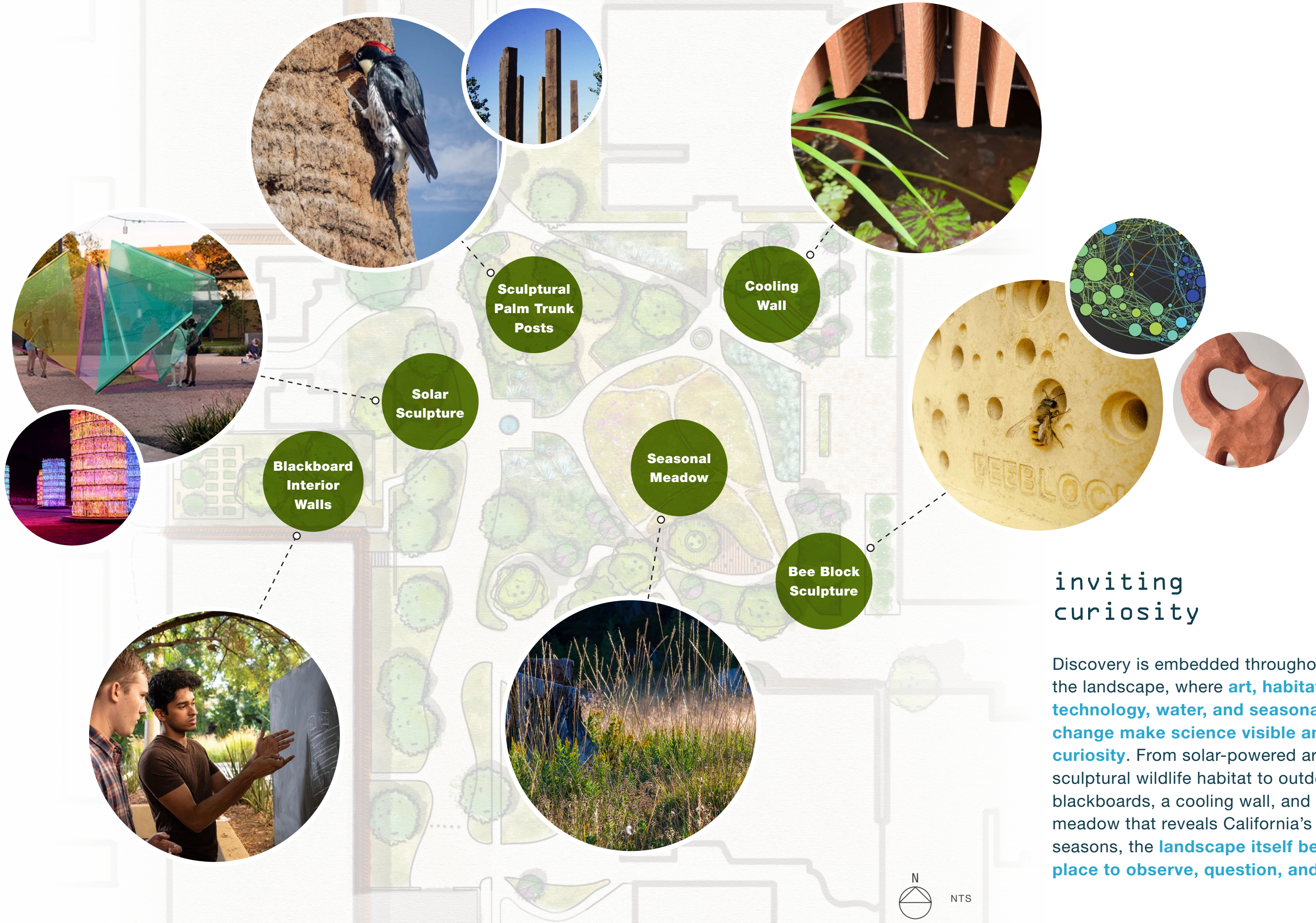
- Wilson Ave
(Parking Lot Access) 
- Limited Vehicle Access
(Fire Lane/Service Vehicles) 
- Bike 
- Pedestrian 



many ways to stay

Gathering happens at many scales across the landscape, from events and shared meals to quiet conversations, lounging, and play. **A network of social spaces and smaller places to pause gives people more reasons to meet, connect, and stay.**

- GATHER + CONNECT**
 - **Beckman Institute Plaza:** events · large gatherings
 - **Wilson Walk Garden Wall + “Gravity Well”:** group seating · campus entry · sound of water
 - **Cooling Wall Café Extension:** dining · social gathering
- SIT + STAY**
 - **Oak Grove:** boulders · informal seating
 - **Wilson Walk:** movable tables + chairs · mature oak shade
 - **Meadow Deck:** lounging · meadow views
 - **Resnick Nook:** built-in seating · existing shade
 - **Sycamore Grove:** shaded seating · small gatherings
- REST + PLAY**
 - **Graduate Commons:** community garden · hammocks + slacklines



inviting curiosity

Discovery is embedded throughout the landscape, where **art, habitat, technology, water, and seasonal change make science visible and invite curiosity**. From solar-powered art and sculptural wildlife habitat to outdoor blackboards, a cooling wall, and a meadow that reveals California's changing seasons, the **landscape itself becomes a place to observe, question, and learn.**





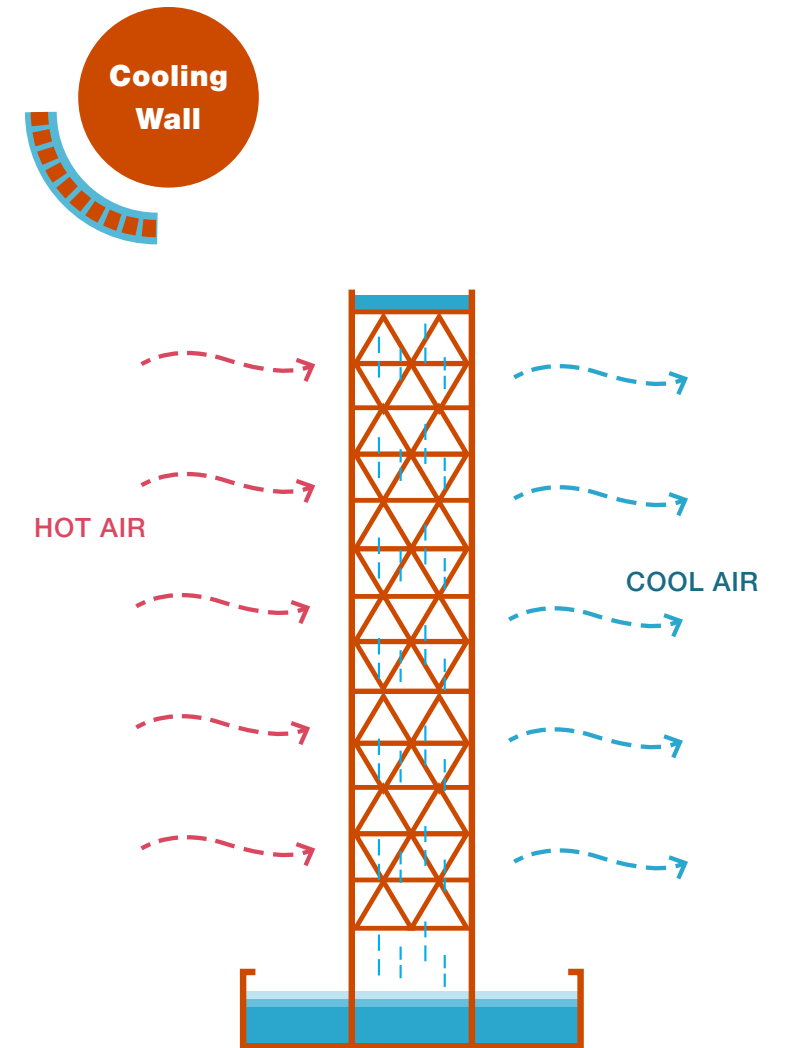
Summer-Dry Sunken Meadow

The sunken meadow collects water during storms, while its changing vegetation makes Southern California's seasons visible throughout the year.

inviting the water to stay

Water that would otherwise leave the site is captured and put to work. **Stormwater from roofs and paving is directed into the sunken meadow**, where it can slow, collect, and infiltrate.

HVAC condensate supplies the cooling wall, turning a building byproduct into a source of outdoor cooling.



Collected HVAC condensate is pumped to the top of the terracotta wall, where it flows over the blocks and, with the prevailing southwest breeze, provides evaporative cooling for the café extension.





regional planting communities

The planting design interprets Southern California plant communities across the site, creating different experiences as people move through the landscape. The Graduate Commons adds student-maintained community gardens. Together, these spaces create opportunities to observe, study, care for, and learn from the plants and wildlife they support.

Existing mature trees are retained as the base of the planting communities. Several recently planted oaks are relocated within the site, while fire-prone palms are removed and their trunks reused as sculptural woodpecker habitat posts.

plant palette

Oaks, sycamores, sages, buckwheats, manzanitas, yuccas, native grasses, and seasonal wildflowers create layered, connected habitat.

Together, their sun-washed greens, silvers, golds, and earthy tones create a palette shaped by the light and landscape of Southern California.

Final species selections should be developed with the Theodore Payne Foundation, Caltech faculty, and campus groups with relevant research interests, balancing ecological value with opportunities for observation and study, campus maintenance, water use, durability, and site conditions.



JEN MOODY • UCLAX • CAPSTONE 2026



from exception to the default

California native plants, including the examples below, are already growing successfully across Caltech’s campus, with an ever broader palette appearing in newer capital projects and being cared for by campus landscape crews. But ecological performance has yet to become a consistent lens for planting decisions. Rather than adding natives selectively, these plants should form the backbone of the landscape, with each refresh offering an opportunity to replace ecological lightweights with high-performing natives.

The opportunity is not to introduce an entirely new kind of landscape, but to further move native habitat from the exception toward the default.



White Sage

Salvia apiana

Larval host*:

19 confirmed, 226 likely



Coyote Bush

Baccharis pilularis

Larval host*:

23 confirmed, 135 likely



California Buckwheat

Eriogonum fasciculatum

Larval host*:

146 confirmed, 277 likely



California Poppy

Eschscholzia californica

Larval host*:

109 confirmed, 13 likely



Coffeeberry

Frangula californica

Larval host*:

63 confirmed, 46 likely



Clustered Field Sedge

Carex praegracilis

Larval host*:

1 confirmed, 26 likely



*Larval host plants provide food for the caterpillars of butterflies and moths. Confirmed indicates a documented relationship between that plant and butterfly or moth species; likely indicates a genus-level relationship and overlapping ranges, but no species-specific confirmation. These counts represent only one measure of habitat value; native plants also provide food and habitat for pollinators, birds, reptiles, mammals, arachnids, and other species. Source: Calscape / California Native Plant Society.



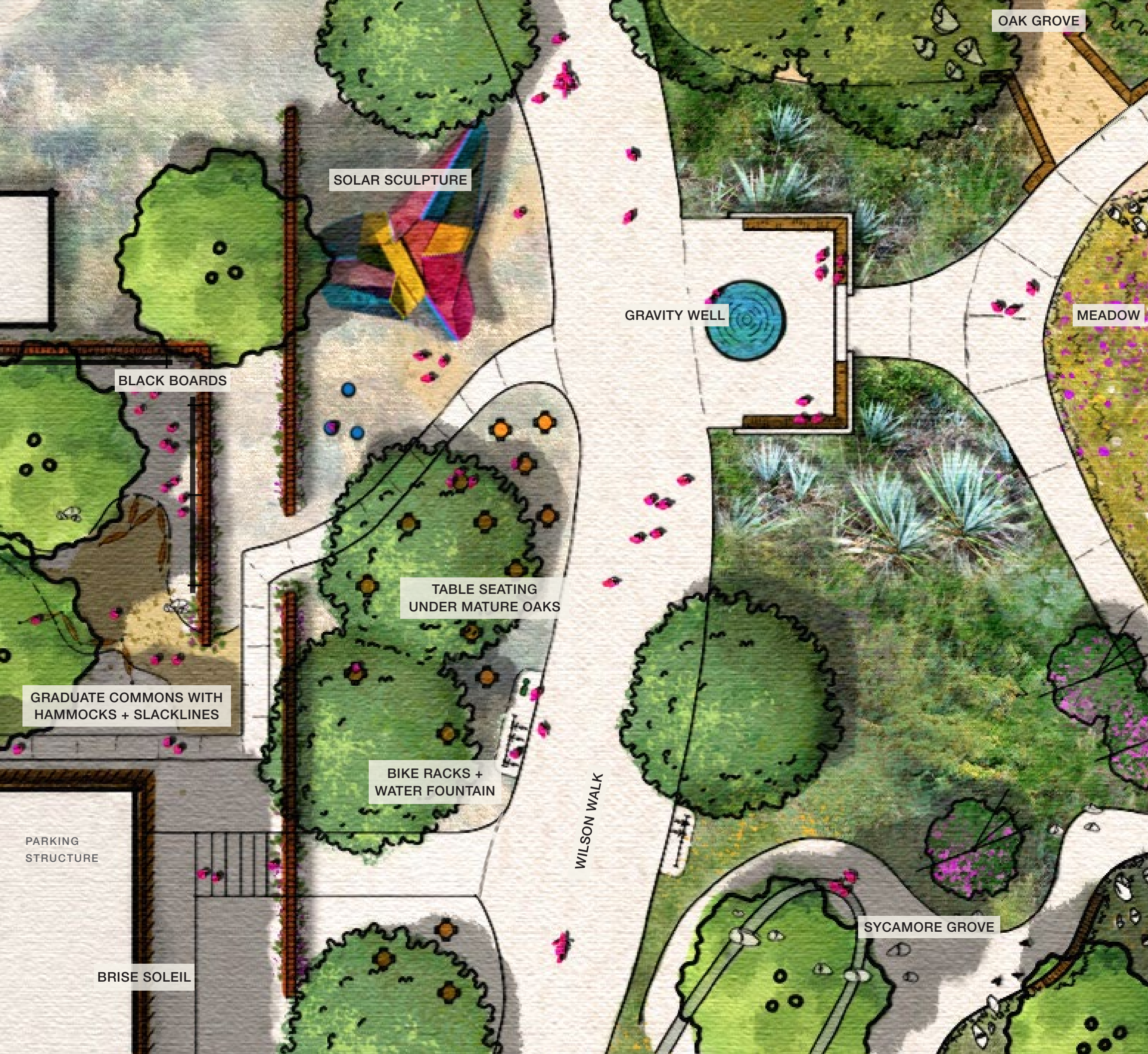
Expanding native planting also means investing in the people who care for it. Theodore Payne Foundation (TPF) offers professional certification and customized training in California native landscape maintenance for organizations and landscape crews, creating an opportunity to support Caltech’s existing staff as native planting becomes a larger part of the campus landscape. A partnership with TPF would build on Caltech’s historic connection with Theodore Payne while helping shape the future of its landscape.



materials palette

The materials palette extends the warm, natural character of the planting into the built landscape. **Caltech's existing material language carries through in concrete seating and terracotta plaza tiles, while aggregate paving is reimagined as pervious concrete.** Timber, stone, boulders, and café seating complete a relaxed, human-scaled palette designed for comfort, durability, and everyday campus life.

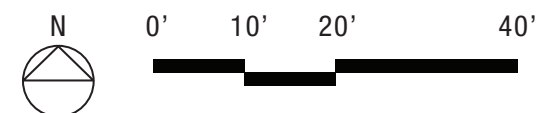
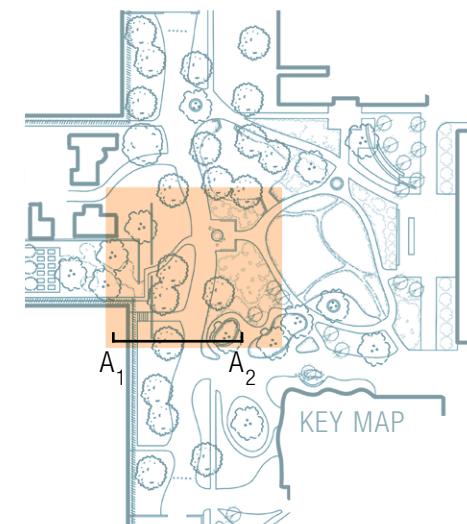




wilson walk

Closing this portion of Wilson Avenue to through traffic creates a new pedestrian-first arrival into campus.

The former roadway becomes a sequence of places to pause, gather, and explore, from the shaded Graduate Commons to the Gravity Well and solar sculpture. Along the way, paths branch into the surrounding groves and meadow, drawing people into the landscape and toward the campus core.



wilson walk



PARKING
BRISE SOLEIL

DEEP SHADE
SEATING

WILSON
WALK

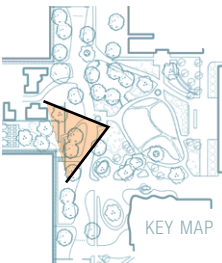
BIKE
RACK

GABION WALL
SEATING

10'

shaped by caltech

The western arrival draws from familiar elements of Caltech’s campus: curving pedestrian walks, climate-responsive architecture, and garden walls softened by vines. Together, these cues help transform the former roadway and parking edge into an arrival that feels connected to the larger campus.



PATH + ARRIVAL

Wilson Walk takes cues from San Pasqual Walk, where a former roadway became a curving pedestrian route through campus. Its geometry helps transform Wilson from a former street into a landscape that welcomes people into campus.



SCREEN + LANDSCAPE

Caltech’s Chen Neuroscience Research Building uses a copper façade to add warmth and relate the building to the surrounding landscape. The parking brise soleil applies a similar idea, screening views of cars so the landscape, rather than the parking structure, defines the arrival.



VINE + ARCHITECTURE

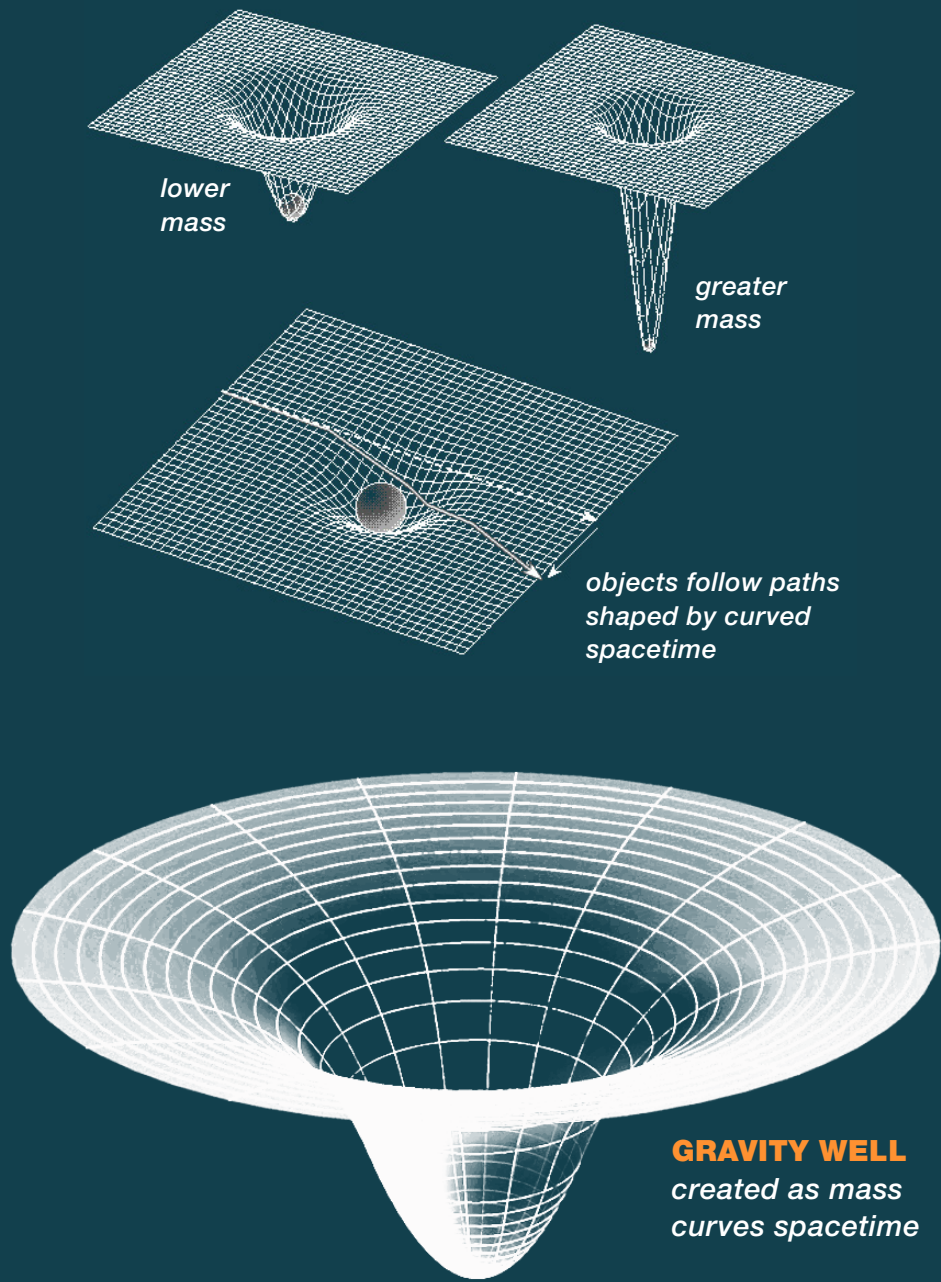
Southern California grape reinterprets Caltech’s familiar wisteria and bougainvillea covered architecture, creating shade and softness while adding seasonal interest, fruit for birds such as western bluebirds and California thrashers, and food for the community garden.



the science
behind the concept

EINSTEIN'S GENERAL RELATIVITY

Mass curves spacetime. The greater the mass, the greater the curvature.

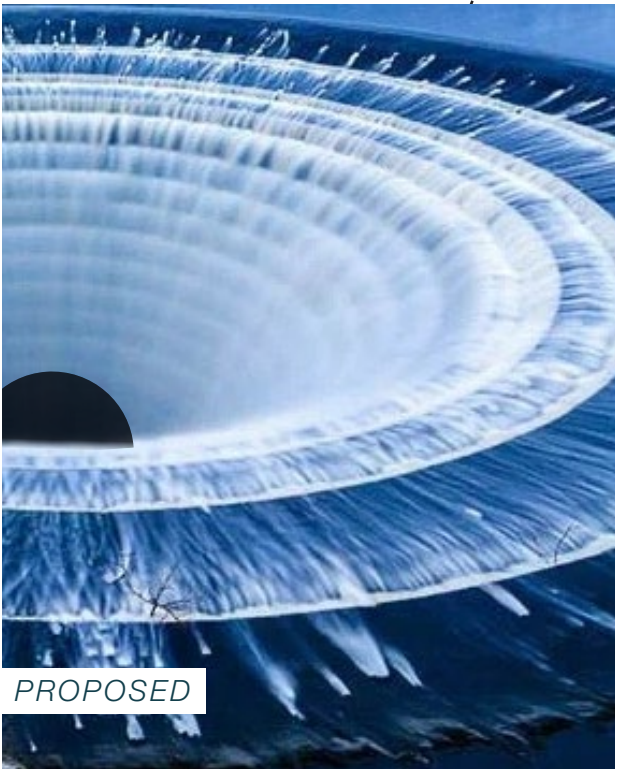
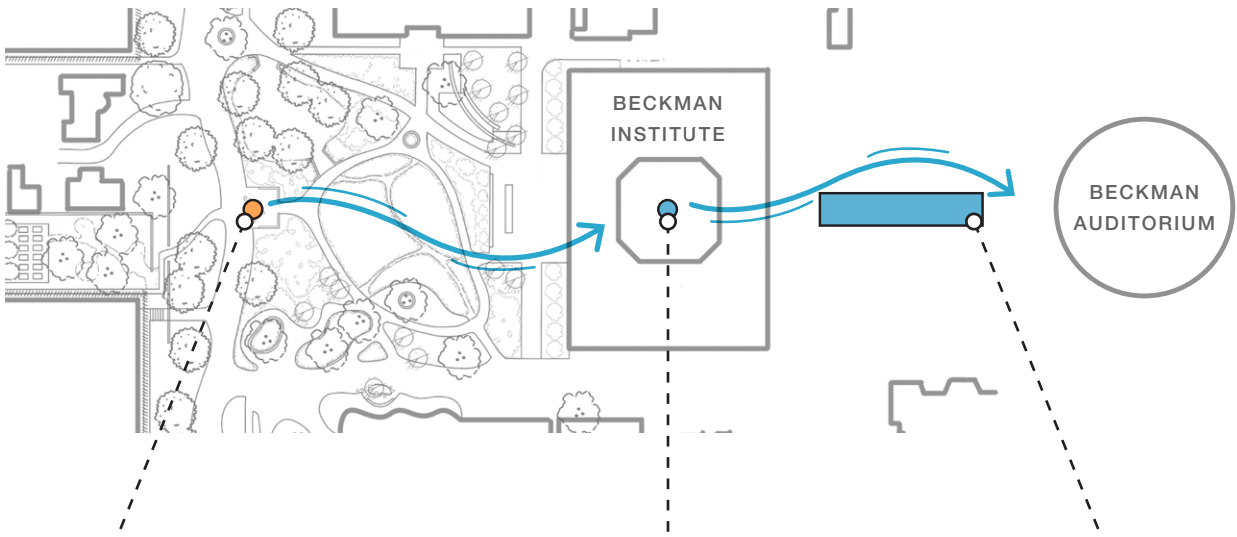


THE WARPED SIDE OF THE UNIVERSE

Caltech physicist Kip Thorne (BS '62, DAA) built on Einstein's work on warped spacetime and gravitational waves, earning the 2017 Nobel Prize for helping detect the waves Einstein predicted.

beckman corridor: a science-inspired water journey

The proposed Gravity Well adds a third formal, science-inspired water feature, creating an axis that draws visitors into and through the Beckman corridor toward Beckman Auditorium.



GRAVITY WELL

Inspiration: Spacetime curving around mass, translated into water using the engineered form of bell-mouth reservoir spillways.

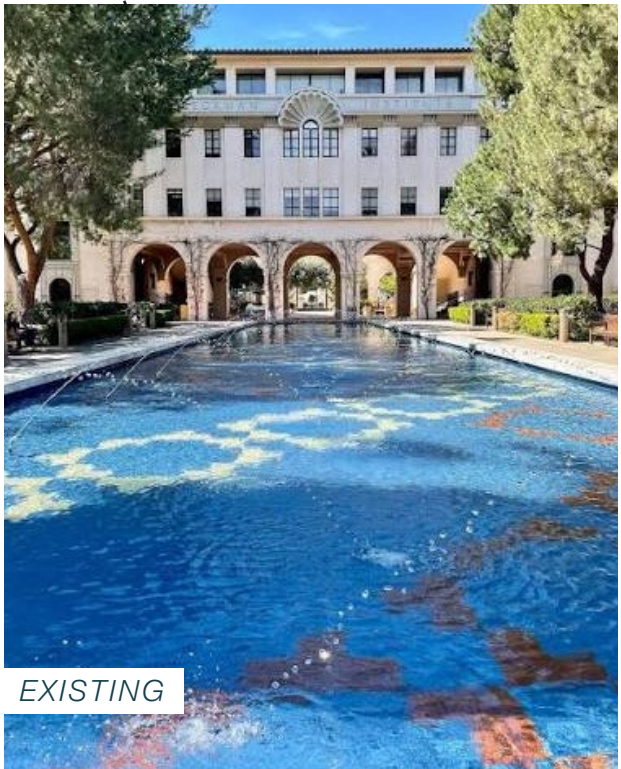
Physics + Engineering



FOUNTAIN OF KNOWLEDGE

Inspiration: Ferritin. Beckman Institute director Harry Gray chose its form to symbolize the connection between chemistry and biology.

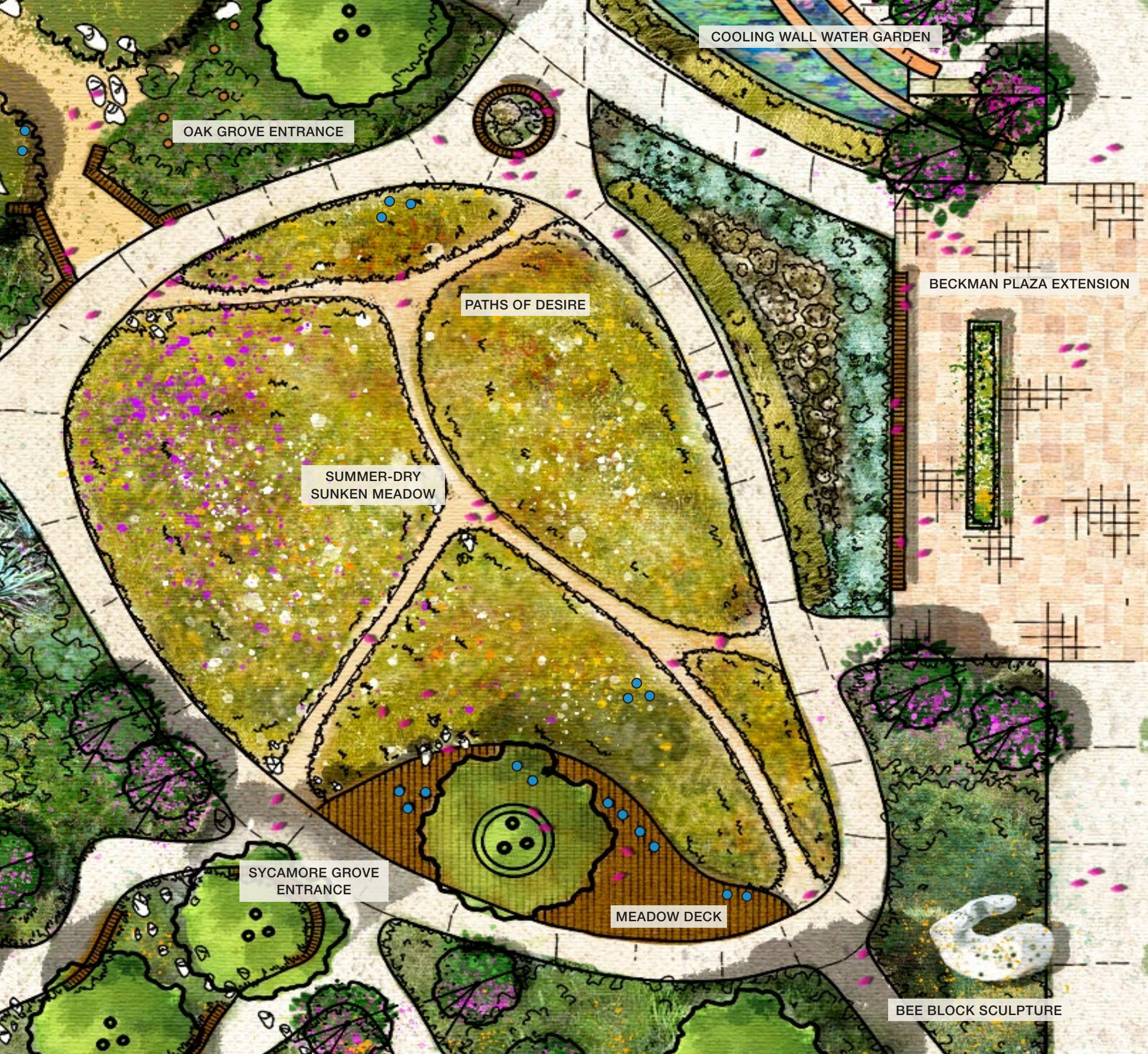
Chemistry + Biology



GENE POOL

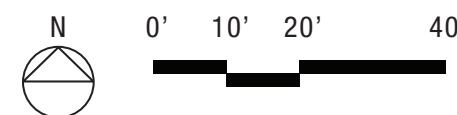
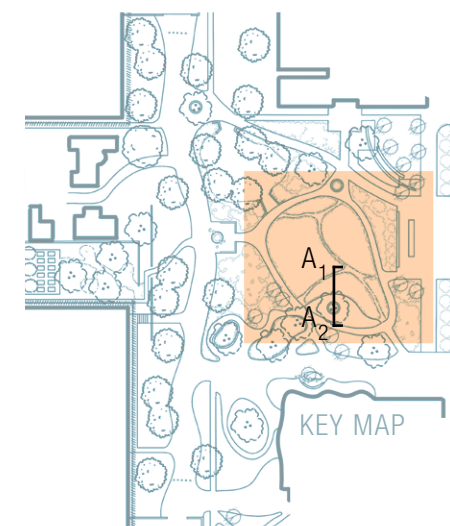
Inspiration: DNA. A double-helix tile pattern extends across the bottom of the reflecting pool, giving the Gene Pool its name.

Biology



summer-dry sunken meadow

At the **heart of the project**, a loop around the summer-dry sunken meadow connects the surrounding landscape, gathering spaces, and Beckman Institute. Branching paths and places to sit, gather, and explore allow people to **choose their own way through the landscape and stay awhile**. The meadow **captures and slows stormwater** during the rainy season, while native grasses and wildflowers provide habitat and change throughout the year, creating opportunities for observation, research, and learning.

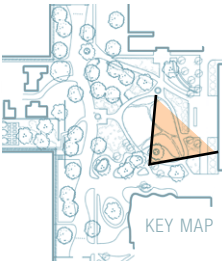


summer-dry
sunken meadow



shaped by caltech

Extending from the Resnick Sustainability Center, **the meadow deck creates a place to observe, study, and care for the landscape.** Its form and materials draw from the Resnick, while movable seating recalls the chairs that first inspired the project.



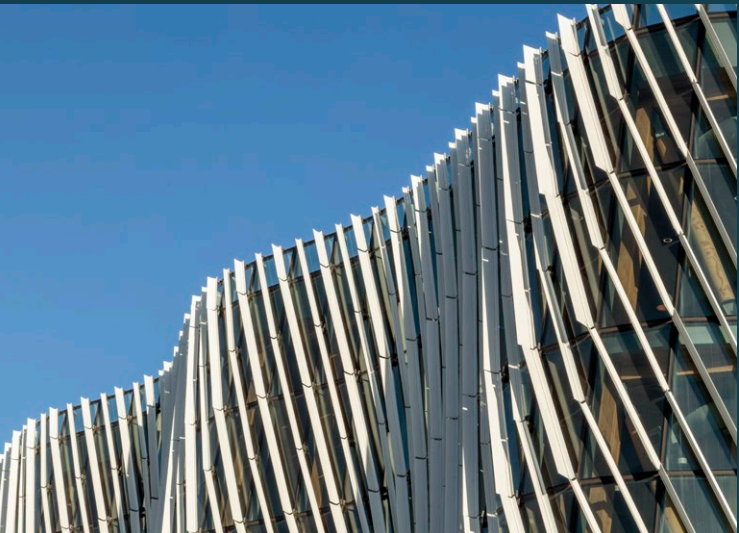
STEWARDSHIP + LEARNING

The meadow could become a living test plot, with planting and management shaped over time by Caltech research and student interests. The UC Davis meadow shown here demonstrates how a campus landscape can combine habitat, stormwater management, and plant and soil research.



FORM + MATERIAL

The deck's curved form draws from the Resnick Sustainability Center's undulating brise soleil, while mass timber carries the building's material character into the landscape.



SITTING SPOTS

Adirondack chairs, like those that first inspired the project, offer a place to sit beneath the sycamores, observe the meadow, or hang out.



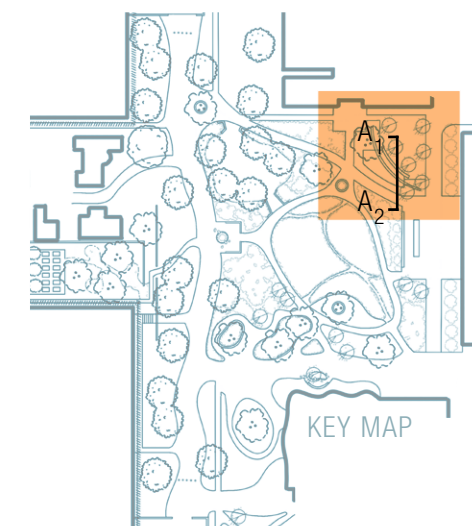


cooling wall plaza

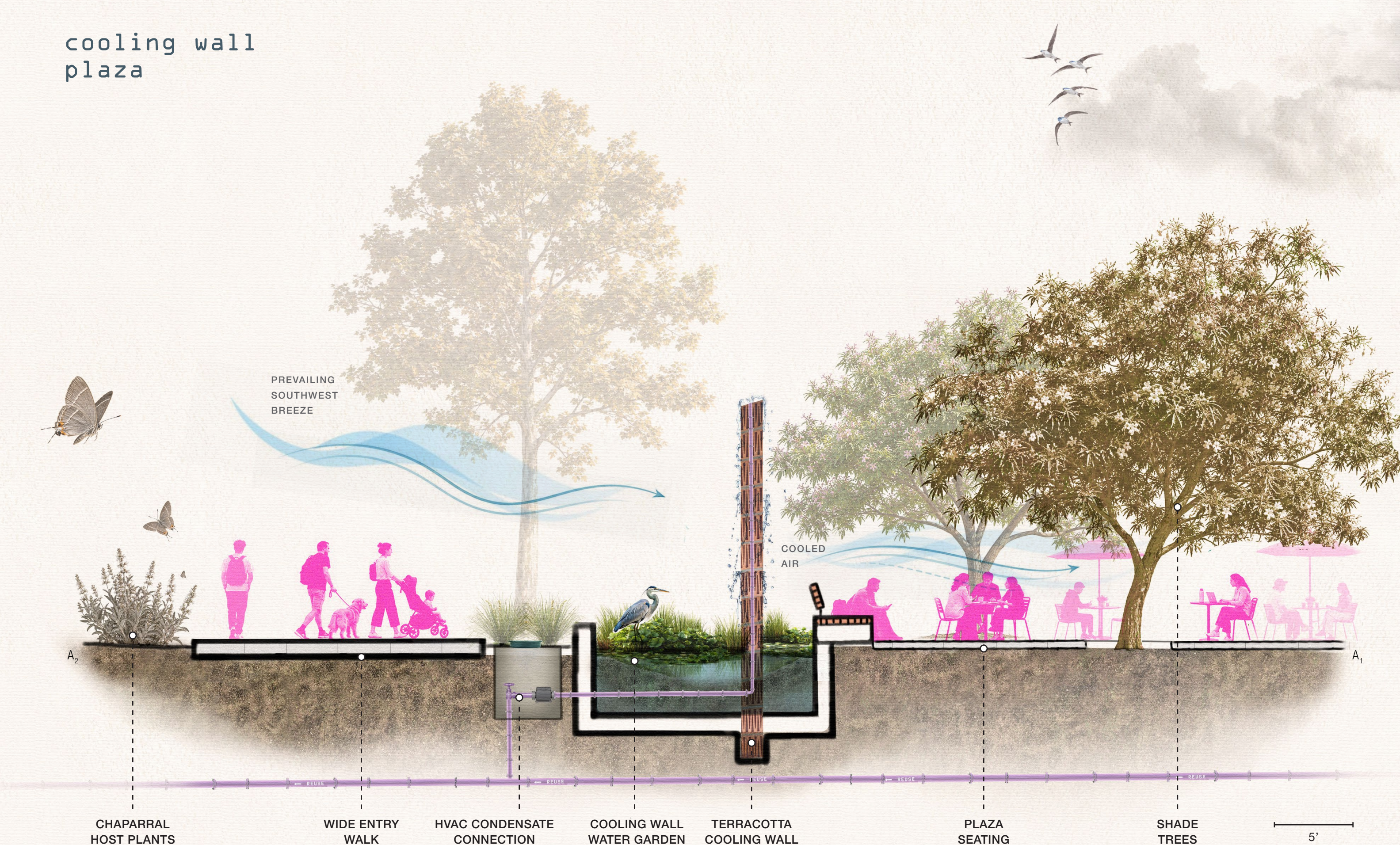
The Cooling Wall Plaza extends the existing Broad Café outdoors, creating a shaded place to eat, meet, or work that **takes advantage of the site's prevailing southwest breeze**.

HVAC condensate collected from the building supplies the evaporative cooling wall for additional cooling on hot days. **Canopy trees provide layered shade** while allowing air to continue moving through the space.

The water garden creates additional habitat, with **California pond plants** supporting aquatic life and visiting wildlife, including birds such as herons.



cooling wall
plaza



shaped by caltech

The Cooling Wall Plaza extends the Broad Café into the landscape, creating much-needed outdoor seating while using water, shade, and airflow to improve the space. Its design draws from Caltech’s existing architecture and sustainable practices.



VISIBLE WATER REUSE

Caltech already captures HVAC condensate for campus water features, reusing as much as 200,000 gallons. The cooling wall makes this largely unseen practice visible, turning water reuse into part of the everyday campus experience.



FORM + MATERIAL

Triangular concrete screen blocks at Linde Laboratory and terracotta used at Beckman and elsewhere on campus inform the cooling wall, carrying familiar Caltech forms and materials into the landscape.



MORE ROOM TO STAY

Outdoor tables are limited during the lunch hour, when available seating can quickly fill. Extending the café into the landscape creates more places to eat, meet, work, and spend time outdoors.





invite
PEOPLE TO STAY

9 new places to gather, rest, and stay
Multiple scales of gathering, from quiet seating to events

~30 new shade trees



invite
CONNECTION TO PLACE

~525 LF new pedestrian-first Wilson Walk

**1 new western campus arrival and
future Greenway connection**

4 Southern California planting communities

- *Oak Woodland*
- *Sycamore Arroyo*
- *Summer-Dry Meadow*
- *Chaparral Scrub*

**Existing Caltech forms and hardscape help
weave the new landscape into the campus**



invite
BIODIVERSITY

~1.5 AC native and habitat planting

~0.5 AC summer-dry meadow

*Layered habitat replacing ornamental planting
and chemically dependent monoculture*



invite **CURIOSITY**

**6 embedded opportunities for discovery
and learning**

2 water sources captured and reused

*Visible systems for water, habitat, energy,
and seasonal change*



one landscape, many invitations

Each invitation adds another layer to the landscape. **Together, they transform this protected open space into a place with greater social and ecological purpose.**

Places for people also support habitat; ecological systems become opportunities for observation and learning; and art, wildlife, and water create moments of discovery along everyday routes.

The result is a landscape that invites more life, more activity, and more reasons to stay.



personal statement

Southern California has always been home. Its landscapes, plants, wildlife, and beauty have become increasingly important to me, and helped shape what I value in design and how I experience a place.



As an undergraduate, I studied fine art, with a focus on sculpture and graphic design. My career since has taken me through commercial real estate, construction and project management, nonprofit fundraising, and events. While creating large fundraising events to support Prospect Park in Brooklyn, I had the privilege of practically living within a landscape architecture masterpiece. Working alongside landscape architect Christian Zimmerman gave me an opportunity to learn about the thinking behind the landscape and develop a new appreciation for the craft of creating places that are both beautiful and deeply useful.

Returning to Southern California brought me to Caltech, where my work has allowed me to combine design, science, storytelling, graphics, project management, and collaboration. Looking back, landscape architecture brings together so many experiences that once seemed unrelated.

When the UCLAx Landscape Architecture program became available online during the pandemic, a dream that had never seemed practical suddenly became possible. I could pursue a new profession while continuing to work full time and support my family. Pursuing landscape architecture has been one of the best and most defining decisions of my life, and I am incredibly grateful to UCLAx for creating a program that makes this kind of opportunity possible.

The work that most interests me sits at the intersection of people and nature: activating overlooked spaces, bringing people into closer contact with California's remarkable native flora and fauna, and creating beautiful spaces that can be enjoyed for generations rather than a day or two.

Invitations to Stay brings those interests together, reflecting the kind of work I hope to pursue: finding possibility in the spaces around us and imagining how they might support more life, connection, curiosity, and discovery.

acknowledgements

I am grateful to my capstone instructors, **Meg Rushing Coffee** and **Jim Pickel**, for their guidance, encouragement, and expertise in bringing this project to completion.

Profound thanks to all of my instructors throughout this program, and especially to **Chuck Ware** and **Rebecca Schwaner**, whose passion, extraordinary knowledge, and persistent belief that things can and should be better have left an indelible mark on me. To **Stephanie Landregan**, thank you for your leadership and for your remarkable ability to bring people and ideas together. You have built an incredible community, and your encouragement and belief in me have meant more than you know.

To **Pamela Brief**, **Michelle Sullivan**, and **Tom Rau**, thank you for your kindness, sharp insights, and for showing me through your inspiring careers just how far a love of native plants and great design can go. You make me excited to see what comes next.

And to **Jim Curtis**, thank you for the many hours of conversation, feedback, and wisdom you have so generously shared with me. This project is better because of your insight, and I hope I'll have the opportunity to keep learning from you.

I've had the gift of being part of three cohorts, and I'm grateful to everyone I've shared classes, studios, critiques, and site visits with along the way. A special thank you to **Marilena**, **Cal**, **Zoë**, **Grace**, **Eric**, **Clayton**, **Aimee**, **Amy**, **Mia**, **Patrese**, **Robert**, **Callie**, **Catherine**, and **Tracy** for being my confidants, collaborators, and friends, for inspiring me, and for support that reached far beyond the classroom.

Thank you to **Delmy Emerson** and **Ryan Robitaille** for sharing your deep understanding of the Institute's campus, landscape, and maintenance. To **Wesley Pitts**, thank you for bringing your publishing, design, and writing eye to this book, all while also managing to be hilarious. And thank you to **Marie-Claude Fares** for being game to dig into the details, for your high standards, and for your enthusiasm in talking through the intersection of design, art, and creating places people want to be.

Mom, thank you for showing me what it looks like to build a successful career and still give so much to your family, while always encouraging my creativity and being one of my biggest cheerleaders. **Dad**, thank you for teaching me to appreciate *Sceloporus occidentalis*, for giving me an eye for design, and for passing along your curiosity, wit, love of the weird and wonderful, and delight in creating. I wish you could see this.

And finally, to **Jack and Max**, thank you for believing in me through all these years of classes, late nights, deadlines, and projects. I would not be who I am today without the joy you bring me. I love you.



credits and citations

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Cover Image Collage Credits: Beckman Institute — Joshua White; monarch butterflies — iStock; California poppy — Adobe Stock; acorn woodpecker — Shutterstock; oak leaves — Sargent, Charles Sprague, Manual of the Trees of North America (Boston, MA: Houghton Mifflin Company, 1905); human figures — Vecteezy; Cleveland sage — Mimi Kamp; people — Pinterest.

Page 3 — It All Started With a Few Chairs
Students seated in chairs on the Caltech campus. Photograph by Chris Flynn. Caltech Digital Asset Management System, California Institute of Technology.

Page 4 — Project Statement
Student walking across the Caltech campus. Photograph by Patrick T. Fallon. Bloomberg. [bloomberg.com/news/articles/2019-04-03/brains-not-bribes-get-your-kid-into-the-door-at-this-college](https://www.bloomberg.com/news/articles/2019-04-03/brains-not-bribes-get-your-kid-into-the-door-at-this-college)

Page 5 — The Space Between the Laboratory and the Next Great Idea
Students walking through Caltech campus. Photograph by Lance Hayashida. Caltech Digital Asset Management System, California Institute of Technology.

Page 6 — Epicenter: Pasadena, CA
Caltech campus aerial, altered by author. Amberstudent. [amberstudent.com](https://www.amberstudent.com)
Pasadena context map. US Maps. usmaps.com/pasadena-map-california
Southern California regional map. ArcGIS, Esri. esri.com

Page 7 — Biodiversity Hotspot
Southern California land-cover map. Data Basin. databasin.org
Acorn woodpecker. Birds of the World. birdsoftheworld.org
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Bernardino blue butterfly. Butterflies and Moths of North America. butterfliesandmoths.org

Page 8 — Caltech in Context
Caltech campus context map. Map by author over Google Earth imagery. Google Earth, Google. earth.google.com
Caltech campus entrance sign. Caltech Facilities, California Institute of Technology. facilities.caltech.edu

Page 9 — Project Site: Beckman Lawn + Wilson Ave
Beckman Lawn and Beckman Institute. Photograph by Joshua White. Caltech Digital Asset Management System, California Institute of Technology.

Page 13 — Past Precedent, Future Direction
Pasadena Greenways map and project imagery. City of Pasadena Department of Transportation. cityofpasadena.net/transportation/transportation-improvements/greenways

Page 14 — Welcome to Campus: The Western Threshold
Center of Beckman photos. Caltech Digital Asset Management System, California Institute of Technology.

Page 16 — Protected Open Space, Not Protected Lawn
1989 Caltech Campus Master Plan, annotated by author. California Institute of Technology. Beckman Institute at Caltech. Photograph by Antony-22. Wikimedia Commons.

Page 17 — A Lost Ecological Legacy
1951 aerial view of the Caltech campus, annotated by author. UCLA Geography Aerial Archives, Fairchild Aerial Surveys. airphotos.org/product/california-institute-of-technology-pasadena-october-2-1951/
Theodore Payne. California Native Garden Design. californianativegardendesign.blogspot.com/2011/03/theodore-payne-man-vision-legacy.html

Page 18 — Beyond the Bulletproof Beauty
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Monarch caterpillar. The Magnificent Monarch Butterfly. themagnificentmonarchbutterfly.weebly.com/identifying-monarchs.html
Lawn. iStock.
Daylily. Gardenia. gardenia.net/plant/hemerocallis-fulva-tawny-daylily

Page 19 — Who Is This Landscape For?
Caltech graduate students, community event, and faculty at table. Photographs by Lance Hayashida. Caltech Digital Asset Management System, California Institute of Technology.
Monarch butterfly. Theodore Payne Foundation. theodorepayne.org/beyond-milkweed-more-plants-for-monarchs/

Page 20 — What Makes a Landscape Inviting?
Outdoor campus area. Pinterest.
Bicycle campus. Pitzer College.
Hummingbird moth. KUNC. kunc.org/arts-life/2014-06-28/hummingbird-moths-from-pest-to-pollinator
Group in meadow. Rowan University. today.rowan.edu/news/2026/09/native-meadow-takes-root.html

Page 21 — Goals + Objectives

University of Texas Student Activity Center courtyard. Studio Balcones. studiobalcones.com/projects/university-of-texas-student-activity-center
California poppy with fairy bee. Beesip, Instagram. [instagram.com/p/DM8D5l0xHDc](https://www.instagram.com/p/DM8D5l0xHDc)
California buckwheat garden. Arroyo Seco Foundation, Instagram. [instagram.com/p/DXNbV_IebvH](https://www.instagram.com/p/DXNbV_IebvH)
Michael LaBarbera and Katie Martin Peck examining pond life. Photograph by Jason Smith. University of Chicago Magazine. mag.uchicago.edu/university-news/how-rebuild-pond

Page 24 — Case Studies

Science + Engineering Quad, Stanford University. Hargreaves Jones. hargreaves.com/work/stanford-university-science-and-engineering-quad/
UC Irvine Naturescape Vision Plan. Studio-MLA. studio-mla.com/design/uc-irvine-naturescape-vision-plan/
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Page 26 — Program Priorities

San Pasqual Walk. Caltech Digital Asset Management System, California Institute of Technology.
All other images sourced from Pinterest.

Page 33 — Inviting Curiosity

Acorn woodpecker on palm trunk — Loren Webster, Another Lifer in Fresno. lorenwebster.net/2023/04/17/another-lifer-in-fresno
Sculptural timber posts — Jony Easterby, Wintringham, 2011, Environmental Sculptures. environmentalsculptures.wordpress.com/the-wolds-way
Mobius Houston — Marta Chilindrón, University of Houston; image/source: Glasstire. glasstire.com/2019/09/26/public-sculpture-mobius-houston-coming-to-uh
Light-art precedent — Bruce Munro; image/source: Ranchlands, Light and Place in the Art of Bruce Munro. ranchlands.com/blogs/journal/light-and-place-in-the-art-of-bruce-munro
Caltech outdoor blackboard — Caltech Alumni Association, Campus Highlights. alumni.caltech.edu/campus-highlights
Klay Chai terracotta screen. Stiles. stiles.co.za/klay-chai-screen
Summer-dry meadow — PhotoBotanic, The Summer-Dry Meadow. photobotanic.com/living-book-library/plants-celebrated/summer-dry-gardens/the-summer-dry-meadow
Bee block precedent — Green&Blue, Limited Edition Bees Block. greenandblue.co.uk
Neural activity pattern inspiration — Caltech, How Memories Form and Fade.
Sculptural form inspiration — Noé Kuremoto, TORO, terracotta sculpture; 1stDibs.

Page 34 — Inviting the Water to Stay

Summer-dry meadows. phlwaterlogs.com/bioretenction-basin/
Terracotta cooling wall. coolant.co/coolant-gallery/facade

Page 37 — Plant Palette

Oak woodland at Santa Barbara Botanic Garden. LuLight. lulight.com/2015/04/08/sb-botanic-garden-meadow
Native meadow at Santa Barbara Botanic Garden. LuLight. lulight.com/2015/04/08/sb-botanic-garden-meadow

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California buckwheat community. Gardenista. gardenista.com/posts/gardening-101-buckwheat-erigonum
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Western fence lizard. Underground Reptiles. undergroundreptiles.com/product/western-fence-lizard

Page 38 — From Exception to the Default

Plant images: white sage, coyote brush, California buckwheat, California poppy, coffeeberry, and clustered field sedge. Calscape / California Native Plant Society. calscape.org
Butterfly and caterpillar images. iStock.
California Native Plant Landscaper Certificate Program maintenance image. Theodore Payne Foundation.

Page 39 — Materials Palette

California Rock Garden. UC Davis Arboretum and Public Garden. arboretum.ucdavis.edu/california-rock-garden
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DG path. Instagram. [instagram.com/p/DXe0hiqIHjP/](https://www.instagram.com/p/DXe0hiqIHjP/)
All other photos sourced from Pinterest.

Page 40 — Wilson Walk Collage

Section drawing and design by author; individual people, trees, and plant material generated by AI as isolated imagery, then edited, colorized, and incorporated into the drawing by author. Acorn woodpecker — Shutterstock; hawk — iStock; cars — Pinterest.

Page 41 — Shaped by Caltech

San Pasqual Walk. Caltech Digital Asset Management System, California Institute of Technology.
Chen Neuroscience Research Building. Spurlock Landscape Architects.
Southern California grape (*Vitis girdiana*) with feeding birds. Las Pilitas Nursery. laspilitas.com/nature-of-california/plants/689--vitis-girdiana

Page 42 — Science + Water Along the Beckman Corridor

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Ladybower Reservoir. Reddit, [r/submechanophobia](https://www.reddit.com/r/submechanophobia/comments/v12xqv/ladybower_reservoir_plughole_derbyshire_uk/). [reddit.com/r/submechanophobia/comments/v12xqv/ladybower_reservoir_plughole_derbyshire_uk/](https://www.reddit.com/r/submechanophobia/comments/v12xqv/ladybower_reservoir_plughole_derbyshire_uk/)
Fountain of Knowledge with Harry Gray. Caltech Magazine.
Gene Pool. Caltech Digital Asset Management System, California Institute of Technology.

Page 43 — Summer-Dry Sunken Meadow Collage

Section drawing and design by author; individual people, trees, and plant material generated by

AI as isolated imagery, then edited, colorized, and incorporated into the drawing by author. Bumble bees, flock of birds, and bird — iStock. Beckman Institute — Caltech Digital Asset Management System, California Institute of Technology.

Page 44 — Shaped by Caltech
California native meadow. UC Davis Arboretum and Public Garden. publicgarden.ucdavis.edu/california-native-plant-meadow
Resnick brise soleil. Caltech Digital Asset Management System, California Institute of Technology.

Page 46 — Cooling Wall Plaza Collage
Section drawing and design by author; individual people, trees, and plant material generated by AI as isolated imagery, then edited, colorized, and incorporated into the drawing by author. Butterflies, swallows, and heron — iStock.

Page 47 — Shaped by Caltech
Gene Pool. Caltech Digital Asset Management System, California Institute of Technology.
Linde Laboratory. Caltech Digital Asset Management System, California Institute of Technology.

Page 54 and 59 — View to Beckman Institute Collage
Collage and design by author; individual people, trees, and plant material generated by AI as isolated imagery, then edited, colorized, and incorporated into the drawing by author. Butterflies, fairy bee, lizard, flock of birds, and woodpecker — iStock. Ladybower Reservoir. Reddit, [r/submechanophobia](https://www.reddit.com/r/submechanophobia/comments/v12xqv/ladybower_reservoir_plughole_derbyshire_uk/). reddit.com/r/submechanophobia/comments/v12xqv/ladybower_reservoir_plughole_derbyshire_uk/. Beckman Institute, Broad, and Resnick — Caltech Digital Asset Management System, California Institute of Technology.

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